

## Competencies Framework for Infection Prevention & Control Practitioners

Competencies for infection prevention and control practitioners (IPCPs) were first introduced by the Infection Control Nurses Association (ICNA) in 2000 and subsequently revised by the Education and Professional Development Committee of the Infection Prevention Society (IPS). A competent practitioner can be defined as a person who has acquired a set of skills with the ability to apply and measure these skills against set standards (Winchcombe, 2000). Infection prevention and control (IPC) competences provide a framework to enable IPCP to develop and enhance their knowledge and skills to help increase patient safety and care quality (Burnett, 2011). They can also assist in the design of education programmes; staff appraisal and personal development plans and reviewing team structures and requirements.

### Using the IPS Competencies Framework

Members of IPS can use the IPS Competencies Platform on the IPS website to build a portfolio of their competencies. This tool allows competencies to be documented, linked to evidence that demonstrates the relevant knowledge and skills acquired and signed-off by a mentor. The tool enables members to generate a progress report to summarise competencies achieved and areas that requiring further development. This report can be used to support appraisal, personal development, career progression and professional revalidation.

The IPS competencies reflect the broad range of competencies that a proficient IPCP would be expected to gain. They may not reflect all the higher-level competencies required of an IPCP who is managing the IPC service and not all domains, competencies or practice indicators will be relevant to all IPCP roles.

The competency framework comprises Core Competencies and four domains:

- Clinical Practice
- Quality Improvement & Research
- Education
- Leadership and Management

The following terms may be helpful to support assessment of competence:

**1. Working towards**

*Has acquired some experience of performing the skill, task or responsibility but still requires support or supervision*

**2. Competent**

*Able to perform the skill, task or responsibility as an autonomous practitioner*

Core competencies (CC)				
Competency	Practice Indicator	Knowledge	Skills	Working towards/Competent
<b>CC1</b>	<b><i>Deliver appropriate and effective information, advice and guidance on infection prevention &amp; control</i></b>			
CC1.1	Apply the principles of microbiology, immunology and epidemiology to designing and implementing strategies to prevent and control infection.	<p>Evidence underpinning IPC including:</p> <ul style="list-style-type: none"> <li>○ Microbiology</li> <li>○ laboratory methods and reporting</li> <li>○ Immunology</li> <li>○ antimicrobial agents, resistance and treatment of infection</li> <li>○ epidemiology of HCAI</li> <li>○ infection transmission and prevention</li> <li>○ infection prevention in relevant invasive devices and procedures</li> </ul>	Critical evaluation of guidelines, research and other sources of evidence and application of findings to clinical practice	
CC1.2	Communicate IPC information effectively in a verbal and/or written form at an appropriate level for the target audience.	Strategies for delivering information effectively	Communicate complex messages clearly and effectively Evaluate effectiveness of communication	
CC1.3	Identify IPC risks and develop appropriate strategies to manage, mitigate, minimise or contain them.	Principles of risk assessment, management, governance and assurance; systems for documenting, monitoring and reviewing risk	Evaluates current risk assessments, appropriately escalates them and communicates risks with appropriate persons. Design strategies to manage or mitigate IPC risks	
CC1.4	Recognise gaps in knowledge, skills and competence of self and others in relation to IPC and develops improvement strategies.	Evidence underpinning infection prevention and control practice	Critical evaluation of guidelines, research and other sources of evidence and application of findings to clinical practice	
CC1.5	Communicate confidently and competently to staff, including providers, stakeholder and partner organisations, and service users and the public about infection and IPC at a level to suit the audience.	Appropriate and timely IPC information	Uses a wide range of communication strategies to meet the needs of their audience i.e. leaflets, dashboards, reports	
CC1.6	Critically evaluate research and other forms of evidence to underpin IPC advice.	Interpretation of research findings, assessment of study quality and validity of study findings or recommendations	Apply research findings to clinical practice	
CC1.7	Develop, assist and encourage staff and team members to practice effectively and efficiently including engagement events with service users and the public where applicable and appropriate to do so.	Evidence underpinning infection prevention and control practice	Identify and build effective relationships	
CC1.8	Apply methodologies to develop, support and maintain effective root cause analysis processes or other similar processes.	Evidence underpinning infection prevention and control practice	Critical evaluation of guidelines, research and other sources of evidence and application of findings to clinical practice.	
CC1.9	Build and sustain effective working relationships, influencing others to recognize the importance of IPC practice in promoting, improving and maintaining patient safety.	Relationship management	Identify, build and maintain key relationships	
CC1.10	Develop a strategy for providing and sustaining an effective infection prevention & control service aligned to organisational objectives and vision.	Evidence underpinning infection prevention and control practice.	Critical evaluation of guidelines, research and other sources of evidence and application of findings to clinical practice	

Competency	Practice Indicator	Knowledge	Skills	Working towards/Competent
<b>Domain: Clinical practice (CP)</b>				
<b>CP1</b> <i>Use surveillance data to inform infection prevention &amp; control practice</i>				
CP1.1	Design, implement and/or utilise existing effective surveillance systems to inform practice based on epidemiological principles.	Methods of surveillance and their application	Utilise and analyse surveillance and other infection-related data,	
CP1.2	Apply the principles of epidemiology to the analysis and interpretation of data and use to inform appropriate interventions.	Understanding of the principles of statistics and limitations of data	Interpret surveillance reports	
CP1.3	Generate reports from surveillance and other sources of infection related information and feedback appropriately to key stakeholders.	<ul style="list-style-type: none"> <li>○ Understanding epidemiological metrics such as incidence and prevalence, significance of microbiological and diagnostic results and action/ implementation of results.</li> <li>○ Reporting surveillance data.</li> <li>○ National, regional and local surveillance systems for HCAI, legislation and National guidance</li> </ul>	<ul style="list-style-type: none"> <li>○ Apply findings from surveillance to evaluate policies and programmes and identify action plans and priorities for infection prevention and control.</li> <li>○ Prepare reports appropriate to the target audience.</li> <li>○ Evaluate and review surveillance programmes against organisational IPC objectives</li> </ul>	
<b>CP2</b>	<i>Advise on infection prevention &amp; control in relation to the built environment and clinical equipment</i>			
CP2.1	Assess any IPC related risks and provide advice on their prevention and control in the design, construction, modification and maintenance of facilities.	<ul style="list-style-type: none"> <li>○ Evidence for infection risks associated with the built environment e.g. air handling, plumbing, water systems, and effective prevention and control strategies</li> </ul>	Work with internal departments e.g. estates, facilities, capital planning and external contractors, other organisations	
CP2.2	Ensure key services supporting the IPC agenda e.g. cleaning and waste management are meeting the needs, requirements and specification of the service, assessing and identifying any risks or gaps in provision.	<ul style="list-style-type: none"> <li>○ The principles of decontamination, including relevant methods their application, effectiveness and limitations</li> </ul>	Evaluate the IPC risks associated with equipment, medical devices and the environment, and identification of appropriate decontamination methods	
CP2.3	Assess the IPC risks associated with equipment and the environment and advise on appropriate actions to optimise decontamination processes promoting patient safety.	<ul style="list-style-type: none"> <li>○ Methods and processes for decontamination of the environment, medical devices (for example, endoscopes, surgical instruments) and equipment.</li> <li>○ Local and national decontamination policies, guidelines and procedures for equipment, medical devices and the environment.</li> <li>○ Evidence for the role of cleaning technologies in all decontamination processes.</li> <li>○ Incorporate Health and Safety legislation and guidance in relation to the built environment (e.g. Health Technical Memoranda, Health Building Notes).</li> <li>○ Consider national guidelines and legislation during the Tendering process for services.</li> <li>○ Systems for waste management and laundry management, potential infection risks and control strategies and relevant National guidance</li> </ul>	Incorporate infection prevention and control advice into tenders	

Competency	Practice Indicator	Knowledge	Skills	Working towards/Competent
<b>CP3</b>	<b>Develop and implement evidence-based policies and guidelines for the prevention and control of infection.</b>			
CP3.1	Develop different forms of guidance based on the critical analysis of research evidence and interpretation of National guidelines	Evidence underpinning infection prevention and control practice	Critical evaluation of guidelines, research and other sources of evidence and application of findings to clinical practice i.e. SOP's, flow charts, policy and procedures.	
CP3.2	Work in partnership with key stakeholders to develop policies and guidelines that are evidence-based, relevant and understandable to health and social care staff	Legislation, national and local polices, guidelines and strategies relevant to infection prevention and control	Work in partnership with stakeholders to design, develop relevant and understandable polices/guidelines	
CP3.3	Monitor and evaluate the effectiveness of IPC policies and guidelines and identify areas for improvement	Principles of process and outcome audit	<ul style="list-style-type: none"> <li>○ Use audit to support quality improvement in relation to IPC.</li> <li>○ Develop effective strategies to address deficiencies in practice</li> </ul>	
CP3.4	Promote the application of evidence to infection prevention and control practice	Effective strategies for disseminating and implementing infection prevention and control polices and guidelines	Design and plan the effective implementation of polices and guidelines which follow local governance processes	
<b>CP4</b>	<b>Recognise, report and manage incidents and outbreaks.</b>			
CP4.1	Recognise and appropriately escalate significant incidents and outbreaks, and identify the evidence required to determine the nature, scale, and prevention strategies	Routes of transmission of micro-organisms, risk factors for transmission, common causes of outbreaks of HCAI, and sources of data on outbreaks e.g. national surveillance systems and factor in epidemiological links and risks	Identify and define outbreaks and incidents	
CP4.2	Work in partnership with others to agree and implement prevention and control measures, evaluate their effectiveness and adapt them if new information becomes available	Evidence for effectiveness of strategies to prevent outbreaks of HCAI	Interpret microbiological data and other information to inform effective prevention and control measures	
CP4.3	Communicate clear, accurate and timely information throughout the outbreak /incident to ensure risk is effectively managed	<ul style="list-style-type: none"> <li>○ Definitions of outbreaks/incidents of infection.</li> <li>○ Data required to control outbreaks and analysis of data to understand factors responsible for transmission and identify efficacy of control measure</li> </ul>	<ul style="list-style-type: none"> <li>○ Collect, analyse and interpret outbreak data.</li> <li>○ Identify and communicate with relevant stakeholders.</li> <li>○ Develop and communicate an outbreak management plan</li> <li>○ Outbreak management plans should factor within a health economy approach i.e. acute &amp; community</li> <li>○ Identify the end of an outbreak</li> <li>○ Report on lessons learned and recommendations for improvements to avoid reoccurrence</li> <li>○ Present reports of outbreak to relevant stakeholders</li> </ul>	

## Domain: Education (ED)

### ED1 Develop own knowledge and skills in infection prevention & control

ED1.1	Identify and evaluate own development needs, including strengths and limitations, to meet current and emerging work demands and organisational objectives.	Personal portfolio, documentation, organisational and professional revalidation requirements	Maintain a personal portfolio and identifying gaps in knowledge and skills or other development needs	
ED1.2	Develop clear plans, actions and outcomes to build and maintain expertise as part of ongoing professional development.	Formal and informal education and training opportunities	Take responsibility for addressing development needs and developing action plans	

Competency	Practice Indicator	Knowledge	Skills	Working towards/Competent
ED1.3	Maintain knowledge and skills in infection prevention and control practice utilising a breadth of resources across both academic and professional practice.	Sources of academic literature underpinning the science and practice of IPC i.e. academic journals and courses and participating in other educational and learning activities and opportunities.	Critical evaluation of published literature and research studies and application of findings to practice	
<b>ED2</b>	<b><i>Identify and respond to infection prevention &amp; control learning needs in others</i></b>			
ED2.1	Influence others to recognise infection prevention and control as an essential learning need for all healthcare staff.	Resources available to support IPC training and education	Identify knowledge and training needs of workforce	
ED2.2	Use scoping exercises to identify emerging IPC risks and related learning needs.	Emerging IPC issues, innovations in practice, new technologies. Strategies for training and education	<ul style="list-style-type: none"> <li>○ Deliver training/education that meets the learning needs of the participants and organisation</li> <li>○ Identify and negotiate opportunities for IPC training</li> <li>○ Integrate IPC training with organization training and development programmes</li> </ul>	
<b>ED3</b>	<b><i>Provide expert advice and education on infection prevention &amp; control to staff and service users and providers</i></b>			
ED3.1	Design communication strategies, learning resources/information and educational events that are appropriate to the needs of the target audience.	National and local policies and guidelines that inform IPC practices	<ul style="list-style-type: none"> <li>○ Design evidence-based training/education on IPC appropriate for a range of audiences</li> <li>○ Engagement in public awareness campaigns (local, national and international).</li> </ul>	
ED3.2	Deliver flexible and creative education and training that supports effective learning.	<ul style="list-style-type: none"> <li>○ Strategies for delivering effective training and education</li> <li>○ Sources of information on IPC for staff, patients, service users, service providers and the public</li> </ul>	<ul style="list-style-type: none"> <li>○ Deliver IPC information to a range of audiences using a variety of presentation approaches and styles</li> <li>○ Design effective evidence-based material to clearly communicate relevant information to staff, service users and providers.</li> <li>○ Design and develop study days and conferences locally and nationally where applicable</li> </ul>	
<b>ED4</b>	<b><i>Evaluate educational strategies for infection prevention &amp; control</i></b>			
ED4.1	Work in partnership with others to ensure infection prevention is an integral part of staff learning and development.	Organizational objectives for staff training and development	Work collaboratively to develop effective training	
ED4.2	Provide support and expert advice to improve knowledge of infection prevention across the organisation.	Key stakeholders in determining Organisational strategy for staff training	Influence training and development strategies to address IPC training needs	
ED4.3	Evaluate the effectiveness of educational strategies and make recommendations to improve the knowledge, skills and competence of the workforce.	Evaluation strategies	Evaluate teaching and take account of feedback in revising teaching materials or strategy	
<b>Domain: Quality improvement and Research (QR)</b>				
<b>QR1</b> <i>Use improvement methodologies to enhance and sustain infection prevention &amp; control</i>				
QR1.1	Identify opportunities for improving the quality and safety of patient care	Methodologies used to drive improvement including route cause analysis, stakeholder analysis, process mapping, driver diagrams and improvement cycles such as PDSA	Work collaboratively to drive improvement applying appropriate improvement methodologies.	

Competency	Practice Indicator	Knowledge	Skills	Working towards/Competent
QR1.2	Apply improvement science methodologies to drive quality improvement through behavioural and system changes	Approaches to measurement to determine if change is effective.	Select appropriate measures of improvement	
QR1.3	Evaluate, review and refine improvement initiatives	<ul style="list-style-type: none"> <li>○ Knowledge and understanding of theories that inform improvement e.g. improvement science, human factors and ergonomics, behaviour change theory how these impacts on behavioural change</li> <li>○ Methodologies to support effective root cause analysis</li> </ul>	Apply the principles of root cause analysis to IPC incidents and/or outbreaks and work collaboratively to develop solutions	
<b>QR2</b>	<b>Minimise the risk of antimicrobial resistant (AMR) pathogen emergence and transmission</b>			
QR2.1	Promote and implement initiatives to prevent the transmission of antimicrobial resistant pathogens	The infection process, management of infection including the principles of antimicrobial prescribing	<ul style="list-style-type: none"> <li>○ Work collaboratively to implement and promote local AMR strategies and stewardship initiatives e.g. AMR stewardship groups.</li> <li>○ Engagement of staffing groups on AMR campaigns.</li> </ul>	
QR2.2	Utilise surveillance and prescribing data to identify report trends and inform IPC strategies	Mechanisms of resistance acquisition, strategies for preventing the emergence of resistance, epidemiology of resistant pathogens in the UK and world-wide	Use surveillance data to develop and inform improvement strategies	
QR2.3	Promote and implement strategies that encourage effective antimicrobial stewardship	Principles of antimicrobial stewardship. Surveillance of AMR and antimicrobial prescribing	Communication strategies	
<b>QR3</b>	<b>Use research to inform clinical practice</b>			
QR3.1	Critically assess and evaluate research and apply findings to inform evidence-based practice.	Research methods including quantitative and qualitative study design, assessing research quality and validity, influence of bias and confounding, <u>measures of effect and basic statistics</u>	Identify, critically review and synthesise research findings and apply them to clinical practice	
QR3.2	Design and participate in research independently and/or collaboratively.	Systematic literature searching to answer a clinical question	Apply the principles of research methodology to IPC interventions to provide evidence of efficacy	
QR3.3	Disseminate and apply findings of research to clinical practice.	<ul style="list-style-type: none"> <li>○ Developing research questions and selecting appropriate methods to answer them.</li> <li>○ Principles of writing publications for peer review describing research, quality improvements and evidence review</li> </ul>	Analyse data using appropriate methodologies	
<b>Domain: Leadership and management (LM)</b>				
<b>LM1</b> <i>Lead and manage a range of strategies to prevent and control infection</i>				
LM1.1	Set realistic objectives (personal and teams) and work with staff, partner organisations, patients, carers and the public	Leadership and management styles and their application to practice	<ul style="list-style-type: none"> <li>○ Discuss personal scope of practice (professional ethical and legal) linked to organisational and governance structures.</li> <li>○ Manage risk and maintain safety</li> <li>○ Support and guide the performance of others.</li> </ul>	

Competency	Practice Indicator	Knowledge	Skills	Working towards/Competent
LM1.2	Assess and evaluate performance of self, individuals and/or teams and provide constructive feedback in a manner most likely to sustain and assist in the prevention and control of infection	<ul style="list-style-type: none"> <li>○ Legislation and guidance related to the management of employees.</li> <li>○ Change management strategies. Human factors and implementation theory</li> </ul>	<ul style="list-style-type: none"> <li>○ Participate in peer review and actively seek feedback on performance of self and others</li> <li>○ Manage staff, including developing work plans and feedback on performance.</li> </ul>	
<b>LM2</b>	<b>Develop and lead a high-quality infection prevention and control team and services.</b>			
LM2.1	Set realistic objectives, work and professional development plans with individual team members	Leadership styles and their application to practice	<ul style="list-style-type: none"> <li>○ Role model values of IPC team and organisation</li> <li>○ Support and guide the performance of others within teams and organisations</li> </ul>	
LM2.2	Develop, coach, assess and encourage team members to practice effectively and efficiently providing feedback when and where appropriate	<ul style="list-style-type: none"> <li>○ Performance reporting (IPC) as per organisational requirements.</li> <li>○ Performance appraisals and staff management and wellbeing systems.</li> <li>○ Legislation and guidance related to the management of employees including HR processes</li> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○ Initiate and develop effective relationships within teams and across organisations.</li> <li>○ Manage junior staff, including developing work plans, supervision and feedback on performance</li> <li>○</li> </ul>	
LM2.3	Develop, supervise and participate in the development and implementation an annual IPC programme in partnership with key stakeholders and in line with organisational objectives and available resources.	<ul style="list-style-type: none"> <li>○ Principles of planning services, aligning to budget and resources</li> <li>○ Governance arrangements, and the role of the IPC, in assuring patient safety</li> </ul>	<ul style="list-style-type: none"> <li>○ Identify, measure and respond to outcomes and key performance indicators</li> <li>○ Managing resources effectively</li> </ul>	
LM2.4	Develop and sustain partnerships and networks to support the development of a high-quality IPC service	<ul style="list-style-type: none"> <li>○ Internal and external organisational contacts.</li> <li>○ Local and National agencies and partners linked to IPC</li> </ul>	<ul style="list-style-type: none"> <li>○ Develop communication engagement and network strategies for self and teams</li> <li>○ Assess and evaluate effectiveness self and team</li> </ul>	
LM2.5	Horizon scan to support building a strategic vision and identify and adopt innovation to improve service safety and quality	Epidemiology of emerging health threats to the local population.	<ul style="list-style-type: none"> <li>○ Recognize new and emerging threats in relation to infection prevention &amp; control.</li> <li>○ Identify opportunities for improvement and innovation.</li> <li>○ Develop IPC practice in response to changing needs and priorities.</li> </ul>	
<b>LM3</b>	<b>Design, plan and monitor care services to assure quality and safety in relation to infection prevention &amp; control</b>			
LM3.1	Utilise data and other information to influence planning and inform service redesign	Evaluate and interpret surveillance and other infection-related data, including and understanding of the principles of statistics and limitations of data	Developing systems for measuring outcomes, processes and key performance indicators	
LM3.2	Develop performance management systems that monitor defined outcomes or indicators against defined standards linked to IPC	Systems for monitoring processes and outcomes	<ul style="list-style-type: none"> <li>○ Using and monitoring data to inform, drive and sustain quality improvement.</li> <li>○ Liaising with key stakeholders (internal and external to organisation)</li> </ul>	

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