Infection Prevention and Control

Commissioning Annual Report (2015-16)
# Contents

1. Executive Summary .................................................................................................................. 3
2. Background ............................................................................................................................... 4
3. Quality and Performance Monitoring Processes/Assurance Processes .................................. 5
4. Mandatory Surveillance and Screening ................................................................................... 5
5. MRSA Screening Performance ................................................................................................. 8
6. *Clostridium difficile* Infection Performance ......................................................................... 9
7. Surveillance .................................................................................................................................. 15
8. Root Cause Analysis (RCA) ...................................................................................................... 16
9. Monitoring of Independent Contractors .................................................................................. 19
10. Community Outbreaks (excluding CHP services) ............................................................... 21
11. New and Emerging Issues ....................................................................................................... 21
12. Priorities for 2016-17 .............................................................................................................. 22
13. Conclusion ............................................................................................................................... 23

Appendix 1 Infection Prevention and Control Team Planned Programme of Work ......................... 25
Appendix 2 Findings from *Clostridium difficile* Case Surveillance Mid Nottinghamshire CCGs ....... 30
Appendix 3 Findings from *Clostridium difficile* Case Surveillance South Nottinghamshire CCGs ....... 50
Appendix 4 Infection Prevention and Control Annual Report for Care Homes ............................... 69
1. Executive Summary

Good infection prevention (including cleanliness)¹ is essential to ensure that people who use health and social care services receive safe and effective care. Effective prevention and control of infection must be part of everyday practice and be applied consistently by everyone. (Health and Social Care Act 2008).

This annual report outlines the work of the Nottinghamshire Community Infection Prevention and Control Team (CIPCT) including key achievements over the past year and remaining challenges for improvement. It gives a summary position on Healthcare associated Infection (HCAI) performance against nationally set trajectories during 2015/16 for both Meticillin-resistant *Staphylococcus aureus* blood stream infection (MRSA BSI) and *Clostridium difficile* infections (*C diff*). This report details the work completed, outbreaks, incident reporting and future planning for new and emerging healthcare-associated infections (HCAI) and collaborative working to support the Antimicrobial Resistance (AMR) Strategy.

**NHS Mansfield and Ashfield Clinical Commissioning Group** were successful in achieving the MRSA bacteraemia objective of zero CCG attributed cases. This is a considerable improvement on last year’s performance of 4 cases against a plan of 0. *C diff* infection was less successful with a breach of the *C diff* objective with 107 cases against a plan of 94. Two root cause analysis (RCA) reviews were completed for community acquired *C diff* infection which in one case contributed to mortality and in the second case led to pseudomembranous colitis. Following review both cases were linked to antibiotic use, learning was identified in both cases and this is detailed later in this report.

**NHS Newark and Sherwood Clinical Commissioning Group** breached the MRSA bacteraemia objective reporting 1 case against a plan of zero. This case was found to be unavoidable on review and no learning was identified. The CCG was successful in achieving the *C diff* infection objective and reported 37 cases against a plan of 39 for the year. One RCA investigation was completed for a community case of *C diff* infection which contributed to mortality. This case was found to be unavoidable. There was 1 RCA investigation completed after a significant MRSA outbreak which was identified in a provider service, where 11 residents were found to have acquired MRSA, 9 of which were linked to cross infection whilst in the same care home. This generated a significant amount of learning for the care home and linked with other identified quality issues, monitoring continues at this service and contract suspensions have been put in place whilst improvements are being made.

**Nottingham North and East CCG** successfully achieved both the MRSA bacteraemia objective with zero CCG attributed cases and 32 reported *C diff* infection cases against a plan of 47. This is a notable achievement when compared with the previous year when both targets were breached by the CCG.

**Nottingham West CCG** successfully achieved both the MRSA bacteraemia objective with zero CCG attributed cases and 15 *C diff* infection cases against a plan of 21. This is an improvement when compared with the previous year when the MRSA target was breached. A sustained reduction in *C diff* infection cases has been achieved with a 55% reduction when compared against the previous year. There was 1 RCA investigation completed for a community case of *C diff* which contributed to mortality. This case was associated with antibiotic treatment and this review generated a number of learning points which are detailed further in the report.

**NHS Rushcliffe CCG** breached their MRSA bacteraemia target with 1 CCG attributed case against an objective of zero, which was considered avoidable. They achieved the *Clostridium difficile* infection objective with 24 cases again a plan of 24 demonstrating a reduction in cases when compared with the previous year. The MRSA bacteraemia was linked to an outbreak involving 2 cases of MRSA PVL (Panton Valentine Leukocidin) infection in a care home. An RCA investigation was completed and the learning is detailed later in this report.

**Sherwood Forest Hospitals Foundation Trust (SFHFT)** breached their MRSA bacteraemia target with 1 case against an objective of zero. This was an avoidable non-significant contaminant. The Trust
met the \textit{C diff} objective this year with 45 cases against a plan of 48, a marked improvement on the 67 cases reported in the previous year.

**Nottingham University Hospitals Trust (NUHT)** breached the MRSA bacteraemia objective, reporting 6 MRSA bacteraemias against a plan of 0, of which 3 cases were considered to be avoidable. NUH also breached their \textit{C diff} objective of 91 cases with 95 reported Trust acquired cases. This was a reduction in cases when compared with the previous year where 113 cases were reported but further improvement is required to meet the set objective.

2. **Background**

2.1 **Infection Prevention and Control Arrangements**

The Chief Operating Officer of Clinical Commissioning Groups and the Chief Executive of NHS England are responsible within their own organisations to ensure that services commissioned are meeting essential requirements for IPC and that those services are registered with the Care Quality Commission (CQC). Local authorities are responsible for health protection and gaining assurance that public health and social care services are meeting essential quality and safety standards including IPC.

2.2 **Community Infection Prevention and Control Team (CIPCT)**

The CIPCT is hosted by Mansfield and Ashfield Clinical Commissioning Group (CCG) on behalf of the Local Authority and Rushcliffe, Nottingham North and East, Nottingham West and Newark and Sherwood CCGs. The CIPCT work to an agreed service specification and are funded by Public Health for a further two years and are monitored by the Local Authority. During 2015-16, the team has expanded significantly with recruitment from September 2015 through to January 2016 so that they are now able to provide a pro-active service (see appendix 1 – annual programme of work) that works across organisational boundaries to provide a cohesive service across Nottinghamshire. The team supports the CCG and the Local Authority priority to ensure that commissioned services treat and care for people in a safe environment protecting them from avoidable harm.

2.3 **External Support**

Public Health England provide external support to the team with out of hours cover and communicable disease control across Nottinghamshire. The team has access to an Infection Control Doctor Service that covers those patients accessing NUHT. This provides additional microbiology expertise to support with the effective management of significant outbreaks, care of complex patients in the community and with RCA investigations and post infection reviews (PIR).

2.4 **National Priorities for Healthcare Associated Infections (HCAI)**

The prevention and control of HCAI continues to be a national priority and whilst improvements have been made there are still cases occurring that are considered to be avoidable. There is both a human and financial cost when these infections occur and infection prevention remains a key national and local priority. Annual trajectories are in place and these are set for both primary and secondary care providers for MRSA BSI and \textit{C diff} and the CCGs closely monitor their achievement against these targets. The CCG objectives include both Trust acquired infections and community attributed cases as they are population based. Mandatory reporting of \textit{Escherichia-coli} (E.coli) and Meticillin sensitive \textit{Staphylococcus aureus} (MSSA) bacteraemias (blood stream infections) continues and both rates and trends are monitored by Public Health England although reduction targets have not been set for these infections. There is increasing concern over drug resistant pathogens and the widespread use of antibiotics resulting in the development of a UK Five Year Antimicrobial Resistance Strategy 2013 to 2018. Secondary and Primary Care toolkits have been issued following concerns around the early detection, management and control of Carbapenemase-producing Enterobacteriaceae and mandatory
reporting is in place to monitor the increasing number of cases seen nationally. Infection prevention and control practice to reduce infections is integral to this work.

3. Quality and Performance Monitoring Processes/Assurance Processes

The CIPCT support the CCG Quality Teams performance monitoring processes. These are in place for the following providers:

- SFHFT
- NUHT
- Nottinghamshire Healthcare Foundation Trust including Health Partnerships (HP)
- Care Homes with nursing beds
- Central Nottinghamshire Clinical Services (CNCS)
- Independent Providers

Assurance processes include:

Quality Monitoring
- Quality dashboards
- Quality scrutiny panels
- Quality visits
- Audit
- RCA investigations and PIRs

Quality Improvement
- Improvement action plans developed in response to quality monitoring
- Safety Thermometer
- Metrics for financial re-investment

Surveillance
- Mandatory reporting of HCAIs through the Data Capture System
- Public Health England weekly incident and quarterly HCAI reports
- Local recording of HCAIs including MRSA screens and bacteraemia, C diff infections. Whilst not considered to be a HCAI local surveillance includes Panton Valentine Leukocidin infection (PVL)

Contractual
- Service Specification reviews
- Relevant IPC performance indicators included within Quality Schedules and dashboards
- Contract monitoring and performance review
- Implementation of the contractual sanctions / escalation process as necessary

Assurance regarding IPC practice and performance for associate commissioned services is provided by the relevant Co-ordinating Commissioner quality teams.

4. Mandatory Surveillance and Screening

4.1 MRSA BSI Performance

NHS England introduced a zero tolerance to all MRSA BSIs for all Acute Trusts and CCGs from 1 April 2013. This guidance was revised in April 2014 to include third party assignment, and detailed changes in the responsibility for the stage two arbitration processes: The PIR process was introduced alongside the guidance with a timescale for completion of 14 working days which replaced the previous RCA investigations. All pre-48 hour bacteraemias are automatically provisionally assigned to the CCG and
are re-assigned following the review process as applicable. Learning following review is disseminated at a local and national level.

**NHS Mansfield and Ashfield CCG**

This CCG were successful in meeting the target of zero cases, which was a significant improvement when compared with the previous year. One pre 48 hour case was provisionally assigned to the CCG in October 2015 although this case was later attributed to a third party and was unavoidable.

<table>
<thead>
<tr>
<th>Year</th>
<th>CCG Attributed Community Acquired (pre 48 hours) MRSA BSI</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2015-16</td>
<td>0</td>
<td>1 case attributed to 3rd party – unavoidable case</td>
</tr>
</tbody>
</table>

**NHS Newark and Sherwood CCG**

Reported one community acquired case against a target of zero. This case was unavoidable with minimal healthcare involvement and no learning was identified.

<table>
<thead>
<tr>
<th>Year</th>
<th>CCG Attributed Community Acquired (pre 48 hours) MRSA BSI</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2015-16</td>
<td>1</td>
<td>This case was unavoidable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A second case was attributed to 3rd party – unavoidable case</td>
</tr>
</tbody>
</table>

**NHS Nottingham North and East CCG**

Successfully achieved the target of zero cases. Two cases were attributed to Nottingham University Hospitals Trust (NUHT) both residents are registered under the CCG.

<table>
<thead>
<tr>
<th>Year</th>
<th>CCG Attributed Community Acquired (pre 48 hours) MRSA BSI</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>1 (unavoidable)</td>
<td>2 NUHT cases</td>
</tr>
<tr>
<td>2015-16</td>
<td>0</td>
<td>2 NUHT cases (1 contaminant, 1 avoidable case)</td>
</tr>
</tbody>
</table>

**NHS Nottingham West CCG**

Successfully achieved the target of zero cases. Two cases were attributed to Nottingham University Hospitals Trust both residents are registered under the CCG.

<table>
<thead>
<tr>
<th>Year</th>
<th>CCG Attributed Community Acquired (pre 48 hours) MRSA BSI</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>1 (unavoidable)</td>
<td>2 NUHT cases</td>
</tr>
<tr>
<td>2015-16</td>
<td>0</td>
<td>2 NUHT cases (1 contaminant 1 unavoidable case)</td>
</tr>
</tbody>
</table>

**NHS Rushcliffe CCG**

Reported 1 case against a target of zero. This was a community acquired case MRSA PVL bacteraemia and was found to be linked to an outbreak in a residential care home involving 2 cases..

<table>
<thead>
<tr>
<th>Year</th>
<th>CCG Attributed Community Acquired (pre 48 hours) MRSA BSI</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>1 (unavoidable)</td>
<td>Linked to outbreak involving 2 case of MRSA PVL colonisation</td>
</tr>
<tr>
<td>2015-16</td>
<td>1 case (avoidable)</td>
<td></td>
</tr>
</tbody>
</table>
Nottinghamshire CCGs

For the purposes of reporting, all cases of MRSA BSI are attributed to the organisation that the patient’s GP is listed under. Therefore hospital acquired cases (post-48 hours after admission) contribute to the CCG total in addition to the community cases (pre-48 hour cases).

The table below shows key themes from Community Acquired MRSA BSI 2015-16

<table>
<thead>
<tr>
<th>DCS NO.</th>
<th>CCG</th>
<th>ROOT CAUSE</th>
<th>THEMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>434562</td>
<td>Newark and Sherwood CCG</td>
<td>This was unavoidable no root cause was found</td>
<td>This was a community MRSA PVL infection with minimal healthcare interaction. No themes identified</td>
</tr>
</tbody>
</table>
| 462179  | Rushcliffe CCG               | The likely root cause was staff and or environmental transmission leading to initial MRSA/PVL acquisition and subsequent blood stream infection | • Lack of policies and procedures  
• Lack of MRSA care plans  
• Lack understanding of link between cleanliness and cross infection  
• Poor use of standard precautions  
• Wound care  
• Communication between care providers  
• Diabetic foot ulcers |

In summary

Given the Newark and Sherwood CCG case was unavoidable it may have been attributed to a third party if this case had been referred to stage two PIR. The Rushcliffe CCG case was linked to cross infection of MRSA PVL USA 300. An action plan for improvement was agreed with the care home and the community nursing provider.

This included:

- Staff training
- Policy and documentation development. A PVL template document has been provided to the care home with best practice requirements
- Communication improvements across providers
- Improvement to cleanliness and use of standard precautions in the care home.

This action plan will be monitored and a follow up infection prevention and control audit will be completed to monitor for sustained improvements.

Nottingham University Hospitals NHS Trust

The MRSA objective was breached by 6 cases over the year 2015-16. The table below details each case following the post infection review (PIR)

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>PIR Clinical Outcome</th>
<th>Clinically Avoidable/ Unavoidable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>July 2015</td>
<td>Contaminated blood culture sample.</td>
<td>Not an actual blood stream infection</td>
</tr>
<tr>
<td>2</td>
<td>July 2015</td>
<td>Secondary to an essential</td>
<td>Unavoidable</td>
</tr>
</tbody>
</table>
Table shows Key Themes from NUHT Acquired MRSA BSI 2015-16

In summary, out of the 6 cases:

- 2 were not actual infections but lapses in the blood culture procedure. Actions were put in place to strengthen adherence to procedures
- 3 were clinically unavoidable as no actions or omissions in the quality of care provided by the Trust contributed to the infection
- 1 was clinically avoidable as a delay in the overall management of the patient was likely to have contributed to the infection. The CCG was assured that measures had been put in place to reduce the risk of re-occurrence.

NUHT continued to have HCAI reduction plans in place which focused on:

- Sustaining high level compliance with MRSA screening and decolonisation
- Enhancing Trust wide compliance with effective antimicrobial stewardship
- Strengthening and sustaining compliance with hand hygiene, decontamination, equipment and environmental cleanliness
- Improving infection control related communication and information sharing within the organisation and across the health economy.

Sherwood Forest Hospitals Foundation Trust

The MRSA objective was breached by 1 case over the year 2015-16. The table below identifies that this case was not an actual infection and a PIR was not required.

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>PIR Clinical Outcome</th>
<th>Clinically Avoidable/Unavoidable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>August 2015</td>
<td>Contaminated blood culture sample.</td>
<td>Not an actual blood stream infection</td>
</tr>
</tbody>
</table>

5. MRSA Screening Performance

Secondary Care

Mandatory MRSA screening for elective, emergency and day case admissions was incrementally introduced in 2008. Following this, rates and number of MRSA infections have significantly reduced. Revised national guidance, published in August 2014, recommended a more cost and clinically effective approach. All patients admitted to high risk units and those with a previous history of MRSA colonisation or infection must be screened and organisations can base local policies on risk assessments for their own populations. Both NUHT and SFHT have consistently achieved high levels
of MRSA screening compliance and both have continued to implement higher than required levels of screening. The expectation is 100% compliance with local policy.

**Primary Care**

An MRSA strategy group was commissioned by the County Wide Infection Prevention and Control Committee over 2014-15 to review current screening and decolonisation across primary care in Nottinghamshire City and County, to look at standardising provision in the absence of national requirements. This collaborative work has led to the development and implementation of an agreed policy for MRSA management. There have been 974 MRSA cases identified over 2015-16 with 265 of these being new cases. Since January 2016 the increased IPC resource has enabled the team to follow up all community cases with the lead clinician, which allows an opportunity for educating staff when patients are complex in addition to promoting the new strategy.

**Health Partnerships (HP)**

A risk based approach for MRSA screening was applied to HP services and as a result, all admissions into Lings Bar Hospital are screened. Patients admitted to Podiatric Day Surgery, John Eastwood Hospice and Intermediate Care are individually risk assessed and screened as required.

6. **C diff Infection Performance**

Diagnosis of a pre or post 72 hour *C diff* case is based on the Public Health England definition:

- **Pre-72 hour / Community Acquired** = diagnosis confirmed by a stool sample taken within 72 hours of admission to hospital or via GP sampling
- **Post-72 hour / Hospital Acquired** = diagnosis confirmed by a stool sample taken 72 hours after admission to hospital.

**CCG targets**

The *C diff* infection limit for CCGs is population based with all cases in members of their population counted towards their total. Acute trusts have a limit based on bed-day rate, with all *C diff* infections identified after three days (post 72 hours) of admission counted towards their total.

<table>
<thead>
<tr>
<th>CCG</th>
<th><em>C diff</em> target 2015-16</th>
<th>Actual Cases</th>
<th>Pre 72 hour (Community cases)</th>
<th>Post 72 hour (Trust cases)</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Mansfield and Ashfield CCG</td>
<td>94</td>
<td>107</td>
<td>73 (68%)</td>
<td>34 (32%)</td>
<td>Exceeded the limit by 13 cases (14%)</td>
</tr>
<tr>
<td>NHS Newark and Sherwood CCG</td>
<td>39</td>
<td>37</td>
<td>25 (68%)</td>
<td>12 (32%)</td>
<td></td>
</tr>
<tr>
<td>NHS Nottingham North &amp; East CCG</td>
<td>47</td>
<td>32</td>
<td>22 (69%)</td>
<td>10 (31%)</td>
<td></td>
</tr>
<tr>
<td>NHS Nottingham West CCG</td>
<td>21</td>
<td>15</td>
<td>5 (34%)</td>
<td>10 (66%)</td>
<td></td>
</tr>
<tr>
<td>NHS Rushcliffe CCG</td>
<td>24</td>
<td>24</td>
<td>13 (54%)</td>
<td>11 (46%)</td>
<td></td>
</tr>
<tr>
<td>Total all CCGs</td>
<td></td>
<td>215</td>
<td>138 (64%)</td>
<td>77 (36%)</td>
<td></td>
</tr>
</tbody>
</table>
Whilst overall significant improvements have been made in lowering the rates of *C. diff* infection locally and nationally this reduction has slowed over recent years. NHS experts and Public Health England advise that this is due to a combination of factors including the biology and epidemiology of the organism and there are indications that for some organisations the level of infections may be approaching their irreducible minimum level at which these infections will occur regardless of the quality of care provided (NHS England, 2014).

**Mansfield and Ashfield CCG and Newark Sherwood CCG**

The year has again proved very challenging for Mid Nottinghamshire CCGs. Newark and Sherwood CCG were successful in meeting the CDI objective however Mansfield and Ashfield CCG breached the objective by 13 cases. Work on reducing these levels will continue to be a priority in 2016-17. The health of the population of Mansfield and Ashfield CCG is generally worse than the national average. The health of the population in Newark and Sherwood is varied compared with the England average (Public Health Observatories 2015). The focus needs to be on infection prevention across all services. A partnership group is in place to identify the common themes and risk factors across Primary and Secondary Care, learning across both sectors has been identified and is included in an action plan, in working collaboratively learning is shared and enacted by all sectors of the healthcare system. 74% of patients had been in hospital in the 3 months prior to the onset of disease with 89% of all cases having received recent treatment with antibiotics. A large proportion of the patients are complex with underlying co-morbidities that increase their risk factors for CDI acquisition including antibiotic treatment. These cases are considered unavoidable where treatment is found to have been appropriate. To reduce *Clostridium difficile* infection cases further there needs to be a focus across all health and social care providers on preventing avoidable primary infections thus reducing the need for antibiotic treatment. Work will continue to review themes, challenge practice where improvements can be made and work with other services on infection prevention and self-care.

**Nottingham North and East, Nottingham West and Rushcliffe CCG**

All three CCGs were successful in achieving the *C. diff* objective which is a commendable achievement. Work will continue to ensure this positive trend is maintained over 2016-17.

**Summary**

For the main themes, see Appendix 2 and 3 for findings from *C. diff* case surveillance April 2015 - March 2016.

1. Some of the actions taken by CIPCT include the following:

   - A case review is completed for all community acquired cases to identify risk factors and learning this includes toxin positive cases and those with a positive polymerase chain reaction (PCR) test
   - A follow up 7 day review is completed with the clinician on all community toxin positive cases and in those cases to ensure the patient has responded to treatment and has been reviewed as per national guidance
   - All cases of inappropriate prescribing are referred to the prescribing advisor for assessment, education and promotion of adherence to the locally agreed Antimicrobial Prescribing Guidance as required
   - Education is provided by the CIPCT on appropriate stool sampling and treatment on suspicion of *C. diff.*
   - A quick reference tool has been developed as a prompt in general practice
   - Template policies have been developed and are available on clinical pathways via web access, national guidance is also available
   - Medical record alerts are requested in all cases to act as a prompt for any future prescribing
   - A review and update to the patient information available on NHS Choices
There were 4 cases requiring RCA review, 1 for pseudomembranous colitis and 3 where *C diff* was recorded on the death certificate. Of these cases 1 was considered to have been avoidable. The others were linked to antibiotic use that was found to be appropriate. All antibiotic prescribing is scrutinised by a prescribing advisor.

One theme identified in community patients is the clear link between those patients receiving antibiotics for other underlying conditions which then results in patients having symptomatic *C diff* infection. Work needs to focus on infection prevention and patient self-care. In primary care some prescribing advisors provide GP practices with data on antibiotic prescribing including the use of antibiotics that are considered high risk of causing *C diff* e.g. Co.amoxiclav, Cephalosporins and Quinolones. Rushcliffe CCG has appointed a dedicated Care Homes Primary Care Pharmacist to complete medication reviews which it is anticipated will support with reducing inappropriate antibiotic prescribing.
Total Number of Community Acquired CDI Cases
2015/2016

Mansfield & Ashfield CCG
Newark & Sherwood CCG
Notts North & East CCG
Nottingham West CCG
Rushcliffe CCG
2013/14 Comparison

Total Number of Community Acquired CDI Cases
2015/2016
Mansfield & Ashfield and Newark & Sherwood CCGs

Mansfield & Ashfield CCG
Newark & Sherwood CCG
2013/14 Comparison
2014/15 Comparison
Sherwood Forest Hospitals Foundation Trust (SFHT)

The trust achieved the C diff objective with 45 post-72 hour C diff cases against a plan of 48. This is a significant improvement when compared to last year.

Total Number of Trust Acquired CDI Cases 2015/2016
Sherwood Forest Hospital NHS Foundation Trust
All *C. diff* toxin positive cases undergo mandatory assessment to determine the overall quality of the care provided and to identify any lapses in care. There was one case where *C. diff* infection was considered to be a contributory factor in the death of a patient. There were 2 *C. diff* outbreaks reported and these are discussed in the outbreak section of the report. The Trust continue to have a *C. diff* reduction plan in place and there is a working party to review cases in Mid Nottinghamshire across both primary and secondary care.

**Nottingham University Hospitals NHS Trust**

The nationally set *C. diff* objective of 91 cases was exceeded as 95 cases were reported although this was an improvement on the number of cases reported from last year. 88 cases on review were considered to be clinically unavoidable and 7 cases were deemed avoidable. 15 lapses were identified and included the following:

- 5 incidences of cross infection
- 2 incidences of inappropriate antibiotic prescribing
- 8 incidences of delayed diagnosis (these mostly relate to the timely sending of liquid stool samples and would not have contributed to the acquisition of the infection)

The HCAI reduction plan continued to be revised on a six monthly basis. Discussions with Public Health England continue regarding local research to enhance the understanding of what appears to be a change in *C. diff* epidemiology. The irreducible minimum locally remains unknown.

**Total Number of Trust Acquired CDI Cases 2015/2016**

**Nottingham University Hospitals NHS Trust**

![Graph showing total number of trust acquired CDI cases 2015/2016](image)

**Nottinghamshire Healthcare NHS Foundation Trust**

No cases of *C. diff* toxin positive cases or related serious incidents were reported during 2015-16
7. Surveillance

Panton-Valentine Leukocidin (PVL)

PVL infections are increasingly being identified locally mainly due to increased testing in place at NUHT. PVL predominantly causes recurrent skin and soft tissue infections, but can lead to serious invasive infections such as necrotising haemorrhagic pneumonia, associated with a high mortality rate. There were 3 cases of PVL MRSA bacteraemia in 2015-16, 2 community and 1 NUHT reported case. There was no identified link between the patients, but all three were identified as being the USA 300 strain. In America this particular strain has been associated with increased severity of disease and complications. Cases have been found in both mid and south Nottinghamshire during 2015-16 although patients locally are not experiencing severe disease. All PVL positive swabs are sent to Public Health England for typing to assess which strains are currently prevalent. There is no national requirement to test for PVL infection and there is variation locally. Public Health England (PHE) is responsible for national policy development and guidance for the management of this infection and they are notified of all complex cases and family outbreaks. A local PVL policy and patient information has been developed to support GPs with the identification and management of these cases. There have been 22 new PVL infection cases and 27 further positive PVL samples in previously identified patients with a reoccurrence of the infection during 2015-16.

Meticillin Sensitive *Staphylococcus aureus* Blood Stream Infection (MSSA BSI)

Mandatory surveillance started in 2011 and to date there are no trajectories set. Rates of infection are slowly increasing nationally. The prevention and control measures that are effective for MRSA are also applicable to MSSA. However nationally and locally there has not been the same reduction seen as for MRSA. The tables below show the total number of cases attributed to the CCG. Currently there are no investigations undertaken for MSSA cases.

### Total Number of MSSA BSI Cases 2015/2016

![Graph showing total number of MSSA BSI cases 2015/2016](image-url)
**Escherichia–Coli Blood Stream Infection (E.coli)**

Mandatory surveillance started in 2011. To date there are no national objectives for reduction. Rates of infection continue to be monitored including monitoring of antimicrobial resistance of this organism. Cases nationally and locally are increasing. *E. coli* can be picked up easily from the environment from contaminated water, food and contact with others carrying the bacteria. *E. coli* bacteria are frequently found in the intestines of humans and animals. Some of these types of organisms live harmlessly in the gut whilst others can cause a variety of infections. These include most commonly urinary tract infections, intestinal infections and more serious blood stream infections. There is increasing emergence of multi-drug resistant strains of these infections (Extended–spectrum beta-lactamases commonly abbreviated as ESBL). This increasing resistance is making these cases difficult to treat due to limited selection of available antibiotics. There is no national requirement for further analysis of these cases. The expansion of the CIPCT has meant that the aim is to complete case reviews on a select number of cases during 2016-17. These reviews will focus primarily on patients acquiring a bloodstream infection that is considered to have a urinary source to identify any learning that could be applied to prevent future infection.

**Total Number of E-Coli Cases 2015/2016**

8. **Root Cause Analysis (RCA)**

All *C diff* associated deaths and those resulting in serious complications are investigated using the RCA process. There have been 4 RCA investigations completed over 2015-16 for community acquired cases 1 for pseudomembranous colitis and 3 where CDI was recorded on the death certificate. Of these cases, 2 were considered to have been avoidable and 2 were linked to antibiotic use that was found to be appropriate. All antibiotic inappropriate prescribing is scrutinised by a prescribing advisor. Lessons learned are widely disseminated across health and social care providers.

Areas of good practice identified include:
- GP/ Community nursing teams having good communication with the patient and family
- Clear documentation
- Timely referral by GP to other services
- Sample taking (acute trust)

<table>
<thead>
<tr>
<th>CCG</th>
<th>Number RCA</th>
<th>Main Themes</th>
</tr>
</thead>
</table>
| Mansfield and Ashfield CCG   | 2          | 1 Unavoidable
              |              | 1 Avoidable
              |              | - Lack of stool sampling
              |              | - Multiple courses broad spectrum antibiotics.
              |              | - Lack of engagement with healthcare by patient
              |              | - Lack of understanding in relation to CDI management
              |              | - Documentation                                                        |
| Newark and Sherwood CCG      | 1          | Unavoidable
              |              | - Communication
              |              | - Missed opportunity to treat on suspicion of CDI                      |
| Rushcliffe CCG               | 1          | Avoidable
              |              | - Lack of staff training
              |              | - Mental Capacity Assessments not evidenced
              |              | - Communication between services
              |              | - Missed opportunity to treat on suspicion of CDI
              |              | - Non-compliance with care regimes by the patient                      |
| Nottingham North and East CCG | 0          |                                                                            |
| Nottingham West CCG          | 0          |                                                                            |

**SFHFT**

The Trust reported 3 serious incidents, 2 outbreaks and 1 case where *Clostridium difficile* infection was considered to be a contributory factor in the death of a patient. The following table identifies the main themes.

The table below shows HCAI Serious Incident reports by Sherwood Forest Hospitals Trust 2015-16

<table>
<thead>
<tr>
<th>Month</th>
<th>Type</th>
<th>Critical Issues</th>
<th>Actions Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2015</td>
<td><em>C diff</em> infection (ward) (Ribotype 026)</td>
<td>• 4 patients involved 2 with same ribotype</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Delay in stool sampling</td>
<td>• Monitoring of standards through audit including hand hygiene</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cross infection</td>
<td>• Guidance on stool sampling – pro forma to be developed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cleaning standards environment and equipment</td>
<td>• Rewrite cleaning</td>
</tr>
</tbody>
</table>
May 2015

- Use of agency and locum staff
- 4 patients involved 3 with same ribotype
- Delay in stool sampling
- Delay in isolation
- Cross infection
- Cleaning standards environment and equipment
- Monitoring of standards through audit including hand hygiene
- Staff training
- Guidance on stool sampling – proforma re-issued
- Rewrite cleaning schedules

C diff infection (ward) (Ribotype 023)

- Review of agency staff use
- 4 patients involved 3 with same ribotype
- Delay in stool sampling
- Delay in isolation
- Cross infection
- Cleaning standards environment and equipment

July 2015

- C diff infection contributory factor listed on death certificate (unavoidable)
- This was an unavoidable case as the antibiotics which led to the infection were required and appropriate in the management of the patient. Lessons for learning were.
  - Early stool sampling
  - Isolation of a patient
- Monitoring of standards through audit
- Increase in cleaning frequency
- Review of hand hygiene facilities
- Training for staff

Contributory Factors

- Staff had limited knowledge and understanding of IPC measures including MRSA and there was no guidance to follow. Training updates had not been provided leading to a lack of competence
- Actions following IPC audit had not been enacted
- Cleaning staff lacked understanding of the importance of IPC measures in their role in preventing cross infection leading to a lack of competence
- Clean linen for bed making was stored on top of the cleaning trolley this was not considered as a separate task
- No robust monitoring was in place and this

Actions

- All staff completed IPC training. Targeted training was provided for all staff including MRSA and hand hygiene. Further training is planned. A link nurse has been appointed
- Cleaning staff received IPC training and their work and use of gloves/aprons and hand hygiene is now closely monitored. New cleaning schedules have been put into place.
- Bed making is completed as a separate function. Clean linen is stored on a separate trolley and bed making is carried out by care staff not the cleaning staff.
- The Deputy Manager is monitoring and
had led to a fall in cleanliness and IPC standards reporting results daily.

- Hand hygiene assessments are to be completed in May and June 2016 as part of ongoing monitoring. Major audit to be completed in June once all areas for action have been completed.

- Action plans had not been completed following a recent IPC audit and no monitoring was in place by Senior Management. This led to a further deterioration in standards Action plans are in place and these are being monitored. Most actions have been achieved. Further refurbishment work is planned but not yet complete. This work will be reviewed to ensure it is completed.

- There was a lack of leadership within the care home, the new Manager lacked support and training in the new role An Area Manager has been supporting the new Manager to ensure improvements are made and sustained at the home

- There was a lack of documentation and appropriate care planning Documentation is being monitored. MRSA care plans were provided by the IPC team giving clear instruction on management these were put into use

9. Monitoring of Independent Contractors

Infection Prevention & Control Audits

Care Homes

The CIPCT have continued to provide a targeted risk based approach to audits of commissioned services to make best use of the resources available. Following recruitment a pro-active programme was initiated with the priority made to audit all residential care homes (excluding learning disability) registered with Nottinghamshire County Council. Residential care homes have previously not benefitted from the same level of IPC support provided to nursing homes and have not been included in audit programmes.

The audit tool used has been adapted from the accredited Infection Prevention Society audit tool and includes compliance with the Health and Social Care Act 2008. The audit programme is used to monitor and improve the quality of services and the care provided, visits are unannounced.

To meet quality assurance requirements an action plan for improvement is required from each provider where concerns have been identified. This is then followed up with a review visit where needed. All reports are shared with the CCG quality lead, Nottinghamshire County Council and the Care Quality Commission. Following the audit of residential care homes a number of common themes were generated (see appendix 4).

One of the main areas of concern identified in 48% of the residential care homes audited was the lack of provision of hand washing facilities for staff and visiting professionals in the resident’s room. This includes no provision of disposable paper towels and liquid soap. Not all homes had alcohol based hand rub available at the point of care. All homes had appropriate provision for the resident but cotton towels and bar soap are not appropriate for staff use. In the fight to prevent infection and cross contamination it is essential that this provision is made. These concerns have been raised with the Local Authority and the Care Quality Commission (CQC) and a request has been made for these elements to be reviewed as part of the monitoring of their services in order to apply consistency in our approach to making the necessary improvements. It should be noted that a high proportion of the Home Managers have been supportive following the advice given and have implemented the necessary changes.
Nursing Home and Specialist Learning Disability Unit audits were completed reactively over 2015-16 following concerns raised. The CIPCT will continue to work with Care Home Providers and Nottinghamshire County Council to integrate health and social care and embed IPC best practice across services.

<table>
<thead>
<tr>
<th></th>
<th>Residential Care Home</th>
<th>Care Homes with Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mansfield and Ashfield CCG</td>
<td>26</td>
<td>5</td>
</tr>
<tr>
<td>Newark and Sherwood CCG</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>NHS Nottingham North &amp; East CCG</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>NHS Nottingham West CCG</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>NHS Rushcliffe CCG</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Table shows the number of sites audited (it does not reflect areas where more than one visit was made)

**General Practice**

A risk-based approach to GP audits has been taken by the IPC Team during 2015-16. All practices were previously issued with a self-audit tool to ensure practices remain compliant with CQC requirements and to assist in preparation for inspections. Audit visits completed were following concerns or on request to support new Infection Prevention and Control Leads. 17 audits were completed with additional follow up reviews for those areas where further improvement was required. With increased IPC resource in place all GP practices will receive an audit visit 2016-17 with a follow up visit if required as per the annual programme of work (see appendix 1). The CIPCT work closely with the Primary Care Quality Teams and audit reports are shared; this includes recent membership of the Primary Care Quality sub-group in the south of the county and the Primary Care Performance Review Group in Mid Nottinghamshire, both groups report to the Primary Care Commissioning Committee. These groups act as central information sharing points for concerns, good practice and to ensure robust assurance processes are in place with regard to the quality of primary care delivered to patients.

**Construction/Building Works**

The CIPCT have been working closely with GP practices and contractors to support with new build and refurbishment projects to ensure that buildings are fit for purpose and meet best practice requirements. New work is reviewed and approved once completed and compliant.

This has resulted in an increase in IPC compliant buildings and an improvement in the environment for those patients accessing services.

**NHS Dental Practices**

With limited resources a risk-based approach to dental audits has been taken by the team during 2015-16. All practices were issued with a self-audit tool by the Department of Health and a recommendation for quarterly audits was made to ensure practices remain compliant with CQC requirements and HTM 01-05. Audit visits completed were following concerns or on request from NHS England. One practice has been audited with further follow up review visits completed to ensure actions have been followed up. Support is provided to NHS England in interpreting self-audit results.
and advice given on any actions required. Following expansion of the IPC service all NHS dental practices will receive a planned audit visit 2017-18 with a follow-up visit where this is required.

10. Community Outbreaks (excluding HP services)

There were 70 reported outbreaks within care homes across all five CCGs during 2015-16. This is a slight reduction in numbers when compared with the previous year. This can be partially attributed to a reduction in reported respiratory outbreaks as this year the seasonal influenza vaccine was considered to be a more effective match for the circulating influenza strains than in the previous year.

Norovirus remains the leading cause of diarrhoea and vomiting in both children and adults. Symptoms range from being mild to causing more serious disease affecting the vulnerable and elderly. The CIPCT focus on giving early support and guidance and issue a Norovirus guidance pack annually prior to the winter season. Diarrhoea and vomiting are followed up by the team to ensure appropriate management takes place to minimise spread, establish the cause by obtaining specimens and to ensure that patients are regularly reviewed to prevent dehydration occurring and an avoidable admission. Homes requiring additional support will be provided with a visit by a member of the team.

<table>
<thead>
<tr>
<th>CCG</th>
<th>Diarrhoea and/or vomiting</th>
<th>Respiratory</th>
<th>Scabies</th>
<th>PVL</th>
<th>MRSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newark and Sherwood CCG</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mansfield and Ashfield CCG</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nottingham North &amp; East CCG</td>
<td>25</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Nottingham West CCG</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rushcliffe CCG</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>12</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

There was one outbreak of MRSA PVL infection that involved two residents in the same care home. Both cases were identified as type USA 300. A number of actions were identified following the cross infection and these were all implemented and monitoring of the service is in place. No further cases have occurred.

11. New and Emerging Issues

Antimicrobial Resistance

The Five Year Antimicrobial Resistance Strategy 2013-15 aims to support the reduction in antimicrobial prescribing and reduce risks of further resistance. Conserving the use of currently available antimicrobials is a vital part of antimicrobial stewardship. The CIPCT encourage appropriate sample taking by clinicians prior to treatment to promote the use of appropriate antibiotics. Inappropriate prescribing is referred to the prescribing advisor.

Carbapenemase-producing Enterobacteriaceae (CPE)

The increase in incidence of antimicrobial-resistant organisms including CPE remains a concern to the community setting; these organisms are often resistant to multiple drug classes. Some areas in
England are seeing increasing numbers of CPE. In the East Midlands there remains a low incidence and locally we have been notified of three cases in the community over 2015/16. With no single effective antibiotic treatments available the focus needs to be on robust prevention measures across healthcare to ensure numbers remain low and to reduce the risk of cross infection. An acute trusts CPE toolkit was issued along with a patient safety alert in 2014. A community toolkit was developed later by PHE and this has been issued to all GP practices and care homes and is available online. Work needs to focus on prevention across community services. Without effective treatment the prevention of spread to others is essential in reducing the risks from cross infection outbreaks including transmission of CPE.

**Extended Spectrum Beta–lactamase (ESBL)**

ESBLs are enzymes produced by micro-organisms in the bowel such as *Escherichia coli* and *Klebsiella*. The enzymes break down antibiotics making infections more difficult to treat. They are often the causative organism in urinary tract infections and are able to resist penicillins and other common antibiotics. This is a community and hospital concern. In Nottinghamshire collaborative work is in place to produce and update antimicrobial prescribing guidance, and to work together on the UK Antimicrobial Resistance Strategy 2013-18. Clinicians are encouraged to send samples for testing prior to starting antibiotics to reduce exposure to ineffective antibiotics.

**Panton-Valentine Leukocidin (PVL)**

Voluntary local surveillance will continue and all community cases will have swab samples sent to Colindale for typing to identify the strains circulating in the local population. Outbreaks will be reported to Public Health England.

**12. Priorities for 2016-17**

The key aims in 2016-17 will be:

- To build on the work that has been completed over 2015-16 to prevent avoidable healthcare-associated infections, improve patients safety and to ensure that this work is sustainable and embedded across commissioned providers of services.
- Complete the planned Annual Programme of Work (see appendix 1).
- To improve the ease of access to IPC information for clinicians by continually updating clinical pathways and disseminating new guidance as it arises.

Effective prevention methods are key to reducing the risks of spread of existing and emerging resistant organisms. Embedding best practice is a challenge as often it is not promoting something new, it is ensuring we implement simple prevention measures each and every time patient care is delivered that will make the difference. A greater focus on infection prevention across all health and social care settings is needed.

Implementing and sustaining best practice has the potential to both reduce the burden of harm to patients from acquiring a healthcare-associated infection, in addition to reducing the need for antibiotic treatment leading to less opportunities for antibiotic resistance to emerge. There are global concerns that infections are increasingly developing that cannot be treated. The increasing spread of multi-drug resistant bacteria means that we may reach a point where we are not be able to prevent or treat everyday infections or diseases. Ensuring that antibiotics are used responsibly and less often will be a challenge. The CIPCT will support the Medicines Management Team in ensuring that antibiotics are used appropriately in those cases that are reviewed by the team. From April 2016 CCGs will have increased responsibility for the monitoring of the quality and safety of primary care services. The continued work to support with best practice and monitoring of primary care services by the CIPCT will be an essential component in gaining quality assurance that they are continuing to provide high quality, safe services for patients.
**C diff Objective (2016-17)**

Making a continued and sustained reduction in avoidable cases of *C diff* and meeting the objective across all five CCGs will be challenging. Work will focus on prevention to reduce those infections leading to a repeated need for antibiotics and identifying those cases where there is lapse in care and embedding any wider learning. All community cases identified as *C diff* carriers through Polymerase Chain Reaction testing (PCR) or those with a toxin positive result will be discussed with clinicians with the aim of promoting early treatment for the patient where appropriate, preventing further deterioration with the aim of avoiding hospital admission. A seven day follow up with the GP is made to ensure patients are responding to treatment.

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Clostridium difficile Objective 2016-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nottingham University Hospitals NHS Trust</td>
<td>91 cases</td>
</tr>
<tr>
<td>Sherwood Forest Hospital Foundation Trust</td>
<td>48 cases</td>
</tr>
<tr>
<td>Mansfield and Ashfield CCG</td>
<td>94 cases</td>
</tr>
<tr>
<td>Newark and Sherwood CCG</td>
<td>39 cases</td>
</tr>
</tbody>
</table>

**Zero Tolerance of MRSA blood stream infection**

- To continue to embed best practice with the aim to achieve a zero tolerance of all avoidable infections 2016-17.
- To challenge cases using the PIR process where there has been minimal healthcare involvement and where cases are deemed unavoidable.

**Escherichia -Coli (E.coli) Blood Stream Infection**

Increased IPC resources will be used to complete focused case reviews on community cases of *E.coli* bloodstream infection in particularly those with a urinary source. This will require the support of clinicians and the consent of patients to enable this work to progress. The aim is to gather learning and identify any themes and actions that may support with preventing future infections. Wider learning will be shared across the local health economy to support with future prevention.

13. **Conclusion**

CCG’s have a duty to ensure that all commissioned and social care services are providing clean, safe and effective care across their population to minimise the risk of infection to patients, staff, carers, and visitors. There have been real improvements seen and the increase in infection prevention and control resource will support with keeping infection prevention high on the agenda and provide support to further embed best practice requirements. The challenge will be in sustaining this level of achievement and ensuring that best practice is consistently applied across all provider services making further improvements in those areas where this has not yet been achieved. As care moves closer to home there will be a greater emphasis on care in the community. It is essential that health and social care services have robust infection prevention systems in place to ensure that the increasing demand on services does not diminish the ability to deliver safe and effective care for patients. It is recognised that there are many challenges for both commissioners and provider organisations in HCAI reduction. Reducing healthcare-associated infections continues to be a high priority that supports duty and accountability by demonstrating:

- Continuous monitoring of providers
• Highlighting and addressing where providers are not meeting required standards
• Collaborative working to improve performance, quality and patient safety and embedding best practice

Sally Bird
Head of Service
Community Infection Prevention & Control Team
NHS Mansfield and Ashfield CCG
## Appendix 1  Infection Prevention and Control Team Planned Programme of Work

April 2016 - March 2017

<table>
<thead>
<tr>
<th>PLAN</th>
<th>ACTION</th>
<th>RESPONSIBILITY</th>
<th>MONITORING</th>
<th>TIMESCALES</th>
</tr>
</thead>
</table>
| 1) Systems to manage and monitor the prevention and control of infection – criterion 1 Health and Social Care Act 2008 | • Provide support and leadership to commissioned and contracted services when investigating community acquired MRSA bloodstream infections (BSI). Complete the review within given timescale -14 working days  
• Support the DPH with representation in NHSE PIR stage 2 arbitration process MRSA BSI.  
• Provide support and leadership to commissioned and contracted services in undertaking a root cause analysis (RCA) investigation for a *Clostridium difficile* death or colectomy resulting from *Clostridium difficile* infection. Complete review within given SI timescale of 60 days  
• Support HCAI leads within CCG’s and quality teams in LA with gaining quality assurance in relation to infection prevention and control  
• Attend relevant groups and committees supporting the Infection Prevention and Control Agenda  
• Complete pro-active root cause analysis (RCA) investigation for e-coli /MSSA bacteraemia to identify key themes and gain learning for future prevention. To acknowledge IG requirements and consent for review form patient as required (based on 4 cases per month once team fully trained)  
• Complete an annual report to report on performance, to include key themes, local HCAI rates, learning and future planning | Head of Service Infection Prevention & Control Team  
Director of Public Health/NHS England  
Head of Service Infection Prevention & Control Team  
Head of Service Infection Prevention & Control Team  
Head of Service Infection Prevention & Control Team | Strategic Partnership Steering Group | Quarterly |
<table>
<thead>
<tr>
<th>PLAN</th>
<th>ACTION</th>
<th>RESPONSIBILITY</th>
<th>MONITORING</th>
<th>TIMESCALES</th>
</tr>
</thead>
</table>
| 2)   | Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections – criterion 2 Health and Social Care Act 2008. | • A programme of pro-active audits of nursing and residential care homes will be completed over the next year as part of the annual review
• A programme of pro-active GP audits will be completed over the next year with priority to those practices identified as none compliant with CQC IPC requirements
• A targeted programme will be in place for NHS dental practices. Dental Practice audits will take place where concerns are raised. Planned audits will commence April 17
• A targeted programme will be in place for learning disability care homes. Audits will take place where concerns are raised.
• Provide advice and guidance on refurbishments and new builds within the NHS and private sector for care homes. | IPC Lead for Care Homes (NH)
IPC Lead for GP/Dental (WW)
Head of Service Infection Prevention & Control Team | Strategic Partnership Steering Group | Quarterly |
| Domain 5 NHS Framework | | | | |

| 3)   | Provide suitable accurate information on infections to any person concerned with providing further support or nursing/medical care in a timely fashion – criterion 4 Health and Social Care Act 2008 | • Monitor daily incoming laboratory reports from NUH and SFHT. Identify ‘hot spots’ and provide follow up for cases with the GP/care home for all community cases of C.difficile, PVL, MRSA and CPE. Provide expertise and advice on patient management.
• Contact care homes to advise on any identified cases of ESBL.
• Alert acute trusts of HCAI cases of concern with joint care e.g. C.difficile infection.
• Maintain local HCAI database, to include all daily | Head of Service Infection Prevention & Control Team | | |
<table>
<thead>
<tr>
<th>PLAN</th>
<th>ACTION</th>
<th>RESPONSIBILITY</th>
<th>MONITORING</th>
<th>TIMESCALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>criterion 5 Health and Social Care Act 2008</td>
<td>Proactively provide advice and guidance to GP services and care homes to ensure that patients identified with infections are managed and treated appropriately and in accordance with local antimicrobial prescribing guidance and best practice.</td>
<td>Head of Service Infection Prevention &amp; Control Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monitor and proactively support care homes with expertise when outbreaks have been identified. Provide review as required and HCAI surveillance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visit care homes of concern where management of an outbreak has not been optimum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monitor and provide follow up daily for new cases of MRSA/ MSSA PVL and liaise with PHE/Microbiology on complex cases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monitor for cases and complete the NHSE toolkit for all community acquired cases of Clostridium difficile infection in conjunction with the GP practice to identify learning and any lapses in care. Collate themes and provide report quarterly on community cases.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete targeted training to commissioned and contracted services including GPs/care homes/NHS dentists as required in response to concerns in IPC care, clinical practice following investigation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Introduction

Auditing clinical practice against infection prevention and control (IPC) standards is a well-recognised process to identify poor practice requiring improvement, risk, and quality assurance. The audit process will identify key quality factors and compliance; it is a well-established means of monitoring and assessing quality improvement. All those services registered with CQC are required to meet expected standards as detailed in the Health and Social Care Act (DOH 2008) and included in compliance is the need for providers to complete an audit programme to demonstrate that monitoring of infection prevention and cleanliness is in place.

Aim

- To ensure the risk of infection to service users accessing a health and social care setting is minimised.
- To contribute to a reduction in healthcare associated infection across Nottinghamshire County.
- To improve compliance with the Health and Social Care Act 2008.

Objective

- To complete the clinical audit programme as detailed in the Section 75 agreement and accompanying service specification in place with Nottinghamshire County Council. To support Clinical Commissioning Groups across Nottinghamshire County and the local Authority in the quality monitoring of their commissioned services and in supporting with quality improvements as required across those services.
- To ensure all staff have easy access to relevant information and fully implement infection prevention and control recommendations following audit and that actions are followed up as required.
- Those actions are taken to highlight those areas of concern with commissioners and the regulator where a breach in compliance is identified.
- To improve and sustain IPC standards across all commissioned/contracted services.

The Audit Programme

Audit Tools

Audit tools have been adapted from accredited Infection Prevention Society (IPS) audit standards in addition to criterion listed within the Health and Social Care Act 2008. The programme of audit carried out by the IPCT will be planned according to priority and the perceived level of clinical risk, based on previous audit findings. Audits to care homes are unannounced visits, audits of GP and NHS dental practices will be pre-planned unless as a direct result of a compliance issue that has been raised formally. Actions plans where required will be requested from the Manager registered IPC lead in the service.

Action Planning

In order to demonstrate assurances that the areas of concern highlighted during the audit process are being addressed, a completed action plan will be required to be returned to IPCT within the timescale for completion identified on the report as a minimum this will be within 1 month.
The IPC team will provide recommendations and advise on any actions required. The action plan must include all the main recommendations, timescales for completion and identified lead. Those services not compliant with the provision of an action plan will be highlighted to quality monitoring teams and the information will be shared with the regulator.

**Frequency of Audits**

Audits will be completed as detailed in the service specification agreement.

- To undertake infection prevention and control proactive audit within all care homes including nursing beds and residential beds annually (excluding learning disability units and Bassetlaw CCG) The audit process will normally consist of an initial visit and up to two further visits if required to ensure feedback and review of action plans.
- To complete an infection prevention and control pro-active audit within all GP and NHS dental practices every two years. The audit process will normally consist of an initial visit and up to two further visits if required to ensure feedback and review of action plan.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>AREA</th>
<th>FREQUENCY</th>
<th>COMMENTS</th>
</tr>
</thead>
</table>
| Care homes with nursing beds (59 current) | Across 5 Nottinghamshire CCGS  
• Mansfield & Ashfield CCG  
• Newark & Sherwood CCG  
• Nottingham North & East CCG  
• Nottingham West CCG  
• Rushcliffe CCG | Annual rolling programme | New homes are planned and others are planning to close numbers are approximate |
| Care homes registered for residential care with local authority (excludes LD) (current 90) | Across 5 Nottinghamshire CCGS | Annual rolling programme | |
| Care homes registered for residential care with learning disability | Across 5 Nottinghamshire CCGS | Not included in routine audit programme | Re-active audits will be completed where Infection Prevention & Control concerns are raised |
| General Practice 91 (111 sites) | Across 5 Nottinghamshire CCGS | Every 2 years rolling programme | Audit programme to start April 2016. 1st year 2016-17 Sites are merging which may decrease number of practices but not sites |
| NHS Dental Practices (93) | Across 5 Nottinghamshire CCGS | Every 2 years rolling programme | Re-active audits will be completed where Infection Prevention & Control concerns are raised 2016-17. Pro-active audit programme from April 2017.
### Appendix 2  Findings from *Clostridium difficile* Case Surveillance Mid Nottinghamshire CCGs

April 2015-March 2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Newark &amp; Sherwood CCG</td>
<td>21</td>
<td>29</td>
<td>25</td>
<td>42</td>
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<td>56</td>
<td>54</td>
<td>73</td>
<td>103</td>
<td>107</td>
<td>94 *(94)</td>
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</tbody>
</table>

Table 1: shows CCG Objectives set by NHS England and actual cases of community and all CCG cases *Clostridium difficile infection* (CDI)

*For the purposes of reporting a community case CDI is either a toxin positive stool sample taken by the GP from a patient in the community or a toxin positive sample taken within 72 hours of admission to hospital (pre72 hr cases). Information is gathered by telephone discussion with the individual practice.*
There were 21 community acquired CDI Cases and 35 cases in total including all trust acquired infections for quarter one 2015. This compares with 14 community cases and 28 total cases in the same period 2014-15. There has been an increase of 7 community acquired cases.

2 cases out of the 21 were not reported to the CIPC team samples were processed through SFHT/NUHT in June.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
<th>GP sample</th>
<th>No recent antibiotics</th>
<th>Recent history of antibiotics</th>
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Table 1: Themes / trends from community acquired *Clostridium difficile* cases Mansfield and Ashfield CCG April -June 2015

**Themes identified from the 21 patients receiving antibiotics** show:

*Antibiotic prescribing in the 3 months prior to positive stool sample result

**GP only**
- 2 patients had Flucloxacillin and then Clindamycin for deteriorating folliculitis/cellulitis 1 of these relapsed 2 months later and accounts for 2 entries
- 1 patient had Trimethoprim for proven UTI
- 1 oncology patient on radiotherapy was given Cephalexin for a chest infection as known allergies to standard treatments
- 1x poor management of a relapse case despite alert on record out of hours gave Amoxicillin for UTI this was changed by the GP to Trimethoprim (sample sent) this patient was given loperamide by the GP (This case was referred to the prescribing team for learning)

**Acute Trust only**
- 1 patient had IV Tazocin and oral Amoxicillin and oral Metronidazole as inpatient (SFHT) for aspiration pneumonia (they had previously been treated with Metronidazole as PCR positive in community but compliance with medication poor due to alcohol dependency
- 1 patient was treated for pneumonia with IV antibiotics and then discharged on Co-amoxiclav(SFHT)
- 1 patient was considered to be a poor discharge they acquired CDI early into a long admission and this was omitted on the discharge letter – the patient was discharged home with ongoing diarrhoea and was sent back into hospital the next day as unwell and the stool sample was sent.
There was learning for acute and community management identified in this case- the GP had prescribed loperamide and the hospital communication had been poor to the GP who had no knowledge of previous CDI and as such no community alert was in place. This patient is on regular prophylactic antibiotics for UTI (under urologist) with alternating doses of Cephalxin/Trimethoprim – they were discharged on oral Cephalxin. This patient relapsed and accounts for 2 entries.

- 1 patient was treated SFHT for urosepsis with IV Tazocin then oral Co-amoxiclav and Nitrofurantoin
- 1 patient was treated SFHT for hospital acquired pneumonia and urosepsis the antibiotics were not listed – there was no recent community prescribing
- 1 patient was treated SFHT with IV antibiotics Tazocin for sepsis
- 1 patient was discharged 3 days previously after a month’s admission during which they acquired CDI this was relapse disease
- 1 patient was treated for neutropenic sepsis and community acquired pneumonia with IV Meropenum and Vancomycin
- 1 patient had osteomyelitis treated in hospital prior to amputation (Acyclovir)
- 1 oncology patient was treated for E-coli infection and viral illness antibiotics not detailed but x2 courses (NUHT) no GP prescribing

Both GP and Acute Trust

- 1 patient was treated for pneumonia with IV antibiotics and oral Doxycycline the GP was advised to continue alternate months of Doxycycline/Levofloxacin (none compliant patient with alcohol dependency) this patient later relapsed and accounts for 2 entries
- 1 patient is under oncology and has regular prophylaxis as part of the treatment plan (Septrin) they have ESBL in sputum and required treatment for neutropenic sepsis treated with IV antibiotics, the GP later prescribed Amoxicillin
- 1 patient is on prophylactic antibiotics for ESBL UTI Amoxicillin (urologist) and was given antibiotics by GP Nitrofurantoin and Ceftriazone by OOHRs this case was referred to prescribing for review

Summary

- None of these cases were linked to any identified cross infection concerns
- 3 cases were referred for learning
- 3 cases involved patients with severe alcohol dependency and liver disease
- 3 were oncology patients on active treatment
- All received antibiotics prior to CDI acquisition
NHS Mansfield & Ashfield CCG

Quarter 2
July-September 2015

There were 19 community acquired CDI Cases and 25 cases in total including all trust acquired infections over quarter two. This compares with 11 community cases and 24 total cases in the same period 2014-15. There has been an increase of 8 community acquired cases.

<table>
<thead>
<tr>
<th>Male</th>
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<td>5%</td>
<td>95%</td>
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Table 2: Themes / trends from community acquired Clostridium difficile cases Mansfield and Ashfield CCG July -September 2015

Themes identified from the 19 patients receiving antibiotics show:

**GP only**
- 1 patient had Trimethoprim for proven UTI

**Acute Trust only**
- 1 patient was 2 days post discharge after a prolonged hospital stay. They received antibiotics for a chest infection SFHT no GP prescribing
- 1 patient was 3 days post discharge after a prolonged hospital stay at NUHT and SFHT they received Co-Amoxiclav/Cefradine and NIterfurantoin for e-coli UTI no GP prescribing
- 1 patient had antibiotics SFHT during recent admission for biliary sepsis no GP prescribing
- 1 patient had Co-amoxiclav and Clarithromycin SFHT for pneumonia and Cephalexin, Gentamicin and Trimethoprim e-coli UTI
- 1 patient had a prolonged hospital stay –treated for ESBL urosepsis SFHT with IV Tazocin and Meropenum
- 1 patient has recently been in hospital with urosepsis and septicaemia treated with antibiotics SFHT –no GP prescribing in last 3 months

**Both GP and Acute Trust**
- 1 patient received antibiotics for cellulitis from the GP - Flucloxacillin and IV Tazocin/Co-amoxiclav SFHT for bowel biopsy this patient relapsed and accounts for a second entry in this quarter
1 complex patient who has shared care and has prophylactic Co-amoxiclav for AA stent from GP under consultant direction. The patient recently had treatment SFHT for UTI and diverticular disease – Trimethoprim and Metronidazole

1 patient given IV Vancomycin for cellulitis and then oral Clindamycin SFHT for chest infection. GP prescribed Doxycycline for cellulitis (patient has Penicillin allergies)

1 patient was treated at the hospice with prophylactic Ciprofloxacin to run alongside palliative chemotherapy this was changed to Amoxicillin. Nitrofurantoin was given for proven UTI by GP

Summary

6 patients are relapse cases with no recent antibiotic prescribing although initial disease was related to antibiotic prescribing. 2 patients account for 2 entries each

1 patient was a relapse case following hospital acquired CDI the patient was discharged on loperamide this case was reviewed by SFHT team for learning
There were 14 community acquired CDI Cases and 16 cases in total including all trust acquired infections over quarter three. This compares with 12 community cases and 24 total cases in the same period 2014-15. Overall there has been a reduction in both community and hospital acquired.

### Table 3: Themes / trends from community acquired *Clostridium difficile* cases Mansfield and Ashfield CCG October –December 2015

**Themes identified from the 10 patients receiving antibiotics show:**

**GP only**
- 1x Cephalexin for UTI as not able to tolerate Nitrofurantoin – this case was referred to the prescribing team for further review as the GP prescribed loperamide without establishing a cause for diarrhoea
- 1x Erythromycin and Flucloxacillin for wound infection (swabbed and antibiotics changed) Trimethoprim UTI

**Acute trust only**
- 1x urosepsis SFHT recent discharge after prolonged admission treated with IV Meropenum then Ciprofloxacin then developed a chest infection given IV Tazocin
- 1x oncology patient given IV Tazocin then oral Co-amoxicillin NUHT neutorpenic sepsis Flucloxacillin cellulitis
- 1x prophylactic antibiotics for ischaemic leg and then following amputation, Nitrofurantoin UTI
- 1x Clindamycin for cellulitis and Nitrofurantoin UTI

**Both Acute Trust and GP prescribing**
- 1x Clarithromycin for otitis media and oral Ceftriaxone continued post discharge following meningitis
- 1x Nitrofurantoin –UTI by GP and IV Tazocin and Gentamycin for urosepsis discharged on oral Co-amoxiclav by acute trust
• 1x Amoxicillin COPD, Clarithromycin for cellulitis, Doxycyline for chest infection then Amoxicillin after advice from respiratory clinic all by GP. IV Metronidazole and Vancomycin given in hospital

Other

• 1x patient received Amoxicillin from their dentist for a dental abscess

Summary

• 1x patient received Amoxicillin from their dentist for a dental abscess
• 2 cases were referred to the prescribing advisors for review after GP prescribing identified inappropriate use of Loperamide
• No cases were found to be due to cross infection
There were 19 community acquired CDI Cases and 31 cases in total for quarter four including all trust acquired infections. This compares 17 community cases and 27 total cases over the same period 2015.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
<th>GP sample</th>
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<th>PPI/H2 Ant.</th>
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<th>Care home resident</th>
<th>Recent admission to hospital Last 3 months</th>
<th>Other bowel disease</th>
<th>Chemo-therapy</th>
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<td>325</td>
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</table>

Table 4: Themes / trends from community acquired *Clostridium difficile* cases Mansfield and Ashfield CCG January-March 2016

**Themes identified from the 16 patients receiving antibiotics show:**

**GP only**
- 1x treatment for chest infection with Doxycycline
- 1x treatment for chest infection with Doxycycline and Trimethoprim x 1 UTI
- 1x treatment in community with Erythromycin for a chest infection - this was not in GP record/thought to be out of hours service but was recorded as GP this was raised with practice for learning
- 1x case treated with Co-amoxiclav for suspected UTI by out of hours - this was raised with the service and learning initiated as not in line with antimicrobial prescribing guidance

**Acute trust only**
- 1x treatment for urosepsis with IV Tazocin
- 1x treatment for urosepsis with IV Tazocin
- 1x treatment for pneumonia with IV Vancomycin and Ciprofloxacin
- 1x long term Penicillin cover during chemotherapy also treated for neutropenic sepsis with IV antibiotics
- 1x treatment for UTI with Trimethoprim – this case was referred as a lapse in care patient discharged after prolonged admission with diarrhoea no sample taken by acute trust this patient accounts for a second community entry in march after relapse
- 1 patient is having chemotherapy, Septrin and Acyclovir are included in the treatment plan recently treated with Ciprofloxacin 7 days for infection
- 1x case treated with antibiotics for suspected UTI (no detail provided to GP on antibiotics given during admission)
- 1x IV Tazocin for infected necrotic toes, in addition treated with Levofloxacin for hospital acquired pneumonia
- 1x treatment for UTI no detail provided on antibiotics given
- 1x treatment for sepsis with IV Tazocin and discharged on a course of oral Co-amoxiclav

**Both Acute Trust and GP prescribing**

- 1x case treated by GP with Amoxicillin for aspiration, later treated in hospital with Co-amoxiclav for aspiration pneumonia

**Other**

- 3 patients were logged as receiving no antibiotics in the last 3 months, 1 of these patients had relapse disease, the original episode was prompted by a course of antibiotics

**Summary**

- 2 cases of community prescribing were reviewed and learning generated for the GPs
- 1 case was referred SFHT as a poor discharge this patient later relapsed and accounts for 2 cases in this quarter
NHS Newark & Sherwood CCG

Quarter 1
April-June 2015

There were 11 community acquired CDI Cases and 13 cases in total including all trust acquired infections for quarter one 2015. This compares with 9 community cases and 12 total cases in the same period of the previous year 2014 an increase in community cases by 2 and a decrease in acute trust acquired cases by 1. 1 community case was not notified to the team.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
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</tbody>
</table>

Table 1: Themes / trends from community acquired *Clostridium difficile* cases Newark & Sherwood CCG April -June 2015

**Themes identified from the 8 community patients receiving antibiotics**

*Antibiotic prescribing in the 3 months prior to positive stool sample result*

**GP only**

- 1 patient had GP only antibiotics these were for an infected nail bed (Flucloxacillin)
- 1 patient has difficult to manage cellulitis and has had 2 recent courses Clindamycin from the GP
- 1 oncology patient had antibiotics from dentist for abscess (Amoxicillin) and a repeat course from the GP under guidance from Maxillary Facial team (NUHT)

**Acute trust only**

- 1 x oncology patient on chemotherapy has long term prophylactic antibiotics (Septrin) as part of their treatment plan SFHT in addition they required IV antibiotics in SFHT for neutropenic sepsis—no GP antibiotics
- 1 patient was given IV antibiotics for hospital acquired pneumonia and then IV antibiotics for e-coli urosepsis (NUHT) —no GP antibiotics
- 1 patient was given antibiotics for LRTI—Co-amoxiclav (SFHT) and a previous course Co-amoxiclav for UTI (NUHT) and is on prophylactic Nitrofurantoin for recurrent UTI under urologist NUHT (repeats issued by GP)
Both GP and Acute Trust

- 1 patient had Flucloxacillin and Clindamycin (SFHT) for cellulitis and further Flucloxacillin was prescribed by the GP. The patient is under urology SFHT and takes regular prophylactic Cephalexin for UTI.
- 1 patient had IV antibiotics followed by oral Clarithromycin and Co-amoxiclav for pneumonia (SFHT), Doxycycline was prescribed by the GP for a chest infection prior to re-admission with pneumonia.

Summary

- 1 complex case had relapse disease no new antibiotics had been issued.
- 2 were oncology patients on active treatment.
- None of these cases were linked to any identified cross infection concerns.
There were 7 community acquired CDI Cases and 10 cases in total including all trust acquired CDI infections for quarter two. This compares with 9 community cases and 12 total cases including trust acquired the same period 2014-15. This shows a decrease of in community acquired cases and a slight increase in trust acquired cases.

### Table 2: Themes / trends from community acquired Clostridium difficile cases Newark & Sherwood CCG July-September 2015

<table>
<thead>
<tr>
<th>Male</th>
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</thead>
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</tr>
</tbody>
</table>

**Themes identified from the 7 community patients receiving antibiotics**: show:

*Antibiotic prescribing in the 3 months prior to positive stool sample result

**GP only**
- 1 patient had GP only antibiotics these were for a fungal infection advised by SFHT Gynaecologist – Co-amoxiclav
- 1 patient had Flucloxacillin for an infected nail bed

**Acute Trust only**
- 1 x oncology patient newly diagnosed treated SFHT with antibiotics for pneumonia.
- 1 x patient had a short admission with chest infection treated with antibiotics SFHT then re-admitted for prolonged admission treated with IV Tazocin for urosepsis. No GP prescribing (there was GP learning identified in this case as loperamide was prescribed)
- 1 x recent admission to QMC treated for basal pneumonia with antibiotics transferred SFHT and given IV Tazocin
- 1 x admission SFHT treated for wound infection with IV Flucloxacillin and Clindamycin discharged on oral Clindamycin. Re-admitted and treated for hospital acquired pneumonia with IV Tazocin
Summary

- 1 case had not had antibiotics since 2014 and no recent admissions they were not on a PPI or taking regular laxatives
- No identified cases of cross infection
- The majority of cases had received antibiotics during a recent admission
NHS Newark & Sherwood CCG

Quarter 3
October- December 2015

There were 4 community acquired CDI Cases and 6 cases in total including all trust acquired CDI infections for quarter three. This compares with 6 community cases and 11 total cases including trust acquired in the same period 2014. This shows a decrease in overall cases.

<table>
<thead>
<tr>
<th></th>
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Table 3: Themes / trends from community acquired *Clostridium difficile* cases Newark & Sherwood CCG October -December 2015

**Themes identified from the 2 community patients receiving antibiotics**

*Antibiotic prescribing in the 3 months prior to positive stool sample result

**Acute Trust only**

- 1x oncology patient newly diagnosed treated SFHT for possible perforation after oesophageal stent fitted –IV Tazocin
- 1x patient treated in Lincoln with IV Co-amoxiclav and Clarithromycin for pneumonia, and oral Nitrofurantoin for UTI
- 1x Urosepsis SFHT treated with IV Tazocin and then oral Ciprofloxacin (e-coli was s to Nitrofurantoin), a further course oral Ciprofloxacin was given during a second admission for UTI

**Summary**

- 1 case had not had antibiotics but has other co-morbidities linked to alcoholic liver disease
- No cases had received antibiotics in the last 3 months from the GP
- No identified cases of cross infection
There were 3 community acquired CDI cases and 6 cases in total including all trust acquired infections for quarter four. This compares with 6 community cases and 8 total cases including trust acquired over the same period 2015. This shows a decrease in overall cases.

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Table 4: Themes / trends from community acquired *Clostridium. difficile* cases Newark & Sherwood CCG January -March 2016

**Summary**

- No cases had received antibiotics in the 3 months leading to them acquiring CDI
- 1 case was a relapse, this patient has alcoholic liver disease
- 1 case has a history of ulcerative colitis
- 1 case is receiving end of life care
Total Cases of Community Acquired *Clostridium difficile* infection April 2015 – March 2016 by CCG

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
<th>GP sample</th>
<th>No recent antibiotics</th>
<th>Recent history of antibiotics</th>
<th>On laxatives</th>
<th>PPI/H2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admission to hospital Last 3 months</th>
<th>Other bowel disease</th>
<th>Chemo-therapy</th>
<th>Diabetes</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>54</td>
<td>27</td>
<td>46</td>
<td>8</td>
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<tr>
<td>26%</td>
<td>74%</td>
<td>37%</td>
<td>63%</td>
<td>11%</td>
<td>89%</td>
<td>25%</td>
<td>40%</td>
<td>29%</td>
<td>21%</td>
<td>74%</td>
<td>14%</td>
<td>11%</td>
<td>15%</td>
<td>32%</td>
<td>21%</td>
<td>79%</td>
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</tbody>
</table>

Table 1: Themes / trends from community acquired *Clostridium difficile* cases Mansfield & Ashfield CCG April 2015- March 2016

**Community Acquired CDI Mansfield & Ashfield CCG**

![Graph showing the number of CDI cases from 2013-14 to 2015-16 across different months]

- **2013-14**: Steady increase from April to July, slight decrease in August and September, another increase in October, and a significant rise in November. A drop in December and January, followed by a steady decline until March.
- **2014-15**: Similar trend to 2013-14 but with slightly lower numbers overall.
- **2015-16**: Highest number in August, with a steady decline to November, followed by a sharp increase in December, and a drop in January. Numbers remain relatively stable until March.

The data shows fluctuations in the incidence of community-acquired *Clostridium difficile* infection across the months, with peaks in late summer and autumn, and troughs in the winter.
<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
<th>GP sample</th>
<th>No recent antibiotics</th>
<th>Recent history of antibiotics (last 3 months)</th>
<th>On laxatives</th>
<th>PPI/H2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admissions to hospital Last 3 months</th>
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<th>Chemo-therapy</th>
<th>Diabetes</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
</tr>
</thead>
<tbody>
<tr>
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<td>11</td>
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<td>17</td>
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<td>2</td>
<td>7</td>
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<tr>
<td>24%</td>
<td>76%</td>
<td>44%</td>
<td>56%</td>
<td>56%</td>
<td>40%</td>
<td>60%</td>
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<td>36%</td>
<td>16%</td>
<td>68%</td>
<td>12%</td>
<td>12%</td>
<td>8%</td>
<td>28%</td>
<td>24%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Table 2: Themes / trends from community acquired *Clostridium difficile* cases Newark & Sherwood CCG April 2015-March 2016

Community Acquired CDI Newark & Sherwood CCG

![Chart showing number of CDI cases from April 2013 to March 2016](attachment:image.png)
Root Cause Analysis

There have been three root cause analysis investigations (RCA) in mid Nottinghamshire 2 Mansfield and Ashfield CCG and 1 Newark and Sherwood CCG between April 2015 and March 2016 this is the same number as the previous 2 years. Two were completed for patients whose main cause of death was listed as *Clostridium difficile* infection and one case was for a patient diagnosed with pseudomembranous colitis. All three cases had received antibiotics in the 3 months prior to the onset of disease.

<table>
<thead>
<tr>
<th>Problem Identified</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotic prescribing – duration given longer than the antimicrobial prescribing guidance indicates</td>
<td>GP training and support from local prescribing advisor. Reminder to GP of full antimicrobial prescribing guidelines</td>
</tr>
<tr>
<td>Failure to treat on suspicion of CDI</td>
<td>Practice learning and learning for out of hours service. Re-issue of CDI national guidance and local quick reference guide to treat on suspicion after getting stool sample and not waiting for sample result</td>
</tr>
<tr>
<td>Documentation and communication</td>
<td>Education for care staff re-documentation and use of Bristol stool chart</td>
</tr>
<tr>
<td>Failure to maintain accurate records including accurate documentation of bowel record (care home)</td>
<td>Learning for out of hours service re documentation, individual feedback to GP by Medical Director</td>
</tr>
<tr>
<td>Communication by out of hours to acute trust re CDI</td>
<td>Discussed as a learning point for the practice at education session</td>
</tr>
<tr>
<td>GP documentation of rationale for prescribing antibiotics</td>
<td></td>
</tr>
<tr>
<td>Lack of engagement by the patient</td>
<td>GP practice to try and engage more with the patient re prevention and accessing healthcare</td>
</tr>
</tbody>
</table>

Table 5: Main problems identified following the root cause analysis investigation and action taken

Areas of good practice identified

- Communication between the GP and the patient
- Fast referral made by the GP for investigation when cancer suspected
- Fast referral by GP to support teams including community nurses
- Documentation by GP practice and community nurses, SFHT
- A stool sample was requested by out of hours GP
- Stool sampling on admission SFHT
Summary across Mid Nottinghamshire CCGs

There have been a total of 138 cases of *Clostridium difficile* infection across both CCG’s over April 2015 – March 2016 this is a decrease of 7 cases when compared to the total 2014-15 of 145. Using the nationally set criteria 98 of these are classified as community acquired (71%) this is an increase when compared with 57% for the same period 2014-15. 79% of cases were over the age of 65 years and 77% had received antibiotics in the last 3 months. There is increasing evidence that acid-suppressing medications, in particular proton pump inhibitors (PPIs) may be a risk factor for CDI a third of cases (35) were taking a PPI at the time of diagnosis. As with previous years the majority of community CDI cases seen are from patients living in their own home rather than those from a care home setting and are isolated cases.

From the information provided by GPs antibiotic prescribing was in line with the Primary Care Antimicrobial Prescribing Guidance in the majority of cases identified which is an improvement in practice. In the small number of cases where inappropriate prescribing was identified in the community these were referred to the prescribing advisors linked to the individual practice for further support and training. Poor discharges, including lack of stool sampling for diarrhoea and prescribing concerns were raised with the acute trusts for review and learning. Information is gathered on each community case that the team are notified of to establish possible links and risk factors. The use of Loperamide remains a concern and is considered to be a lapse in care unless there is clear evidence for its use. All lapses in both Primary and Secondary care are referred for learning. On notification the GP is requested to add an alert (read code) to the patient record as a future prompt in addition a special patient note is requested from the practice to provide the out of hours service with the CDI information to aid with appropriate future prescribing. Of the 75 community CDI cases 41 (54.7%) had received antibiotics during a recent admission - they had not been treated by their GP, 15 (20%) patients had received antibiotics from both the GP and the hospital within 3 months of the onset of CDI. 18 (24%) patients had been treated with antibiotics in the community solely from a GP. 1 patient had received antibiotics from their dentist (1.3%). 60 (61%) out of the 98 cases had been identified from GPs requesting a stool sample.
Future Work

NHS England CDI objectives for 2016/17 remain the same as the previous year

<table>
<thead>
<tr>
<th>CCG</th>
<th>CDI case objective 2015/16</th>
<th>CDI case objective 2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Mansfield &amp; Ashfield CCG</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>NHS Newark &amp; Sherwood CCG</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>SFHT</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>NUHT</td>
<td>91</td>
<td>91</td>
</tr>
</tbody>
</table>

Mansfield and Ashfield CCG breached the CDI objective for 2015/16 this includes both Trust and community acquired cases. Work will continue alongside SFHT and the out of hours service to work together on the current action plan to reduce avoidable CDI cases and to ensure that antibiotic prescribing is appropriate. All inappropriate prescribing will continue to be challenged and support from the practice Prescribing Advisors will be requested to reinforce adherence to prescribing guidance and to provide education to practice learning. National guidance and quick reference guides have been re-issued by IPC to GPs including out of hours PC 24, patient and public information on NHS choices has been updated to include more prevention information. A cross county working group is in place to look further at reducing antimicrobial prescribing as part of the 5 year reduction strategy. *Clostridium difficile* epidemiology remains complex and whilst progress has been made reducing cases of infection further is challenging. It is acknowledged that there are indications that in some areas, the level of CDIs may be approaching their irreducible minimum level at which these infections will occur regardless of the quality of care provided. The focus for the coming year will be to reduce all avoidable cases of *Clostridium difficile* infection across Mid Nottinghamshire and improve on infection prevention.
Appendix 3  Findings from *Clostridium difficile* Case Surveillance South Nottinghamshire CCGs

April 2015 - March 2016

<table>
<thead>
<tr>
<th>CCG</th>
<th>Total Community Acquired CDI cases April 2013- March 2014</th>
<th>Total Community Acquired CDI cases April 2014- March 2015</th>
<th>Total Community Acquired CDI cases April 2015- March 2016</th>
<th>Total CDI cases April 2014–March 2015</th>
<th>Total CDI cases April 2015–March 2016</th>
<th>Objective Set Total CDI cases 2015/16 <em>(14-15)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Nottingham North &amp; East CCG</td>
<td>23</td>
<td>38</td>
<td>22</td>
<td>67</td>
<td>32</td>
<td>47 (42)</td>
</tr>
<tr>
<td>NHS Nottingham West CCG</td>
<td>19</td>
<td>16</td>
<td>5</td>
<td>33</td>
<td>15</td>
<td>21 (35)</td>
</tr>
<tr>
<td>NHS Rushcliffe CCG</td>
<td>9</td>
<td>16</td>
<td>13</td>
<td>26</td>
<td>24</td>
<td>24 (28)</td>
</tr>
</tbody>
</table>

Table 1: shows CCG Objectives set by NHS England and actual cases *Clostridium difficile infection* (CDI)

**For the purposes of reporting a community case CDI is either a toxin positive stool sample taken by the GP from a patient in the community or a toxin positive sample taken within 72 hours of admission to hospital (pre72 hr cases).**
NHS Nottingham North & East CCG

Quarter 1
April-June 2015

There were 5 community acquired CDI Cases and 11 cases in total including all trust acquired infections for NHS Nottingham North & East CCG for quarter one. This is a decrease in community cases by 5 and a decrease in total cases by 6 when compared with the same period last year.

Table 1: Themes / trends from community attributed C. difficile cases NHS Nottingham North & East CCG April-June 2015

Themes identified from the 5 patients receiving recent antibiotics (last 3 months) show:

*Antibiotic prescribing in the 3 months prior to positive stool sample result

**GP prescribing only**
- No cases

**Acute trust only**
- 1x oncology patient treated with IV Tazocin and oral Co-amoxiclav for neutropenic sepsis, discharged on Nitrofurantoin (NUHT)
- 1x Nitrofurantoin for UTI and IV Tazocin and oral Co-amoxiclav for urosepsis (NUHT)
- 1x IV Co-amoxiclav and Clarithromycin discharged on oral Co-amoxiclav for community acquired pneumonia

**GP and Acute trust prescribing**
- 1 patient received Amoxicillin from GP for chest infection and then IV Tazocin and Augmentin following admission for chest infection (this patient is immunosuppressed/post renal transplant)
- 1x oncology patient treated by GP with Doxycycline for chest infection and later Doxycycline /Clarithromycin and Cefuroxime for bilateral basal pneumonia

**Summary**
- No cases were linked to any identified cross infection concerns or lapses in care
- No prescribing issues were identified with the information provided.
There were 7 community acquired CDI Cases and 0 trust acquired cases for quarter two. This is a decrease in community cases by 3 and a decrease in total cases by 9 when compared with the same period last year.

Table 2: Themes / trends from community attributed C. difficile cases NHS Nottingham North & East CCG July-September 2015

Themes identified from the 5 patients (2 entries are for the same patient) receiving recent antibiotics (last 3 months) show:

GP prescribing only
- 1x Trimethoprim prophylaxis for recurrent UTI and Co-amoxiclav x1 for UTI (accounts for 2 cases as this patient relapsed –no further antibiotics prompted the relapse disease)
- 1x Amoxicillin chest infection
- 1x Penicillin for acute pharingitis

Acute trust only
- 1x Clarithromycin for diabetic foot ulcers

GP and Acute trust prescribing
- 1 patient received Nitrofurantoin for UTI and was then admitted with urosepsis and treated for proven infection with IV Tazocin and oral Co-amoxiclav (accounts for 2 cases as this patient relapsed –no further antibiotics prompted the relapse disease)

Summary
- No cases were linked to any identified cross infection concerns or lapses in care. Some learning was identified around treating on suspicion CDI rather than waiting for the specimen result to come back. With the information provided all cases were treated with appropriate antibiotics for the condition being treated.
There were 9 community acquired CDI Cases and 0 trust acquired cases for quarter three. This is a decrease in community cases by 1 and a decrease in total cases by 7 when compared with the same period last year.

Table 3: Themes / trends from community attributed C. difficile cases NHS Nottingham North & East CCG October- December 2015

Themes identified from the patients receiving recent antibiotics (last 3 months) show:
1 patient had no recent antibiotics however they are a relapse case and the initial CDI was prompted by a course of antibiotics

GP prescribing only
- 1x treated for chest infection with Doxycycline then Amoxicillin as not improving
- 1x treatment for severe cellulitis with Clarithromycin this patient has known bowel disease
- 1x treatment for paronychia
- 1x chest infection treated with Doxycycline

Acute trust only
- 1x patient had antibiotics given for a surgical procedure

GP and Acute trust prescribing
- 1x treatment with Amoxicillin later changed to Doxycycline by GP for productive cough. Cellulitis was then treated with Co-amoxiclav–admitted as deteriorating and given IV antibiotics for cellulitis NUHT
- 1x treatment GP treated for pyelonephritis and urosepsis with Amoxicillin (no sample was taken this was a learning action as previous samples showed resistance) Acute antibiotics given whilst in Zambia following surgery for Quinsy – on return a tonsillectomy was performed for continued symptoms and during surgery a piece of glove was retrieved –treated post op with Cephalexin independent hospital
- 1x treated by GP for UTI and then admitted NUHT treated for klebsiella bacteraemia with Co-amoxiclav

Summary
- This case was not linked to any identified cross infection concerns or lapses in care.
NHS Nottingham North & East CCG

Quarter 4
January- March 2016

There was 1 community acquired CDI Case and 4 trust acquired cases for quarter four. This compares with 8 community cases and 18 cases in total for the same period last 2014-15.

<table>
<thead>
<tr>
<th>Mal e</th>
<th>Femal e</th>
<th>Hospita l sample pre 72hrs</th>
<th>GP Sampl e</th>
<th>No recent antibiotic s</th>
<th>Recent history of antibiotic s</th>
<th>On laxative s</th>
<th>PPI H2Ant</th>
<th>Repeat episod e</th>
<th>Care home residen t</th>
<th>Recent admissio n to hospital</th>
<th>Other bowel diseas e</th>
<th>Chemo -therapy</th>
<th>Diabete s</th>
<th>Renal diseas e</th>
<th>Unde r 65</th>
<th>Ove r 65</th>
</tr>
</thead>
<tbody>
<tr>
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Table 4: Themes / trends from community attributed C. difficile cases NHS Nottingham North & East CCG January-March 2016

Themes identified from the 1 patient receiving recent antibiotics (last 3 months) show:

GP prescribing only
- 1x Clarithromycin ear piercing infection, Metronidazole fungal lip lesion and a further course of Clarithromycin 500mgs for otitis media this patient had a known Penicillin allergy. Prescribing was reviewed and found to be appropriate however the duration of treatment was 7 days not 5 as per guidance the prescribing advisor will be supporting the practice with a learning event.

Summary
- This case was not linked to any identified cross infection concerns or lapses in care.
NHS Nottingham West CCG

Quarter 1
April-June 2015

There was 1 community acquired CDI Cases and 3 cases in total including all trust acquired infections quarter one. This is an improvement when compared with the same period in 2014/15 when there were 2 community acquired cases and 4 total cases.

Table 1: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham West CCG April-June 2015

Themes identified from the 1 patient receiving recent antibiotics (last 3 months) show:

GP and Acute trust prescribing
- 1x patient treated for urine infection Cefalexin by GP and Co-amoxiclav by out of hours and Trimethoprim following admission for proven UTI – patient only has 1 kidney

Summary
- This case was not linked to any identified cross infection concerns
- No prescribing issues were identified with the information provided.
There was 1 community acquired CDI Case and 6 cases in total including all trust acquired infections for quarter two. This is an improvement in community attributed cases when compared with the same period in 2014/15 however the total of 6 cases remains the same over this quarter. The community case is under review as CDI was listed as a contributory factor on the death certificate a root cause analysis investigation is in progress led by County Health Partnerships.

Table 2: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham West CCG July-September 2015

Themes identified from the 1 patient receiving recent antibiotics (last 3 months) show:

GP and Acute trust prescribing
- 1x patient was treated for infected leg ulcers by the GP with Flucloxacillin on a number of occasions and following admission the patient was treated with IV Tazocin for the same condition, wound swabs were taken. This patient was known to have the added complication of ulcerative colitis

Summary
- This case was not linked to any identified cross infection concerns
NHS Nottingham West CCG
Quarter 3
October-December 2015

There were 2 community acquired CDI Cases and 5 cases in total including all trust acquired infections for NHS Nottingham West CCG. This is an improvement in total cases when compared with the same period in 2014/15.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital sample pre 72hrs</th>
<th>GP Sample</th>
<th>No recent antibiotics</th>
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<th>Diabetes</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
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Table 3: Themes / trends from community attributed C. difficile cases NHS Nottingham West CCG October- December 2015

Themes identified from the patients receiving recent antibiotics (last 3 months) show:

Acute trust prescribing
- 1 x treatment NUHT with IV Tazocin for sepsis

GP only prescribing
- 1x treatment for UTI with Nitrofurantoin and then Trimethoprim sample sent and changed to Ciprofloxacin based on sensitivities

Summary
- These cases were not linked to any identified cross infection concerns or lapses in care.
There was 1 community acquired CDI Case and 2 cases in total including all trust acquired infections. This compares with 7 community cases and 9 total cases over the same period last year.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital sample pre 72hrs</th>
<th>GP Sample</th>
<th>No recent antibiotics</th>
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</table>

Table 4: Themes / trends from community attributed *C. difficile* cases NHS Nottingham West CCG January- March 2016

**Themes identified from the 1 patients receiving recent antibiotics (last 3 months) show:**

**GP prescribing only**
- 1x Augmentin for a chest infection.

**Summary**
- This case was not linked to any identified cross infection concern or lapse in care
NHS Rushcliffe CCG
Quarter 1
April–June 2015

There were 3 community acquired CDI Cases and 7 cases in total including all trust acquired infections for quarter one. This compares with 3 community acquired cases and 6 hospital acquired cases reported in the same period 2014/15.

Table 1: Themes / trends from community attributed C. difficile cases NHS Rushcliffe CCG April – June 2015

Themes identified from the 3 patients receiving recent antibiotics (last 3 months) show:

GP and Acute trust prescribing
- 1 x oncology patient was treated for febrile neutropenia with IV antibiotics and was discharged on Co-amoxiclav and was later given Flucloxacillin for a peri-anal abscess by the GP
- 1 relapse case of hospital acquired 027 Clostridium difficile infection. Originally treated for urosepsis with IV Meropenum and oral Trimethoprim this was the third relapse

Acute trust prescribing only
- 1x IV Tazocin and Trimethoprim for pneumonia and UTI

Summary
- No cases were linked to any identified cross infection concerns in the community
- These were all complex patients with multiple co-morbidities
- No prescribing issues were identified with the information provided
There were 5 community acquired CDI Cases and 7 cases in total including all trust acquired infections for quarter two. This compares with 4 community acquired cases and 1 hospital acquired case reported in the same period last year.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital sample pre 72hrs</th>
<th>GP Sample</th>
<th>No recent antibiotics</th>
<th>Recent history of antibiotics</th>
<th>On laxatives</th>
<th>PPI H2Ant.</th>
<th>Repeat episode</th>
<th>Care home resident</th>
<th>Recent admission to hospital</th>
<th>Other bowel disease</th>
<th>Chemo-therapy</th>
<th>Diabetes</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
</tr>
</thead>
<tbody>
<tr>
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<td>205</td>
<td>60%</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Themes / trends from community attributed C. difficile cases NHS Rushcliffe CCG July– September 2015

Themes identified from the 4 patients (1 case is counted twice due to relapse) receiving recent antibiotics (last 3 months) show:

**GP and Acute trust prescribing**
- 1x oncology patient was treated for a liver abscess with IV Tazocin and then oral Co-amoxiclav for total 4 weeks – GP re-issued as directed, the patient was re-admitted and received a further course of IV Tazocin before developing symptoms CDI 2 days later

**Acute trust prescribing only**
- 1x treatment with IV Tazocin and Trimethoprim for pneumonia and UTI
- 1x treatment with IV Tazocin for Cholecystitis and then oral antibiotics for a pleural effusion
- 1x treatment for urosepsis with IV Tazocin

**Summary**
- No cases were linked to any identified cross infection concerns in the community
- These were all complex patients with multiple co-morbidities. 1 Patient has relapsed 3 times over the year to date they are highly complex and are on total enteral feeds
- No prescribing issues were identified
NHS Rushcliffe CCG

Quarter 3
October- December 2015

There were 2 community acquired CDI Cases and 4 cases in total including all trust acquired infections for quarter three. This compares with 5 community acquired cases reported in the same period last year.

Table 3: Themes / trends from pre 72hr community C. difficile cases NHS Rushcliffe CCG October– December 2015

**Themes identified from the 1 patient receiving recent antibiotics**

**GP prescribing only**
- 1x treatment for wound infection with Flucloxacillin and Erythromycin (learning action -no wound swab taken), Trimethoprim for UTI. The patient had self-medicated with Loperamide when they were contacted by the GP

**Summary**
- These cases were not linked to any identified cross infection concern or lapse in care
There were 3 community acquired CDI Cases and 6 cases in total including all trust acquired infections. This compares with 4 community cases and 7 total cases over the same period 2014-15.

Table 4: Themes / trends from pre 72hr community *C. difficile* cases NHS Rushcliffe CCG January– March 2016

- 2x cases of no antibiotic prescribing 1x no documented history of antibiotics – recent orthopaedic surgery as an inpatient. 1x recent hematemesis

**Themes identified from the 1 patient receiving recent antibiotics**

**GP and Acute trust prescribing**
- 1x IV Tazocin and oral Flucloxacillin for infected necrotic toe as inpatient, Clarithromycin by GP for toe infection and Flucloxacillin (swab taken). Antibiotics all appropriate

**Summary**
- These cases were not linked to any identified cross infection concern or lapse in care
Total Cases of Community Acquired *Clostridium difficile* infection April 2015–March 2016 by CCG

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
<th>GP sample</th>
<th>No recent antibiotics</th>
<th>Recent history of antibiotics</th>
<th>On laxatives</th>
<th>PPI/H2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admission to hospital Last 3 months</th>
<th>Other bowel disease</th>
<th>Chemo-therapy</th>
<th>Diabetes</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
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<tbody>
<tr>
<td>8</td>
<td>14</td>
<td>11</td>
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<td>1</td>
<td>21</td>
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<td>36%</td>
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<td>41%</td>
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<td>23%</td>
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<td>68%</td>
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<td>18%</td>
<td>18%</td>
<td>82%</td>
</tr>
</tbody>
</table>

Table 1: Themes / trends from community acquired *Clostridium difficile* cases Nottingham North and East CCG April 2015 - March 2016
<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
<th>GP sample</th>
<th>No recent antibiotics</th>
<th>Recent history of antibiotics</th>
<th>On laxatives</th>
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</tr>
</tbody>
</table>

Table 2: Themes / trends from community acquired *Clostridium difficile* cases Nottingham West CCG April 2015 - March 2016

Community Acquired CDI Nottingham West CCG

- 2013-14
- 2014-15
- 2015-16
<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Sample taken during 72 hours of admission to hospital</th>
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<th>No recent antibiotics</th>
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</table>

Table 3: Themes / trends from community acquired *Clostridium difficile* cases Rushcliffe CCG April 2015- March 2016

![Community Acquired CDI Rushcliffe CCG](image-url)
Root Cause Analysis

There has been one root cause analysis investigation (RCA) between April 2015 and March 2016 this is a decrease by 4 cases when compared with the previous year. This patient is deceased and *Clostridium difficile* infection was considered to be a contributory factor listed on the death certificate they were under the care of the community nursing team and Health Partnerships led this community investigation. This case had received antibiotics in the 3 months prior to the onset of disease and the review generated a number of learning points across differing providers.

<table>
<thead>
<tr>
<th>Problem Identified</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of written communication in GP record following written prescription given during home visit</td>
<td>Discussion with prescribing GP</td>
</tr>
<tr>
<td>Ensuring clarity with the patient when prescribing medication for dressing changes only</td>
<td>Discussed during review meeting</td>
</tr>
<tr>
<td>Lack of detail at weekly meetings between GP and district nurse (DN)</td>
<td>Information on medical discharge letters from the hospital which affects nursing care delivery is fully discussed at MDT meetings</td>
</tr>
<tr>
<td>Purchasing of ‘microlife’ Doppler without initiating training</td>
<td>Prior to new machine being put fully into use, community staff must be trained in how to use it</td>
</tr>
<tr>
<td>Nurse from evening service visited accessed property using key safe they did not locate the patient downstairs and incorrectly made the assumption that the patient had gone to bed – they did not check that this was correct as they didn’t want to frighten the lady. No further check was made, team leaders were not made aware of this on the evening in question. Day staff were not informed.</td>
<td>Lengthy discussion between nurse and team manager. Nurses’ direct supervisor made aware and directed to have further discussion at PRD and 1-2-1. Nurse to write a piece of reflection regarding the situation and share with supervisor. Nurse directed to review the no access policy with regards to what to do if this situation arose again. General anonymous discussion to take place at the next team meeting</td>
</tr>
<tr>
<td>Poor hospital discharge: leg ulcers deteriorated, moist lesion to sacral cleft, bruising visible. No detail on DN discharge letter regarding need for compression therapy.</td>
<td>To support, coach and ensure all registered nurses understand where to add further clinical information on district nurse letters and on the follow up care section of the GP electronic letter. To make staff aware of other professionals and agencies that needs to be contacted when transferring a patient’s care. To put together a standard operating procedure for the transfer of care of patients to the community who have lower limb ulceration. To organise a teaching session with the help of tissue viability to educate the nursing team about the management of lower limb ulceration. To discuss findings of the RCA at Directorate Governance to ensure shared learning occurs and actions are implemented and discharge planning is and effective between primary and secondary care.</td>
</tr>
</tbody>
</table>

Table 5: Main problems identified following the root cause analysis investigation and action taken
Areas of good practice identified

- Antibiotics not prescribed until specimen results known
- Communication between the GP and the Community Nursing Team
- Antibiotic prescribing was appropriate
- The patient was involved in decisions made around her care
- Regular photographs and assessments were taken of leg ulcers
- Mental capacity assessments completed appropriately
- Clostridium difficile was treated quickly after admission

Summary across South Nottinghamshire CCGs

There have been a total of 71 cases of *Clostridium difficile* infection across all three CCG’s over April 2015 – March 2016 this is a decrease of 55 cases when compared to the total 2014-15 of 126. Using the nationally set criteria 40 (56%) of these are classified as community acquired this is a decrease of 30 cases when compared with the same period 2014-15. 84% of cases were over the age of 65 years and 91% had received antibiotics in the last 3 months. There is increasing evidence that acid-suppressing medications, in particular proton pump inhibitors (PPIs) may be a risk factor for CDI 46% of cases were taking a PPI at the time of diagnosis. As with previous years the majority of community CDI cases seen are from patients living in their own home rather than those from a care home setting and are isolated cases.

From the information provided by GPs antibiotic prescribing was in line with the Primary Care Antimicrobial Prescribing Guidance in the majority of cases identified which is an improvement in practice. In the small number of cases where inappropriate prescribing was identified in the community these were referred to the prescribing advisors linked to the individual practice for further support and training. Information is gathered on each community case that the team are notified of to establish possible links and risk factors. The use of Loperamide remains a concern and is considered to be a lapse in care unless there is clear evidence for its use. All lapses in both Primary and Secondary care are referred for learning. On notification the GP is requested to add an alert (read code) to the patient record as a future prompt in addition a special patient note is requested from the practice to provide the out of hours service with the CDI information to aid with appropriate future prescribing.

Of the 40 community CDI cases 36 had received antibiotics prior to the onset of disease, 10 (28%) had received antibiotics during a recent admission they had not been treated by their GP, 14 (39%) patients had received antibiotics from both the GP and the hospital within 3 months of the onset of CDI. 12 (33%) patients had been treated with antibiotics in the community solely from a GP. 21 (58%) out of the 36 cases had been identified from GPs requesting a stool sample.
Future Work

**NHS England CDI objectives for 2016/17 remain the same as the previous year**

<table>
<thead>
<tr>
<th>CCG</th>
<th>CDI case objective 2015/16</th>
<th>CDI case objective 2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Nottingham North and East CCG</td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>NHS Nottingham West CCG</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>NHS Rushcliffe CCG</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>SFHT</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>NUHT</td>
<td>91</td>
<td>91</td>
</tr>
</tbody>
</table>

All three CCGs were successful in achieving the CDI objective for 2015/16 this is a notable achievement. Work will continue alongside NUHT to work together on reducing all avoidable CDI cases and to ensure that antibiotic prescribing is appropriate. All inappropriate prescribing will continue to be challenged and support from the practice Prescribing Advisors will be requested to reinforce adherence to prescribing guidance and to provide education to practice learning. National guidance and quick reference guides have been re-issued by IPC to GPs and patient and public information on NHS choices has been updated to include more prevention information. A cross county working group is in place to look further at reducing antimicrobial prescribing as part of the 5 year reduction strategy. *Clostridium difficile* epidemiology remains complex and whilst progress continues to be made, reducing cases of infection further is challenging. It is acknowledged that there are indications that in some areas, the level of CDIs may be approaching their irreducible minimum level at which these infections will occur regardless of the quality of care provided. The focus for the coming year will be to reduce all avoidable cases of *Clostridium difficile* infection across the South Nottinghamshire CCGs.
Appendix 4 Infection Prevention and Control Annual Report for Care Homes  
March 2016

1. Introduction

This paper will provide a brief update on the progress made in residential care homes following building of the capacity with the Community Infection Prevention and Control Service (CIPC) as part of the transfer to Mansfield And Ashfield Clinical Commissioning Group.

2. Background

The full team have been in place since the beginning of December 2015, and since then an intensive programme of proactive auditing has taken place within residential care homes across Nottinghamshire County, all homes being audited by 1st April 2016.

3. Progress to date

Historically the CIPC team have not undertaken proactive audits in residential care homes due to the lack of capacity to do so, but have responded to requests by colleagues if concerns have been raised. Common themes emerged during these audits including the lack of hand hygiene facilities in resident rooms, lack of maximum and minimum fridge temperatures being recorded and understood and a lack of appropriate sluice facilities for the emptying of commode pots etc. The table below highlights further information on the common issues and the standard recommendations to the homes from the team. Audit reports and action plans are being shared with Nottinghamshire County Council (NCC) and The Care Quality Commission (CQC).

<table>
<thead>
<tr>
<th>Issue</th>
<th>Standard Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of policies or detail in policies</td>
<td>Ensure that policies are up to date and contain accurate information. Policies must have an issue and review date and evidence of staff reading policies should be available. Template policies will be forwarded to the home for use.</td>
</tr>
<tr>
<td>Lack of full hand washing facilities in resident rooms</td>
<td>Residents’ rooms must have full hand washing facilities to allow staff to decontaminate their hands at the point of care. Hand washing facilities must consist of wall mounted single cartridge liquid soap, wall mounted paper towel dispenser and a domestic waste bin.</td>
</tr>
<tr>
<td>Lack of appropriate facilities for the disinfection of commode pots etc</td>
<td>Best practice would be for the home to have a washer disinfector in all sluices to allow safe and effective cleaning of commode pots and urinals. Whilst staff continue to manually clean commode pots etc they must be provided with facial protection to prevent splashes and sprays to the face. Cleaning products must also be available to allow staff to clean commode pots and urinals.</td>
</tr>
<tr>
<td>Manual sluicing of laundry</td>
<td>Under no circumstances should a manual sluice facility or sluicing basin be used or situated in the laundry DH Prevention and control of Infection in care homes – an information resource 2013. Our recommendation would be for items which require hand washing (delicates) are sent home for relatives to wash.</td>
</tr>
<tr>
<td>Not bare below the elbows - Long Nails, Nail Varnish</td>
<td>This is not only an infection control hazard but also a Health and Safety risk to the resident.</td>
</tr>
</tbody>
</table>
### Issue

<table>
<thead>
<tr>
<th>Standard Recommendation</th>
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<tbody>
<tr>
<td>See Healthcare-associated infections: prevention and control in primary and community care NICE guidelines [CG139] Published date: March 2012. Nails must be free from applications e.g. nail polish, as flakes of polish may contaminate a wound and broken edges of polish/gel can harbour bacteria and debris.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature recording issues and related follow up.</th>
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</thead>
<tbody>
<tr>
<td>Some medicines need to be stored in a refrigerator between 2 and 8°C.</td>
</tr>
<tr>
<td>The refrigerator temperature should be monitored and recorded daily using a minimum/maximum thermometer, as per above, this is so that temperature fluctuations can be seen. Staff must ensure the thermometer is re-set after the temperatures are recorded.</td>
</tr>
<tr>
<td>If the temperature goes out of range the manager should be informed and medication should be moved temporarily to an alternative fridge. The pharmacy should be contacted for advice as to whether the medicines are still fit to use. If not, a further supply should be obtained and the original stock destroyed</td>
</tr>
</tbody>
</table>

### Lack of full hand hygiene facilities in residents rooms

From the 90 residential homes audited in 2015/16 43 (48%) do not have full hand hygiene facilities in residents rooms (liquid soap and paper towels).

This can be broken down by CCG as follows

<table>
<thead>
<tr>
<th>CCG</th>
<th>Number/Percentage of homes without full hand hygiene facilities</th>
<th>Number of residential homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mansfield and Ashfield</td>
<td>12 (46%)</td>
<td>26</td>
</tr>
<tr>
<td>Newark and Sherwood</td>
<td>7 (37%)</td>
<td>19</td>
</tr>
<tr>
<td>Nottingham North and East</td>
<td>9 (43%)</td>
<td>21</td>
</tr>
<tr>
<td>Nottingham West</td>
<td>7 (64%)</td>
<td>11</td>
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<tr>
<td>Rushcliffe</td>
<td>8 (62%)</td>
<td>13</td>
</tr>
</tbody>
</table>

### 4. Action

Audit reports and action plans are being shared with Nottinghamshire County Council (NCC) and The Quality Care Commission (CQC). It has been requested that CQC review their current inspection criteria to ensure that these safety concerns are included. Homes of serious concerns will be re visited by the team and homes with a Nursing element when issues are raised are being shared with the CCGs Quality and Safety team and for fridge monitoring concerns to the Medicines Management Team.
5. **Audits for 2016-17**

An Annual Programme of work is in place that includes the planned audit programme. All nursing homes and residential homes (excluding those for learning disability) will be audited over 2016-17.

6. **Conclusion**

The team have been well received on their unannounced visits and it is anticipated that the majority of homes where issues have been raised, and advice given, will respond positively to the changes which have been recommended and all homes will be re audited in 2016/17.

Nikki Hughes
IPC Matron
Lead for Care Homes