Scottish Parliament Region: Glasgow

Case 200901358: Greater Glasgow and Clyde NHS Board

Summary of Investigation

Category

Health: Hospital; general medical; clinical treatment; diagnosis

Overview

This complaint was brought by the Citizens' Advice Bureau (CAB), acting on behalf of the complainant (Mrs C). Mrs C complained about the standard of care her late son (Mr A) received at the Victoria Infirmary, Glasgow in the area of Greater Glasgow and Clyde NHS Board (the Board). Mr A, a young man aged 27, had been admitted on 9 May 2007, following a referral from his GP, with various symptoms including urinary incontinence, a sore throat, a cough, shortness of breath and facial swelling. He had been dizzy for two days and had had diarrhoea and faecal incontinence the night before admission. He was discharged the following day and died suddenly four days later, alone, at home. The post mortem examination revealed heart muscle disease and evidence of heart failure and it is likely that Mr A died of a sudden irregularity of the speed or rhythm of the heart.

Specific complaints and conclusions

The complaints which have been investigated are that:

(a) the standard of care Mr A received fell beneath the level expected of medical practitioners *(upheld)*; and

(b) the Board's responses to the complainant, when Mrs C sought an explanation for Mr A's death, were poor (*upheld*).

Redress and recommendations

The Ombudsman recommends that the Board:

(i) apologise directly to Mrs C for the serious failings identified in this report;

(ii) reflect on the medical lessons to be learned from this case and consider appropriate action;

(iii) produce an action plan, to include education and training, to address the equality, diversity and person-centred care failings identified in this report;

(iv) apologise to Mrs C and the CAB for the shortcomings identified in this report in their correspondence with them;

(v) reflect on their handling and investigation of complaints involving the sudden, unexpected death of a patient; and
(vi) reflect on their handling and investigation of complaints where the family has involved an advocacy organisation such as Action Against Medical Accidents.

The Board have accepted the recommendations and will act on them accordingly.

Main Investigation Report

Introduction

1. This complaint was brought by the Citizens' Advice Bureau (CAB), acting on behalf of the complainant (Mrs C). Mrs C complained about the standard of care her late son (Mr A) received at the Victoria Infirmary (the Hospital), Glasgow in the area of Greater Glasgow and Clyde NHS Board (the Board). Mr A, a young man aged 27, had been admitted on 9 May 2007, following a referral from his GP, with various symptoms including urinary incontinence, a sore throat, a cough, shortness of breath and facial swelling. He had been dizzy for two days and had had diarrhoea and faecal incontinence the night before admission. He was discharged the following day and died suddenly four days later, alone, at home. The post mortem examination revealed heart muscle disease and evidence of heart failure and it is likely that Mr A died of a sudden irregularity of the speed or rhythm of the heart.

2. The complaints from Mrs C which I have investigated are that:

(a) the standard of care Mr A received fell beneath the level expected of medical practitioners; and

(b) the Board's responses to the complainant, when Mrs C sought an explanation for Mr A's death, were poor.

Investigation

3. I was assisted in the investigation by two clinical advisers, a consultant cardiologist (Adviser 1) and a consultant in acute medicine with a clinical interest in heart disease (Adviser 2), whose role was to explain to a member of my staff, and comment on, aspects of the complaint. They examined the papers provided by Mrs C (which included her correspondence with the Board), information from the Board (which included Mr A's medical records) and the post mortem report. In line with the practice of the Ombudsman's office, the standard by which the events were judged was whether they were reasonable. By that, I mean whether the decisions and actions taken were within a range of what would have been considered to be acceptable professional practice at the time in question; we do not judge decisions and actions by using hindsight. Our approach is to consider what evidence and information was available to clinicians at the time in question and to consider whether their actions were reasonably based on that information.

4. I have not included in the report every detail investigated but I am satisfied that no matter of significance has been overlooked. Mrs C and the Board were given an opportunity to comment on a draft of this report and received copies of the clinical advisers' reports.

(a) The standard of care Mr A received fell beneath the level expected of medical practitioners

5. Mr A was referred to the Hospital by his GP with the symptoms described above. The GP had also questioned the cause of abnormalities in liver function tests that she had recently found, and the possibility that Mr A might have a lower respiratory tract infection. Mr A was clinically obese, weighing 27 and a half stone, and had a history of drink and drugs abuse, but his GP's letter suggested the abuse was not daily. She said 'he smoked cannabis and used alcohol and valium recreationally – not daily'. On admission to Hospital, Mr A admitted to drinking two bottles of cider per day and taking 15 to 20 diazepam tablets per day.

Observations on Mr A's admission by Adviser 2

6. The nursing admission profile in the Unified Case Record, completed on admission, only identified 'anxiety and depression' as symptoms, but did not identify his medically documented presenting symptoms of sore throat and incontinence.

7. He similarly noted that the record of examination by the Senior House Officer (SHO) on the same day noted symptoms of sore throat, hoarse voice, urinary incontinence, diarrhoea and leg weakness. The record suggested bilateral facial swelling but did not confirm or refute the presence of peripheral oedema mentioned later in the Board's correspondence with Mrs C. No added heart sounds or murmurs were heard, nor was there any evidence of crepitations (crackling noises in the lungs sometimes present in heart failure).

8. An electrocardiogram (ECG), chest x-ray and blood tests were undertaken and it was noted that Mr A's liver function tests had worsened slightly since they were checked by his GP. The ECG test, which measures the electrical activity of the heart, was reported by the SHO as showing 'sinus tachycardia', meaning a fast normal heart rate. The chest x-ray was reported by the SHO as showing 'unclear bases and fluid in fissure'. Mr A's mean corpuscular volume (MCV) test, which records the size of the red blood cells, was greatly elevated, compatible with alcohol over-use or liver disease. Although it was noted that

Mr A's liver function tests had worsened since checked by his GP three to six weeks earlier, his blood coagulation and proteins were normal, suggesting that severe liver disease was less likely. The SHO suggested nephrotic syndrome (a kidney problem that can cause swelling of the face and body) or a viral illness as working diagnoses. Although there are further notes completed by nursing staff in the Unified Case Record, it is unclear if there was further medical review on the evening Mr A was admitted, or further detailed physical examination.

9. At the consultant review the following day, 10 May 2007, Mr A's symptoms were noted as being 'vague' and the reason for the referral 'unclear'. His bloods were said to be 'OK' and the impaired liver function test judged to be secondary to alcohol. The result of a C-Reactive protein (CRP) blood test, which detects inflammation or infection, had been ringed, presumably as it had been noted to be abnormal. There is no consultant comment on the chest x-ray or the ECG, nor any record of any physical examination of the patient by the locum consultant physician (the Consultant). That is not to say that he did not examine Mr A, simply that there is no record that he did. No clear diagnosis was made and Mr A was discharged with plans for an out-patient abdominal ultrasound scan. There is a handwritten discharge note from a junior doctor in the records but no discharge summary was prepared at that time.

10. A discharge summary to Mr A's GP was dictated by the Consultant on 28 May 2007, two weeks after Mr A's death. It recorded that Mr A had been admitted with vague symptoms of pain in the throat, swelling of the face, a recent respiratory tract infection and that he had a serious alcohol problem. The Consultant said there was no evidence of facial oedema but there was ankle oedema, which was chronic. I observed, however, that the record of examination by the SHO had noted bilateral facial swelling only. He recorded that the throat examination was normal and the systemic examination was unremarkable. He detailed the results of blood tests and said Mr A's liver enzymes were significantly impaired, secondary to alcoholic liver disease. Clinically, he said there was no focus of infection and Mr A was discharged without any regular follow-up. There was no mention of the proposed ultrasound scan, suggesting that no follow-up plans were made.

11. A post–mortem was conducted on 18 May 2007, instructed by the Procurator Fiscal. The cause of death was recorded as cardiac enlargement due to obesity. The conclusion was that the heart was considerably enlarged, with thickening of the heart muscle and dilation of each of the chambers.

According to the post-mortem, although Mr A had died of natural causes from heart disease, it was probable that the enlargement of the heart was related to his gross obesity. The report explained that there is a recognised association between obesity and cardiac enlargement, the heart having to respond to the increased demands put upon it from the increased body weight. The report concluded that Mr A had probably died ultimately from a fatal disturbance in the heart beat, precipitated by the increased bulk of the heart muscle and that there were signs that the heart had been failing previously.

12. In investigating this complaint, the Advisers and I considered three important questions:

- Were there sufficient clues to heart disease to suggest the need for further in-patient investigation?
- Was it reasonable to overlook or misinterpret any clues that were present?
- Was the assessment of Mr A sufficiently rigorous to give the clinicians involved a chance of detecting the presence of heart disease?

13. In response to the question 'were there sufficient clues to heart disease to suggest the need for further in-patient investigation', set out below are the main comments and criticisms of the advisers. Adviser 1 said:

> 'I am concerned with regard to the interpretation of the ECG and chest x-ray. In the records, the only interpretation of the ECG is a note by the admitting SHO of 'sinus tachycardia'. There is no evidence that the ECG was reviewed by the consultant. The ECG is unequivocally abnormal showing a sinus tachycardia of 102 beats per minute, with a ventricular ectopic beat (an extra heart beat originating from the pumping chambers of the heart). There is poor anterior R wave progression (abnormal horizontal axis of the heart often associated with heart disease) and T wave inversion in lead III, V_{2-4}, and T wave flattening in lead II, aVF, and V_{5-6} (abnormalities of the terminal part of the ECG complex, often associated with heart disease). Whilst these changes are non-specific, they are undoubtedly abnormal, and cannot be explained by obesity alone.
>
> Likewise in the SHO assessment of the chest x-ray the comments are 'unclear bases, fluid in fissure'. There is again no evidence in the consultant's review that the chest x-ray was assessed. Again, the chest x-ray is unequivocally abnormal. The chest x-ray report, dated 18 May 2007, is as follows, 'the heart appears enlarged. The lungs appear clear'. Having reviewed the chest x-ray, I would comment that the

heart is enlarged with a cardiothoracic ratio (the ratio of the size of the heart to the size of the chest as seen on a chest x-ray) of 19.6/35.6(=0.55). The upper limit of normal is 0.5. In addition, there is upper lobe venous blood diversion and fluid in the right inter-lobar fissure (the spaces between the lung lobes) suggestive of raised left atrial pressure and fluid congestion in the lungs'. (Adviser 1 explained that as the heart fails to pump normally the pressure in the left atrium, the collecting chamber of the left side of the heart, rises. The back pressure from this causes the upper lobe pulmonary veins, which drain into the left atrium, to enlarge. This can be detected on chest x-rays and is suggestive of heart failure).

'In summary, although Mr A's presentation was non-specific, the abnormalities on the ECG and chest x-ray certainly suggested that there was a cardiac cause. The evidence in the records is that these abnormalities were not recognised by the clinicians treating him, and indeed, there is no evidence that they were reviewed at the consultant's review. Had they been, I believe that further in-patient investigation of his heart would have been organised.'

Adviser 2 said:

'There is no doubt that, in all patients, individual symptoms and signs and investigation findings are relatively poorly specific and sensitive to the presence of heart failure. However, in this case, the consultant, at various points does note that breathlessness, ankle oedema and liver function test abnormality were present, and these, taken along with the ECG appearances and cardiac enlargement on the chest x-ray, collectively, should at least raise the possibility of heart disease.'

14. In response to the question 'was it reasonable to overlook or misinterpret any clues that were present', set out below are the main comments and criticisms of the Advisers. Adviser 1 said

'The interpretation of the ECG and chest x-ray by the SHO, who is a junior grade doctor, was only partial. However, there is no evidence that these investigations were reviewed by the consultant at the time of his review. I believe that the failure to do so was not reasonable, and meant that the correct diagnosis was not made and the correct treatment was not given.'

Adviser 2 said:

> 'There is no consultant comment on the chest x-ray or ECG, nor any record of any physical examination of the patient by the consultant.

15. In response to the question 'was the assessment of Mr A sufficiently rigorous to give the clinicians involved a chance of detecting the presence of heart disease', set out below are the main comments and criticisms of the Advisers. Adviser 2 said:

> 'Even in a (presumably) busy acute admitting setting, the intensity of evaluation of his presenting symptoms was below the standard that could be reasonably expected.
>
> … the evaluation of the patient was not sufficiently rigorous to detect the clues to the presence of heart disease at the time of the admission.
>
> … these clues were overlooked or misinterpreted largely because of the fact that obesity and alleged alcohol overuse were blamed.'

(a) Conclusion

16. Adviser 1 and Adviser 2 are clear that, although Mr A presented with non-specific symptoms and signs which could have been explained by a combination of his obesity, alcohol and drug use and a viral infection, there were several clues to the presence of heart disease. In their view, these clues were either overlooked or misinterpreted, largely because of the fact that obesity and alleged alcohol overuse were blamed, or that the evaluation of Mr A was not sufficiently rigorous to detect them at the time of his admission.

17. Adviser 1 said that Mr A's presentation to the Hospital was with non-specific symptoms and signs which could have been explained by a combination of his obesity, alcohol use and a viral infection, but he was concerned with regard to the interpretation of the ECG and chest x-ray. He said that, irrespective of the underlying cause of the abnormalities which did not show up until the post mortem report (dilation and hypertrophy of both heart ventricles), he found that the abnormalities were undoubtedly chronic, and would have been present if looked for during Mr A's admission.

18. Mrs C's original complaint stated 'The standard of care Mr A received fell beneath the level expected of medical practitioners and consequently he died unnecessarily', however, Adviser 2 has said that it would be impossible to

determine that 'he died unnecessarily'. This is because, even if Mr A's heart condition had been identified while he was in hospital, he may still have died. I, therefore, limited my investigation to the standard of care Mr A received. I uphold this complaint.

(a) Recommendations

19. The Ombudsman recommends that the Board:

(i) apologise directly to Mrs C for the serious failings identified in this head of complaint;

(ii) reflect on the medical lessons to be learned from this case and consider appropriate action; and

(iii) produce an action plan, to include education and training, to address the equality, diversity and person-centred care failings identified in this report.

(b) The Board's responses to the complainant, when Mrs C sought an explanation for Mr A's death, were poor

20. Mrs C asked the CAB to act on her behalf and they first wrote to the Board on 6 February 2008 to ask why Mr A was discharged when he was so ill and why he was not provided with medication, or a letter for his doctor, on discharge. A Director within the Hospital (Director 1) responded on 27 March 2008, using information provided in an email from the Consultant. He said a discharge letter had been sent to Mr A's GP and that he was not discharged on medication, as he had not been prescribed any during his admission. He explained how patients' vital signs were routinely monitored and said Mr A's score range on the system used was within the normal limits. He referred to Mr A's presenting symptoms as being mostly chronic and said that although Mr A's GP had mentioned facial oedema in her referral there was no evidence of this. This contradicted the SHO's report, detailed at paragraph 7 above, which had suggested facial swelling. Director 1 referred to Mr A's 'chronically abnormal' liver enzymes but made no reference to the ECG or the chest x-ray – the objective assessments most likely to give clues to the underlying diagnosis.

21. The CAB wrote again on 29 July 2008, four months later, saying Mrs C wished to pursue a complaint, as the family believed Mr A's care was negligent. The CAB said that Mr A's presenting symptoms, as described in the Board's letter, were not consistent with the family's recollection of events. Mrs C said 'sometimes all people would see when they looked at [Mr A] was a fat person and that this sometimes affected the way they would treat him'.

22. Two months later, on 26 September 2008, Director 1 again responded saying that Mr A's case notes had been reviewed by another Director (Director 2), a Consultant Cardiologist. He detailed Mr A's presenting symptoms, admission, assessment and review and reiterated much of what had been said in his earlier letter. Director 1 said 'subsequent events, whilst most unfortunate, would not likely have been detectable by the medical staff on admission and [Director 2] doubts whether any other treatment would have significantly altered the sad outcome'. In the circumstances, Director 1 offered the opportunity for Mrs C to meet with medical staff if she wanted to do so.

23. Following that letter, the CAB contacted an organisation called Action Against Medical Accidents (AvMA) who provided a report which raised several concerns about the treatment Mr A received; this was then sent to the Board on 21 January 2009 with a request for their comments.

24. Director 2 conducted an internal review of the case in response to the letter from AvMA and produced a report dated 4 March 2009, six weeks after the AvMA letter had been received. In his report, he said that the AvMA's advice worker's interpretation of the clinical facts was seriously flawed, misleading and potentially irresponsible. He said her 'findings' were factually inaccurate and demonstrated no understanding of the meaning of clinical findings. He believed her letter had done nothing to help the family in this scenario, inflamed the situation and perhaps given the suggestion that either the Hospital, the SHO or the Consultant had been negligent, which Director 2 said was clearly far from the case. In response to the advice worker's comment about the lack of an ECG, he pointed out that an ECG had been done and showed 'a sinus tachycardia only with T wave changes anteriorly'. According to Adviser 2, however, the only interpretation of the ECG in the records is a note by the admitting SHO of 'sinus tachycardia' and there is no evidence that it was reviewed by the Consultant, or the abnormalities present having been noted or appreciated.

25. Although Director 2 had produced a report dated 4 March 2009, there was no communication with CAB until 24 April 2009, three months after the AvMA letter had been received. Based on Director 2's review of the case, Director 1 addressed the issues raised by AvMA and specifically whether or not there was oedema, saying 'Mr A was noted to have bilateral facial swelling and three doctors did not find ankle or thigh oedema'. He said the Consultant and SHO

had clearly examined Mr A thoroughly in accordance with the Unified Case Record Core Documents requirements. I noted that, yet again, the letter did not mention the ECG or the chest x-ray and in saying that Mr A was noted to have bilateral facial swelling, Director 1 contradicted what he had said in his letter of 27 March 2008, which was that there was no facial swelling.

26. Adviser 2 commented on the Board's responses to Mrs C, the Board's internal correspondence and emails, and the review of the case by Director 2. He told me that the Board's first response, dated 27 March 2008, was a little misleading and implied that Mr A's symptoms were longstanding – the inference presumably being that they were less likely to require evaluation. In his view, the response also implied that the liver function tests were chronically abnormal but they were only known to have been abnormal for six weeks. He said the internal email from the Consultant, on which the first response was based, noted the abnormal liver function tests but did not indicate that these could relate to heart failure. The email noted that the inflammatory markers were normal, when the CRP at 22 was in fact double the upper limit of normal (although Adviser 2 said this would not be a specific clue to heart disease).

27. Adviser 2's view of the Board's second response, dated 26 September 2008, was that it stressed the non-specific nature of the presenting symptoms. He pointed out that while Director 1 asserted that the Consultant 'clearly examined him', this was not clearly the case from the contemporaneous record, although the Consultant had indicated in his email that he had examined Mr A's heart and lungs.

28. On reading the Board's final response dated 24 April 2009 (which was based on Director 2's review dated 4 March 2009), Adviser 2 said that, in his opinion, the letter contained inaccuracies. He gave as examples that the Consultant had noted in the discharge note that there was peripheral oedema and it was not fair to say that the Consultant had 'clearly examined Mr A thoroughly' when, in Adviser 2's opinion, there was no evidence of the examination in the medical record. He said that the letter also noted that many findings in isolation are non-specific, which is true, but it did not acknowledge that a collection of individually non-specific findings should prompt consideration of a unifying cause. Adviser 2 said the final response correctly pointed out that the symptoms of tachycardia (breathlessness and fatigue) could be due to obesity but failed to acknowledge that they could also be due to underlying heart disease. By saying the documentation of the negative finding of the blood

tests was clinically relevant, it implied that it was clinically relevant in excluding heart disease, which in Adviser 2's opinion was not the case.

29. Adviser 2 considered that Director 2's review, in response to the family's involvement of AvMA, was defensive and dismissive of the complaint. He found this reaction and response to be inappropriate given that a young man had died suddenly and unexpectedly and the family would naturally seek explanation.

(b) Conclusion

30. There is clearly dispute in the Board's correspondence about the presence, or absence, of some symptoms or signs that Mr A presented with. The Board vigorously refuted the presence of peripheral swelling, which although non-specific, would have been supportive of a diagnosis of heart failure. The Consultant's own discharge letter suggested there was swelling present and the post mortem suggested lower limb swelling. At some points, the Board defended themselves by saying that there was no evidence of the presence of a particular sign, when the sign was in fact present (for example, swelling). At other times, the Board highlighted the fact that, even were a given symptom or sign present, this in itself would not prove the presence of heart disease, or represent an indication for investigation. Similarly, the Board defended themselves at some points saying that a rigorous physical examination was undertaken (when the advisers are not convinced it was) and at other times, that such an examination would be unrewarding in such an obese man.

31. It is disappointing that the Board made no specific reference to the ECG until the AvMA letter was received, and that the subsequent response emphasised the non-specific nature of the findings rather than acknowledging that they could have indicated heart disease.

32. Mrs C, quite reasonably, asked why the presence of heart disease was not detected when Mr A was briefly hospitalised. In my view, none of the Board's responses made any real attempt to explain to Mrs C the sudden death of her son or to indicate how difficult diagnosis can be in the circumstances in which he died. My view, based on the Adviser's comments, is that the responses (all of which were outwith the Board's stated aim of responding within 20 working days) were defensive in tone, selective in their content and the final response repeated inaccuracies, even after the case had been reviewed for a second time by Director 2.

33. In my view, by their defensive tone and dismissal of her complaint, the Board seemed to convey the impression that the diagnosis of heart failure is almost unachievable in an obese patient. From Mrs C's point of view, these statements must have appeared bewildering and confirmed her belief that 'sometimes all people would see when they looked at [Mr A] was a fat person and that this sometimes affected they way they would treat him'. I uphold this complaint.

(b) Recommendation

34. The Ombudsman recommends that the Board:

(i) apologise for the shortcomings in their correspondence with Mrs C, and the CAB, identified in this report;

(ii) reflect on their handling and investigation of complaints involving the sudden, unexpected death of a patient; and

(iii) reflect on their handling and investigation of complaints where the family has involved an advocacy organisation such as AvMA.

35. The Board have accepted the recommendations and will act on them accordingly. The Ombudsman asks that the Board notify him when the recommendations have been implemented.

The Board's subsequent comments

36. The Board accepted the recommendations in my draft report and did not dispute any of the facts. In response to the draft report, the Board offered their most sincere apologies if they had conveyed the impression that the diagnosis of heart failure is almost impossible in an obese patient and their assurances that it was not their intention to do so, or cause any upset to the family. They acknowledged the many aspects of this case they needed to reflect on and learn from, in particular their note keeping, correspondence and communication with the family and the CAB.

37. On receipt of my clinical advisers' reports, however, the Board asked two Senior Clinicians (the Clinicians), a Consultant Physician and a Consultant Cardiologist, from another hospital to review the case. The Board said that the conclusion their experts had reached, independently of each other, was that the assessment, clinical management and discharge of Mr A were appropriate, reasonable and, therefore, inconsistent with the views expressed in the draft report. The Board said their Clinicians' view was that the presentation and

clinical findings gave no clear indication of cardiac failure and the Board sent my office copies of their reports. I asked my advisers to review these reports and let me have their comments.

38. Adviser 1 said that he was somewhat at a loss to explain the Board's Clinicians' conclusions about Mr A's discharge for two reasons. Firstly, both Clinicians had agreed that the chest x-ray was not normal; Adviser 1 pointed out that both the chest x-ray and the ECG were abnormal and no action had been taken to investigate that further. Secondly, the consultant review on 10 May 2007 showed no evidence that either the chest x-ray or the ECG were reviewed.

39. Adviser 2 still believed the most important issue remained the apparent absence of senior review of the available clues to the presence of heart disease, not how those clues were interpreted. In his opinion, it was reasonable to expect that the chest x-ray and the ECG were reviewed by senior staff before Mr A was discharged and there was no evidence in the medical records that they were. However, Adviser 2 also stressed that even if the chest x-ray and ECG had been reviewed at senior level, the outcome might have been the same. He gave as an example that the Board might have noticed the clues and made a fully informed judgement to discharge Mr A with plans to assess him further at an out-patient review. In that scenario, Adviser 2 said he would not have criticised the Board. Both Adviser 1 and Adviser 2 noted that one of the Board's Clinicians indicated he would have organised an outpatient echocardiogram, indicating that he would also have considered that cardiac disease was present when all the available information was reviewed.

Ombudsman's comment

40. This has been a very difficult and sensitive case for the family, the Board and my advisers and I feel it is important that all parties understand the criticisms in my report. The error in this case was one of omission in that the Board did not review and comment at senior level on the chest x-ray and ECG. However, even if they had done so, the outcome might have been the same. My advisers, one of whom is a Consultant Cardiologist, both stand by their original opinions, which I accept, that the decision to discharge Mr A without any documented evidence that the available clues to the presence of heart disease were considered by the Consultant was below the standard that could reasonably be expected.

Annex 1

Explanation of abbreviations used

CAB	Citizens' Advice Bureau
Mrs C	The complainant
Mr A	The complainant's son
The Hospital	Victoria Infirmary, Glasgow
The Board	Greater Glasgow and Clyde NHS Board
Adviser 1	One of the Ombudsman's medical advisers who is a Consultant Cardiologist
Adviser 2	One of the Ombudsman's medical advisers who is a Consultant in Acute Medicine with a clinical interest in heart disease
SHO	The Senior House Officer who examined Mr A
ECG	Electrocardiogram
MCV	Mean Corpuscular Volume
CRP	C-Reactive Protein
The Consultant	A locum Consultant Physician who dictated the discharge summary
Director 1	A Director in the Hospital
Director 2	A Director in the Hospital – a Consultant Cardiologist

AvMA	Action Against Medical Accidents
The Clinicians	Two Senior Clinicians from another hospital in the Board's area

Annex 2

Glossary of terms

Sinus tachycardia	Fast normal heart rate
Ectopic beat	Extra heart beat originating from the pumping chambers of the hear
Cardiothoracic ratio	The ratio of the size of the heart in relation to the size of the chest as seen on a chest x-ray
Echocardiogram	A sonogram of the heart