T-LEVELS
THE NEXT LEVEL QUALIFICATION

HEALTHCARE SCIENCE

CORE

Stephanie France
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Answers can be found online at: www.hoddereducation.co.uk/subjects/health-social-care/products/t-level/healthcare-science-t-level-core

Guide to the book

The following features can be found in this book.

Learning outcomes

Core knowledge outcomes that you must understand and learn. These are presented at the start of every chapter.

Key term

Definitions to help you understand important terms.

Reflect

Tasks and questions providing an opportunity to reflect on the knowledge learned.

Test yourself

A knowledge consolidation feature containing short questions and tasks to aid understanding and guide you to think about a topic in detail.

Research

Research-based activities – either stretch and challenge activities, enabling you to go beyond the course, or industry placement-based activities, encouraging you to discover more about your placement.

Practice point

Helpful tips and guidelines to help develop professional skills during your industry placement.

Case study

Placing knowledge into a fictionalised, real-life context. Useful to introduce problem-solving and dilemmas.

Health and safety

Important points to ensure safety in the workplace.

Project practice

Short scenarios and focused activities that reflect one or more of the tasks that you will need to undertake during completion of the employer-set project. These support the development of the four core skills required.

Assessment practice

Core content containing knowledge-based practice questions at the end of each chapter.

Answers can be found online at: www.hoddereducation.co.uk/subjects/health-social-care/products/t-level/healthcare-science-t-level-core

A1: Working within the health and science sector

Introduction

The health and science sector covers a wide range of organisations and employers as well as a wide range of jobs. Despite this variety, all well-run organisations usually have a common approach based around:

- policies and procedures
- quality
- ethics
- professionalism
- investment in the development and progression of their employees.

We will cover these aspects in this chapter and will expand on some points in future chapters.

Learning outcomes

The core knowledge outcomes that you must understand and learn:

A1.1 the purpose of organisational policies and procedures in the health and science sector

A1.2 the importance of adhering to quality standards, quality management and audit processes within the health and science sector

A1.3 the key principles of ethical practice in the health and science sector

A1.4 the purpose of following professional codes of conduct

A1.5 the difference between technical, higher technical and professional occupations in health, healthcare science and science, as defined by the Institute for Apprenticeships and Technical Education occupational maps

A1.6 opportunities to support progression within the health and science sector.

A1.1 The purpose of organisational policies and procedures in the health and science sector

In our professional lives we must maintain high standards out of respect for ourselves, our colleagues and those who require our services – customers, patients, etc. It is not enough to have good intentions; we need policies to consult and procedures to follow so that we know we are always working to the highest standards.

Equality, diversity and inclusion policy

Sometimes we can act in a way that is discriminatory without even realising it. If we stop and put ourselves in the other person's place, we might realise the effect our actions would have. Even if we do that, we may still have room to improve. That is why we have policies that cover equality, diversity and inclusion in the workplace which make it clear how to behave (Figure 1.1).

▲ Figure 1.1 Equality, diversity and inclusion should be central to our professional lives

Complying with legislation

One very good reason for having policies that cover equality, diversity and inclusion is to ensure that we comply with the relevant legislation. The main piece of legislation in the UK is the **Equality Act 2010**.

This gives legal protection from discrimination in the workplace and in wider society. Before this **law** came into force, there were several laws that covered discrimination, including:

- Sex Discrimination Act 1975
- Race Relations Act 1976
- Disability Discrimination Act 1995.

Replacing these and other laws with a single Act made the law easier to understand and gave increased protection in some areas. The Act sets out the different ways in which it is unlawful to treat someone. The Equality Act 2010 is administered by the **Government Equalities Office**, which has produced an easy-to-read publication called 'The Equality Act – making equality real'. You can find this by carrying out an internet search using this title.

Key term

Laws: legislation passed by parliament that state the rights and entitlements of individuals and provide legal rules that have to be followed. The law is upheld through the courts. If an individual or care setting breaks the law by, for example, inappropriately sharing or inaccurately recording information, they can, in certain circumstances, be fined, dismissed or given a prison sentence.

Ensuring equality

The Equality Act places responsibility on employers, providers of goods and services, caregivers, public sector bodies, private clubs and associations, voluntary organisations and many others not to discriminate on the basis of:

- age
- disability
- gender reassignment
- pregnancy and maternity
- race – this includes ethnic or national origins, colour and nationality
- religion or belief
- sex
- sexual orientation.

Eliminating discrimination

These are called **protected characteristics**. By having policies in place to cover these aspects of equality, and promoting diversity and inclusion, organisations can ensure that they comply with the law and also benefit from treating everyone fairly and equally.

Research

Acas, the Advisory, Conciliation and Arbitration Service, is an independent public body funded by the government. Acas works with employers and employees to improve relationships in the workplace. It has produced several codes of practice that set out the minimum standards of fairness that employers should follow. These include:

- disciplinary and grievance procedures
- collective bargaining with trade unions
- requests for flexible working.

An **employment tribunal** will use the Acas codes of practice when deciding cases. Employers do not need to follow these codes of practice but if they do not and you take your claim to an employment tribunal, your compensation might be increased, so it is in the employer's interest to follow the Acas codes of practice.

There is more information on the Acas website (**www.acas.org.uk/advice**). Do you think the information they give is helpful? Does it help you understand your rights as an employee?

Key term

Employment tribunals: responsible for hearing claims from people who think an employer has treated them unlawfully, for example, through unfair dismissal or discrimination.

A1.2 The importance of adhering to quality standards, quality management and audit processes

Adhering to quality standards should be central to any organisation's way of working. Those standards may be national or international standards such as British Standard or ISO (the International Organization for Standardization) or the organisation's own internal quality standards. In the health and science sector, quality standards help improve the quality of care or service provided.

Ensuring consistency

One reason for adhering to quality standards is to ensure **consistency** – always obtaining the same, high-quality outcome.

Reflect

Quality and consistency are terms you will encounter a lot, both in this book and in your working life. Think about how we should always strive for both quality and consistency. If you go to a restaurant, you want the food to be consistently good. If it is consistently bad, you probably will not want to go. But what about a restaurant that is inconsistent? You might occasionally get a good meal, but is it worth a gamble? An organisation should always strive to achieve consistently high quality.

Maintaining health and safety

You will learn, in subsequent chapters, how adhering to proper procedures can help avoid (or at least reduce) accidents and harm to employees, service or care receivers or the general public.

This is covered in most detail in Chapter A3 Health, safety and environmental regulations in the health and science sector.

Monitoring processes and procedures

It is not good enough to intend to do something properly, you must do it. This applies to doing a favour for a friend but is even more important in the workplace. That is why there will often be a check sheet on the wall of a public toilet showing that it has been cleaned according to the required schedule.

This will be covered in more detail in Chapter A9 Good scientific and clinical practice.

Case study

In the summer of 2015, the Smiler roller coaster at the Alton Towers theme park crashed, causing life-altering injuries to four riders (two teenagers had to undergo amputations). The Health and Safety Executive (HSE) report found that there were no mechanical failings in the track, the cars or the system designed to keep the cars separate. The investigation identified a number of human errors that led to the crash. However, the HSE investigators found that Merlin Entertainments (the operator of the theme park) had multiple failings in not performing an adequate risk assessment and not having proper procedures to prevent a series of errors by staff, leading to harm to the public. As a result, Merlin Attractions was fined £5 million.

Do you think 'human error' is ever a valid defence or excuse when harm is caused to employees, patients, care-receivers or members of the public?

Facilitating continuous improvement

Continuous improvement means making many, often small, improvements over time. The success of the GB Olympic cycling team in recent years has been due, in part, to an approach that looks for many tiny performance improvements – in athlete training, equipment or clothing, for example. Each one might shave a hundredth or even a thousandth of a second off a lap time. Cumulatively, they have contributed to many gold medals being won.

We can take the same approach in a science, health or healthcare environment. It starts with adopting quality standards and adhering to them, monitoring performance against those standards and then looking for ways to improve performance.

Facilitating objective, independent review

Audit processes might be a legal requirement – see Chapter A9 for examples. But an audit really means asking the question: 'Did we achieve what we set out to achieve?' We need to have processes that ensure we ask that question in an objective and independent way so that we get useful answers. If we did not achieve our objective, what can we do to achieve it in future? If we did achieve our objective, are there ways we can improve further?

Practice point

Quality control (QC) means the testing of a product to ensure that it meets required standards. The QC department in an organisation will be responsible for testing products before they are sold. Any product that fails QC tests will have to be reworked or scrapped.

Quality assurance (QA) means having procedures in place that ensure that the product will always meet the required standards.

Which do you think is more important, QC or QA?

A1.3 The key principles of ethical practice in the health and science sector

We are probably all aware of medical ethics – the need for medical professionals to adhere to a set of values or moral principles. This provides a framework for analysing a situation and deciding on the best course of action to take. We will expand upon that in this section. However, aspects of ethical practice are important in all areas of health and science, as we will see.

Beneficence

Put simply, **beneficence** means 'doing good'. All healthcare professionals need to follow the course of action that they believe to be in the best interest of their patient. However, 'doing good' is often too simple in the real world. It is better to think of beneficence as ranking the possible options for a patient, from best to worst, taking account of:

- Will the option resolve the medical problem?
- Is it proportionate to the scale of the problem?
- Is it compatible with the patient's individual circumstances?
- Are the option and its outcomes in line with the patient's expectations?

Several of these points are related to the patient's circumstances or expectations. This forms the basis of patient-centred or person-centred care. This will be expanded on in Chapter A5: Providing person-centred care when working in healthcare science settings.

Research

An internet search or your tutor will help you find examples of professional codes of conduct relevant to your particular field of work. Are these codes of conduct helpful and easy to understand? Will they help prepare you to achieve good outcomes in your work?

A1.5 The difference between technical, higher technical and professional occupations in health, healthcare science and science, as defined by the IfATE occupational maps

▲ Figure 1.2 Modern laboratory equipment needs qualified and highly trained staff

The Institute for Apprenticeships and Technical Education (IfATE) is an employer-led organisation sponsored by the Department for Education. A key element in the work of the Institute is to support employer groups in developing apprenticeships.

The Institute also maintains the **occupational maps** that underpin technical education. These occupational maps show where technical education can lead. They group occupations that have related knowledge, skills and behaviours into **pathways** so that it is easier to see opportunities for career progression within a particular route. Within each pathway, occupations at the same **level** are grouped into clusters to show how skills you have learned can be applied to other related occupations (Figure 1.2).

Key term

Levels: in this context, a way of grading a qualification or set of skills and the corresponding occupations. The levels used today are based on the National Vocational Qualifications (NVQ) levels 1 to 5 developed in the 1980s. Over time, more emphasis has been given to the degree of difficulty or challenge of the qualification rather than the level of occupational competence in the workplace. There are now eight levels, and they cover academic qualifications such as GCSEs, A Levels and undergraduate and graduate degrees, as well as vocational qualifications such as T Levels and apprenticeships – see below for examples.

This is a small selection of the qualifications available at each level:

- Level 1 qualifications:
  - GCSE grades 3 to 1 or D to G
  - Level 1 NVQ.
- Level 2 qualifications:
  - GCSE grades 9 to 4 or A* to C
  - Intermediate apprenticeship
  - Level 2 award, certificate or diploma.
- Level 3 qualifications:
  - AS/A Level
  - T Level
  - Advanced apprenticeship.
- Level 4 qualifications:
  - Higher apprenticeship
  - Higher national certificate (HNC).
- Level 5 qualifications:
  - Foundation degree
  - Diploma of higher education (DipHE)
  - Higher national diploma (HND).
- Level 6 qualifications:
  - Ordinary or honours degree, e.g. BA, BSc.
- Level 7 qualifications:
  - Master's degree, e.g. MA, MSc, MChem, Meng.
- Level 8 qualifications:
  - Doctorate, e.g. PhD or DPhil.

For a full list, visit **www.gov.uk** and search for 'What qualification levels mean'.

Technical

These are skilled occupations that a college leaver or an apprentice would be entering, typically requiring qualifications at levels 2/3. Examples include:

- adult care worker/lead care worker
- healthcare support worker

- dental nurse
- food technologist
- laboratory technician.

Higher technical

These are occupations that require more knowledge and skills. This could be acquired through experience in the workplace or further technical education. They typically require qualifications at levels 4/5. Examples include:

- lead practitioner in adult care
- healthcare assistant practitioner
- nursing associate
- dental technician
- food testing/laboratory manager
- technician scientist.

Professional

These are all occupations where there is a clear career progression from higher technical occupations, as well as occupations where a degree apprenticeship exists (level 6). Examples include:

- social worker
- healthcare science practitioner
- registered nurse or midwife
- biochemist/biologist/chemist/physicist
- research scientist.

Research

You can view the latest occupational maps on the Institute for Apprenticeships & Technical Education website (**www.instituteforapprenticeships.org/about/occupational-maps**) or search online for 'Institute for Apprenticeships occupational maps'.

Were you able to find relevant information? Will this be a useful resource to help you to plan your career?

A1.6 Opportunities to support progression within the health and science sector

When you were a child, what did you want to be when you grew up? Is that still what you want to do? Some people seem able to plan their careers and then pursue their objectives with single-minded determination. Others may move from job to job without any clear plan. The former group is usually, but not always, more successful than the latter. Whichever category you fall into, the end of your T Level course is just the beginning. It helps if you have a plan as to how you can progress in your career. Even if you are not sure where you want to go, at the very least you should be aware of the opportunities that are available.

Research

Although it is more relevant to the science sector than health or healthcare sectors, the Royal Society of Chemistry offers a 'careers toolkit' of online resources to its members.

Other professional bodies in your field may offer something similar. You should use all the resources and sources of advice and information available to you. Look at the professional bodies listed in section A1.4. Are any of those relevant to your chosen field of work? If so, their website might have useful resources. Make a list of sources of help and information about how to progress your career.

Undertaking further/higher education programmes

As you come to finish your T Level, it is a good idea to have already planned your next move. You will have achieved a level 3 qualification, so you should normally consider moving on to a level 4 or level 5 qualification, unless you decide to change track – in which case there will be a range of other level 3 qualifications that might be suitable.

If you plan to remain in the science, health or healthcare sector, you will probably consider a level 4 or level 5 qualification appropriate to your chosen field of work, such as Higher Technical Qualifications. In some cases this will mean that you have to become registered with a statutory regulator, such as the Nursing and Midwifery Council or the General Dental Council.

Your T Level will be worth UCAS points, so you can continue into higher education (level 5 or 6) at university or with another education provider if you wish.

Undertaking apprenticeship/degree apprenticeship

An **apprenticeship** is a job with training to industry standards and should involve entry into a recognised occupation. Apprenticeships are employer-led, so employers will:

- set the standards the apprentices need to meet
- create the demand for apprentices to meet their skills needs
- fund the apprenticeship, i.e. pay for training

Project practice

You are working in a science/health/healthcare organisation (choose one according to your own area of work). You have been asked to produce materials to help new apprentices understand the importance of the working practices of the organisation, as well as to inform them about the ways in which their careers might develop.

1 Prepare a summary of the organisation policies that you are aware of in your organisation, or ones that you know should be in place. Give explanations for the relevance and importance of these.

2 Research the professional codes of practice relevant to your area of work. This might require you to use the websites of any relevant professional bodies to gather information.

3 Prepare a list of the types of CPD that are available or recommended in your organisation.

4 Finally, outline the additional ways in which apprentices can progress in their careers.

You should present the information in the form of a poster or short written document, such as an employee handbook.

Assessment practice

1 What piece of legislation covers the requirement for diversity and inclusion for people with certain characteristics?

2 Who is responsible for obtaining a DBS check for work?

3 What is the name for the legal parts of an employment contract?

4 What are collective agreements?

5 Your employer has a disciplinary policy that includes informal and formal written warnings. You have been found stealing and dismissed. You feel that you have been treated unfairly because you were not given any warnings or a notice period. Are you correct?

6 Give two reasons why an organisation needs an equality, diversity and inclusion policy.

7 Explain, using an example, what is meant by safeguarding.

8 Give two reasons why organisations adhere to quality standards.

9 During the early stages of the COVID-19 pandemic, there were serious concerns that NHS hospitals would be overwhelmed and unable to treat patients. Therefore, hospitals were instructed by the government to discharge any patients who could be transferred back to their care homes. In many cases this led to the introduction of COVID-19 into care homes from hospitals because patients were not tested for COVID-19 or were known to be infected.

Evaluate this instruction, considering the key principles of ethical practice.

Your response should demonstrate:

- reasoned judgements
- informed conclusions.

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CORE

Begin your path to a career in Healthcare Science with this T Level textbook that covers all the core content you will need to understand to be successful in your qualification. Develop your understanding of the key principles, concepts and theories, as well as the skills and confidence to succeed in your written assessment and industry placement.

Created in partnership with NCFE CACHE and written by highly respected authors Stephanie France, Stephen Hoare, Mary Riley and Gemma Roberts, you can feel confident relying on the insights and experience of these experts.

- Get started with short, clear summaries and learning outcomes at the beginning of each chapter
- Track and consolidate your learning using 'Test Yourself' activities throughout each unit
- Understand and remember key terms using the highlighted definitions
- Contextualise your learning with case studies, reflection tasks and practice points
- Approach assessment with confidence using the knowledge-based questions and scenario-based activities for practice, alongside model answers for the extended response questions

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