Infection Prevention and Control – Healthcare Associated Infections

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<td>27-47</td>
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</tbody>
</table>
Executive Summary

The purpose of this annual report is to outline the work of the Infection Prevention and Control Team and to give an overview of infection rates, progress against nationally set reduction targets and quality assurance arrangements.

Following the Health and Social Care reforms there was a very complex picture across Nottinghamshire County in relation to community infection prevention and control (CIPC) with responsibility for this area of work sitting within different parts of the Health and Social Care systems. A full service review and a Health Needs assessment was completed by Public Health over 2014-15. On completion of this work it was formally agreed that the existing team would transfer from local Authority to Mansfield and Ashfield Clinical Commissioning Group (CCG) as a hosted service from 1st April 2015. Public Health will provide significant investment into the service for three years following transfer to increase the current capacity in order that the agreed service delivery plan can be met across Nottinghamshire County.

The current Infection Prevention and Control Team works across five Clinical Commissioning Groups, Local Authority, NHS England Area Team and provides outbreak support to residential care homes within Bassetlaw CCG.

This report covers activities within Nottingham North and East CCG, Nottingham West CCG and Rushcliffe CCG. Infection prevention is a key element of patient safety and the team remains committed to improving the standards and quality of the services provided across Nottinghamshire County. Reduction targets remain in place for both Methicillin-Resistant Staphylococcus Aureus blood stream infection (MRSA BSI) and Clostridium difficile infections (CDI). Whilst overall rates have fallen significantly, this has been another challenging year for each CCG. Since April 2013 a zero tolerance against MRSA blood stream infection has remained in place and each case requires a full case review to identify avoidable infections and acquire learning for future prevention.

Nottingham West CCG
Breached the MRSA BSI target by 1 community acquired case that was unavoidable on investigation. The CCG successfully achieved the Clostridium difficile target with 33 cases against a target of 35 which is an improvement on last year’s performance. Root cause analysis (RCA) investigation was required for 2 serious incidents of community acquired Clostridium difficile infection both cases resulted in mortality.

Nottingham North and East CCG
Breached the MRSA BSI target by 3 cases, 1 of these was community acquired and unavoidable, 2 other cases were attributed to Nottingham University Hospitals Trust (NUHT). The Clostridium difficile target was breached significantly resulting in 67 cases against a target of 42. This was an increase in both community and acute trust acquired cases, many of these were highly complex patients requiring essential antibiotics, with some patients experiencing more than 1 recorded episode of infection. Root cause analysis (RCA) investigation was required for 2 serious incidents of community acquired Clostridium difficile infection both cases resulted in mortality, both were considered unavoidable.

NHS Rushcliffe CCG
Breached the MRSA BSI target by 2 cases, 1 was an unavoidable community case and the other a contaminated sample attributed to NUHT. The Clostridium difficile infection target was
met which is an improvement on last year’s performance with 26 cases against a target of 28. 1 root cause analysis (RCA) investigation was required for a serious incident of community acquired *Clostridium difficile* infection which contributed to mortality, following review this was considered to be unavoidable.

**Nottingham University Hospitals NHS Trust**
The zero tolerance Objective was not achieved as four hospital attributed cases were assigned to the Trust. Two out of four of the cases were clinically unavoidable. The *Clostridium difficile* infection target was breached with 113 cases against an objective of 98.

2. Introduction

This report will provide a retrospective over view of Infection Prevention and Control support to Nottingham West, Nottingham North and East and Rushcliffe Clinical Commissioning Groups (CCGs) during 2014-15. The prevention and control of infection is fundamental to the delivery of safe, cost effective healthcare. This report provides a key summary of the key challenges faced in controlling and preventing healthcare acquired infections in commissioned services across Nottinghamshire County in addition to the Commissioning Monitoring Arrangements in place.

It will include:
- Healthcare associated infection rate summary (HCAI)
- The means by which the CCGs secured assurances from its commissioned services that appropriate systems were in place to keep patients, staff and visitors safe from healthcare associated infections
- CCG and Provider performance with a particular focus on Meticillin-resistant Staphylococcus aureus bloodstream infections (MRSA bacteraemia) and *Clostridium difficile* infections for which there are nationally set reduction limits in place
- Learning points and changes in practice to improve quality of care
- Outbreaks
- Surveillance
- Actions in place and future plans for reducing healthcare associated infections in 2015-16 and beyond
- An update on the changes planned for the current Infection Prevention and Control Team

3. Background

3.1 Community Infection Prevention and Control Team (CIPCT)

The team consists of 1.6 whole time equivalent staff including the Head of Service with additional support of 0.8 hours from a fixed term secondment to cover maternity leave and later a period of long term sickness, this secondment terminated March 31st 2015. The team is line managed by a Public Health Consultant and reports to the Director of public Health. This service continues with an agreed targeted, risk based work programme which includes audit of all commissioned and independently contracted services of concern along with providing continued support to general practice for all identified community cases of healthcare associated infection. This service provides cover to the whole of Nottinghamshire County however this report focuses on Nottingham West, Nottingham North and East and Rushcliffe CCGs.
A comprehensive service review was completed alongside work across all stakeholders to look at the current service provision and what was required in a well-functioning system. On completion of the review and Health Needs Assessment the Local Authority agreed to support expansion of the team in order to provide a cohesive pro-active service across Nottinghamshire County which meets the needs of the local population, three years of funding has been agreed. From April 2015 the current CIPC team will transfer from Local Authority to being a hosted service under Mansfield and Ashfield CCG, following this move Public Health funding will be provided over 2015-18 to support with recruitment to the service.

3.2 National Priorities Healthcare Associated Infections (HCAI)

The prevention and control of health care associated infection continues to be a national priority. Of all the Health Care Associated Infections, the two organisms with national reduction targets in place continue to be Meticillin Resistant Staphylococcus Aureus blood stream infections (MRSA BSI) and Clostridium difficile Infection (CDI). Annual trajectories are in place and these are set for both primary and secondary care providers, the CCGs closely monitor their achievement against these targets. Clinical Commissioning Groups have nationally set objectives to meet which comprise of both community and acute trust acquired infections and are population based with all cases in members of their population counted towards total figures. CCGs have a responsibility to ensure that the services they commission have appropriate systems in place to keep patients, staff and visitors safe from healthcare associated infections. Mandatory reporting of Escherichia coli (E-coli) and Meticillin Sensitive Staphylococcus Aureus (MSSA) bacteraemias (blood stream infections) continue to be a national requirement and the rates are monitored by Public Health England, reduction targets have yet to be applied to these infections.

4. Quality and Performance Monitoring Processes / Assurance Processes

Infection prevention and control related performance monitoring processes by the three South Nottingham CCGs quality team are in place for the following Providers:

- Nottingham University Hospitals NHS Trust (NUHT)
- County Health Partnerships (CHP)
- Care Homes with nursing beds
- Circle Nottingham Independent Treatment Centre

These include:

**Quality Monitoring:**
- Quality dashboards
- Quality Scrutiny Panels
- South CCGs Care Home Subgroup
- Quality visits
- Audit
- Root cause analysis investigations and post infection reviews

**Quality Improvement:**
- Improvement action plans developed in response to quality monitoring
- Safety Thermometer
- Metrics for financial re-investment
**Surveillance:-**
- Mandatory reporting of Healthcare Associated Infections through the Data Capture System
- Public Health England weekly incident and quarterly Healthcare Associated Infection Reports
- Local recording of Healthcare Associated Infections including MRSA screens, Panton Valentine Leukocidin infection (PVL), e-coli and *Clostridium* difficile infections

**Contractual:-**
- Service Specification reviews
- Relevant infection prevention and control performance indicators included within Quality Schedules
- Contract monitoring and performance review
- Implementation of the contractual sanctions / escalation process as necessary

Assurance regarding infection prevention and control practice and performance for associate commissioned services is provided by the relevant Lead Commissioner quality teams.

**5. Methicillin-Resistant Staphylococcus Aureus Bacteraemia (MRSA blood stream infection) Performance**

NHS England introduced a zero tolerance to all Methicillin-Resistant Staphylococcus Aureus blood stream infections for all acute and Clinical Commissioning Groups 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 process: The post infection review (PIR) process replaced root cause analysis; and although the purpose remained the same there were differences in the process including:
- Automatic provisional assignment for an organisation to lead the investigation
- Timescale for completion of PIR 14 working days
- Option to challenge the final decision for organisational attribution

**5.1 Nottingham University Hospitals Trust (NUHT)**
The zero tolerance objective was not achieved as four hospital attributed cases were assigned to the Trust. Two out of the four cases were clinically unavoidable. The table below provides further detail.

<table>
<thead>
<tr>
<th>Case number</th>
<th>Source of MRSA colonisation</th>
<th>Source of MRSA BSI</th>
<th>Clinically avoidable / unavoidable</th>
<th>The learning</th>
</tr>
</thead>
</table>
| 1           | Known MRSA                  | Vascular line related | Unavoidable. No substantive hospital based contributory factors identified | Actions implemented to strengthen compliance with:-
|             |                             |                    |                                    | - Effective isolation of MRSA patients with cognitive problems
| 2           | Known MRSA                  | Vascular line related | Avoidable                           | - Invasive line care
| 3           | Hospital acquired           | Chronic wound      | Avoidable                           | - Documentation
| 4           | Hospital acquired           | Pneumonia related  | Unavoidable. No substantive hospital based contributory factors identified | - Communication
|             |                             |                    |                                    | - High level environmental cleaning
|             |                             |                    |                                    | - Screening and decolonisation
|             |                             |                    |                                    | - Staffing levels
Despite this, the Trust has reduced the number of hospital acquired cases since 2007-08.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>2</td>
</tr>
<tr>
<td>2012-13</td>
<td>5</td>
</tr>
<tr>
<td>2011-12</td>
<td>8</td>
</tr>
<tr>
<td>2010-11</td>
<td>5</td>
</tr>
<tr>
<td>2009-10</td>
<td>21</td>
</tr>
<tr>
<td>2008-09</td>
<td>17</td>
</tr>
<tr>
<td>2007-08</td>
<td>53</td>
</tr>
</tbody>
</table>

5.2 Nottingham North and East, Nottingham West and Rushcliffe Clinical Commissioning Groups

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)

**NHS Nottingham North and East CCG**

Reported three cases against a target of zero. One case was classified as community acquired as this was within 48 hours of admission and two cases were attributed to Nottingham University Hospitals Trust (NUHT)

<table>
<thead>
<tr>
<th>Month</th>
<th>Hospital Acquired (post 48 hours)</th>
<th>Community Acquired (pre 48 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2014</td>
<td>1 (NUHT)</td>
<td>1 (unavoidable)</td>
</tr>
<tr>
<td>January 2015</td>
<td></td>
<td>1 (unavoidable)</td>
</tr>
<tr>
<td>February 2015</td>
<td>1 (NUHT)</td>
<td></td>
</tr>
</tbody>
</table>

**NHS Nottingham West CCG**

Reported one community acquired case against a target of zero, this case was deemed unavoidable.

<table>
<thead>
<tr>
<th>Month</th>
<th>Hospital Acquired (post 48 hours)</th>
<th>Community Acquired (pre 48 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2015</td>
<td></td>
<td>1 (unavoidable)</td>
</tr>
</tbody>
</table>

**NHS Rushcliffe CCG**

Reported two cases against a target of zero, one case was community acquired and found to be unavoidable, the second case was a pre 48 hour case that was a contaminated sample attributed to Nottingham University Hospitals Trust (NUHT)

<table>
<thead>
<tr>
<th>Month</th>
<th>Hospital Acquired (post 48 hours)</th>
<th>Community Acquired (pre 48 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2014</td>
<td></td>
<td>1 (unavoidable)</td>
</tr>
<tr>
<td>February 2015</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Themes Identified from Community Acquired MRSA bacteraemia PIR 2014-15

<table>
<thead>
<tr>
<th>CASE /STEIS NO.</th>
<th>CCG</th>
<th>ROOT CAUSE</th>
<th>LEARNING IDENTIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015/1959</td>
<td>Nottingham West CCG</td>
<td>Necrotising pneumonia (MRSA/PVL) (unavoidable)</td>
<td>The need for review of the current PHE national guidance and development of a local countywide PVL policy</td>
</tr>
<tr>
<td>2015/10982</td>
<td>Nottingham North and East CCG</td>
<td>None identified (unavoidable)</td>
<td>MRSA screening and decolonisation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Poor management of skin integrity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Poor management of catheter</td>
</tr>
<tr>
<td>2014/2472</td>
<td>Rushcliffe CCG</td>
<td>None identified (unavoidable)</td>
<td>None identified</td>
</tr>
</tbody>
</table>

6. MRSA Screening Performance

Mandatory MRSA screening for elective, emergency and day case admissions was incrementally introduced in 2008 due to Government and public concerns of the high levels of MRSA. Rates and number of MRSA infections have significantly reduced nationally, regionally and locally over time and the success has largely been attributed to this ‘seek and destroy’ approach.

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.

6.1 Nottingham University Hospitals NHS Trust (NUH)

Nottingham University Hospital NHS Trust revised their policy accordingly and in addition to the recommendations, continued to screen all emergency medical admissions. Consistent high levels of compliance have been demonstrated since 2011.

6.2 County Health Partnership (CHP)

A risk based approach for MRSA screening was applied to CHP services and as a result, all admissions into Lings Bar Hospital and Podiatric Day Surgery are included. Patients admitted to John Eastwood Hospice and Intermediate Care are individually risk assessed and screened as required.
During 2014-15, a total of 3 patients out of 1273 screens were found to be MRSA positive and treated accordingly, screening compliance was 100%. No cases of pre 48 hour MRSA bacteraemia infection were attributed to CHP; this is an improvement on last year’s performance.

6.3 Circle, Nottingham Treatment Centre

The Treatment Centre has a local DIPC (Director of Infection & Prevention Control) and that role is the responsibility of the Treatment Centre Lead Nurse who is an executive board member.

Monthly monitoring is in place at both the Performance and Executive Boards for MRSA and any other infections as appropriate. No cases of MRSA BSI have been reported during 2014-15.

All Methicillin-Resistant Staphylococcus Aureus positive cases identified as part of routine screening in pre-assessment are overseen and addressed by the Treatment Centre. All appropriate patients who attend the Treatment Centre for a day case procedure (under general anaesthetic) are subject to MRSA screening at the pre-assessment stage. This excludes some limited categories of patients who will receive their pre-assessment outside of the Treatment Centre environment, for example STOP (Surgical Termination of Pregnancy) patients. Compliance is monitored monthly at both the Performance and Executive Boards. For the past financial year, compliance has remained at 100%.

No healthcare associated infection related serious incidents were reported during the year 2014-15. IPC practice is continually monitored and challenged to ensure maintenance of high standards of cleanliness and infection control practices.

6.4 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. The aim is to have one community MRSA policy once all the principles of the strategy are formally agreed. This work will be completed over 2015. There were 407 positive MRSA screens for patients in 2014-15, 122 of these were new cases across the three CCGs.

7. Clostridium difficile Performance

Diagnosis of a pre or post 72 hour Clostridium difficile 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.
7.1 Nottingham University Hospitals NHS Trust

The nationally set *Clostridium difficile* Objective of 98 cases was exceeded as 113 cases were reported (15% over the limit).

The table below demonstrates the year on year reduction since 2007-08. The irreducible minimum remains unknown.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 - 14</td>
<td>90</td>
</tr>
<tr>
<td>2012 - 13</td>
<td>138</td>
</tr>
<tr>
<td>2011 - 12</td>
<td>112</td>
</tr>
<tr>
<td>2010 - 11</td>
<td>225</td>
</tr>
<tr>
<td>2009 - 10</td>
<td>201</td>
</tr>
<tr>
<td>2008 - 09</td>
<td>213</td>
</tr>
<tr>
<td>2007 - 08</td>
<td>486</td>
</tr>
</tbody>
</table>

Each *Clostridium difficile* toxin positive case undergoes mandatory assessment to determine the overall quality of the care provided. Of the 113 cases investigated, 21 lapses were identified (although not all of these contributed to the acquisition of the infection). These related to:

- Cross contamination
- Reduced adherence to antimicrobial prescribing guidance
- Delayed diagnosis and / or treatment

Further analysis and discussions are taking place to clarify the level of significance the lapse had to the acquisition of the infection in addition to the risk of harm when the lapse occurred after diagnosis. A financial sanction of £10,000 will be applied for each case linked to lapses in the quality of the care provided that exceeded the threshold.

There are no known explanations for the variance in the number of infections reported each month. Clinical experts suggested that a change in the *Clostridium difficile* epidemiology may
explain why there appears to be many sporadic infections. Local research which systematically reviewed the current Clostridium difficile literature was published in December 2013 by Nottingham University and Public Health England. A further research application is planned for September 2015 to improve epidemiological understanding.

The table below sets out the detail of the nine Clostridium difficile related serious incidents that were reported by the Trust.

<table>
<thead>
<tr>
<th>Serious Incident</th>
<th>Incidents</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clostridium difficile associated death</td>
<td>5</td>
<td>• Multiple courses of antibiotics for unconfirmed urinary tract infections in the community and hospital</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reduced compliance with antibiotic prescribing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Delay in obtaining stool samples resulting in delayed diagnosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Omissions in documentation - observation charts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reduced adherence to Trust’s Clostridium difficile policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reduced quality of internal communication between specialist clinical teams</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Delay in escalation of treatment</td>
</tr>
<tr>
<td>Clostridium difficile associated complication</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Clostridium difficile outbreak</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

The Trust reviewed their Clostridium difficile reduction plan and particularly focused on actions to strengthen compliance with:

- Environmental cleaning / equipment decontamination
- Bowel assessments and effective stool sampling
- Antimicrobial Stewardship
- Communication / documentation
- Isolation

**7.2 Nottingham North and East, Nottingham West and Rushcliffe Clinical Commissioning Groups**

The Clostridium difficile infection (CDI) limit for Commissioning Groups 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 Clostridium difficile infections identified after three days (post 72 hours) of admission counted towards their total.

<table>
<thead>
<tr>
<th>CCG</th>
<th>C. difficile target 2014-15</th>
<th>Actual Cases</th>
<th>Pre/post 72 hour</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Nottingham North and East</td>
<td>42</td>
<td>67</td>
<td>38 pre 72 hour</td>
<td>Exceeded the limit by 25 cases (60%)</td>
</tr>
<tr>
<td>NHS Nottingham West</td>
<td>35</td>
<td>33</td>
<td>16 pre 72 hour</td>
<td>Target Met</td>
</tr>
<tr>
<td>NHS Rushcliffe</td>
<td>28</td>
<td>26</td>
<td>16 pre 72 hour</td>
<td>Target Met</td>
</tr>
</tbody>
</table>
A dual testing algorithm is in place across NUHT in line with the latest national guidance. Whilst overall significant improvements have been made in lowering the rates of *Clostridium difficile* 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). To aid further improvement a national toolkit was developed to assist in the individual scrutiny of each case identified to identify lapses in care, learning for future prevention and to drive improvements in patient safety and the quality of care.

This year has proved especially challenging for Nottingham North and East CCG with a breach in target of 60%. Further scrutiny of cases identified that a higher proportion of the cases were complex oncology patients receiving ongoing treatment including chemotherapy and antibiotic management of febrile neutropenia sepsis. Some cases were relapse cases outside of 28 days and therefore counted again as a new infection.

National *Clostridium difficile* guidance was re-issued to all practices along with a simple checklist for the identification and management of CDI. Guidance was issued to GP practices and care homes following the increase in antibiotic prescribing seen during the local influenza outbreak over December and January 2015 advising vigilance for a possible increase in CDI cases. There have been outbreaks of *Clostridium difficile* infection at both Sherwood Forest Hospital Trust and Nottingham University Hospitals Trust, no community outbreaks have been identified over 2014-15. Cases of rybotype 027 strain of this disease have been identified locally this year after a decline in this hyper virulent strain; this is associated with more severe disease and higher rates of mortality.

See Appendix 1 for findings from *Clostridium difficile* case surveillance for the South Nottinghamshire CCGs April 2014- March 2015.

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**NHS Nottingham North and East Clinical Commissioning Group**

![Community Acquired CDI Cases](image)

2013-14

2014-15
Total CDI cases Nottingham North & East CCG

NHS Nottingham West Clinical Commissioning Group

Community Acquired CDI Cases
Nottingham West CCG
NHS Nottingham West Clinical Commissioning Group

Total CDI Cases
Nottingham West CCG

<table>
<thead>
<tr>
<th>Month</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>May</td>
<td>3</td>
<td>2</td>
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<td>June</td>
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<tr>
<td>Mar</td>
<td>3</td>
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</tbody>
</table>

NHS Rushcliffe Clinical Commissioning Group

Community Acquired CDI Cases
Rushcliffe CCG

<table>
<thead>
<tr>
<th>Month</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>2</td>
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<td>May</td>
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<td>Jan</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Feb</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mar</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
7.3 Surveillance

Panton-Valentine Leukocidin (PVL)

PVL is a toxin produced by some strains of *Staphylococcus aureus* which is associated with the increased ability to cause disease, these cases are increasingly being identified thought to be due to the improved testing facility at NUHT. PVL can be produced by both Meticillin -sensitive *Staphylococcus aureus* (MSSA) and Meticillin -resistant *Staphylococcus aureus* (MRSA). This predominantly causes recurrent skin and soft tissue infections, but can occasionally lead to more invasive infections, the most serious of these is a necrotising haemorrhagic pneumonia this is associated with a high mortality rate. This often follows a “flu-like” illness, and may affect otherwise healthy young people in the community. There has been one fatal case in Nottingham West CCG during 2014-2015. All PVL infections are followed up and infection control expertise offered to support GP and care staff, the management of these cases is important in the fight to reduce re-occurrence and spread. Some of these infections are difficult to eradicate from families who require continued support with management. Public Health England is responsible for the policy development and guidance for the management of this infection. 45 PVL results have been logged over 2014-15

Meticillin Sensitive Staphylococcus Aureus Blood Stream Infection (MSSA BSI)

Mandatory surveillance started in 2011, to date there are no trajectories set. Rates of infection have not reduced to the same levels seen with MRSA BSI reduction despite the improvements
that have been in put in place. The tables below show the total number of cases attributed to the CCG.

**Monthly Counts of MSSA bacteraemia attributed to Nottingham North and East CCG from April 2014**

![Graph showing monthly counts of MSSA bacteraemia](image1)

**Monthly Counts of MSSA bacteraemia attributed to Nottingham West CCG from April 2014**

![Graph showing monthly counts of MSSA bacteraemia](image2)
Escherichia –Coli Blood Stream Infection (E-coli)

Mandatory surveillance started in 2011, to date there are no trajectories set. Rates of infection continue to be monitored. The tables below show the total number of cases attributed to the CCG.
Monthly Counts of E. coli bacteraemia attributed to Nottingham West CCG from April 2014

Monthly Counts of E. coli bacteraemia attributed to Rushcliffe CCG from April 2014
7.4 County Health Partnership (CHP)

There were no cases of Clostridium difficile infection attributed to CHP during the period 2014-15.

7.5 Circle Nottingham

There were no reported Clostridium difficile cases for Circle Nottingham during 2014-15.

8. Root Cause Analysis (RCA)

Root Cause Analysis (RCA) investigations identify how and why patient safety incidents happen. Analysis is used to identify areas for change and to develop recommendations which deliver safer care for our patients and which prevent reoccurrence of incidents (NHS England, 2014). All Clostridium difficile associated deaths and those resulting in serious complications are investigated using the root cause analysis process. There have been 5 RCA investigation completed over 2014-15 this is an increase by 3 cases when compared with the previous year. All five related to deceased patients where Clostridium difficile infection was considered to be a contributory factor listed on the death certificate. 3 of these cases were deemed unavoidable. In the 2 cases thought to have been avoidable the main factor identified in both case was the lack of stool sampling in a patient with diarrhoea and a history of antibiotics in the last 3 months, one patient had received multiple antibiotics over a 7 week period.

Root Cause Analysis key themes across the three CCGs include:

- Prescribing of Loperamide without ruling out an infective cause for diarrhoea
- Failure to request a stool sample
- Failure to suspect Clostridium difficile infection and then not treating after a stool sample was obtained

Lessons learned are widely disseminated and agreed actions are in place as a whole health economy, this is in addition to those actions relating to the specific organisations or clinicians directly involved in the care of the patient.

Areas of good practice identified include:

- Effective communication by clinicians with the patient and their family
- Clear documentation.

9. Independent Contractors and Care Homes

9.1 Infection Prevention & Control Audits

The infection prevention and control team have continued to provide a targeted risk based approach to audits of commissioned services to make best use of the limited resources available. This is based on local intelligence, complaints, Care Quality Commission (CQC) concerns, Local Authority reports.

These audits review compliance with expected infection prevention and control standards as detailed in the Health and Social care Act 2008. Over 2014-2015 54 audits were completed in
areas covered by the three southern CCGs. These were across care homes, GP and dental practices, some of these areas required more than one support visit. A substantial amount of resource was allocated to support NHS England following the serious breach of infection control standards reported nationally at one dental practice in Nottingham North and East. This included support with investigations, review of evidence, planning advice for refurbishment of the practice and monitoring following new ownership, this work is ongoing to ensure that the quality of care provided meets expected standards. All services found to be non-compliant with expected standards are asked to submit an action plan within a given timescale to address the issues raised, this is shared with CQC and the CCG quality team. Review visits were completed as necessary to monitor actions and to ensure improvements are sustained where action plans were not met or generated this information was shared with CQC.

<table>
<thead>
<tr>
<th></th>
<th>Nottingham North and East CCG</th>
<th>Nottingham West CCG</th>
<th>Rushcliffe CCG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Homes (Nursing)</td>
<td>10</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Care Homes (Residential)</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>GP Practices</td>
<td>4 + 2*</td>
<td>1+3*</td>
<td>1+12*</td>
</tr>
<tr>
<td>Dental Practice</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Self-audit returned

The table above shows the number of sites visited it does not reflect areas where more than one visit was made

10. Community Outbreaks (excluding CHP services)

There were 48 reported outbreaks within care homes across the three southern CCGS this is a significant increase when compared to the 27 in the previous year this may be partially attributed to the increase in respiratory outbreaks reported.

<table>
<thead>
<tr>
<th>CCG</th>
<th>Diarrhoea and/or vomiting</th>
<th>Scabies</th>
<th>Respiratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nottingham North and East CCG</td>
<td>19</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Nottingham West CCG</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Rushcliffe CCG</td>
<td>7</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

All care homes receive a yearly Norovirus guidance pack developed by the Community Infection Prevention and Control Matrons to prompt early recognition and management of an outbreak. All outbreaks of diarrhoea and vomiting are followed up by the team to ensure appropriate management of the outbreak takes place to minimise spread, establish the cause by obtaining specimens and to ensure that patients are regularly reviewed to prevent dehydration occurring, fifteen minute fluid charts are included in the pack.

This year significant support was given to assist Public Health England with the high number of respiratory outbreaks over December 2014 and January 2015 this was following the realization that the seasonal influenza vaccine had provided low protection this winter against flu infection
following natural mutation of the virus. This affected a large number of care homes and resulted in an increase in antibiotic prescribing for chest infections and long closures in particular for that home with higher than expected mortalities. Information was issued to GPs and care homes by Public Health England on the management of influenza cases and the use of antiviral treatment in suspected cases.

10.1 Nottingham University Hospital NHS Trust

The Trust reported 51 Norovirus / Gastroenteritis outbreaks as serious incidents. The table below compares this figure with previous years. Norovirus is a highly contagious organism and is the most common cause of viral gastroenteritis in England. Polymerase Chain Reaction (PCR) tests were used which provided faster and more accurate diagnosis. This enabled timely and appropriate infection prevention and control measures to be implemented.

<table>
<thead>
<tr>
<th></th>
<th>Number of outbreaks</th>
<th>Number of Patients Affected</th>
<th>Number of Staff Affected</th>
<th>Bed Days Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 - 15</td>
<td>51</td>
<td>720</td>
<td>165</td>
<td>1390</td>
</tr>
<tr>
<td>2013 - 14</td>
<td>24</td>
<td>310</td>
<td>64</td>
<td>779</td>
</tr>
<tr>
<td>2012 - 13</td>
<td>33</td>
<td>424</td>
<td>85</td>
<td>924</td>
</tr>
<tr>
<td>2011 - 12</td>
<td>50</td>
<td>731</td>
<td>161</td>
<td>1395</td>
</tr>
<tr>
<td>2010 - 11</td>
<td>29</td>
<td>332</td>
<td>58</td>
<td>860</td>
</tr>
<tr>
<td>2009 - 10</td>
<td>53</td>
<td>673</td>
<td>174</td>
<td>1517</td>
</tr>
</tbody>
</table>

Investigations concluded that 60% of outbreaks were managed effectively with no recommendations for future practice required. Actions to particularly strengthen the following areas were included within the Trust’s Norovirus Escalation Plan:-

- Communication
- Documentation
- Laboratory testing
- Isolation
- Timescale of affected staff returning to work
- Environmental cleaning
- Symptomatic visitors
- Bays versus whole ward closure
- Ward based bowel assessments

10.2 County Health Partnerships (Lings Bar Hospital)

Lings Bar Hospital reported three outbreaks 1 for invasive group A streptococcus infection and 2 for norovirus.

Outbreaks

<table>
<thead>
<tr>
<th>Month</th>
<th>Outbreak Type</th>
<th>Critical Issues</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>Invasive group A streptococcus</td>
<td>• 4 patients and 2 staff involved&lt;br&gt;• Cleaning standards</td>
<td>• Review of cleaning schedules&lt;br&gt;• Monitoring of</td>
</tr>
</tbody>
</table>
### Priorities for 2015-16 and beyond

#### 11.1 Zero Tolerance of MRSA blood stream infection

Achieving zero will be challenging for all organisations.

**Risks / Implications for CCGs**
- Achieving an annual outcome of zero infections will be a significant challenge for all organisations
- The post infection review process is dependent on strong partnership working by all organisations involved in the patients care pathway
- Limited infection prevention and control capacity
- Potential adverse scrutiny and publicity about services commissioned by the CCG

**Mitigating Actions**
- There is a strong health economy commitment to collaborative working and adherence to the post infection review (PIR) process
- A Primary care MRSA Strategy is currently being finalised
- Community cases identified in 2014-15 were deemed unavoidable
- Agreed Public Health funding for expansion of the community infection prevention and control service over 2015-18

#### 11.2 Clostridium difficile Objective (2015-16)

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Clostridium difficile Objective 2015-16</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>Nottingham North and East CCG</td>
<td>47 cases</td>
</tr>
<tr>
<td>Nottingham West CCG</td>
<td>21 cases</td>
</tr>
</tbody>
</table>
NHS Rushcliffe CCG

24 cases

Risks / Implications for the CCG

Achieving the Objective will be a significant challenge for all organisations.

- The use of the NHS England toolkit to identify lapses in care generates an additional workload for the Infection Prevention and Control Team and CCG. A wider review of community acquired infections need to include more collaborative working with primary care prescribing teams.
- Implementation of the contractual sanctions if reported numbers exceed the limit and have evidence of lapses in the quality of care provided.
- Limited infection prevention and control capacity.
- Potential enhanced scrutiny and adverse publicity about services commissioned by the CCG.

Mitigating Actions

- Review of *Clostridium difficile* assessments will be embedded within the existing CCG incident review process and wider scrutiny may generate new learning to aid service improvement.
- Re-issue of national CDI guidance and ‘quick reference guide’ to all GP practices.
- All community cases are followed up by the infection prevention and control team with the individual GP practice. Patient record alerts are requested to identify those known cases to reduce risk of re-occurrence. A special note is issued by the GP to provide information to the out of hours service.
- Agreed primary care antimicrobial prescribing guidance is in place across Nottinghamshire to support with appropriate antibiotic prescribing.
- Lessons learned from root cause analysis are shared for wider learning.
- Agreed Public Health funding for expansion of the community infection prevention and control service over 2015-18.

11.3 Meticillin-sensitive Staphylococcus Aureus and Escherichia- coli bacteraemia

These infections continue to be monitored and their reporting to Public Health England is mandatory. National reduction limits have not been set but this may be reviewed in the future. Despite a reduction in MRSA blood stream infections, MSSA rates remain largely unchanged. The challenge for the CCGs and health economy is to understand this lack of reduction following substantial improvements made in MRSA rates. Following full recruitment to the Infection Prevention and Control Service pro-active work will include root cause analysis of a proportion of community MSSA and E.coli bacteraemia infections in order to gain a greater understanding of these cases. Providers who have implemented the Sepsis care bundle will take more blood cultures and will therefore identify more cases of E.coli. Public Health England are hosting a local sharing best practice event for E. coli bacteraemia September 2015.

11.4 Antimicrobial resistance

There are few public health issues of greater importance than antimicrobial resistance in terms of impact on society (DOH 2013). Infections are increasingly developing that are resistant to
commonly used antibiotics, the concern is that we may be reaching a point where we may not be able to prevent or treat everyday infections or diseases. The Department of Health produced the UK Five Year Antimicrobial Resistance Strategy 2013 to 2018 with seven key areas for action. We are now seeing new and emerging infections that are difficult to treat

**Carbapenemase-producing Enterobacteriaceae (CPE)**

Is the name given to some strains of gut bacteria- Enterobacteriaceae strains that have developed the ability to destroy Carbapenem antibiotics through their enzyme production (Carbapenemases) Enterobacteriaceae are a group of bacteria carried in the gut of all humans and animals. Although these are mostly harmless they can spread to other parts of the body such as the urinary tract or into the bloodstream where they can cause serious infections. These infections are sensitive to some antibiotics but treatment is more difficult. Cases of CPE are being reported across the country with some hospital outbreaks being recorded. Colonisation is currently more common than active infection. These organisms present new challenges for infection prevention and control teams and are of national concern. National toolkits have been issued to support with management of these cases in the acute trust and community. A working group was agreed to develop a shared health economy policy for use in the community.

**Extended spectrum beta – lactamase (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 penicillin's and other common antibiotics. This is a community and hospital concern.

**Risks / Implications for the CCG:**

- CCGs have a responsibility to ensure that commissioned services have appropriate systems in place to keep patients, staff and visitors safe from healthcare associated infections.
- Limited number of side rooms and conflicting demand on their use may affect patient flow through the hospital

**Mitigating Actions:**

- Acute Trust CPE Toolkit implemented
- A community CPE toolkit
- Local prescribing guidance and policies
- UK Five Year Anti-Microbial Strategy (2013-2018)

**Panton-Valentine Leukocidin (PVL)**

Increasing numbers are being identified in the local population due to improved testing at NUHT, this is generally a community acquired infection seen in otherwise healthy young people. 1 fatality was linked to PVL bacteraemia 2014-15
Risks / Implications for the CCG:

- CCGs have a responsibility to ensure that commissioned services have appropriate systems in place to keep patients, staff and visitors safe from healthcare associated infections.

Mitigating Actions:

- A local health economy policy is currently being devised to look at local screening and treatment Public Health England are supporting with this work
- Agreed Public Health funding for expansion of the community infection prevention and control service over 2015-18
- Community Infection Control Doctor Service

11.5 Community Infection Control Doctor Service

This service continues to be commissioned by the CCGs. The Service Specification has been revised and a performance monitoring process is in place. Actions to raise awareness and promote the use of the service have been implemented. This service is essential because:-

- Despite the reduction in Clostridium difficile infection over the last few years, the nationally set Objective continues to be a significant challenge locally. The infection control doctor role will be key to enabling CCGs and Acute Trusts to meet their targets and enhancing the education and support for both medical and non-medical prescribers.

- The Community Infection Control Doctor Service will provide specialist expert advice and input to primary, community and mental health care providers as well as health economy-wide work to prevent, control and reduce the burden of health care associated infections. Current Public Health England and on call Microbiology services could not fulfil the role of an Infection Control Doctor.

12. Going forward / future plans

- Expansion of the community IPC service to meet an agreed service specification
- Support with the Nottinghamshire Wide Infection Control Group by committing resources and participation
- Review of the service provided by CCGs for Primary Care following agreed Co-Commissioning arrangements with NHS England Area Team.

13. Conclusion

Clinical Commissioning Groups have a duty to improve quality and outcomes and to build public confidence and trust in healthcare services. 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
14. Recommendations

The Governing Bodies are asked to:

1. Support the actions being taken to ensure that the CCG fulfils its commissioning responsibilities in relation to infection prevention and control
2. Provide feedback and comments on the presentation of and the information contained within the report
3. Agree to receive quarterly update reports during 2015-16 via the Quality Report

Authors

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**FINDINGS FROM Clostridium difficile CASE SURVEILLANCE SOUTH**  
April 2014- March 2015

*Clostridium difficile* is an anaerobic spore forming bacterium, which is present as one of the ‘normal’ gut bacteria in up to 66% of healthy infants and 3% percent of healthy adults under 65 years. People over the age of 65 years are more susceptible to the bacterium causing disease and carriage rates are thought to be higher is this age group at 20-30%. *Clostridium difficile* particularly causes illness after antibiotic use as this leads to disruption of the ‘normal’ bowel flora allowing the *Clostridium difficile* bacteria present to multiply and become established in the colon. Symptoms of disease can vary widely with some people experiencing little or no symptoms to severe explosive diarrhoea and inflammation of the colon which can lead to the need for major surgery and in some cases severe sepsis and death. Some strains of the disease are known to be more virulent than others and are associated with a higher mortality rate e.g. ribotype 027. Ribotyping is not performed routinely on community cases unless requested as part of an outbreak. The epidemiology and potential sources of *Clostridium difficile* in the community are not fully understood.

In the Nottinghamshire healthcare community, action has been taken by the Infection control team in Public Health to carry out a case review on all known cases of **pre 72 hour /community acquired clostridium difficile toxin positive cases**, this includes GP samples and those cases presenting within 72 hours of admission to hospital, to ascertain the potential causes of these cases and to gather common themes in addition to offering management support to General Practice. Objectives set for 2014-15 are detailed in the table below. From April 2014 NHS England published an assessment tool for the review of all *Clostridium difficile* cases to ascertain if there is any link to a provider lapse of care. In primary care this can be difficult to assess as it is reliant on the information provided, however any concerns around antibiotic prescribing or potential primary care issues are escalated to NHS England and the relevant CCG prescribing teams for further assessment.

<table>
<thead>
<tr>
<th>CCG</th>
<th>Total Community Acquired CDI Cases April 2013-March14</th>
<th>Total CDI Cases April 2013-March 2014</th>
<th>Objective Set Total CDI cases 2014/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Nottingham North &amp; East CCG</td>
<td>23</td>
<td>37</td>
<td>42</td>
</tr>
<tr>
<td>NHS Nottingham West CCG</td>
<td>19</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>NHS Rushcliffe CCG</td>
<td>9</td>
<td>25</td>
<td>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). Information is gathered by telephone discussion with the individual practice.**

IPC Annual Report 2014-15
There were 10 community acquired CDI Cases and 17 cases in total including all trust acquired infections for NHS Nottingham North & East CCG for quarter one. This is a large increase (70%) when compared with 3 community acquired cases and 6 cases in total for the same period in 2013.

Table 2: Themes / trends from pre 72hr community C. _difficile_ cases NHS Nottingham North & East CCG April-June 2014

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital sample pre 72hrs</th>
<th>Recent history of antibiotic(s)</th>
<th>No recent antibiotic(s)</th>
<th>Constipation/On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admission(s) to hospital</th>
<th>Other bowel disease</th>
<th>Chemo -therapy</th>
<th>Diabetess</th>
<th>Renal diseas</th>
<th>Unde r 65</th>
<th>Ove r 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>4</td>
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<td>8</td>
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<td>80%</td>
<td>20%</td>
<td>20%</td>
<td>50%</td>
<td>20%</td>
<td>30%</td>
<td>80%</td>
<td>0%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Themes identified from the 7 patients receiving recent antibiotics (last 3 months) show:

- 4 had antibiotics prescribed by the GP ( chest infection x1 UTI x3 Cellulitis x1)
- 4 had antibiotics prescribed during a recent hospital admission ( sepsis x2 febrile neutropenic sepsis x2 both oncology patients)
- 1 patients had antibiotics from both GP and hospital this was a patient with severe cellulitis

Summary

- None of these cases were linked to any identified cross infection concerns or lapses in care
- 1 of these patients required an RCA investigation completing as _Clostridium Difficile_ was listed on the death certificate as a contributory factor. No prescribing concerns were raised as part of this investigation and it was deemed unavoidable.
- 2 of these patients were relapse cases outside 28 days
There were 10 community acquired CDI Cases and 16 cases in total including all hospital acquired infections for NHS Nottingham North & East CCG for quarter two. This is the same number of CDI community cases when compared to the same period in 2013. There is however a 13% increase in total cases including hospital acquired cases.

The CIPC team was unable to get information about 2 cases as the patient had passed away before information regarding risk factors could be retrieved. Percentages are based on 8 cases for risk factors.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Samples Pre 72 hrs</th>
<th>Recent antibiotics in last 3 months</th>
<th>Constipation/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>
<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>3</td>
<td>7</td>
<td>8</td>
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<td>3</td>
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<td>6</td>
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<td>20%</td>
<td>20%</td>
<td>50%</td>
<td>10%</td>
<td>40%</td>
<td>10%</td>
<td>20%</td>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Table 3: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham North & East CCG July-September 2014

Themes identified from the 8 patients receiving recent antibiotics (last 3 months) show:

- 2 patients received 2-3 courses of antibiotics. Antibiotics were prescribed for the following reasons: Suspected UTI (x1) this was found to be negative for infection on sample. Confirmed UTI (x6), lower respiratory tract infection (x1), cellulitis toe X2, chesty cough (x1), insect bite (x1), IV viral meningitis, febrile neut, (x1), information not provided (x1).
- 1 patient received IV tazocin for lower respiratory infection in hospital,

Constipation

- 1 patient was taking Lactulose and 2 patients were taking regular Movicol.

PPIs

- 2 patients were taking lansoprazole and 1 patient was taking omeprazole. It was not clear which PPI the 4th patient was taking.
Recent admission
- 1 of the patients had accessed A&E.

Other bowel disease
- 1 patient has Gastro-oesophageal reflux and gout

Renal disease
- 1 patient had kidney failure.

Summary
- None of these cases were linked to any identified cross infection concerns or lapses in care
- 1 of these patients required an RCA investigation completing as *Clostridium difficile* was listed on the death certificate as a contributory factor. No prescribing concerns were raised as part of this investigation and it was deemed unavoidable.
NHS Nottingham North & East CCG

Quarter Three
October-December 2014

There were 10 community acquired CDI Cases and 16 cases in total including all hospital acquired infections for NHS Nottingham North & East CCG for quarter three. This is an increase of 6 community cases (67%) and 2 hospital acquired infections (50%) when compared to same period in 2013.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Samples Pre 72 hrs</th>
<th>Recent antibiotics in last 3 months</th>
<th>Constipation/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>
<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>3</td>
<td>7</td>
<td>4</td>
<td>9</td>
<td>5</td>
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<td>1</td>
<td>5</td>
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<td>2</td>
<td>1</td>
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<td>30%</td>
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<td>20%</td>
<td>6%</td>
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<td>10%</td>
</tr>
</tbody>
</table>

Table 4: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham North & East CCG October-December 2014

Themes identified from the 9 patients receiving recent antibiotics (last 3 months) show:

- 2 had antibiotics prescribed by the GP (1x UTI, 1x diabetic ulcer)
- 4 had antibiotics prescribed during a recent hospital admission (febrile neutropenic sepsis x1, 1x pneumonia, 1x chest infection, 1x cellulitis)
- 3 patients had antibiotics from both GP and hospital (1x aspiration pneumonia, 2x UTI/urosepsis)

Summary

- None of these cases were linked to any identified cross infection concerns
- 1 of these patients required an RCA investigation completing as Clostridium Difficile was listed on the death certificate as a contributory factor – acute trust. No prescribing concerns were raised as part of this investigation and it was deemed unavoidable.
- 1 of these patients were relapse cases outside 28 day
There were 8 community acquired CDI Cases and 18 cases in total including all hospital acquired infections for NHS Nottingham North & East CCG for quarter four. This is an increase of 4 community cases (50%) and 13 hospital acquired infections (82%) when compared to the same period in 2014.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Samples Pre 72 hrs</th>
<th>Recent antibiotics in last 3 months</th>
<th>Constipation/ 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>
<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>2</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>3</td>
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<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

25% 75% 88% 100% 38% 38% 38% 25% 100% 38% 13% 38% 50% 25% 75%

Table 5: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham North & East CCG January-March 2015

Summary

Themes identified from the 8 patients receiving recent antibiotics (last 3 months) show:

- 2 had antibiotics prescribed by the GP (1 x diabetic ulcer, 1 x on request of podiatry for diabetic foot ulcer –no swab taken -action taken)
- 4 had antibiotics prescribed during a recent hospital admission (febrile neutropenic sepsis x1, 1x pneumonia, 1x post op infection, 1x post-delivery infection)
- 2 patients had antibiotics from both GP and hospital (2 x chest infection)
- 3 of these cases were repeat episodes outside 28 days (2 were originally hospital acquired CDI)

None of these cases were linked to any identified cross infection concerns. A number of these patients are highly complex with multiple co-morbidities.
There were 2 community acquired CDI Cases and 4 cases in total including all trust acquired infections for NHS Nottingham West CCG for quarter one. This is an improvement when compared with the same period in 2013/14 when there were 7 community acquired cases and 11 total cases.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital sample pre 72 hrs</th>
<th>Recent history of antibiotics</th>
<th>No recent antibiotics</th>
<th>Constipation/On laxatives</th>
<th>PPI/H2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admissions to hospital</th>
<th>Other bowel disease</th>
<th>Chemo-therapy</th>
<th>Diabetics</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>1</td>
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</tr>
</tbody>
</table>

Table 4: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham West CCG  April-June 2014

Themes identified from the 2 patients receiving recent antibiotics (last 3 months) show:

- Both had antibiotics appropriately prescribed by the GP (Proven UT x1, 1x complex patient with ulcerated oesophagitis and treatment for skin infection –the patient had history of carcinoma skin)
- 1 patient had antibiotics prescribed during a recent hospital admission for UTI X1 and for Clostridium difficile infection acquired during the admission
- 1 patient had antibiotics from both GP and hospital this was a patient with urosepsis

Summary

- None of these cases were linked to any identified cross infection concerns
- 1 of these patients required an RCA investigation completing as Clostridium Difficile was listed on the death certificate as a contributory factor this investigation did not identify any prescribing concerns. An opportunity was missed to have prescribed treatment for CDI but this would not have prevented the acquisition of Clostridium difficile infection.
There were 5 community acquired CDI Cases and 6 cases in total including all hospital acquired infections for NHS Nottingham West CCG for quarter two. This compares with 4 community cases and 9 cases in total including hospital cases for the same time period in 2013/14. This shows a 17% increase in community CDI cases, but a 33.4% decrease in overall cases including hospital cases.

1 patient had passed away before being able to obtain information around risk factors. Percentages are based on 4 cases for risk factors.

<table>
<thead>
<tr>
<th>Mal e</th>
<th>Femal e</th>
<th>Hospital Sample s</th>
<th>Recent antibiotic s in last 3 months</th>
<th>No recent antibiotic s</th>
<th>Constipatio n/ On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episode s</th>
<th>Care home reside nt</th>
<th>Recent admission s to hospital Last 3 months</th>
<th>Other bowel diseas e</th>
<th>Chemo - therap y</th>
<th>Diabe tes</th>
<th>Renal diseas e</th>
<th>Unde r 65</th>
<th>Ove r 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
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<td>0</td>
<td>20%</td>
<td>80%</td>
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</tr>
</tbody>
</table>
There were 2 community acquired CDI Cases and 7 cases in total including all hospital acquired infections for NHS Nottingham West CCG for quarter three. This compares with 2 community cases and 4 cases in total including hospital cases for the same time period in 2013/14. This shows no change in community CDI cases, but a 75% increase in hospital cases.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Samples</th>
<th>Recent antibiotics in last 3 months</th>
<th>No recent antibiotics</th>
<th>Constipation/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>
<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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</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
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</table>

Table 6: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham West CCG October-December 2014

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

- Both patients had antibiotics from both GP and hospital (1x cellulitis, 1 x oncology treatment package and for chest/PE)

Summary

- None of these cases were linked to any identified cross infection concerns
- No prescribing concerns were identified

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35
There were 7 community acquired CDI Cases and 9 cases in total including all hospital acquired infections for quarter Four. This compares with 6 community cases and 9 cases in total including hospital cases for the same time period in 2013/14. This shows an increase by 1 community case (14%).

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Sample Pre 72 hrs</th>
<th>Recent antibiotics in last 3 months</th>
<th>No recent antibiotics</th>
<th>Constipation/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>Chemotherap y</th>
<th>Diabete s</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>29%</td>
<td>29%</td>
<td>0%</td>
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</tr>
</tbody>
</table>

Table 7: Themes / trends from pre 72hr community C. difficile cases NHS Nottingham West CCG January-March 2015

Summary

Themes identified from the 7 patients receiving recent antibiotics (last 3 months) show:

- 3 patients had antibiotics from the GP (2x chest infection, 2x UTI both cases samples sent, 1x cellulitis)
- 3 patients had antibiotics whilst in hospital (chest infection/sepsisx1, oncology patient–sepsisx1, 1x osteomyelitis/diabetic foot ulcer)
- 1 GP prescribing concern was identified and prescribing support was requested
- None of these cases were linked to any identified cross infection concerns
- The team were not informed of 2 cases from NUHT this information was gained at a later date
There were 3 community acquired CDI Cases and 6 cases in total including all trust acquired infections for NHS Rushcliffe CCG for quarter one. This compares with no community acquired cases and 7 hospital acquired cases reported in the same period 2013/14.

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

- 1 patient had antibiotics appropriately prescribed by the GP (infected wound x1)
- 2 patient had antibiotics prescribed during a recent hospital admission 1x febrile neutropenia (oncology patient on chemotherapy 1x chest complication after surgery)

Summary

- None of these cases were linked to any identified cross infection concerns

Table 6: Themes / trends from pre 72hr community C. difficile cases NHS Rushcliffe CCG April – June 2014

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Sample Pre 72 hrs</th>
<th>Recent history of antibiotics</th>
<th>No recent antibiotics</th>
<th>Constipation/On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episodes</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>
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</tbody>
</table>
• These were all complex patients with multiple co-morbidities, one patient is now deceased
• No prescribing issues were identified with the information provided.

NHS Rushcliffe CCG
Quarter Two
July- September 2014

There were 4 community acquired CDI Cases and 5 cases in total including all hospital acquired infections for NHS Rushcliffe CCG for quarter two. This compares with 3 community acquired cases and 4 hospital acquired cases reported in the same time period 2013/14. This shows a 25% increase in community cases and a 20% increase in total cases including hospital cases.

<table>
<thead>
<tr>
<th>Mal e</th>
<th>Femal e</th>
<th>Hospital Sample s pre 72hrs</th>
<th>Recent antibiotic s in last 3 months</th>
<th>Constipation / On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episode s</th>
<th>Care home residen t</th>
<th>Recent admission s to hospital Last 3 months</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>Over 65</th>
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<tr>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
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<td>0</td>
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<td>4</td>
</tr>
</tbody>
</table>

75% 25% 100% 50% 25% 50% 50% 25% 50% 0% 0% 0% 0% 0% 100%

Table 7: Themes / trends from pre 72hr community C. difficile cases NHS Rushcliffe CCG July-September 2014

Summary

Antibiotics
• 1 patient received hospital IV antibiotics for sepsis. This same patient also received 5 other courses of antibiotics for chest infection (x2) ecoli UTI (x3). 1 patient received antibiotics for infected dermatitis.
• 2 patients had received no antibiotics.

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Constipation
1 patient was taking lactulose.

PPIs
1 patient was taking Lansoprazole and 1 patient was taking omeprazole.

- None of these cases were linked to any identified cross infection concerns. No prescribing issues were identified with the information provided.

**NHS Rushcliffe CCG**

**Quarter Three**

**October- December 2014**

There were 5 community acquired CDI Cases and 3 cases in total including all hospital acquired infections for NHS Rushcliffe CCG for quarter three. This compares with 3 community acquired cases and 4 hospital acquired cases reported in the same time period 2013/14. This shows a 25% increase in community cases and a 20% increase in total cases including hospital cases.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Samples Pre 72 hrs</th>
<th>Recent antibiotics in last 3 months</th>
<th>No recent antibiotics</th>
<th>Constipation/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>
<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>2</td>
<td>3</td>
<td>2</td>
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<td>4</td>
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<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

40% 60% 40% 80% 20% 20% 20% 20% 20% 80% 20% 0% 20% 20% 0% 100%

Table 8: Themes / trends from pre 72hr community C. difficile cases NHS Rushcliffe CCG October-December 2014

**Antibiotics**

- 1 patient received hospital antibiotics for severe cellulitis.
- 1 patient received high dose antibiotics in hospital and then further courses from the GP for cellulitis
- 2 patients received oral antibiotics from the GP only (1x infected skin lesion, 1 for proven UTI)

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Summary

- 1 patient had not received antibiotics for 5 months and then later developed CDI this case required a root cause analysis investigation that deemed this to be an unavoidable case
- None of these cases were linked to any identified cross-infection concerns. No prescribing issues were identified with the information provided.

NHS Rushcliffe CCG

Quarter Four
January- March 2015

There were 4 community acquired CDI Cases and 7 cases in total including all hospital acquired infections for quarter four. This compares with 2 community acquired cases and 3 hospital acquired cases reported in the same time period 2013/14. This shows a 100% increase in community cases and no change in hospital acquired cases

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Hospital Samples Pre 72 hrs</th>
<th>Recent Antibiotics in last 3 months</th>
<th>No recent Antibiotics</th>
<th>Constipation/ 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>
<th>Other bowel disease</th>
<th>Chemotherapy</th>
<th>Diabetes</th>
<th>Renal disease</th>
<th>Under 65</th>
<th>Over 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
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<td>0%</td>
<td>0%</td>
<td>25%</td>
<td>0%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 9: Themes / trends from pre 72hr community C. difficile cases NHS Rushcliffe CCG January- March 2015

Antibiotics

- 2 patients received hospital antibiotics for severe sepsis x1, pneumonia 1.

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• 1 patient received oral antibiotics from the GP only (1x chest infection)

Summary

• 1 patient had not received antibiotics in the last 3 months but had been CDI positive previously (hospital acquired CDI)
• None of these cases were linked to any identified cross infection concerns. No prescribing issues were identified with the information provided.

Totals for Community Acquired C. difficile cases April-March 2015 by South CCG

<table>
<thead>
<tr>
<th>Mal e</th>
<th>Femal e</th>
<th>Recent history of antibiotic s</th>
<th>No recent antibiotic s</th>
<th>Pre 72hr s case</th>
<th>Constipatio n/On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admission s to hospital</th>
<th>Other bowel disease</th>
<th>Chemo - therap y</th>
<th>Diabete s</th>
<th>Renal diseas e</th>
<th>Under 65</th>
<th>Ove r 65</th>
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</thead>
<tbody>
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<td>33</td>
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<tr>
<td>37%</td>
<td>63%</td>
<td>87%</td>
<td>13%</td>
<td>71%</td>
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<td>50</td>
<td>21%</td>
<td>32%</td>
<td>76%</td>
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<td>37%</td>
<td>8%</td>
<td>79%</td>
</tr>
</tbody>
</table>

Table 1: Themes/trends from total community C. difficile cases NHS Nottingham north & East CCG April-March 2015

<table>
<thead>
<tr>
<th>Mal e</th>
<th>Femal e</th>
<th>Recent history of antibiotic s</th>
<th>No recent antibiotic s</th>
<th>Pre 72hr s case</th>
<th>Constipatio n/On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admission s to hospital</th>
<th>Other bowel disease</th>
<th>Chemo - therap y</th>
<th>Diabete s</th>
<th>Renal diseas e</th>
<th>Under 65</th>
<th>Ove r 65</th>
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<td>47%</td>
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<td>13%</td>
<td>47%</td>
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<td>27%</td>
<td>7%</td>
<td>13%</td>
<td>20%</td>
<td>7%</td>
<td>94%</td>
</tr>
</tbody>
</table>
Table 2: Themes/trends from total community *C. difficile* cases NHS Nottingham West CCG April-March 2015

* 1 case excluded from data

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>Recent history of antibiotics</th>
<th>No recent antibiotics</th>
<th>Pre 72hr case</th>
<th>Constipatio n/ On laxatives</th>
<th>PPI/H 2 Ant.</th>
<th>Repeat episodes</th>
<th>Care home resident</th>
<th>Recent admission(s) 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>
<td>7</td>
<td>9</td>
<td>12</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>44%</td>
<td>56%</td>
<td>75%</td>
<td>38%</td>
<td>50%</td>
<td>38%</td>
<td>44%</td>
<td>25%</td>
<td>25%</td>
<td>56%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
<td>13%</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3: Themes/trends from total community *C. difficile* cases NHS Rushcliffe CCG April-March 2015

Table 4: Shows all community acquired *C. difficile* cases for Nottingham North & East CCG

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Table 5: Shows all community acquired *C. difficile* cases for Nottingham West CCG.
Table 6: Shows all community acquired *C. difficile* cases for Rushcliffe CCG

**Root Cause Analysis**

There have been five root cause analysis investigations (RCA) between April 2014 and March 2015 this is an increase by 3 cases when compared with the previous year. All five related to deceased patients where *Clostridium difficile* infection was considered to be a contributory factor listed on the death certificate. 3 of these cases were deemed unavoidable. In the 2 case thought to have been avoidable the main factor identified in both case was the lack of stool sampling in a patient with diarrhoea and a history of antibiotics in the last 3 months one patient had received different antibiotics over a 7 week period.

Key themes from Root Cause Analysis include:

- 5 patients were complex and had multiple co-morbidities.
- 2 patients had active carcinoma and 1 was receiving chemotherapy
- 3 patients had numerous courses of antibiotics and 1 had antibiotics 5 months before acquiring CDI.
- 3 patients were from a care home
- 1 case Loperamide was considered to be a contributory factor
- 3 were on high dose PPI medication

<table>
<thead>
<tr>
<th>Problem Identified</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribing of Loperamide for patient on chemotherapy and after recent antibiotics treatment for sepsis</td>
<td>Secondary care follow up with gastro-enterology team and Oncologists</td>
</tr>
<tr>
<td>Inconsistency reporting bowel habits</td>
<td>Introduction of Bristol Stool Chart and training - Care Home</td>
</tr>
<tr>
<td>Failure to request stool sample for testing</td>
<td>GP training reminder of clinical responsibility</td>
</tr>
<tr>
<td>Lack of stool sampling NEMS care home, secondary care staff</td>
<td>Re-issue of national guidance, feedback to staff concerned to identify any training needs. Secondary care – training of staff</td>
</tr>
<tr>
<td>Lack of information on stool sample request form</td>
<td>Ensure clinical staff are requesting samples and providing all relevant detail</td>
</tr>
</tbody>
</table>
Failure to suspect CDI and then treat on suspicion after sample sent

Reminder of national guidance to treat on suspicion and not wait for sample result- GP training. Staff training – Care Home

Table 7: Main problems identified following the root cause analysis investigation and action taken

Areas of good practice identified

• Infection considered by the GP on review of the patient GP practice sent appropriate samples for testing *Clostridium difficile*
• Documentation – GP practice and community nursing staff
• Communication with the Patient and their family – GP practice and community nursing Team
• Podiatry care in the community
• Sample taking in secondary care
• Communication with patient and their family GP care home staff
• Documentation care home and GP
• Management CDI once identified

Summary Across South Nottinghamshire CCGs

There have been a total of 126 cases of CDI across south CCG’s during April 2014 – March 2015 this is an increase of 31 cases when compared to the total over 2013-14. 70 of these are considered to be community acquired (56%) this is an increase in community cases by 19 cases when compared with 2013-14. 94% of cases were over the age of 65 years and 86% had received antibiotics in the last 3 months. Some of these cases may be linked to the poor protection from the influenza vaccine this year which resulted in a number of patients receiving multiple courses of antibiotics for chest infections. 2014-15 has seen a number of CDI outbreaks in the local acute trusts it is not known that this has contributed to the number of cases identified this year. Cases of CDI cases ribotype 027 increased over this period following a significant reduction in this virulent strain in previous years, monitoring is ongoing this strain was identified in one of the acute trust outbreaks.
From the information provided by GPs the antibiotic prescribing in the majority of cases identified was appropriate and in line with the Nottinghamshire antimicrobial prescribing guidance which is an improvement in practice. In the small number of cases where inappropriate prescribing was identified 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, during this contact the GP is requested to add an alert 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. The relapse rate remains around 20% of the overall cases seen this is similar to the national average. Fidaxomicin has been introduced over the past year to treat relapse disease monitoring of cases is ongoing to establish how effective this new treatment is this treatment is given on advice from Microbiology.

**Future Work**

**NHS England CDI objectives for 2015/16**

<table>
<thead>
<tr>
<th>CCG</th>
<th>Actual Total Cases 2013/14</th>
<th>CDI case objective 2015/16</th>
<th>CDI rate objective 2015/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Nottingham North &amp; East CCG</td>
<td>37</td>
<td>47</td>
<td>32.0</td>
</tr>
<tr>
<td>NHS Nottingham West CCG</td>
<td>33</td>
<td>21</td>
<td>18.9</td>
</tr>
<tr>
<td>NHS Rushcliffe CCG</td>
<td>25</td>
<td>24</td>
<td>21.3</td>
</tr>
</tbody>
</table>

Table 8: *Clostridium difficile* infection objectives for NHS organisations in 2015/16

Key areas of focus 2015-16 will be on:

- Review of all community acquired cases CDI, working in partnership with local acute trusts, GPs and primary care prescribing advisors to reduce lapses in care and to support work on antimicrobial stewardship. The NHS England toolkit guidance will continue to form the basis for scrutiny of all community acquired CDI cases to identify areas for improvement.

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• CDI cases where learning is identified following a lapse in care. It is acknowledged that some cases will occur as a result of pre-existing Clostridium difficile carriage which may be triggered following essential antibiotic therapy these cases are considered to be unavoidable however cases are still occurring where improvements could have been made
• Collaborative working with acute trusts to identify actions for further improvements
• Providing support with the reduction of relapse disease. Oral Fidaxomicin has been approved for primary care use under supervision of the Microbiologist for relapse disease and includes elderly patients with multiple comorbidities who are receiving concomitant antibiotics. It is hoped that this will further reduce relapse rates in Nottinghamshire County
• Promotion of the new Antimicrobial Prescribing Guidelines 2015 and review of prescribing for CDI to ensure it reflects the recent changes in particular to those antibiotics suggested for treating urinary tract infections
• Ensuring appropriate stool sampling is requested and treatment on suspicion is applied
• Monitoring of other community winter initiatives (at home antibiotics) and Influenza management to ensure these do not impact on CDI cases
• Ensuring patients with history of C. difficile infection are highlighted on the patient record within the GP practice and that special notes are issued to out of hours providers
• Monitoring of transfer and discharge information to ensure C. difficile is documented appropriately where known
• Education
• Monitoring of infection prevention and control practice
• Targeting infection prevention and control resources
• Looking at IT systems to assist in the sharing of CDI information across local acute trusts and community providers to ensure the data is robust, timely and supports the patient pathway
• Monitoring for any CDI cases of ribotype 027 strain which is associated with increased severity and mortality
• Monitoring of loperamide prescribing by the acute trust for some oncology patients