

Unit 39: Infection Prevention and Control

Unit code:	D/600/8989
QCF Level 2:	BTEC Nationals
Credit value:	10
Guided learning hours:	60

● Aim and purpose

This unit aims to enable learners to gain an understanding of the importance of infection prevention and control in health and social care settings. Learners will be able to investigate the cause and spread of infection, the legislation associated with implementing infection prevention and procedures for controlling their spread.

● Unit introduction

The vulnerable health status of patients and other users of health and social care services makes it crucial for practitioners to have a good understanding of infectious agents and be able to apply the principles of infection prevention and control. Learners will develop an understanding of the cause and spread of infection, how this spread can be prevented and controlled and the implications for patients, staff and organisations if this is not effective.

The importance of infection control is evident from the amount of detail contained in legislation and guidelines that have been produced, which are in turn interpreted and applied at an organisational level. Learners will investigate legislation and guidelines, and organisational policies, that are relevant to infection control in a health or social care setting.

Finally, learners will gain an understanding of the roles of employees in relation to the risk of infection and will focus on how organisations can prevent and control infection.

● Learning outcomes

On completion of this unit a learner should:

- 1 Understand the cause and spread of infection
- 2 Be able to demonstrate how to prevent and control the spread of infection
- 3 Know the legislation relevant to infection prevention and control
- 4 Understand the roles, responsibilities and boundaries in relation to infection control.

Unit content

1 Understand the cause and spread of infection

Causes of infection: normal flora; transient flora; chain of infection

Pathogenic micro-organisms and disease: bacteria, eg MRSA, tuberculosis, legionnaires' disease, tetanus; viruses, eg HIV, Hepatitis B, measles, mumps; fungi, eg thrush, athletes' foot, ringworm

Parasitic organisms: carrying disease, eg scabies, lice

Infection and colonisation: systemic infection; localised infection; colonisation

Growth of micro-organisms: conditions (reservoir, food, moisture, warmth, and time)

Spread of micro-organisms: contact, droplet, flies, fingers, fomites, faeces, air, dust, water, food, body fluids; key routes for infective agents

2 Be able to demonstrate how to prevent and control the spread of infection

Standard precautions: hand hygiene (hand washing technique, use of alcohol gels and antiseptics, hand drying, skin care, facilities required); use of appropriate personal protective equipment (PPE); general cleanliness (personal, environmental, materials, equipment; principles of isolation nursing); safe practice/ following correct procedures; prevention of sharps injury; immunisation (occupational health for staff, general public and individuals); management of outbreaks of infection; food handling; soiled laundry management

Procedures for handling, storage and disposal of waste: sharps, household waste, clinical/hazardous waste, biological spillages; using the correct colour-coded bag or bin

Decontamination techniques: low risk, eg floors, furniture, mobility aids; medium risk, eg bedpans, urinals, commodes; high risk, eg instruments used for invasive techniques; importance of cleaning, disinfection and sterilisation, differences between these; organisational policy on decontamination

3 Know the legislation relevant to infection prevention and control

Legislation, regulations and guidance that govern infection prevention and control: relevant sections from, eg Health and Safety at Work Act 1974, Management of Health and Safety at Work Act (amended 1994), The Public Health (Control of Diseases) Act 1984, Food Safety Act 1990, COSHH 2002, RIDDOR 1995, The Public Health (Infectious Diseases) Regulation 1988, The Food Safety (General Food Hygiene) Regulations (Department of Health 1995), The Environmental Protection (Duty of Care) Regulations 1991, Health Protection Agency Bill, Hazardous Waste Regulations 2005, NICE (National Institute for Health and Clinical Excellence) Guideline 2 June 2003

Organisational policies and procedures: relevant documents, eg manuals, employers' policy documents, good practice guidelines

4 Understand the roles, responsibilities and boundaries in relation to infection control

Roles and responsibilities of personnel in relation to infection control: care workers; non-care workers, eg gardeners, cooks, drivers, administrators; managers; specialist personnel, eg infection control nurses, doctors, environmental health officer; Health Protection Units

Roles and responsibilities of workers with regard to following the organisation's policies and procedures: reporting infectious or notifiable diseases and outbreaks; seeking advice and guidance as appropriate; admissions, transfers and discharges of individuals; documentation and record keeping in relation to infection; procedures following the death of a individual; handling, collection and storing of specimens – urine (MSU/CSU), faeces, blood, vomit, sputum, wound swabs; encourage all visitors to comply with hygiene policies and procedures

Risk assessment: identify the hazard(s), assess the risk, record the risk, remove/reduce the risk, review the risk regularly

Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
P1 explain how infections are caused by different pathogens [IE 1; SM3]		
P2 explain how pathogenic micro-organisms grow and spread [IE 1; SM3]		
P3 demonstrate standard precautions that would be used to prevent the spread of infection in a health or social care setting [RL5; SM3; SM4; EP3; EP4]	M1 explain how to manage an outbreak of infection in a health or social care setting	D1 assess how the suggested measures to manage an outbreak of infection meet legal requirements and guidelines for the prevention and control of infection in a health or social care setting
P4 identify key aspects of legislation and guidelines relevant to the prevention and control of infection in a health or social care setting [SM3]	M2 explain the role of organisational procedures in the prevention and control of infection in a health or social care setting	
P5 describe the roles and responsibilities of personnel in relation to infection prevention and control in a health or social care setting. [CT2; SM3]	M3 review a risk assessment in relation to infection prevention and control undertaken at a health or social care work placement.	D2 assess how risk assessment can contribute to reducing rates of infection in a health or social care setting.

PLTS: This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills.

Key	IE – independent enquirers CT – creative thinkers	RL – reflective learners TW – team workers	SM – self-managers EP – effective participators
-----	--	---	--

Essential guidance for tutors

Delivery

This unit needs to be delivered by an appropriately qualified tutor.

The unit could be introduced through initial class discussions, for example about hand washing, to encourage learners to think about the potential hazards in relation to infection in health and social care settings.

Following this, learning outcome 1 could be delivered through a combination of tutor input, microscope work if resources allow, or video/DVD footage of pathogenic organisms, their reproduction and behaviour. Experiments growing organisms in agar, or presentations of time-lapsed decomposition of food, enable learners to understand the virulence of different organisms. Learners could carry out internet research into aspects relevant to infection and microbiology and then share their findings in small groups.

Learners could then undertake individual or small-group research on hygiene practices for example, followed by presentations and the use of videos/DVDs to show how pathogens are spread and disease contracted. Active learning techniques should be used as much as possible, as should reference to the workplace.

Learners need to demonstrate basic hygiene techniques and practices related to preventing the spread of infection. This should involve the use of personal protective equipment (PPE), a demonstration of appropriate hand hygiene techniques and decontamination techniques to maintain general cleanliness in a setting. Tutors should firstly introduce PPE including use of gloves, plastic aprons, gowns, masks, goggles and hats as appropriate. It is necessary to explain their use and how to clean or dispose of each item before learners use them for their demonstration.

Case study materials could be used to reinforce learning, and media coverage of topical high profile infections could be used as a basis of discussions and may provide opportunities for identifying, addressing and rectifying learner misconceptions. This could lead to a discussion on how to manage outbreaks of infection.

Learners could be encouraged to carry out internet research into aspects of legislation relevant to infection prevention and control, summarise the key points and then share their findings with the class. It is important that learners understand which are notifiable diseases and the roles, responsibilities and boundaries in relation to infection control.

When considering roles, responsibilities and boundaries in relation to infection control, learners should draw on their work placement experiences for examples, and should then be encouraged to share these in small groups or with the whole class in order to broaden learner experiences.

A simple risk assessment could be carried out in learners' work placements using a form designed in class. Learners could work in pairs and video each other carrying out the risk assessment in the workplace; however care must be taken to seek written permission and confidentiality must be protected by making sure no patients, residents or service users appear in the video.

Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan demonstrates one way in planning the delivery and assessment of this unit.

Topic and suggested assignments/activities and/assessment
Unit introduction.
Buzz groups: group to think about potential hazards that could arise in health or social care setting due to infections and how their spread could be stopped.
Tutor demonstration/learner activity: introduction to standard precautions and procedures, including hand hygiene, wearing PPE, general cleanliness, prevention of sharps injury, handling, storing and disposing of waste, decontamination techniques.
Tutor input: types and causes of infection.
Learner research: pathogenic micro-organisms and disease. Learners to conduct research on diseases caused by bacteria, viruses and fungi; share findings in groups.
Practical work: microscope work on pathogenic micro-organisms or DVDs if resources do not allow.
Tutor input: introduction to growth and spread of micro-organisms.
Practical work: growth of organisms in agar or DVDs if resources do not allow.
Assignment 1: Spread of infection (P1, P2)
Tutor input: revisit standard precautions.
Learner activity: demonstrate procedures for preventing and controlling the spread of infection.
Assignment 2: Precautions (P3)
Tutor input: managing outbreaks; use of case studies and looking at media coverage.
Tutor input: introduction to legislation, regulations and guidelines; organisational policies and procedures.
Learner research: tutor to guide learners towards the relevant sections; learners to conduct internet research.
Assignment 3: Managing and controlling outbreaks of infection (P4, M1, M2, D1)
Tutor input: introduction to roles and responsibilities of personnel; discussion related to work placement experiences.
Learner activity: learners carry out a risk assessment in their work placement or in a suitable local setting; use form designed in class; use of video if possible.
Tutor input/learner activity: reviewing risk assessments; assessing whether they contribute to reducing rates of infection.
Assignment 4: Roles and responsibilities (P5, M3, D2)
Unit review and assessment.

Assessment

This unit could be assessed through one holistic scenario-based assignment, for example dealing with an outbreak of infection in a residential care home. It could also be assessed through two or three smaller assignments, according to the needs of the cohort.

Evidence for P1 and P2 will demonstrate a clear understanding of the different pathogens and the relationship between pathogenic behaviour and the spread of infection, including reservoirs of infection and transmission routes.

P3, P4 and P5 require reference to a health or social care setting. Learners should be encouraged to refer to their work experience placements in order to gain the required evidence, although this could be supplemented through the use of case study materials. For P3, learners will show that they know what universal or standard precautions are, how to implement them, the role of cleaning and how to clean equipment properly. The demonstration needs to include hand hygiene techniques. For M1, learners will draw on evidence for P1, P2 and P3 to explain how to deal with an outbreak of infection

P4 will show knowledge of relevant legislation, for example COSHH and additional legislation for protecting staff and residents/patients. Learners need identify only key aspects of the legislation and guidelines, not reproduce large sections of the documents. For M2, learners will show how the policies and procedures in their workplace link to legislation and guidelines. Learners must demonstrate clear understanding of the difference between legislation and guidelines.

To achieve D2, learners need to assess how the measures suggested to manage an outbreak of infection meet legal requirements, for example reporting. They also need to show that they understand the different levels of cleanliness, for example between disinfected and sterile.

In order to achieve P5, learners could carry out a survey of a health or social care setting in order to ascertain work roles in relation to infection prevention and control. Learners need to describe the roles and responsibilities of the range of staff either in the scenario or in their work placement organisation if the exemplar assignment is not used. Who is responsible for RIDDOR? What are practitioners' personal responsibilities related to infection prevention and control? Who is responsible for risk assessments in a health or social care setting?

For M3, learners will expand on this to show they understand the principles of risk assessment and will review an actual risk assessment against criteria they have developed using a range of information sources such as policies and guidelines. For D1, learners will provide evidence from research to inform their assessment of how risk assessments contribute to reducing rates of infection.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P1, P2	Spread of infection	You work in your local care home and have been asked to prepare an information leaflet for staff on how pathogens develop and spread.	Leaflet supported by images/diagrams.
P3	Precautions	You have been asked to demonstrate standard precautions for preventing the spread of infection for your colleagues at a staff development day.	Demonstration/witness statement and supplementary notes on the procedures.
P4, M1, M2, D1	Managing and controlling outbreaks of infection	As part of the legislation regarding the control of infections, you need to assess the measure currently in place to manage an outbreak of infection, to ensure they meet the relevant guidelines.	Written report.
P5, M3, D2	Roles and responsibilities	You are a health officer who has been asked to conduct a risk assessment of a health or social care setting, as well as identify the responsibilities of the personnel working in the setting.	Risk assessment review.

Links to National Occupational Standards (NOS), other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Health and Social Care sector suite (see *Appendix A*) and has links with units from other qualifications in that suite. See *Appendix E* for NOS links and *Appendix G* for a mapping of the NHS Knowledge and Skills Framework against particular units in this qualification.

Essential resources

The following resources are essential for delivery of this unit:

- an appropriately qualified tutor
- library resources with key texts and other reference materials
- work experience placements.

In addition, the following resources are considered to be highly valuable:

- case study materials
- videos/DVDs
- guest speakers
- visits.

Employer engagement and vocational contexts

Delivery of this unit will be greatly enhanced by the inclusion of guest speakers or visits to industry, particularly around risk assessments and the associated responsibilities of staff in health and social care settings.

Indicative reading for learners

Textbooks

Ayling P – *Knowledge Sets: Infection Prevention and Control* (Heinemann, 2007) ISBN 9780435402327

Damani N – *Manual of Infection Control Procedures* (Greenwich Medical Media, 2003) ISBN 9781841101071

Kenamer M – *Basic Infection Control for the Health Care Professional* (Delmar, 2001) ISBN 9780766826786

Owen G A – *HACCP Works* (Highfield Publications, 2005) ISBN 9781904544364

Richards J – *Complete A-Z Health and Social Care Handbook* (Hodder Arnold, 2003) ISBN 9780340872673

Sprenger R – *The Foundation HACCP Handbook* (Highfield Publications) ISBN 9781904544357

Sprenger R and Fisher I – *The Essentials of Health and Safety (Carers)* (Highfield Publications, 2010) ISBN 9781906404833

Stretch B and Whitehouse M – *BTEC National Health and Social Care Book 2* (Heinemann, 2007) ISBN 9780435499167

Stretch B and Whitehouse M – *BTEC Level 3 Nationals in Health and Social Care Student Book 1* (Pearson, 2010) ISBN 9781846907663

Stretch B and Whitehouse M – *BTEC Level 3 Nationals in Health and Social Care Student Book 2* (Pearson, 2010) ISBN 9781846907470

Journals and magazines

Community Care Magazine

The Nursing Times

Websites

www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_400936

www.nice.org.uk

www.rcn.org.uk

www.skillsforcareanddevelopment.org.uk

www.skillsforhealth.org.uk

Infection Control Guidance for Care Homes

National Institute for Health and Clinical Excellence

Royal College of Nursing (has developed minimum standards for infection control)

Sector Skills Council for Care and Development

Sector Skills Council for the UK Health Sector

Delivery of personal, learning and thinking skills

The table below identifies the personal, learning and thinking skills (PLTS) that have been included within the assessment criteria of this unit.

Skill	When learners are ...
Independent enquirers	[IE1] identifying questions to answer when researching cause and spread of micro-organisms
Creative thinkers	[CT2] asking questions to extend own thinking about the roles and responsibilities of staff in relation to infection prevention and control
Reflective learners	[RL5] evaluating experiences and learning in relation to demonstrating standard precautions in a health or social care setting, to inform future progress in this area
Self-managers	[SM3] organising time and resources when completing assignments [SM4] anticipating and managing risks when demonstrating standard precautions to prevent the spread of infection
Effective participators	[EP3,4] proposing practical ways forward when demonstrating standard precautions to prevent the spread of infection and identifying improvements that would benefit others.

● Functional Skills – Level 2

Skill	When learners are ...
ICT – Find and select information	
Select and use a variety of sources of information independently for a complex task	selecting a variety of sources of information (for example using various search engines or online journals) on the causes and spread of infection
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	searching for ICT-based information, evaluating its fitness for purpose
ICT – Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> • text and tables • images • numbers • records 	entering and developing information, such as text, tables, images, diagrams etc, on the causes and spread of infection to suit the task
Present information in ways that are fit for purpose and audience	presenting relevant information, for example either a report, article or risk assessment
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	contributing to discussions about the causes and spread of infection presenting findings from group research
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	reading and summarising documents on the spread of infection; reading and gathering relevant information from legislation and guidelines related to the prevention and control of infection
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	writing two different types of documents, for example an extended report and a risk assessment, expressing opinions and information clearly.