

Unit title: Health Sector: Life Sciences Industry (National 4)

Unit code: F59A 74

Superclass: RH

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Unit purpose

This unit has been designed as a mandatory unit of the National 4 Health Sector Course, but can also be taken as a free-standing unit. It is suitable for learners who have no previous experience of the health sector.

The unit introduces learners to the range of product types made by the life sciences industry and their application in the health sector.

Learners will participate in a practical activity which will help to develop knowledge and skills in the correct use of a biomedical device.

The health sector includes the National Health Service (NHS) (primary and secondary care), independent healthcare, complementary therapies, the life sciences and retail pharmaceutical industries and the community and voluntary sector.

Outcomes

On successful completion of the unit the learner will be able to:

- 1 Investigate a range of product types made by the life sciences industry.
- 2 Demonstrate the use of a biomedical device for a specified task.

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Credit points and level

0.5 National unit credit at SCQF level 4: (3 SCQF credit points at SCQF level 4)

Recommended entry to the unit

Entry to this unit is at the discretion of the centre.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this unit specification.

There is no automatic certification of Core Skills or Core Skill components in this unit.

Context for delivery

If this unit is delivered as part of a course, it is recommended that it should be taught and assessed within the subject area of the course to which it contributes.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website
www.sqa.org.uk/assessmentarrangements.

National unit specification: Statement of standards

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Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Investigate a range of product types made by the life sciences industry.

Performance criteria

- (a) Identify the main product types made by the life sciences industry.
- (b) Describe the purpose of the main product types.
- (c) Identify and describe a product from one of the main product types.
- (d) Describe a benefit to users of a specified product.

Outcome 2

Demonstrate the use of a biomedical device for a specified task.

Performance criteria

- (a) Select the correct biomedical device for the task to be undertaken.
- (b) Use the device following instructions.
- (c) Comply with health and safety requirements throughout the task.

Evidence requirements for this unit

Evidence is required to demonstrate that learners have achieved all outcomes and performance criteria.

Outcome 1 — Written and/or oral evidence

Evidence for Outcome 1 will be gathered in open-book conditions at appropriate points throughout the unit. Evidence will be gathered in a learner folio.

Learners will investigate a range of product types made by the life sciences industry. Learners will be given a brief for the investigation.

Learners are required to:

- ◆ identify **three** main product types
- ◆ describe the purpose of **each** identified product type
- ◆ identify **one** product and describe the main features of the identified product
- ◆ describe **one** benefit of the product for **two** users

National unit specification: Statement of standards (cont)

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The product types are:

- ◆ biomedical devices
- ◆ diagnostic imaging devices
- ◆ drugs and pharmaceutical products

Examples of product types are given in the support notes.

The users will be selected from the range below:

- ◆ patients
- ◆ customers
- ◆ relatives/carers
- ◆ doctors
- ◆ dentists
- ◆ pharmacists
- ◆ nurses
- ◆ Allied Health Professions
- ◆ ancillary and support staff

Learners must organise and present findings in an appropriate format. A template for the investigation will be provided.

Outcome 2 — Performance evidence of a practical activity

Learners will demonstrate the achievement of all performance criteria during a practical activity. The evidence will be gathered at an appropriate point in the unit.

Centres will specify the task for which learners will use the biomedical device.

Learners are required to demonstrate that they can:

- ◆ select the appropriate device for the task to be undertaken
- ◆ use the device in the correct manner following instructions
- ◆ comply with Health and Safety requirements

An assessor observation checklist must be used to support the performance evidence.

The practical activity will be carried out in a real or simulated health sector environment. Further guidance on an appropriate practical activity can be found in the support notes.

The Assessment Support Pack (ASP) provided for this unit illustrates the standard that should be applied. It contains an investigation pro forma and an assessor observation checklist. If a centre wishes to design its own assessments for this unit, they should be of a comparable standard.

National unit specification: Statement of standards (cont)

Unit title: Health Sector: Life Sciences Industry (National 4)

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this unit. Employability is a key aspect of Skills for Work and is present throughout the unit. In addition, there are a number of other skills that learners will be expected to improve on and develop as they undertake this unit, these can be drawn from the main skills areas listed below. These must be built into the unit where there are appropriate opportunities.

1 Literacy

- 1.1 Reading
- 1.2 Writing

5 Thinking skills

- 5.1 Remembering
- 5.2 Understanding
- 5.3 Applying

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level as the unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *National unit support notes*.

National unit support notes

Unit title: Health Sector: Life Sciences Industry (National 4)

Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 20 hours.

Guidance on the content and context for this unit

This unit has been designed as a mandatory unit of the National 4 Health Sector Course, but can also be taken as a free-standing unit. It is suitable for learners who have no previous experience of the health sector.

The unit introduces learners to the range of product types made by the life sciences industry and their application in the health sector.

Learners will participate in a practical activity which will help to develop knowledge and skills in the correct use of a biomedical device.

The health sector includes the National Health Service (NHS) (primary and secondary care), independent healthcare, complementary therapies, the life sciences and retail pharmaceutical industries and the community and voluntary sector.

The unit will involve learner research which will encourage the development of time management, information retrieval and research skills.

Outcome 1

This outcome is designed to give learners a broad overview of the range of products made by the life sciences industry. Where the unit is being taken as part of the National 4 Health Sector Course, learners will have gained knowledge of the types of provision and services provided in the health sector in Outcome 1 of the unit *Health Sector: An Introduction (National 4)*. Learners will have the opportunity to further develop that knowledge into an awareness of the types of products made by the life sciences industry and their application in the fields of prevention, diagnosis and treatment of disease and disability. Learners will also further develop the skills of researching information and how to organise and present findings.

The services provided by the life sciences industry include research, development, manufacture and testing of products. The products made by the life sciences industry are used by health professionals in the screening, diagnosis and treatment of illness. They are also used by patients and their relatives to monitor conditions and to improve the quality of life for people with disabilities and/or long term health problems. There is an opportunity to develop appropriate language and attitudes towards people with disabilities.

The investigation will be recorded in a learner folio and include all performance criteria specified. The folio could be produced in a variety of formats, eg a presentation which could be in an electronic form, display, poster or leaflet. The range of product types and users is provided within the evidence requirements.

National unit support notes (cont)

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Examples of product types are given below:

Biomedical devices	all products except medicines used in healthcare such as blood glucose monitors, replacement joints, walking frames, beds, surgical instruments, splints.
Diagnostic imaging devices	machines that produce images which are used to diagnose injury or disease such as x-ray machines, MRI scanners, ultrasound scanners.
Drugs and pharmaceutical products	include prescription medicines, vaccines and dental health products, over-the-counter medicines and nutritional drinks.

Outcome 2

This outcome is intended to provide learners with opportunities to demonstrate specified employability skills and attitudes within practical activities. The practical activities can be carried out on a mannequin. Alternatively, learners could work in pairs. When carrying out practical activities, learners need not complete a moving and handling course, but need to be aware that they must not move or handle someone without prior training. The practical activity will have to be risk assessed by a competent person to ensure that all health and safety requirements are complied with. Teachers/lecturers should ensure that learners comply with organisational policy and guidelines relating to health and safety, infection control and equality and diversity.

Examples of relevant practical activities could include:

- ◆ use of a diagnostic biomedical device — heart rate, blood pressure, height, weight, temperature, body mass index, glucose levels
- ◆ application of a biomedical device — bandage, cervical collar, compression hosiery, oxygen mask, wrist support
- ◆ use of a biomedical device to facilitate mobility — standing aid, wheelchair, walking aid

Employability Skills

In this unit learners will generate evidence for the following employability skills:

- ◆ understanding of roles and responsibilities in the workplace
- ◆ awareness of health and safety
- ◆ ability to follow instructions
- ◆ awareness of infection control procedures
- ◆ awareness of organisational standards for quality

National unit support notes (cont)

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Although not directly assessed in this unit, there may be opportunities to develop the following employability skills:

- ◆ positive attitude to learning and the workplace
- ◆ self-respect and respect and consideration for others
- ◆ willingness to listen to others and respond constructively to feedback
- ◆ awareness of equality and diversity
- ◆ willingness to contribute to team work
- ◆ reflecting on own abilities
- ◆ awareness of organisational standards for appearance and behaviour
- ◆ understanding of care values

These skills can be practised in real or simulated workplace environments and individual or group classroom activities.

Guidance on approaches to delivery of this unit

Outcome 1

Learners must identify a range of product types made by the life sciences industry. This will be in the form of an investigation. The investigation will require learners to gather information from a variety of sources. This could include:

- ◆ visiting speakers
- ◆ Internet
- ◆ library
- ◆ interviews with workers in the life sciences industry
- ◆ workplace visits
- ◆ product information leaflets or manuals

It may be beneficial for learners to work in groups and share information although the final investigation must be the learner's own work. Learners should discuss and agree with the teacher/lecturer a suitable format for presenting the information. Initial discussions can be carried out in groups and whole class expositions. There is the opportunity for learners to practise and develop skills of verbal and non-verbal communication, planning and respect and consideration for others. The language and materials used throughout should promote equality and diversity and avoid cultural stereotypes. Visiting speakers and workplace visits can provide valuable insights into the benefits to a range of users of products made by the life sciences industry. This could include individuals who have benefited from the use of biomedical devices. Learners could also draw on personal experiences.

National unit support notes (cont)

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Outcome 2

Experiential learning is the main approach recommended for this outcome. This involves learning through practical experiences and activities. Learners should be encouraged to undertake practical activities in pairs as they develop their skills in using a range of biomedical devices in a correct and safe manner. The activities should be undertaken in a real or simulated work environment. The teacher/lecturer should provide a demonstration of the safe and correct method of using each biomedical device prior to learners undertaking any practical activity. Teachers/lecturers should ensure that positive images of disability are promoted throughout and that the purpose of biomedical devices is to enable individuals to be as independent and self-managing as possible. The importance of ensuring the dignity and privacy of individuals while carrying out practical activities should be stressed and learners should use appropriate language and attitudes throughout. This includes body language and facial expression.

Delivery of this unit could incorporate a variety of teaching and learning methods including:

- ◆ teacher/lecturer presentations and demonstrations
- ◆ group work and discussions
- ◆ handouts
- ◆ visiting speakers
- ◆ workplace visits
- ◆ practical activities
- ◆ individual and group research
- ◆ internet searches
- ◆ interviews with health professionals/patients/relatives

Guidance on approaches to assessment of this unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

When delivering this unit as part of the National Health Sector Course, there is the possibility of assessment integration with the practical activity in Outcome 2 of the unit *Health Sector: Health Awareness: (National 4)* and Outcome 2 of this unit.

National unit support notes (cont)

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Outcome 1

The evidence will be gathered in an individual folio of evidence which will include information on three product types.

The information will include:

- ◆ identification of three main product types
- ◆ description of the purpose of each product type
- ◆ description of an identified product
- ◆ description of one benefit of the product for two users

The evidence will be gathered in open-book conditions at appropriate points in the unit.

Learners should be given a choice as to their preferred method of submission.

Evidence could be presented in the format of:

- ◆ written information
- ◆ diagrams or charts
- ◆ an electronic slide show
- ◆ a display or exhibition
- ◆ a multimedia presentation

Outcome 2

Performance evidence for Outcome 2 will be based on a practical activity, specified by the teacher/lecturer, which must be observed using an observation checklist.

Learners should be given the opportunity to practise the skills before being assessed.

The Assessment Support Pack (ASP) provided for this unit illustrates the standard that should be applied. It contains an investigation pro forma and an assessor observation checklist. If a centre wishes to design its own assessments for this unit, they should be of a comparable standard.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

National unit support notes (cont)

Unit title: Health Sector: Life Sciences Industry (National 4)

Opportunities for developing Core Skills

In this unit learners will be involved in an investigation and a practical activity. There may be opportunities for learners to work with others which would enable them to develop effective communication and interpersonal skills. If the learner uses a computer while undertaking any part of this unit, they will have the opportunity to develop *Information and Communication Technology (ICT)* skills.

General information for learners

Unit title: Health Sector: Life Sciences Industry (National 4)

This section will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

In this unit you will investigate the range of product types made by the life sciences industry and their application in the health sector. You will also participate in a practical activity which will help to develop knowledge and skills in the correct use of biomedical devices.

The health sector includes the National Health Service (NHS) (primary and secondary care), independent healthcare, complementary therapies, the life sciences and retail pharmaceutical industries and the community and voluntary sector.

You may have opportunities to work with others which would enable you to develop effective communication and interpersonal skills. If you use a computer while undertaking any part of this unit, you will have the opportunity to develop *Information and Communication Technology (ICT)* skills.

Administrative information

Published: February 2017 (version 03)

Superclass: RH

History of changes to National unit specification

Version	Description of change	Authorised by	Date
03	Units moved into a new template and re-coded to align with corresponding course 2 code. No change to unit content.	QM	February 2017

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