



# **T Level Technical Qualification in Healthcare Science**

Employer set project (ESP)

## **Assisting with Healthcare Science**

Project brief

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## Project brief

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## Health and safety

All students must be informed and aware of any relevant health and safety considerations that need to be complied with to ensure they carry out their work in a safe manner. Students must be supervised at all times to ensure health and safety practices are observed. Students may be removed from the assessment if seen to be working in an unsafe manner and the remaining time rescheduled at the discretion of the tutor.

## Assessment

- you are not permitted to work in groups, except during the discussion in task 3(a), and all work must be your own
- you will have a maximum of 17 hours and 45 minutes to complete the employer set project (ESP) – recommended and maximum timings, where applicable, are provided for each task under the heading conditions of the assessment

## Assessment objectives

The ESP is a formal assessment that accounts for 30% of the overall core component grade and therefore it is important that you produce work to the highest standard.

You will be assessed against the core knowledge and skills that you have learnt throughout your course of study, in response to a brief set in a real world situation and validated by employers within the Assisting with Healthcare Science specialism.

The evidence generated for the ESP will be assessed holistically against 5 integrated assessment objectives. These assessment objectives and their weightings are shown in the tables below.

Assessment objective (AO)		AO weighting
AO1	Plan their approach to meeting the project brief	6.25%
AO2	Apply core knowledge and skills to meet quality management objectives	50.00%
AO3	Select relevant techniques and resources to meet the brief	11.46%
AO4	Use English, mathematics, and digital skills as appropriate	15.63%
AO5	Realise a project outcome and review how well the outcome meets the brief	16.66%

## Evidence

	AO1	AO2	AO3	AO4	AO5	TOTAL
<b>Task 1</b>						
Research/literature review		15	5			20
English, mathematics and digital				4		4
<b>Task 2</b>						
Quality improvement report	6	14				20
English, mathematics and digital				9		9
<b>Task 3</b>						
3(b) Quality improvement report v2* *task 3(a) is not marked		2	2		5	9
<b>Task 4</b>						
4(b) Discussion with tutor		11			5	16
English, mathematics and digital				2		2
<b>Task 5</b>						
Reflection		6	4		6	16
<b>Total marks:</b>	<b>6</b>	<b>48</b>	<b>11</b>	<b>15</b>	<b>16</b>	<b>96</b>
<b>% Weighting</b>	<b>6.25%</b>	<b>50.00%</b>	<b>11.46%</b>	<b>15.63%</b>	<b>16.66%</b>	<b>100%</b>

## Guidance for students

### Student instructions:

- read the brief carefully before starting your work
- read the assessment objectives grid, as part of the marks for this assessment will be based on your ability to plan how you will meet the requirements of the brief, as well as reflecting and evaluating your work in the final task, you should therefore keep concise planning notes as you work through the tasks for this assessment
- you must work independently and make your own decisions as to how to approach the tasks within the employer set project (ESP)
- you must clearly name and date all of the work that you produce during each supervised session
- you must hand over all of your work to your tutor at the end of each supervised session
- you must not work on the assessment in between supervised sessions.

### Student information:

- this ESP will assess your knowledge, understanding and skills from across the core content of the qualification
- in order to achieve a grade for the core component, you must attempt both external examinations and the ESP – the combined marks from these assessments will be aggregated to form the overall core component grade (A\* to E and U) – if you do not attempt one of the assessments, or fail to reach the minimum standard across all assessments, you will receive a U grade
- the maximum time you will have to complete all tasks for this ESP is 17 hours and 45 minutes:
  - your tutor will explain how this time is broken down per task and will confirm with you if individual tasks need to be completed across multiple sessions
  - in task 1 and task 2 you may use the internet to access the links provided in the tasks – use of other websites is **not** permitted, except where the link requires you to perform a search and the results take you directly to other websites – you must submit a copy of your browsing history as part of your evidence
  - at the end of each supervised session, your tutor will collect all ESP assessment materials before you leave the room – you must not take any assessment material outside of the room (for example, via a physical memory device)
  - you must not upload any work produced to any platform that will allow you or others to access materials outside of the supervised sessions (including email)
- when completing each task, you should take into consideration the specific assessment objectives and core skills that are being assessed, as outlined in the task instructions where permitted and stated for each task, your tutor will provide you with a copy of previously submitted evidence – this is not an opportunity to make changes to your previously submitted evidence – any notes you wish to include must be made separately as copies of previously submitted materials will be deleted or destroyed upon completion of the relevant task
- you can fail to achieve marks if you do not fully meet the requirements of the task.

## Plagiarism

Plagiarism may result in the external assessment task being awarded a U grade. For further guidance refer to the plagiarism guidance, and maladministration and malpractice policy located on the NCFE website.

## Presentation of work:

- all of your work should be completed electronically using black font, Arial size 10 to 14, unless otherwise specified
- any work not produced electronically must be agreed with your tutor, in which case the evidence you produce should be scanned and submitted as an electronic piece of evidence
- all of your work should be clearly labelled with the relevant task number and your student details, and be legible (for example, front page and headers)
- electronic files should be given a clear filename for identification purposes; see tasks for any relevant naming conventions
- all pages of your work should be numbered in the format page X of Y, where X is the page number and Y is the total number of pages
- you must complete and sign the external assessment cover sheet (EACS) and include it at the front of your assessment task evidence
- you must submit your evidence to the supervisor at the end of each session.

## **Brief: Assisting with Healthcare Science**

The employer set project (ESP) has been designed as an opportunity for you to demonstrate how you respond to a current need or set of circumstances that has been identified in your sector and is validated by employers.

You should consider how you will approach each task and plan your time to ensure you give yourself the best opportunity to meet the needs outlined in the brief. You should keep short notes on how you approach this, as this can be used to support the completion of a reflection task required at the end of the project.

### **Incident: Working group to review blood tube supply (WG-BTS)**

Alison and Jonathan Black are 39-year-old partners who have been attending Westbeeche Hospital Assisted Conception Unit for in vitro fertilisation therapy (IVF). Two previous attempts to have a baby have been unsuccessful and their hopes now depend on a third and final course of treatment through the NHS before they will have to consider private medical options.

It has been over 3 months since their last treatment cycle and both are required to provide a blood sample for health screening before the final round of treatment can begin. Two days before their phlebotomy appointment, to give blood samples, Alison and Jonathan each receive a text message from the NHS which reads, "URGENT: Due to a national shortage of blood tubes, NHS England have instructed us to stop all blood tests unless they are an emergency". The message goes on to say that their appointment has been cancelled and will be re-scheduled in due course. It emerges that the NHS has experienced an unforeseen fall in the supply of blood test tubes and the media report that this situation could delay routine blood testing for several weeks. As older patients, Alison and Jonathan are aware that success rates for IVF therapy decline with age and worry that these events will delay their final round of treatment. They believe that this issue will affect other patients in a similar situation to their own and lodge a formal complaint with Westbeeche Hospital.

In response to the complaint, Westbeeche Hospital aims to review their standard operating procedures to ensure that a proper inventory of blood tubes and other essential consumable materials is maintained.

You have been asked to join a working group with the aim to ensure a supply of blood test tubes is maintained during periods of normal and exceptional demand. The recommendations from the working group will be used to assist the work of the Westbeeche Hospital Buying Office and standardise monitoring of blood tube stocks across hospital departments using an online inventory record system.

## Formal complaint received by Westbeech Hospital

31 Friarton Crescent  
Westbeech  
WB51 3QR

Westbeech Hospital

31 August 2021

Dear Sir or Madam,

### Re: Official complaint

**Alison Black – DOB: 27<sup>th</sup> January 1982 - NHS Number: 485 777 3456**  
**Jonathan Black – DOB: 3<sup>rd</sup> April 1982 – NHS Number: 556 311 3131**

We are receiving fertility treatment at the Westbeech Hospital Assisted Conception Unit (ACU) and are due to begin our last attempt in September 2021. We were asked to provide blood samples for health screening before treatment could begin. However, two days before our appointment we received a text message from NHS England telling us that all non-emergency blood tests had been cancelled due to a national shortage of blood tubes. When we contacted Westbeech Hospital ACU for an explanation, they said that routine blood screening services were suspended until the national supply chain was re-established. They were not able to tell us how long this might take but news reports suggested that the shortage could last from days to weeks.

We understand that many things contribute to a national emergency like this but note that the Chief Executive of the Institute of Biomedical Science has criticised the way in which NHS services pool and share resources, referring to it as a "just in time" model of blood tube purchasing which could fail very easily.

We believe that the national blood tube shortage could have been foreseen if appropriate care of stocks had been in place.

Please accept this letter as our formal complaint in which we seek the following:

1. A review of the blood tube stock monitoring and inventory procedures used in your hospital
2. Compensation of the time we have lost by approval of further assisted conception treatment cycles

Yours faithfully

Alison and Jonathan Black



**Table 1. Monthly usage and replacement of blood tubes (all types) at Westbeech Hospital from January to December 2021.**

	Month											
	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021
<b>Number of tubes in stock at the START of month</b>	10000	10000	10000	10000	10000	10000	9250	8700	4500	1500	4500	10000
<b>Number of tubes in stock at END of month</b>	5300	4850	4350	5100	5650	6000	5750	3000	1500	900	1500	3150
<b>Number of tubes replaced in stock at END of month</b>	4700	5150	5650	4900	4350	3250	2950	1500	0	3600	8500	6850

## Reference material list

### NHS Complaints Guidance

Link 1: <https://www.gov.uk/government/publications/the-nhs-constitution-for-england/how-do-i-give-feedback-or-make-a-complaint-about-an-nhs-service>

Link 2: <https://www.ombudsman.org.uk/making-complaint>

### Causes of blood tube shortages and the NHS response

Link 1: <https://www.bmj.com/content/374/bmj.n2174>

Link 2: <https://www.ibms.org/resources/news/ibms-issues-blood-tube-shortages-joint-recommendations/>

### Supply chain inventory management and risk assessing storage of hazardous items

Link 1: <https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2020/06/Productive-community-hospital-Good-Stock-Management.pdf> (Refer to the 6-Phase Process diagram on p9. Information about each phase is provided further in the document)

Link 2: <https://www.plymouthhospitals.nhs.uk/download.cfm?doc=docm93jjm4n3420.pdf&ver=4341>

### Pooling resources – case studies

Link 1: [NHS England » “We’ve achieved efficiencies far more effectively working as a cluster than we would have as individual practice teams” – Chester East, North West](#)

Link 2: [NHS England » Delivering partnership working in West Cheshire – The Rural Alliance, North West](#)

Link 3: [NHS England » Wokingham Primary Care Networks: The 5 I's](#)

Link 4: [NHS England » Working collaboratively to develop more efficient processes – Newham CCG, London](#)

## Task 1: research/literature review

### AOs 2, 3 and 4

Using **only** the literature sources listed in the brief, you are required to carry out research to inform the working group about considerations for blood tube procurement, maintaining an inventory and sharing or pooling resources with other local NHS services and lessons learned from previous/similar events.

The information gathered will help identify failings in current procedure which may have caused the incident to occur.

The findings from your research should be presented in a written literature review, summarising the main points in individual sections.

The research requirements include:

- collation of appropriate and relevant information about current national guidelines and best practice in relation to the issues in the incident. You may include reference to other commonly used consumables in your answer
- application of information gathered to determine what went wrong in the incident described
- data analysis and presentation of data in tables or graphs to illustrate key findings, for example, the usage frequency of blood tubes for different purposes or at different times of the year in the NHS
- drawing conclusions and summarising key themes arising from the literature and data analysis
- clear presentation of information in a written report summary.

(20 marks)  
plus 4 marks for English  
(Total marks: 24)

### Conditions of the assessment:

- task 1 must be completed in supervised conditions
- you will have access to the internet when completing your work for this task – you must not access any other websites when completing task 1, except where the link requires you to perform a search and the results take you directly to other websites – you are required to submit a copy of your browsing history as part of your evidence for this task
- you will have a maximum of 5 hours to complete this task – in addition to this, you will be allowed a single supervised break of a maximum of 1 hour to be decided by your tutor, no earlier than 2 hours after the session has begun.

### Evidence requirements:

- word processed literature review
- a copy of your internet browsing history.

## Assessment objectives

AO2: Apply core knowledge and skills to meet quality management objectives

AO3: Select relevant techniques and resources to meet the brief

AO4: Use English, mathematics and digital skills as appropriate

## Core skills

CS1: Research skills

CS4: Problem solving skills

CS5: Reporting and presentation skills

## Submission

The following filename convention should be used for all materials produced:

(Provider\_number)\_(Student registration number)\_(Surname)\_(First name)\_Task1\_Literature\_Review

**Note:** please request your provider and student number from your tutor.

## Task 2: quality improvement report

### AOs 1, 2 and 4

You have been asked to create a quality improvement report for the working group. This report should outline actions that are needed to monitor the supply, safe storage and quality of blood tubes. Your aim is to build principles of good scientific and clinical practice into workplace practices.

Use the information given in the brief, formal letter of complaint and Table 1 to complete your quality improvement report. The information you provide should be supported with relevant facts and figures from your literature review, your analysis of the information in Table 1 as well as your existing knowledge. You must explain how your quality improvement plan will be implemented and supported by the healthcare team. When writing your report, ensure that you:

- reference the information gathered as part of your research in task 1 and the content of the incident report.
- provide your answer using the pro-forma which has been provided

(20 marks)

plus 4 marks for English, 2 marks for mathematics and 3 marks for digital

(Total marks: 29)

### Conditions of the assessment:

- task 2 must be completed in supervised conditions
- you will have access to your research and the literature sources/links you used in task 1 – you must **not** access any other websites when completing task 2, except where the link requires you to perform a search and the results take you directly to other websites – you are required to submit a copy of your browsing history as part of your evidence for this task
- you will have a maximum of 3 hours to complete this task.

### Evidence requirements:

- word processed quality improvement report (pro-forma)
- a copy of your internet browsing history, this will be collected by your tutor once task 2 has ended.

### Assessment objectives

AO1: Plan their approach to meeting the project brief

AO2: Apply core knowledge and skills to meet quality management objectives

AO4: Use English, mathematics and digital skills as appropriate

### Core Skills

CS2: Communication skills

CS4: Problem solving skills

CS5: Reporting and presentation skills

## Submission

The following filename convention should be used for all materials produced:

(Provider\_number)\_(Student registration number)\_(Surname)\_(First name)\_Task2\_Quality\_Improvement\_Report

**Note:** please request your provider and student number from your tutor.

Past Paper

## Task 3: peer discussion

### AOs 2, 3 and 5

You must discuss your research findings and your proposed quality improvement report with your peers to gather peer feedback, which will be used to further develop your report and any required actions. You will also provide feedback on your peers' reports and ask each of them 1 question. Pro-formas are provided to help you receive and give feedback.

#### Task 3(a)(i): preparing for peer discussion

Read the quality improvement reports you have been given by your tutor and complete a preparation for peer discussion form for each quality improvement report.

Hand in your completed preparation for peer discussion forms to your tutor.

#### Task 3(a)(ii): exchanging feedback during peer discussion

Your tutor will put you into your peer discussion groups of between 3 and 5 students.

You will have access to your own quality improvement report, and your preparation for peer discussion forms completed in task 3(a)(i). You will have 20 minutes to re-familiarise yourself with the report and your forms, before beginning the group discussion.

Each group member will take it in turn to share their quality improvement report and receive feedback from the group.

When you give feedback on other students' reports, you must use the preparation for peer discussion forms completed in task 3(a)(i).

When you receive feedback, you must complete handwritten notes of the feedback you receive from each group member on the feedback from peer discussion form.

(0 marks)

part (a) (i) and (a) (ii) of this task are not marked

#### Task 3(b): using peer feedback to update your quality improvement report

Use your feedback from your peer discussion form and reflect on the feedback that you have received. Use this feedback to write a summary of how you will update your quality improvement report, referencing the feedback received during the peer discussion.

Your tutor will provide you with a copy of your submitted report from task 2.

You must justify the feedback that you decided to act on, as well as the feedback that you decided not to use.

(9 marks)

(Total marks: 9)

## Conditions of the assessment:

For task 3(a)(i):

- task 3(a)(i) must be completed in supervised conditions
- you will have a maximum of 2 hours to complete this task, which includes any potential further work required following a review of your materials by your tutor
- you will hand in your work to your tutor and only receive feedback if your preparations are not suitable to support a meaningful contribution in the next task

For task 3(a)(ii):

- the discussion will take place in groups to be decided by your tutor, and you will have access to all your materials from task 2 when preparing for this task
- you will have 20 minutes to prepare for this task, using the information you have developed in task 2, in supervised conditions
- you will have 5 minutes to discuss your quality improvement report
- each member in your group will have a maximum of 5 minutes each to give you feedback
- you will also give feedback to each member of your group, taking no longer than 5 minutes each

For task 3(b):

- task 3(b) must be completed in supervised conditions
- you will have access to your materials from task 2 and task 3(a)(i) – you will not have access to the internet or any other additional resource materials when completing your work for this task
- you will have a maximum of 1 hour to complete this task

## Evidence requirements:

- preparation for peer discussion form (pro-forma)
- handwritten or typed up feedback notes, including your questions asked to other group members – if handwritten, this evidence must be scanned prior to submission (pro-forma)
- a written summary of any changes you plan to make to your quality improvement report

## Assessment objectives

AO2: Apply core knowledge and skills to meet quality management objectives

AO3: Select relevant techniques and resources to meet the brief

AO5: Realise a project outcome and review how well the outcome meets the brief

## Core skills

CS1: Research skills

CS2: Communication skills

CS3: Team working skills



CS5: Reporting and presentation skills

CS6: Reflective evaluation

## Submission

The following filename convention should be used for all materials produced:

(Provider\_number)\_(Student registration number)\_(Surname)\_(First name)\_Task3x\_(Additional detail of document content if multiple documents are produced per task)

**Note:** please request your provider and student number from your tutor.

Past Paper

## Task 4: present an overview of your quality improvement report

### AOs 2, 4 and 5

#### Task 4(a): preparing to present your quality improvement report

You must prepare a presentation (using software such as PowerPoint) giving an overview of your quality improvement report for a discussion with your tutor in task 4(b). Your tutor will assume the role of the department manager from the setting referenced in the brief. You must include details of the updates you have incorporated as a result of the peer discussion as part of the presentation you create.

After you have presented your overview using your presentation, your tutor will ask you questions based on your quality improvement report, which may include aspects of how you decided on this course of action.

A pro-forma has been provided for you to support your planning and preparation for this discussion. Your tutor will give you copies of your report including any summary of changes you have made and a copy of your literature review from task 1.

#### Task 4(b): presenting and discussing your quality improvement report

You must present to your tutor the overview of your report prepared in task 4(a). The discussion will then begin with your tutor who will ask you some questions based on the information you have presented.

As part of task 4(b) you will also be assessed on your communication skills. Your tutor will record the audio from this discussion.

Your tutor will give you copies of your research from task 1, the original evidence from task 2, improved evidence from task 3(b) and materials produced in task 4(a).

(16 marks)  
plus 2 marks for digital skills  
(Total marks: 18)

#### Conditions of the assessment:

- you will have a maximum of 2 hours for task 4 (a)
- for task 4(b) you will have 5 minutes to give your presentation with the information referenced in the task and 15 minutes to answer the questions
- the discussion in task 4(b) will take place with your tutor, and you will have access to all your materials from previous tasks when preparing for this task in task 4 (a), as well as the discussion itself in 4(b)

#### Evidence requirements:

- materials used to present overview (presentation slides and word-processed document (pro-forma))
- tutor's observation notes of the discussion
- audio recording of the tutor discussion

## Assessment objectives

AO2: Apply core knowledge and skills to meet quality management objectives

AO4: Use English, mathematics and digital skills as appropriate

AO5: Realise a project outcome and review how well the outcome meets the brief

## Core skills

CS1: Research skills

CS2: Communication skills

CS5: Reporting and presentation skills

## Submission

The following filename convention should be used for all materials produced:

(Provider number)\_(Student registration number)\_(Surname)\_(First name)\_Task4x\_(Additional detail of document content if multiple documents are produced per task)

**Note:** please request your provider and student number from your tutor.

## Task 5: reflective account

### AOs 2, 3 and 5

You must now complete a written reflective account of your experience completing the project. You should reflect on all elements (tasks) involved and you will need to communicate how you have achieved the expected outcomes.

In your reflective account, you will need to provide evidence of your evaluation of your performance when completing the tasks. Explain how your reflections will enhance your professional development and self-awareness.

You should also reflect on how this event would impact others, for example, the patient, in a real clinical scenario, including how your recommendations will bring about improvements to quality of care to patients.

Your tutor will give you copies of your evidence produced in tasks 1, 2, 3(a), 3(b), 4(a) and 4(b) (notes and presentation materials).

(16 marks)  
(Total marks: 16)

### Conditions of the assessment:

- you will have a maximum of 2 hours to complete your reflective account

### Evidence requirements:

- word processed reflective account

### Assessment objectives

AO2: Apply core knowledge and skills to meet quality management objectives

AO3: Select relevant techniques and resources to meet the brief

AO5: Realise a project outcome and review how well the outcome meets the brief

### Core skills

CS6: Reflective evaluation

### Submission

The following filename conventions should be used for all materials produced:

(Provider\_number)\_(Student registration number)\_(Surname)\_(First name)\_Task5x\_(Additional detail of document content if multiple documents are produced per task)

**Note:** please request your provider and student number from your tutor.

## Document information

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