

Version 1.0



**General Certificate of Education  
June 2010**

**Health and Social Care**

**HC14**

**Final**

***Mark Scheme***

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## Question 1

- 0 1** Ref to: the G.P. placing ear pieces of tubing/stethoscope in his/her ears(1) placing metal disc AW on Brian's chest/back(1) will listen to Brian's breathing AW(1)  
(2 marks)
- 0 2** External sounds will be cut out(1) breathing sound channelled through tubes(1) allow – no amplification(1) if breathing loud/noisy/abnormal AW airways obstructed/or excess fluid in lungs (1)  
(3 marks)
- 0 3** Ref to: the G.P. holding one/two fingers(1) on Brian's chest/back(1) tapping fingers (1) with other hand (1) while listening (1)  
(3 marks)
- 0 4** If hollow sound then suggests lungs clear (1) a dull AW sound suggests problem/fluid is present in the lungs (1)  
(2 marks)
- 0 5** Ref to: visual examination/palpitation/reflex testing/taking temperature/blood pressure testing  
(3 marks)
- 0 6** Ref to: Brian being placed in front/below x-ray machine(1) which emits electromagnetic radiation AW(1) as an invisible beam (into Brian's chest) (1) sheet of photographic paper/film/digital image (1) in envelope (behind Brian) (1) differential absorption of x-rays AW (1) produce image – bones light/soft tissue dark (1) structures in Brian's lungs/chest can therefore be seen (1) when hold negative to illuminated panel  
(7 marks)

## Question 2

**0 7** Ref to: year on year comparison – more bypass surgery 2005 than 2004/less use of Drug Type 1 in 2005 cf 2004  
: most/least points: Drug Type 3 most common treatment/Drug Type 1 least common treatment  
: numerical manipulation points: overall totals of treatments each year (90,176 in 2004, 95,364 in 2005 and 96,171 in 2006) rising/2 x as many bypass with other surgery as Drug Type 1 treatments/of patients having similar values – bypass surgery 2004 – 2006  
: higher level features noting data, surgery also likely to have drug treatment of same form i.e. data not necessarily different individuals in each case/patients may take more than one type of drug/drug treatment may precede surgery/more use of Drug Type 2 possibly due to effectiveness – lack of side effects for most users.  
Mark Ranges  
0  
No response worthy of credit e.g. simply restating the data.  
1-3 marks  
Answers make mainly more/less points and/or a most/least point. No attempt made to manipulate the data.  
4-6 marks  
More detailed answers covering more/less comparison points, a most/least point and with some attempt to manipulate the data further. May find similarities in data.  
7-9 marks  
Detailed responses using most of the data available covering all the above points and including two or more higher level features e.g. data not necessarily from different individuals.  
*(9 marks)*

**0 8** Ref to the drugs classified by their chemical makeup (1) and the disorder treated (1) and the specific effects they cause (1)  
*(3 marks)*

**0 9** Ref to ultrasound being high frequency sound waves (1) produced by a transducer (1) to penetrate some soft tissues (1) reflected from harder – denser tissues (1) oil – gel used to help ensure a good contact (1) a receiver detects reflected sound waves (1) from surfaces within body (1) computer generates the image from the reflected waves (1) used in pregnancy to scan embryo AW (1) for gallstones – kidney stones (1) Ref. to Dopler effect (1)  
*(6 marks)*

**1 0** Advantage – inexpensive/no radiation involved (to cause cellular damage)/real time image/moving image 1 mark  
Disadvantages – poorer quality compared to some other methods/shows less detail/unable to penetrate bone – cannot view brain 1 mark  
*(2 marks)*

### Question 3

- 1 | 1** Answers are likely to recognise the advantages of being in hospital as the availability of specialist equipment and skilled nursing staff on hand/24-7 AW, better monitoring, more treatments available, fast response if needed AW

Advantages of home nursing (or conversely the disadvantages of hospital nursing) are likely to include having more privacy, maintained social contact with friends and family, more choice control, possibly less at risk of other infections – MRSA, less anxiety AW at home.

Mark ranges

0

No response worthy of credit

1-2 marks

Answers that show some relevant knowledge, but which are brief, vague and/or repetitive. There will be numerous omissions from the possible positive and negative aspects.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

3-4 marks

Better structured answers which discuss positive and negative aspects coherently in some detail.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

5-6 marks

Well structured answers which coherently cover most of the positive and negative aspects in good detail

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

*(6 marks)*

- 1 | 2** Any two of taking bed rest/drinking plenty of fluids/keeping warm/taking non-prescription drugs.

*(2 marks)*

- 1 | 3** Ref to electrocardiography – electrodes (1) attached to chest/wrist/ankles (1) gel used (1) for good contact (1) records heart electrical activity (1) which precedes contractions of heart (1) displayed on monitor/paper AW (1) as a wave pattern (1)

*(6 marks)*

- 1 | 4** Ref to wave shape can be analysed (1) labelled sections – P, Q, R, S, T (1) healthy heart produces typical wave shape (1) abnormalities seen as different patterns (1) specific to different dysfunctions (1)

*(4 marks)*

- 1 5** Ref to blood cell counts/haemoglobin level (1) for anaemia/leukaemia (1) OR blood glucose level (1) for diabetes (1) OR amniocentesis CVS (1)/for Down's syndrome or other named genetic disorders (1)  
Urine test (1) infection – blood sugar – or valid example (1)

*(2 marks)*

#### **Question 4**

- 1 6** Lithotripsy: using ultrasound AW (1) in a high energy beam (1) to break up kidney/gallstones (1) so they can be excreted from bladder/bowel (1) uses a lithotripter (machine) (1) ref. to use of a cushion (1)

*(4 marks)*

- 1 7** Radiotherapy: uses ionising radiation AW (1) to destroy cancer cells (1) in a localised area (1) either by external converging beam (from a machine) (1) or internally implanted pellet (1) for skin cancer – internal tumour (1)

*(4 marks)*

- 1 8** Endoscopic surgery: using miniature surgical instruments (1) entering via small incision or natural opening (1) viewing area through an endoscope (1) for appendix removal – female sterilisation or appropriate example (1) reference to fibre optics (1)

*(3 marks)*

**1 9** Answers are likely to point out that individuals like Tom still have a right to treatment even though they are alcoholic, as they may have paid taxes, treatment needed for addiction as a disease/disorder as well as liver damage. For others their lifestyle choices may also affect health – e.g. tobacco and/or drug use which require treatment, treatment priorities should be based on degree of need and not other factors, individuals can change, NHS does not and should not discriminate on these grounds. Counter arguments are likely to include ref to individuals like Tom effectively wasting precious resources, reducing the effectiveness of their treatments, priority for treatment should take into account likelihood of success – greater good, individuals should take responsibility for their actions.

Mark ranges

0

No response worthy of credit

1-3 marks

Answers will should some relevant knowledge but be generally simplistic, vague and repetitive. They are also likely to be one sided, stating a view rather than discussing the positive and negative aspects.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

4-6 marks

Answers with some structure and with some valid points made, both 'for' and 'against', but lacking in some detail and/or coherence. Points reasoned rather than just stated.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

7-9 marks

Answers are coherent and well reasoned with points being made in good detail covering most of the potential range.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

*(9 marks)*