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## Outcome Competences for Practitioners in Infection Prevention and Control

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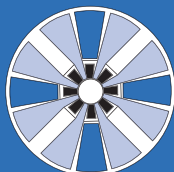
# Journal of Infection Prevention

**Outcome competences for practitioners in infection prevention and control**  
Infection Prevention Society and Competency Steering Group

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# Outcome competences for practitioners in infection prevention and control

*Infection Prevention Society and Competency Steering Group*

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## 1. Foreword

**A**s Chair of the steering group overseeing this work it is my great pleasure on behalf of the four United Kingdom Chief Nursing Officers to commend this document to you. The work, which was funded by the Department of Health, led by the Infection Prevention Society, developed in conjunction with government leads for infection prevention and control, and supported by Skills for Health is a milestone in the evolution of infection prevention and control practice in the UK. This is a real example of what can be achieved through effective collaboration, cooperation and consultation between the professions, stakeholders and practitioners in the field.

Although infection prevention and control has been an established part of the NHS landscape for many years, for a number of those years it has been seen as the domain of a small group of designated specialists and has mainly focused on acute care. More recently, the determination of all four UK governments to address public concerns about healthcare associated infection and to drive improvements in patient safety throughout the health and social care system has placed infection prevention and control at the very top of the health and social care agenda and radically changed the expectations and requirements of practitioners working in this important area of practice.

Today's infection prevention and control practitioners can come from a range of professional and occupational backgrounds and require a much broader range of competences than ever before. They know that a robust knowledge of infection prevention and control is not enough, they need to be looking ahead to future threats; developing the evidence base and working across the whole health and care system. They also need high-level leadership and team working skills if they are to effect strategic change at a national organisation level, and the interpersonal skills to use improvement science-based methods to sustain behavioural change in everyone involved in the care of patients and clients.

We, in turn have to ensure that our expectations of practitioners in infection prevention and control are clear and consistent and that appropriate education, training and development is in place to ensure that the right people with the right capabilities are available today and in the future as we take infection prevention and control forward. This competency framework provides a solid foundation on which to do that and I look forward to seeing it used to meet expectations.

**Ros Moore, BSc (Hons) Nursing, MA, RGN, RNT  
Chief Nursing Officer, the Scottish Government**

## 2. Introduction

With our rapidly changing healthcare systems, a more flexible response is required from infection prevention and control (IPC) practitioners to be able to address the challenges that healthcare associated infection presents. We are continually being pulled in many different directions in order to improve the quality of healthcare delivery and to respond to the patient safety agenda and the zero tolerance culture to healthcare associated infection. Infection prevention and control practitioners continue to play a key role in improving the safety and quality of care delivered to patients by providing clinical colleagues with robust expertise, advice, support and guidance enabling them to prevent and control healthcare associated infections.

Competences were first developed and published by the Infection Control Nurses Association (ICNA) in 2000, followed by the second edition in 2004. These competences provided an overarching framework to enable IPC practitioners to develop and enhance their knowledge and skills to increase the safety and quality of patient care. Taking into account the changes in healthcare delivery throughout the United Kingdom (UK), the current political and economic drivers around healthcare associated infection and the evolving nature and diversity of infection prevention and control teams, we are now delighted to present the new competences framework developed by the Infection Prevention Society (IPS) the successor organisation to the ICNA. This framework has also been aligned with NHS Knowledge and Skills Framework and Skills for Health, National Occupational Standards.

The Infection Prevention Society recognises that IPC practitioners will already possess a higher level of knowledge, understanding and skills in accordance with their role and responsibilities. The purpose of this framework is not to define specific roles, but to assist practitioners to continually increase their existing knowledge, understanding and skills in order to reach our ultimate goal of safe, improved quality of care for our patients through reduction in the burden of disease and avoidable illness caused by healthcare associated infections.

The IPS Education and Professional Development Committee are privileged to have worked in partnership to produce this competency framework with:

- Scottish Government Health Department
- Department of Health, England
- Department of Health, Social Services and Public Safety Northern Ireland
- Welsh Assembly Government

- Lindsay Mitchell, Prime R & D Ltd
- Skills for Health
- Council of Deans

**Emma Burnett, MSc, PGCert, BN, SPQ, RGN Lead  
Co-ordinator Education and Professional Development  
Committee, Infection Prevention Society**

### 3. Why do we need competences for infection prevention and control practitioners?

The focus on reducing healthcare associated infections continues throughout the UK and the introduction of patient safety improvement programmes has highlighted the role of healthcare associated infections as incidents that have an adverse effect on public safety and quality of care. The prevention, management and control of these infections is therefore a priority area for each of the four UK governments. It requires action by all organisations involved with health and social care.

Infection prevention and control practitioners have a key role to play in scanning the environment for new and emerging threats to safety, as well as improving the safety and quality of care delivered to individuals and populations. They provide colleagues across all health and social care settings with robust clinical expertise, advice, support and guidance so that they can work in partnership to prevent, manage and control healthcare associated infections

Infection prevention and control practitioners increasingly come from a wide range of professional or occupational backgrounds and often bring very different knowledge, skills and experience to the role. These competences have been produced by expert practitioners and academics in the field and endorsed by the UK health departments, to provide a consistent set of standards and expectations for the role across the UK.

The majority of practitioners working in NHS organisations (excluding medical personnel) will be working within the NHS Knowledge and Skills Framework (KSF) (Department of Health, 2004) and Career Framework for Health (Skills for Health, 2010). The role of IPC practitioner has therefore been positioned at senior practitioner level in the Career Framework for Health. There is an expectation that post-holders work at advanced-level practice (or are working towards that level), and are in possession of the qualifications and specialist knowledge commensurate with a senior practitioner. However, to retain flexibility and accommodate differences in the UK healthcare systems and between local service providers (for example, different patient/client case mix, staff skills mix and organisational structures) decisions about job titles, qualifications, pay bands and rewards should be made by the organisation that is employing the practitioner. It is also the employer's responsibility to ensure that practitioners working at an advanced level in infection prevention and control:

- have access to the qualifications at an appropriate level, ie at level 7 of the Framework for Higher Education Qualifications (FHEQ) (QAA, 2008) in England, Wales and Northern Ireland and level 11 of the Scottish Credit and Qualifications Framework (SCQF) (SCQF, 2009)
- are provided with appropriate certificated training
- have designated authority to carry out the competences safely and independently.

### 4. Who are these competences for?

These competences are designed for use by a number of people, including:

- organisations who are looking for an expert to drive forward their safety and quality agenda and prevent and manage healthcare associated infections

- managers of health and social-care services, so they can understand the expert advice that should be available to them and that they can draw on
- educational commissioners and providers, so that they can ensure that education and training provision meets service needs and promotes quality and safety
- practitioners working in IPC, so that they can better understand their role in all its aspects
- practitioners who contribute to IPC and who have an interest in developing their knowledge, understanding and skills in this area in the future.

Infection prevention and control practitioners are experienced and educated members of the multidisciplinary health and social-care team who work both on their own and in partnership with others. They have an extensive knowledge base that includes an understanding of microbiology, epidemiology and immunology, coupled with organisational strategy and operational practice. They use a range of skills, including:

- influencing and negotiating
- communicating
- complex decision making
- influencing strategic decision making
- information and knowledge management
- engagement and facilitation
- leadership and risk management.

These advanced practitioners ensure safe, high-quality services for the public, and support improvement so that the safety and quality of care is continually enhanced.

Infection prevention and control is a constantly changing field with emerging threats from new and resistant micro-organisms, new challenges arising, and new ways of managing healthcare associated infections being developed all the time. Practitioners working at an advanced level need to keep abreast of these threats and emerging methodologies, so that they can be proactive in dealing with the challenges faced by their organisations.

### 5. Who employs infection prevention and control practitioners?

A wide range of organisations in the public, private sector and voluntary sectors are interested in employing people working in IPC. These practitioners can be found in:

- acute and community healthcare settings
- the ambulance service
- mental health and learning disability services
- adult and paediatric services
- social-care services
- public health departments
- university departments
- the prison service
- policy and service development roles at national level in and outside the NHS.

### 6. Who works in infection prevention and control?

Traditionally, infection prevention and control practitioners have come from a nursing background. However, as the prevention, management and control of infection have developed, so has the pool of people who have developed their knowledge and skills in the area. Given the breadth of knowledge, understanding and skills that individuals need to be able to work in this area, practitioners will generally come from a clinical or healthcare-science background, and include nurses, podiatrists, paramedics and biomedical scientists. Examples of the career pathways of, and options for, practitioners in infection prevention and control are described in section 14, which also has some

real-life case studies of individuals who have developed their careers in this field.

### **7. How do these competences link to other frameworks?**

These competences provide further, detailed content related to infection prevention and control to support the use of the generic Knowledge and Skills Framework (KSF) within the NHS. These competences can be used by organisations to develop the detailed content of KSF post outlines for practitioners working at an advanced level in infection prevention and control, and through this they can guide and support their ongoing learning and development while in post. Indicative links to the NHS KSF, which have been approved by the KSF Group of the NHS Staff Council, are shown attached to each of the competences.

The competences have been structured against the four domains within the Advanced Practitioner toolkit (Scottish Government, 2008) for Modernising Nursing Careers – the career and development framework for nursing. As with the KSF, the competences show the detailed specification of advanced practice in infection prevention and control.

The NHS Leadership Qualities Framework (LQF) is also of relevance to this work (DH, 2002). The LQF sets the standard for leadership in the NHS by describing the qualities expected of existing and aspiring leaders both now and in the future. The LQF will help individuals develop their leadership skills and understanding of leadership. This

will therefore support the achievement of this competency framework for advanced practice in infection prevention and control.

Additionally, this framework resonates with the Department of Health's 'Advanced Level Nursing: A Position Statement' (DH, 2010) in that practitioners working at an advanced level will use complex reasoning, critical thinking, reflection and analysis to inform their assessment, clinical judgement and decisions.

Skills for Health, the Sector Skills Council for the health sector, has linked these competences to National Occupational Standards (NOS). These links are shown attached to each of the competences. Four of the competences have been adapted from Skills for Health National Occupational Standards, and full intellectual copyright for the original material rests with Skills for Health. We would like to express our gratitude to Skills for Health for giving permission to use this particular version of these national occupational standards in this work.

### **8. What competences are included?**

There are 17 competences included in this resource set out against the four advanced practice domains as shown in Box 1.

### **9. How can the competences be used?**

The competences are designed to be an information resource for a range of possible uses as shown in the diagram below.

The competences are designed to be a multi-purpose tool that will support and inform strategic planning, workforce development and

## **Box 1: Domains and competences**

### **Clinical practice**

- 1 Improve quality and safety by developing and implementing robust, high-quality policies and guidelines that prevent and control infection
- 2 Collate, analyse and communicate data relating to preventing and controlling infection for surveillance purposes
- 3 Manage incidents and outbreaks
- 4 Improve quality and safety through the application of improvement methodologies
- 5 Advise on the design, construction and modification of facilities to prevent and control infection in the built environment
- 6 Evaluate, monitor and review the effectiveness of decontamination processes for equipment and environment

### **Education**

- 7 Develop own knowledge, skills and practice
- 8 Lead the development of the knowledge, skills and practice of the infection prevention and control team
- 9 Develop and implement learning and development opportunities and solutions to improve infection prevention and control
- 10 Work with others to develop, implement, evaluate and embed infection prevention and control within workforce development strategies

### **Research**

- 11 Access, appraise and apply robust evidence of all types from a range of research and other sources, to the domains of the role
- 12 Lead high quality infection prevention and control services
- 13 Share best practice through the dissemination of evidence and knowledge

### **Leadership and management**

- 14 Improve quality and safety through networking, influence, proactivity and challenge
- 15 Improve quality and safety through the design, planning, monitoring and development of services
- 16 Lead high quality infection prevention and control services
- 17 Lead and manage the work of the infection prevention and control team to achieve objectives

management at strategic and unit level. They will also provide guidance for educational commissioning and will structure the content of education and training programmes, whether these are developed internally by employing organisations or are university accredited. The competences will also enhance local accountability and support the role and development of current and aspiring infection prevention and control practitioners.

Some examples of how the competences might be used are set out below.

#### *Service and strategic level*

- Service reviews
- Workforce/role design and profiling
- Education commissioning, planning and provision

#### *Unit and managerial level*

- Recruitment and selection
- Staff appraisal
- Education, training and development planning and delivery
- Career development and advice
- Design of professional and vocational qualifications

#### *Individual and team level*

- Career progression
- Self assessment and personal development planning
- Coaching
- Clinical supervision
- Professional revalidation/registration

The competences:

1. Provide clarity for organisations as to what they can expect IPC practitioners to do, that is, the competences will identify the unique contribution that IPC practitioners make to the work of the organisation and hence the value that they bring to it
2. Provide benchmarks for organisations to use in the recruitment, selection, development, appraisal and performance management of IPC practitioners
3. Contribute to the development of specifications for IPC services by identifying the outcomes that IPC practitioners can be expected to deliver
4. Contribute to the education and training of individuals who are aiming to become IPC practitioners – both for organisations that are looking to commission education and training for practitioners to work at this level and for organisations providing that education and training

5. Contribute to the Continuing Professional Development (CPD) of individuals when they are in post in order to maintain and improve their competence
6. Contribute to the development of workforce specifications by identifying the role and contributions of IPC practitioners
7. Can be used as the basis of a skills and career framework for those whose interest lies in infection prevention and control (including IPC practitioners), for example in demonstrating how people develop to a consultant-level post
8. Support the mapping of the role of IPC practitioners with different regulatory requirements.

### **How can I continue to develop in infection prevention and control?**

You can use these competences to inform your development. It does not matter what your starting point is – you might already be close to achieving all of these competences or might be a long way off and have a lot of development to undertake. The thought processes you need to go through and the actions you need to take will be similar, the difference will be in the amount of development that is needed. These competences describe what it is that an individual is expected and able to do when they are fully functioning at an advanced level.

To continue to develop yourself, you need to follow the process set down in competence 7 of this document and undertake an honest assessment of your current level of knowledge and skills and your ability to apply them in practice. It is recommended that you seek the help of others (for example, your colleagues, peers and your manager) as they are likely to have a different view of your current level of competence as well as an understanding of the exact meaning of the competences. This is particularly important when you are new to the area as some of the explanations might look simpler than they in fact are.

Once you have a realistic assessment of your own current level of knowledge, skills and competence against the advanced level competences, ie you have identified your learning needs, you will then need to plan how you can best develop yourself to the level required. This might be through self-study, undertaking learning programmes and/or academic qualifications, or seeking learning opportunities in the workplace, such as mentoring and job shadowing. As your learning and development progresses, you will need to revisit the competences and continue to assess yourself to identify your progress in achieving all of the competences. An example of how to do this against one of the competences is shown in section 15.

### **10. How can the competences be applied in workforce development and management?**

As shown above, these competences can be used to recruit and select new staff by building job requirements and person specifications

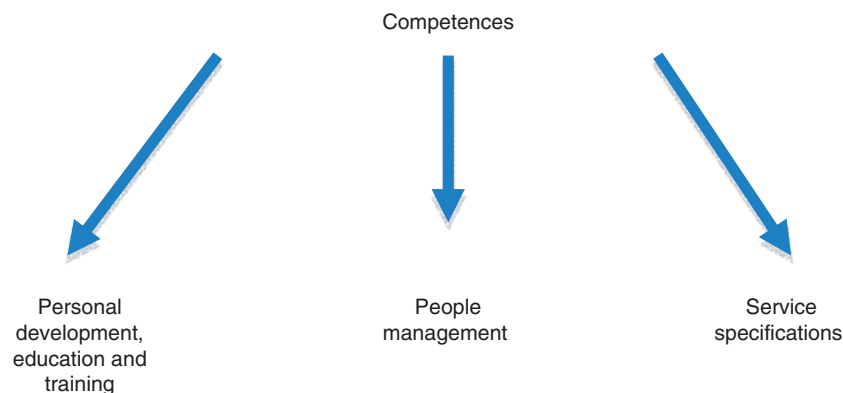


Figure 1. Using the competences

around the four domains of advanced practice (with local stakeholders agreeing the essential and desirable elements). However, as part of the selection process, all new IPC practitioners should be able to provide evidence of the generic infection prevention and control competences expected in their previous role, as well as their willingness to work towards the full range of specialist advanced competences described in this document. On recruitment, a self and peer review of current levels of competence against the framework will be required, and a Personal Development Plan (PDP) with agreed timescales must be developed to fill identified learning needs. The PDP can then be used as a framework for coaching and for agreeing education, training and development.

For staff already in post the PDP can be used in the same way. However, it is important to note that as practitioners operate in an organisational context and work as part of a wider team and culture, the competences are not themselves a performance management tool. But they do have a clear part to play in that process. As the competences are intended to specify what it is that an individual should achieve, they do not include service outcomes or performance measures. Even though these practitioners should have a clear impact on the rates of healthcare associated infections and adverse effects, it is not possible to draw a firm, direct relationship between the two. The overall effectiveness of a practitioner will be affected by the support and priority that an organisation gives to their work. As well as using these competences to contribute to job descriptions, organisations

might wish to add measurement indicators of safe, clean, high-quality care into an individual's personal objectives and include them in appraisal systems.

### 11. How are the competences structured?

The competences have been structured to focus on the outcomes of performance – that is, what is expected of an individual when they are fully functioning at an advanced level in IPC, and influencing key strategic decisions related to public safety and care quality.

Not all jobs for people working at an advanced level of IPC will incorporate all the competences that have been set out in this document. Similarly, not all individuals working in IPC will be able to demonstrate achievement of all the competences that have been specified. Individuals will need to develop their knowledge, skills and practice over time in order to show that they can function at this advanced level of practice. They also need to have the opportunity to do so within their employing organisation.

The competences have been structured as illustrated in Box 2.

There are some generic knowledge, understanding and skills that apply to all the competences. These are shown in Box 3.

The knowledge, understanding and skills that are more specific to each of the competences and to infection prevention and control are shown with the relevant competence to which they apply.

#### Box 2: Competency structure

- 1 **Domains of practice** – the four domains that describe the major components of advanced-level practice, that is:
  - a clinical practice
  - b education
  - c research
  - d leadership and management
- 2 **Competence statements** – these are the broad role expectations of practitioners working at an advanced level of practice in IPC. They describe the 'what has to be done'.
- 3 **Performance indicators** – aligned to each of the competence statements, the performance indicators describe what competent performance in advanced-level practice in IPC looks like. The indicators describe the level and scope of competent practice – that is, the indicator against which competence would be judged.
- 4 **Knowledge, understanding and skills** – these descriptions identify the knowledge, understanding and skills that a practitioner would need to develop in order to achieve the competences to the level of performance required in the indicators. These statements do not have a one-to-one relationship with the performance indicators, because to achieve one indicator it is often necessary to use a range of different knowledge and apply different skills.

#### Box 3: Generic knowledge, understanding and skills

- a Influencing and advice strategies, including risk assessment to balance broader organisational needs with infection prevention and control requirements
- b Action planning and follow up
- c Change-management skills
- d Partnership and team-working skills
- e Communication skills
- f Negotiating skills
- g Leadership skills
- h Report preparation (including annual reports) for the organisation and external agencies
- i Developing and delivering training and education.

## 12. The competences' statements and performance indicators structured against the four domains

### Box 4: Domain 1: Clinical practice

#### **I Improve quality and safety by developing and implementing robust, high-quality policies and guidelines that prevent and control infection**

##### *Performance indicators*

- 1 Provide guidance for those working in all areas of health and social-care practice through critically analysing and interpreting national quality and safety resources and initiatives and presenting the information in a way that is suitable for the people concerned
- 2 Evaluate the effectiveness of existing policies and guidelines and identify areas for improvement
- 3 Promote evidence-based improvements in policies and guidelines through demonstrating their value in terms of safety and quality in the context concerned
- 4 Work in partnership with individuals, the population and colleagues to develop clear and robust policies and guidelines that prevent and control infection
- 5 Work in partnership with others to plan the effective implementation of policies and guidelines to prevent and control infection
- 6 Provide expert advisory support for the implementation of policies and guidelines to prevent and control infection
- 7 Monitor the implementation of infection prevention and control policies and guidelines, taking any corrective actions as and when necessary
- 8 Identify the need for improvements in infection prevention and control policies and guidelines in the light of implementation and the changing knowledge base and evidence
- 9 Provide expert infection prevention and control input to the development of broader policies and guidelines.

##### *Knowledge, understanding and skills*

- a Applied microbiology in relation to the chain of infection and the infection process, alert micro-organisms and conditions, body defence mechanisms
- b The significance of microbiological results, interpreting the diagnostic laboratory results, practices designed to break the chain of infection, including standard and transmission-based precautions including the placement of populations and individuals in care settings
- c Hand hygiene (including social hand hygiene, antiseptic hand hygiene, surgical scrub)
- d Safe management of invasive devices and prevention of device-related infections
- e Asepsis
- f Antimicrobial stewardship – prudent prescribing of antimicrobials and the surveillance of antimicrobial-resistant organisms
- g Aligning infection prevention and control with the quality and safety agenda (using outcomes, risk assessment matrix, programmes and systems) and making use of health information exchange systems
- h Legislation, national guidance and outcomes/indicators related to preventing and controlling infection in health and social-care environments and facilities (including ventilation, water sources, waste management, hygiene, isolation facilities, laundry management, food hygiene)
- i Legislation, national guidance and outcomes/indicators related to preventing and controlling infection for individuals and populations in health and social-care environments and facilities (for example, communicable disease control; immunisation; prevention and management of injuries (including sharps); post-exposure prophylaxis; specific controls in specialist areas such as burns, critical care, renal and transplant, maternity, neonatal, children, operating rooms, mental health, dentistry and ambulance services)
- j The evidence base on which infection prevention and control policies should be based
- k Knowledge of national and organisational strategies, objectives, structure and accountability and how to present information in a manner that fits within the strategic context
- l Policy development skills.

##### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

Core 4 Service improvement Level 4

HWB3 Protection of health and wellbeing Level 4

##### **Links to national occupational standards**

The following national occupational standards relate to this competence:

GEN67: *Establish quality policy and quality assurance systems for the delivery of a service or function* – see

[https://tools.skillsforhealth.org.uk/competence/show?code=GEN\\_67](https://tools.skillsforhealth.org.uk/competence/show?code=GEN_67)

## Clinical practice

### 2 Collate, analyse and communicate data relating to preventing and controlling infection for surveillance purposes

#### *Performance indicators*

- 1 Obtain and link data using appropriate methods and systems for the surveillance of infection
- 2 Structure and analyse the data correctly to identify patterns, trends and anomalies that may be significant in relation to preventing and controlling infection
- 3 Critically assess the strengths and limitations of the data using methods of analysis that are appropriate to the nature and form of the data and the purpose for which the results are to be used
- 4 Identify areas that might require further investigation or analysis in relation to potential risks
- 5 Analyse potential risks and reach conclusions appropriate to the risks
- 6 Critically assess the conclusions reached, identifying the strengths and limitations of the analysis undertaken
- 7 Act upon the risks identified, communicating them effectively to the appropriate people
- 8 Enable health and social-care staff to understand the data and make the necessary changes to achieve improved outcomes
- 9 Take the appropriate action when surveillance methods and data can be improved

#### *Knowledge, understanding and skills*

- a Applied microbiology in relation to the chain of infection and the infection process, alert micro-organisms and conditions, body defence mechanisms
- b The significance of microbiological results, interpreting the diagnostic laboratory results and practices designed to break the chain of infection, including standard and transmission-based precautions including the placement of populations and individuals in care settings
- c Definitions, methods and types of surveillance, data handling, data analysis, interpreting outcomes, assessing limitations of data
- d Epidemiology, descriptive and applied (that is, the application and evaluation of epidemiological discoveries and methods in public health and health and social-care settings, including applications of aetiological research, priority setting and evaluation of programmes, policies and services)
- e Principles of epidemiology, incidence, prevalence
- f Principles of statistics and variation
- g Feedback and reporting mechanisms.

#### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

- HWB3 Protection of health and wellbeing Level 4
- IK2 Information collection and analysis Level 3

#### **Links to national occupational standards**

This competence used NOS HP2 *Collate, analyse and interpret surveillance data to assess risks to population health, wellbeing and safety* as its starting point for the development of the IPC competences. There are a number of similarities between the two sets of performance indicators/criteria but full intellectual copyright for the original material rests with Skills for Health. See <https://tools.skillsforhealth.org.uk/competence/show?code=HP2>

## Clinical practice

### 3 Manage incidents and outbreaks

#### *Performance indicators*

- 1 Assess the information available on the incident/outbreak and seek any necessary further evidence to establish its nature and scale
- 2 Establish the appropriate response using local incident/outbreak/emergency planning guides
- 3 Inform and involve relevant colleagues and partner organisations in a timely manner consistent with incident or emergency plans
- 4 Facilitate the development of an outbreak/incident management team, ensuring that the appropriate organisations and functions are represented
- 5 Communicate clear, accurate and timely information with colleagues, partner organisations and others throughout the incident in a manner that effectively manages risk and supports effective team working
- 6 Establish agreement on the control measures to be taken to minimise exposure to hazards and to reduce risks and prevent secondary or further spread or exposures

(Continued)

### 3 Manage incidents and outbreaks — Continued

- 7 Review the availability of resources to implement the control measures throughout the duration of the incident/outbreak
- 8 Ensure accurate records of the investigation and management of the incident/outbreak are maintained throughout the process
- 9 Lead review of the investigation and management of the incident/outbreak and modify measures as a result
- 10 Produce a final report of the incident/outbreak and communicate it to all concerned
- 11 Evaluate the incident/outbreak and make recommendations for future improvement

#### *Knowledge, understanding and skills*

- a Alert micro-organisms, baseline
- b Defining and recognising outbreaks
- c Investigation of outbreaks, data collection
- d The significance of microbiological results; interpreting the diagnostic laboratory results; practices designed to break the chain of infection, including standard and transmission-based precautions including the placement of populations and individuals in care settings
- e Control measures
- f Epidemiology, descriptive and applied (that is, the application and evaluation of epidemiologic discoveries and methods in public health and health and social-care settings, including applications of aetiological research, priority setting and evaluation of programmes, policies and services)
- g Principles of epidemiology, incidence, prevalence
- h Principles of statistics and variation
- i Feedback and reporting mechanism
- j Epidemics, pandemics, endemic
- k Public health dimension; public health epidemiology
- l Methods of performing post-outbreak evaluation; report evaluation feedback; serious untoward incident tools
- m Emergency systems and procedures for managing incidents and outbreaks
- n The roles and responsibilities of national, regional and local agencies and departments in managing incidents and outbreaks
- o Knowledge of sources of advice and expertise that can be drawn upon to contribute to investigating and managing the hazard
- p Legal frameworks (that is, legal powers and duties, responsibilities and accountability) and organisational and professional policies and protocols when there is an outbreak or incident.

#### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:  
HWB3 Protection of health and wellbeing Level 4

#### **Links to national occupational standards**

This competence used NOS HP15 *Coordinate a team investigating and managing an incident or outbreak* as its starting point for the development of the IPC competences. There are a number of similarities between the two sets of performance indicators/criteria but full intellectual copyright for the original material rests with Skills for Health. See <https://tools.skillsforhealth.org.uk/competence/show?code=HP15>

### Clinical practice

#### 4 Improve quality and safety through the application of improvement methodologies

##### *Performance indicators*

- 1 Identify the need for change in practices and environments
- 2 Work in partnership with others to develop practice innovations and service re-design solutions to improve safety and quality
- 3 Lead the organisation's infection prevention and control programme to improve safety and the overall quality and experience of care through linking it with the work of internal and external partners and influencing direction
- 4 Ensure that audit, surveillance, epidemiology and risk register data are collated, communicated, used and interpreted effectively
- 5 Access existing and create new databases to manage and use data and information related to improving quality and safety
- 6 Guide practice in infection prevention and control through the critical analysis and effective communication of national quality and safety resources and initiatives
- 7 Work in partnership with individuals, populations, staff and others to develop improvement programmes that are in line with the culture and context of the area
- 8 Lead the implementation of improvement programmes, working in partnership with all involved

(Continued)

#### 4 Improve quality and safety through the application of improvement methodologies — Continued

- 9 Evaluate the effectiveness of improvement programmes in partnership with individuals, populations, staff and others, identifying the improvements that need to be made in practice
- 10 Prepare and present infection prevention and control reports and recommendations to individuals, populations, staff, members of the organisation and others
- 11 Confirm that agreed actions have been taken to improve safety and the quality of health and social-care practice
- 12 Take the necessary action to escalate concerns when there is a failure to act which compromises safety and quality.

##### *Knowledge, understanding and skills*

- a Clinical governance, quality assurance, clinical effectiveness, quality improvement framework and service improvement frameworks
- b Risk identification, assessment and management including: risk register analysis, action planning, feedback and re-evaluation
- c Serious untoward incident and root cause analysis
- d Review of audit findings, action planning, feedback and re-evaluation
- e Available quality and safety resources and initiatives
- f Outcome measures including measures that are reported by individuals receiving health and social-care services
- g Corrective and preventive actions
- h Development, implementation and evaluation of evidence-based achievable metrics and outcome measures that can be audited
- i Improvement and change methodologies.

##### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

Core 4 Service improvement Level 4

HWB3 Protection of health and wellbeing Level 4

##### **Links to national occupational standards**

The following national occupational standards relate to this competence:

M&L B6: *Provide leadership in your area of responsibility* – see <http://www.ukstandards.org.uk/Admin/DB/0033/B5%202009.pdf>

M&L B5: *Provide leadership for your team* – see <https://tools.skillsforhealth.org.uk/competence/show?code=M%26L+B5>

#### Clinical practice

##### 5 Advise on the design, construction and modification of facilities to prevent and control infection in the built environment

##### *Performance indicators*

- 1 Work with others on plans for the design, construction and modification of facilities to improve safety and quality through infection prevention and control
- 2 Advise on the infection prevention and control risk assessment criteria prior to a new build and in advance of any demolition or modification of a building consistent with current building guidance and legislation
- 3 Liaise with key health and social-care staff and others prior to and at every subsequent stage of the build, demolition or modification to ensure that infection prevention and control advice is effectively incorporated into the works
- 4 Work in partnership with key health and social-care staff to reduce the risk of infection to individuals, populations, staff and others during construction, demolition or modification activities
- 5 On the completion of the works, review with individuals, populations, staff and others the effectiveness of the development for preventing and controlling infection.

##### *Knowledge, understanding and skills*

- a Applied microbiology in relation to the chain of infection and the infection process, alert micro-organisms and conditions, body defence mechanisms
- b The significance of microbiological results, interpreting the diagnostic laboratory results; practices designed to break the chain of infection – for example, standard and transmission-based precautions including the placement of individuals and populations within care settings
- c Antimicrobial stewardship – prudent prescribing of antimicrobials and the surveillance of antimicrobial resistant organisms

(Continued)

## 5 Advise on the design, construction and modification of facilities to prevent and control infection in the built environment — Continued

- d Legislation, national guidance and outcomes/indicators relating to the design, construction and modification of the built environment in general and health and social-care facilities in particular (for example, ventilation, water sources, waste management, hygiene)
- e Organisational strategy for new builds, refurbishments, planned programme maintenance
- f Interpretation of architects', estates' and facilities' plans for new builds, refurbishment and modification

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:

EF2 Environments and buildings Level 4

### Links to national occupational standards

The following national occupational standards relate to this competence:

HSC 3117 *Conduct a health and safety risk assessment of a workplace* – see <https://tools.skillsforhealth.org.uk/competence/show?code=HSC3117>

## Clinical practice

## 6 Evaluate, monitor and review the effectiveness of decontamination processes for equipment and environment

### Performance indicators

- 1 Provide evidence-based infection prevention and control input in the development of decontamination policies and procedures
- 2 Audit decontamination methods to determine their effectiveness
- 3 Report the outcomes of the audit, drawing specific attention to the risks to safety and quality that have been identified
- 4 Advise on the actions that are required to improve quality and safety when decontamination processes are ineffective and the timescale in which they need to be implemented
- 5 Confirm that the required actions have been effectively undertaken to control infection and promote safety and quality
- 6 Take the necessary action to escalate concerns when there is a failure to act which compromises safety and quality.

### Knowledge, understanding and skills

- a Applied in relation to the chain of infection and the infection process, alert micro-organisms and conditions, body defence mechanisms
- b The significance of microbiological results; interpreting the diagnostic laboratory results; practices designed to break the chain of infection – for example, standard and transmission-based precautions including the placement of individuals and populations in care settings
- c Antimicrobial stewardship – prudent prescribing of antimicrobials and the surveillance of antimicrobial-resistant organisms
- d Levels of decontamination – lifecycle and cycle parameters, use of various tests, water quality tests (for example, TVC levels)
- e Methods and processes of decontamination (for example, physical and chemical disinfection, sterilisation)
- f Methods and processes of decontamination for: medical devices (for example, endoscopes, surgical instruments), equipment and environments
- g Risk assessment of processes, environments and systems used for decontamination
- h Evaluation of application of decontamination processes in clinical practice
- i National guidance on decontamination processes for equipment and reusable medical devices (for example, Health Technical Memorandum (HTM), Scottish HTM) and the evidence base on which they are built
- j Legislation, national guidance and outcomes/indicators on decontamination processes for the built environment and the evidence base on which they are built
- k Regional and local policies which differ from national guidance and the rationale for this.

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:

EF1 Systems, buildings and equipment Level 4

EF2 Environments and buildings Level 4

### Links to national occupational standards

The following national occupational standards relate to this competence:

DEC6: *Monitor procedures and operate tracking systems and procedures* – see <https://tools.skillsforhealth.org.uk/competence/show?code=DEC6>

## Box 4: Domain 2: Education

### 7 Develop own knowledge, skills and practice

#### *Performance indicators*

- 1 Evaluate own development and application of knowledge and skills to meet current and emerging work demands and organisational objectives
- 2 Identify own development needs and set own personal development objectives, including professional development
- 3 Develop a personal development portfolio, recognising strengths and limitations, with clear learning needs, plans, actions and outcomes
- 4 Develop own knowledge, skills and practice through active engagement in a range of learning and development opportunities
- 5 Continually maintain an up-to-date knowledge of infection prevention and control through a range of different activities (including reading peer-reviewed journals, accessing other sources of published information, and peer review sessions)
- 6 Seize opportunities to learn new knowledge and skills and apply them in the development of practice

#### *Knowledge, understanding and skills*

- a Self awareness of competence and level required
- b Critical analysis, evaluation and appraisal skills
- c Critical analysis and evaluation of published literature and peer-reviewed research studies
- d Writing for publication and reviewing journal articles
- e Knowledge management and knowledge sharing
- f Dissemination of best practice, internal to the organisation, at conferences and in journals.

#### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

Core 2 Personal and people development Level 4

#### **Links to national occupational standards**

The following national occupational standards relate to this competence:

GEN13: *Synthesise new knowledge into the development of your own practice* – see <https://tools.skillsforhealth.org.uk/competence/show?code=GEN13>

## Education

### 8 Lead the development of the knowledge, skills and practice of the infection prevention and control team

#### *Performance indicators*

- 1 Encourage others to make accurate and credible assessments of their knowledge and skills, challenging complacency and actions that are not in the interests of safety and quality
- 2 Identify and address gaps in knowledge, skills and competence of staff working within the infection prevention and control team
- 3 Develop an environment that values learning and development and promotes a learning culture in the workplace
- 4 Develop and inspire all members of the team to use their abilities to practise effectively and efficiently to deliver the infection prevention and control programme
- 5 Work in partnership with members of the infection prevention and control team to include professional development as part of their personal development planning
- 6 Alert relevant others to resource issues that affect learning, development and performance

#### *Knowledge, understanding and skills*

- a Staff appraisal, feedback, action plan and re-evaluation skills
- b The meaning of the term 'learning culture' and how it can be facilitated
- c Facilitating work-based learning, practice development and research activities
- d Staff development skills (including mentoring and coaching)
- e Effective methods of levels of delegation and support
- f Leadership models and styles and their application to practice.

#### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

Core 2 Personal and people development Level 4

(Continued)

## 8 Lead the development of the knowledge, skills and practice of the infection prevention and control team — Continued

### Links to national occupational standards

The following national occupational standards relate to this competence:

HSC43: *Take responsibility for the continuing professional development of self and others* – see <https://tools.skillsforhealth.org.uk/competence/show?code=HSC43>

CMF1: *Provide clinical leadership and take responsibility for the continuing professional development of self and others* – see <https://tools.skillsforhealth.org.uk/competence/show?code=CM+F1>

## Education

### 9 Develop and implement learning and development opportunities and solutions to improve infection prevention and control

#### Performance indicators

- 1 Identify the learning and development needs of individuals and teams through the use of epidemiological, surveillance and audit data
- 2 Evaluate with the relevant people the current approaches to learning and development related to infection prevention and control and identify areas for improvement
- 3 Work in partnership with individuals, populations and other relevant people to identify learning and development opportunities and solutions that offer best value for money and are targeted to address key issues
- 4 Develop a range of evidence-based learning and development activities that are tailored to the needs of specific groups of health and social-care staff and offer best value for money
- 5 Lead the implementation of learning and development activities to ensure that they are fit for purpose and improve infection prevention and control
- 6 Ensure the necessary modifications are made to learning and development activities to improve their effectiveness
- 7 Advise others on how to effectively include infection prevention and control in their own learning and development programmes and activities
- 8 Provide consultancy services on infection prevention and control to individuals and teams inside and outside the organisation

#### Knowledge, understanding and skills

- a Models and theories of learning (for example, learning styles)
- b Learning processes, methods and opportunities including innovative approaches to learning
- c How to identify learning needs
- d Types and methods of assessment
- e Integration of learning and development with organisational strategy and objectives for infection prevention and control.

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:

G1 Learning and development Level 4

### Links to national occupational standards

The following national occupational standards relate to this competence:

AC3: *Contribute to the development of the knowledge and practice of others* – see <https://tools.skillsforhealth.org.uk/competence/show?code=AC3>

LLUKL1: *Develop a strategy and plan for learning and development* – see <https://tools.skillsforhealth.org.uk/competence/show?code=LLUK+L1>

LLUKL2: *Identify the learning and development needs of the organisation* – see <https://tools.skillsforhealth.org.uk/competence/show?code=LLUK+L2>

LLUKL3: *Identify individual learning aims and programmes* – see <https://tools.skillsforhealth.org.uk/competence/show?code=LLUK+L3>

LLUKL7: *Prepare and develop resources to support learning* – see <https://tools.skillsforhealth.org.uk/competence/show?code=LLUK+L7>

## Education

### 10 Work with others to develop, implement, evaluate and embed infection prevention and control within workforce development strategies

#### *Performance indicators*

- 1 Work with others to build infection prevention and control into workforce development strategies
- 2 Provide expert advice and support in implementing a strategy for developing the workforce to improve infection prevention and control
- 3 Influence and persuade others to see infection prevention and control as an integral part of the learning and development culture in health and social care and essential to safety and quality
- 4 Evaluate the effectiveness of workforce development strategies in improving infection prevention and control
- 5 Make recommendations to improve the knowledge and skills of the workforce to prevent and control infection

#### *Knowledge, understanding and skills*

- a Risk management and quality improvement programmes
- b Learning culture
- c Integration of learning and development with organisational strategy and objectives for infection prevention and control
- d Identifying and negotiating training programmes
- e Clinical education and clinical teaching
- f Preparation of practitioners for different roles in the infection prevention and control team and for preventing and controlling infection more generally
- g Evaluation of the effectiveness of workforce development strategies including specific education and training programmes.

#### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

- G1 Learning and development Level 4
- G7 Capacity and capability Level 3

#### **Links to national occupational standards**

The following national occupational standards relate to this competence:

LLUK LI: *Develop a strategy and plan for learning and development* – see <https://tools.skillsforhealth.org.uk/competence/show?code=LLUK+LI>

## Box 4: Domain 3: Research

### 11 Access, appraise and apply robust evidence of all types, and from a range of research and other sources, to the domains of the role

#### *Performance indicators*

- 1 Appraise the validity, sufficiency and relevance of research methodologies and other information sources applicable to infection prevention and control
- 2 Critically appraise the literature to establish its validity and application to practice
- 3 Synthesise and analyse the arguments of others, identifying strengths and weaknesses
- 4 Apply the findings of the appraisal to practice
- 5 Evaluate the outcomes and findings of research and other literature to determine their impact on, and potential for, improving infection prevention and control

#### *Knowledge, understanding and skills*

- a Organisational strategies and objectives
- b The research process
- c Research approaches and design
- d Qualitative and quantitative research skills
- e Literature searching
- f Literature reviewing
- g Peer review
- h Secondary sources

(Continued)

## 11 Access, appraise and apply robust evidence of all types, and from a range of research and other sources, to the domains of the role — Continued

- i Critical analytical skills
- j Application of research evidence to practice.

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:  
IK2 Information collection and analysis Level 3

### Links to national occupational standards

This competence uses NOS PHS22 *Appraise, plan and manage research related to improving health and wellbeing* as its starting point and adapted it for advanced-level practice in infection prevention and control. The competence set out above is very similar to NOS PHS22 and full intellectual copyright for the original material rests with Skills for Health. See <https://tools.skillsforhealth.org.uk/competence/show?code=PHS22>

## Research

### 12 Build the evidence and knowledge base to improve and develop infection prevention and control strategies and practices through participation in, or completing research and other related activities, including audit

#### Performance indicators

- 1 Determine priorities for research and development within infection prevention and control, working in partnership with individuals, populations and colleagues (at national and local level and within services and academia)
- 2 Identify, select and summarise research and other related activities from a variety of sources that are applicable to infection prevention and control
- 3 Work with others to develop clear proposals that are consistent with identified priorities
- 4 Present clear, succinct, valid, reliable and cost-effective proposals to appropriate people and organisations
- 5 Collect, collate, analyse and synthesise qualitative and quantitative data and information using appropriate methods
- 6 Ensure projects are delivered and reported to time, addressing the questions or issues posed
- 7 Reach agreements with key people and stakeholders about the need for applying research outcomes and findings to infection prevention and control practice and how best to do this
- 8 Monitor and review implementation against anticipated outcomes and findings and make necessary adjustments in agreement with others

#### Knowledge, understanding and skills

- a Skills of interpreting research and related literature
- b Skills for evaluating research and other related literature in relation to:
  - research questions
  - research design
  - study analysis
  - limitations of the study
  - clinical implications of the study
  - implications for practice
- c Strategies for implementing findings in practice
- d Role of the funder.

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:  
IK2 Information collection and analysis Level 3  
G5 Services and project management Level 3

### Links to national occupational standards

This competence uses NOS PHS23 *Interpret research findings and implement them in practice* as its starting point and adapted it for advanced-level practice in infection prevention and control. The competence set out above is similar in content to NOS PHS23 and full intellectual copyright for the original material rests with Skills for Health. See <https://tools.skillsforhealth.org.uk/competence/show?code=PHS23>

## Research

### 13 Share best practice through the dissemination of evidence and knowledge

#### *Performance indicators*

- 1 Communicate findings and outcomes in various ways, to relevant people and stakeholders in a manner that is appropriate to their needs
- 2 Defend the intellectual basis of the evidence underpinning findings and outcomes
- 3 Reach agreements with key people and stakeholders in applying the findings and outcomes to infection prevention and control practice
- 4 In collaboration with others, apply evidence and knowledge in developing policy and driving forward improvement

#### *Knowledge, understanding and skills*

- a Skills of interpreting research and project outcomes
- b Skills of communicating research and project outcomes
  - implications for practice
  - report writing
  - writing for publication
  - oral presentation skills
- c Strategies for implementing research findings in practice.

#### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

G2 Development and innovation Level 3

#### **Links to national occupational standards**

This competence uses NOS PHS23 *Interpret research findings and implement them in practice* as its starting point and adapted it for advanced-level practice in infection prevention and control. The competence set out above is similar in content to NOS PHS23 and full intellectual copyright for the original material rests with Skills for Health. See <https://tools.skillsforhealth.org.uk/competence/show?code=PHS23>

## Box 4: Domain 4: Leadership and management

### 14 Improve quality and safety through networking, influence, proactivity and challenge

#### *Performance indicators*

- 1 Scan worldwide developments for emerging threats to safety and quality, emerging measures to address threats, and opportunities for action
- 2 Measure the future risks and threats; infection and prevention control measures
- 3 Proactively develop and sustain new partnerships and networks to influence and improve safety and quality working across professional, organisational and system boundaries
- 4 Develop and sustain a strategic vision and related plans, and gather evidence of improved quality, safety and infection prevention and control, using a range of different skills and drawing on own and others' expert knowledge
- 5 Seize appropriate and timely opportunities to stress safety and quality across different pathways, health and social-care settings and institutions
- 6 Continuously assess and monitor the risks to safety and quality and challenge others' actions and decisions when they put individuals, populations and others at risk
- 7 Advise key people of the effect that their decisions will have on safety and quality and the risks of not taking actions related to infection prevention and control
- 8 Recommend courses of action to key people that will improve safety and quality and bring other related benefits
- 9 Develop quality and safety improvement practices through understanding the implications of epidemiological, micro-biological, demographic, social, political and professional trends and developments and applying them to the context and environment following horizon scanning
- 10 Effectively communicate key messages to wider audiences to influence the wider safety and quality agenda
- 11 Take the necessary action to escalate concerns when safety and quality are compromised and there is a failure to act

(Continued)

## 14 Improve quality and safety through networking, influence, proactivity and challenge — Continued

### *Knowledge, understanding and skills*

- a The national and local strategic context, and sources of information about relevant factors and trends
- b How to present information in a manner that fits within the strategic context
- c Organisational strategy, objectives, structure and accountability
- d Local, regional and national networks.

### **Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

- Core 1 Communication Level 4
- HWB3 Protection of health and wellbeing Level 4
- G2 Development and innovation Level 3

### **Links to national occupational standards**

The following national occupational standards relate to this competence:

GEN32: *Search information, evidence and knowledge resources and communicate the results* – see <https://tools.skillsforhealth.org.uk/competence/show?code=GEN32>

## Leadership and management

## 15 Improve quality and safety through the design, planning, monitoring and development of services

### *Performance indicators*

- 1 Promote a vision of improved quality and safety and better infection prevention and control within health and social-care and related services to meet the needs of the population(s) that they are designed to serve
- 2 Actively engage with individuals and populations about their needs and priorities in relation to infection prevention and control
- 3 Enable different health and social-care providers and professionals within health economies to understand the need for, and commit to, common goals and objectives
- 4 Work with others to develop the standards of infection prevention and control that health and social-care services should meet so that they increase public confidence and deliver high-quality outcomes
- 5 Determine the needs of individuals and populations, and the outcomes they require from health and social-care services, from an analysis of hard and soft public health data
- 6 Draft specifications for services which contain clear and specific outcomes and indicators, sufficient levers to change practice, and identify the consequences of achieving or not achieving these
- 7 Secure the agreement of providers to the delivery of the specified services within available resources
- 8 Confirm that health and social-care providers have the necessary systems, policies, procedures and governance structures in place to provide high-quality and safe services and that they comply with national environmental standards
- 9 Analyse data on performance from service providers to determine if standards, indicators and outcomes are being met in service provision
- 10 Actively monitor and review the delivery of services against specification, outcomes and indicators (for example, through making unannounced visits) and take timely action when issues arise, including escalating to others if required

### *Knowledge, understanding and skills*

- a Effective engagement methods with individuals and populations about their needs and priorities in relation to infection prevention and control
- b Engagement strategies with health and social-care providers and professionals to build common goals and interests
- c Development of standards, indicators, outcome measures and so on
- d Skills in analysing public health data (hard and soft) to identify the needs and interests of individuals and populations
- e Service specifications – contents, driving quality and safety, specifying standards for monitoring and assurance, performance management requirements (services will include those relating to health and social-care services themselves and related services, for example, facilities management – cleaning, food, waste disposal, linen)
- f Clinical governance, quality assurance, clinical effectiveness, quality improvement framework and service improvement frameworks
- g Improvement and change methodologies.

(Continued)

## 15 Improve quality and safety through the design, planning, monitoring and development of services — Continued

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:

- Core 4 Service improvement Level 4
- HWB3 Protection of health and wellbeing Level 4
- G3 Procurement and commissioning Level 3
- G5 Services and project management Level 4

### Links to national occupational standards

The following national occupational standards relate to this competence:

- ENTO HSP1: *Develop and review the organisation's health and safety strategy* – see <https://tools.skillsforhealth.org.uk/competence/show?code=ENTO+HSP1>
- ENTO HSP13: *Influence and keep pace with improvements in health and safety practice* – see <https://tools.skillsforhealth.org.uk/competence/show?code=ENTO+HSP13>

## Leadership and management

### 16 Lead high quality infection prevention and control services

#### Performance indicators

- 1 Communicate a vision of infection prevention and control that is related to major organisational objectives and captures the interests of key people
- 2 Develop a strategy for an effective infection prevention and control service
- 3 Negotiate and agree deliverables, outcomes and resource allocations for the infection prevention and control service and specific projects
- 4 Develop and facilitate the implementation of the infection prevention and control annual programme in partnership with key people
- 5 Review outcomes, plans, methods, processes and systems related to infection prevention and control and modify them to improve effectiveness
- 6 Prepare and present relevant and focused infection prevention and control reports and other forms of communication to key people

#### Knowledge, understanding and skills

- a Organisational management strategy
- b Individual and organisational management strategy
- c Principles and methods of planning, resourcing, monitoring and controlling
- d Leadership theories and styles (for example, situational leadership, transformational leadership, servant leaders, distributed leadership) and their application to practice
- e Organisational and directorate communication strategy.

### Links to the NHS Knowledge and Skills Framework

This competence relates to the following dimensions and levels within the NHS KSF:

- Core 4 Service improvement Level 4
- HWB3 Protection of health and wellbeing Level 4
- G3 Procurement and commissioning Level 3
- G5 Services and project management Level 4

### Links to national occupational standards

The following national occupational standards relate to this competence:

- M&L B6: *Provide leadership in your area of responsibility* – see <https://tools.skillsforhealth.org.uk/competence/show?code=M%26L+B6>

**17 Lead and manage the work of the infection prevention and control team to achieve objectives**

*Performance indicators*

- 1 Agree and communicate clear team and individual objectives and work plans
- 2 Ensure objectives and work plans are realistic and achievable, making adjustments where necessary
- 3 Develop, coach and encourage all members of the team to use their abilities to practise effectively and efficiently to deliver the infection prevention and control programme
- 4 Ensure that team members have access to sufficient resources to deliver the programme
- 5 Assess the performance of the team and individuals at appropriate times, using valid and reliable information
- 6 Provide feedback to teams and individuals in a situation and in a manner most likely to maintain and improve their performance, including providing recognition of achievements
- 7 Where necessary, help team members to address poor performance
- 8 Encourage and support good relationships between the team and other teams and departments within the organisation

*Knowledge, understanding and skills*

- a Leadership theories and styles (for example, situational leadership, transformational leadership, servant leaders, distributed leadership) and their application to practice
- b Staff support mechanisms
- c Resource management to deliver organisational strategy and objectives
- d Time management
- e Budget management
- f Legislation, national guidance and outcomes/indicators related to the employment, management and development of employees.

**Links to the NHS Knowledge and Skills Framework**

This competence relates to the following dimensions and levels within the NHS KSF:

- G5 Services and project management Level 4
- G6 People management Level 3

**Links to national occupational standards**

The following national occupational standards relate to this competence:

M&L B5: *Provide leadership for your team* – see <https://tools.skillsforhealth.org.uk/competence/show?code=M%26L+B5>

**13. Examples of career paths for IPC practitioners**

There is no set career path for IPC practitioners, nor is there a 'typical career path' any more. Today's IPC practitioners increasingly come from diverse occupational or professional backgrounds, environments and disciplines, and enter at different points on the career ladder.

Like Rashid in the case study below, people often start their career in clinical practice or healthcare science, develop a passion or interest in

IPC, and then pursue continuing education courses to develop specific expertise that qualifies them for the role.

Nor is there a single end point. Let's see how this worked for Jo:

**Case study 1**

Rashid

Rashid started his nursing career in general nursing. He took up his first post in acute elderly medicine, which allowed him to consolidate his basic nursing skills. He then moved to an acute general surgery setting and also completed his Masters in Healthcare Ethics. Experience in a number of specialties allowed him to progress through the nursing ranks, culminating in a lead-nurse role on a plastics, burns and maxillofacial ward. An interest in infection prevention led him to take up a post with the infection prevention team and to complete a management of infection prevention and control programme. He continues to work in this field as a matron for infection prevention, and he often draws on his previous nursing experience to support him in this role.

**Case study 2**

Jo

Jo trained in general nursing then specialised in intensive care and medicine. Her interest in infection control led to a seconded project in developing surveillance and a full-time infection prevention and control post. This provided her with opportunities to develop her expertise over 10 years. She then took up senior posts in both acute and community care, completing an MSc in professional development, and fulfilling regional and national roles in the Infection Prevention Society. As Consultant Nurse in a large university teaching hospital, she had input into university programmes as a lecturer. A role as Deputy Director of Infection Prevention and Control followed. Development opportunities arose at regional level and on the Department of Health's MRSA programme. Jo is still the Director of Infection Prevention and Control in a large acute trust, and has a continuing passion for professional development, supporting improved patient safety and use of competency frameworks.

### Case study 3

Pat

Following general nursing and specialising in intensive care nursing, Pat was offered a part-time Infection Control Nurse (ICN) position while managing an acute unit in an independent health-care company. The full-time ICN position provided opportunities to develop enhanced knowledge and skills, including quality improvement at national and local level, development of strategy, and policy skills.

But Pat's story does not stop there...

### Case study 3A

Pat (continued)

A continuing interest in population health led Pat to an NHS public health protection post with wider public health activities and national working (for example, with government). This led to a number of national roles – a government advisory position leading a national IPC programme, and a consultant role in a health protection organisation, and in a non-NHS national organisation regulating all adult, child and independent healthcare services.

The role of IPC practitioner can take you in exciting new directions when you least expect it:

### Case study 4

Rani

After training as a healthcare scientist, Rani was inspired to move outside the lab by the local infection control consultant, and seized the opportunity of a career progression into the specialty. A spell at a district general hospital and a large teaching hospital culminated in her involvement in pioneering improvement work. This took her to the national and international arena, working latterly for the World Health Organization in Geneva and its regional and country offices, ministries of health and professional medical, nursing and academic institutions, as well as with clinical staff in healthcare settings in South East Asia, the Americas and Africa.

IPC practitioners can also decide to pursue a clinical academic career like Megan:

### Case study 5

Megan

After working as a general nurse in various specialities (orthopaedics, medicine, urology, surgery, A & E and care of the elderly), Megan then joined the infection prevention and control team, having responsibilities within both the acute and community setting. Twelve years later, Megan was appointed to an associate lecturer's role in the university. This allowed her to split her work between her clinical roles and the university (teaching in the undergraduate and postgraduate nursing and midwifery curriculum) and Megan also completed her Masters at that time. Following 18 months as an associate lecturer she took up the post of a full-time lecturer and gained her teaching qualification. After engaging in a number of research projects, her role then extended to that of a lecturer and researcher and she is now undertaking her PhD.

These real-life case studies suggest that IPC practitioners do need to plan ahead, but they also need to be flexible. Most of all, they need to be open to new interests and opportunities.

### 14. Example of assessing oneself against the competences and planning learning

Zara has been working as an IPC practitioner for four years, with four others at the same band/grade. She is interested in developing herself so that she is able to apply for a higher banded/graded post in IPC. She is interested in this primarily because recently she has been working closely with her line manager and has had an insight into the leadership and management aspect of infection prevention and control and feels she has the qualities to be able to effectively deal with the challenges that this role presents.

Zara's current post is multifaceted, but her main responsibilities are responding to specific laboratory diagnosed infections; contributing to outbreak management; undertaking audit and surveillance; and the development and implementation of infection prevention and control education to multidisciplinary healthcare workers. Since Zara has been considering progressing her career, she has become increasingly conscious that whilst she has the fundamental knowledge, skills and competence to do some of the work undertaken by an advanced level practitioner, such as using some improvement methodologies – competence 4 – and using surveillance data – competence 2), there are broader aspects of the role that would be very challenging for her at the moment without further development.

One of the competences that Zara has identified as currently challenging is competence 5 related to advising on the design, construction and modification of facilities, because this aspect of the role has been predominantly dealt with by her line manager. Zara assessed herself against competence 5 and also asked for feedback from her line manager, Sam. Their initial assessments are shown in Box 5.

#### *Conclusions on Zara's learning needs in relation to this competence*

Zara and Sam agreed that Zara's main learning needs in relation to this competence are initially in the knowledge, understanding and skills area, ie

- Legislation, national guidance and outcomes/indicators relating to the design, construction and modification of the built environment in general and health and social-care facilities in particular (for example, ventilation, water sources, waste management, and hygiene)
- Organisational strategy for new builds, refurbishments, planned programme maintenance
- Interpretation of architects' estates' and facilities' plans for new builds, refurbishment and modification
- And the application of these to practice.

To meet these learning needs, Zara and Sam identified the following learning activities for Zara to undertake (see Box 6).

When Zara had undertaken the planned learning activities, she would provide appropriate evidence to her manager to demonstrate her developing competence. There would then be a need for her and her manager to review progress, address further learning needs, and for her to re-assess herself against the competences.

**Box 5**

**5 Advise on the design, construction and modification of facilities to prevent and control infection in the built environment**

	<b>Zara's self-assessment</b>	<b>Sam's feedback</b>
<p><b>Performance indicators</b></p> <p>1 Work with others on plans for the design, construction and modification of facilities to improve safety and quality through infection prevention and control</p>	<p>(1) I am used to working with people in healthcare teams and think I do this well, but have no experience of working with architects, surveyors etc. Similarly I definitely have learning needs in relation to knowledge of building regulations and the application of IPC principles to design and construction.</p>	<p>One of your skills, Zara, is working effectively with others and I have seen you do this with many different people including senior managers without a healthcare background. I agree your main learning needs to be developed around building guidance, regulations and legislation and who the key members of the team are. This will also allow you to see how the infection prevention and control strategy aligns with this type of work.</p>
<p>2 Advise on the infection prevention and control risk assessment criteria prior to a new build and in advance of any demolition or modification of a building consistent with current building guidance and legislation</p>	<p>(2) Are the IPC risk assessment criteria the same for construction as I realise that I'm not sure and would need to confirm this? I also don't know about building guidance and legislation!</p>	<p>The IPC risk assessment criteria that you need to look further into is around the assessment of proposed sites for the development of a healthcare facility; the design and planning stages; the construction and refurbishment stages and ongoing maintenance issues</p>
<p>3 Liaise with key health and social-care staff and others prior to and at every subsequent stage of the build, demolition or modification to ensure that infection prevention and control advice is effectively incorporated into the works</p>	<p>(3) Think I might be okay on this one as long as I can understand building plans, legislation etc!</p>	
<p>4 Work in partnership with key health and social-care staff to reduce the risk of infection to individuals, populations, staff and others during construction, demolition or modification activities</p>	<p>(4) Again this seems to build on my fundamental learning needs identified above.</p>	
<p>5 On the completion of the works, review with individuals, populations, staff and others the effectiveness of the development for preventing and controlling infection.</p> <p><b>Knowledge, understanding and skills</b></p> <p>a Applied microbiology in relation to the chain of infection and the infection process, alert micro-organisms and conditions, body defence mechanisms</p>	<p>(5) Ditto</p> <p>(a) – (c) this is one of my strengths in relation to this competence I think</p>	<p>Agree with this assessment Zara. The major learning needs are in relation to the aspects identified in (d) – (f). I note your concerns about (f) – I had the same worries when I started my development in this area – but with the right support I am sure you have the ability to develop your knowledge and skills in this area.</p>

### Box 5 — Continued

- b The significance of microbiological results, interpreting the diagnostic laboratory results; practices designed to break the chain of infection – for example, standard and transmission-based precautions including the placement of individuals and populations within care settings
- c Antimicrobial stewardship – prudent prescribing of antimicrobials and the surveillance of antimicrobial resistant organisms
- d Legislation, national guidance and outcomes/indicators relating to the design, construction and modification of the built environment in general and health and social-care facilities in particular (for example, ventilation, water sources, waste management, hygiene)
- e Organisational strategy for new builds, refurbishments, planned programme maintenance
- f Interpretation of architects', estates' and facilities' plans for new builds, refurbishment and modification

(d) – (f) and here are my weaknesses, I really don't know where to start on these except for the basic knowledge I have already related to the above such as in relation to hygiene and waste management. But there are the broader aspects and the link of this into building design etc. (f) is a definite learning need which I am worried about as I don't have much confidence in interpreting plans etc.

**Box 6**

**Learning needs**

1 Legislation, national guidance and outcomes/indicators relating to the design, construction and modification of the built environment in general and health and social-care facilities in particular (for example, ventilation, water sources, waste management, hygiene)

- 2 Organisational strategy for new builds, refurbishments, planned programme maintenance
- 3 Interpretation of architects' estates' and facilities' plans for new builds, refurbishment and modification
- 4 And the application of these to practice

**Learning and development activities**

These three learning needs are inter-linked. It is not a particularly easy area on which to find learning programmes in the local area as it is so specialised and only attracts fairly small numbers. The following possible activities have been identified:

- An accredited online e-learning module
- Book(s) and journal articles
- Locate resources available from the Infection Prevention Society website and communicate with members on their online discussion forum
- Locate resources available from the Infection Prevention Society website and communicate with members on their online discussion forum
- Tutorial help from the architectural postgraduate student on placement in the organisation helping them meet their development opportunities as well?
- Opportunities for shadowing colleagues in relation to the planned refurbishment for the local podiatry clinic and the new build day surgery unit?
- Talk to colleagues outwith own clinical setting to gain further insight into specific issues and challenges that others have faced and addressed

**Actions and timescale**

- 1 Zara to find out about available e-learning packages asap as this seems to be the ideal possible starting point.
  - 2 Sam to find references to the books used in own development for Zara to access from the library
  - 3 Zara to look on the Infection Prevention Society website and discussion forum and contact relevant members or committees for their help and possible support.
  - 4 Zara to do a literature search and look for relevant books in the library
  - 5 Sam to make contact with the line manager of the student to explore possibility – end of next month's planned strategy meeting best time probably as can raise informally.
  - 6 Aim is for Zara to have completed development in relation to these learning needs within 6 months
- Structured shadowing in this area to follow development activities above. Sam also to consider whether possible for Zara to attend one or more planning meetings for the refurbishment of the podiatry clinic and planning stages of the new build for the day surgery unit.

## 15. Websites for additional information

- Association for Professionals in Infection Control and Epidemiology: <http://www.apic.org>
- Code of Practice for the Assurance of Academic Quality and Standards in Higher Education: <http://www.qaa.ac.uk/academicinfrastructure/codeofpractice/default.asp>
- Community and Hospital Infection Control Association – Canada: <http://www.chica.org/>
- Department of Health, Social Services and Public Safety: <http://www.dhsspsni.gov.uk/>
- Department of Health, England: <http://www.dh.gov.uk/en/index.htm>
- European Centre for Disease Prevention and Control: <http://www.ecdc.europa.eu/en/Pages/home.aspx>
- Health Protection Agency: <http://www.hpa.org.uk/>
- Health Protection Scotland: <http://www.hps.scot.nhs.uk/>
- Infection Prevention Society: <http://www.ips.uk.net/>
- Institute for Healthcare Improvement (IHI): <http://www.ihl.org/IHI/>
- International Federation of Infection Control: <http://www.theific.org/>
- National Patient Safety Agency: <http://www.npsa.nhs.uk/>
- National Patient Safety Foundation: <http://www.npsf.org/>
- NHS Institute for Innovation and Improvement: <http://www.institute.nhs.uk/>
- Patient Safety First Campaign: <http://www.patientsafetyfirst.nhs.uk/>
- Royal College of Nursing: <http://www.rcn.org.uk/>
- Scottish Credit and Qualifications Framework: <http://www.scf.org.uk/>
- Skills for Health: <http://www.skillsforhealth.org.uk/>
- The NHS Knowledge and Skills Framework (NHS KSF): [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_4090843](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4090843)
- The Scottish Government: <http://www.scotland.gov.uk/Topics/Health>
- Webber Training: <http://webbertraining.com/teleclassescl.php>
- Welsh Assembly Government: <http://wales.gov.uk/topics/health/?lang=en>
- World Health Organization: <http://www.who.int/en/>

## 16. Glossary

### *Aetiology*

Study of causes or origins.

### *Alert organisms*

A set of pathogens that are considered to be indicators of real or potential infections.

### *Antimicrobial stewardship*

Multifaceted approach to preventing the emergence of antimicrobial resistance including the prudent prescribing of antimicrobial agents, surveillance of antimicrobial-resistant organisms, audit, monitoring and education.

### *Career framework for health*

The purpose of career frameworks is both to help individuals plan their development routes and organisations develop a flexible workforce to meet current and future needs. The NHS Career Framework consists of nine different levels from level 1 initial entry-level jobs to more senior staff at level 9. Skills for Health show pathways through the NHS Career Framework through the use of competences.

### *Clinical audit*

A quality-improvement process that seeks to improve patient care outcomes through systematic review of care against explicit criteria and the implementation of change.

### *Commissioning*

The process of meeting needs at a strategic level for whole groups of service users and/or whole populations, and of developing policy directions, service models and the market, to meet those needs in the most appropriate and cost-effective way.

### *Competences*

There are different forms of competences such as: those that focus on the underlying characteristics or attributes of an individual; the learning outcomes that individuals need to achieve at the end of a programme of education and training; or the outcomes that individuals need to achieve in a particular field of activity such as work. These competences use the latter concept describing the outcomes that individuals need to achieve at work, specifically the work associated with an advanced level of practice in infection prevention and control.

### *Competent*

Broadly, this can be seen as the ability to perform to a standard through applying knowledge, skills and attributes.

### *Critical analysis skills*

The ability to make expert judgements to inform infection prevention and control processes.

### *Decontamination*

A combination of processes, including cleaning, disinfection and/or sterilisation used to achieve decontamination of the environment and equipment, and to make reusable surgical instruments safe for further use. The term also applies to hand hygiene.

### *Emerging infections*

Those organisms that have been newly identified as a potential threat, usually to humans, but can be related to birds, animals, plants or the environment.

### *Epidemiology*

The study of the distribution and determinants of disease and their impact upon a population.

### *Horizon scanning*

Looking ahead to systematically examine potential threats, challenges, opportunities and likely future developments, through critical thinking and planning.

### *Leadership quality framework*

This framework profiles the characteristics of leadership and the effective behaviours and qualities that can enable successful leadership to take place.

### *Learning culture*

A set of attitudes, values and practices to support the process of continuous learning in an organisation.

### *National occupational standards*

National Occupational Standards (NOS) describe performance as outcomes of a person's work. They focus on what the person needs to be able to do, as well as what they must know and understand to work effectively.

### *NHS Knowledge and Skills Framework*

The NHS Knowledge and Skills Framework (the NHS KSF) defines and describes the knowledge and skills that NHS staff need to apply in

their work in order to deliver quality services. It provides a single, consistent, comprehensive and explicit framework on which to base review and development for all staff. The NHS KSF and its associated development review process lie at the heart of the career and pay progression strand of Agenda for Change and it applies across all of the NHS in the UK for all staff groups who come under the Agenda for Change Agreement

#### *Qualitative research*

Qualitative research is the study of things in their natural settings in order to make sense of phenomena in terms of the meanings people bring to them.

#### *Quantitative research*

Quantitative research uses scientific method and generates numerical data in order to test hypotheses and establish causal relationships between two or more variables, using statistical methods to test the strength and significance of the relationships.

#### *Surveillance*

The ongoing, systematic collection and analysis of data about a disease or organism that can lead to action being taken to control or prevent the disease.

### **17. Competency Steering Group**

Ros Moore	Chief Nursing Officer, Scotland (Chair)
Emma Burnett	Lead Co-ordinator Infection Prevention Society Education and Professional Development Committee
Daniel Crosariol	Department of Health
Catherine Deakin	Council of Deans
Carol Fraser	Scottish Government Health Department
Carole Fry	Department of Health
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Rozila Horton	Infection Prevention Society Education and Professional Development Committee Deputy Co-ordinator
Richard Leigh	Department of Health
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Anne Mills	Department of Health, Social Services and Public Safety Northern Ireland
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Alison Strode	Skills for Health
Margaret Tannahill	Infection Prevention Society Education and Professional Development Committee Member

#### *Administrative*

Lynne Duncan Secretariat, PA to the IPS Board

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Maria Bernallick Committee Member  
Angela Richards Committee Member  
Sarah Murdoch Committee Member  
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### **References**

Department of Health (2002) NHS Leadership Qualities Framework. Available at: see <http://www.nhsleadershipqualities.nhs.uk/> (accessed 12 January 2011).

Department of Health (2004) *The NHS Knowledge and Skills Framework and the development review process*. DH Publications: London. Available at: [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_4090843](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4090843) (accessed 12 January 2011).

Department of Health (2010) Advanced level nursing: a position statement. Available at: [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_121739](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_121739) (accessed 12 January 2011).

QAA (2008) Report of the FHEQ Self-certification Advisory Group. Available at: <http://www.qaa.ac.uk/academicinfrastructure/FHEQ/selfcertification09/FHEQSelfCert.pdf> (accessed 12 January 2011).

Scottish Credit and Qualifications Framework (2009) SCQF handbook: user guide. Available at: <http://www.scqf.org.uk/News/LatestNews/SCQFHandbookUserGuide2009.aspx> (accessed 12 January 2011).

Scottish Government (2008) *Supporting the development of advanced nursing practice*. Scottish Government: Edinburgh. Available at: <http://www.aanpe.org/LinkClick.aspx?fileticket=gifsljicsCRw%3D&tabid=1051&mid=2508&language=en-US> (accessed 12 January 2011).

Skills for Health (2010) Key elements of the career framework. Available at: [http://www.skillsforhealth.org.uk/workforce-design-development/workforce-design-and-planning/tools-and-methodologies/-/media/Resource-Library/PDF/Career\\_framework\\_key\\_elements.ashx](http://www.skillsforhealth.org.uk/workforce-design-development/workforce-design-and-planning/tools-and-methodologies/-/media/Resource-Library/PDF/Career_framework_key_elements.ashx) (accessed 12 January 2011).