

T Level Technical Qualification in Healthcare Science

Employer-set project (ESP)

Assisting with Healthcare Science

Mark scheme

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NCFE CACHE

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Contents

Marking instructions	3
Task 1: research/literature review	6
Task 2: quality improvement report	10
Task 3(b): quality improvement report v2*	14
Task 4(a) and (b): discussion with tutor	16
Task 5: reflective account	18
Document information	20
Change History Record	20

Marking instructions

Levels of performance marking grids have been designed to award a student's response holistically, drawing on the evidence the student produces in the tasks, and should follow a best-fit approach.

Marking will be carried out by NCFE examiners and will take place once all tasks are complete and the marker has access to all the student's evidence for each of the tasks.

Table 1 shows which of the tasks (pieces of evidence) that will be used as the basis of judgement for each of the assessment objectives (AOs). Markers should review each of these pieces of evidence, using the indicative content to support an understanding of what they are expecting to make their judgement on, before placing the student in one of the bands.

The grids are broken down into bands, with each band having an associated descriptor indicating the performance at that band. You should determine the band before determining the mark.

When determining a band, you should use a best-fit approach. A judgement should be made on the overall quality of the student's evidence, and should reward students positively, rather than focusing on small omissions. If the response covers aspects at different bands, you should use a best-fit approach at this stage and use the available marks within the band to credit the response appropriately.

When determining a mark within the band, your decision should be based on the quality of the response in relation to the descriptors. You must also consider the relative weightings of the AOs, so as not to over/under credit a response. Standardisation materials, marked by the chief examiner, will help you with determining a mark. You will be able to use exemplar student responses to compare to live responses, to decide if it is the same, better, or worse. As a rule of thumb, allocation to the highest mark within a 3 mark band should be evidence that may meet the criteria convincingly. For 2 marks out of a total of 3, evidence may meet the criteria adequately and for the lowest mark, the evidence may just be meeting the criteria. This is guidance and any approach will be confirmed in standardisation.

You are reminded that the indicative content provided under the marking grid is there as a guide, not an exhaustive list. It is not a requirement that students cover all of the indicative content to be higher band marks. This is also guidance and any amendments will be confirmed in standardisation.

Table 1: marks by task

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

Marking bands

Mark bands	Band 1	Band 2	Band 3	Band 4	Band 5	AO4 (English/mathematics/digital)
Task 1	1-4 marks	5-8 marks	9-12 marks	13-16 marks	17-20 marks	4
Task 2	1-4 marks	5-8 marks	9-12 marks	13-16 marks	17-20 marks	9
Task 3(b)	1-3 marks	4-6 marks	7-9 marks			
Task 4(b)	1-4 marks	5-8 marks	9-12 marks	13-16 marks		2
Task 5	1-4 marks	5-8 marks	9-12 marks	13-16 marks		

Task 1: research/literature review

Using the literature sources listed in the brief, you are required to carry out research on current national guidelines on clinical sample collection, best practice 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 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 report
- 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 frequency
 of similar incidents
- drawing conclusions and summarising key themes arising from the literature and data analysis
- clear presentation of information in a written report summary

Band	Mark	Descriptor		
5	17–20	 demonstrates that the student has effectively investigated the problem using relevant literature and has applied a wide range of acquired knowledge of quality management requirements to structure a highly detailed and accurate written review (AO2, CS1.1, CS1.2, CS4.1) shows evidence that the student has made excellent use of most available resources to access a very wide range of information to address the problem being investigated, including excellent use of data to illustrate key points (AO3) shows evidence that the student has grouped most findings and data into key themes to draw highly relevant conclusions to address the problem being investigated, with effective referencing throughout (AO3, AO2, CS5.1, CS1.3) 		
4	13–16	 demonstrates that the student has investigated the problem to a good level, using relevant literature, and has applied acquired knowledge of quality management requirements to structure a detailed and accurate written review (AO2, CS1.1, CS1.2, CS4.1) shows evidence that the student has made use of a good number of available resources to access a range of information to address the problem being investigated, including good use of data to illustrate key points (AO3) shows evidence that the student has grouped findings and data into key themes to draw clear conclusions to address the problem being investigated, with effective referencing included most of the time (AO3, AO2, CS5.1, CS1.3) 		

Band	Mark	Descriptor
3	9-12	 The written review: demonstrates that the student has partially investigated the problem to an acceptable level, using relevant literature, and has applied some knowledge of quality management requirements to structure a written review which is reasonably detailed and sometimes accurate, but contains some minor errors (AO2, CS1.1, CS1.2, CS4.1) shows evidence that the student has made use of some available resources to access an adequate range of information to address the problem being investigated, including some attempt to use data to illustrate key points (AO3) shows evidence that the student has drawn satisfactory conclusions based on research findings; the report content is structured reasonably effectively, with some reference to literature at times (AO3, AO2, CS5.1, CS1.3)
2	5–8	 The written review: demonstrates that the student has attempted a basic investigation of the problem using some available literature and has applied basic knowledge of quality management requirements to structure a partially detailed written review, which contains some errors (AO2, CS1.1, CS1.2, CS4.1) shows evidence that the student has made basic use of few available resources to access a range of information to address the problem being investigated. There is partial use of supporting data but with some errors (AO3) shows evidence that the student has attempted to draw conclusions based on research findings, but these are not always relevant or supported by the literature, and evidence of basic understanding of data (AO3, AO2, CS5.1, CS1.3)
1	1–4	 demonstrates that the student has investigated the problem to a limited level with basic use of available literature and has applied limited knowledge of quality management requirements to structure a written review which includes basic detail and contains errors (AO2, CS1.1, CS1.2, CS4.1) shows evidence that the student has made limited use of available resources to access relevant information; the review addresses the problem being investigated to a limited extent and contains simplistic information, with basic use of supporting data (AO3) shows limited evidence that the student has drawn relevant conclusions based on research findings and includes limited reference to literature and basic understanding of data (AO3, AO2, CS5.1, CS1.3)
	0	No credible evidence.

Indicative content

The student should:

- clearly present the findings from their research grouped together in common themes
- · conduct a methodical review of current guidelines and practices
- demonstrate the importance of precautions and safety procedures required for safe clinical sample collection and transport
- include positive identification of patient before sample is collected
- explore good practice in sample collection, such as:
 - patient ID wristbands
 - reason for the test request
 - correct patient identifiers on request form
 - o printed sample label with patient identification
 - o immediate labelling of samples after collection
 - appropriate use of personal protective equipment (PPE) and procedures to avoid contamination of samples
- demonstrate an understanding of:
 - o quality management processes relating to sample collection
 - o risk assessments
 - audits of processes
 - staff training and competency assessment
- · describe the requirements for incident reporting (Datix) and investigation of errors and near misses
- minimising risk of error and the associated benefit to the patients of accurate test results
- evidence understanding of the rationale for patient safety and high-quality patient care
- present/display data from the research which should be analysed to a basic level to enable conclusions to be drawn
- focus on prevalence of similar incidents nationally over a specified time period or reported cause of errors in patient sample collection and analysis

Task 1 AO4: English

English

(1–4 marks) The

4 marks

The written review demonstrates excellent use of English throughout, and conveys meaning clearly, concisely, and coherently. There is evidence of excellent synthesis of information gleaned from sources which has been collated and summarised very effectively.

3 marks:

The written review demonstrates good use of English in most parts of the review, conveying meaning clearly and coherently. There is evidence of evaluation of information gleaned from sources which is summarised well.

2 marks:

The written review demonstrates inconsistent use of English throughout. The work lacks conciseness although overall, it conveys meaning coherently. Information has been summarised to an acceptable, but basic level.

1 mark:

The written review demonstrates simplistic use of English throughout. There may be some errors in comprehension of sources. There is limited evidence of ability to summarise findings.

Task 2: quality improvement report

You have been asked to create a quality improvement report for senior staff to use, which outlines actions required to implement required quality improvements to current process, to minimise wrong blood in tube incidents and build on good scientific and clinical practice.

Use the information provided in the incident report together with your existing knowledge and information from your literature review to complete your quality improvement report using the pro-forma which has been provided. Your report must explain how your quality improvement plan will be implemented and supported by the whole team.

You should reference the information gathered as part of your research in task 1 and the content of the incident report.

Band	Mark	Descriptor
5	17–20	The quality improvement report:
		 evidences an excellent level of preparation and planning which has resulted in a sound understanding of most steps that could be taken to avoid a reoccurrence of the incident (AO1)
		• is highly detailed and covers a wide range of elements of a quality improvement report, and effectively presents conclusions to meet required quality improvements, with excellent reference to supporting information throughout (AO2, CS4.2, CS5.2, CS2.1)
		 describes all, or almost all, of the required improvements to a high level of detail and convincingly addresses how these will be implemented (AO2, CS5.2, CS2.1)
4	13–16	The quality improvement report:
		 evidences a very good level of preparation and planning which has equipped the student with a good understanding of a range of steps that could be taken to avoid a reoccurrence of the incident (AO1)
		is detailed and covers most areas of a quality improvement report, and describes several conclusions made to meet required quality improvements, with reference to supporting information most of the time (AO2, CS4.2, CS5.2, CS2.1)
		 describes most of the required improvements well and gives very good consideration to how these will be implemented, but may be missing some minor details (AO2, CS5.2, CS2.1)
3	9–12	The quality improvement report:
		 evidences a good level of preparation and planning which has partially enabled the student to understand some of the steps that could be taken to avoid a reoccurrence of the incident (AO1)
		• is adequately detailed overall and describes a number of conclusions made but not always effectively – there is some reference to supporting information (AO2, CS4.2, CS5.2, CS2.1)
		describes a reasonable number of the required improvements to a satisfactory level and gives some consideration to how these will be implemented, but some key improvements are missing (AO2, CS5.2, CS2.1)

Band	Mark	Descriptor
2	5–8	 The quality improvement report: evidences a reasonable level of preparation and planning which has resulted in a basic understanding of some of the steps that could be taken to avoid a reoccurrence of the incident (AO1) most elements of the report have been completed with basic detail in parts, however there is limited description throughout and limited use of available supporting information (AO2, CS4.2, CS5.2, CS2.1) describes a limited number of the required improvements to a basic level with limited consideration of how these will be implemented – several key improvements are missing (AO2, CS5.2, CS2.1)
1	1-4	 The quality improvement report: demonstrates limited evidence of effective preparation and planning, and a limited understanding of preventative steps (AO1) includes limited detail which may not be relevant to the task with limited description of conclusions drawn and takes little/no account of available supporting information (AO2, CS4.2, CS5.2, CS2.1) limited attempt to describe required improvements to meet the requirements of the task, and explain how these will be implemented (AO2, CS5.2, CS2.1)
	0	No credible evidence.

Indicative content

The student should:

- describe a reasonable root cause of error such as:
 - mislabelling of samples
 - o incorrect patient bled
 - sample contamination
 - laboratory mix up of samples

The student should consider:

- the introduction of risk assessments on the whole process of sample collection
- the use of labelling to identify any areas in the process which are at risk of error
- allowing for preventive measures to be implemented
- the development of SOPs for all staff to follow to ensure consistency and adherence to new procedures
- a training plan and assessment of all staff involved in the collection and labelling of patient samples
- a communication strategy to inform everyone of changes to practice
- the introduction of or retraining on the incident management policy
- an audit of procedure

AO4: English, mathematics and digital skills

English (1–4 marks)

4 marks:

Quality improvement report demonstrates excellent use of English throughout and conveys meaning clearly, concisely, and coherently. The report is well informed by consistent application of information gleaned through research which has been collated and summarised very effectively.

3 marks:

Quality improvement report demonstrates good use of English in most parts of the report and conveys meaning clearly and coherently. There is evidence of applying information gleaned through research which is summarised well and used effectively to support recommendations made in the report.

2 marks:

Quality improvement report demonstrates inconsistent use of English throughout. The work lacks conciseness, although overall, it conveys meaning coherently. Information has been summarised to an acceptable but basic level. There is an attempt to draw conclusions and make inferences based on findings to support recommendations made in the report.

1 mark:

Quality improvement report demonstrates simplistic use of English throughout. There may be some errors in comprehension of research findings used to inform the report. There is limited evidence of ability to summarise information required to support recommendations made in the report.

AO4: English, mathematics and digital skills

Maths

(1–2 marks)

2 marks:

Report demonstrates excellent use of maths with few and minor errors when interpreting data. The student takes all available opportunities to use relevant data to support and inform recommended actions. Numerical information is communicated very clearly and with a high level of accuracy.

1 mark:

Report demonstrates adequate use of maths but there are some basic errors when interpreting data. The student uses data to support and inform some recommended actions, but not consistently. Numerical information is communicated with reasonable clarity and accuracy, but at times may require f clarity.

Digital skills (1–3 marks)

3 marks:

Report produced demonstrates consistently effective and creative use of digital technology and media to present information and assessment evidence clearly and concisely so it is both easily understood and persuasive. The student uses digital skills very effectively to analyse and present data accurately in a range of appropriate digital formats.

2 marks:

Report produced demonstrates an overall effective use of digital technology and media, presenting the information and assessment evidence clearly and accurately. The student demonstrates good use of digital skills when analysing and presenting data, and the ability to use some appropriate digital formats with occasional minor errors.

1 mark

Report produced demonstrates use of digital technology and media, sometimes presenting the information and assessment evidence clearly but at times the information lacks clarity or is inaccurate or misleading. The student demonstrates simplistic use of digital skills when analysing and presenting data, using a narrow range of digital formats and with frequent errors.

Task 3(b): quality improvement report v2*

*Tasks 3(a)(i) and 3(a)(ii) (reflect on and evaluate the reports of other students, providing feedback through peer group discussion) are not marked. Marking must be solely based on the student's updated report and the student's justifications for changes made and not made following the peer discussion.

3(b) 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.

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

*core skill 1 and core skill 5 are not mapped as they are covered in task 3(a)

Band	Mark	Descriptor
3	7–9	The student demonstrates:
		 they are willing and open to constructively consider and effectively evaluate all feedback in relation to the report (AO3, CS2.1, CS2.2)
		a deep level of critical reflection of their work in relation to the feedback they have received, to evaluate good and bad elements, and conclude on what can be improved, acknowledging their own limitations where appropriate (AO2, CS2.1, CS2.2, CS3.2, CS6.2, CS6.3)
		 they can make rational and well understood amendments to their report and are able to clearly communicate the justification for the changes they wish to use and any they do not wish to use (AO5, CS3.2)
2	4–6	The student demonstrates:
		 they are prepared to effectively evaluate most of the feedback in relation to the report (AO3, CS2.1, CS2.2)
		 some effective critical reflection of their work in relation to the feedback they have received and uses this to identify some good and bad elements and areas for improvement (AO2, CS2.1, CS2.2, CS3.2, CS6.2, CS6.3)
		 the ability to make some improvements to their report that they are able to justify, including giving some rationale for any suggestions from peers that they decide not to use (AO5, CS3.2)
1	1–3	The student demonstrates:
		a limited evaluation of the received feedback, and basic understanding of the thinking behind the suggestions made (AO3, CS2.1, CS2.2)
		 a limited ability to reflect on the suggestions made and to take on board feedback to identify good and bad elements or areas for improvement (AO2, CS2.1, CS2.2, CS3.2, CS6.2, CS6.3)
		 a limited ability to make use of constructive feedback to inform changes to their report, resulting in few or poor amendments to the report (AO5, CS3.2)
	0	No credible evidence.

T Level Technical Qualification in Healthcare Science (603/7083/X), ESP Assisting with Healthcare Science Mark scheme

The evidence should demonstrate:

- an effective review and reflection of the feedback received from peers in relation to the quality improvement report
- the student is able to rationalise which changes they will implement and justify their amendments.

Task 4(a) and (b): discussion with tutor

4(b) You must discuss with your tutor, the overview of your report prepared in task 4(a).

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

Band	Mark	Descriptor
4	13–16	 Clearly demonstrate their excellent knowledge and understanding of the project outcome drawn from national guidelines and areas of good practice, via verbal presentation and indepth discussion with tutor (AO5, AO2, CS1.3, CS2.2, CS5.2) effectively demonstrate thorough understanding of the justification for all changes made following peer feedback and why they are required to ensure quality of care (AO2, CS1.3) confidently provide theoretically sound responses to questions from the tutor which demonstrate excellent understanding of quality management requirements (AO2, CS2.2)
3	9–12	 The student is able to: demonstrate their comprehensive knowledge and understanding of the project outcome drawn from national guidelines and areas of good practice, via verbal presentation and good discussion with tutor (AO5, AO2, CS1.3, CS2.2, CS5.2) a effectively demonstrate understanding of the justification for most changes made following peer feedback and why they are required to ensure quality of care (AO2, CS1.3) mostly provide theoretically sound responses to questions from the tutor but not extensive in detail which demonstrates good understanding of quality management requirements (AO2, CS2.2)
2	5–8	 demonstrate a reasonable level of knowledge and understanding of the project outcome drawn from national guidelines and areas of good practice, via verbal presentation and some discussion with tutor (AO5, AO2, CS1.3, CS2.2, CS5.2) demonstrate reasonable understanding of the justification for some changes made following peer feedback and partial understanding of why they are required to ensure quality of care (AO2, CS1.3) attempt to answer questions from the tutor and provide some correct answers but with limited detail, which demonstrates a reasonable understanding of quality management requirements (AO2, CS2.2)

1	1–4	The student is able to:
		demonstrate a limited level of knowledge and understanding of the project outcome drawn from national guidelines and areas of good practice, via verbal presentation and limited discussion with tutor (AO5, AO2, CS1.3, CS2.2, CS5.2)
		 demonstrate limited understanding of the justification for some changes made following peer feedback and limited understanding of why they are required to ensure quality of care (AO2, CS1.3)
		make a limited attempt to answer questions from tutor, however answers may sometimes be incorrect, and is only able to demonstrate limited understanding of quality management requirements (AO2, CS2.2)
	0	No credible evidence.

The evidence should demonstrate:

- the student has the ability to communicate a summary of their quality improvement report which is logically structured and clearly communicated
- that information from the research and the incident report, explaining the content of the quality improvement report
- that the student should be able to discuss and justify amendments made to the report following task 3

AO4: digital skills

Digital skills (1–2 marks)

2 marks:

Summary and presentation of the report produced in task 2 demonstrate mostly effective use of digital technology, sometimes presenting the information clearly so it can be accessed by the intended audience in the context of the healthcare setting. Data and information have been processed and conveyed well and accessed in a safe manner.

1 mark

Summary and presentation demonstrate use of digital technology that is sometimes effective but causes the intended audience in the context of the healthcare setting to have some difficulty in accessing the information presented. Data and information have been processed and analysed in an acceptable manner. It is clear to the audience that the use of digital skills is a weakness and could be strengthened to enhance accessibility and presentation.

Task 5: reflective account

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.

Band	Mark	Descriptor
4	13–16	The reflective account includes:
		an excellent level of deep reflection on each element of the project which includes consistent evidence of critical evaluation and conceptualisation of the tasks being reflected on (AO2, CS6.1, CS6.2)
		 use of an effective model for reflective writing throughout to produce a consistently well- structured account with appropriate language, tense and depth of analysis (A03, AO2, CS6.1)
		 detailed personal review of performance which includes an account of the individual's own identified strengths and weaknesses which have clearly been informed by reflection (AO2, CS6.3)
		 key actions clearly identified for future personal development, and an excellent explanation of how these will enhance the individual's own practice (AO2, CS6.3)
		detailed consideration of the impact the event would have on others demonstrating excellent and well thought through suggestions for improvements to the quality of care (AO5)
3	9-12	The reflective account includes:
		a good level of deep reflection on most elements of the project with some evidence of evaluation and conceptualisation of the tasks being reflected on (AO2, CS6.1, CS6.2)
		good overall structure with partial use of a model for reflective writing, including appropriate language, tense and depth of analysis (AO3, AO2, CS6.1)
		a detailed account of personal performance outlining some of the individual's own identified strengths and weaknesses which have been informed by reflection (AO2, C6.3)
		good identification of a range of key actions for future personal development with some understanding of how these will enhance the individual's own practice (AO2)
		 good consideration of the impact the event would have on others demonstrating good suggestions for improvements to the quality of care (AO5)

Band	Mark	Descriptor
2	5-8	The reflective account includes:
		satisfactory level of reflection on some elements of the project but more descriptive in style than reflective (AO2, CS6.1, CS6.2)
		reasonably effective structure with attempts to use a model for reflective writing, with reasonably appropriate language, tense and some evidence of analysis (AO3, AO2, CS6.1)
		 satisfactory review of own performance outlining some strengths and weakness (AO2, C6.3)
		identification of some actions for future personal development but these are not always sufficiently detailed, with partial awareness of impact on own practice (AO2)
		consideration of the impact the event would have on others demonstrating some degree of thought has been given to suggestions for improvements to the quality of care (AO5)
1	1-4	The reflective account includes:
		 a limited level of reflection or reflection only on some elements of the project, which is heavily descriptive rather than reflective with little or no evidence of analysis (AO2, CS6.1, CS6.2)
		limited use of a model for reflective writing and limited use of appropriate language and tense (AO3, AO2, CS6.1)
		minimal review of own performance with a strength or weakness identified (AO2, C6.3)
		some acknowledgement of future personal development needs with minimal awareness of impact on own practice (AO2)
		 limited consideration of the impact the event would have on others with limited thought given to suggestions for improvements to the quality of care (AO5)
	0	No credible evidence.

Indicative content

The student should:

- follow a published method of reflection, for example, Gibb or Kolb and not be overly descriptive in content
- include an account of the effectiveness of their own communication skills and quality of their own contribution within peer discussion and tutor discussion
- reflect on the extent to which feedback informed changes to their report and how giving and receiving feedback made them feel
- review how effective they have been in completing all the tasks, commenting on the quality of their report in addressing the problem
- identify any areas of weakness and describe desired improvements to their own knowledge, planning skills and collaborative working for future practice

Document information

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Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Post approval, updated for publication.		January 2021
v1.1	NCFE rebrand.		September 2021