



# Health and life sciences sector toolkit teacher briefing guide

## Health and social care

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### Introduction

The resources have been designed to be used as starter/plenary sessions for subject lessons, connecting to relevant topics within the scheme of work or related subject specific skills. There are links to additional resources or optional extension activities which could support a full careers lesson if desired.

### Learning objectives

- Learn about the health and life sciences sector and why it is important to the North East economy.
- Gain an awareness of the different job roles available in different industries within the North East health and life sciences sector and how these may be appealing as a future career.
- Gain an understanding of the relevance of the curriculum to careers in the North East labour market and what skills and academic subjects are required for these roles.

### The health and social care sector in the North East – background information

The health and social care sector consists of organisations which provide healthcare or social care support to people.

Health is the largest employment sector in the North East employing around 128,000 people. Around 50,000 of these work in local NHS trust hospitals and clinics. The NHS alone has over 350 different job roles.

Around 81,000 people work in adult social care in the North East, as our population ages demand for these skills is increasing. In 2020/21 an average of 4,500 vacancies were being advertised in the region every day.

The North East is home to NHS hospital trusts which are centres of excellence in medical research and innovation. For example, Newcastle Upon Tyne Hospitals NHS Foundation Trust includes the Great North Children's Hospital, the Northern Centre for Cancer Care, the UK's first Institute of Transplantation as well as the UK's only Cardiothoracic Centre dedicated to adult and paediatric care.

The health sector in the North East is leading the way with innovative approaches to diagnosis and care. For example, the Northumbria Specialist Emergency Care Hospital in Cramlington was the first purpose-built hospital in England dedicated to emergency care and the [Integrated COVID Hub North East](#) is the first of its kind in the UK.

Our medical training is rated as among the best in the UK, we are home to one of the UK's top ten medical schools at Newcastle, and an innovative new medical school in Sunderland.

You can access research on skills for the health and social care sector in our region via the [North East Evidence Hub](#) and the most recent workforce statistics can be accessed through [Skills for care - local area information](#) and [NHS digital - NHS workforce statistics](#)



## Virtual tour (optional extension activity)

The link below allows access to a 360-degree virtual tour of Hawthorne House (Durham Care), a care facility in County Durham. Navigate your way around the care home and meet a range of employees describing their roles, career pathways and opportunities within the sector. There are also links to additional information and a student activity pack with exercises linked to the tour. This is an optional extension activity which could support a full careers lesson if desired.

[Workplace Tour: Durham Care Academy \(northeastambition.co.uk\)](http://northeastambition.co.uk)

## Video activities – career journeys

The following videos show people working in the sector and highlight some of the skills and qualifications which could help with a career. You do not need to show all the video clips but can select those which are most relevant to your students:

### Radiographer, Sunderland Hospital Trust (2:02)

<https://www.youtube.com/watch?v=i5v20FXF7Lk&t=84s>

Meet Paul, a radiographer in the NHS (Sunderland Hospital Trust) and hear him tell you about the role and the qualifications and skills needed.

### Genomics Practitioner, Newcastle Hospital Trust (1:55)

<https://www.youtube.com/watch?v=fdhQyolYUEg&list=PLnnpXZprOJe8gfYwKSygLJ3kKOSEDU9g&index=8>

Miranda, working at the Newcastle Hospitals Trust, shares details of her day-to-day role as a Genomics Practitioner and interesting details about her career journey and entry to the profession.

### Apprentice Dental Nurse, Newcastle Dental Hospital (2:10)

<https://www.youtube.com/watch?app=desktop&v=PxiHpercUyU&list=PLnnpXZprOJe8gfYwKSygLJ3kKOSEDU9g&index=4>

Abbey, a dental nurse at Newcastle Dental Hospital talks about her journey to becoming an apprentice, why the role is so rewarding and why she would recommend the apprenticeship pathway to others.

### Adult Social Care Support Worker, the Grange (2:03)

<https://www.adultsocialcare.co.uk/personal-experiences/Support-Worker-Harry.aspx>

Produced by the Dept for Health and Social Care, in this video Harry describes the role of a Support Worker and explains what led him to landing a job in the care sector and how his personal qualities enable him to be successful and enjoy what he does.

### Deputy Operations Director, Avalon Group (1:16)

<https://www.adultsocialcare.co.uk/personal-experiences/Bev-Deputy-Operations-Director.aspx>

Produced by the Dept for Health and Social Care, in this video Bev speaks about how she only got into social care sector later in her career journey but how she has progressed to management level and how there are many opportunities to work your way up the ladder.

## Curriculum links

These toolkit resources could be used to introduce a new topic, subject content or to make general links between your subject and how the skills and knowledge acquired can support a future career.

Select the links relevant to your subject from the table below and insert into slide 10 of the lesson PowerPoint template, to highlight the connections between the subject/topic taught and careers in the North East labour market.

Maths curriculum links		
Key stage and subject	Curriculum link	These skills and knowledge are important to this industry because
<b>KS3</b>	<b>Numbers</b>	Understanding different measures and units to safely measure temperature, blood pressure and weight as well as administering medicine in the right doses and correct time intervals.
	<b>Ratio, proportion, and rates of change</b>	Important in the monitoring of patients and updating of patient records to ensure that any changes can be correctly recorded. It is also important in record keeping for auditing medicines and supplies as well as budget monitoring.
	<b>Probability</b>	Used by a variety of healthcare professionals to determine the likelihood of a person having a certain illness/disease which then determines the probability of certain tests being useful in a diagnosis or certain treatments being effective.
	<b>Statistics</b>	The ability to describe, interpret and compare data sets is used to monitor local trends in health needs and care to ensure correct allocation of resources.
<b>KS4</b>	<b>Numbers</b>	Understanding different measures and units to safely measure temperature, blood pressure and weight as well as administering medicine in the right doses and correct time intervals.
	<b>Ratio, proportion, and rates of change</b>	Important in the monitoring of patients and updating of patient records to ensure that any changes can be correctly recorded. It is also important in record keeping for auditing medicines and supplies as well as budget monitoring.
	<b>Probability</b>	Used by a variety of healthcare professionals to determine the likelihood of a person having a certain illness/disease which then determines the probability of certain tests being useful in a diagnosis or certain treatments being effective.
	<b>Statistics</b>	The ability to describe, interpret and compare data sets is used to monitor local trends in health needs and care to ensure correct allocation of resources.
<b>Additional subject related skills</b>	Critical thinking, problem solving, analytical thinking and quantitative reasoning are skills used daily by those working in healthcare and social care. This allows proper and effective diagnosis, safe administration of medications as well as new advances in treatments.	



## Science curriculum links

Key stage and subject	Curriculum link	These skills and knowledge are important to this industry because
<b>KS3 Science</b>	<b>Structure and function of living organisms</b>	Understanding respiration and gas exchange, the musculoskeletal system, nutrition, and reproduction are essential in being able to diagnose and treat patients in a variety of specialisms.
	<b>Genetics and evolution</b>	Understanding chromosomes, genes and DNA can ensure that ground-breaking research into genetic and hereditary diseases can be continued and new treatments tested.
	<b>Waves</b>	Understanding sound and light waves and how they are processed by the human body can allow professionals such as audiologists and optometrists to diagnose problems with a patient's hearing or sight. Waves can also be used as a diagnostic tool in machines such as an ultra-sound scanner.
<b>KS3 Biology</b>	<b>Cell biology</b>	Understanding of cell make up in the human body and what happens when they become damaged.
	<b>Transport systems</b>	Understanding the human circulatory system, how this can affect a person's health and different treatments to treat, cure or prevent illness and disease.
	<b>Health, disease, and the development of medicines</b>	Understanding the relationship between health and disease, how the immune system works, differences between bacteria and viruses and the process and discovery of new medicines.
	<b>Coordination and control</b>	Understanding the basics of the nervous system in humans including structure and function, reflexes, hormones, and homeostasis.
	<b>Evolution, inheritance, and variation</b>	Understanding of genomes, the impact of genomics on medicine and developments in gene technology including practical and ethical considerations.
<b>KS4 Chemistry</b>	<b>Chemical analysis</b>	Analysing clinical samples and products within laboratories within the health service is an important part of the treatment and diagnosis process. Chemists use a range of analysis techniques such as chromatography (e.g. HPLC) to analyse samples.
<b>KS4 Physics</b>	<b>Waves</b>	Understanding of different types of waves, the hazardous affects they can have on the body and a person's health as well as how some can be used as a diagnostic tool.
<b>Additional subject related skills</b>	Development of skills such as scientific thinking, experimental skills and strategies and an understanding scientific vocabulary, units and nomenclature is essential in the industry in order to correctly diagnose and treat patients as well as to ensure that new research can be undertaken.	

## English curriculum links

Key stage and subject	Curriculum link	These skills and knowledge are important to this industry because
KS3 & KS4	Spoken language	Communicating with a variety of people is a key skill needed for a role in healthcare or social care. Tasks such as talking to patients or their families, handover meetings with colleagues, presenting research or papers and giving evidence in court use this key skill.
KS3 & KS4	Reading and Writing	Reading for information, enhancing vocabulary through sector specific language and able to write for a variety of purposes and audiences e.g. keeping accurate patient records and case notes, reading or writing reports, understanding policies and health and safety information.
<b>Additional information</b>	Skills developed through English are important for a variety of roles in healthcare and social care both clinical and non-clinical to ensure that employees are kept up to date with the latest research and treatment options, they are able to accurately record and report information for a variety of audiences as well as understanding the reporting of others.	

## Additional activities and further information

There is an optional research task on slides 8 and 9 of the PowerPoint presentation if you would like to expand this activity into a full lesson. There is also an optional plenary which could be used as a reflection activity following a subject lesson. These could also be set as home learning tasks.

You can access more resources relating to careers in the curriculum on the [North East Ambition website](#) and on the [Careers and Enterprise Company website](#).

If students are interested in finding out more about the industry in the North East and the varied career routes and opportunities available, there are some links on the plenary activity on the final slide which may be of interest.

You can find out more about the North East labour market via the [LMI toolkit](#) for educators on the [North East Ambition website](#) and through the [North East Local Enterprise Partnership website](#).

## Careers in the curriculum CPD resources

Useful links for teachers to develop skills and knowledge to connect careers to the curriculum:

- Careers in the curriculum online CPD course delivered in partnership with NU:STEM  
<https://www.northeastambition.co.uk/directory/careers-initial-teacher-education>
- Industry insights session – hidden jobs in the NHS – March 2021  
<https://www.youtube.com/watch?v=V7GqkPnnW0>
- Online CPD course available from STEM learning  
[Linking STEM curriculum learning to careers | STEM](#)