

City Hospitals Sunderland NHS Foundation Trust

Medical Directors Directorate

Executive Summary

INFECTION PREVENTION AND CONTROL REPORT FOR 2014 / 2015

April 2015

1. INTRODUCTION

Preventing and reducing Healthcare Associated Infection remained high priority for the Infection Prevention and Control Team (IPCT) at City Hospitals Sunderland NHS Foundation Trust (CHSFT).

The IPCT continued to work across professional boundaries within and out with the Trust to maintain high standards of patient care.

In spite of implementing a robust strategy to prevent MRSA bacteraemia it is disappointing that we were not able to attain the mandatory target. Four cases of healthcare associated MRSA bacteraemia have been reported against a target of zero; equal to performance in 2013/14.

Clostridium difficile infection (CDI) prevention was a top priority for the IPCT. Root cause analysis of cases in 2013/14 combined with shared learning with SCCG was used to highlight areas for improvement.

There were 42 positive CD toxin tests, 8 of which it was agreed with SCCG did not represent CDI. This meant that a total of 34 cases of CDI were declared against an external target of 51 – and an internal target of 36. This was an enormous achievement and sets the standard for performance in the future.

In order to achieve compliance with National Standards for Cleanliness and Infection Prevention and Control the IPCT produced a combined Health Care Associated action plan in conjunction with the SCCG. This outlined core activities across the organisation to reduce HCAI and further drive success with mandatory targets.

Progress with attainment of key objectives and challenges posed during this period; most notably outbreaks/incidents have been described.

2. CONCLUSION

A reduction in HCAI remained a fundamental priority for the IPCT and CHSFT.

Performance in MRSA bacteraemia was not statistically different to that in the last three years and although there were some lessons learned, there were some patients where it is not felt that infection could have been prevented. As the trajectory remains at zero cases, it will continue to prove very difficult to achieve. Nevertheless the target for CDI has been achieved and represents our best efforts in two consecutive years to control this infection to date.

After very careful analysis of contributory factors in 2014/15, advice about what can usefully be done to further reduce risk in 2015/16 has been provided to the Trust by the IPCT. Maximum effort is being devoted to inform future strategy. The HCAI plan for 2015/16 has been informed by review of activity including success and challenges during 2014/15.

The IPCT continued to work across professional boundaries sharing best practice and agreeing implementation of policy at regional level. The ultimate aim was zero tolerance to avoidable infections in CHSFT.

3. RECOMMENDATIONS

To accept the Infection Prevention and Control Annual Report for 2014/15.

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Infection Prevention and Control Doctor

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City Hospitals Sunderland NHS Foundation Trust

Medical Directors Directorate

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1. INTRODUCTION

Preventing and reducing Healthcare Associated Infection remained high priority for the Infection Prevention and Control Team (IPCT) at City Hospitals Sunderland NHS Foundation Trust (CHSFT).

The IPCT continued to work across professional boundaries within and out with the Trust to maintain high standards of patient care.

Four cases of healthcare associated MRSA bacteraemia have been reported against a target of zero. Whilst the target was not met, performance was not statistically different to that in the past two years. We have embraced lessons learned from these infections to inform future actions. Some of the infections did not appear to be avoidable and so it remains hard to see how the Trust can meet the trajectory which continues to be set at zero cases.

Clostridium difficile infection (CDI) prevention was a crucial element of the IPCT strategy. This year's target continued to pose a challenge. Root cause analysis of cases in 2013/14 combined with shared learning with SCCG was used to highlight areas for improvement.

There were 42 positive CD toxin tests, 8 of which it was agreed with SCCG did not represent CDI. This meant that a total of 34 cases of CDI were declared against an external target of 51 – and an internal target of 36. This was an enormous achievement for the second consecutive year and sets the standard for performance in the future.

In order to achieve compliance with National Standards for Cleanliness and Infection Prevention and Control the IPCT produced a combined Health Care Associated action plan in conjunction with the SCCG. This outlined core activities across the organisation to reduce HCAI and further drive success with mandatory targets.

Progress with attainment of key objectives and challenges posed during this period; most notably outbreaks/incidents have been described.

2. THE INFECTION PREVENTION AND CONTROL TEAM

2.1 Establishment

The IPCT comprised

- Director for Infection Prevention and Control (DIPC) who advised the Board on all issues in relation to Infection Prevention and Control
- Infection Prevention and Control Doctor (IPCD)
- Deputy Infection Prevention and Control Doctor
- Directorate Manager

- Head of Infection Prevention and Control
- 3 WTE Senior Infection Prevention and Control Nurses – Band 7
- 4 WTE Infection Prevention and Control Nurses – Band 6
- 4.6 WTE Surveillance Nurses – Band 5
- One WTE Personal Assistant
- One WTE admin/clerical support

The nursing establishment followed a skill mix review delivered in September 2014.

2.2 Service Provision

The IPCT continued to provide a 24/7 day service - Monday to Friday 9am -5pm - out of hours on call via switchboard.

The IPCT were swift to respond to challenges, threats and opportunities posed in 2014/15. We continued to network with Infection Prevention and Control colleagues across the health care economy, sharing lessons learned, comparing practice and performance, reviewing trends and embedding evidence based practice.

Personal professional development remained a high priority for the IPCT.

2.3 Meetings

The IPCT continued to meet with the following groups on a scheduled / monthly basis:-

- Combined IPCT/Clinical Governance Group.
- City Hospitals Infection (Prevention) Control Group (CHICG) chaired by the Director of Infection Prevention and Control (DIPC) reporting to the Clinical Governance Steering Group (CGSG).
- Strategic Infection Prevention and Control Group (SIPCG) chaired by the Executive Director of Nursing and Quality reporting to CHICG.
- Clinical Governance Steering Group
- Sunderland NHS Clinical Commissioning Group – HCAI Improvement Group.
- National Standards of Cleanliness Group.
- Water Management Group.
- Decontamination Group.
- Waste Management Group.
- Health and Safety Group.

The IPCT met regularly with Public Health England North East Ebola Incident Management (Preparedness) Team to inform CHS preparedness in terms of PPE, training and learning from previous incidents.

A review of the Medical Clinical Champions role was completed to refresh membership and inform Terms of Reference for 2015/16.

The IPCD delivered a monthly Infection Prevention and Control report to CGSG. This included compliance with: hand hygiene, aseptic technique and device monitoring. MRSA, MSSA and *E.coli* Bacteraemia, CDI, isolation of infectious patients and overall position on target attainment was also reported.

3. OUTBREAKS AND INCIDENTS

The IPCT successfully managed and controlled a number of incidents / outbreaks throughout the year to prevent further onward transmission of infectious organisms. There continued to be close collaboration with clinical and non-clinical staff across all Directorates and departments to deliver a robust strategy for prevention and management of outbreaks and serious infection.

3.1 Increased Incidents of Clostridium difficile cases (wards reporting 2 or more cases in 28 days)

In line with national guidance for management of CDI, wards which experienced 2 or more cases in 28 days continued to be escalated to a High Impact Intervention audit. This included weekly monitoring for a minimum of four consecutive weeks or until compliance was demonstrated. Practises observed included: hand hygiene, use of personal protective equipment, isolation and compliance with antimicrobial policy.

Additional activity included decontamination audit and 'fogging' with Hydrogen Peroxide vapour on selected wards. In some areas a senior IPCN was allocated to work on the ward to support training and the deep clean process.

Wards escalated to action plan including weekly audit as a consequence of increased incidence of CDI:

E53 - April 2014
C36 - November 2014
B21 - November 2014
ICCU - February 2015
E54 - March 2015

3.2 MRSA Bacteraemia

The following wards were escalated to root cause analysis, clinical review meetings , Trust Rapid Review Group and action plan on detection of an MRSA bacteraemia:-

D46 – April 2014
B28 – May 2014
E53 – August 2014
C31 – March 2015

3.3 MRSA Infection / Colonisation

Wards escalated to multi-disciplinary review meetings and action plan following an increase in Trust apportioned cases were:-

D43 – August 2014
C36 – September 2014
E52 – December 2014

Additional measures to control transmission of this organism included training on decontamination, hand hygiene, deep cleaning of the ward and targeted screening of patients and staff.

3.4 Viral Activity

A number of wards experienced transmission of Norovirus affecting patients and staff. Workload pressures were significant on the IPCT as a consequence of managing these outbreaks. On-site Norovirus testing enabled swift diagnosis and management of patients.

Norovirus Outbreak Activity April 2014 – March 2015

Ward	Date outbreak commenced	Staff affected	Patients affected	Bed days lost
F61	24/05/2014 – 31/05/2014	7	9	3
E50	24/09/2014 – 5/10/2014	4	10	32
B20	24/11/2014 – 2/12/2014	4	6	26
E51	26/11/2014 – 11/12/2014	5	2	40
E52	29/11/2014 – 7/12/2014	1	10	21
E50	2/12/2014 – 5/12/2014	0	5	4
B21	30/01/2015 – 8/2/2015	7	17	40
E51	3/02/2015 – 12/02/2015	2	17	19
D41	29/03/2015- 7/04/2015	1	16	15

3.5 Environmental Cleanliness

The IPCT continued to monitor standards of cleanliness – equipment and environment through quarterly audits and targeted environmental screening. Areas that failed to achieve audit compliance or had significant positive environmental results were escalated to action plan until decontamination assurance was gained:

E52 – May 2014 and August 2014
Renal Unit Durham – August 2014
B20 – September 2014
SEI – September 2014
IAU – October 2014
Maternity – July, December 2014
D46 – January 2015
B28 – January 2015
B26 – February 2015
E54 – March 2015

3.6 Significant Incidents

3.6.1 Unsuspected cases of TB

In April 2014 and January 2015 two patients were admitted via A&E, diagnosed chest infections. Open pulmonary TB was later confirmed in both patients with whom this diagnosis was not suspected. Both patients had been nursed in open bays on wards; contract tracing of patients and staff was significant. The Chest Clinic undertook contact tracing of patients and Occupational health Department assessed staff.

3.6.2 Suspected cases of Ebola and MERS (Middle East Respiratory Syndrome)

In October 2014 two patients attended A&E in which a diagnosis of Ebola was suspected. A&E staff reacted quickly and sought immediate advice from the IPCT.

Both cases were managed in accordance with Public Health England (PHE) guidance and a safe environment was secured until the patients were deemed not to be a risk. Collaborative working by with A&E and ICCU colleagues informed a Standard Operating Procedure following experience of these cases.

In March 2015 a patient presented at A&E with query suspected MERS. National guidance from PHE for managing these patients was employed by the IPCT and a robust risk assessment undertaken. This patient was deemed to be low risk but transferred to the RVI infectious diseases unit as a precaution.

3.6.3 Acquisition of Para Influenza 3 Virus in NICU

Two cases of hospital acquired Para influenza Type 3 virus reported on NICU in March 2015. Two beds were closed on the unit to attain isolation precautions. Suspected source was a visitor or a member of staff. No obvious IPC breaches identified. No further cases identified.

3.6.4 Increased Environmental Contamination on B26

Targeted environmental screening on B26 followed 2 confirmed cases of Trust apportioned CDI. Results yielded 30% contamination with *C.difficile* spores. The entire ward was deep cleaned and decontaminated with Hydro Peroxide vapour.

4. MANDATORY TARGETS

4.1 MRSA Bacteraemia

The Trust target for MRSA Bacteraemia in 2014/15 was zero. This proved a significant challenge to the organisation. CHS reported 4 cases which is equal to the previous year's performance.

The IPCT worked closely with Directorate teams to complete a detailed root cause analysis of each individual case of MRSA bacteraemia. This identified incomplete MRSA screening of urinary catheters, lack of consideration of prophylaxis in colonised patients during re-catheterisation and failure to replace a central line previously inserted in an emergency situation.

There was no evidence of any systematic failure of control processes within the Trust: hand hygiene, asepsis and surveillance. We are able to report that at least two of the Trust cases were considered to be unavoidable which is comparable to 2014/15. Lessons Learned from each case continued to be shared and incorporated into a robust action plan which was implemented and monitored throughout the year.

4.2 *Clostridium difficile* infection

The Department of Health target for CDI in CHS, 2014/15 was 51. Sunderland CCG agreed an internal target of 36.

CHS reported 42 positive CD toxin tests, 8 being agreed with SCCG not to be CDI/ Trust apportioned. Therefore the final number of cases of CDI was reported as 34 against an external target of 51 and internal target of 36. This represents a sustained improvement in the number declared in 2014/15.

A robust action plan for prevention and management of CDI was produced by the IPCT informed by the recurrence of Lessons Learned in the previous year which included: delayed medical review, submission of specimens, isolation and commencing a Bristol Stool Chart.

New initiatives included:

- Securing long term rental of 4 isolation Pods on the Infection Prevention and Control Ward. These provide greater flexibility in caring for patients requiring isolation with increasing side room capacity and subsequent utilisation of the ward; accommodating patients with different infection
- Purchase of a hydrogen peroxide machine to facilitate decontamination of areas in which symptomatic patients were nursed
- Designing a logo and securing the patent for aprons worn by food handlers to encourage hand hygiene prior to eating meals
- Designing a picture poster to communicate key actions for patients and relatives to reduce the risk of cross infection. These were displayed on all wards outside of bays and side rooms
- Designing a patient leaflet depicting 5 moments for hand hygiene
- Pillow audit on targeted wards
- Screening patients for carriage of *C. difficile* in ICCU and Clinical Haematology (auto transplant patients)

Despite our best efforts to embed lessons learnt across the organisation recurrent themes have been presented to the Trusts rapid review group throughout the year including: delays in submission of samples, delay in isolation and inconsistency between nursing and medical documentation.

5. EDUCATION AND TRAINING

5.1 Mandatory Training

IPC E-learning Level 1 training remained an annual requirement for all employees; level 2 for all staff who delivered direct clinical care.

The IPC senior nurses delivered a significant number of additional face to face training sessions to sustain compliance with the Trust target for mandatory training. This was reported as 91% by the end of March 2015 which is comparable to last year's performance.

Bespoke training for Estates, Domestic, Catering Staff and Volunteers continued to be delivered.

IPC training continued at induction for all newly appointed staff.

Aseptic Technique (including Aseptic Non Touch Technique – ANTT) continued to be delivered at induction and for individuals who had not completed the training.

Induction training was extended to include Lessons Learned from previous CDI and MRSA cases

5.2 Infection Prevention and Control Link Training

The programme for IPC Link staff continued throughout the year and a variety of topics were covered this year which included feedback on Lessons learned, audit activity / results and decontamination.

Attendance at the meetings continued to be challenging for some areas. All information was cascaded electronically for those members who were unable to attend.

5.3 Study Days

The IPCT hosted its fourth annual study day which was attended by more than 100 delegates from a mixture of staff groups. Formal evaluation yielded excellent feedback again. We continued to use innovative approaches which included simulation learning through role play.

6. HAND HYGIENE

The IPCT continued to monitor Trust compliance with Hand Hygiene throughout the organisation. Monthly hand hygiene audits were undertaken by peers and included 5 moments for hand hygiene, technique and bare below the elbow. Areas who demonstrated sustained compliance were reduced to quarterly audit. Those which failed were escalated by the IPCT to action plan.

The Trust celebrated World Health Organisation Global Challenge in May 2014. A range of activities included poster competitions with prizes for children / their families and staff.

7. AUDIT / SURVEILLANCE

Audit and surveillance activity was sustained throughout the year:-

- Joint IPC and clinical staff quarterly environmental cleanliness audits continued for all inpatient areas and targeted outpatient areas. Failure to achieve standards of cleanliness were escalated to increased audit activity and action plan.
- The IPC Surveillance Nurses continued to audit compliance with Peripheral and Central IV device assessment. Results were disseminated to the Directorate Management Teams via data repository using the traffic light system.
- The IPC Surveillance Nurses conducted additional audits / surveillance throughout the year as follows:-
 - MRSA screening compliance
 - Commode cleanliness
 - Prontoderm eradication for MRSA
 - Stool and specimen surveillance
- The IPCT sustained a robust system for continuous surveillance of surgical site infection in Trauma and Orthopaedics. Reports from PHE were shared directly with Directorate Management teams.
- The Trust antimicrobial pharmacist and antimicrobial doctor continued to monitor compliance with the antimicrobial policy on a quarterly basis. A Quality Antimicrobial Stewardship Index (QASI) audit tool was introduced following every case of CDI to confirm compliance with policy.
- Blood Culture contamination rates continued to be monitored by the IPCD.

- Ward based surgical site infection surveillance continued within Vascular Surgery. Reports from PHE were shared directly with the Directorate Management Teams.

8. POLICIES / PROCEDURES / GUIDELINES

Review of IPC Policies / Procedures / Guidelines continued to pose a challenge in 2014/15 due to IPC resources. An action plan was deployed to expedite production.

The Cleaning Policy was reviewed and replaced as a procedure for Decontamination of the Patient Environment

9. WATER MANAGEMENT

The Trust Water Management group (*Legionella* and *Pseudomonas aeruginosa*) continued to meet on a scheduled basis. The Water Management sub group, chaired by Head of IPC continued with representation from Augmented Care Units, Hotel Services and Estates to monitor compliance with the Trust Water Quality Policy. An external audit demonstrated significant increased Trust compliance with National Guidance.

10. CLINICAL GOVERNANCE

The IPC Clinical Governance meetings continued on a scheduled basis. Quarterly review of the IPC Risk Register continued.

11. CONCLUSION

A reduction of HCAI remained a fundamental priority for the IPCT and CHSFT.

The targets set by the DH for MRSA bacteraemia continued to pose a significant challenge to the Trust. The mandatory target for MRSA bacteraemia was not achieved; there remained a zero tolerance for avoidable cases. There were only two cases where some element of avoidability was identified. After clinical assessment of cases, the performance for MRSA bacteraemia (where low numbers make comparison difficult) did not indicate an increase in risk to patients.

Nevertheless we were delighted to sustain attainment of the target for CDI which was 51. We reported 42 cases with positive *Clostridium difficile* toxin tests but 8 appeals were upheld by SCCG not to be CDI cases / Trust apportioned.

The IPCT continued to work across professional boundaries sharing best practice and agreeing implementation of policy at regional level. The ultimate aim was zero tolerance to avoidable infections in CHSFT.

After very careful analysis of contributory factors in 2014/15, advice about what can usefully be done to further reduce risk in 2015/16 has been provided to the Trust by the IPCT. Maximum effort is being devoted to inform future strategy. The HCAI plan for 2015/16 has been informed by review of activity including success and challenges during 2014/15.

8th May 2015