Scottish Hospitals Inquiry
Witness Statement of
Dr Alistair Hart

Personal Details

1. My name is Alistair James Hart. I am a Consultant Haematologist at the Queen Elizabeth University Hospital ("QEUH") and I am employed by NHS Greater Glasgow and Clyde.

Education

2. In 1999, I graduated with a Bachelor of Medical Science, which is an intercalated degree at the University of Nottingham within Medicine. In 2001, I gained my Bachelor of Medicine and my Bachelor of Surgery. In 2005, I became a Member of the Royal College of Physicians (MRCP). In 2009 I became a Fellow of the Royal College of Pathologists (FRCPath).

Current Role and Specialism

3. In my role as Consultant Haematologist in South Glasgow, I work between the New Victoria Hospital and the QEUH.

4. A lot of my work is focused on malignant haematology, particularly lymphoma and other lymphopoietic disorders. I also have an interest in thrombosis and diagnostic haematology, which involves laboratory haematology. My day-to-day work is a mixture of clinic work, attending ward rounds, laboratory sessions and liaison work, which is clinical work with patients around the hospital as requested by other specialities.

5. My clinical line manager is Dr Mike Leach. Dr Leach is a Consultant Haematologist and Clinical Director. His line manager is Dr David Dodds, Chief of Medicine for Regional Services.

6. A lot of my out-patient work is at the New Victoria Hospital. All of my in-patient work and the vast majority of my laboratory work is at the QEUH. My time split between the hospitals varies week by week but I would roughly estimate that my time is split evenly in each hospital.

7. My role involves looking after patients: making the diagnosis, developing the management plan and helping the patients through their management plan and then following up with the patients and dealing with complications or, in terms of the malignant disorders, relapses of their condition. I am my patients' diagnostician and I am the person who develops and implements, to a degree, the management plan for my patients. The management plan for each patient is based on the condition that we have diagnosed.

Patient Cohort

8. The patient group I treat are patients with haematology issues who are generally based in South Glasgow. Within that, I see and treat lymphoma patients.

9. There are lots of different types of white blood cells. There are neutrophils that fight infection; eosinophils which deal with allergy, and then there are lymphocytes. Lymphocytes fight off viruses and look after the functioning of the immune system. I specialise in conditions where the lymphocytes are behaving in a malignant manner, and that is either the lymphocytes are becoming lymphomas or chronic leukaemia. Lymphoproliferative disorders are the particular area of malignant haematology that I look after. If the lymphocyte disorder is acute leukaemia, then the patient is treated by a different team.

10. My patient group is always adults. In Glasgow, teenagers and young adults with a malignant haematological diagnosis will often be looked after by Dr Nick Heaney until they are 23 years old, but that is not absolute. I will see patients between the age of 14-18 years but this is infrequent, and they would not usually stay with us for chemotherapy. Up to the age of 23 years, the patients

have the option of whether they want to go to the teenage and young adult unit or whether they stay within the normal adult haematology team. Certainly, in terms of active chemotherapy, I do not – with the odd exception – treat patients under the age of 18 years old.

11. I will occasionally receive a request from a General Practitioner for advice in relation to an older teenager, around 15 to 17 years old. However, we do not provide inpatient care for this group.

Patient Considerations

12. In respect of whether there are any particular vulnerabilities that require to be managed in my patient group, it is difficult to answer because there is a broad range of haematology disorders. For many people there are no specific issues, but for those people with lymphomas, particularly requiring treatment, there are probably two aspects. One is the psychosocial aspect; everybody finds lymphoma quite a stressful thing to have to live and deal with. Second, relevant for the purposes of the Inquiry, is that I worry whether the patients are going be at an increased risk of infection.

13. It is not necessarily that the patients are going to be at an increased risk of infections, but it is considered, particularly if working up towards treatment. For example, during the COVID pandemic, whether a patient requires to be on the shielding list.

14. In the past, generally until we were actually giving treatment, infection was not anything that we usually would focus on, but it has became more prominent from a COVID and a shielding point of view.

15. I have a lot of patients with lymphoma who are just monitored and there is no real significant increased risk of infections.

Area(s)/Unit(s)of Work

16. In the QEUH, I am based in two buildings. My office is based on the first floor of the new laboratory building. The laboratory building is a series of laboratory rooms and a series of office rooms on the first floor. I also work in the hospital, Ward 4C, where there is a series of ten en-suite patient rooms, a small reception area and a doctor's office through a set of double-doors, situated just outside the ward.

17. My patients are located in Ward 4C. Ward 4C is a shared ward with renal transplant. We have ten single rooms with beds adjacent to each other. After the haematology rooms, the renal transplant rooms are located round the top of the ward.

Key features within the patient ward(s)

18. Pre-COVID, we did not restrict visitors, other than the usual advice, "Make sure you are well if you are going to visit someone in hospital."

19. A significant change from the old Southern General Hospital (SGH) to the QEUH is that all patients are in single rooms. In the old SGH it could be difficult to ensure everyone you wanted to be in a single room was, but that is no longer an issue at the QEUH.

20. Beyond single rooms, the other day to day consideration from an infection control perspective was whether in addition to standard hand hygiene there was a need for aprons and gloves to be worn, or even masks, when seeing a particular patient. This was pre-COVID.

21. The other features, which I will comment on in more detail later in my statement, is around air quality and positive pressures in the single rooms. Currently we have portable HEPA filter units within the ward to assist with this.

Standard Operating Procedures and Protocols

22. There are a number of Standard Operating Procedures (SOPs) and protocols that we use across haematology, bone marrow transplants and for B7 at the Beatson West of Scotland Cancer Centre (“the Beatson”). B7 is a haematology ward at the Beatson. I am not responsible for writing any of the Standard Operating Procedures (SOPs) and protocols that we use.

23. The SOPs that we use are very similar to those I came across in my training in Edinburgh, Fife, Sheffield and Cornwall. From my point of view, there is nothing controversial in the SOPs and protocols.

Antimicrobial Prophylaxis Policy

24. I am aware that there was a haematology antimicrobial policy at the SGH. Wherever I have worked around the UK in training there is always a haematology antimicrobial policy in place. As I have stated above, I have worked from Sheffield to Cornwall and from Edinburgh to Glasgow, and the haematology antimicrobial policy is something that every haematology unit has in place.

25. The antimicrobial policies across the UK are largely the same. There is sometimes variation depending on the local bacterial resistance patterns. There are certain areas in the UK where certain bacteria have developed a resistance to a certain antibiotic and so the hospital’s policy would reflect this. I am not aware that there is a specific issue in Glasgow. Generally, what we use is what is used where I have worked elsewhere in the country, so although the policies are not identical there is only minor variation.

26. Haematology units involved in stem cell transplantation are now JACIE accredited. The policies and protocols are part of a whole quality management system, which is required for JACIE accreditation.

27. The person who administers and runs the quality management system for the service, in terms of the running and keeping the policies up to date, is now Michelle Barratt. They do not take responsibility for what is actually in the policies. Each policy has an author and at least one reviewer.

28. The antimicrobial policies do not include policy relating to communication or duty of candour. The antimicrobial policies are practical: 'If patient has Y, try and use X' and 'If they have Z, give them F'. There is always a caveat to be aware for side effects, allergies and interactions. Rather than the term protocol, guideline is probably the correct term.

<u>Prophylactic Medication</u>

29. As far as environmental organisms are concerned, Antimicrobial prophylaxis is used to prevent either the organisms within us or the, usually low pathogenic risk organisms in the environment causing infection. There are three main areas: there is antiviral prophylaxis, antifungal prophylaxis and antibacterial prophylaxis (which includes PCP prophylaxis).

30. For example, antiviral prophylaxis is most commonly Acyclovir to try and prevent reactivation of herpes simplex (cold sores) and chicken pox which can reactivate when someone is immunocompromised. There is an infection called PCP or Pneumocystis Jirovecii, depending on type of chemotherapy or transplants, patients require PCP Prophylaxis. 1st line for this is an oral drug called Cotrimoxazole administered on Monday, Wednesday and Friday, there are alternatives if a patient does not tolerate it. Antibacterial prophylaxis can be less straightforward but if required we would use Ciprofloxacin most frequently. However, this drug can precipitate out Clostridium difficile infections. There is always the concern that you could actually precipitate out a problem by using antibacterial prophylaxis and it is a risk benefit balance based around a patients underlying disease, the treatment used and there individual history of infections.

31. We have an Antifungal Policy, an Antibiotic Prophylaxis Policy, an Antiviral Policy as well as the Disease and Chemotherapy specific guidelines for the West of Scotland. I have no responsibility for the anti-microbial policies. These policies and guidelines set out levels of immunosuppression due to disease and treatment and the nature of the prophylaxis you will use. This is especially relevant to antifungals. One of the infections we worry most about in haematology patients is Aspergillus infections. Aspergillus is around us all the time and we have probably all got some Aspergillus in our lungs as we speak but the immunocompetent body will deal with it.

32. When we reduce your immune system, you can become colonised and then a fungal infection, such as Aspergillus can develop. We use antifungal prophylaxis to try to prevent this. Some antifungals will just target yeast because yeast-causing oral thrush is quite common. In patients who are not severely immunocompromised by their disease and treatment, we might use Fluconazole. Whereas some patients require Posaconazole, which is the newest of the antifungal agents and is the most effective while being comparatively well tolerated.

33. There can, however, be side effects to any medication. As discussed above for Ciprofloxacin selecting out resistant organisms as an example. With antifungals, there is less of a concern around selection pressures, although that is possible. The bigger concern around the antifungal drugs are toxicity side-effects. Upset to people’s livers is common, so we can have very abnormal liver function tests which would be caused by the antifungals. It is not uncommon that we have to stop the antifungals for this reason. If you have short intervals off the medication, that is fine, again as is often the case it is weighing up the risks and benefits. If we require a longer time off the antifungal prophylaxis or feel unable to retry a particular medication then we look at putting patients on an alternative drug. For example an alternative to Posaconazole is drug called Ambisome, however, as mentioned, all drugs come with their own side effects. Ambisome in particular can affect the kidneys and patients can end up losing a lot of their normal salts. Ending up with very low potassium and magnesium levels, requiring intravenous replacement. All

the drugs come with their own problems. Often patients are asymptomatic of the side effects, it is blood tests that tell us it is happening first, allowing us to make changes as required.

34. The policies are non-controversial. They are a very similar to ones that are used around the world. Unfortunately, there are always going to be infections in haematology patients receiving chemotherapy, no matter how many measures are put in place.

35. Within haematology, everyone is on prophylactic medication as appropriate to the protocol that we follow. There are some people whose chemotherapy means they will not require anything and will be managed as outpatients, then there will be people whose chemotherapy means they are on multiple agents for many months spending a lot of that time as an inpatient.

Communication: Prophylaxis

36. Medical staff communicate why prophylaxis is being prescribed to patients and families. We explain that the patient will go onto X, Y and Z drugs to try to prevent them from getting infections but even with that, they will most likely still get infections. It is also explained that being on these drugs does not mean that they will not get infections. Management did not provide us with any guidance on how to speak to patients and families, but this is not expected as this is standard good medical practice.

37. Information would be tailored for patients and families. This would be tailored around what they ask you and often how unwell the patient is. Often the more unwell a patient is, the less in-depth discussions will be with them because they are feeling dreadful and not wanting long discussions.

CHRONOLOGY OF EVENTS

Pre-opening of the RHC, QEUH and Schiehallion Unit

38. I came into post in 2011. The planning for the design of the hospital had long been sorted before I came into post. I did not contribute or input into the planning or design of the hospital.

39. I believe previously that Dr Sharp and Dr Hood inputted into the requirements for the haematology ward.

General views on the opening of RHC, QEUH and Schiehallion Unit

40. My initial general impression of the new hospital, because of where we had come from, was that it was amazing. We came from the old SGH and it was not fit for purpose at all. It had leaky windows that rattled and the hospital was generally dishevelled. The new hospital was transformational. The rooms for the patients were amazing because, although we did have some single rooms in the old SGH, they were small and, at times, you could hardly walk round the bed. Whereas now we had huge rooms, all of them en-suite, all of them with a nice big window.

41. One concern of moving was the fact that we were losing bays for patients, because sometimes patients really bond with each other in these bays, which was very lovely. However, having bays could also be difficult, especially if we wanted to keep people who were very immunocompromised away from other people, so at times it would become a balancing act of moving people around constantly. Whereas now, everyone has a single room and the patients quite like that privacy. Often the in-patients are feeling so poorly they are not necessarily wanting to interact with people that they do not know. Everyone thought the new hospital was nice, particularly the patients that moved across from the old ward.

42. My views now of the hospital are largely the same. I think the accommodation that the patients have, in terms of the large single rooms and en-suite with a big window is really nice for the patients. It is easier to look after the patients, particularly if they are unwell. There is space for a relative to stay over with them. Obviously COVID has made that slightly harder but it is not uncommon

that we have relatives able to stay over with patients, which is lovely. I think the accommodation for the patients in terms of the physical space is good.

43. For haematology patients, the single biggest infection control measure is single rooms which help to stop the spread of infection, which was an issue in shared bays.

44. The environment through the hospital, is very good and I think it is much better for haematology patients than we had previously. A recurring problem, I understand, with new build hospitals, which I know was the case at University College Hospital in London, is that there is not actually enough space for the staff to do their work. This is an issue because though people think that the work is just directly with patients, and this is the best bit of the job, but we also need space to be ordering the tests, writing notes etc. This is the same for doctors, nurses and pharmacists and often space feels limited for that. It would be nice to do more from an out-patient, ambulatory care perspective. Areas that I think could be improved, from a ward design point of view, would be more space for people to do their work. It would also be a positive change if we could have a relative's room where we could sit down and speak to relatives. We do have access to a room, but it is not directly in the ward.

45. One big issue arising from moving to the new hospital is the number of beds available to us. We dropped from fourteen to ten beds and it has been extremely challenging. We have such demand on those beds. We have patients throughout the hospital, who would be best placed on a haematology ward. It is very frustrating, but we are aware there is a UK shortage of beds.

Common Issues (Interior of building)

46. There were some issues within the building. For example, there are encased blinds, which were important from an infection control point of view, but they can be difficult to fix if they break as they are not easily accessible. This means that patients are sitting in a room with a closed blind, which is not the best. It should be fixed the same day it breaks, but I certainly know that there has been

rooms where it has been several days until it is fixed. I appreciate it is because the maintenance team are very busy.

47. I am not aware of there being any issues with the patient's TVs on the ward. A lot of patients seem to prefer using their laptops and iPads. Technology has really come a long way from a patient point of view. Our patients can be stuck in those rooms for six weeks, so IT has transformed things.

48. I think in general, most of the patients get on okay with the Wi-Fi and they seem content with it. I suspect that as more and more people are streaming movies and things like that, it might not be able to keep up, but at the moment it seems ok.

49. I am not aware of any issues with plug points or battery packs.

50. In regard to the ward entry system, there is the odd door that breaks but to be fair, the doors are usually fixed pretty quickly.

51. There has been the odd sink and shower that has not drained properly or become blocked, and I am aware of flooding from the showers, but not the specific details. I could not put a specific time or frequency on it. I am not aware of any sewage leaks.

Common Issues (Exterior of building)

52. I recall that there was a period of time that the cladding on the hospital was being fixed. There was a bit that they were going to have to replace because of concerns around fire safety following Grenfell. I only know what was in the Core Brief, which was similar to what was in the press. I cannot recall any specific communication between myself and staff with the patients about this. The Core Brief is a document that is issued to staff by email most days and you have to check it because sometimes there is something important in it.

53. I am not aware of any issues with the roof or play park.

Sewage Works and Odour

54. With regard to the smell, the main hospital does not seem to smell inside but the lab building smells terribly because it is right next to part of the sewage works. I am very good friends with someone who works for Scottish Water and apparently the lab building is right next to the smelliest bit of the whole sewage plant. It is particularly bad on a warm day with little wind. You can smell it outside, I do not smell it inside the main hospital.

55. I had concerns about the smell but I think it was a concern shared by lots of people. However, that is all from non-experts so none of us know the answer in terms of how concerned we should be from an infection perspective. Infection Control are the experts and would defer to them.

56. We do not smell it in Ward 4C. I would assume that Infection Control would flag if there was actually a genuine issue.

Issues with Built Hospital Environment

Water Supply

57. When I moved to the QEUH in 2015, I had no concerns in respect of the safety of the water. I had no concerns when the hospital first opened because one assumes that other people have checked and signed off on the water system.

58. I cannot remember specifically the date when the concerns with the water supply started, or precise timelines and how the issues were communicated

59. I think it was at the Incident Management Team meetings (IMTs) that more information was given about the issue. I did attend some of the IMTs. My lasting impression was that everything happened very quickly. I cannot recall many specific details reliably with the passage of time.

Infection Risk: water supply

60. There was a concern that the water supply posed an additional risk of infection. What is difficult with our population of patients is that they are so immunocompromised that they are frequently having infections. That is why they are in hospital. That is the nature of a haematology in-patient and has been the case wherever I have worked throughout the UK. Haematology patients often have infections, not infrequently with atypical organisms. That is the expected course of their condition and treatment effects.

61. My understanding was that an unusual organism, Cupriavidus, had been found in the water and that this organism could cause infections particularly in immunocompromised patients. When you hear of an unusual organism that is affecting a patient, you turn to Microbiology for further guidance.

62. I do not think we really knew what the risk was from the water supply. In terms of the response from an infection control perspective, I think the response seemed appropriate. I think it was quite difficult to be able to say to patients and families what the risk was because we did not know the risk ourselves. The risk was still being worked out. Filters were placed on taps whilst the risk was being worked out. The remedial actions were recommended from Infection Control. It was for Infection Control and Facilities to work out the risk and make it right.

Remedial Measures

63. One of the remedial measures to deal with this issue was to put filters on the taps. I cannot recall the timescale between the first IMT relating to the issue with the water and the filters being introduced into Ward 4C. I cannot recall when the meetings took place but I do recall people talking about the taps, how there had been a huge procurement exercise and very specialist taps bought in for the hospital. We had a very short period, though I know the children's ward had a longer period, where we could not use the taps and the showers in the rooms.

64. I was not involved in the decision-making for the implementation of filters on the taps. I would not expect to be part of the decision-making. I do not have any expertise in water-borne pathogens, infection control, water purification or engineering of plumbing systems

65. I believe the IMTs had the necessary experts present investigating the issue. I know Teresa Inkster quite well. I know Teresa also understands water-borne pathogens, which is always very reassuring. There were people from Facilities and other departments. In retrospect, I do wonder if there should also have been external experts. I am not necessarily saying that external people would have known better, but that they would have brought an independence to the investigation.

IMT – Water issues - 2018

66. My role at the IMT was largely to listen and to pass back the information to the rest of the clinical team i.e. what was happening and how far colleagues have got in working out the problem. I am also present at the meetings to answer any questions specifically about haematology patients. There was no written policy that outlined the remit of my role at the IMTs.

67. As I was the Clinical Lead for the South Sector, that usually meant I was present at these types of meetings, but I cannot recall how many IMTs I actually attended. If I was away, or elsewhere, it would have been one of my colleagues, who attended. I know Dr Ian Macdonald went to some of the meetings.

68. I did attend more than one IMT. I know I attended the first meeting for the water issue, and that was a very well-attended meeting. I recall attending a meeting where the attendance was so large that I was standing at the back of the room. I recall I knew Gary Jenkins, who was Director for Regional Services at the time attended.

69. I never have a concern about expressing myself at a meeting. I did not have any concerns with the culture at the meetings either. Teresa Inkster was a very good chair and it always felt like an open forum.

IMT - 21 March 2018 (A36690549 – Water Incident Ward 2A RHC IMT Minutes – Bundle 1 – Page 75)

70. I was present at this meeting which was in relation to the water incident. In terms of what I can remember, the meetings with the different incidents blur into one. What I can remember is there was a real driving desire to work out what was going on and work out how we make it better or stop it. I think the message I would take away from them, was that people were taking this seriously. There were a lot of people involved at senior level. I also took from it that the most significant potential issues were coming from the children's hospital.

71. I would relay the information from the meeting to other staff members. I would visit the ward and see the nurse in charge and explain what had been discussed at the meeting. I would also catch-up with medical colleagues and let them know, what had been discussed and what was being taken forward.

Current Position – Water Issues

72. I have been told that the water that comes out of the taps, with the filters and chlorine dioxide system, is safe. I do not know whether we could take the filters off the taps or not. I would rely on our infection control colleagues around this area.

Impact of water issues

73. I cannot remember if patients needed to use bottled water to wash. I do not remember it being a particularly long problem, it might have been just a couple of days. I know our situation was a lot better in the adult wards than the children's. I know the children's hospital had terrible problems.

74. I was aware there were deep clean sessions and something being done to taps and plumbing, I cannot remember specifics.

Communication: Water Supply

Patients

75. With communication, the water issue was quite straightforward because all of a sudden, the taps all had filters on them. The patients were told what was going on. It was the nurses, particularly the ward sister, who went round to tell patients that there is a concern about the water quality from the taps and people would be coming into their rooms to fit filters on the taps, which should hopefully keep the water safe.

76. One of the things I have reflected upon is that in some ways, it is reassuring that once people were aware there was a problem action to help was put in place. It all seemed to be happening quite quickly.

77. Patients were told that they could not use the taps as there were filters going to be fitted to them. This was because there were bugs in the water and people were trying to figure out why. It was an easy thing for us to communicate because we just shared what we knew. People very rarely asked any more details and we did not have any more details at the stage when the water concerns were raised. In terms of there being a question around candour, it was straightforward: workmen were appearing and putting things on the taps. It was one of those things where you could not help but discuss with patients.

78. At the time, I knew Cupriavidus had been found and that is what we told patients. We also told them that there were concerns as to how the organism was getting into the water supply and that the filters were there to help keep the water safe for them so that the taps could be used. I think that if patients asked, we responded that we did not know where the organism was coming from, but people were trying to work that out, which is what we knew at the time.

79. We recognised that obviously we were a high risk ward due to the nature of our patients, so we knew that we were a priority ward to get all the tap filters fitted. Due to the complexity of these hospitals, these buildings, there are always going to be issues. But the issues were acted on pretty quickly which probably provided a bit of reassurance to patients and staff.

80. I cannot remember any bad reactions from patients or families. We often know them very well, they will have been back and forward onto the ward over often long periods of time. We have a pretty good rapport with our patient population. You just go in tell them, yes this is a thing but this is what is being done about it, there will be someone coming into your room and fitting a filter on your tap. They would respond that they were glad something is being done about it.

81. With communication more generally, people always want more. There is a point where it becomes unrealistic and unnecessary. I think my position is that at a point in time, you always want people to come round, explain exactly what is going on, spend a load of time with everybody. But in reality, what I actually really want them to be doing is working out what the solution should be, getting that in place and letting us know that there is a solution and it has been put in place. There is a finite number of staff and I want those staff to actually be delivering the important bit, which is getting patients safe. Communication is always nice but, fundamentally, I want the patients safe and we can communicate afterwards.

82. I am not aware of any instructions or information that has come from anyone external to the NHS Glasgow Greater and Clyde (GGC), for example the Scottish Government sending any information.

Ventilation

83. When we moved over from the SGH to the new hospital, in terms of the quality of air within the ward, I had a very simplistic view of what we, meaning myself and other haematologist consultants, wanted for patients, which was HEPA

filtration and positive pressure ventilation for the patients to reduce the chances of infection, particularly fungal infections. My expectation came from being told through my training as a Senior House Officer onwards that HEPA filtration and positive pressure ventilation was what was needed. However, I had never had a ventilation engineer come to me and explain in detail the specific reasons for HEPA filtration and positive pressure ventilation compared to alternatives.

84. When we first moved hospitals in 2015, we were initially in ward 4B. I had no detailed knowledge of what the ventilation system was in Ward 4B, other than we thought it was safe for our patients and we were guided by Infection Control on this. When we were initially moving from Ward 4B to ward 4C we had some concerns around air pressures and air exchanges.

85. Around the time that we were moving from ward 4B to ward 4C, Professor Brian Jones, who was the Head of Microbiology, came and spoke to the haematology team advising that we should be prescribing Posaconazole to our patients. I think this was all part of the discussions about our move to 4C. It was because we did not have the levels of ventilation we should of ideally had, and this was a way of trying to address that. Posaconazole is a more effective fungal prophylaxis. We were delighted as this was a much better tolerated drug.

86. We were concerned about the ventilation, but were guided by expert microbiology advice and, if they felt it was acceptable that the most at risk patients could be there if they were taking Posaconazole, then we were accepting of this.

87. I am also aware that, in the background, there were also discussions between Infection Control and Estates, builders etc, as to whether the ventilation setup in ward 4B and 4C could be improved. We were not involved in those discussions. It was a question of risk and how safe the ward could be.

Events around the movement between wards 4B and ward 4C

88. As I have said, since 2015, adult haemato-oncology patients have been housed between ward 4B and 4C in single patient rooms with en-suites. When the hospital first opened, we were originally in ward 4B, but a few months later, we were moved to 4C to allow the Bone Marrow Transplant Unit (BMT) to move from the Beatson to the QEUH. I understand that this was because the Beatson was not an appropriate site for a Transplant Unit in terms of JACIE accreditation. However, very quickly after they moved in, there were issues with ward 4B for those BMT patients and they went back to the Beatson site, to wards B8 and B9. We stayed in 4C while work was carried out in ward 4B and then, at some point we moved into ward 4B for a period of time. I cannot recall whether that was to allow work to be done in ward 4C. Once all the work was carried out, in June 2018, the BMT Unit moved back from the Beatson into ward 4B and we went back to ward 4C.

89. There were a lot of questions being asked about what the ventilation setup was in 4B, we knew it was not what we had originally anticipated.

90. I am aware that there were things that needed to be fixed in ward 4B including the ventilation system, to see if it could be improved. That could not be done with transplant patients there, it creates risk for them as there would be dust etc. There was nowhere else to accommodate them in the QEUH so they moved back to the Beatson.

91. I think that the remedial works have improved the ventilation system.

92. The adult haemato-oncology patients are now housed in 4C and the BMT patients on 4B. I am happy with where they are now housed, although, as I have said, it would be better if we had more beds available and and a room we could speak to relatives in.

93. In terms of the ventilation system, ward 4C is as filtered as it can be. The only increase in filtration that could occur is if HEPA filtration is installed and I have

been told that cannot be done. We have portable HEPA filters. We also have a higher degree of positive pressure in our rooms compared to standard rooms in the hospital.

94. As a result of all of the above, I have learned that ventilation is not straightforward. I have discovered that hospital ventilation systems is a very specialised field. There is an entire area of specialist ventilation and engineering knowledge that I had no appreciation of. Even within the specialist community of hospital ventilation engineers there is debate and there is not always a consensus as to what is the best way to provide safe ventilation for immunocompromised patients. There is debate around air exchanges and levels of positive pressure. This came to my attention from attending a meeting which involved ventilation experts, including Darryl Conner.

95. I would defer to experts in this field with regards how correct guidelines are and latest research and engineering developments in this area.

Ventilation Meeting

96. The most detailed meeting I can recall about ventilation was a meeting relating to the HSE enforcement notice for Ward 4C. I cannot recall the exact date of the meeting. I believe the meeting was called after the HSE had served its enforcement notice and the purpose was to discuss what the HSE were asking for; whether the request was possible and how quickly it could be delivered. I believe Scott Davidson chaired the meeting. I cannot recall who attended the meeting. I believe there were around 12 people in attendance. I recall in attendance that there were three medics; Scott Davidson, as Chair in his role as Associate Director; Mike Leach as Clinical Director; 2 managers from within haematology; representatives from Facilities and Estates, including engineering and ventilation representatives; and myself. I understood my role at the meeting was to provide clinical context on the immunocompromised, vulnerable patients situated within Ward 4C. The ventilation representative was Darryl Conner, who was employed by the NHS GGC. My perception of Darryl was that he was very clearly ‘on the ball’. I had not met Darryl prior to the meeting and I would not have expected to have met him previously.

97. I recall that Darryl advised that he had been and looked at our old ward, Ward 24 in the old SGH, where I thought we had HEPA filtration and positive pressure. He informed that he investigated the roof space and looked at all the units for Ward 24, and he advised the old ward was not sealed and it did not have effective HEPA filtration and the positive pressure that we thought it had.

98. It was at this meeting, we started to get an insight into the fact that the ventilation requirements were not as simple as we thought. It was also at this meeting we discovered that there had been work done on ward 4C in respect of ventilation, in that air filtration to the ward had been improved and they had increased the pressures in the rooms. Prior to this meeting, I was not aware that this work had been done.

99. I think the meeting provided an opportunity for the representatives to explain their decision making regarding HEPA filters and pressure rates. The meeting made us aware of what the subtleties and complexities were.

100. I know at one point the Facilities/Estates department had to do remedial works to the chilled beams.

101. We were aware that the team were coming to seal the ceilings. I now appreciate that the work they were doing was increasing the positive pressures in the rooms, because if the room is sealed then the pressure in the room increases. The only way the air can get out is by pushing through and against the door so that then there is less ingress into the room form the corridors. I cannot recall when the ceilings were sealed.

Current Situation: Ventilation

102. We have been told by Infection Control that the ward is safe for our patients. We have not seen an increase in fungal infections, it is fungal infections we worry most about, so I am comfortable from that point of view.

103. Our patients have continued to get infections and occasionally with atypical organisms. This is usual in an immunocompromised haematology population of patients.

104. There were several points in time: when there was Cupriavidus found in the water; the Cryptococcus; and the HSE investigation, when there were concerns raised by staff and patients that patients could be at risk of infection because of the water supply and ventilation. We all had an increased concern at these times and had to consider how best to manage the situation. From a medical perspective we were double-checking that everyone is on as good a prophylaxis as they can be.

105. Generally speaking, we are trying to keep people in hospital less and less. There is international research showing that patients do better being at home than in hospital. In hospital you are going to be seen by many people, nurses, doctors, cleaners, caterers and therapists coming in. In your own home, you probably have your nearest and dearest and that is it. You eat better and sleep better, all things we know help peoples immune systems.

106. Certainly, when I was training in Edinburgh, there was a move to managing more patients as out-patients, who you would have kept in hospital previously due to being immunocompromised. Interestingly, they did see fewer infections, the patients did not lose as much weight and psychologically they were coping much better. This is what we have moved to, but COVID has disrupted that. We had moved to what is called out-patient pancytopenia care. Usually, a patient would have chemotherapy that would lower their immune system significantly for three, four, five weeks and we keep them in hospital for those weeks. We have moved towards keeping them as out-patients with them coming up to the day unit three times a week. The literature and practice is now that these people should be at home. Actually, these patients do better at home with no HEPA filtration, where your water is the same as everybody else drinks and you no positive pressure or frequent air exchanges.

107. There was a concern that the patients have to be kept in the hospital to be kept safe, whereas that is probably not the case for the majority.

108. Because there is a risk of infection due to their condition, if we are considering whether a patient can go home, there are a number of considerations. The patient has to live with somebody, they have to have their own transport and be within 30/40 minute travel distance of the hospital as they have to be able to get into hospital and get their antibiotics quickly if they do spike a temperature.

Communication: Ventilation

Patients

109. There was point in time when we were given portable HEPA filters for ward 4C. This might have been after the Cryptococcus incident, or it might have been around the time of the HSE enforcement notice, I cannot say with certainty. At this time, we communicated with the patients and the staff on the ward. Like with the tap filters, it was fairly obvious that these mobile HEPA filter units, which are not small, were being wheeled in and put in all the patient rooms. We told patients that they were to, hopefully, improve the quality of the air in the rooms and reduce the risk of infection. Initially, when patients were being admitted, we would point out the HEPA filters and tell them why they were there. What is interesting is that we do not communicate that specifically to patients now, same with the tap filters, in the same way that previously we would not have communicated anything specifically about the environment of the room. Though we would always answer any questions raised about the water filters or HEPA filters.

Staff

110. When the HEPA filters were brought onto the ward, they would not have gone unnoticed by staff. Because they are HEPA filters, the staff would know that this was in relation to the air quality.

111. I would expect the responsibility for communications in relation to remedial or upgrade work from Facilities and Estates to fall within each department and not from a higher Board level: the organisation is too big for that and such responsibilities are delegated as it would not be practical otherwise.

Cryptococcus: December 2018/January 2019

112. [redacted]

113. As I stated earlier, our patient population often get all sorts of atypical infections which in of themselves we do not tend to worry about too much. When our patient was found to have Cryptococcus, we appreciated that we had not seen such an infection for sometime, but we did not think a huge amount of it. It was not until it was then flagged that there was a second case, which was [redacted], that we actually thought there could be a problem with the environment. I did not know much about the [redacted] case as I was not involved with it.

114. Whenever you have got any infection, one of the things you want from the microbiology lab is for them to identify the organism, which they cannot always do, a lot of our cultures are negative. If they do identify an organism, we expect them to tell us what organism it is and then to tell us the sensitivities of the organisms to antimicrobials. That was one of the things that was done with the

Cryptococcus: the microbiologists identified it and then they did further test to work out its sensitivities to specific antifungal drugs.

Cryptococcus IMT

115. Infection Control became involved in the two Cryptococcus infections and there was an IMT convened. I recall attending at least one IMT. They were always very well attended. I found these meetings helpful from my perspective because it was where we found out what was happening and what the latest thinking was. I was then able to cascade that information back to colleagues on the ward.

116. There were concerns that the infections were linked to the hospital environment and, specifically, the ventilation system. There were discussions at the IMTs about whether the infection could have come from pigeon droppings because Cryptococcus is known to be in pigeon droppings. I think what became quite apparent was that there were more significant issues with the children's ward than there was with the adult wards. Cryptococcus is not an infection that is seen often, so the fact that there were two cases was a concern. Although there is the observation that you do not see a condition for seven years and then you see two of them in a week.

117. It was fascinating sitting in various meetings about Cryptococcus and listening to experts talk about it, but it turns out that we will never know whether it was the same type of Cryptococcus. If you look at a pigeon dropping there will not be just one type of Cryptococcus within that dropping, there will be hundreds of types, genetically speaking. So even if you genotype them, it would be extremely unlikely that they would be the same, but it does not mean that they are not from the same source.

118. At the time, I was concerned that there was a link between the Cryptococcus and the ventilation system. Now I do not know, after listening to experts discussing this in meetings. We have not had any further cases on Ward 4C which I think is of interest, in fact, it has been one solitary case in our adult haematology patients in seven years.

119. I am not convinced that there is a specific problem with regard to Cryptococcus in the hospital. That said, I am not saying that there is not, I think it is very difficult to know. I would defer to experts in infection control. I have listened to debate around this incident, but would not want to misquote anybody.

Communication: Cryptococcus

120. [redacted].

121. I did not receive advice from management in regards to what to say to patients and families about the infection risk at the time. It would be Infection Control who would give advice on this rather than management. There were uncertainties about whether there was an infection risk. I do recall that we were kept informed about what was happening at the Cryptococcus IMTs that I attended.

122. I do not think that issues were ever hidden. The issues were out there and were discussed with the family. Nothing was ever hidden because everyone wanted to find out what had happened. I never had the feeling that things were being brushed aside, I actually had the opposite view. I would say, quite positively, that people like Dr Teresa Inkster, were very focused on working out what was going on, but my impression was also that everyone really wanted to work out what was going on, whether there was a problem and what the solution would be. I never got the feeling that things were being swept under the carpet by other people sitting at the IMTs, everybody was wanting to do the best by the patients. There was never impression of anything less than that.

Cryptococcus Infection: Impact on Patients

123. Whether an infection impacts on patients treatment depends on the treatment intent. If you are treating someone with curative intent for something that is very aggressive, you will carry on, irrespective of infections. There is a risk to that but the risk is outweighed by the illness. Most of the infections occur post-chemotherapy. You have often given the chemotherapy and before the next cycle is due, that is when the infections occur. It does not necessarily interrupt the chemotherapy. This is different in more palliative situations or where the underlying disease is less aggressive.

124. If a person has an ongoing infection, then we will often postpone the chemotherapy, [redacted] That is very much standard practice, particularly in a palliative situation.

125. We will want to get on top of the infection because that is what is making the patient feel unwell at that specific point in time. It is variable, but it is quite common that we often push a chemotherapy cycle back a week or we will miss a dose if someone is particularly unwell at that particular time. There can also be other side-effects from chemotherapy which might push back the chemotherapy cycle, such as significant vomiting or a significant rash.

Infections

126. Patients that I treat are often immunocompromised and are prone to infections. For haematology patients, we think a lot of infections come from within the patients. There are all the normal organisms that live within us and then when a patient's immune system is lowered, those organisms can cause problems. The classic example of this are mouth organisms. Another risk is the bowel. Organisms that are normally maintained within the bowel can cross over to the circulation because the chemotherapy drugs can cause inflammation in the bowel, and this causes problems because the immune system is suppressed.

127. Another potential source of infection are the central lines we use for patients. We use various different lines. There are cannulas, the little IV access lines which many people admitted to hospital have in. We tend not to use them very much in our patients because they are going to get so many cannulas we run out of veins. There are lines that we would use in an emergency situation, when we cannot easily insert a cannula, a central line, this is a line that goes into the neck, and is usually put in by our anaesthetist colleagues. Then there is a peripherally inserted central catheter (PICC) line, which is a long line usually going in somewhere on your arm and that is then fed in, usually the tip sits around your heart area and that can stay in for a long period of time. But it goes directly into the vein, there is no tunnel. The one that we like best is the Hickman line. That goes into one of the big blood vessels in the neck and then has a tunnel which comes out on the skin, so there is distance between it entering the blood stream and being in the outside world. There is also a port-a-cath, which is used by paediatrics. It is a tunnelled line but it is then left under the skin and you have to stick special needles in it from the outside.

128. All of the lines can get infected. The level of infection risk goes down as you go from the cannula through to the PICC line through to the Hickman line. It is very common that the lines will have to be removed at times because they have become infected and again, that is normal. That is what happens with Hickman lines and more so with PICC lines and even more with cannulas. One of the key things we tell patients about when they have the Hickman lines inserted is that they do carry a risk of infection and blood clots can form on them, but the alternative is endless cannulas and eventually they will run out of veins.

129. We can mitigate the risk of line infection. We only allow people who are line-trained to access the lines. I am not allowed to access the lines because I am not line-trained. There is a whole procedure that is done, in terms of sterile technique and cleaning the lines. If you are an out-patient and you are not needing a line on a daily basis, it needs to have line care performed on it each week, be that a PICC line or a Hickman line.

130. There are different risks in getting line infections. Some are asymptomatic. The patient is well and it is only because we have taken routine blood cultures from the line that show there is an organism. Other patients become extremely unwell and this can result in their death. We do our best to avoid this from happening, but occasionally that will be how a patient with a haematology malignancy will die. Thankfully that is very rare.

131. Patients can also catch infections from the environment which affect them because they do not have a functioning immune system. There are pathogens in the environment that would make anybody poorly. There are pathogens that would not normally make people poorly but would make significantly immunocompromised haematology patients poorly.

132. We advise patients, the majority of whom are at home on chemotherapy, that if someone is poorly, do not let them come and visit them. Equally we say, if you are going to visit someone, do not go and visit the person with the hacking cough. You stay away from known infected people. Within a hospital, in the past, we would have isolated people into single rooms, whereas in the QEUH you do not have to worry about that because it is all single rooms.

Infection Control

133. My understanding of the process of the Infection Control team is they have certain organisms that are flagged up to them, which then triggers an investigation. Clostridium difficile and Staphylococcus aureus line infections are organisms that trigger investigations and which are continually monitored. I am not involved in any Infection Control procedures other than following them, particularly hand hygiene procedure. Our main source of contact in relation to infections and organisms is through Microbiology, which then overlaps into Infection Control. We have a lot of involvement with Microbiology on a daily basis, sometimes multiple times a day.

Clinical Governance Group

134. I am part of the Clinical Governance Group for clinical haematology across the whole of GGC. In this group, we receive monitoring reports from Infection Control in relation to certain infections and if we start to have too many of those types of infections, then people, either from Infection Control or from Practice Development, will come in and investigate and look at the practice in an area to try and identify any specific issues. Haematology Practice Development Nurses cover clinical haematology within GGC.

135. The Clinical Governance Group is made up of charge nurses, senior pharmacy, clinical leads from the different sectors within GGC and from bone marrow transplants, the clinical director, lead nurse, clinical service manager, general manager, quality manager and practice development. The purpose of the group is to review incidents, review infection control data, look at training and sickness rates, and whether there are new policies/guidelines at a local, regional and national level and the impact of implementation and quality improvement projects. Infection Control feed into the Clinical Governance Group in the sense that if there are any concerns about infections, they would become involved.

136. When there were concerns about the water and then about the ventilation, the fact that these were happening were discussed at the Group. Infection Control were leading the investigations, including IMTs. The Clinical Governance Group meetings do not happen often enough to be able to respond to urgent outbreak situations. Members of the group would be involved closely with the IMT and infection control.

Cleanliness and hygiene

137. In regards to cleanliness and hygiene within the hospital, certainly since COVID there has been adequate resource and equipment. All the key bits of equipment on the ward for the minute to minute safety of the ward is there, but whether there is enough equipment behind the scenes, in terms of the ventilation systems, the water systems and whether they are properly resourced, staffed and maintained is another question and I cannot comment on that.

Cultural Issues

138. Although I had no concerns about the culture of the IMT meetings, I was concerned about Teresa Inkster from a well being perspective. I do not recall when this was. When the IMTs were ongoing, Teresa was clearly working extremely long stressful hours and she looked really strained. There was a few of us who noticed this and were concerned. I had a chat with her as a friend and asked if she was okay. She told me she was at the end of her tether and was close to just walking out. She felt that, due to the level of the potential problems, she was not getting the resource support from the hospital in terms of having enough staff to be fielding and dealing with all of the issues being raised at the IMTs. She felt her immediate non-medical managers were not being particularly supportive.

139. What she really was found difficult was in relation to one of the decisions about either moving or closing one of the paediatrics wards, I cannot remember which. That had been a decision taken at an IMT and then after that had all finished, which was early evening, Teresa was summoned to a meeting with extremely senior management and being told that she had to reverse that decision. I do not know who these people were. Teresa explained that the decision had been taken as an IMT and that she, as an individual, could not go against that. She felt she was having unreasonable pressure put on her, to the extent that she felt bullied. She told them she was governed by the GMC and could not go against what is viewed by her and her colleagues as the best course of action from an Infection Control point of view.

140. We then talked about what we could do so, with her knowledge, I rang up Jennifer Armstrong on her behalf and told her that Teresa felt she was being bullied by board-level management to reverse decisions taken by IMT. I also told her that Teresa did not have the resources she needed and she was not getting the support she needed. After that, I understand things got better for Teresa. I think Jennifer Armstrong had a word with her and she got more resource as well in terms of staffing to be able to cope. It did turn things around

for Teresa and I think people did listen to Jennifer Armstrong when she asked them to back off as she is the person who is the line manager for Infection Control. Within an organisation, it is the Medical Director that has that responsibility.

141. At the time I felt I had to do something to help Teresa. I was either going to drive her home and tell her not to come back into work or we were going to try and make it better. She wanted to make it better. Teresa wanted to keep people safe and she was wanting to do her job as Infection Control Lead. So I spoke to someone at the level that I thought was going to have the greatest impact. I had never met Jennifer Armstrong before this but she was very nice on the phone and very grateful for somebody flagging this up to her. Jennifer was very receptive and very supportive. I heard from another source that she was very impressed that I had been prepared to do that and very pleased that someone had done that. I was glad I called her, for Teresa.

142. It is a major undertaking to move a ward and you lose beds, and beds are precious resources and it creates a lot of distress for families and patients. It is a major thing to do and it is not unreasonable that concerns were raised by management about doing it.

143. I had never witnessed any inappropriate behaviour at the IMTs. I always felt the discussions at the IMT were very constructive and supportive.

144. I am not aware of a change in Chairperson for the IMTs.

Communication to Patients: Infection

145. There is a duty and desire to communicate with patients and families. However, we have to see that the patient is competent to receive information, which is not always the case. Often they are too unwell, or they are very sleepy, or sometimes delirious. If a patient is competent and they spike a temperature, we will tell them they have got an infection and we will explain we are going to start the antibiotics and tell them the name of the antibiotics. We explain the process; that we will take the cultures off them and see if we can find where the

infection is. We explain to them that often we cannot find out where the infection came from. As we wait for results from the lab, we will let the patient know each day if we have not got any culture results, or if we have some positive culture results. We will always tell the patients what organism has been grown from their cultures. We will also talk to them about whether it is an organism that we worry about or whether it is one that could just be a contaminant and may not really be the organism that is making them ill. Then we will monitor if they respond to the antibiotics and we will explain if their temperature has or has not settled. Often patients tell us that they are feeling better and we confirm the markers in their blood of infection are coming down and all is going well. Or it will be where they are still having temperatures and do not feel better. We then check if markers in their blood are improving or they are getting worse. If worse, we need to change the antibiotics as the infection is not being controlled.

146. The in-patients are seen on a daily basis and so they will be being communicated with every day.

Treatment

147. The communication through the stages of cancer is similar. We talk to the patient, explain to them what tests we will do to find out if it is cancer. If it is, we will explain whether they need treatment, what the treatment options are, and whether the treatment needs to be started immediately or not. Throughout the treatment we will keep the patient updated about whether it is working or not, explain what other options there are if it has not worked and explain to them if we are out of options. The patient is the key person, not the family, who are still important, but not as important as the patient in terms of who is communicated with. If a patient is unable to communicate with their family then we would always communicate with their next of kin, assuming the patient has previously consented to this. For key conversations around diagnosis and treatment plans the ideal is for the patient to be accompanied by family/friends as the patient desires.

Duty of Candour

148. Duty of candour is if something has gone wrong or we think something has gone wrong or even if there has been a near miss, then that needs to be conveyed to the people involved.

149. Communication is key when something goes wrong and we always take the very honest approach. It can be little things that go wrong. For example, at the moment, we have got a big problem with radiology reports coming through and we have got people coming up to see us and we actually do not have the results, even though we have been trying to chase it. That is a system going wrong and you apologise and you share the frustration because you know that radiology are frustrated that they cannot get the results out and we are frustrated because we have got a patient in front of us who desperately wants to know the results and we want to make a plan for them, so you apologise.

150. If it is something that you have individually done wrong, then you say sorry as soon as possible. It might not be immediately, but it should be at the next appropriate time you are seeing the patient. In my experience if you very quickly say sorry and explain, people are usually very accepting of that. They might be upset about it but they are usually grateful that you told them. That is now very much ingrained in medical practice and nursing practices. Experience teaches you that honesty is by far the best way to deal with anything that has gone wrong. It can sometimes be depending on how much you are seeing the person, it can be a week or two, in terms of out-patients or it can be the same day or within a couple of days for an in-patient.

151. I am not sure exactly where you need to start using the term “duty of candour” because there is what should be good care of an individual, which involves keeping them and who they choose to be kept informed, informed. You do not hide anything from a patient about their care.

152. One of the lovely things about my specialty is that we often really get to know the patients and their families, and that comes with the price that actually it is

always really sad when people die whom we have got to know. But that is part of the privilege of doing the job. And so, in respect of communication and duty of candour, we have relationships with my patients where we can just walk in tell them they have an infection.

153. For me, I think 'duty of candour' sounds a bit of a strange phrase. In reality, of course we are going to tell them they have got an infection, because that is what happens every week to our patients. Sometimes I will have a laugh with the patients about trying to pronounce some of the names of the organisms that are cultured from haematology patients. It would be almost strange to have a policy to tell them because, of course we are going to tell them.

154. I think there is a difference between an individual clinician's duty of candour and an organisational duty of candour. I think an individual's duty of candour is easier. I think that is straightforward. I suspect that at an organisational level, it becomes more difficult to work out at what point the duty of candour should kick in. Is it when there is a suspected problem, or is it once there is a known problem? If it is at the point where the problem is suspected and an investigation is being carried out, I am not so sure the duty of candour should kick in because all you are doing is creating doubt and problems in the system before the investigation finishes. If the outcome is that there is no issue, by that point you have probably caused a lot of distress/harm to people. It also breeds concerns that people are covering things up. I cannot tell you about the very top level, but I certainly know on the ward floor that there is no covering up of anything. I do not see how the Board could have been covering anything up either as all of the issue with the water and the Cryptococcus were public knowledge.

Raising concerns

155. If I had concerns in doing my job, about wrongdoing, failure or inadequacy in the hospital there are procedures in place. However, sometimes you do not want to because you know there is no solution. For example, recently we have had problems with A&E and patients being seen in a timely fashion. There is no

point in me raising that with A&E as it is a well-recognised situation that they are desperately trying to resolve. If it is something that you do not think people have an awareness of, then you raise it. I feel free to raise issues within the GGC framework.

The Media

156. Communication to staff by the GGC Management about the media was very rare. Sometimes at the IMTs, it would be said that 'something is coming out in the press this evening', but beyond that, very little.

157. I was annoyed with the organisation when my patient died and stories were in the press. One of the things my patient's family struggled with was that they never knew when something would appear in the press. There were times when they would turn on the TV and there would be something about their family member. The hospital's defence was that they often had very short notice themselves: they were told maybe with half an hour's notice that it was going to be on the six o'clock news. I appreciate that but I said to them, that, as soon as they heard something, someone from the press office should have been tasked with phoning the family straight away to let them know that there was going to be a story on the news that night. We should also have said that we would try and find out what the story was going to be about, if that is what the family wanted.

158. Even just that forewarning, that reaching out and making them feel that someone had their backs a little bit, would have made such a difference to them. I think it had been a year or after the death that I said this to Jonathan Best, the Chief Operating Officer who was at meeting with me and the family. He said it was something we could look into doing. This is something I feel we should have been doing it. It would have taken very little effort on our part but would have showed a bit of caring. We would not have been commenting on the story, just giving the family the heads up. Although it is not the hospital who is deciding what is going on the news, they were usually getting the heads up,

albeit with short notice, but they are probably the people that could best pass that on to the family.

159. I was not given any warning by GGC Management that the BBC documentary, was going out.

160. In general I was not aware of any communication between management and external bodies, such as Scottish Government.

Awareness of Patients and Families Evidence

161. I am aware that patients and families have given evidence to the Public Inquiry, but I have not read the patient and family evidence which was published in September 2021. [redacted]

Closing Statement

162. I have provided some information above in relation to my patient who died. My summary of what I think about the Inquiry in relation to that patient has two parts. There are absolutely valid and important questions about the build, construction, maintenance, and design of the hospital, which I think is extremely important. I am very supportive of that whole process. [redacted]

163. [redacted]

164. [redacted]

[redacted]. Questions investigating the building of the hospital and the commissioning of the hospital, which are important, are entirely separate from the treatment and outcome of my patient. I know the death of my patient was part of what flagged up the whole process, [redacted]. I feel the process has caused suffering for my patient's family. There has not been closure and they have not had a chance to properly grieve as there is continually a process, such as a review or an Inquiry, which comes along. [redacted]

165. [redacted] what the infection has done has raised questions about how the hospital is built, maintained and all the other questions, which is very important.

166. My overall view of having now been part of all these various different discussions is that it has made me realise the complexity of building hospitals and the complexity of the engineering, the design and the plumbing and ventilation that you do not appreciate as a clinician. The overall engineering of these buildings is phenomenal and the complexity inherent in having so many people involved means that all you need is one person to not perform as expected and you have got a problem that can have tragic consequences.

167. I believe that the facts stated in this witness statement are true. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.