



T Level Technical Qualification in Healthcare Science

Employer-set project (ESP)

Assisting with Healthcare Science

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. Where students are seen to be working in an unsafe manner, at the discretion of the tutor, the student may be removed from the assessment and the remaining time be rescheduled.

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 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 your 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
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
% Weighting	6.25%	50.00%	11.46%	15.63%	16.66%	100%

Guidance for students

Student instructions:

- read the project 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, 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
- 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 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 discarded 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 your student handbook.

Presentation of work:

- all 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 file
- all of your work should be clearly labelled with the relevant task number and your student details, and be legible
- 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

Employer-set project 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, relevant to your sector, and 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 these can be used to support the completion of a reflection task that is required at the end of the project.

Incident: patient data confidentiality (PDC)

Susan Burton is a young woman in her early twenties with cystic fibrosis (CF). She needs her health to be monitored on a monthly basis to make sure that her condition is stable and that her medication is suitable. This involves a trip to the hospital. Susan reviews her health with a CF nurse before providing blood and respiratory secretion samples. These samples monitor signs of diabetes and lung infection. The nurse can measure lung function at the same time using a spirometer.

These routine appointments mean that Susan must spend time in hospital waiting rooms where she may meet other CF patients whose condition may be better or worse than her own. She is aware that lung infections acquired in hospital are a concern for CF patients and she is becoming reluctant to attend these sessions in case her health, or the health of others, is put at risk. The CF clinical team have recommended that she enters a home monitoring programme which will enable her to communicate with them through an app on her phone. The team tell Susan she should record information every day so that they can monitor her progress on the drug treatment she is receiving. To help her monitor her progress the team send Susan a smartwatch which monitors aspects of her health, a finger pulse oximeter to measure her blood oxygen saturation; a handheld spirometer to measure her forced breath at 1 and 6 seconds; a skin thermometer to measure her body temperature and scales to measure her body weight. The team also ask Susan to provide regular sputum and urine samples which can be dropped off at her local GP surgery. Susan must also attend the CF clinic at pre-arranged intervals to review her progress on the programme.

The measurement values below will be converted into graphs and sent through the app to the clinic.

- blood oxygen saturation (SpO₂, %)
- forced expired volume in 1 second (FEV₁, litres) (the volume of air exhaled in the first second during a forced breath)
- forced expired volume in 6 seconds (FEV₆, litres) (the volume of air exhaled in the sixth second during a forced breath)
- weight (kg)
- temperature (°C)

Susan has been on the home monitoring programme for over 2 months. The app that monitors her health shows her data was initially updated daily but then began to show gaps of up to a week where data had not been recorded. The most recent data shows a decline in FEV₁ which would be consistent with a worsening in Susan's condition. The CF nurses asked Susan about the gaps in data upload. She said she had sent her daily measurements using the app without fail. Clinic staff became concerned that Susan's data was not being regularly recorded in her case notes or, worse, that the information might have been recorded under another patient's name.

If a standard data handling procedure had been in place, the CF clinical team could have been alerted to Susan's declining health at a much earlier stage. Confidence in the home monitoring service among the clinical team was low.

You have been asked to work with the CF clinic's quality team to improve patient safety and the quality of current practice. You should identify and suggest changes to current procedure. Your suggestions will be used to assist the work of the CF nurses and update NHS Trust policy on home monitoring data handling procedures.

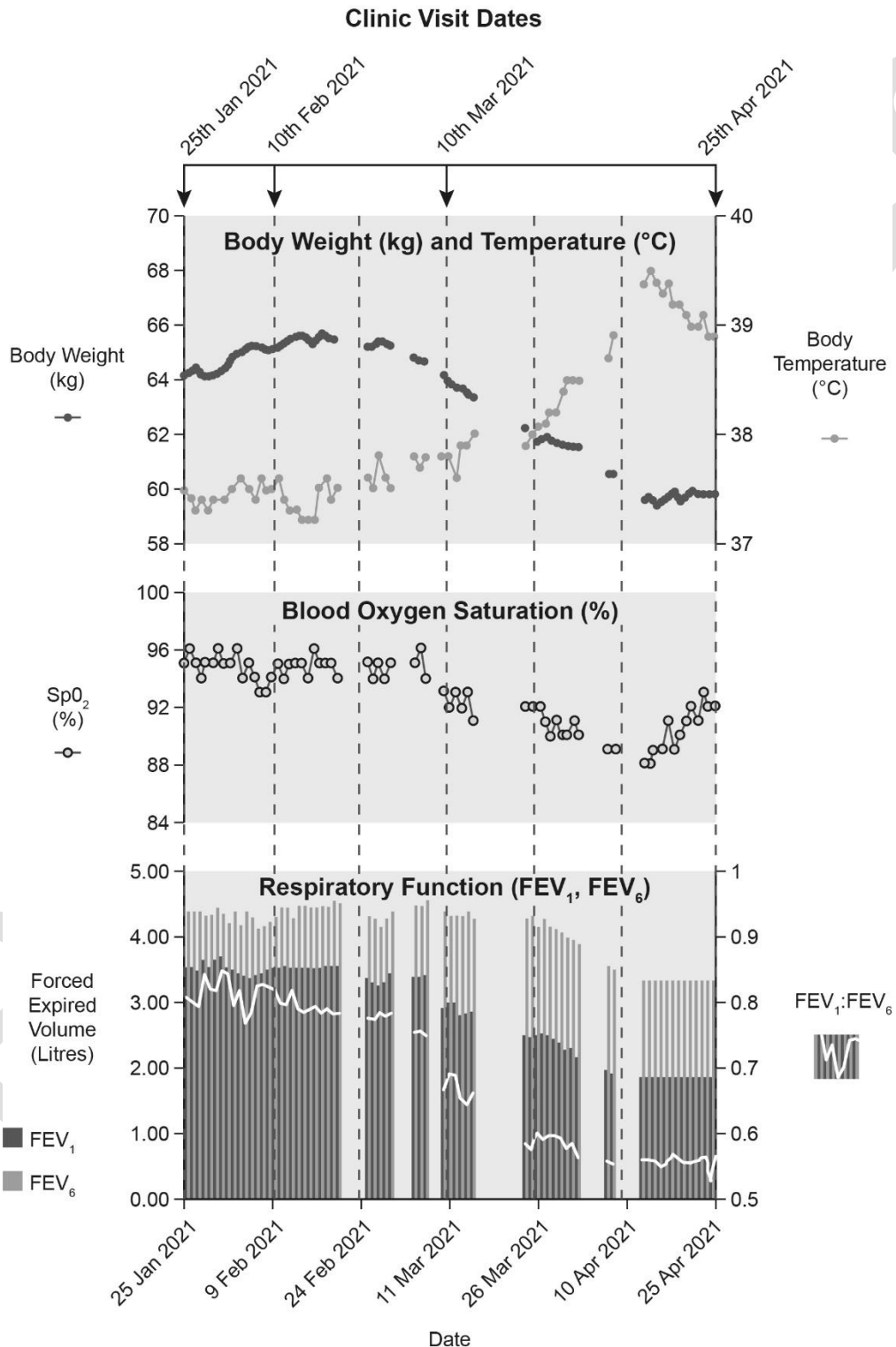
Past Paper

Susan's case notes:

Hospital	National Infirmary	Patient Name	Susan Burton
Ward/Unit	Regional Adult Cystic Fibrosis Service	Date of birth	20/03/2001
Consultant	R Bennett	Patient ID	x23031
Date/Time	Documentation	Follow-up	
25/01/2021 1pm	<p><u>Ann Baker – assigned CF nurse - bleep 76541</u></p> <p>Start of home monitoring – to be carried out daily</p> <p>Reviewed the home monitoring procedure, equipment, and method for updating the app with the patient. Patient attended the appointment (alone) and received instruction in recording blood oxygen saturation, FEV₁, FEV₆, skin temperature and body weight. I also showed the patient how to report events which might affect the respiratory readings from the app (for example, cold, hay fever).</p>	CF service to monitor reporting of respiratory variables via the home service app and request the patient attend clinic in 2 weeks.	
10/02/2021 2:30pm	<p><u>Ann Baker - assigned CF nurse - bleep 76541</u></p> <p>Met with patient in clinic to discuss progress with home monitoring equipment. Patient has been sending data as requested at daily intervals. No respiratory complications such as colds or allergies have been reported</p>	Clinical team is confident that patient can use the home monitoring equipment reliably. Patient visits to the clinic are now advised at monthly intervals.	

<p>10/03/2021 1:20pm</p>	<p><u>Ann Baker - assigned CF nurse - bleep 76541</u></p> <p>Patient attended routine appointment to review progress with the home monitoring equipment. We discussed 3 gaps in the data which had been sent from the app to the clinic. Patient was able to demonstrate correct use of the home monitoring equipment and her app upload history shows data had been sent to the clinic where gaps appeared in her patient file.</p>	<p>Three gaps in data recording were noted. Data transmission to the clinic has been consistent to this point so these are assumed to be temporary interruptions. Will monitor but no immediate action needed.</p>
<p>25/04/2021 12:30pm</p>	<p><u>Ann Baker - assigned CF nurse - bleep 76541</u></p> <p>Patient attended the CF clinic to discuss a recent decline in her respiratory health and has been referred to for further investigation.</p> <p>There have been 3 further gaps in the home monitoring data record since the last routine clinical appointment on 10/03/21. The most recent gaps last for several days and coincide with a decline in the patient's health.</p> <p>The upload history of the app confirms that data had been sent to the clinic on the dates where information was missing from her record. I conclude that there has been a breach in the procedure used to update home monitoring data in this patient's record file. We are examining the possibility that Ms Burton's data may have been confused with another participant on the home monitoring programme.</p> <p>The clinical team recommends that this patient is temporarily withdrawn from the home monitoring service until a reviewed data collation procedure is in place.</p>	<p>DATIX for describing the incident has been submitted, 25/04/2021.</p> <p>To be reviewed by Data Protection Officer/Caldicott Guardian.</p>

Home monitoring health data for Susan Burton (DOB 20/03/2001) – Patient ID x23031



Reference material list

Cystic Fibrosis Home Monitoring Programmes

[Link 1](#): cystic fibrosis: can home monitoring improve the lives of patients? Royal Papworth Hospital

Quality management system (QMS) in healthcare and General Data Protection Regulations (GDPR)

[Link 1](#): <https://www.kingsfund.org.uk/publications/using-data-nhs-gdpr>

[Link 2](#): <https://www.epsom-sthelier.nhs.uk/your-information-and-what-you-should-know>

Patient data handling codes of practice

[Link 1](#): <https://digital.nhs.uk/data-and-information/looking-after-information/data-security-and-information-governance/codes-of-practice-for-handling-information-in-health-and-care>

[Link 2](#): <https://hitinfrastructure.com/features/why-application-programming-interfaces-are-key-for-healthcare>

NHS clinical governance

[Link 1](#): <https://patient.info/doctor/monitoring-the-nhs>

[Link 2](#): www.rcn.org.uk/clinical-topics/clinical-governance

Reporting issues about patient safety

[Link 1](#): www.england.nhs.uk/patient-safety/report-patient-safety-incident

[Link 2](#): <https://www.wsh.nhs.uk/CMS-Documents/Trust-Policies/Incident-reporting-and-management-policy.pdf>

[Link 3](#): 10866.pdf (shropscommunityhealth.nhs.uk) Datix Incident Reporting on Vimeo

[Link 4](#): NHS England » Report a patient safety incident

[Link 5](#): NHS England » National patient safety incident reports

Quality assurance in remote patient monitoring

[Link 1](#): <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993998/>

[Link 2](#): www.karger.com/Article/FullText/496312

[Link 3](#): www.nature.com/articles/s41591-020-0994-1

[Link 4](#): Home Monitoring of Patients with Cystic Fibrosis to Identify and Treat Acute Pulmonary Exacerbations. eICE Study Results (nih.gov)

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 on current national guidelines for patient data recording which includes a discussion of best practice and lessons learned from previous/similar events.

The information gathered will help improve the home monitoring service and establish a standard approach that can be used for early intervention if a break in data recording occurs. 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 collection and recording of patient data
- application of information gathered to determine events that may have contributed to the scenario described in the brief. Examples can be drawn from any relevant health scenario or condition (you are not restricted to a discussion on CF home monitoring)
- data analysis and presentation of data in tables or graphs to illustrate key findings, for example, the frequency of data handling incidents 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, to include a maximum of 2000 words
- 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 senior staff. This report should outline actions that will help to ensure the security and quality of remotely collected patient data. This should help to build on good scientific and clinical practice.

Use the information provided brief 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 brief.

(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:

- processed quality improvement report (pro-forma)
- a copy of your internet browsing history,

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 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 on the feedback from peer discussion form (pro-forma), 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.

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 to present 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

After you have presented your overview, 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.

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

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.

(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 present 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

Evidence requirements:

- materials used to present overview (such as, presentation slides or word-processed document (pro-forma)), to include a maximum of 500 words
- 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 world clinical scenario), including how your recommendations will bring about improvements to the quality of care to patients.

(16 marks)

(Total marks: 16)

Conditions of the assessment:

- you will have a maximum of 2 hours to complete your reflective account, to include a maximum of 500 words

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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