NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and social care directorate

Quality standards and indicators

Briefing paper

Quality standard topic: Healthcare-associated infections

Output: Prioritised quality improvement areas for development.

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Contents

1 Introduction

This briefing paper presents a structured overview of potential quality improvement areas for healthcare-associated infections. It provides the Committee with a basis for discussing and prioritising quality improvement areas for development into draft quality statements and measures for public consultation.

1.1 Structure

This briefing paper includes a brief description of the topic, a summary of each of the suggested quality improvement areas and supporting information.

If relevant, recommendations selected from the key development source below are included to help the Committee in considering potential statements and measures.

1.2 Development sources

The key development sources referenced in this briefing paper are:

- Loveday HP, Wilson JA, Pratt RJ et al. (2014) epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England Journal of Hospital Infection 86 (Supplement 1) S1-S70
- Prevention and control of healthcare-associated infections (2011) NICE guideline PH36

Review decision made [December 2014] to undertake a terminology refresh of PH36 and check and update the evidence of achievement notes with relevant NHS and Public Health Outcome Framework Indicators.

2 Overview

2.1 Focus of quality standard

This quality standard will cover organisational factors in preventing and managing healthcare-associated infections in secondary care settings.

2.2 Definition

Healthcare-associated infections (HCAIs) can develop either as a direct result of healthcare interventions such as medical or surgical treatment, or from being in contact with a healthcare setting.

The term ‘healthcare-associated infections’ covers a wide range of infections. The most well-known include those caused by meticillin-resistant Staphylococcus aureus

(MRSA), meticillin-sensitive Staphylococcus aureus (MSSA), Clostridium difficile (C. difficile) and Escherichia coli (E. coli). Healthcare-associated infections cover any infection contracted:

- as a direct result of treatment in, or contact with, a health or social care setting
- as a result of healthcare delivered in the community
- outside a healthcare setting (for example, in the community) and brought in by patients, staff or visitors and transmitted to others (for example, norovirus).

2.3 Incidence and prevalence

Healthcare-associated infections pose a serious risk to patients, staff and visitors. They can incur significant costs for the NHS and cause significant morbidity to those infected. As a result, infection prevention and control is a key priority for the NHS.

The overall prevalence of healthcare-associated infections in all acute care hospitals surveyed in the Health Protection Agency's National Point Prevalence Survey was 6.4% in 2011 compared to 8.2% in 2006. The six most common types of healthcare-associated infections in 2011, which accounted for more than 80% of all healthcare-associated infections, were respiratory tract infections (pneumonia and other respiratory infections) (22.8%), urinary tract infections (17.2%), surgical site infections (15.7%), clinical sepsis (10.5%), gastrointestinal infections (8.8%), and bloodstream infections (7.3%). [1]

2.4 Management

The 2009 National Audit Office report on reducing healthcare-associated infections[2] identified four systemic issues that still needed to be tackled locally and nationally to reduce infection rates. It highlighted the need:

- for a culture of continuous improvement
- for a whole-system approach, with clear structures, roles and responsibilities
- to ensure staff compliance with good infection control practice
- to monitor and record hospital prescriptions and the use of antibiotics.

[1] Health Protection Agency (2011) English National Point Prevalence Survey on Healthcare-associated Infections and Antimicrobial Use, 2011.
[2] National Audit Office (2009) Reducing healthcare associated infections in hospitals in England.

2.5 National Outcome Frameworks

Tables 1 and 2 show the outcomes, overarching indicators and improvement areas from the frameworks that the quality standard could contribute to achieving.

Table 1 Public health outcomes framework for England, 2013–2016

Domain	Objectives and indicators
3 Health protection	***Objective*** The population's health is protected from major incidents and other threats, whilst reducing health inequalities ***Indicators*** 3.7 Comprehensive, agreed inter-agency plans for responding to public health incidents
4 Healthcare public health and preventing premature mortality	***Objective*** Reduced numbers of people living with preventable ill health and people dying prematurely, whilst reducing the gap between communities ***Indicators*** 4.3 Mortality rate from causes considered preventable* 4.8 Mortality rate from communicable diseases
Alignment with Adult Social Care Outcomes Framework and/or NHS Outcomes Framework * Indicator is complementary	

Table 2 NHS Outcomes Framework 2015–16

Domain	Overarching indicators and improvement areas
1 Preventing people from dying prematurely	***Overarching indicators*** 1a Potential Years of Life Lost (PYLL) from causes considered amenable to healthcare i Adults ii Children and young people
4 Ensuring that people have a positive experience of care	***Overarching indicators*** 4b Patient experience of hospital care ***Improvement areas*** **Improving people's experience of outpatient care** 4.1 Patient experience of outpatient services **Improving people's experience of accident and emergency services** 4.3 Patient experience of A&E services **Improving women and their families' experience of maternity services** 4.5 Women's experience of maternity services **Improving children and young people's experience of healthcare** *4.8 Children and young people's experience of inpatient services* **Improving people's experience of integrated care** *4.9 People's experience of integrated care**
5 Treating and caring for people in a safe environment and protecting them from avoidable harm	***Overarching indicators*** *5a Deaths attributable to problems in healthcare* *5b Severe harm attributable to problems in healthcare* ***Improvement areas*** **Reducing the incidence of avoidable harm** 5.2 Incidence of healthcare associated infection (HCAI) i MRSA ii C. difficile **Improving the culture of safety reporting** 5.6 Patient safety incidents reported
Alignment with Adult Social Care Outcomes Framework and/or Public Health Outcomes Framework * Indicator is complementary Indicators in italics in development	

3 Summary of suggestions

3.1 Responses

Fourteen stakeholders responded to the 2-week engagement exercise (29 April to 14 May 2015).

Stakeholders were asked to suggest up to 5 areas for quality improvement. Specialist committee members were also invited to provide suggestions. The responses have been merged and summarised in table 3 for further consideration by the Committee.

Full details of all the suggestions provided are given in appendix 1 for information.

Table 3 Summary of suggested quality improvement areas

Suggested area for improvement	Stakeholders
Organisational culture • Leadership and governance • Surveillance • New technology and innovation	AP Ltd., HIS, MSD UK, PHE, RCPath, SCM 1
Clinical environment • Environmental cleanliness • Built environment	HIS, PHE, RCPath, SCM 1, SCM 2, SCM 3, St. JA
Multi-agency working • Multi-agency working	AP Ltd., MSD UK, SCM 1
Additional areas • Diagnosis • Risk assessment tool • Treating patients in an outpatient setting • Hand hygiene • Device management • Personal protective equipment • Infection prevention and control in other settings • Dermatological suggestions • Staff training • Antimicrobial stewardship	AP Ltd., BAD, BKPA, HIS, MSD UK, PHE, RCPath, SCM 1, SCM 2, St. JA

AP Ltd., Astellas Pharma Ltd.
BAD, British Association of Dermatologists
BKPA, British Kidney Patient Association
BSAC, British Society for Antimicrobial Chemotherapy
HIS, Healthcare Infection Society
MSD UK, Merck, Sharp and Dohme UK
NHS E, NHS England
PHE, Public Health England
RCN, Royal College of Nursing
RCPath, Royal College of Pathologists
SCM, Specialist Committee Member
St. JA, St John Ambulance

4 Suggested improvement areas

4.1 Organisational culture

4.1.1 Summary of suggestions

Leadership and governance

Stakeholders highlighted variation and inconsistency in the management of infection prevention and control. Strong leadership and governance is needed between and within healthcare settings, including clear strategies and appropriate staffing.

Surveillance

Stakeholders suggested different performance measures for trusts to monitor, such as mortality from healthcare-associated infections, recurrence rates and reporting of other pathogens and procedures. Benchmarking and learning from local and national data are important for effective management and prevention of healthcare-associated infections, such as identification of areas for improvement. Communication and feedback of surveillance data between providers and to clinicians are also key.

New technology and innovation

Considering evidence of the effect of new products and practice on healthcare-associated infection rates was suggested.

4.1.2 Selected recommendations from development source

Table 4 below highlights recommendations that have been provisionally selected from the development sources that may support potential statement development. These are presented in full after table 4 to help inform the Committee's discussion.

Table 4 Specific areas for quality improvement

Suggested quality improvement area	Suggested source guidance recommendations
Leadership and governance	**Board-level leadership to prevent HCAIs** NICE PH36 Quality improvement statement 1
Surveillance	**Board-level leadership to prevent HCAIs** NICE PH36 Quality improvement statement 1 (evidence of achievement notes 2 and 3) **Be a learning organisation**

	NICE PH36 Quality improvement statement 2 (evidence of achievement notes 1, 2, 3 and 5) **HCAI surveillance** NICE PH36 Quality improvement statement 3 **Communication** NICE PH36 Quality improvement statement 7 (evidence of achievement note 1)
New technology and innovation	**Be a learning organisation** NICE PH36 Quality improvement statement 2 (evidence of achievement note 8) **New technology and innovation** NICE PH36 Quality improvement statement 11

Leadership and governance

NICE PH36 Quality improvement statement 1 – Board-level leadership to prevent HCAIs

Trust boards demonstrate leadership in infection prevention and control to ensure a culture of continuous quality improvement and to minimise risk to patients.

Evidence of achievement

1. Evidence that the board is up-to-date with, and has a working knowledge and understanding of, infection prevention and control.
2. Evidence that the board has an agreed set of key performance indicators for infection prevention and control which includes compliance with antibiotic prescribing policy.
3. Evidence that the agreed key performance indicators are used by the board to monitor the trust's infection prevention and control performance.
4. Evidence that the trust's aims and objectives for infection prevention and control are included in the board's 'Balanced score card'.
5. Evidence that a board member has been assigned to lead on infection prevention and control.
6. Evidence of a board-approved infection prevention and control accountability framework. This includes evidence of specific responsibilities allocated to staff working in, or coming into contact with, clinical areas (reflected in their job descriptions and appraisals).
7. Evidence that a mechanism is in place to report regularly to board meetings on important infection risks and the control measures that have been implemented.
8. Evidence that the board has agreed an annual improvement programme on infection prevention and control which is linked to the business planning cycle and has identified actions and resources.

9. Evidence that the trust promotes a 'self-governance' culture for infection prevention and control. This includes evidence that all staff, from board to ward, are accountable and take ownership and responsibility for continuous quality improvement.
10. Evidence that the board is assured that monitoring mechanisms are in place in each clinical area, and that each area is accountable for compliance with relevant aspects of the code of practice.
11. Evidence of regular communication from the chief executive on the trust's expectation of patients, visitors and staff in relation to infection prevention and control.
12. Evidence that the director of infection prevention and control is involved in contract negotiations with commissioners on the key performance indicators for infection prevention and control.
13. Evidence that the board demonstrates to patients, the public, staff and itself that it is making continuous progress towards meeting all relevant statements in this guide.

Surveillance

NICE PH36 Quality improvement statement 1 – Board-level leadership to prevent HCAIs

Trust boards demonstrate leadership in infection prevention and control to ensure a culture of continuous quality improvement and to minimise risk to patients.

Evidence of achievement

2. Evidence that the board has an agreed set of key performance indicators for infection prevention and control which includes compliance with antibiotic prescribing policy.
3. Evidence that the agreed key performance indicators are used by the board to monitor the trust's infection prevention and control performance.

NICE PH36 Quality improvement statement 2 – Be a learning organisation

Trusts use information from a range of sources to inform and drive continuous quality improvement to minimise risk from infection.

Evidence of achievement

1. Evidence that processes have been put in place to learn from experiences outside the organisation in relation to infection prevention and control. This includes evidence that learning is occurring on a continual basis.
2. Evidence of regular, systematic generation and sharing of learning from trust's own experiences of infection prevention and control – including good practice and adverse events. This includes evidence that learning is based on a range of

intelligence sources and is used to inform, and feed into, clinical and risk management processes.
3. Evidence that mechanisms are in place to disseminate learning among relevant staff groups.
5. Evidence that recommendations and actions identified as being needed following an incident, surveillance or learning activities have been implemented.

NICE PH36 Quality improvement statement 3 – HCAI surveillance

Trusts have a surveillance system in place to routinely gather data and to carry out mandatory monitoring of HCAIs and other infections of local relevance to inform the local response to HCAIs.

Evidence of achievement

1. Evidence of an adequately resourced surveillance system with specific, locally defined objectives and priorities for preventing and managing HCAIs. The system should be able to detect organisms and infections and promptly register any abnormal trends.
2. Evidence of clearly defined responsibilities for the recording, analysis, interpretation and communication of surveillance outputs.
3. Evidence of arrangements for regular review of the surveillance programme to ensure it supports the trust's quality improvement targets for infection prevention.
4. Evidence of fit-for-purpose IT systems to support surveillance activity. This includes evidence of validation processes that ensure data accuracy and resources that can analyse and interpret surveillance data in meaningful ways.
5. Evidence of surveillance systems that allow data from multiple sources to be combined in real time (epidemiological, clinical, microbiological, surgical and pharmacy).
6. Evidence that surveillance systems capture surgical-site and post-discharge infections.
7. Evidence that trusts share relevant surveillance outputs and data with other local health and social care organisations to improve their infection prevention and control.
8. Evidence that systems are in place for timely recognition of incidents in different spaces (for example, wards, clinical teams, clinical areas, the whole trust).This includes evidence of regular time-series analyses of data.
9. Evidence that the trust reports all outbreaks, serious untoward incidents (SUIs) and any other significant HCAI-related risk and incident to the local health protection unit.
10. Evidence that surveillance data in key areas is regularly compared with other local and national data and, where appropriate, is available at clinical unit level.
11. Evidence of a process for surveillance outputs to feed into accountability frameworks, inform audit priorities and be used to set objectives for quality improvement programmes in relation to HCAI prevention.

12. Evidence of surveillance outputs being analysed alongside comparative data to ensure continual improvement.
13. Evidence of surveillance outputs being fed back to relevant staff and stakeholders, including patients, in an appropriate format to support preventive action.
14. Evidence that the trust has developed, and regularly reviews, a hospital-wide incident plan to investigate and manage major infection outbreaks and HCAI incidents. This includes evidence that high-level managerial and clinical mechanisms are in place for coordinating, communication (including with other agencies) and deploying adequate resources.

NICE PH36 Quality improvement statement 7 - Communication

Trusts ensure there is clear communication with all staff, patients and carers throughout the care pathway about HCAIs, infection risks and how to prevent HCAIs, to reduce harm from infection.

Evidence of achievement

1. Evidence of mechanisms to ensure transparent communication of all relevant surveillance outputs to staff and patients.

New technology and innovation

NICE PH36 Quality improvement statement 2 – Be a learning organisation

Trusts use information from a range of sources to inform and drive continuous quality improvement to minimise risk from infection.

Evidence of achievement

8. Evidence that the trust promotes innovation to minimise harm from infection, for example by promoting research opportunities, practice development initiatives and action learning sets for staff.

NICE PH36 Quality improvement statement 11 – New technology and innovation

Trusts regularly review evidence-based assessments of new technology and other innovations to minimise harm from HCAIs and antimicrobial resistance (AMR).

Evidence of achievement

1. Evidence that a mechanism is in place to undertake a regular gap analysis of technology needs relevant to infection prevention and control.
2. Evidence that information on relevant new technologies and innovation is disseminated to directorates, along with guidance on evaluation and implementation.

3. Evidence of a mechanism to assess the evidence base underpinning technology and innovation in reducing HCAIs. This includes evidence that, where relevant, new technology, innovation and practice is incorporated into policies and procedures.
4. Evidence of local arrangements to help individuals or clinical teams conduct relevant research (for example, translational research) to prevent or reduce the harm from HCAIs. This could include evidence that arrangements have been made with academic centres, or that trust-based preventive interventions have been assessed internally.

4.1.3 Current UK practice

Leadership and governance

The 2009 National Audit Office report on Reducing Healthcare Associated Infections in Hospitals in England[3] stated that:

- 88% of staff agreed that senior hospital leaders were taking a strong lead on infection prevention and were committed to improving rates in their trust.
- 70% of staff agreed that senior hospital leaders were acting as positive role models and were making visible efforts to reduce infection rates.
- Staffing of infection control teams has increased since 2004: 83% of hospital trusts now exceed the international guidance of 1 infection control nurse (ICN) per 250 beds, as reported in the 2000 and 2004 reports.
- The proportion of working time infection control doctors are spending on their role has also increased (60% of working time in 2008, compared to approx. 30% in 2004).
- When asked to name the 3 biggest barriers to creating sustained improvement, 44% of infection control teams cited bed occupancy/low staffing numbers as an issue.

Surveillance

The National Audit Office (2009) report, referenced above, reported that:

- Healthcare Commission reports on its investigations, in particular special investigations into high levels of deaths due to C. difficile in 2006 and 2007, identified that despite the availability of national surveillance data, trusts failed to recognise its significance and act on it in a timely manner.
- Most trusts do not report data on healthcare associated infections, other than MRSA bloodstream and C. difficile, to their board.
- Many clinical teams have benefited from using root cause analysis, but the learning is rarely shared within or between trusts.

[3] National Audit Office (2009) Reducing healthcare associated infections in hospitals in England

- All trusts use root cause analysis to investigate MRSA and most also use it for C. difficile outbreaks. There is, however, variation and disparity in the sharing of learning from root cause analyses within trusts and no evidence of capturing the lessons and sharing them between trusts.

A paper that recommended surveillance priorities for healthcare-associated infections[4] reported that:

- Their census found that 86% of hospital trusts are doing root cause analysis for C. difficile outbreaks and 42% of trusts are using the technique for other infections (this was commonly limited to serious outbreaks or MSSA).
- 79% of nurses and 58% of doctors agree that they receive data on infection rates for their ward/clinical area on a regular basis. The data, however, has been limited to MRSA and more recently C. difficile.

New technology and innovation

No current practice data was found for this suggested quality improvement area.

[4] Wilson A.P.R. and Kiernan M. (2012) Recommendations for surveillance priorities for healthcare-associated infections and criteria for their conduct. Journal of Antimicrobial Chemotherapy 2012; vol 67 Issue Suppl 1: i23–i28

4.2 Clinical environment

4.2.1 Summary of suggestions

Environmental cleanliness

Stakeholders highlighted the importance of a clean hospital environment, including both the premises and the equipment, to prevent infectious disease. Stakeholders mentioned that many trusts have difficulty with adequate staffing to ensure cleanliness.

Built environment

Stakeholders suggested that consideration be given to the built environment, such as fixtures and fittings, air and water supplies and buildings, from the perspective of healthcare-associated infections prevention and control. This should be done at the planning stage, and maintained, to prevent healthcare-associated infections.

4.2.2 Selected recommendations from development source

Table 5 below highlights recommendations that have been provisionally selected from the development sources that may support potential statement development. These are presented in full after table 5 to help inform the Committee's discussion.

Table 5 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Environmental cleanliness	**Environmental cleanliness** NICE PH36 Quality improvement statement 5 **Hospital environmental hygiene** epic3 SP1-5
Built environment	**Trust estate management** NICE PH36 Quality improvement statement 10

Environmental cleanliness

NICE PH36 Quality improvement statement 5 – Environmental cleanliness

Trusts ensure standards of environmental cleanliness are maintained and improved beyond current national guidance.

Evidence of achievement

1. Evidence that the trust clearly sets out, and adheres to, a standard of cleanliness that is beyond current national guidance (for example, British Standards Institution PAS 5748 and/or National Patient Safety Agency specifications).
2. Evidence of clear and accessible local policies on cleaning and environmental decontamination. This includes evidence that they take into account the needs of different patient care areas and allow for flexibility in the deployment of resources. There should be evidence, for example, that individual staff understand their role and responsibilities.
3. Evidence of local arrangements for a risk-based, cleaning responsibility matrix and frequency schedule for each patient care area.
4. Evidence of a local framework for monitoring of environmental cleanliness routinely and in an 'outbreak' situation. This includes evidence of a patient feedback system.
5. Evidence that the results of routine and outbreak monitoring are reviewed and cleaning arrangements updated, where appropriate.
6. Evidence of local arrangements to ensure awareness of health and safety and environmental issues regarding the use of disinfectant preparations for decontamination purposes.
7. Evidence of regular, appropriate training and education of staff with responsibility for cleaning in the use of equipment, disinfection and decontamination.
8. Evidence that the trust incorporates patient feedback and involves patients and carers in its cleanliness monitoring programmes, with evidence that this impacts on standards.

<u>epic3 SP1 – Hospital environmental hygiene</u>

The hospital environment must be visibly clean; free from non-essential items and equipment, dust and dirt; and acceptable to patients, visitors and staff. Class D/GPP

<u>epic3 SP2 – Hospital environmental hygiene</u>

Levels of cleaning should be increased in cases of infection and/ or colonisation when a suspected or known pathogen can survive in the environment, and environmental contamination may contribute to the spread of infection. *Class D/GPP*

<u>epic3 SP3 – Hospital environmental hygiene</u>

The use of disinfectants should be considered for cases of infection and/or colonisation when a suspected or known pathogen can survive in the environment, and environmental contamination may contribute to the spread of infection. Class D/GPP

<u>epic3 SP4 – Hospital environmental hygiene</u>

Shared pieces of equipment used in the delivery of patient care must be cleaned and decontaminated after each use with products recommended by the manufacturer. Class D/GPP

epic3 SP5 – Hospital environmental hygiene

All healthcare workers need to be educated about the importance of maintaining a clean and safe care environment for patients. Every healthcare worker needs to know their specific responsibilities for cleaning and decontaminating the clinical environment and the equipment used in patient care. Class D/GPP

Built environment

NICE PH36 Quality improvement statement 10 – Trust estate management

Trusts consider infection prevention and control when procuring, commissioning, planning, designing and completing new and refurbished hospital services and facilities (and during subsequent routine maintenance).

Evidence of achievement

1. Evidence of local arrangements for involving infection prevention and control teams in the planning, design, commissioning, completion and maintenance of services and facilities used by the trust.
2. Evidence of local procedures to ensure infection prevention and control is considered during the commissioning and handover of facilities.
3. Evidence of local procedures to ensure infection prevention and control is considered during the selection, commissioning and installation of equipment.
4. Evidence of local arrangements (for example, a standard operating procedure) for involving the infection prevention and control team (or other appropriate expertise) in the development of estates policy.
5. Evidence of a planning process that 'designs out' potential infection risks and focuses on effective infection prevention.
6. Evidence of local arrangements to ensure estate management is considered and integrated into routine practice to reduce infection risk.
7. Evidence that estates and clinical staff, including temporary staff and subcontractors, receive annual training in infection prevention and control. This should include an assessment of their relevant competencies.
8. Evidence of mechanisms for consideration of current national estates policy and whether or not it should be incorporated into local practice.

4.2.3 Current UK practice

Environmental cleanliness

The National Audit Office (2009)[5] report noted that the majority of trusts (71%) were carrying out inspections by the Patient Environment Action Team (PEAT), who assess hospitals' cleanliness on a self-assessment basis, on a monthly basis. Standards of cleaning, measured through PEAT inspection scores, have improved

[5] National Audit Office (2009) Reducing healthcare associated infections in hospitals in England

since 2000, but cleaning is nevertheless the area where the Healthcare Commission has found the most breaches of the Hygiene Code to date. In an analysis of 51 unannounced inspections, 27 trusts did not comply with the duty that premises were suitable, clean and well maintained (2007 figures). There was also a 47% increase in expenditure on cleaning within trusts between 2004 and the end of 2007-08.

The 2014 NHS inpatient survey results[6] report that 97% of 58,191 respondents stated that the room or ward they were in was either 'very' (69%) or 'fairly' (28%) clean. 94% of 56, 061 respondents stated that the toilets and bathrooms they used in hospital were either 'very' (62%) or 'fairly' (32%) clean.

The Patient-Led Assessments of the Care Environment (PLACE) programme applies to a range of hospital (site) types, covering a wide range of healthcare services and sizes of hospital. Their assessment of cleanliness covers all items commonly found in healthcare premises, including patient equipment; baths, toilets and showers; furniture; floors and other fixtures and fittings. The results of the 1,356 assessments carried out by the PLACE programme in 2014[7] show that:

- The national average score for cleanliness across all sites is 97.3%, with a lowest score of 34.6% and a highest score of 100%. The interquartile range is 96.8% - 99.7% and the median is 98.9%.
- The national average for cleanliness in 2014 was 1.5% higher than in 2013.
- Acute/specialist sites (no. 439) had an average cleanliness score of 97.3%

Built environment

The 2009 National Audit Office report states that:

- 23% of hospital trusts identified having enough isolation facilities as a key barrier to improvement in reducing healthcare-associated infections.
- Since 2003-04, the percentage of beds that are in single rooms in hospitals has increased from 17% to 19% in 2007-08.
- 85% of trusts had conducted a review of the adequacy of their isolation facilities since 2004 and two thirds of these concluded that they had insufficient facilities.
- There is evidence that isolation facilities were being used more effectively in relation to infection control: 89% of infection control teams felt that bed managers were seeking and following their advice before making decisions around patient isolation, compared to 46% in 2004.
- Infection control teams reported that they are now involved in reviewing plans for alterations and additions to clinical buildings.

[6] Care Quality Commission and NHS (2015) National results from the 2014 Inpatient Survey
[7] Health and Social Care Information Centre (2014) Patient Led Assessments of the Care Environment - PLACE

- The Healthcare Commission, in its inspections against the Code of Practice, found that in its first round of inspections in 2008 only 6 out of 48 trusts breached the Code's requirement on the provision of suitable isolation facilities.

4.3 Multi-agency working

4.3.1 Summary of suggestions

Multi-agency working

Stakeholders highlighted the importance of multi-agency collaboration for managing healthcare-associated infections, including integrated care pathways and joined-up commissioning. Aligning objectives for managing healthcare-associated infections will promote ongoing dialogue and shared understanding.

4.3.2 Selected recommendations from development source

Table 6 below highlights recommendations that have been provisionally selected from the development sources that may support potential statement development. These are presented in full after table 6 to help inform the Committee's discussion.

Table 6 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Multi-agency working	**Multi-agency working to reduce HCAIs** NICE PH36 Quality improvement statement 6 **Communication** NICE PH36 Quality improvement statement 7 (evidence of achievement note 4) **Admission, discharge and transfer** NICE PH36 Quality improvement statement 8

<u>NICE PH36 Quality improvement statement 6 – Multi-agency working to reduce HCAIs</u>

Trusts work proactively in multi-agency collaborations with other local health and social care providers to reduce risk from infection.

Evidence of achievement

1. Evidence that a board member has been nominated as the trust's lead and representative for a multi-agency collaboration to prevent and manage HCAIs.
2. Evidence of support for, and participation in, joint working initiatives beyond mandatory or contractual requirements, to reduce HCAIs locally.
3. Evidence of an agreed policy for data sharing on HCAIs between local organisations.
4. Evidence of timely sharing of information risk assessments and strategic efforts to minimise harm from infection with other agencies.

5. Evidence of a defined, shared and agreed governance structure with other local health and social care providers that includes clear lines of accountability.
6. Evidence of support for, and participation in, the development and implementation of a joint local strategy, policy and pathway on HCAIs between local health and social care providers.
7. Evidence of participation in the development of shared targets and joint working with other local health and social care providers to improve outcomes locally relating to HCAIs.
8. Evidence that the trust works collaboratively with the local health protection unit and other health partners to investigate and manage HCAI outbreaks and incidents. Evidence is particularly needed of collaboration to deal with incidents which may impact on the health of the wider community.

NICE PH36 Quality improvement statement 7 – Communication

Trusts ensure there is clear communication with all staff, patients and carers throughout the care pathway about HCAIs, infection risks and how to prevent HCAIs, to reduce harm from infection.

Evidence of achievement

4. Evidence that arrangements are in place to ensure providers in different settings can identify and communicate infection risks as the patient moves between services.

NICE PH36 Quality improvement statement 8 – Admission, discharge and transfer

Trusts have a multi-agency patient admission, discharge and transfer policy which gives clear, relevant guidance to local health and social care providers on the critical steps to take to minimise harm from infection.

Evidence of achievement

1. Evidence of an admission, discharge and transfer policy for patients with an infection that has been agreed by all agencies involved in the patient's care pathway, including local community and public health teams.
2. Evidence that the agreed policy includes a risk assessment on admission, and for all transfers, to determine the presence or risk of acquiring or transmitting infection.
3. Evidence of a procedure for documenting and sharing information about infections and their treatment. This includes evidence of information sharing to manage and support patients with an infection on an ongoing basis (including transfer and isolation arrangements for them) during admission, transfer and discharge.
4. Evidence of clear advice being given to patients on antimicrobial prescribing for their ongoing care.
5. Evidence of clear advice being given to patients on the management of medical devices for their ongoing care.

4.3.3 Current UK practice

The National Audit Office (2009) report[8] noted that there remains a lack of clarity on the roles and responsibilities of local and national organisations in relation to healthcare-associated infections and a need for a whole system approach to achieve further reductions. A health economy wide approach is needed to deliver further improvements, particularly for infections such as C. difficile and other bloodstream infections. It also requires a better understanding of the movement of patients within, and between hospitals, care homes and the community.

[8] National Audit Office (2009) Reducing healthcare associated infections in hospitals in England

4.4 Additional areas

Summary of suggestions

The improvement areas below were suggested as part of the stakeholder engagement exercise. However they were felt to be either unsuitable for development as quality statements, outside the remit of this particular quality standard referral or require further discussion by the Committee to establish potential for statement development.

There will be an opportunity for the QSAC to discuss these areas at the end of the session on 25 June.

Diagnosis

Improving the accuracy of diagnosis and access to diagnostic facilities to identify healthcare-associated infections in patients and initiate appropriate treatment was suggested to reduce infection transmission and improve patient outcomes. The guidelines being used as development sources do not cover diagnosis of healthcare-associated infections. This area would only be considered for statement development if it is an organisational issue rather than a clinical issue due to the scope of this quality standard.

Risk assessment tool

A stakeholder suggested provision of a risk assessment tool for infection prevention and control teams to use to prioritise resources. There are no recommendations on this in the guidelines being used as development sources.

Treating patients in an outpatient setting

A stakeholder suggested that treating patients in an outpatient setting would support prevention of healthcare-associated infections. There are no recommendations on this in the guidelines being used as development sources. This area would only be considered for statement development if it is an organisational issue rather than a clinical issue due to the scope of this quality standard.

Hand hygiene

Stakeholders highlighted the effectiveness of good hand hygiene in preventing the transfer of pathogens and the spread of healthcare-associated infections, and that compliance is poor. Statement 3 in NICE quality standard 61 on Infection prevention and control covers hand decontamination. The quality standard currently being developed covers organisational factors in preventing and managing healthcare-associated infections in secondary care settings, rather than specific aspects of clinical practice.

Device management

Stakeholders felt that better management of devices, such as urinary catheters and vascular access devices, will reduce the risk of infection. Statement 4 in NICE quality standard 61 on Infection prevention and control covers urinary catheters and statement 5 covers vascular access devices. The quality standard currently being developed covers organisational factors in preventing and managing healthcare-associated infections in secondary care settings, rather than specific aspects of clinical practice.

Personal protective equipment

A stakeholder suggested that guidance and standards on the use of personal protective equipment in the pre-hospital environment is a key area for quality improvement. The quality standard currently being developed covers organisational factors in preventing and managing healthcare-associated infections in secondary care settings, rather than specific aspects of clinical practice and settings outside secondary care.

Infection prevention and control in other settings

Stakeholders suggested that consideration be given to risk factors for infection and guidance for settings outside the hospital setting, such as in the community, ambulance services and domiciliary care. The scope for the quality standard currently being developed covers organisational factors in preventing and managing healthcare-associated infections in secondary care settings.

Dermatological suggestions

A stakeholder suggested that there should be recommendations around hand gels and soaps for staff and patients with skin disease, the role of wound dressings and facilities for skin surgery. Quality standards are underpinned by recommendations but do not review or re-appraise the underlying primary evidence base or make recommendations.

Staff training

Stakeholders highlighted that improving staff training, knowledge and competency in prevention of healthcare-associated infections and techniques to use, such as asepsis, will reduce healthcare-associated infections. Quality standards generally do not contain statements on training and competency.

Antimicrobial stewardship

Stakeholders stated that antimicrobial resistance is a threat and needs to be addressed through appropriate prescribing of antibiotics. There is a separate referral for a NICE quality standard on effective antimicrobial stewardship that has begun development.

Appendix 1: Suggestions from stakeholder engagement exercise

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
Section 4.1: Organisational culture					
Leadership and governance					
001	Public Health England	**Key area for quality improvement 1** Strengthen leadership and governance around IPC across and within healthcare settings	There is a growing body of evidence that since 2013 there is significant variation and lack of consistency in approach and management of IPC. (Royal College of Nursing /Infection Prevention Society 2014). This variation was reflected in the discussions at a recent cross-sector mapping event which PHE recently held to inform the development of a national framework for IPC which PHE is leading on. An effective infection control programme in an acute-care hospital must include nursing staff , a dedicated physician trained in infection prevention and control, microbiological support, and data management support. http://www.thelancet.com/pdfs/journals/laninf/PIIS1473-	It is recognised nationally and internationally that strong leadership and accountability is needed to support effective IPC programmes.	House of Commons Science and Technology Committee (2014) stated 'we are concerned that Infection Prevention and Control (IPC) does not appear to be delivered in a coherent fashion within the National Health Service'. http://www.publications.parliament.uk/pa/cm201415/cmselect/cmsctech/509/50902.htm UK 5 year antimicrobial strategy implementation plan (2014) UK 5 year antimicrobial strategy (2013) WHO – core components of infection prevention & control programmes (2008)

			3099(14)70854-0.pdf		
002	SCM 1	Health and social care providers have a published strategy on the prevention of HCAIs	Should include accountable leadership, setting of KPIs, evidence of continuous quality improvement and clear strategies for multi-agency collaboration, particularly across the local health and social care setting. Also a commitment to providing staffing of the correct level, mix and expertise.		PH36
Surveillance					
003	Astellas Pharma Ltd.	Trusts to include recurrence rates as one of their performance measures	Currently, recurrent patients within 28 days of being treated with antibiotics are considered to be within the same episode and therefore these additional recurrences not collected under mandatory reporting.	Recurrent patients are not necessarily seen within the mandatory data set provided by Public Health England. There is however a health cost to the patient and an economic cost to the local health economy that is not currently clearly defined. A recurrent patient may increase the level of overall antibiotic prescribing and impact on the DDD within a region. Patients with recurrences are exposed to multiple courses of antibiotics.	Public Health England. English surveillance programme for antimicrobial utilisation and resistance (ESPAUR). Report 2014.

004	Astellas Pharma Ltd.	Mortality rates as a result of HCAI to be included as one of the Trusts performance measures	Complications of infection (surgery, recurrences, prolonged diarrhoea etc.) are well established and could contribute to mortality. CDI is associated with high mortality rates when CDI contributed to nearly 1,646 deaths in England and Wales (ONS, 2013). More people die each year as a result of CDI than MRSA (ONS, 2013). Although there has been a reduced number of infections when compared to the outbreak of 2007/2008, CDI infection still results in significant morbidity and mortality 9-38%	Reduction in recurrence rates vs. standard of care is achievable as demonstrated by real world evidence (LSE) which can be associated with significant reduction in all cause mortality rates.	Howard P et al, 2014. Real world evaluation of the introduction of fidaxomicin on the management of Clostridium difficile infection (CDI) in NHS secondary care Trusts in England. FIS 2014 Abstract – Lessons in Microbiology and Infection Control Real World evaluation of the introduction of fidaxomicin on the management of Clostridium difficile infection (CDI) in NHS secondary care Trusts in England. Presented at Federation of Infectious Societies (FIS) Conference, Harrogate November 2014. Astellas data on file. Office for National Statistics, 2013. Deaths involving Clostridium difficile, England and Wales, 2012. McGowan AP, et al 2011. Thirty-day mortality of Clostridium difficile infection in a UK National Health Service Foundation Trust between 2002 and 2008.

					Journal of Hospital Infection, 77;1: 11–15. Mitchell B.G. and Gardner A, 2012. Mortality and Clostridium difficile infection: a review. Antimicrobial Resistance and Infection Control. 1(1): 20. Office for National Statistics, 2013. Deaths involving MRSA: England and Wales, 2008 to 2012.
005	Healthcare Infection Society	Key area for quality improvement 3 Alert organism and surgical site infection surveillance	Early detection of preventable problems, benchmarking.	Mandatory reporting of MRSA bacteraemia, C difficile and orthopaedic surgical site infection rates show substantial recent improvements. However, other pathogens (e.g. resistant Gram negatives) and procedures (e.g. laparotomy) are less well measured.	EPIC 3, PHE mandatory reporting schemes https://www.gov.uk/government/collections/clostridium-difficile-guidance-data-and-analysis https://www.gov.uk/surgical-site-infection-surveillance-service-ssiss

006	MSD UK	National and local alignment of metrics/registries	It is important to understand current and future infections rates / species at both a local and national level. To be able to effectively manage and prevent HCAIs, it is important for each trust to understand what infections are considered problematic to them. Data from Public Health England (PHE) shows that resistant strains of community acquired infections and local isolates are on the rise.	In the interest of patient centred care, effective treatment, and the prevention of HAIs, individual trusts should be aware of their infection rates and problematic (resistant isolates) infections. The 5th annual report from the antimicrobial resistance and healthcare associated infection (ARHAI) committee expressed concern for infections caused by gram negative bacteria, namely E. coli, considered to be a common bug in the gut, which is becoming increasing resistant to treatment[1]. There seems to be a lack of accountability and no consistent incentive to drive down infections rates as a whole, unless providers are penalised or rewarded. i.e. MRSA and C-Diff infections[2]. The latest PHE report 2014 shows that between 2010 and 2013 the prescribing of antibiotics increased by 12% in the inpatient hospital setting[3]. The authors concluded that although there are significant efforts to understand antibiotic resistance there is much work that needs to be done[3]. Furthermore, the results of the “Start smart – then focus” study by Ashiru-Oredope et al. 20124 demonstrated a high-level of indiscriminative and varied use of anti-microbial agents in both the primary- and secondary-care settings. The authors concluded that the use of local	1. ARHAI 5th Annual Report, April 2013 - March 2014, accessed 12/05/2015 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/405295/ARHAI_annual_report.pdf 2. CCG Outcomes Indicator Set 2014/15 Technical guidance http://www.england.nhs.uk/wp-content/uploads/2013/12/ccg-ois-1415-tech-guid.pdf 3. PHE, English surveillance programme for antimicrobial utilisation and resistance (ESPAUR), Report 2014; Accessed 12/05/2015 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/362374/ESPAUR_Report_2014__3_.pdf 4. Diane Ashiru-Oredope, Mike Sharland, Esmita Charani; Improving the quality of antibiotic prescribing in the NHS by

				audit and outcome tools designed to highlight prescribing consumption and optimal antibiotic use should be used in line with national guidelines. Metrics must be fit for purpose and allow acute-care trusts to understand their own infection rates and infective organisms. This should also allow for effective management and understanding for areas of improvement; this could potentially be an incentivised programme. The ARHAI recommended that software/ prescribing systems should be used to capture these data[1].	developing a new Antimicrobial Stewardship Programme: Start Smart—Then Focus; J Antimicrob Chemother 2012; 67 Suppl 1: i51–i63 doi:10.1093/jac/dks202 http://jac.oxfordjournals.org/content/67/suppl_1/i51.long
007	Public Health England	**Key area for quality improvement 5 Effective use of information**	Surveillance (measuring, monitoring and feeding back data on the number of infections) is very important in preventing healthcare-associated infections and resistance to antibiotics Communication between providers of health and social care is essential when patients are moved between organisations to ensure continuity of care.	Infection surveillance data to be fed back to clinicians in a timely relevant manner so they can identify where improvements can be made and lessons learnt. Feedback of surveillance data should be an integral part of clinical governance processes. NHS England has recognised that communication at handover is identified as a particular area of risk and that patients are sometimes discharged without adequate and timely communication of essential information at point of handover to all relevant staff and teams in primary and social care, including out of hours, and that information is not always acted on in a	UK 5 year antimicrobial strategy implementation plan (2014) UK 5 year antimicrobial strategy (2013) WHO – core components of infection prevention & control programmes (2008) NICE guidelines [CG138] (February 2012) Patient experience in adult NHS services: improving the experience of care for people using adult NHS

				timely manner.	services. http://www.nice.org.uk/guidance/cg138/chapter/guidance NHS England Patient Safety Alert (August 2014) Risks arising from breakdown and failure to act on communication during handover at the time of discharge from secondary care. http://www.england.nhs.uk/wp-content/uploads/2014/08/psa-imp-saf-of-discharge.pdf Patient Safety First Discharge and handover - Improving communication during handover at the time of discharge http://www.patientsafetyfirst.nhs.uk/Content.aspx?path=/interventions/discharge-handover/

008	Royal College of Pathologists	Key area for quality improvement 3 Alert organism and surgical site infection surveillance	Early detection of preventable problems, benchmarking.	Mandatory reporting of MRSA bacteraemia, C difficile and orthopaedic surgical site infection rates show substantial recent improvements. However, other pathogens (e.g. resistant Gram negatives) and procedures (e.g. laparotomy) are less well measured.	EPIC 3, PHE mandatory reporting schemes https://www.gov.uk/government/collections/clostridium-difficile-guidance-data-and-analysis https://www.gov.uk/surgical-site-infection-surveillance-service-ssiss
009	SCM 1	Health and social care providers have appropriate surveillance systems in place to gather, analyse and feedback infection data	Should be used to inform interventional strategies and for setting of local KPIs		PH36, QS49
New technology and innovation					
010	Astellas Pharma Ltd.	Real world evidence of the introduction of alternative agents on the management of CDI in NHS England.	· There is a need for compelling real world evidence to support the access to, and continued funding of, new products for patients. There is a real need to understand the impact of new products within NHS acute Trusts on: Local rates of CDI recurrence Local resource use associated with CDI management Local treatment of CDI Costs of managing CDI recurrence	Local area studies will help gather invaluable evidence on efficacy and the level of uptake of new antibiotics. It will also provide an enhanced clinical picture of the disease area as a whole and prevents not having to rely solely on registration studies.	Howard P et al, 2014. Real world evaluation of the introduction of fidaxomicin on the management of Clostridium difficile infection (CDI) in NHS secondary care Trusts in England. FIS 2014 Abstract – Lessons in Microbiology and Infection Control Real World evaluation of the introduction of fidaxomicin on the management of Clostridium difficile infection (CDI) in NHS secondary care Trusts

					in England. Presented at Federation of Infectious Societies (FIS) Conference, Harrogate November 2014. Astellas data on file.
011	Healthcare Infection Society	Additional developmental areas of emergent practice	Additional areas include use of vascular access teams, enhanced cleaning methods (e.g. hydrogen peroxide vapour), use of antimicrobial impregnated devices	There are many other areas for improvement, but the above are the areas that need priority, and others are included elsewhere (e.g. antimicrobial stewardship, prevention of surgical site infection).	
012	Royal College of Pathologists	Additional developmental areas of emergent practice	Additional areas include use of vascular access teams, enhanced cleaning methods (e.g. hydrogen peroxide vapour), use of antimicrobial impregnated devices	There are many other areas for improvement, but the above are the areas that need priority, and others are included elsewhere (e.g. antimicrobial stewardship, prevention of surgical site infection).	
Section 4.2: Clinical environment					
Environmental cleanliness					
013	Healthcare Infection Society	Key area for quality improvement 1 Environmental cleanliness	A contaminated environment allows pathogens to persist and infect patients treated within that environment	Many trusts find adequate staffing and provision of environmental cleanliness to be a challenge	National specifications for cleaning in the NHS
014	Public Health England	Key area for quality improvement 3 Environmental considerations (The environment means the totality of a patient's surroundings – hand hygiene facilities, patient placement and	Every NHS patient should be cared for with compassion and dignity in a clean, safe environment. (NHS England) The Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 states (1) All premises and equipment	All aspects of the patient environment must be consistently maintained to ensure care can be delivered in a clean and safe environment.	National Patient Safety Agency (2009) The revised healthcare cleaning manual. London: NPSA. http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=61814 National Patient Safety

		isolation facilities. This also includes the fabric and cleanliness of the building, patient equipment, related fixtures and fittings, and services such as air and water supplies).	used by the service provider must be clean, (2) The registered person must, in relation to such premises and equipment, maintain standards of hygiene appropriate for the purposes for which they are being used. http://www.legislation.gov.uk/uksi/2014/9780111117613/regulation/12 The NHS has committed to ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice (NHS Constitution pledge);		Agency (2007) The national specifications for cleanliness in the NHS: a framework for setting and measuring performance outcomes. London: NPSA. http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=60127&servicetype=Attachment&type=full. National Patient Safety Agency (2007) Safer practice notice 15: Colour coding hospital cleaning materials and equipment. http://www.nrls.npsa.nhs.uk/resources/?EntryId45=59810
015	Royal College of Pathologists	Key area for quality improvement 1 Environmental cleanliness	A contaminated environment allows pathogens to persist and infect patients treated within that environment	Many trusts find adequate staffing and provision of environmental cleanliness to be a challenge	National specifications for cleaning in the NHS
016	SCM 1	Health and social care providers ensure that all clinical areas are of a high standard of cleanliness and are designed and maintained in line with national estates guidance			PH36

017	SCM 2	Key area for quality improvement 3: Environment	A contaminated environment can be a source of some healthcare associated infections if pathogens are transferred from the source to the patient. .	A proportion of healthcare associated infections are due to direct or indirect contact with the environment. This may be via the hands of a healthcare worker or the patient's own hands having been in prior contact with the contaminated environment.	Environmental contamination makes an important contribution to hospital infection – John M Boyce - Journal of Hospital Infection (2007) 65(S2) 50–54 The role of environmental cleaning in the control of hospital-acquired infection S.J. Dancer - Journal of Hospital Infection (2009) 73, 378e385 Role of hospital surfaces in the transmission of emerging health care associated pathogens: Norovirus, Clostridium difficile, and Acinetobacter species David J. Weber - (Am J Infect Control 2010;38:S25-33.)

018	St John Ambulance	Key area for quality improvement 1: Hospital environmental hygiene (epic3 guidelines 2014 SP 1 - 5)	There is strong evidence that this is a key factor in the prevention of infectious disease; environments where healthcare is being provided today include patients' homes, ambulances and mobile treatment units.	This is a key area because the provision of care is taking place in a wider variety of settings than ever before; patients are discharged home with invasive devices and their carers and families are being instructed on their care. Voluntary aid societies, such as St John Ambulance, are providing more care services to patients both in the first aid environment and the ambulance service provision fields; cleanliness of these environments is important and the WHO "Clean care is safer care" programme endorses this.	*There a number of studies suggesting that environmental hygiene is important e.g.* ***Spread and prevention of some common viral infections in community facilities and domestic homes*** *J. Barker, D. Stevens and S.F. Bloomfield; Journal of Applied Microbiology, Volume 91, Issue 1, pages 7–21, July 2001*

Built environment					
019	Public Health England	**Key area for quality improvement 3** Environmental considerations (The environment means the totality of a patient's surroundings – hand hygiene facilities, patient placement and isolation facilities. This also includes the fabric and cleanliness of the building, patient equipment, related fixtures and fittings, and services such as air and water supplies).	Every NHS patient should be cared for with compassion and dignity in a clean, safe environment. (NHS England) The Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 states (1) All premises and equipment used by the service provider must be clean, (2) The registered person must, in relation to such premises and equipment, maintain standards of hygiene appropriate for the purposes for which they are being used. http://www.legislation.gov.uk/uksi/2014/9780111117613/regulation/12 The NHS has committed to ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice (NHS Constitution pledge);	All aspects of the patient environment must be consistently maintained to ensure care can be delivered in a clean and safe environment.	National Patient Safety Agency (2009) The revised healthcare cleaning manual. London: NPSA. http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=61814 National Patient Safety Agency (2007) The national specifications for cleanliness in the NHS: a framework for setting and measuring performance outcomes. London: NPSA. http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=60127&servicetype=Attachment&type=full. National Patient Safety Agency (2007) Safer practice notice 15: Colour coding hospital cleaning materials and equipment. http://www.nrls.npsa.nhs.uk/resources/?EntryId45=59810

020	SCM 2	Key area for quality improvement 5 Water management in a clinical setting	The use of tap water while delivering care may lead to patient colonisation and subsequent infection with certain pathogens	Over the last few years a number of outbreaks associated with waterborne pathogens have been reported in the literature. National guidance has been introduced to reduce the risk of such infections. Improving the implementation of such guidance will reduce the risk to vulnerable patients.	http://www.ncbi.nlm.nih.gov/pubmed/23806897 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/140105/Health_Technical_Memorandum_04-01_Addendum.pdf
021	SCM 3	Recognition of and a heightened emphasis on the key role of the built environment (the 'health estate') in the prevention and control of HCAI in secondary care setting within the NHS As part of that quality improvement initiative NICE may wish to consider a closer interface between NICE guidance development in this particular topic area and related evidence based guidance currently being developed or under review by other agencies, for example the Heath Building Notes and Technical	The microbiological environment which forms an integral part of the larger health environment in secondary care settings is subject to constant and rapid change, with resistant hostile strains emerging and mutating with ever increasing rapidity and on an ever increasing scale The buildings that provide the settings for the delivery of healthcare services at the secondary level, and the distributional and environmental services that support that delivery, must of necessity include an extensive cross-site network of connected spaces and distribution channels within which harmful bacteria will, given the opportunity, flow and multiply Clinical process is not in itself sufficient to counter that process	Failure to provide, maintain and where necessary adapt to changing demands requires a physical healthcare delivery infrastructure setting at the secondary level of care which has inbuilt provision for the prevention and/or containment of the impact on patients, visitors and staff of these harmful bacteria. Such impact includes hospital and departmental closures, delays in admissions and discharges, cancellation of procedures, infection unrelated to cause for admission and, in the most extreme cases, death.	Sources of relevant information and guidance on the role of the built environment in the prevention and control of HCAI in secondary care settings include the Health Building Notes and Technical Memoranda published by the Department of Health, and in particular Health Building Note 00.09 - 'Infection control in the built environment' (see below)

		Memoranda developed by the Department of Health	or to provide protection of patient, visitors and staff from infections generated within or imported into these physical components of the care environment and/or distributed through those routes. The conscious, evidence based commissioning and maintenance of physical environments that prevent that from occurring must therefore be seen and treated as an equal partner, alongside clinical practice, in the development and implementation of strategies for the prevention and control of HCAI in secondary care settings		

022	SCM 3	In order for the built environment (health estate) to fulfil its role as equal partner in relation to the prevention and control of HCAI in secondary care settings it is necessary to ensure that provision for the prevention and control of HCAI is designed-into each of its component parts at their initiation and maintained over their operational life span	NICE public health guidance 36 – Prevention and control of healthcare-associated infections, quality improvement statement 10 states: 'Trusts consider infection control when procuring, commissioning, planning, designing and completing new and refurbished hospital services and facilities (and during subsequent routine maintenance) Statement 10 calls in addition for boards to 'ensure that the whole estate is managed and maintained to minimise risk of infection'	Quality improvement statement 10 states as a principal objective that: 'People visiting or receiving treatment in hospitals and other parts of the trust estate can be assured that it is built and maintained in such a way as to minimise risk of infection'	Health Building Note 00.09 - 'Infection control in the built environment' states: 'This guidance, aimed at all providers of NHS care, discusses the various stages of a capital build project from initial concept to post-project evaluation. It highlights the major infection prevention & control (IPC) issues and risks to address at each particular stage to achieve 'designed in' IPC'

Section 4.3: Multi-agency working					
023	Astellas Pharma Ltd.	Optimising the management of CDI by widespread adoption of integrated care pathway (ICP)	Optimising the management of CDI makes it more likely that patients will recover faster and that their infection will be less likely to recur. When used effectively, an appropriately developed ICP: Supports multidisciplinary care Encourages simple record-keeping Allows locally determined standards to be set Facilitates clinical audit Enables variance from the normal pattern of care to be highlighted Enhances communication between clinical staff, and with patients Provides a structured plan for patient care Describes the expected progress for a “typical” patient Outlines the normal timescale of events Presents the procedures to be followed, in the right order Is backed up by evidence Incorporates guidelines based on best practice	This is key for both patients and healthcare organisations, where patients with CDI can cost thousands of pounds to manage through admission costs, prolonged length of stay, and cost of ICU. Care homes may incur additional expense if extra staff time is required to look after residents, notably as these need to be cared for in isolation to prevent spread to other residents. Better management may help reduce the cost of care. Further benefits reported from ICPs also include: Improved patient outcomes (e.g. QoL, complications) Increased patient satisfaction with service Improved communication between staff Increased patient/carer involvement Reduction in time spent on paperwork	Jenkins D.R and Wilcox M.H, 2015. Clostridium difficile infection (CDI) Integrated Care Pathway Evidence Base and User Guide. Academic in confidence. Written but not yet published. Estimated to be published by December 2015 NHS England Clostridium difficile infection objectives for NHS organisations in 2015/16 and guidance on sanction implementation

024	MSD UK	Effective holistic commissioning	A joined-up approach to commissioning across primary and secondary care is key to delivering quality and consistent care management across the patient pathway.	The objectives of primary and secondary care with regard to managing healthcare associated infections are not sufficiently aligned to promote the ongoing dialogue and shared understanding necessary to deliver quality. In the recent draft AMR stewardship guideline the GDG recommended "the need for the consistent provision of these healthcare teams across all healthcare settings for the appropriate implementation of antimicrobial stewardship interventions"[1].	1. NICE draft guideline on antimicrobial stewardship (full version), p. 67; Accessed 12/05/2015 https://www.nice.org.uk/guidance/gid-antimicrobialstewardship/documents/antimicrobial-stewardship-guideline-consultation3 The value of a joined up approach to commissioning is well acknowledged by NHS England, and is being spearheaded currently by the integrated primary and acute care vanguard sites: https://www.england.nhs.uk/ourwork/futurenhs/5yfv-ch3/new-care-models/primary-acute-sites/
025	SCM 1	Health and social care providers have a published strategy on the prevention of HCAIs	Should include accountable leadership, setting of KPIs, evidence of continuous quality improvement and clear strategies for multi-agency collaboration, particularly across the local health and social care setting. Also a commitment to providing staffing of the correct level, mix and expertise.		PH36

Section 4.4: Additional areas					
Diagnosis					
026	British Kidney Patient Association	Infections amongst patients who have received a kidney transplant.	In 2013, infections, at 26%, remained the commonest cause of death for patients with a functioning renal transplant.	Those with kidney transplants have compromised immune systems related both to disease and to immunosuppressive therapy. Their impaired inflammatory response may delay evaluation and diagnosis. Accurate diagnosis is essential to provide appropriate antimicrobial treatments. Some centres use prophylaxis for opportunistic infections. Clinical practice varies by region and unit and transplant follow ups are sometimes at non-transplanting centres; this is a complex and a prime target for quality improvement.	Please see the latest UK Renal Registry report here https://www.renalreg.org/wp-content/uploads/2014/12/03-Chap-03.pdf and the Renal Association guidelines here http://www.renal.org/docs/default-source/guidelines-resources/Post-operative_care_of_the_kidney_transplant_recipient_-_Final_Version-_05_February_2011.pdf?sfvrsn=0
027	MSD UK	Earlier and rapid diagnosis	To provide clinically appropriate treatment options for patients with HAIs it is important, where possible, to offer rapid access to diagnostic facilities. This can inform the most clinically appropriate treatment option for an individual patient, and reduce the potential for infection transmission; both of these objectives align with good antimicrobial stewardship.	The ability to effectively diagnose and commence a tailored treatment regime promptly can support the best clinical outcome for the individual patient, and avoid overuse of broad spectrum antibiotics[1, 2]. Community acquired infection rates are on the rise, and sub-optimal management is having a significant burden on the secondary care setting.	1. Antibiotics National Charts, NHS Business services authority (BSA), July 2014; Accessed 12/05/2015 http://www.nhsbsa.nhs.uk/PrescriptionServices/Documents/PPDPrescribingAnalysisCharts/Antibiotics_July_2014_National.pdf 2. O'Neill AMR Review, Research Paper 2: Tackling a global health crisis: initial steps (2015), pp.13-14; Accessed 12/05/2015 http://amr-

					review.org/sites/default/files/Report-52.15.pdf
Risk assessment tool					
028	Public Health England	**Key area for quality improvement 4** **Risk assessment – provide a risk assessment tool for IPC teams to aid decision making and planning priorities.**	IPC teams in Trusts have to undertake risk assessments to prioritise resources such which patients have the greatest need for isolation in a single room. The assessment will need to take account of patient acuity, risk factors and If such a tool is developed it will be important that there is local flexibility on how the tool is used and that how it is used is not subject to any kind of performance management.	A risk assessment tool would enable a standardised approach to planning the optimal use of limited resources.	Health Protection Scotland Toolkits which have been produced for Infection Prevention and Control Teams (IPCTs) to assist with outbreak preparedness and management in healthcare settings. http://www.hps.scot.nhs.uk/haiic/ic/toolkits.aspx

Treating patients in an outpatient setting					
029	MSD UK	Treating more patients appropriately in an outpatient (OPAT) setting.	It supports prevention, as patients who are less exposed to hospital have a reduced chance of acquiring an infection.	Clinical conservatism and sub-optimal referral pathways can lead to 'otherwise fit' patients remaining in hospital just to receive IV antibiotics, when they could be receiving these in an OPAT setting, or an alternative outpatient setting.	Driving OPAT is in line with the current UK Government antimicrobial stewardship guidelines – 'Start Smart, Then Focus'. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/417032/Start_Smart_Then_Focus_FINAL.PDF
Hand hygiene					
030	Healthcare Infection Society	Key area for quality improvement 2: Hand hygiene	Helps to prevent transfer of pathogens from one patient to another, and also protects the healthcare worker.	Hand hygiene audits demonstrate that adequate hand hygiene is not universally applied.	WHO 5 moments www.who.int/gpsc/tools/Five_moments/en/
031	Royal College of Pathologists	Key area for quality improvement 2: Hand hygiene	Helps to prevent transfer of pathogens from one patient to another, and also protects the healthcare worker.	Hand hygiene audits demonstrate that adequate hand hygiene is not universally applied.	WHO 5 moments www.who.int/gpsc/tools/Five_moments/en/

032	SCM 2	Key area for quality improvement 1 Hand hygiene Patient contact and procedures	Hand hygiene is the single most effective intervention to prevent healthcare associated infections. Organisms can be transferred from patient to patient or patient to environment and subsequently to another patient. Any care delivered to the patient such as adjusting a vascular line, manipulating a tracheostomy or other activities which are associated with direct contact with patients should be conducted in an aseptic way (e.g. clean gloves and apron)	This strategy has been effective for the control of a number of healthcare associated infections (MRSA, Clostridium difficile, norovirus etc.), however, healthcare is now facing an even bigger threat in the form of multi-resistant Gram-negative organisms, better compliance of general hand hygiene (improved, consistent and sustainable) as well as improvements/best practice in bedside procedures/activities would reduce the occurrences/opportunities for the deposition of pathogens and then subsequent colonisation (infections from endogenous pathogens will not be affected).	WHO - Evidence of hand hygiene to reduce transmission and infections by multidrug resistant organisms in health-care settings http://www.who.int/gpsc/5may/MDRO_literature-review.pdf https://www.evidence.nhs.uk/Search?q=hand+hygiene

033	St John Ambulance	Key area for quality improvement 2: Hand hygiene (epic3 guidelines 2014 SP 6 - 17)	Despite numerous campaigns and an increase in patient & staff awareness of the importance of good hand hygiene we continue to see poor standards of compliance in healthcare environments. It is a difficult area to audit effectively as when watched most people achieve 100% compliance! SP15, 16 and 17 present some unique challenges in the pre-hospital environment. The infrastructure required to ensure each of these will require innovative forms of management and surveillance. Once again the standards reflect the acute or care environment. Clearly, there are no standards to provide a bench mark for the implementation of these within the transient environment.	Although some people are not so supportive of the importance of hand hygiene, the majority of IPC practitioners still identify this as one of the most important strategies to improve infection prevention and control in all healthcare and domiciliary environments if not the most important and we believe that we should continue to drive improvement in compliance in this.	· Mathur, P. (2011). Hand hygiene: Back to the basics of infection control. The Indian Journal of Medical Research, 134(5), 611–620. doi:10.4103/0971-5916.90985 WHO leaflet, Hand Hygiene: Why, How & When?, http://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf Fuller C, Michie S, Savage J, McAteer J, Besser S, Charlett A, et al. (2012) The Feedback Intervention Trial (FIT) — Improving Hand-Hygiene Compliance in UK Healthcare Workers: A Stepped Wedge Cluster Randomised Controlled Trial. PLoS ONE 7(10): e41617. doi:10.1371/journal.pone.0041617, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0041617#pone-0041617-g004

Device management					
034	British Kidney Patient Association	Infections amongst patients receiving dialysis for established renal failure	Infections remain the second leading cause of death in patients with established renal failure who received dialysis.	The high rates of systemic infection reported in haemodialysis (HD) patients are related to their impaired immune system, the high number of invasive procedures they are exposed to and the type of vascular access used. While there has been some improvement over the years in MRSA, MSSA in particular continues to rise, there is variation between centres and continued attention to vascular access and environment remains critical.	Please see the latest UK Renal Registry/Public Health England report from 2014 https://www.renalreg.org/wp-content/uploads/2014/12/12-Chap-12.pdf
035	Healthcare Infection Society	Key area for quality improvement 5: Management of invasive devices	Risk of infection relating to intravenous access devices, urinary catheters, and other invasive devices is reduced with good attention to care, including good documentation.	Invasive devices remain a source of preventable nosocomial infection, including MSSA bacteraemia and coliform sepsis.	EPIC 3 http://www.his.org.uk/files/3113/8693/4808/epic3_National_Evidence-Based_Guidelines_for_Preventing_HCAI_in_NHSE.pdf
036	Royal College of Pathologists	Key area for quality improvement 5: Management of invasive devices	Risk of infection relating to intravenous access devices, urinary catheters, and other invasive devices is reduced with good attention to care, including good documentation.	Invasive devices remain a source of preventable nosocomial infection, including MSSA bacteraemia and coliform sepsis.	EPIC 3 http://www.his.org.uk/files/3113/8693/4808/epic3_National_Evidence-Based_Guidelines_for_Preventing_HCAI_in_NHSE.pdf

037	SCM 2	Key area for quality improvement 2 Device management	A significant proportion of healthcare acquired infections are associated with devices (vascular access catheters, urinary catheters, tracheostomies, gastrostomies. It is important that these devices are inserted aseptically and once inserted they are managed in a way that reduces the risk of infection.	Medical management of patients and administration of therapeutic agents relies on the use of monitoring devises and delivery systems. Bacterial colonisation may occur at the entry point of these devices, there is a potential route for pathogenic organism to enter the patient's body and cause local or invasive infections. Improvements in the management of these devices will reduce the risk of infection. Reducing the number of days the device is in situ will also reduce the potential for infection.	http://www.safecarecampaign.org/assets/cdc---biofilms-and-device-associated-infections.pdf http://www.shea-online.org/Topics/DeviceRelatedInfections.aspx http://www.iqg.com.br/pbsp/img_up/01318871858.pdf http://qualitysafety.bmj.com/content/early/2015/04/10/bmjqs-2014-003870.short?g=w_qs_ahead_tab
038	St John Ambulance	Key area for quality improvement 4: Asepsis (epic3 guidelines 2014 SP40 – 41 and IVAD 1- 5, 11, 14, 15, 16, 17 and 19)	Clearly these are very important sets of guidance but once again, standards must reflect the use of asepsis within the ambulance and events environment. A pragmatic approach has been taken so far by most NHS ambulance trusts and other pre-hospital care providers in this matter as it mainly concerns the insertion of IV cannulas for fluid replacement; on rare occasions IO insertions and other invasive procedures may be undertaken in the field.	There is a need for a standard national approach to emergency insertions of IV cannulas and other procedures that would ensure that those inserted using aseptic techniques are not immediately removed and replaced in A&E receiving units as is often the case currently because the status of the insertion is unclear.	See DoH, Ambulance guidelines: Reducing infection through effective practice in the pre-hospital environment, http://webarchive.nationalarchives.gov.uk/20120118164404/http://hcai.dh.gov.uk/files/2011/03/Document_Ambulance-_Guidelines_Reducing_Infection_in_Prehospital_FINAL_271%E2%80%A6.pdf

Personal protective equipment					
039	St John Ambulance	Key area for quality improvement 3: Use of personal protective equipment ((epic3 guidelines 2014 SP 18 – 32)	SP32: Clearly, this is an important statement. The challenge is how this may be introduced and monitored within the pre-hospital sector. NHS ambulance trust HART teams are probably the closest to meeting these requirements. Respiratory and facial protection: guidance and standards need to be made specific for the use of these forms of protection within the pre-hospital environment. This would include standards for the post exposure surveillance of personnel, especially where occupational health facilities are either at a distance from operational bases, or are provided by 'independent' companies.	Pre-hospital care environments are often where infectious patients are first seen and it is crucial that the best possible guidance on requirements for personal protective clothing and equipment be made in this quality statement to support the provision of these to front line personnel.	· HSE, Personal protective equipment (PPE) at work, http://www.hse.gov.uk/pubns/indg174.pdf DoH, Ambulance guidelines: Reducing infection through effective practice in the pre-hospital environment, http://webarchive.nationalarchives.gov.uk/20120118164404/http://hcai.dh.gov.uk/files/2011/03/Document_Ambulance-_Guidelines_Reducing_Infection_in_Prehospital_FINAL_271%E2%80%A6.pdf
Infection prevention and control in other settings					
040	Astellas Pharma Ltd.	Assessing all suspected CDI patients in both primary and secondary care	Whilst CDI has been viewed as primarily a problem in hospitalised patients, over the past few years there has been a rise in the number of reported cases that originate in the community. Approximately 60% of all CDI cases within England are currently classified as community acquired.	Typical risk factors for the infection are often lacking in these patients; evidence shows they are younger, more likely to be female, have fewer comorbidities and less likely to have had recent antibiotic exposure. The possibility of CDI should therefore also be considered in patients presenting with diarrhoea in the community. This will help ensure all possible patients	Mawer D, 2015. Clostridium difficile infection (CDI) Integrated Care Pathway Evidence Base and User Guide. Academic in confidence. Written but not yet published. Estimated to be published by December

			Primary-care antibiotic prescribing is sub-optimal. No single laboratory test is adequate for the diagnosis of CDI. Following a large study commissioned by the Department of Health, guidelines were issued to the NHS in 2012 which advise a two-step Testing algorithm: Step 1: This is a screening test which can either be with an enzyme immunoassay for glutamate dehydrogenase (GDH) enzyme produced by C.difficile; or a polymerase chain reaction (PCR) test for C.difficile toxin genes. If it is negative, no further testing is performed. If positive, the Step 2 test is undertaken. Step 2: This is a test for the presence of C.difficile toxin, the cause of CDI. An EIA test is recommended, though some laboratories perform a Cell cytotoxin assay, which is slower but more sensitive. In some laboratories a PCR test is performed as a third step on	with CDI are assessed. There is a high percentage of missed CDI cases in the UK as that of the rest of Europe. A European study from 482 participating hospitals showed across Europe as a whole, 23% of cases of CDI were undiagnosed. This presents opportunities for risk of transmission and misdiagnosed patients having to undergo unnecessary tests and investigations in search of the cause of symptoms. The two main reasons for under diagnosis are due to poor sensitivity of diagnostic methods and an absence of clinical suspicion of C difficile infection, resulting in failure to test.	2015. Clostridium difficile infection: monthly data by attributed clinical commissioning group, 2014. Public Health England. Available: https://www.gov.uk/government/statistics/clostridium-difficile-infection-monthly-data-by-attributed-clinical-commissioning-group. Accessed [May 2015] Clostridium difficile infection: monthly data by NHS acute trust, 2014. Public Health England. Available: https://www.gov.uk/government/statistics/clostridium-difficile-infection-monthly-data-by-nhs-acute-trust. Accessed [May 2015]. Mawer D, 2015. Clostridium difficile infection (CDI) Integrated Care Pathway Evidence Base and User Guide. Academic in confidence. Written but not yet published. Estimated to be

			samples that have a negative toxin test, to establish if the patient is carrying a strain of C.difficile that has the potential to produce toxin and cause CDI.		published by December 2015 Davies K et al, 2014. Underdiagnosis of Clostridium difficile across Europe: the European, multicentre, prospective, biannual, point-prevalence study of Clostridium difficile infection in hospitalized patients with diarrhoea (EUCLID). The Lancet Infectious Diseases, Volume 14, 1208-19. Goldenberg S, 2014. Hidden burden of undiagnosed Clostridium difficile infection. The Lancet Infectious Diseases, Volume 14, Issue 12, 1167-1168.

041	St John Ambulance	Additional developmental areas of emergent practice	The distinct impression is that the epic3 and the current NICE guidance overly represent the hospital and community environment. As a result, many of the recommendations are generic to those environments. The guidance appears to ignore the ambulance and events environments. Many of the recommendations may be introduced using degrees of surveillance, management and education/training within a distinct and static (clinical) environment. Within the transience of an ambulance service or events environment, such measures are not so easily achieved.	Care provision is undertaken in a much more diverse group of environments with patient stays in hospitals decreasing as much as possible to prevent HCAI and save money. The level of clinical care undertaken in domiciliary environments is increasing.	NICE quality standards should be developed for use in all healthcare provision environments to meet the needs of the modern diverse world of healthcare providers, including ambulance services and domiciliary care. Usually in hospital and other 'fixed' clinical or care environments, there is the benefit of an IPC and microbiological infrastructure, which is available to provide immediate support, guidance, advice and management. This is especially difficult to access for smaller independent ambulance service providers and individual healthcare workers.
042	St John Ambulance	Additional developmental areas of emergent practice	Although not presently regulated by CQC, large cultural and sporting events need guidance and quality standards, so that any IPC activities may be extended to include such environments.	It could be argued that this type of event presents a greater potential risk for environmental contamination and rapid spread of certain forms of infection amongst a larger cohort of the public than may be met within the acute health care environment.	Presently, most guidance is 'skewed' towards acute health or care sector environments; those who work outside that arena could benefit greatly from key standards being set out to support the drive for improvement in standards at such events.

Dermatological suggestions					
043	British Association of Dermatologists	1. We would suggest areas that should be addressed or require clarification include: Recommendations regarding suitable alternatives to alcohol-based hand gels and soaps for healthcare workers with skin disease such as eczema and also for patients who suffer from skin disease who are advised to wash with soap pre-operatively. Role of topical antibiotics/antiseptics/dressings in post-operative wounds. Recommended facilities for skin surgery procedures minor vs. major			
Staff training					
044	Healthcare Infection Society	Key area for quality improvement 4: Aseptic technique – all healthcare staff should trained and assessed as being competent	Risk of infection during procedures involving breach of host defences is reduced by using aseptic technique.	Many staff have measured competency in aseptic technique. However, other staff, particularly medical staff may not have regular competency assessment after their initial medical school training.	EPIC 3 http://www.his.org.uk/files/3113/8693/4808/epic3_National_Evidence-Based_Guidelines_for_Preventing_HCAI_in_NHSE.pdf

045	MSD UK	Education and training of health care professionals	A skilled and confident multidisciplinary team (MDT), supported by opportunities to access education and development is integral to the effective treatment and management of patients with or who at risk of infection. The benefits of training are two-fold: The prevention of infection via transmission due to the ability to recognise and proactively manage a patient's condition; The effective management of infection through MDT who are able to allocate resources effectively whilst maintaining patient centred care.	Antimicrobial expertise is currently a scarce resource. Too little time is devoted in core medical training to antimicrobial learning, relative to the burden of disease. Furthermore, the six monthly rotation cycles of junior doctors limit the opportunity for confidence and skills to develop. Performance indicators to assess staff against infection prevention and control competencies could lead to increased accountability and were recommended in the NHS Public health guidelines PH36[1]. Specialist nurses and members of the wider clinical team potentially have a greater role to play in bridging this skills gap by becoming experts in infection. This is supported by the UK 5 year AMR 2013-18 strategy, which outlines a commitment to deliver infection control courses funded by Health Education England[2]. A similar statement was made in the recent English surveillance programme for antimicrobial utilisation and resistance (ESPAUR), which called for "the development of standardised training material and competency assessments"[3]. This is a key area of quality improvement as it is anticipated that	1The NHS public health guideline for prevention and control of healthcare associated infections (PH36) 2011, November 2011; Accessed 12/05/2015 https://www.nice.org.uk/guidance/ph36/resources/guidance-prevention-and-control-of-healthcareassociated-infections-pdf 2The UK Five Year Antimicrobial Resistance Strategy 2013-2018, September 2013, Accessed 12/05/2015 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/244058/20130902_UK_5_year_AMR_strategy.pdf 3English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) Report 2014; Accessed 12/05/2015 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/362374/ESPAUR_Report_2014__3_.pdf 4Diane Ashiru-Oredope,

				improved education, awareness and accountability could lead to enhanced patient care i.e. right drug, right time, and right patient, which may also have saving implications in terms of resource utilisation[4].	Mike Sharland, Esmita Charani; Improving the quality of antibiotic prescribing in the NHS by developing a new Antimicrobial Stewardship Programme: Start Smart—Then Focus; J Antimicrob Chemother 2012; 67 Suppl 1: i51–i63 doi:10.1093/jac/dks202 http://jac.oxfordjournals.org/content/67/suppl_1/i51.long
046	Public Health England	**Key area for quality improvement 2** Improved professional knowledge about importance of IPC and its role in minimising/controlling AMR.	The IPC literature shows sub-optimal levels of knowledge and the application of this knowledge in clinical practice putting patients at risk of acquiring an infection. Any initiative to improve knowledge and practice must be directed at all staff – clinical and non-clinical staff, volunteers, agency/locum staff and staff employed by contractors. The prevention and control of infection should be included in job descriptions, personal development plans and appraisals to ensure that IPC becomes embedded.	Infection prevention and control is a priority for patient safety and should involve clinical and non-clinical staff at all levels and be part of the hospital organisation-wide programme. Improving knowledge and compliance in IPC will minimise the risk of infection, including those cause by multi-drug resistant organisms and improve patient safety.	Patient safety and HCAI – report from EU Commission. June 2014 http://ec.europa.eu/health/patient_safety/docs/ec_2ndreport_ps_implementation_en.pdf A multimodal strategy, including tools such as bundles and checklists developed by multidisciplinary teams should be used in the implementation of infection prevention and control education and training programmes. Education and training

					programmes should be audited and combined with knowledge and competency assessments. http://www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099(14)70854-0.pdf UK 5 year antimicrobial strategy implementation plan (2014) UK 5 year antimicrobial strategy (2013) WHO – core components of infection prevention & control programmes (2008) The newly revised Nursing & Midwifery Council Code of Conduct expects nurses to keep to and promote recommended practice in relation to controlling and preventing infection (2015). Infection Prevention Society Outcome Competences for Practitioners in Infection Prevention and Control. http://www.ips.uk.net/professional-practice/competences/

					Skills for Health Infection Prevention and Control - Staff Working Together describes core competences for infection prevention and control. http://www.skillsforhealth.org.uk/images/resource-section/service-area/infection-prevention-and-control/infection-prevention-control-aug-2011.pdf Skills for Care, Skills for Health, Health Education England - Care certificate - http://www.skillsforcare.org.uk/Document-library/Standards/Care-Certificate/Standard%2015%20CC%20Workbook.pdf
047	Royal College of Pathologists	Key area for quality improvement 4 Aseptic technique – all healthcare staff should trained and assessed as being competent	Risk of infection during procedures involving breach of host defences is reduced by using aseptic technique.	Many staff have measured competency in aseptic technique. However, other staff, particularly medical staff may not have regular competency assessment after their initial medical school training.	EPIC 3 http://www.his.org.uk/files/3113/8693/4808/epic3_National_Evidence-Based_Guidelines_for_Preventing_HCAI_in_NHSE.pdf

048	SCM 1	Staff providing clinical care should be competent in the standard principles of infection prevention and control, including hand decontamination, use of personal protective equipment and use and disposal of sharps	Would be nice to include medical devices as well		Epic3, CG139, QS61
049	SCM 2	Additional developmental areas of emergent practice Education, training and Practice	Infection and Infection Prevention specific education and training has been limited in undergraduate and graduate training.	Improvements in education, training and practice will reduce healthcare associated infections and improve patient outcomes.	Surgical check list Ward based training

Antimicrobial stewardship					
050	Astellas Pharma Ltd.	Introduction of narrow spectrum antibiotics and mandatory powers for adoption of PHE guidelines (NICE accreditation) Start Smart then focus policy.	Anti-microbial resistance has emerged as a global threat and needs to be addressed through avoiding inappropriate prescribing of broad spectrum antibiotics and the introduction of narrow spectrum antibiotics where appropriate	Narrow spectrum antibiotics should be preferred over broad spectrum agents, particularly when there is a clear diagnostic test available. There is currently limited adoption of appropriate antibiotics with significant variability across the country. This has a huge impact on minimising interruption to colonic microflora as well as lowering the unintended reverse in resistant organisms. In the absence of NICE technology appraisal guidelines of antibiotics, PHE should be given mandatory powers to enforce guidelines and support reimbursement	Public Health England. Start Smart - Then Focus. Antimicrobial Stewardship Toolkit for English Hospitals Public Health England. Updated guidance on the management and treatment of Clostridium difficile infection. Public Health England. English surveillance programme for antimicrobial utilisation and resistance (ESPAUR). Report 2014.
051	SCM 1	Health and social care providers have local antibiotic prescribing formularies that reflect best practice and a robust antimicrobial stewardship programme			QS61

052	SCM 2	Key area for quality improvement 4 Antimicrobial Stewardship	The use of antimicrobials drives the selection of antimicrobial resistance. Resistant bacteria are becoming a serious problem and will compromise our ability to treat patients and affect therapeutic outcomes. Modern treatments will be compromised.	Prudent prescribing ensures that antimicrobials are only used when clinically appropriate. Current prescribing needs to improve and consumption needs to be moderated. Prescribing practice needs to improve.	https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/362374/ESPAUR_Report_2014__3_.pdf https://www.gov.uk/government/publications/chief-medical-officer-annual-report-volume-2
No comment					
053	British Society for Antimicrobial Chemotherapy (BSAC)	BSAC has no comment to make to this engagement exercise			
054	NHS England	Thank you for the opportunity to comment on the above Quality Standard, I wish to confirm that NHS England has no substantive comments to make regarding this consultation.			
055	Royal College of Nursing	This is to inform you that the RCN have no comments to submit to inform on the above topic engagement at this time.			

General comment		
056	Public Health England	Public Health England (PHE) welcomes the continued focus NICE is giving to the prevention and management of healthcare associated infection, which will be integral to the success of the United Kingdom five year antimicrobial resistance strategy. PHE has a key role in the implementation of the strategy and has been tasked with leading the implementation of the strategy across the health and care sector in England in the following four key areas: • Better access to and use of surveillance data • Optimising prescribing and antimicrobial stewardship • Improving infection prevention and control • Improving professional training and education / public engagement PHE requests that NICE is explicit as to how effective implementation of the proposed quality standard will contribute towards the ongoing work to minimise and control antimicrobial resistance, including the planned quality standard on antimicrobial stewardship. It would also be helpful if NICE could articulate how the proposed quality standard supplements the guidance contained in the Code of Practice on the prevention and control of infections and related guidance. PHE notes that the Quality standard consultation will cover organisational factors for preventing and managing healthcare-associated infections in secondary care settings. PHE would welcome clarification from NICE how the proposed quality standard complements the existing NICE guidelines on the prevention and control of healthcare-associated infections [PH36] (November 2011) which are aimed at secondary care and other healthcare organisations improve the quality of care and practice. This NICE publication is not cited in the consultation draft. PHE would also welcome clarification on how the proposed quality standards will complement the existing NICE quality standard [QS61] Infection prevention and control (April 2014) which covers the prevention and control of infection for people receiving healthcare in primary, community and secondary care settings. Key policy documents Please note that Health Protection Agency (2012) Healthcare associated infection: operational guidance and standards for health protection units has been updated to reflect the changes to the NHS and the establishment of PHE. Publication of the new guidance has been deferred while PHE undergoes a strategic staffing review. The Department of Health has revised The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance (2010) and we believe the new Code will be published during May 2015. 'Clean, safe care: reducing infections and saving lives' (2008) is out of date as it makes no reference to epic3: National evidence based guidelines for preventing healthcare-associated infections in NHS hospitals in England (2014) or the NICE guideline on the Prevention and control of healthcare-associated infections (2011). The Kings Fund 2008 publication 'Healthcare-associated infections' predominantly refers to Meticillin resistant Staphylococcus aureus and Clostridium difficile infection. The changing epidemiology of HCAI and the increase of infections caused by Gram negative organisms make this publication less relevant. CMO in her annual report[1] stated 'there needs to be an expansion of our policy focus from a concentration on MRSA and C. difficile (though continued monitoring remains important), towards the inclusion of other significant infections'.

057	SCM 1	Additional evidence sources for consideration	This may be a difficult Quality Standard. There is considerable potential overlap between this and QS61, and inevitably 'Infection Prevention and Control' and 'Healthcare-associated infections: prevention and management' will be covering very similar if not identical areas.
058	SCM 2	Additional evidence sources for consideration	Infographics on infections http://www.cdc.gov/vitalsigns/HAI/CRE/index.html?s_cid=tw_cdc2126

[1] Infections and the rise of antimicrobial resistance (2011)