Scottish Hospitals Inquiry

Statement of Dr Christine Peters MBCHB BSC FRCPATH

Glossary/Acronyms

A&E	Accident Emergency Department
AICC	Acute Infection Control Committee
BMT	Bone Marrow Transplant
The Board	NHS Greater Glasgow and Clyde Health Board
CF	Cystic Fibrosis
CNS	Central Nervous System
HAI	Healthcare Acquired Infection
HEPA	High Efficiency Particulate Air
IC	Infection Control
ICD	Infection Control Doctor
ICN	Infection Control Nurse
ID	Infectious Diseases
IPC	Infection Prevention and Control
IMT	Incident Management Team
NICU	Neonatal Intensive Care Unit
NPV	Negative Pressure Ventilation
PICU	Paediatric Intensive Care Unit
PPV	Positive Pressure Ventilation
PPVL	Positive Pressure Ventilated Lobby
PSCU	Paediatric Special Care Unit
RHC	Royal Hospital for Children Glasgow
QEUH	Queen Elizabeth University Hospital, Glasgow
RAH	Royal Alexandra Hospital Paisley
SCBU	Special Care Baby Unit
SMT	Senior Management Team

Wards/Departments

QEUH Building

2D	Dialysis
4A	Renal Medicine
4B	Bone Marrow Transplant Unit
4C	Haematology oncology/Renal Transplant
5C	Infectious Diseases
6A	Rheumatology (repurposed as paediatric BMT unit)
7A-D	Respiratory
10A-D	Orthopaedics

RHC

1D	PICU
1E	Cardiothoracic (surgical)
2A	Haematology/Oncology including Teenage Cancer Trust (known as Schiehallion Unit)
2B	Paediatric Haematology/Oncology day care
2C	Acute receiving unit (medical and surgical)
MAU	Medical admissions unit
3A	Neurosurgery
3B	Surgery
3C	Renal

Key Individuals

Referred to in this statement as	Full Name	Role (excluding management or other additional responsibilities from time to time)
Mr Archibald	Grant Archibald	Board Chief Operating Officer
Dr Armstrong	Jennifer Armstrong	Board Medical Director
Ms Bain	Marion Bain	Interim Director of Infection Control/Scottish Government Advisor
Dr Bal	Abhijit Bal	Consultant Microbiologist
Dr Bagrade	Linda Bagrade	Consultant Microbiologist
Dr Balfour	Alison Balfour	Consultant Microbiologist
Dr Cruickshank	Anne Cruickshank	Consultant Biochemist
Mrs Devine	Sandra Devine (nee McNamee)	Infection Control Nurse
Prof Gibson	Brenda Gibson	Consultant Paediatric Haematologist
Dr Green	Rachel Green	Consultant in Transfusion Medicine
Dr Hood	John Hood	Consultant Microbiologist
Ms Joannidis	Pamela Joannidis	Infection Control Nurse
Prof Jones	Brian Jones	Consultant Microbiologist
Dr Khanna	Nitish Khanna	Consultant Microbiologist
Prof Leanord	Alistair Leanord	Consultant Microbiologist
Ms McQueen	Fiona McQueen	Chief Nursing Officer for Scotland
Mr Powrie	Ian Powrie	Board Deputy Estates Manager

Dr Redding	Penelope Redding	Consultant Microbiologist
Dr Valyraki	Pepi Valyraki	Consultant Microbiologist
Ms Shepherd	Lesley Shepherd	Nurse Advisor, Healthcare Acquired Infection, Scottish Government
Ms Wallace	Angela Wallace	Director of Infection Control, Scottish Government
Mr Walsh	Tom Walsh	Infection Control Manager
Prof Williams	Professor Prof Williams	Consultant Microbiologist
Dr Wright	Pauline Wright	Consultant Microbiologist

Personal and Professional Information

Introduction

1. I am Dr Christine Peters. I am 49 years old. I am currently employed as a Consultant Microbiologist by the GGC Health Board. I am based at QEUH. My line manager is Dr Bal, who is currently Head of Service and Clinical Lead for the QEUH/RHC.

2. I joined the Board as a Consultant in August 2014. When I joined I was one of the ICDs in a shared role with Dr Pauline Wright at QEUH. In October 2016 I handed over the role to [redacted], having asked to resign from the role in June 2015 for reasons which are set out fully in this statement. However, I have continued to cover the ICD role out of hours and at weekends to date as well as covering ICD leave until 2019. I was subsequently appointed as clinical lead for Microbiology at QEUH in May 2017. I resigned from that role in August 2022 for reasons which are also set out below.

3. I have prepared this statement to assist the Inquiry. I would be pleased to provide any further detail or documentation that would assist the Inquiry.

Qualifications

4. I studied medicine at the University of Edinburgh. I graduated in 1998. During medical school I undertook an extra year of study and obtained a BSc degree in Parasitology and Entomology with 1st Class Honours, in addition to my medical qualification.

5. I have a Diploma in Tropical Medicine and Hygiene from the London School of Tropical Medicine and Hygiene 2001. I passed my professional exams to become a Fellow of the Royal College of Pathologists in 2010.

A copy of my CV has been provided to the Inquiry.

Professional Experience

6. After graduating from medical school in 1998, I completed one year of hospital based pre-registration house officer training as a junior doctor for one year. I worked at St Johns Hospital, Livingston, and the Edinburgh Royal Infirmary. I did posts in plastics and general surgery at St Johns, and Cardiology and Respiratory and Acute Admissions at Edinburgh Royal Infirmary.

7. Thereafter, I had a year off and did voluntary work in India before moving to Glasgow. On my return in 2000 I obtained an SHO post in Microbiology at the South Glasgow Universities Trust, followed by a Specialist Registrar training post in Medical Microbiology and Virology in 2001. I also worked in Virology as part of my training at Gartnavel Hospital, Glasgow. I had my first child in 2002 and my second in 2005. I had around one year of maternity leave for each of my children and returned to work part time to complete my training. I became a Consultant in 2012 and was entered on the GMC specialist register for Medical Microbiology and Virology in November 2011.

8. My first Consultant job was in Oman where I was based for three months. I returned to Scotland in April of 2012 and was appointed as a Consultant Microbiologist and Virologist at Crosshouse Hospital, Kilmarnock. I remained there for two years and three months during which I time I had ICD responsibilities as the ICD for the hospital. I left that post in 2014 to take up my current appointment.

9. Throughout my training and Consultant jobs prior to appointment in Glasgow I had significant experience of infection control and the built environment, having been involved as a trainee with issues relating to theatre ventilation. I had managed outbreaks associated with building works, and contributed to the national re-writing of the HAI Scribe documents and HAI Standards. I had also completed the IPC module in Epidemiology at UHI in 2006 and a Medical Statistics course at Glasgow University in 2006. I was a trainee at the Victoria Infirmary at the time of the Watt Report and was aware of its findings and recommendations. I was also a trainee in Glasgow during the Vale of Leven incident and Inquiry.

10. I lecture on the postgraduate GOSH/UCL IPC and the Built Environment Microbiology Course that commenced in 2023 and which will run three times a year for Estates, Microbiology and ICN practitioners.

Structure, organisation and key colleagues

11. When I joined the Board I was appointed to the role of ICD at the old Southern General, Glasgow and Victoria Infirmary, Glasgow. I worked 3 days a week because of my family commitments. Dr Wright was the ICD who covered when I was not working. I had two IPC sessions to cover a week. These sessions were run at the same time as being on the Microbiology rota as there was no proper job plan in place and no protected time for the ICD role at that time. The other Microbiology Consultants at that time were Prof Williams, Prof Leanord, Dr Redding, Dr Balfour, and Dr Khanna.

12. Prof Williams was the Lead ICD. I have provided an organisational chart to assist in understanding the structure. My line manager when I joined was Prof Leanord, who was the Head of the Microbiology Department at the Southern General. Prof Leanord's line manager was Prof Jones who was Head of Service for Microbiology for the Board.

13. The Board's Clinical Director with responsibility (which included Microbiology) for laboratories was Dr Cruickshank. She reported to Dr Green, who reported to Dr Armstrong, who has been the Medical Director for the Board since 2012.

14. In addition to the medical team, there was a nursing team with IPC responsibility. The Lead ICN was Mrs Devine. There was also an Infection Control Manager, Mr Walsh. I don't know what his qualifications were. There was a Lead Nurse Consultant for IPC, Ms Joannidis.

15. There was no job description for the ICD role. In practice, any issues relating to the management of outbreaks would be discussed with the Lead ICD by members of the IPC team. The SMT was comprised of Mrs Devine, Prof Williams, and Mr Walsh. At the monthly meetings the SMT would meet with all of the ICDs from across the Board, the Sector ICN Leads (at that time North, South, West, Clyde and Paediatrics), the Surveillance Leads and Ms Joannidis. The Surveillance Leads were responsible for the mandatory national surveillance data and audit.

16. In addition to the medical and nursing staff there was a non-clinical management structure within the laboratory services. Bernadette Findlay was General Manager for Microbiology and Pathology. She reported to Isobel Neil who was the manager for the diagnostic laboratories. There was a Director of Diagnostics (which includes radiology and the lab services), who was Aileen McLellan.

17. The COO at this time was Mr Archibald. The role was later taken over by Jonathan Best, who has now retired.

Early experiences at the Board

18. When I joined the IC team in August 2014 I quickly became concerned about the culture within the team.

Raising concerns

19. I was told by Prof Williams shortly after I joined that I should not record any concerns in writing "because of inquiries and things". I understood he meant that any written record could be used against the Board in a future investigation, inquiry or claim. I was told after my first SMT meeting that I should not challenge Prof Williams or indeed any member of the SMT at all at the SMTs meetings. This was after a meeting at which I had asked questions. I was told that this "*was not the done thing*" by Dr Bagrade. I reported my concerns about Prof Williams and his behaviour towards me to Prof

Leanord shortly after I joined. He asked me to keep a written record of key events which I did intermittently I can provide notes and correspondence to evidence this if it would assist the Inquiry.

20. Within a couple of months of joining the Board I had identified the following areas of serious concern:

    i. Decisions taken at ICD meetings were not properly minuted.
    ii. Concerns raised were not properly minuted.
    iii. The culture within the team was such that people were uncomfortable with speaking up about any concerns they had at ICD meetings for fear of being bullied by senior colleagues.
    iv. Interactions between the Microbiology lead and the infection control lead were dysfunctional.

21. I can provide further details or documentation about any of these issues if the Inquiry wishes to see it.

22. I was particularly concerned by the team response to the publication of the Vale of Leven Inquiry report in late 2014. This was discussed at a special SMT meeting and the focus was on press coverage of the expense of the inquiry and not on learning or on the sadness of the lives lost.

Bullying by Prof Williams

23. I was bullied by Prof Williams. I can provide detail if the Inquiry wishes it. I was not alone in this experience; multiple colleagues complained about him. Prof Williams and Prof Jones had a very poor working relationship which affected the working culture in the department.

24. Eventually, 14 out of the 18 Microbiology Consultants participating in the review chaired by David Stewart (discussed below) supported Prof Jones in a document which

he had produced which included a statement that Prof Williams was a relentless bully, who had destroyed the team and who had a toxic management style. Prof Williams resigned from his post and left. I can provide a copy of the document.

25. There were other problems with Prof William's professionalism. He was often away at key times. He took periods of extended annual leave. His communications were scanty and he did not stick to documented decisions. He and Dr Bagrade had full time substantive Consultant appointments covering Western Isles at the same time as holding full time substantive Consultant appointments in Glasgow. This meant that he was not always available even when not on leave.

Events prior to opening of the QEUH

26. Prof Williams was to be the lead ICD for the Board's area including the QEUH when it opened. Dr Wright and I shared the role of sector ICD for the QEUH site at this point. I had a particular interest in the built environment. I worked three days a week whilst she worked two days. In practice I took the lead on issues relating to the built environment, although she had formal responsibility for *Legionella sp. ("Legionella")* for the building (unknown to me at the time as there were no job descriptions). As the opening date approached, I asked for information from Prof Williams and Mr Walsh about the ventilation and water systems in order to make sure that I was sufficiently well informed to properly discharge my duties. I also raised questions at SMT meetings (some of which are recorded in the SMT minutes). I was often not given the information that I asked for. When I was given information, it was sometimes obviously wrong. For example, Mrs McNamee told me that the whole new hospital would be 100% naturally ventilated, which I knew could not possibly be correct. In fact, the windows throughout the hospital are sealed shut to avoid the odour from the nearby sewage plant entering the buildings. It was 100% mechanically ventilated.

27. I had no involvement in the design or the commissioning of QEUH. I joined in August 2014, and the hospital opened in April 2015, so work was largely completed before I

was appointed. My understanding is that Dr Hood and Dr Redding had been involved at early stages, as had Annette Rankin, who was an ICN. The ICD involved in the new build project was Prof Williams, assisted by Sandra Devine, Jackie Balmanroy and Pamela Joannidis. When I first joined we were given general updates by Prof Williams at the SMT meetings. These updates did not include any technical information. Prior to the opening of the building I had not received any information relating to the ventilation or water systems, despite being the one of the sector ICDs for the site.

HAI Scribe

28. When I worked in Crosshouse Hospital I was heavily involved in HAI Scribe process which included signing off on specialist suites in the infectious disease unit, as well as dealing with an aspergillus outbreak in haematology and ITU patients. I was asked to input into the re-writing of the HAI Scribe documentation at a National level by Geraldine O'Brien of HFS after she observed me chairing a SCRIBE meeting in Crosshouse.

29. An HAI Scribe is a methodology developed to ensure safe practices when any form of building work is taking place in the hospital environment. It is a Scottish standard but it is very similar to ICRA which is a system used in the USA. It is designed to encourage key teams (for example estates, fire safety, infection control) to collaborate in relation to building work. By the time I joined the QEUH I already had established a level of expertise based on experience in the built environment and infection risk. This was a key part of the experience I had when I applied for the role at QEUH and my senior colleagues, including Prof Williams, were aware of my experience in these areas.

April 2015

30. I first became aware of issues with the built environment in the new hospital during a walk around. In October 2014 I did my first walk around of the hospital. Dr Wright and I were given a tour. As we walked around I noticed two particular things. I looked at

the sinks and I could see that the drainage outlet on the sink was vertical rather than horizontal which causes pooling. Jackie Stewart (now Jackie Balmanroy) was with me on this walk around. She said that she had chosen them and they met the required specification. I had just come from Crosshouse Hospital where they had PPVL suites so I was very familiar with how those worked. I was shown the rooms which were to be our NPV rooms. I immediately noticed that they were not NPV rooms, they were PPV rooms with lobbies. I pointed this out and was told that Prof Williams had approved them as negative pressure rooms for TB etc.

31. Later, in April 2015 when the hospital had just opened and patients had moved in, I did another walkaround specifically to plan for any viral haemorrhagic fever admissions. I was the ICD Network representative on the National viral haemorrhagic fever planning group. There was an ongoing Ebola epidemic in western Africa and the QEUH was to be the designated treatment site in the event of any suspected cases in the area. The purpose of the walkaround was to assess our readiness to deal with patients suffering from viral haemorrhagic fever. I went into a room that had apparently been set aside for this purpose. There was a ceiling tile missing, the water supply wasn't working, the automatic external doors kept opening and closing, no ventilation specification was available, and the flooring material wasn't suitable for the level of cleaning that would be required. It was not an NPV room, and in fact I was told that there were no NPV rooms in the entire hospital, despite the fact that it was housing the ID unit which had already moved to the site from Gartnavel Hospital.

June 2015

32. I had sought information from Prof Williams in the hope of being reassured. I asked for technical information like ventilation schematics. I told Anne Harkness that I would review the ventilation specifications when they were provided to me. She told me I didn't need to because Prof Williams had reviewed them and was content. I have provided the Inquiry with emails to this effect. I can provide further emails if the Inquiry wishes to have them. Initially, Prof Williams responded to say that everything

was fine. Latterly he responded to say that he didn't know anything about the ventilation and that I would need to speak to Mr Powrie. I have provided the Inquiry with some of the emails about this and can provide further correspondence if the Inquiry wishes to have it.

33. By this time, I was questioning the sign off of the new building. On 23 June 2015 I visited A&E again and this time I observed a number of problems with the decontamination room for high-risk infectious patients. The room had been designed for chemical hazard management and not for infective pathogens. This is the same room I discuss above at paragraph 31.

34. I asked Mr Walsh in an email who had signed off the ventilation from the IPC perspective he replied to say that it had been Prof Williams, Dr Hood and Jackie Balmanroy. I have provided this email. As a result of my concerns I instigated a meeting with Mr Powrie, and a representative from Brookfield Place, and from the Health Board commissioning team (David Hall). Dr Inkster also attended this meeting. This took place on 25 June 2015 whilst Prof Williams was on holiday. During, and in the immediate aftermath of this meeting, a number of further concerns arose:

    - There were verbal reports of possible *Legionella* contamination from Mr Powrie. He did not want to put this in writing. No water testing data was available, and I asked for risk assessments for waterborne infection in the QEUH and they were not forthcoming from the Project Management Team, Estates, Mary Anne Kane or Tom Walsh who sat on the Board Water Safety Group.

    - The Brookfield Place representative and the Commissioning Team representative said that they were unaware that the ID unit and the BMT unit were already on site. In fact, they did not know that ID was ever planned to be based at the QEUH. David Hall said he would discuss this with David Louden.

- The ventilation arrangements relating to the theatres were concerning. No air sampling had been carried out at all.

- The Ebola pathway was unsafe. The A&E department had no infection isolation rooms.

- There were PPVL rooms which did not have their own toilet facilities.

- There were vertical drains leading to pooling water in sinks (stagnant water creates a biofilm which can be a source of environmental organisms).

- Rooms that were described to me as being NPV rooms were not in fact negatively pressurised.

35. Following this meeting, I sent an email to Mr Powrie summarising my concerns. I have provided this email.

Visit to 4B

36. I was particularly concerned about the ventilation for 4B. I had seen the ventilation specification by this point and I thought it was inadequate. I had specifically asked Mr Powrie if the *Legionella* positives had come from 4B (by email) and he was unable to say. I was very familiar with the SHTM documents from my time in Crosshouse as well as the risks and evidence base around risks of invasive fungal infections in immune suppressed cohorts linked to building works. I based all my assessments and recommendations on this evidence base.

37. Following the meeting with Mr Powrie on 25 June 2015 I went to 4B. Myra Campbell, who was a member of the nursing staff, approached me. She told me that the clinical staff were very worried about the unit because there were no pressure gauges (these are standard in PPV rooms) and she wasn't aware of air sampling results being

monitored, which had been done at the Beatson. I held a tissue under a number of doors and it was sucked in. This means that the rooms were operating with negative rather than positive pressure. I went to the pentamidine room. This room should have been negatively pressurised because pentamidine is a hazardous substance for pregnant women and so care needs to be taken to ensure that it doesn't get into the wider air supply. The room was clearly positively pressurised because a tissue placed at the door was blown out.

38. It was also reported to me that on many of the doors and windows throughout the hospital the internal blind mechanisms were breaking so they could not be opened or closed. If the blinds were stuck open then the patient had no privacy and the nurses were taping plastic aprons over the window. The breaking mechanism also created a hole in the window. I have provided a copy of this photograph which I took to illustrate this problem which was widespread; a tissue has been stuffed in the hole to plug it. Clearly this is not safe in the context of isolation rooms. Of relevance is that this problem, specifically the hole in the window, was observed by Jim McMenamin from HPS and representatives from HP Wales while they were on a tour of our facilities. I can provide emails about this if it would assist.

39. All of the rooms in 4B were meant to have HEPA filtration. There were approximately 24 rooms. I was told by Mr Powrie that two or three rooms did not have HEPA filters but no one knew which rooms these were. The rooms were not sealed with a substantial pressure differential so the filtration would have been ineffective in any event. The purpose of HEPA filtration is to ensure that a BMT patient only breathes filtered air.

40. As I discovered these problems I was escalating them immediately because I felt they presented immediate risks and it appeared to me at the time that these issues were not known about as I had not been sighted on them, despite my role. I had no idea how widespread these things were or whether there was a plan to fix them. On 26 June 2015 I sent a summary of my concerns to Mr Walsh specifically asking for advice on how I should proceed in order to ensure an efficient, collaborative and coordinated

response. I have provided a copy of this. He responded by email agreeing that he would escalate my concerns to Dr Armstrong and Mr Archibald. I have provided the Inquiry with his email.

41. On 29 June 2015 I prepared a gap analysis of what I felt the PPVL rooms for ID patients needed, and what the BMT patients needed from their rooms. This took the form of two tables highlighting the issues with design, commissioning, monitoring and maintenance requirements, what we actually had, and providing space for them to tell me what actions I should take to resolve the issues. I sent this by email. I have provided the Inquiry with the gap analysis and the covering email. I also shared this with Prof Jones to keep him in the loop, and in the hope that he would support me in my concerns.

42. My concerns were escalated to Gary Jenkins, Dr Armstrong and Mr Archibald.

43. On 26 June 2015 Dr Wright asked for a regular program of *Legionella* water surveillance in 4B to be established. It was clear that the Beatson monitoring program hadn't been implemented before they moved the patients over. This should have been done. Dr Inkster suggested a fortnightly monitoring system be instigated.

44. On 30 June 2015, air sampling took place in 4B and 2A. The particle counts were extremely high; they should be below 100 and they were in the tens of thousands which is very dangerous for BMT patients. Further, sampling grew *Aspergillus sp.* ("*Aspergillus*"). This suggested a complete failure of air quality management. I was not surprised by this given my concerns about the ventilation design and the problems outlined above. Even if the particle counts had not been high the design would not have been capable of providing a safe environment to care for these very vulnerable patients. A meeting was fixed for 1 July 2015 given the seriousness of the situation. Mr Walsh wanted to delay the meeting until Prof Williams returned. I can provide correspondence about this if the Inquiry wishes to have it. I was very concerned that this posed an imminent risk to patients who were currently housed in the unit, having bone marrow transplants and with complete immune suppression. I am aware there

were also concerns with the paediatric unit at this point which Dr Inkster was dealing with and which also posed an imminent risk.

July 2015

45. The meeting on 1 July 2015 was chaired by Gary Jenkins. I think the others present were Mr Powrie, Ms Joannidis, Jackie Balmanroy, and myself. I cannot recall if Dr Inkster was also there. The Board should have minutes of this meeting but they were never distributed to me. We decided that further information was needed to allow us to decide what steps to take. I emailed Peter Moir from the Project Team after this meeting to ask for design specifications, commissioning, and validation data. I never received the information I asked for.

46. A follow up meeting was held on 3 July 2015 at which a unanimous decision (with haematologists present), was taken to move the patients from 4B back to the Beatson. We could not be satisfied that they were safe in the QEUH because of the fundamentally unsafe design. Anne Parker wrote an SBAR relating to this decision which was passed to Dr Armstrong (a copy of which I have provided to the Inquiry). It is extremely undesirable to have to transfer BMT patients from hospital to hospital but in the circumstances, this was felt to be the least risky option. Thereafter, I had no further involvement with these issues until October 2018. It is important to note that the problems were not first identified by air sampling, rather by an inspection of the design which pre-empted the air sampling.

47. On 6 July 2015 an AICC meeting took place. Prof Williams returned from annual leave that morning and attended the meeting, which was chaired by David Stewart. Prof Williams said that there were no issues with the ventilation. I felt compelled to intervene and I listed my concerns. When I received the draft minutes of this meeting, I was surprised to see that they did not fully reflect my concerns. I asked for them to be amended. I have provided the Inquiry with the draft minutes. At the subsequent meeting I asked that the minutes of the meeting of 6 July 2015 be revised to reflect

the concerns that I had raised. I do not know if that was minuted; I do not have those minutes. I did not send an email about this because by that point I was being criticised for sending too many emails. To my knowledge, the minutes were never revised. Prior to the meeting Dr Inkster told me that Dr Bagrade had told her to instruct me not to raise concerns about the ventilation at the meeting. I think this was to avoid it being minuted.

48. Also on 6 July 2015, I became aware via Dr Inkster that air sampling had showed fungal growth including *Aspergillus*. These results were from 23 June 2015 but I was only advised of them on 6 July. Dr Inkster told me that BMTs were proceeding despite the concerns about air quality.

49. On 7 July 2015 Prof Williams emailed Dr Inkster, Dr Hood, Prof Jones, Gary Jenkins, and me (copying in Mr Walsh) and asked us to confirm that, if the building was supplied to the original specification, it would provide a safe environment. I have provided the Inquiry with a copy of this email. He sent the email at 1025 and asked for us to respond by 1130. I was on a ward round when I received his email. Dr Inkster and I worked together to provide a response (a copy of which I have provided to the Inquiry) which stated that we did not agree with Prof Williams' proposition; we felt that the specification itself was inadequate to create a safe environment even if it had been properly delivered. In any event, the specification which Prof Williams was referring to was from 2009, when a non-BMT haemato-oncology unit was in contemplation. The specification required for general haemato-oncology is different to that required for BMT patients, who are probably the single most vulnerable patient population from an IPC perspective.

50. Dr Hood sent detailed comments (a copy of which I have provided to the Inquiry) stating that the 2009 specification did not apply and setting out what proper commissioning should have included. Prof Williams replied (also provided to the Inquiry) simply stating that these issues would be picked up on during future discussions in a group that Anne Harkness would be setting up. He did not seem to

recognise the seriousness of our concerns, or the urgency given that BMT patients were being cared for in an environment with unsafe ventilation.

51. Also on 7 July 2015, the Board put out a press release regarding the move of patients to the Beatson. I have provided the Inquiry with a copy of the release. This release gave the impression that there were no issues with the BMT unit at the RHC. (See for example, Question & Answer 8 in the press release, "Q - In view of these issues only being discovered now what reassurance can you provide that all other areas of the hospital are safe for patients? A - We are not aware of any other issues.") I knew that this was not true. I felt that senior Board officials, including Dr Armstrong, must have known that the statement was potentially misleading when it was made.

52. Given the circumstances, I did not feel that I could continue working as an ICD. I had grave concerns about Mr Walsh's performance as ICM and Prof Williams' performance as lead ICD. I felt there was a lack of transparency in their approach. I had repeatedly raised serious concerns. They were not taking these concerns seriously or responding with the urgency that I felt was required. I did not feel I could continue to work alongside them. I prepared a letter which set out my reasons for wanting to resign. I have provided the Inquiry with a copy of my letter.

53. On 8 July 2015, and following a discussion with Prof Jones about the proper procedure for resigning, I intimated my resignation to him and then I went on leave for 4 weeks for a long-planned and pre agreed special trip to India where I grew up; the purpose of this trip was to show my children where I lived as a child and to visit friends there.

August 2015

54. On 10 August 2015 I returned to work. On returning I was told by Prof Jones that I would have to remain in post as ICD, because there was no other Consultant Microbiologist willing to take on the role. I am aware that Dr Inkster had also intimated her resignation and had also been told that she would have to continue in her post.

55. Dr Wright informed me on my return that whilst I had been on leave, they had detected mould including *Mucor sp.* ("*Mucor*") in air samples from 2A. She also told me that Anna Maria Ewins had raised concerns with her about safe patient placement. She told me that a number of meetings had taken place in my absence, which had been attended by various senior employees including Dr Armstrong.

56. At around this time I had a conversation with Prof Leanord. I expressed my concerns about the building and the infection control set up within the Board and he specifically said to me "why would you raise your head above the parapet?". He also encouraged me to "pipe down" as otherwise I would find things hard. I don't believe that he was trying to sound nasty or threatening; I think he just thought that I would make things difficult for myself if I kept raising concerns. I also got the clear implication that he was not willing to raise his own head "over the parapet" and he didn't want to be associated with any steps I might take to raise concerns.

Review by David Stewart

57. At around about this time, the Board commissioned a review to investigate the concerns about IPC in QEUH and RHC which I believe came about as a result of Anne Cruikshank acting on concerns QEUH Microbiologists had raised with her. The review was to be chaired by David Stewart. Dr Inkster and I wrote a detailed letter to David Stewart setting out our ongoing concerns (a copy of this letter has been provided to the Inquiry).

58. On 12 August 2015 I received an email from Dr Wright which included a thread of earlier correspondence starting on 3 August 2015 (a copy of which has been provided). The thread included an email from Prof Williams stating that, what I took to be the PPVL rooms in 2A, were built to national standard specification and were *"okay to be used for any purpose including transplants"*. This was wrong; the rooms were not safe for use by these extremely vulnerable patients. Throughout August the ICDs continued to be asked to confirm the safety of isolation rooms for infectious patients (including

high risk multi-drug resistant TB patients). I repeatedly asked Prof Williams for information relating to remedial works for isolation units to allow me to provide the necessary reassurance but no information was provided by him. On 30 August 2015 high risk ID patients had to be transferred to Monklands due to failure of PPVL rooms in the ITU at QEUH. I am aware that the same PPVL design was used for the isolation rooms in 2A, the isolation rooms in the PICU, the adult ITU for ID patients and BMT patients, and two rooms in 4A. I therefore thought it likely that a problem in one area would ultimately be replicated elsewhere in the hospital.

59. One of the biggest risks which a hospital has to manage is the ability to isolate infectious patients. The issues regarding the PPVL rooms commissioning and appropriate use continued from this point right up until 2020 when there were concerns regarding their use in the context of the emerging COVID pandemic. I have many emails that span 6 years since the building opened in which myself and others highlight the failure to complete the assessment of these rooms should the inquiry wish to see them, including the mis recording of commissioning results and presence or absence of HEPA filtration.

October 2015

60. I am aware that on 21 October 2015 Dr Redding wrote to David Stewart advising him that a number of Microbiologists, ICDs and ID Consultants had continued concerns about the building. Dr Redding shared her email with me (a copy of which I have provided to the Inquiry). She stated in her email that she was worried about patient safety as a result of these issues and that the organisation should be obtaining independent advice on how to proceed.

61. On 30 October 2015 David Stewart wrote to the ICD team to advise that there would be an organisational development day to deal with team dynamics. There was undoubtedly a problem with team dynamics, but I felt that there were pressing safety issues arising from the state of the hospital which required a more urgent response.

David Stewart asked me to elaborate more on the ongoing safety issues and Dr Inkster and I prepared a summary of our concerns which we sent to him by email. I have provided a copy of this. Our concerns included:

- Dr Inkster being asked to sign off remedial work despite having had no involvement in it and no communication since 10 July 2015 about the work being done.
- Our concerns about 4B had not been addressed.
- Highly pathogenic fungi (*Mucor*) had been found in the paediatric BMT and yet transplants were continuing to take place.
- We remained concerned about the PPVL rooms and whether they were actually functioning effectively.
- There were also significant problems with the neurosurgery theatres involving repeated sewage ingress, and very poor building materials which I can provide further information about if the Inquiry wishes to have it. Despite having outlined numerous critical failings in the theatre suites Prof Williams asked in an email if I could point out any "actual patient safety risks" and noted that the theatres had been given gold ratings on recent audits. Repeated water ingress is an issue which continues into 2024.

Orthopaedic theatres

62. Around this time I was involved in an investigation arising from an increase in infections in orthopaedic patients. I felt that there were a number of issues with the theatres that might be contributing to this increase and I wrote a detailed report (a copy of which I have provided) which I submitted to Prof Williams, Mr Walsh, and Dr Cruickshank. My work on orthopaedic infections was commended by the orthopaedic team and management at the time, as they had been struggling to get the IPC surveillance team to recognise the realities of the problems.

November 2015

63. Up until this point I had raised my concerns through the IC management structure, and I was aware that senior Board employees had been told of my concerns including Dr Armstrong, Mr Archibald, David Louden, and Bob Calderwood. Within the Microbiology department my line manager above Prof Leanord was Dr Cruickshank. On 23 November 2015 I sent her an email setting out all of the concerns which I had and specifically stating that I did not agree with the public statements issued by the Board. I have provided the Inquiry with a copy of this email.

December 2015

64. On 22 December 2015 David Stewart emailed Dr Inkster and I asking if our concerns had been addressed. I replied to state that my concerns remained despite involvement of HPS and HFS. I have provided the Inquiry with a copy of my response. I can provide further information about the involvement of HPS and HFS if the Inquiry wishes to have it.

January 2016

65. At the start of 2016 the position continued to be totally unsatisfactory; there was ongoing confusion about the safety of the PPVL rooms and their adequacy for isolating infectious and/or immunosuppressed patients. The ID Consultants were still trying to establish whether they could be used for infectious TB patients. I have numerous emails pertaining to the PPVL rooms and the lack of a co-ordinated approach to fixing the problems which I can provide if required.

66. On 18 January 2016 I visited the ITU and found two rooms with incorrect pressures. I continued to have no confidence that patients could be safely placed in these rooms, particularly because there was no alarm system to create alert when a room was not working.

Horne Taps

67. Also in January 2016, Dr Inkster told me that there was an SBAR which had been compiled by HPS regarding Horne taps in which HPS had advised that these types of taps should not be used in high risk settings but which had been fitted throughout the new building.

68. At this point patients who had been moved to the Beatson but required critical care were being transferred back to QEUH for that care. There was still doubt about the safety of the PPVL rooms and now there was a further concern about the taps. I arranged to review the rooms with Mr Powrie because the ID Consultants were seriously concerned. I have provided the Inquiry with examples of a number of emails illustrating this concern; I can provide further correspondence if the Inquiry wishes to have it.

Resignation of Prof Williams

69. At the end of January 2016 Prof Williams resigned. Before he left, I wrote to Anne Cruickshank on 9 February 2016 to ask that she ensure Prof Williams provided a handover of relevant information (including the Schiehallion testing protocols and isolation rooms). A copy of this email can be provided. However, despite this email, it is my understanding that he left without providing a handover and without adequately addressing the vast majority of the serious concerns we had raised with him.

70. After he left, Dr Inkster was appointed to replace him as lead ICD.

April 2016

Water leak in ARU 2

71. On 29 April 2016 I received an email from Mr Powrie reporting a water leak in ARU2 which had taken place on 22 April. The leak had been caused by a section of mild steel

piping in the domestic cold water system which should have been made of stainless steel piping. Mild steel corrodes rapidly. I have provided the Inquiry with a copy of a picture of the corroded piping. That can lead to burst pipes and leaks but also provides an ideal environment for bacteria to flourish (including *Legionella* and *Pseudomonas sp.* ("*Pseudomonas*")). I asked Mr Powrie for water testing results from the outlets which this pipe served and was told that none were available.

72. Mr Powrie pointed out that this error could easily have occurred elsewhere, and that segments of pipe throughout the entire water system could have been erroneously made of mild steel. He planned to try and locate them using magnets. In his experience, any fault in the building was usually not a one off and instead was replicated throughout the building.

June 2017

Invasive Fungal Infections in 2A

73. On 7 June 2016 I received an email from Eleri Davies advising me that Prof Gibson was concerned about the unprecedented number of invasive fungal infections in 2A. Prof Gibson felt that the problem exceeded anything she had ever come across previously in her entire career.

74. Dr Inkster asked me to put together a list of ventilation queries for the QEUH in order of priority. I have provided the Inquiry with the list that I prepared which contains ten queries.

July 2016

Fungal growth in 2A

75. By this point Dr Wright was no longer an ICD. Dr Inkster and I were sharing the sector ICD role. Dr Inkster was ICD for paediatrics. Dr Inkster was on holiday at this point and an issue arose in 2A. In her absence it fell to me to cover paediatrics.

76. On 6 July 2016 I was copied into an email from Alex Marek reporting fungal growth (which I believe was *Aspergillus*) in a number of rooms in 2A. Rooms 20 and 23 had already been taken out of use for reasons that I do not know because I was only occasionally covering paediatrics when Dr Inkster was off. Room 24 was taken out of use, cleaned, and resampled, but fungus continued to grow. Alex Marek had discussed the fungal growth with Mr Powrie and, following their discussions, it had been agreed that Room 24 would have revalidation of the ventilation system and following this resampling would be organised.

Water leak in 2A

77. On 8 July 2016, also in Dr Inkster's absence on holiday, I had a conversation with Mr Powrie about Room 25. He had become aware of a leak from the ducting into the room.

78. It turned out that there was a tear in the flexible duct. There were breaches between the ceiling void and the room, at the sprinkler head, the WIFI modem, the lighting unit, and the TV wall mounting bracket. Unfiltered air was able to pass through the ceiling void into the patient's room. In my view the system should have been designed with an alarm to alert staff to this sort of failure in the ventilation for the room. Had it not been for the air sampling these issues would not have detected. Indeed, this example underlines why I am so concerned that air sampling no longer occurs in the Schiehallion unit (which is mentioned below).

Chilled Beams on 2A

79. On 21 July 2016 I was copied into an email from Mr Powrie relating to an incident in 2A on 19 July when 4 single rooms had water dripping down from the chilled beams. I have provided the Inquiry with a copy of this email. Ian said that there was a problem with condensation dripping from chilled beams across many clinical areas. At this time I did not know much about chilled beam technology. I looked into this and contacted Peter Hoffman, who is a Consultant Clinical Scientist at Public Health England and a ventilation expert, for his views. Peter indicated to me that chilled beams should not be used in hospital environments because of infection risk. I subsequently wrote to Dr Inkster to summarise the key issues which had occurred in her absence on holiday to handover to her on her return. I have provided the Inquiry with a copy of this email.

October 2016

80. In October 2016 I was finally allowed to give up my infection control remit. [redacted] transferred from the RAH to the QEUH and [redacted] took over my ICD role. I prepared a handover email for [redacted] to ensure [redacted] would be up to speed with all of the issues I had become aware of in my time as ICD. I have provided the Inquiry with a copy of this email. In this I outlined the ongoing issues which I was aware of.

81. After this date, while I was no longer an ICD, I continued to cover the ICD duties out of hours and at weekends and at times my opinion and input was requested particularly regarding ventilation issues, attendance at meetings, and writing of reports.

January 2017

Mycobacterium abscessus outbreak

82. *Mycobacterium abscessus* is a similar organism to TB. It can cause severe infection in CF patients. There was an outbreak in Yorkhill and Gartnavel Hospitals. Because the patients were now in QEUH I was trying to work out whether the problem with historic or ongoing. I prepared a detailed report, a copy of which I have provided to the Inquiry. I experienced difficulty in getting the information I needed to properly investigate this outbreak from the IC team which I highlighted to Dr Cruickshank in an email (a copy of which I have provided).

April 2017

[redacted]

83. In April 2017 I took over the role of Clinical Lead for Microbiology from Prof Leanord. No handover was provided. Prof Jones asked me to start work on integrating the adult and paediatric Microbiology services which until that point had been run as separate services other than for out of hours cross cover.

84. On 23 April 2017 I was on call at the weekend and covering paediatrics. There were 6 line related bacteraemias in haematology/oncology patients in 3B, 2A and 1D. One of the patients was [redacted]. [redacted] had a gram-negative bacillus. At the end of my shift, I handed all 6 cases over to the paediatric team who were on for the week plus IPCT.

85. Since April 2017, new information which I was not aware of at the time has come to light which may be relevant to [redacted] case. There have been 2 cases of *Stenotrophomonas sp.* ("*Stenotrophomonas*") infections in PICU and NICU and the typing we have received from the reference laboratory where we send bacterial

isolates for typing are clustering with [redacted] typing. Clustering means that they are closely related. Given the intervening time lapse this is a remarkable finding. This is most likely explained by a common source which, given that they are hospital acquired infections, is likely to be a hospital environmental source. This warrants further investigation. To my knowledge until this time [redacted] isolates had been a unique type in the hospital. I have provided the Inquiry with a copy of the result from the typing laboratory. Since the Case Note review was published the Board IPCT, led by Dr Balgrade, have discouraged the Microbiologists from doing typing of *Stenotrophomonas* isolates, and even reporting them when isolated on screening. Further there has been no comprehensive collation of typing results that I am aware of as recommended by the review. In my opinion these links and valuable information will be lost if there is not agreement as to the unifying hypothesis of the water system and environment being linked to cases.

86. In my opinion the only way to get a comprehensive overview of the *Stenotrophomonas* typing history within the hospital would be to independently do whole genome sequencing and analysis of every *Stenotrophomonas* isolate including water and environmental isolates. I am aware that some whole genomic sequencing work has been done by the Board. They have done this on the basis of selective samples, processed without my knowledge even when I was the clinical lead for the department. I doubt that the work has been carried out robustly and openly given my experience within the organisation and discussions with key individuals regarding whole genome sequencing. For this work to be transparent and unbiased it should be given to an independent body to do. I can provide further information about this if the Inquiry wishes to have it.

May 2017

87. On 11 May 2017 I received a copy of a draft tender document for 2A for the remediation of the ventilation in the PPVL rooms to make them into positive pressure rooms. Dr Inkster asked me for my comments. I was not an ICD at this time. I replied with 6

comments highlighting the need for proper commissioning and an alarm system. I have provided the Inquiry with a copy of my email. At the time the paediatric haematology/oncology patients were accommodated in 2A even though they did not have fully commissioned positive pressure rooms. This is an example of my being asked to input into something not within my remit because I was known to have relevant expertise. I was happy assist.

June 2017

Dr Inkster's departure on sick leave

88. In June 2017 Dr Inkster was diagnosed with lymphoma and so had to go on sick leave suddenly. This inevitably caused a significant gap in infection control cover. I was asked if I would take on the lead role for Infection Control which I declined. I already had a significant workload as Clinical Lead for Microbiology. I did not feel Infection Control was a properly functioning team and I did not share their ethos. Prof Jones and I disagreed about how to manage the service in Dr Inkster's absence. Ultimately Prof Jones took on her role.

August 2017

[redacted] *raised by* [redacted]

89. [redacted] took on Dr Inkster's infection control sessions at the QEUH and RHC in her absence, while Prof Jones took on the Lead ICD role. I was [redacted] line manager for clinical Microbiology at that time. Shortly after Dr Inkster went on leave, [redacted] advised me that [redacted] felt that [redacted] was being bullied by Prof Jones, and specifically that [redacted] was under pressure to sign off the adult BMT unit as safe without being provided with the necessary information to allow [redacted] to do so. Prof Jones had come in over a weekend when he was not on duty, but [redacted] was, and had a conversation with him which [redacted] described to me as bullying. [redacted] did not want to follow a formal bullying grievance. I understood this because I had not felt able to do that

either. [redacted] told me that [redacted] had asked for information about water testing and had not been provided with it. As [redacted] line manager, it was my role to support [redacted]. I wrote to Dr Armstrong and advised her that there were continued problems with infection control management. I have provided the Inquiry with a copy of this letter. I wrote to her as the medical line manager for Brian Jones with regard to Infection Control.

90. [redacted] came to me again, this time with concerns about both [redacted] workload and difficulties in getting information [redacted] required from Estates and senior management in infection control, particularly around building works. This led to me writing to Mr Powrie to ask for updates regarding the plans for the PPVL rooms as [redacted] was trying without success to get this information.

91. On 23 August 2017 [redacted] emailed me to request an urgent job plan review with a view to relinquishing infection control sessions. This was because of the lack of leadership in IPC and conflicts with IPC management. [redacted] email was copied into the BMA. I have provided the Inquiry with a copy of this email.

Concerns about placement of high risk patients on 4B

92. On 18 August 2017 it was reported in the South Glasgow (18/8/2017) Friday Report (a copy of which has been provided) that ventilation and ceiling works were continuing on 4B and that patients from 4C Haematology were now in 4B Haematology. This meant that the high-risk patients were being moved into an area where building works were occurring which is exactly the opposite of good practice. I do not know whose decision this was.

93. It was unclear what the scope of the work being undertaken was. I did not know if it was just remedial work, or if the work was being done to upgrade 4B to a proper BMT ward. My immediate concern was for the safety of these high-risk patients. I wrote to Mr Walsh for clarification but he did not answer my questions. I have provided the Inquiry with a copy of my email and his response.

94. On 23 August 2017 Prof Jones chaired a meeting which I was invited to. I raised a number of concerns about clarity of roles. Prof Jones told me that if I had concerns I should write to Dr Armstrong to report them. I have provided the Inquiry with a copy of the letter I wrote to her and her response. She said that Prof Jones was responsible for the ongoing works. She also said she was waiting for a report from HPS regarding the status of the isolation rooms. She also said that if I had further concerns I should raise them through the "appropriate" systems (as opposed to raising them with her). I had only written to her because Prof Jones had denied that he was responsible for this issue when I raised it with him in his capacity as the lead ICD and he had told me to write to her.

95. On 27 August 2017 I went up to 4B and found that there were profoundly neutropenic patients being housed on the ward despite the ongoing building works. I emailed Prof Jones and Mrs Devine to ask about any policy regarding who would be accommodated in 4B. Brian replied and copied in Grant McQuaker, Isobel Neil and Mr Walsh saying that it had been Dr Inkster's decision for these patients to be moved into the ward and that there was no issue with managing these patients or even acute leukemic patients at the site. I have provided the Inquiry with a copy of his email. I was informed that there was no policy and that it was a matter for haematology colleagues. It is my understanding from Dr Inkster that she had not in fact taken this decision. I do not know who actually made this decision.

96. Prof Jones also mentioned that water quality should not be an issue even though I had pointed out that water testing had not been done. I replied pointing out that there was a JACIE standard for bone marrow transplants (Standard B2.1) which provides as follows: "*If non-HEPA filtered rooms are used for lower risk patients or if there is a shortage of HEPA filtered rooms, the SOP's on Infection Control, Biosafety and Chemical and Radiological safety should indicate how allocation of rooms is prioritised. Further auditing of airborne microbial infections in non-HEPA rooms should be performed as part of the QM (Quality Management) Programme".* The JACIE standard also makes provision relating to water quality.

97. I felt that there was an inadequate understanding of the importance of appropriate accommodation for this patient cohort and that this was a risk for the safe management of patients going forward.

Argument with Professor Jones

98. On 28 August I tried to organise a meeting with Prof Jones as Head of Service and with the ICD's. Prof Jones refused to attend a meeting but came to the department and asked to speak to [redacted] alone. [redacted] came to me to say [redacted] was too scared to meet with Prof Jones alone, because Prof Jones was clearly very angry. We assumed this was about the ICD roles and responsibilities issue which I had written to Dr Armstrong about. I emailed Prof Jones to say "*I see you are in the department can we have our meeting*". Prof Jones stormed into the duty room where I was working with our trainees and Dr Wright and Dr Khannah. Prof Jones was shouting and swearing at me, about me telling him what to do and not to send him emails. I was very shaken up by it and afterwards emailed myself notes of what had happened which I have provided to the Inquiry. I believe that letters were written to Dr Cruikshank by Dr Wright, Dr Khannah, and [redacted] afterwards to complain about Brian's behaviour. I do not have copies of these letters.

99. At the same time the staffing in the QEUH in Microbiology was critical and there was no input or help from Brian Jones or any offer of cross cover from north colleagues.

Death of [redacted]

100. I am now aware that on [redacted] died in PICU. I did not have any direct involvement with her care at this time. At this point I was not aware that there had been any deaths directly due to *Stenotrophomonas*. I am now however aware that no water samples were taken at that time which means that although there is no positive evidence of waterborne infection, there is also no evidence to suggest the water was not the cause of [redacted] infection. I am also aware from the evidence given by [redacted] that [redacted] witnessed work being done to the shower heads. If mitigation

measures were taken between the time of infection and the negative water sampling then the results of that cannot be regarded as reassuring. I have heard it postulated that *Stenotrophomonas* could have come in on clothes of relatives. This is a very unlikely hypothesis in my opinion based on the evidence base around outbreaks of *Stenotrophomonas*, the epidemiology on the unit and the clearly documented problems with the entire water system.

September 2017

101. On 3 September 2017 I received a response from Dr Armstrong in respect of my email dated 23 August 2017. Dr Armstrong assured me that the Board were fully aware of what was going on in 4B and told me that Prof Jones was to lead on 4B. I have provided the Inquiry with a copy of her correspondence.

102. On 5 September 2017 [redacted] wrote me a serious email regarding [redacted] experience of working with IPC and the impact this was having on [redacted]. I have provided the Inquiry with a copy of this email.

103. On 6 September 2017 I had a meeting to discuss ICD concerns and cover as Dr Valyraki had gone off sick. Following this meeting [redacted] sent an email to me containing a list of concerns including environmental organisms in 2A, bacteraemia rates in paediatrics, water testing, lack of clarity around processing and environmental sampling in 2A. I have provided the Inquiry with a copy of this email. [redacted] said that [redacted] had spoken to Dr Hood who was unable to comment or help regarding the water testing in 2A.

104. It is important to understand the pressure at this point; Dr Inkster was off sick, Dr Valyraki was now also off sick, [redacted] was having significant difficulties in the ICD role for the reasons already outlined, we had a lower than required number of trainees and we were covering all of the on calls for the absent staff members. We repeatedly asked for locum cover and our requests were refused.

Infections in PICU, NICU and 2A

105. At around this time in September 2017 the paediatric Microbiology team noted bacteraemias in 2A, PICU and NICU including gram negative micro-organisms. I received statistical processing charts for alert organisms in NICU, PICU and 2A from [redacted] who stated that Prof Jones and Mrs Devine were reviewing the triggers. The differences between the neonatal units across the city and the *Stenotrophomonas* in 2A chart were striking and very clearly demonstrated a breach in the upper control limit. This indicated zero cases of *Stenotrophomonas* in 2A over 21 months and then from April 2017 a case in April, May, June and 2 in July 2017. I understood from discussions with [redacted] that Mrs Devine and Prof Jones' view was that Dr Inkster had set the triggers to be too sensitive. I disagreed with this.

106. Around 12 September 2017 I was aware that there were issues surrounding the interpretation of air sampling in 2A that [redacted] was involved in. I emailed [redacted] at this time to advise [redacted] that 2A was not [redacted] remit, that the IC SMT would take responsibility, as this had been agreed with Prof Jones. I was aware that [redacted] continued to have correspondence about this with the staff on ward 2A as an attempt to fill the void where the SMT should have been assisting.

Ongoing departmental issues

107. On 21 September 2017 I emailed Dr Armstrong and advised her that the ICD's were still without a clear structural understanding of their roles and responsibilities, I challenged the idea that [redacted] had been given the information [redacted] needed to do [redacted] job (especially in relation to the sign-off of work in 4B) and highlighted the importance of water safety commissioning. I summarised a number of steps I had already taken to raise the concerns, for example through the IC SMT, the AICC, and Acute Clinical Governance. I have provided the Inquiry with a copy of my email.

October 2017

Whistleblowing Stage 1

108. By October 2017 I was extremely concerned about numerous areas of risk. I had raised all of these concerns repeatedly and I did not feel that they were being adequately responded to. The paediatric BMT patients were particularly at risk, but I was also very concerned about air quality, water contamination, repeated water ingress, chilled beam units, unsealed ceilings, and air sampling results which suggested fungal and bacterial contamination.

109. On 3 October 2017 I emailed the ICT (Susie Dodd, [redacted] and Dr Balfour) regarding a newly diagnosed line infection in a patient on 2A who had *Roseomonas sp.* ("*Roseomonas*"). This is a water-borne environmental organism similar to *Pseudomonas*. Susie Dodd informed me that the Quality Improvement Group would be meeting to discuss the line infections on 2A. I pointed out that the potential clinical consequences of the line infections were dire. I have provided the Inquiry with a copy of my email.

110. Around this time, it became clear from discussions with Dr Redding and [redacted] that we were all of the opinion that patient safety issues were not properly being dealt with and we agreed that the only course of action we had at this point, having already raised our concerns multiple times, was to follow the whistleblowing policy. During our discussions, Dr Redding advised that it would be best to follow the whistleblowing process from step 1. With our support she undertook to contact Dr Armstrong as the director in charge of the area of concern, that being infection control, as per the policy.

111. With input from Drs [redacted] and Redding, I prepared an SBAR at the request of Dr Armstrong and sent it to her. Both Drs [redacted] and Redding approved the final version. The timescale she gave me to produce this was very short given the

complexity of the issues involved. I have provided the Inquiry with this SBAR. A meeting was organised. There are minutes available which I have provided to the Inquiry.

112. This process had been initiated by Dr Redding but she was out of the country in the days prior to the meeting. I was therefore asked to prepare the SBAR.

113. On Wednesday 4 October 2017 I attended the Teaching and Learning Centre of the QEUH at 8am for the meeting instigated by Dr Armstrong. In attendance that morning were Dr Armstrong, David Loudon, Morag Gardner, Mrs Devine, Mr Powrie, Prof Jones, Mr Walsh, Anne Harkness, Jonathan Best, Gary Jenkins, Dr Redding, [redacted], Dr Green, and Ann Lang as minute taker.

114. Initially Dr Armstrong welcomed everyone to the meeting. I was intimidated by the large number of very senior Board employees present. I had expected a smaller group. The tone of the meeting was set when Dr Armstrong cut short my introduction. I said I was Head of Department at QEUH for Microbiology which was the title Prof Leanord had used for the same position. She said "*You are Head of nothing Brian is Head of Service just to be clear*". I found this rude, unnecessary, and belittling.

115. Dr Armstrong then made a reference to emails submitted by the Women and Children Directorate. These emails had not been circulated to us so I was unaware of their content.

116. It was a very controlled meeting where all comments were to be addressed to the Chair and the Chair was quick to cut in whenever we spoke. Dr Redding was asked to go through the SBAR.

117. The first issued raised in the SBAR was patient placement. The SBAR highlighted not only the issues with the rooms but also the dates on which concerns had first been raised. For example, with regards to source isolation of infected patients, we noted that this had been raised in June 2015 through IC SMT and

numerous times since then including at AICC, as well as via a letter from ID Consultants in May 2016.

118. We highlighted that the PPVL rooms were not built to SHTM standards, that it was unclear what remedial work had been carried out and that the ID Consultants were concerned that they did not provide air-borne protection. The interim measures put in place in December 2016 of moving patients to the GRI and Monklands were still in place almost a year later.

119. David Loudon was angry at this suggestion and stated categorically that the PPVL rooms did conform to SHTM standards. He stated that the specification was signed off by the Board and clinical teams. I assumed he meant the ID and ITU teams but I don't know for sure.

120. Mrs Devine noted that the addition of the ID service was a late amendment to the QEUH project. She stated that the issues were discussed with HPS at the time and they agreed to advise the Board of what standard these rooms would need to be. Mrs Devine said they had a meeting with HPS on Monday 2 October 2017 and that the relevant information was expected in the next few weeks. I found it odd that there would be a 3 year gap between a decision to move the ID service and a follow up meeting with HPS which happened a mere few days before this meeting.

121. I highlighted that ID colleagues were concerned that, prior to transfer to other hospitals, ID patients were being seen in A&E where there is no isolation facility, and then were being transferred up through the hospital to ITU.

122. Anne Harkness advised that she had already raised these issues with Directors, and based on external advice, unless the existing rooms could be modified in some way, the only alternative was to build an ID unit which would require significant resource. David Loudon confirmed that changing spec to negative pressure would be reviewed to assess technical feasibility. The minutes stated that it was agreed to await

the response from HPS and deal with any further issues with the AICC but there was no indication that we would get any further feedback.

123. The second point we raised about patient placement related to protective isolation for immuno-suppressed patients. At this time, there were no HEPA filters fitted in the PICU isolation rooms where BMT patients were regularly accommodated. We noted that there was work ongoing to change the PPVL rooms to positive pressure rooms in 2A but there were issues with HAI Scribe. We noted there were no documented or risk assessed placement policies for immuno-compromised patients in QEUH or RHC. Dr Redding pointed out that there were high rates of infection in immuno-compromised patients in 2A and that air quality had been an issue since it opened. She commented that there was an ongoing outbreak of *Aspergillus* in the unit and that the risk continued. I highlighted that both Dr Inkster and I had objected to a public statement in 2015 that claimed there were no issues affecting the paediatric BMT service. Mrs Devine said that there had been 2 cases in March associated with a leak in the ceiling space; this was investigated, the tiles were removed and replaced. There was no engagement with our concerns regarding the air quality. There was conflicting information about whether HEPA filters were going to be installed in the PICU.

124. We then discussed the line infection rates on 2A. Mrs Devine stated that the IPC team were working with Timothy Bradnock on improvement. She noted that there was no benchmark for this area. I replied that they needed to start with establishing the actual rates of line infection but Mrs Devine stated that there was no resource to do that. Dr Armstrong advised us that there was a focused piece of work being carried out in 2A to ensure compliance. The nature of the work was not described, but it was suggested that Iain Kennedy would take this forward. I was unsure why a PH Consultant would take the lead on an essentially IPC area of expertise with regard to environmental risks in a specialist unit.

125. One of the issues I raised was the fact that in the treatment room on 2A I had observed multiple trolleys (up to 7 or 8) set up for giving chemotherapy and antibiotics.

It was very crowded and close to the sinks within what is termed the "splash zone". This room was not HEPA filtered and neither was the prep room which is where you would normally prepare medication to be given intravenously. Gary Jenkins advised that chemotherapy was prepared in a designated area and there was an audit to confirm this. I was not suggesting that the chemotherapy was being prepared in the treatment room but rather the kit for delivering it as well as antibiotics were being prepared there. As the meeting was so tightly managed I was unable to counter this to explain they had missed our meaning.

126. I recommended that there should be a patient placement policy as I had seen in other hospitals that I had worked in. It was agreed I would provide a copy of such a document and it would be discussed at AICC. Dr Redding commented that infection rates were not being monitored. Dr Armstrong did not accept this at all, and said that the Board directors received a weekly report of outbreaks and incidents. I felt that Dr Armstrong was not willing to understand the point we were making which was that not all outbreaks and HAI cases were being identified due to an over reliance on definitions and national alert organisms which did not leave scope for identification of unusual events of the sort that we felt were occurring in 2A. We were not suggesting MRSA and C diff rates were high. The response that they were in control was therefore irrelevant and deflecting from the real concerns. I note that our approach is in keeping with the expert epidemiology report prepared by Sid Mookerjee for the Inquiry.

127. We then moved on to single room accommodation. We highlighted that the air exchange was half of the recommended standard and that chilled beams were collecting excessive dust. We were concerned about the risk of organisms such as *Acinetobacter sp.* ("*Acinetobacter*"), methicillin resistant *Staphylococcus aureus* (MRSA) and other bacteria building up within the chilled beams. We pointed out the need to share learning about all of the building issues with other Boards. Unfortunately, David Loudon narrowed this down to simply discussing chilled beams with Dumfries who also had chilled beams. I had stated that all the relevant relearning from our SBAR concerns should be shared with others including with HFS.

128. Prof Jones suggested that it may be useful to review infection rates. At this cue, Mrs Devine reported that the Point Prevalence Survey showed that the QEUH was under the national average for infections and that all alert organisms were monitored by the IPC team and there were no indications that this site had a higher than average infection rate. I pointed out that the system in place was not designed to pick up the kind of infections we were seeing. I pointed out that the QEUH had a rapid turnover of patients and that post discharge infections would not be picked up by Point Prevalence Surveys which are also limited in their scope. It was the wrong methodology for picking up unusual events. Again, I note that my approach is in keeping with the expert epidemiology report prepared by Sid Mookerjee for the Inquiry.

129. We mentioned issues with cleaning and dishwashers. There was an acceptance that the audit system had missed this problem but the cleaning problem had now been rectified. However, the problem which had been identified was twofold – first, was the cleaning of the dishwashers, and the second was with the audit system which had failed. My request that the new audit system also be reviewed has never been taken forward in so far as I am aware.

130. The next point to cover was water quality. We mentioned that all the taps were fitted with thermal mixing valves, but there was no cleaning and maintenance policy. We also mentioned that water on 4B had not been tested and that delays in water testing were being experienced by the ICDs. [redacted] was very clear that [redacted] had difficulty getting water testing done which [redacted] had asked for because [redacted] thought there was a problem with the environment, but [redacted] had not received the results from Estates. David Loudon responded strongly that there was a Water Board Safety Policy in place that had been approved by the Governance Committee and that there was strict guidance on how to monitor water systems and processes were in place to comply. David Loudon made it clear that he thought we had no business querying anything to do with the water system. As we were seeing clinical cases in haematology/oncology paediatric patients who had enough suffering to contend with

already, I was clear that raising this as a concern was very much within our professional scope.

131. Mr Powrie confirmed that water testing was carried out with only the exceptions (i.e. failures) being reported to the Infection Control Team. The minutes state that it was agreed that the Board were compliant with water testing protocol. However, I was in no position to agree or disagree without the evidence of the actual water testing history which had not been shared. It now transpires that the report from 2015 was in existence and DMA were on site and writing what became the 2017 report. It seems utterly astonishing to me now that the answers we were given at that time were so distant from the reality.

132. We raised a number of other issues regarding the newer surgical block. However, time was running out by this part of the meeting. A key part of what we had put into the SBAR related to the infection control structures and roles, specifically the lack of formal involvement of an ICD in HAI Scribes.

133. We highlighted a lack of communication of important information despite requests for that information. We stated that there was a professional risk of making decisions and giving advice based on incomplete information.

134. I was keen to discuss this as I believed it to be a fundamental problem within the team. I supported Dr Redding when she said that the roles were unclear and I mentioned an unhealthy culture. As soon as I said that Jonathan Best leaned back in his chair so he could see me and said "that is just your opinion and hearsay". I said it was not just my opinion, there were a number of Microbiologists who agree and that I had the evidence to show this to be the case. At this point Dr Armstrong interrupted and reminded me to address her as the Chair and that this would be dealt with at a separate meeting. That was the end of the meeting. As we got up to leave the meeting Dr Green said to Dr Armstrong "*well that was a lot of fuss about nothing*".

135. After the meeting [redacted] sent me an email stating that [redacted] wanted an urgent job plan review to have infection control removed. The interim arrangements that had been agreed with infection control SMT and the Head of Service were not working. This led to a Consultant meeting to discuss how infection control could work. I summarised the discussions in an SBAR and sent this to Head of Service on 6 October 2017. I have provided the Inquiry with this SBAR. At this point I highlighted that we were still seeing high rates of line infections in 2A including environmental gram negatives.

Ongoing infection concerns

136. On 10 October 2017 I had a meeting with Susie Dodd where we discussed the continued high rates of infection.

137. On 13 October 2017 I grew *Mycobacterium chelonae* from a shower head in 7D, (a CF ward). I escalated this to Prof Jones, Jackie Balmonroy and Ms Joannidis on 13 October by email copying in the CF Consultants. Prof Jones replied to say that he and the ICNs would take it forward. I can provide a copy of this email if required.

138. On 19 October 2017 I became aware of an issue with air quality within the Teenage Cancer Trust with Dr Balfour writing an email to say that she had assessed previous air sampling results and although fungi had previously been cultured there, there was no obvious record of actions taken to investigate or remedy this. I have provided the Inquiry with Dr Balfour's email to me.

139. At this point there was day to day ICD cover because no one would agree to be the sole ICD for the site. We agreed as a group that as an interim measure to ensure that the duties were covered that we would do it on a rotational basis. I was very conscious that this was far from ideal and in order to mitigate the risks associated with this set up I established a joint inbox and a system of written handover to ensure nothing was missed. I can provide further information about this if the Inquiry wishes to have including a risk assessment sent to Rachael Green and Prof Jones regarding

this set up. At this point we had high levels of gram negative infections in haematology and oncology patients. Prof Leanord was still part of our rota at that point. I remember handing over to him a very high prevalence of infection amongst paediatric haematology/oncology patients. He was definitely aware of the infections we were seeing and he sat as advisor to Fiona McQueen at the HAI policy unit so my assumption was that he would be keeping an eye and communicating with the policy unit, especially as we are the only BMT unit for paediatrics in Scotland.

Prophylaxis Prescribing

140. On 23 October 2017 I was the Microbiologist covering paediatrics. Prof Gibson informed me that there was a plan to introduce antifungal prophylaxis following a recommendation from Prof Jones. This had not been communicated to me by Prof Jones so I wrote to him to clarify. He responded that he would strongly recommend prophylaxis "*given the current situation".* I questioned him about the planned length of time that this prophylaxis would be used as I was concerned about the toxic side effects and the limiting of antibiotic choices for treating infections because of drug interactions. His response was "how long is a piece of string". I have provided the Inquiry with a copy of this email exchange. My understanding was that this recommendation would be in addition to the standard protocolised anti fungal use which is normal practice in this patient cohort.

141. Prof Jones mentioned that having HEPA filtered rooms under positive pressure would help and I said that I agreed and that Dr Inkster and I had been saying that for 2 years. I have provided the Inquiry with my email to this effect.

Further infections in late October 2017

142. On 24 October 2017, [redacted] told me that once again there was mould in samples from 2A including *Aspergillus* and *Mucoraceous* fungi. [redacted] told me that nobody within infection control seemed to know how to interpret these and we still did not know about the ventilation specification. This seemed farcical. Both ICNs and

ICDs had previously been involved in not only writing and running with air sampling SOPS, but even publishing a poster on this in Yorkhill. I can provide the published information, the SOPs and examples of actions taken based on air sampling results at Yorkhill if that would assist the Inquiry. Once again [redacted] asked for SMT involvement. On 26 October 2017 there was a possible case of *Aspergillus* within 2A which was later confirmed.

143. On 30 October 2017 in order to summarise an increasingly complicated situation in 2A I wrote an SBAR specifically for Prof Jones, in which I recommended the need for clear guidance for the safe placement of high-risk patients on the unit. I have provided the Inquiry with my SBAR.

November 2017

144. On 20 November 2017 [redacted], Dr Redding and I received an update following our whistleblowing Step 1 to Dr Armstrong regarding our concerns about the public statements made by the Board in 2015 relating to the haematology/oncology unit. We were informed that the Communications Team had not been briefed on testing at the RHC and that the line that stated that the issues related only to the adult hospital and that the children's BMT was *"separate and unaffected"* related to them not having to relocate. I found it implausible that a public statement like this would not have been signed off by management who were aware of the issues, and in particular by Dr Armstrong. They also did not engage or comment on the additional background information that went with the press release. I would draw the Inquiry's attention to the document titled "BMT Q&A For Possible Supplementary Questions for Discussion" (a copy of which I have provided to the Inquiry), question and answer number 8 in particular, which provides support for our concerns and show why these concerns were not allayed by the explanation we received.

145. On 28 November 2017 Dr Valyraki came to my office. She was very upset. She was worried about the fact she had been sent an HAI Scribe to sign off on work to be planned on 4B. She informed me that Prof Leanord had already signed off on two other HAI Scribes for 4B. However, her understanding was that any works on 4B were the remit of the SMT and specifically Prof Jones who had asked Dr Valyraki to proceed. She explained to me that she did not have the experience or confidence to undertake such a piece of work alone and requested my help. I agreed to do a ward walkaround with her and Jackie Balmonroy. It was unclear what exactly Dr Valyraki was being asked to agree to as there was a lot of work planned.

146. My understanding at this point in time was that 4B was being used as a general ward because adult haematology patients were still at the Beatson. During the walk around I was horrified to discover that in fact high-risk BMT patients had been moved into the ward while a number of works were being carried out.

147. The air was dusty. The area that should be sealed off where the work was being carried out was open to the corridor allowing the dusty air to move freely through the units. It was bad enough to cause Dr Valyraki to have a coughing fit. She escalated this via email to Prof Jones that day. I was copied into the email which I have provided to the Inquiry.

148. It transpired that Dr Valyraki was being asked to sign off on leak testing. Part of the design and validation is to check for leaks. There is an established protocol for doing this. No leak testing had been done prior to the hospital opening. The guidance on how to do this had changed in the interim. The leak testing required air to be drawn through the area which had brought dust through from the ceiling voids and other areas. They should not have done this with patients there. The prep room was not sealed off. This would have been risky on a non high risk ward; on this ward it was particularly bad. As it was now apparently my responsibility to sign off on the scribe, I requested a full set of information from Mrs Devine whose response was inadequate. I have provided the Inquiry with my email and her response.

December 2017

149. On 1 December 2017 I chaired a meeting about signing off the HAI Scribe of the work on the ward. The ICNs refused to organise this meeting. This was unheard of in my experience. I therefore made all the arrangements and took the minutes. Dr Valyraki, Lynn Pritchard, Mrs Devine, Myra Campbell, Dr Green, Alison McCardell, David Bratty, Melanie McColgan, and Grant McQuaker were all present. The purpose of this meeting was to discuss with the key stakeholders the accommodation of high-risk patients in the context of dust generating work, evident confusion regarding the work and HAI Scribes being inadequate.

150. Right from the outset it was evident from the tone, body language and comments from all present other than myself and Dr Valyraki that they were very unhappy to be at the meeting. Dr Green was especially antagonistic. Dr Valyraki and I summarized what had happened and I explained that this posed a significant risk to patients. Myra Campbell indicated that she had spoken to the clinicians caring for the patients and that they were satisfied that there was no risk. However, this was at odds with the information I had been given by the doctors on the ward who indicated that the patients were on Posaconazole prophylaxis specifically for the risk. This would indicate that they were thought to be at risk of fungal infections. Mrs Devine was very unsupportive and informed the group that the movement of patients into the unit was a separate issue and that work had been carried out with full discussion with HPS and HFS.

151. Melanie McColgan said that there was a concern that the works should not be delayed as they wanted patients to be transferred back from the Beatson. The group refused to follow up and Dr Green stipulated that I was not to contact HPS regarding the situation. After the meeting Dr Green took me aside and told me that it had not been a good meeting and that I had not handled it well. I said that I did not think that anyone could have had a good meeting given the attitudes around the table. I took minutes of the meeting and circulated them with a covering email stating that I planned to contact HPS for clarity. I have provided the Inquiry with the minutes and

the covering email. In fact HPS did not know about the work, which is presumably why I was asked not to contact them. My emails to HPS are available if required. On reflection, I suspect this is the point at which I should have contacted the Cabinet Secretary for Health because the Board appeared to be deliberately concealing safety critical information from HPS.

January 2018

152. On 24 January 2018, a couple of weeks after returning from sick leave, Dr Inkster resigned from the post of Lead ICD. Subsequently, I wrote to Dr Armstrong in support of Dr Inkster, advising that I thought the QEUH should try to keep her due to her level of experience and expertise. I am unaware of what discussions took place between GGC and Dr Inkster but subsequent to all of this I understand Dr Inkster took back her role as Lead ICD. At this time, it was my understanding that Dr Inkster shared the concerns of myself, Dr Redding and [redacted] about the building and the functioning of the IPCT.

Cupriavidus infection

153. There had been a *Cupriavidus* case in 2016 which Dr Inkster had dealt with. There had been another case in October 2017 dealt with by Dr Balfour. Another case was identified in January 2018 when I was on the rota when Dr Inkster was just returning to work. I did a PAG and when I looked at the details it seemed to me that the link was not the pharmacy. The first one had been linked to the pharmacy and a sink had been removed as a result. Further testing was carried out and it was determined to be a very wide ranging problem. I have provided the Inquiry with the minutes of the PAG.

154. Around this time, it was agreed that Drs Balfour, Inkster and Valyraki would be the ICDs for the South and the rest of the team would no longer be ICDs.

February 2018

155. Notwithstanding that I was no longer an ICD, I was asked by Dr Inkster to attend a meeting that had been organised with GGC Estates, HPS and HFS to discuss the PPVL rooms and the possibilities for conversion into negative pressure rooms. This meeting took place on 19 February 2018. There was a large group of people in attendance including Annette Rankin from HPS, Ian Powrie and Alan Gallacher from GGC Estates and others, not all of whom I recognised. Malcolm Thomas spoke as well as others.

156. I spoke to Malcolm Thomas after the meeting. I was very interested to speak with him because he is the designer of the concept of PPVL rooms. I asked him if extracts were not in the correct place in a PPVL room, would that invalidate them? He said that it would. From our discussion, it was clear to me that he shared my concerns about the fact that the PPVL rooms in the QEUH had deviated from the exact design specifications as validated and specified in HBN 04 Supplement 1, including in relation to the placement of extracts. I understood from our conversation that he had been invited by Ian Powrie to view our PPVL rooms and to give an opinion regarding their suitability for isolation purposes. Mr Thomas gave an opinion to me verbally that the PPVL rooms deviated from his design. I do not know if Mr Thomas provided an opinion in writing.

157. I prepared a report of the meeting which I emailed to Dr Inkster, copied in Ian Powrie, on 21 February 2018. A copy of this report has been provided to the Inquiry.

158. On 27 February 2018 Susie Dodd sent an email to the ICT and the haematology/oncology Consultants regarding *Cupriavidus* from outlets in rooms 15 and 13 on 2A including from showers. She also informed us of *Pseudomonas* in a water outlet in Room 3. An IMT was to be arranged for 2 March 2018. By 1 March all actions had already been taken and the situation highlighted to HPS as HIATT red. These results had come about following the earlier incident of *Cupriavidus* that I dealt with in January 2018.

March 2018

159. In mid-March 2018 Dr Inkster asked me to undertake the microbiological testing of taps and shower heads from 2A and 4B because Dr Valyraki was unable to do so, specifically looking for *Cupriavidus pauculus*. I was also asked to process samples from detergents, lotions and wipes to detect *Cupriavidus* and *Stenotrophomonas*. I asked a Microbiology trainee, Dr Hannah Sowbery to assist. I did not handle any of the samples or plates without someone else being present. I felt that within Microbiology and infection control there was considerable mistrust of me and I was therefore very aware of the need to proceed in a meticulous manner with regards to the credibility of the results. It felt like a very toxic situation to be in but I also felt it was my professional duty to assist with the investigation, given the clear risks to patients.

160. I wrote a report of my findings (a copy of which I have provided to the Inquiry) and my interpretations. We found not only a *Cupriavidus* but other environmental gram negatives. I highlighted in my report that there had been cases in 2A of bacterium with some of these organisms including *Brevundimonas* and *Delftia* in 2017. I also suggested that *Mycobacterium* colonisation would be a risk with the use of biocide (disinfectant). At this point I had already isolated M*ycobacterium chelonae* as had been communicated to Prof Jones and the ICNs on the water group. I discussed the testing of the taps with Peter Hoffman and he suggested a quantitative method of culture should we repeat the exercise. This was a huge amount of work.

161. On 22 March 2018 I forwarded my reports by email to Dr Inkster and the Technical Laboratory Management Team of John Mallon, Fiona Reynolds, Janet Young and Mrs Higgins. I was not involved in any further work on the taps and received no further feedback. I note that my report 'Report on Environmental Sampling on 2A and 4B' dated 22 March 2018 is included in Bundle 18 – Documents referred to in the expert report of Dr. J. T. Walker, Volume 2 of 2 at page 1016.

162. Also in March 2018, Dr Redding, [redacted], and I drafted a response to a draft action plan sent to us by Dr Inkster in which we highlighted a number of specific concerns about the action plan. However, we did not submit this response and instead proceeded to step 2 of the whistle blow.

June 2018

163. In June 2018 I was informed by Dr Inkster that there was a problem with the drains in 2A. The ward had been closed and they couldn't reopen. During the course of my duties as Microbiologist for 2A it became apparent that the use of prophylaxis was problematic. By this point they had started administering ciprofloxacin prophylaxis. I wrote an email on 15 June to my colleagues outlining the toxicities and risk management needed on a case by case basis. I have provided the Inquiry with my email. My concern related to the failure to keep Microbiology colleagues informed rather than to clinical decisions taken about administration of antibiotic prophylaxis. Each case needed to have the balance of risks carefully weighed in the context of inter current infections and the chemotherapy regimes and plans.

164. As part of the IMT process I was informed that one of their hypotheses for the increased number of infections was over-use of Meropenem and that this was the fault of the Microbiologists. Meropenem is a broad-spectrum antibiotic which can select for resistant organisms. I looked through all 17 patients that were involved in the IMT chaired by Dr Inkster. I reviewed their antibiotic use and found that only one patient with *Stenotrophomonas* had been on Meropenum, the use of which was appropriate. Line removal had been recommended for those patients where the central line was thought to be the source. I advised the team to ensure accurate recording of decisions around the central line and to record the length of antibiotic treatment. Having reviewed all of these cases I formed the opinion that the wider Microbiology team were performing well in terms of antibiotic advice and central line advice. The Case Note Review later commended the team's work in this area.

July 2018

Concerns raised by Professor Gibson

165. In July Prof Gibson requested a meeting with the Microbiology Team and Dermot Murphy because of her concerns about increasing infections. During this meeting she expressed a number of concerns about the type of infections and the antibiotic and fungal prophylaxis used.

September 2018

166. On 19 September 2018 a follow up took place to the meeting initiated by Prof Gibson in July 2018. My presentation to all of the staff at this meeting (a copy of which I have provided to the Inquiry) demonstrated the striking epidemiology of gram-negative organisms. Having had almost a year without finding environmental organisms in patients' blood streams since the move to the RHC, there were notable spikes in 2017 and 2018. While gram positive organisms were dramatically reducing, gram negatives were not and the range of organisms as well as polymicrobial infections and the nature of these organisms all demonstrated an unusual pattern of infection in this patient cohort (haematology/oncology). I also looked at antibiotic use and demonstrated that this had increased in order to treat the increasing gram negative infections. We looked at resistant patterns and whether Meropenum use increased because Tazocin resistance had increased. Meropenum use per gram negative on the unit had in fact reduced dramatically. This meant that the use of Meropenum was not unnecessary – we were giving targeted therapy. Again, the Microbiology team's advice was commended in the Case Note Review. I therefore do not accept any suggestion that an increase in *Stenotrophomonas* cases was caused by over use of Meropenum.

167. On the same date I was informed by Dr Inkster that the paediatric BMT patients would move to 4B and that haematology/oncology would move to 6A. This was as a result of continuing infections on 2A and 2B. My understanding was that this was a recommendation from the IMT but was approved by the SMT within the Board.

168. Over the next two months I was aware from communications with Dr Inkstser that a lot of work was being done on 2A and attempts were being made to change the PPVLs to positive pressure rooms. The Microbiologists were having to cover infection control when there were no ICDs available because of leave or other absence.

October 2018

Dr Kennedy's Report

169. In October 2018 Dr Iain Kennedy's report was published. I had a number of concerns about the methodology and conclusions reached in this report. I can provide detail on this if it would assist the Inquiry.

170. In general terms, I felt that the report was too high level and missed the mark on the key components of the epidemiology which was a striking and deeply concerning rate of gram negative and unusual bateraemias in an immuno-compromised cohort of patients. In my view this epidemiology supported the unifying hypothesis of water and drains being the issue. I have had the benefit of reading the expert epidemiology report prepared by Sid Mookerjee. His report agrees with my concerns at the time about denominators and the specific types of infections in a specific cohort of patients.

November 2018

171. On 15 November I received an update from Dr Inkster saying that the negative pressure rooms in critical care could not be signed off as they did not meet the air change requirements and therefore we still had to direct to another centre.

[redacted] – *Cryptococcus infection*

172. On 26 November 2018 I was copied into an email to Prof Jones sent by a Microbiology trainee informing him of a patient called [redacted] who had *Cryptococcus* in [redacted] blood culture. This is very rare. In fact, I don't recall having ever seen a *Cryptococcus* case in a haematology/oncology patient before, although I had been involved in treating a couple of cases previously in different patient groups.

173. [redacted] was a [redacted] patient with chronic neutropenia being cared for on 4C. Despite being put on Meropenum [redacted] was septic. The positive blood culture was taken on 21 November 2018. When the blood culture flagged up positive, [redacted] was commenced on Fluconazole and then changed to Ambisone once it was known to be *Cryptococcus*. [redacted] seemed to respond to the Ambisone initially. I checked the telepath notes for this patient and I could see that [redacted] was unable to have a lumbar puncture due to low platelet counts; the risk of bleeding was thought to be too great. A CNS infection was not entirely ruled out. While [redacted] had not grown *Cryptococcus* since a blood culture on 25 November 2018 [redacted] antigen test remained positive on 19 December 2018. This would indicate a continued presence of *Cryptococcus*. [redacted] was continued on the anti-fungal therapy.

174. My impression from looking at [redacted] history is that [redacted] illness was compatible with acute *Cryptococcus*, consistent with a hospital acquired infection, given the occurrence of a second case within the hospital within three weeks, the epidemiological rarity in this patient cohort, what we now know to be a major pigeon infestation on site, and a lack of protective isolation specialist ventilation.

December 2018

[redacted] - *Cryptococcus infection*

175. On 18 December my colleague, James Cargill who had at that time recently joined the department told me that there had been a paediatric *Cryptococcus* case within paediatric haematology/oncology unit that looked likely to be hospital acquired. That patient was [redacted].

176. I advised him that there had just been an adult case and that he needed to inform Dr Inkster. We both commented that there must be pigeons somewhere because the connection between *Cryptococcus* and pigeon guano is so well known. He informed Dr Inkster and she organised IMTs.

177. As I was on duty over the Christmas period I was asked by Dr Inkster to follow-up on the cleaning of the plant rooms, because by that time it had become known that there was a serious infestation issue within the plant rooms. My recollection is that an Estates colleague that I spoke to commented that it had taken a team of 11 men to clean up the plant rooms which had all been infested with pigeons.

January 2019

Ongoing issues with Cryptococcus

178. On 18 January Dr Inkster asked me to contact Peter Hoffman for advice regarding *Cryptococcus*, pigeons, plant rooms and how to carry out an appropriate investigation.

179. I visited the plant rooms with Mr Powrie and Darryl Conner with a view to putting together a report for the IMT. This was after the clean-up but there was still evidence of pigeon ingress. I wasn't sure I was being shown the correct air handling units. Estates didn't know which air handling unit was which and they had to phone the office to ask a colleague go to the individual rooms to see whether when we

switched off the air handling unit which we thought related to a particular area it actually went off.

180. I produced a report (a copy of which I have provided to the Inquiry). The photographs within my report were taken by either myself or [redacted]. I now know that at the time of my visit to the plant room, Darryl Conner was in possession of photos that had been taken pre-clean-up and demonstrated heavy contamination. They told me that it had been a very small amount of guano. That night there was a leak. I saw water cascading down from the roof into the plant room. Mr Powrie indicated that this was not a rare event. I thought this could be a route for contaminated water to bring in pathogens including *Cryptococcus*. I emailed Peter Hoffman for advice, and I can provide the emails between Peter Hoffman and myself if they would assist the Inquiry.

181. Colin Purdon told me that the pigeons had got in by crawling under the cladding on the ground floor and working their way up. This now seems plausible given that a couple of years later there was a fire alarm at the QEUH when someone had dropped a cigarette at the bottom of the cladding and smoke had worked its way up through the space between the cladding and the building. This highlighted that there was a gap at the bottom of the cladding. I am aware that there had been a discovery of dead pigeons and pigeons nesting within the wall cavity at ERI because of a similar gap. However there were also other routes of ingress including open doors, and we were informed access could also have been through a louvre without netting.

182. I felt that it was quite plausible for patients in 4C and 6A to be exposed to *Cryptococcus* spores by a number of possible routes all caused by this pigeon infestation and that the key failing was that patients were not in adequate accommodation that would prevent ingress of fungal spores or provide for rapid dilution of fungal spores. Right from the start there was a huge reluctance from Estates' colleagues to accept that pigeons in the plant room could pose a risk. The Estates and Public Health teams continually challenged my views. I detected an undertone of casual sexism when they mocked my views about contamination via the

plant room saying that it was more likely that *Cryptococcus* had come in from the clothes and shoes of visitors. On one occasion at an IMT meeting I am aware that Iain Kennedy openly googled the size of *Cryptococcus* spores in order to erroneously contradict Dr Inkster's statement that the filters were not sufficient to keep the spores out, rather than simply respecting her professional opinion on the matter.

183. I was surprised when a public statement was issued by the Board on 20 January 2019 (a copy of which I have provided) stating that the case of *Cryptococcus* had been reported on 20 January 2019 which I knew to be wrong. I sent an email to Dr Inkster on 21 January 2019 pointing out that in fact Microbiology had reported two cases in early December.

Bathroom mould in 6A

184. Also in January 2019, further problems had emerged on 6A which at this time was housing the haematology/oncology patients. It was found to have mould in the bathrooms. As a result of this patients had to be moved out again. The high risk patients went to 4B and the rest went to a medical admissions area.

Mucor cases in ITU

185. On 21 January 2019 Dr Inkster asked me to chair an IMT on two *Mucor* cases in the adult ITU. *Mucor* is another pathogen known to come from pigeon guano although it also comes from other sources including damp areas. It transpired that there was a leak at the dialysis point. Mrs Devine told me that my epidemiology was wrong as I said they were linked in time, place and person but she insisted in the meeting in direct contradiction to me that being linked in person meant that it was person to person spread. This is a very basic misunderstanding. What it actually means is people with the same characteristics, for example neonates.

186. On 24 January 2019, we had a visit from Katherine Wilson and Cameron Adams of the HSE. I attended along with Tom Steele, Colin Purdon, Dr Inkster, Karen Connelly,

Kenneth Fleming and John Green. Dr Inkster and I reported on what we had found out about the plant rooms and our long-standing concerns about the ventilation in the hospital. Tom Steele stated that he had commissioned a review from concept to build and commissioning to explore why the hospital had not been built to specification. This was the first I had heard of that.

187. We then took a walk to the quadrangle just outside the PSCU where they had just been clearing up pigeon guano and, we discussed how contaminated air could enter through the inlets to the first floor plant room. We then went up to the top floor plant room and saw an opening with daylight coming through – there were slats of a significant size which now had netting over them. We were told that was how the pigeons had got into the plant room. Outside there was more evidence of pigeon guano in the area.

188. On 21 January 2019 an incident occurred between Prof Jones and I which resulted in me being signed off work for 3 months. The incident (which was witnessed by a manager) involved Prof Jones shouting and swearing at me in front of colleagues in a very aggressive manner. At one point I actually thought he was going to physically attack me. His behaviour was totally unacceptable and no sanction was imposed on him for the incident. At this time the department was under enormous pressure. Sometimes we only had two Consultants and a trainee to cover all of adult and paediatric Microbiology, which is wholly unsafe staffing.

First meeting with Jeane Freeman

189. After speaking to Anas Sarwar with Dr Redding in October 2018, and then writing to the Cabinet Secretary for Health, Jeanne Freeman, regarding my concerns about the culture in GGC and how I could go about submitting evidence to the Independent Review without incurring grave consequences in my employment, a meeting with Ms Freeman was arranged by Mr Sarwar.

190. In January 2019, Dr Redding and I met with Jeanne Freeman and Anas Sarwar in the Lorne Hotel in Glasgow. It was an opportunity to discuss in person the history of our concerns and how we were experiencing the situation in GGC. At that time, I was on sick leave due to the extreme stress and bullying that I was experiencing. Jeanne Freeman and Anas Sarwar stated that they were keen to work across parties to improve the NHS culture. Both indicated that the situation was not acceptable with Consultants being afraid to raise concerns in good faith. There was a candid recognition of how difficult and entrenched the problem with culture is in the NHS and I felt that there was a genuine will to take action to improve matters, without any promises being made on the particulars of my case. Overall, I found it to be a helpful meeting. I was impressed by both politicians' attitude, comprehension of the situation, and their compassionate and respectful manner in dealing with us.

191. It was clear that neither politician had the expertise to adjudicate on the details but I was encouraged that they could see the need for independent assessment and that the issue of culture was key. I handed over some documents to Jeanne Freeman to hand to Dr Fraser as the chair of the Independent Review.

April 2019

192. Whilst I was off sick Dr Inkster showed me the 2015 DMA Canyon report. I do not have a copy of this report but I have an incomplete copy of part of the 2017 report which essentially highlighted no change since the first report. She had a paper copy which she had been given by Dr Armstrong. She was given it in June 2018, and found out that Jane Grant had seen it in March or April 2018 whilst the IMT was ongoing. It was not shared with Dr Inkster at that time. When I had asked Mr Walsh for the *Legionella* risk assessments in 2015 and was not given them, these reports were available and should have been shared with me. I now think these reports were deliberately concealed from me. Had I seen the reports in 2015 I would have taken steps to respond immediately to the concerns identified as the risks were not

theoretical, rather in breach of well established standards to protect both patients and staff.

193. Also whilst I was off sick, the interim report from HPS was issued relating to the water. I thought it was limited in its scope and conclusions and wrote to Jeane Freeman about the report. I have provided the Inquiry with a copy of this letter.

194. At this time I also submitted a report to the Health and Sport Committee looking at infection control and built environment. I did this anonymously to the public but openly to the committee having discussed with them the options on how best to submit. My report can accessed at the following link: https://webarchive.nrscotland.gov.uk/20200820031820/https://www.parliament.scot/parliamentarybusiness/CurrentCommittees/111128.aspx. I had read the Board submission which was of a poor standard. I stated very clearly to them the situation I was in. I was told by the civil servant that the committee did not have a whistleblowing function and I recall saying "well you are the best thing I've got right now". By this stage, I had already phoned the GMC, the RCPath, the National Whistleblowing line and the HSE. I knew that HFS and HPS were sighted on many issues. I had written to the Cabinet Secretary and pursued an internal whistleblow. I hoped that the committee proceedings would highlight the gap between the science, standards, and the reality of hospital estate in Scotland. I was very disappointed in the evidence given and the outputs of the committee. However it did serve to put some pressure and shine a light on the subject matter.

May 2019

195. I returned to work at the start of May 2019 following my period of sick leave.

June 2019

Leaking chilled beams

196. On 3 June 2019, I was asked by Dr Inkster to visit 6A to investigate reports of leaking chilled beams. Angela Johnson had received a phone call from a nurse on 6A, reporting drips from chilled beams in six rooms, three in day care and three in patient rooms. The history I got on the ward was that a child had complained of having a cold foot and when the mother felt the child's foot, it was soaking wet. On looking up, the mother had seen dripping water.

197. I inspected the beams in three of the patient rooms and found that they were dirty with water dripping through from the corner. Darryl Conner stated that the boiler had been out of action and that this had meant that the hot water supply pipes had contracted causing leaks to occur at the joints. There had been raised fungal counts in one of the rooms on air sampling. I arranged for an HAI Scribe to open up the ceiling to inspect where the water was coming from. I took photos and I have provided sample photographs to the Inquiry.

198. I was present when Estates opened up the ceiling tiles and I looked up into the ceiling space and I observed water dripping from the connecting pipe into the framework around the chilled beam, which tracked along the metal casing and then dripped on to the floor. I took swabs from the water dripping which were processed in the lab.

199. I wrote an SBAR (a copy of which I have provided) summarising the situation and sent it to Dr Inkster and copied in Darryl Conner and Prof Gibson. The SBAR included seven photographs that I had taken. The photographs clearly show the water on the floor, the dirt that has gathered on the fin, and the water dripping from the pipes and working its way along the metal casing. It is worthy of note that there was no evidence of condensation on the fins.

200. The swabs grew *Kokuria sp.*, *Micrococcus sp.* and *Staph hominis* which is consistent with skin commensal flora collecting on the fin. *Pseudomonas* was also

isolated which is consistent with contaminated water. This *Pseudomonas* was identified as *Pseudomonas olevorans*. Interestingly, the same species of *Pseudomonas* was grown from water samples taken from the chilled beams supply system and processed at the GRI lab in addition to *Pseudomonas aeruginosa*. This would indicate that the water system was contaminated and as far as I am aware there was no system in place up until this point to monitor the water and pick up this sort of contamination.

201. There were further incidents of dirty water dripping into patients' rooms throughout the QEUH which Dr Balfour dealt with and copied me in. I have provided the Inquiry with an example of an email dealing with this.

July 2019

202. On 5 July, Dr Inkster provided me with a handover for infection control as she was going on leave. This handover mentioned that the PICU validation was pending, the neurosurgery theatres needed to be signed off, the 2A upgrade works were going ahead, and that NICU had failed validation of its ventilation system. She informed me that in 6A there was an increase in gram negative bacteraemias. There was a second *Mycobacteria chelonae* case that was thought to be an HAI (the patient was named [redacted]). Dr Inkster noted that there was a plan to increase doses of chlorine dioxide in the water system.

203. At this point, efforts were being made to clarify the status of the ventilation in both the PICU and the NICU. I was asked to attend meetings and to have input into these assessments by Dr Inkster. It was clear to me that there was still a significant level of confusion regarding which rooms were actually validated and fit for purpose. The PICU validation had never been done since the opening of the QEUH in 2015. It failed validation due to the pressure differential not meeting the recommended 10 pascals positive pressure. There was a suggestion for an HAI Scribe to be signed off. Dr Valyraki was covering for Dr Inkster and Dr Hood was also involved but neither felt

that they wanted to take responsibility for an HAI Scribe. I had concerns about the planned fixes and suggested a multi-disciplinary meeting be arranged including clinical teams to discuss with a view to trying to reach a fully risk-assessed decision.

204. On 8 July, I called HSE and spoke to Katherine Wilson to highlight that we currently had patients in settings in the hospital where the ventilation did not meet required standards. There had been coverage in the press regarding the Edinburgh hospital having similar issues. While that hospital was not opened, there did not seem to be a willingness to recognise that in Glasgow, patients were already being treated in a sub-standard setting. Learning from the issues with both hospitals was not being shared nationally when it should have been. It was agreed that the HSE would be in touch and subsequently I received an invitation to provide a statement, which I did. I do not have a copy of this statement but I understand that the police have it.

205. On 10 July, I highlighted to Mrs Devine by email that the PICU HAI Scribe work purported to have been signed off by Dr Inkster but that this was not the case. I have provided the Inquiry with my email. Dr Inkster had left to go on holiday before the validation took place and Dr Valyraki had picked up that no such HAI Scribe had been signed off. This was the second time this had happened; they had previously said that Dr Inkster had signed off 4B when she had not.

206. On 16 July 2019, I was involved in the assessment of accommodation for a patient with chicken pox who was immuno-suppressed on 2C. The patient was being nursed in a negative pressure room that did not have a HEPA supply. They were then moved to a PPVL room without a HEPA supply. There was clearly confusion regarding correct placement and the PPVL room had a pressure of 20 pascals which was out of specification. I raised this with the Estates team and in particular, Darryl Conner. I have provided the Inquiry with my email dealing with this. This had been an ongoing problem since 2017 when I had again highlighted the need for an up to date patient placement policy.

207. Following a meeting on 16 July 2019 to discuss PICU ventilation, I sent an SBAR to Mrs Devine, Tom Steele and Dr Inkster in which I recommended 11 actions based on the information I was given. I have provided the Inquiry with a copy of my SBAR. I had been given a report from Correctair which covered the validation for the PICU. I used this report to assist me in compiling my SBAR. I do not now have a copy of that report from Correctair but the Board will have it. This was as a result of doing the work that was handed over to me by Dr Inkster and covering IPC.

208. It was clear that for 5 years the ventilation had not been properly assessed, despite the reassurances I had been given following the whistleblow. As part of step 2 of the whistleblow I met with Linda de Caestecker who had told me everything was now fixed or had been put on the Board's risk register. I had written back to her to say that I was satisfied and would stop my whistleblow at that point on the basis that the issues were resolved. I have provided the Inquiry with a copy of my letter. Dr Redding was not content and continued to step 3 of the whistleblow. My understanding is the reason for the rush to validate was that the Scottish Government had demanded to know what the air exchanges and pressure regimes were in light of the discoveries in Edinburgh. I can provide more information about the whistleblow process and my involvement in it if the Inquiry wishes to have it.

August 2019

IMT Meeting and Dr Inkster's Resignation

209. Dr Inkster asked me to attend an IMT for 6A on 14 August. It was standard practice in IMTs to invite a Microbiologist who covered the relevant unit. Kathleen Harvey-Wood and I attended.

210. The meeting was chaired by Dr Inkster and right at the start, Tom Steele challenged the minutes from the previous meeting stating that Jane Grant had asked

him to correct the minutes to state that the decision to move to 6A from 2A was not her decision, rather it had been the decision of the Chair of the IMT, i.e. Dr Inkster.

211. I knew the Executive Management had been fully involved in the decision to move and in my experience, an ICD cannot just move wards and whole services around without approval from management.

212. It appeared that there had been a pre-meeting as Tom Steele, Mrs Devine, Iain Kennedy and Chris Deighan seemed to be working off a script and plan. The atmosphere was very aggressive and unsupportive of the Chair. There was a discussion around the epidemiology and Chris Deighan insisted that there was no increase in bacteraemias overall. Kathleen Harvey-Wood and I attempted to explain that the key issue was not overall bacteraemias but the kind of environmental organisms that we were seeing. He said that we were "overreacting" and there was a very derogatory statement to the effect that we didn't understand epidemiology.

213. I recall a discussion about the chilled beams leaking. Tom Steele had said at a previous IMT that the chilled beams did not leak. This was part of the reason why Dr Inkster had invited me to the meeting as I had investigated the chilled beams and she wanted the group to hear from me.

214. I said that I had witnessed the leaks from the attachments to the chilled beams. Tom Steele said "*So you say*", implying that I was lying. I informed him directly that I had the photos and an SBAR that I had written on the day. The SBAR was sent to his team and was not challenged by them with regards to accuracy at the time. Tom then admitted that they were going round upgrading the attachments within the chilled beam system to prevent any more leaks.

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215. That afternoon, I contacted Laura Imrie at HPS about how Dr Inkster was being treated as a lead ICD in a hospital that was already facing scrutiny. I was very concerned that there was a clear and concerted effort to undermine her and to ensure

a formal record of there being no problem, and to ensure that previous decisions were attributed solely to Dr Inkster.

216. Laura asked me to put my concerns in writing and she forwarded it on an anonymous basis to the Board who immediately asked who it was that had contacted them. I have provided the Inquiry with a copy of this document. Laura asked me if she if she could disclose who had been in touch, and I said no.

217. In the aftermath of the IMT on 23 August 2019, Dr Inkster decided to resign from her lead ICD role. She copied me into an email to Dr Armstrong in which she cited the reasons for her resignation as lead ICD, including being undermined and her decisions being disregarded.

218. Dr Inkster and I compiled an SBAR regarding all our concerns about 6A and we recommended a reassessment of the Options Appraisal after discussion at a Consultant meeting. I ahave provided the Inquiry with a copy of the SBAR. All of the Consultants at the QEUH agreed with the contents of the SBAR and indicated via emails to me which I can provide if the Inquiry wishes to have them that the SBAR should be sent to Emilia Crighton. Our secretary, Mary Kennedy (Mackenzie) forwarded the SBAR onto Emilia.

Action Plan response to Whistleblowing

219. About the end of August 2019, Dr Inkster provided me with a copy of an SBAR action plan. I understood this SBAR to be a follow on from the action plan that Dr Inkster had sent Dr Redding, [redacted] and myself in 2018 which was apparently the Board's response to the 2017 Stage 1 whistle blow. It appeared that it had been updated in January 2019. I have provided the Inquiry with the SBAR action plan.

220. Dr Inkster informed me that the document was being sent out for comment to the Board Infection Control Committee. I was extremely disappointed with the document for a number of reasons which I set out in email to Dr Armstrong copying

in Dr Inkster and Linda de Caestecker on 30 August. I have provided the Inquiry with a copy of this email. I have not rehearsed my concerns here for the sake of brevity but they are detailed in the email. I can provide any further information or clarification which the Inquiry requires. I regarded the action plan as wholly inadequate.

September 2019

Meeting with Fiona McQueen

221. On 4 September 2019 Dr Inkster and I met with Fiona McQueen, then Chief Nursing Officer for Scotland. I had previously been in contact with Jeane Freeman, then Cabinet Secretary for Health, to detail my concerns. I have provided the Inquiry with a copy of my letter to Ms Freeman.

222. The meeting took place in St Andrew's House in Edinburgh. Dr Inkster and I were asked to wait in the waiting room and, while we were there, the Chief Nurse for the Board, Mags McGuire, came into the waiting room. We already suspected that the Board knew about our meeting because Mrs Devine had tried to insist on Dr Inkster's attendance at clashing meetings.

223. The meeting was attended by Dr Inkster and I, Ms Shepherd, Fiona McQueen and Jason Birch. Dr Inkster was able to describe the history and the current concerns that she had at that time. Ms McQueen appeared to listen and believe what she was being told. She expressed concerns about the situation and indicated that she would be taking action to try to remedy the situation although it was not clear what this would entail. She indicated that the Scottish Government shared concerns about the Board's infection control management as well as openly saying they knew the culture in the Board was toxic and what we were saying was not a surprise to them.

224. The meeting lasted a few hours and at the time it seemed like a good meeting. I considered this Dr Inkster's meeting but I did back up what she was saying. I felt we

had had the opportunity to directly inform the top person responsible for HAI in Scotland of our concerns and also how long these concerns had been going on for.

Meeting re Whistleblow to HPS

225. On 25 September 2019 I had a meeting with senior management in relation to my whistleblow to Laura Imrie at HPS. Linda de Caestecker had instigated an investigation under the whistleblowing policy and she had an HR director, Barbara Anne Nelson, give independent advice. I was invited to give my perspective.

226. Linda de Caestecker made it clear that she would be focusing on conduct and behaviours and not the actual infection control and estate issues. In my opinion the whistleblowing should have been investigated externally. Once again the Board's management chose to focus on "personality problems" rather than patient safety which is a classic deflection in whistle blowing cases. The process ended with a report by Linda de Caestecker which I felt was very biased and was so poor that we showed it to Fiona McQueen with whom we had a couple of meetings.

227. After Dr Inkster resigned no one was willing to take on ICD responsibility within the team. Management instigated a meeting on 25 September 2019 to try and resolve the problem posed by no one wanting to act as ICD and persuade/ pressurise someone to do it. The meeting was chaired by Robert Gardiner and was attended by Jonathan Best, Dr Green, Prof Leanord, Arwel Williams, Scott Davidson and Prof Jones along with Dr Khanna, Dr Inkster, [redacted], Dr Valyraki, Dr Khanna and myself. Dr Khanna took notes of the meeting.

228. The meeting was tense from the outset. There was unanimous Consultant Microbiology opinion that there were real risks posed by the built environment to patients, and that the working culture was so unacceptable that no one felt able to act as ICD. These issues were clearly relayed to the Chief Operating Officer, Jonathan Best. Notes of the meeting were circulated afterwards. I have provided the Inquiry with a copy of these notes.

Leaking tap in 6A

229. On 27th September 2019 when I was on-call I was contacted about a leaking tap in 6A. The tap was located in the kitchen where patient food was prepared and therefore potentially posed a significant risk. Estates had been alerted to this leak earlier in the day but I could tell from the nature of the markings on the wall that it was a longstanding leak. The longstanding nature of the leak was also confirmed to me by one of the cleaning staff when I attended.

230. I took swabs of the area, and Dr Inkster and I took pictures. I wrote an SBAR in which I stated that it was a longstanding leak. I also highlighted a dead leg. I have provided the Inquiry with a copy of the SBAR. A dead leg is significant because the water stagnates in that area of pipe and can cause *Legionella* and other organisms to grow. Dead legs are known to be a significant risk for *Legionella*. The dampness also posed a risk of mould which could have contributed to the positive air samples in the ward. Jane Grant agreed the terms of the information given to the families on the ward. I gave recommendations about how to manage the risks. This was the ward on which paediatric haematology/oncology patients were being accommodated.

October 2019

231. Communication from the IMTs to the clinical Microbiology teams was grossly inadequate. At no point did Prof Leanord or Prof Jones discuss the clinical Microbiology assessments or Dr Inkster's hypothesis with us, even though we continued to give clinical Microbiology and out of hours IPC advice.

232. I became aware through Dr Inkster that the minutes for an IMT that was held on 8 October 2019 had misrepresented Dr Inkster and myself. Dr Inkster copied me into an email in which she highlights this to the Chair, Emilia Creighton, specifically in relation to case definitions and the reasons for air sampling in the unit. I have

provided the Inquiry with a copy of this email. Dr Inkster also challenged Prof Leanord's use of the term "*pseudo-outbreak*".

November 2019

233. In November 2019 there was media coverage of information that had been shared with Anas Sarwar regarding the water being contaminated before the building opened. There was coverage of Ms Freeman asking anyone with information to come forward. As a result, Dr Inkster and I wrote to her in a joint letter containing a list of issues. I have provided the Inquiry with a copy of this letter.

234. At around this time GGCHB went onto special measures. I believe this was at least in part in response to Teresa and I raising concerns with Fiona McQueen and Jeane Freeman.

Second Meeting with Jeane Freeman

235. As a result of our emails to Ms Freeman, Dr Redding, Dr Inkster and I were invited to meet with Ms Freeman and Ms McQueen in person. Dr Redding and I attended on 5 December. Dr Inkster attended subsequently. The first meeting was with Ms McQueen, Ms Shepherd and Jason Birch. There was another lady there called Josephine who was part of the HAI Policy Group.

236. Once again we updated Ms McQueen about our concerns. At one point she said that she couldn't understand "*why GGC had not just offered the families 50 grand which is a trip to Disneyland, rather than deny that there had been harm caused*". I thought that that missed the point, which is that there was a safety hazard that had not been dealt with and just paying people off would neither fix the hazard nor the organisation's culture in dealing with it. I was appalled by the sentiment because we weren't there suggesting anyone should get compensation; we wanted the problem

to be solved. Once again she appeared to listen however at times she responded as though some of the things we said were news to her, this was not the case, as we had met with her before and told her.

237. After the meeting with Ms McQueen, Dr Redding and I went to the Parliament building to meet with Ms Freeman. She was generous with her time and allowed us to speak freely and certainly seemed keen to take action and resolve the problems in the Board. My impression was that she believed what she was being told and she thanked us for our perseverance. She stated that Dr Inkster and I would be absolutely key in taking matters forward in the Oversight Board. She wanted Dr Inkster and I to be involved at a high level in the Board however it was clear from Ms McQueen that the Board would not agree to this. I did not get the impression that Ms McQueen was keen either. I am aware that Prof Leanord and Ms McQueen had worked together closely for many years prior to this and on reflection I do not think she was supportive of our positions.

December 2019

238. On 11 December 2019 I became aware of a Q & A document which I saw on the Board's website entitled *"Response to questions around Ward 6A, QEUH*". This document contained numerous inaccuracies and had not been discussed with Dr Inkster who had been the lead ICD and key Microbiology water expert in the hospital. I have provided the Inquiry with a copy of this document.

239. I had six major areas of concerns about the Q&A document which I detailed in an email I sent to the Scottish Government. I have provided the Inquiry with a copy of my email. The Q&A document is still on the Board's website and is still inaccurate.

240. On 30 December 2019 I wrote to Ms Shepherd and Ms Bain to highlight my concerns about *Pseudomonas* bacteraemia rates in the RHC. I have provided the Inquiry with a copy of my email. There had been a recent cluster of three fatal cases across the site (including one death of a child). I found that prior to this outbreak there

had only been 8 *Pseudomonas* bacteraemias in the 4.5 years that the hospital had been open by that point, including an additional death in NICU. There had also been 5 *Serratia* cases in the PICU and there was an overall increase in gram negative infections on that unit. Some of these cases had been designated as not being healthcare acquired infections, and I assessed that this was not correct. I was concerned that the lessons from ward 6A were not being learned, and we were seeing increasing patterns of infections which were not being properly investigated because they were being wrongly designated as being "community" rather than "healthcare" acquired.

January 2020

241. On 6 January 2020 Ms Shepherd responded to my email of 30 December 2019. I have provided the Inquiry with a copy of her email. She stated that the Board were disputing my query about whether the recent infections had been community or healthcare acquired. In particular, she said that the child in question already had chest x-ray changes on admission. Dr Inkster checked this and confirmed that the child had a normal chest x-ray on admission and the changes only developed post operatively. Once again I felt that the culture continued to be one of resistance to acknowledging any possible infection control concerns, and that I was being cast as a trouble maker for raising what I still believe were well founded points. The child could not plausibly be said to have a community acquired infection when they had been in hospital throughout and had a clear chest x-ray when they arrived, but when I tried to point this out I met constant resistance.

242. I wrote a further email to Ms Shepherd (a copy of which I have provided to the Inquiry), highlighting all of my concerns and specifically raising issues relating to the public statements made in the press by the Board about the *Stenotrophomonas* cases. Ms Freeman had told me that I should raise concerns directly with Ms Shepherd rather than internally until things were sorted out. The Board had said that it took six week to develop a test. This was not correct. They claimed that 100 tests had been done

which was also not correct. In addition, the Board said that different strains had been isolated which implied that there was no link between the infections. This was not relevant because the working hypothesis was not that there was person to person transmission of the infection. Again, the culture was of a lack of transparency in relation to infection issues and a resistance in acknowledging that concerns might be valid.

Meeting with Ms Bain on 9 January 2020

243. Dr Inkster and I were invited to a meeting with Ms Bain on 9 January 2020. We prepared a powerpoint presentation (a copy of which I have provided) which detailed the history of all of our concerns and we had a file of printed documents to discuss. We distributed copies of the file to those at the meeting; I have provided the Inquiry with a copy of the file of papers. We specifically told Ms Bain that we felt that we were being bullied for trying to secure patient safety. As a follow up to that meeting I highlighted to Ms Bain that I was still waiting for an update from Linda de Caestecker regarding the HPS whistleblow. At this point we were having weekly meetings with her and hoping she would assist with resolving the problems. Ms Bain was not trained in infection control. Over time it became clear that she was not going to be able to tackle the problems. On reflection I suspect she was really just tasked with trying to manage Dr Inkster and I rather than actually fix anything. Of additional relevance is that Ms Bain had a number of meetings with Dr Fraser while he was supposed to be conducting an independent review. Given she was now working so closely with the IPCT, I believe this compromised the independence of the review.

244. On 15 January as a follow up to these discussions with Ms Bain, Dr Inkster raised by email the governance in relation to the Cryptococcus Advisory Group. She was aware that parts of the report had been discussed at Board meetings and submitted to HSE. She pointed out that the group was not independent as several members of the IMT sat on the group although she had been excluded.

245. On 20 January the Board issued a statement about the Cryptococcus Advisory Group's conclusion. I had a number of significant concerns about the statement which I detailed in an email sent to Ms Bain. I have provided the Inquiry with a copy of my email. I have not repeated the concerns here for the sake of brevity. I can provide any further information which the Inquiry wishes to have.

COVID-19

246. At around this time reports were starting to emerge from China of a possible new viral infection in circulation in the community. I did not think that we would be well equipped to cope with a local outbreak and this only added to my concerns.

Other concerns in January 2020

247. In mid-January 2020 we were advised of a gentamicin resistant ESBL organism causing infection in NICU babies in Edinburgh. I asked for screening to be instigated and I was basically told they were aware and so to keep out of it with no explanation of what if any steps would be taken to make sure we didn't end up with a similar outbreak. Babies are transferred between Edinburgh and Glasgow relatively regularly because we offer ECMO which is not available in the NICU in Edinburgh and because of capacity issues. There is a risk of infection in Edinburgh being transferred to our unit and vice versa.

248. At around the same time, PICU saw a cluster of *Acinetobacter* cases. Type matching was sent to IPC. I remained concerned that the organisational view was that these types of infections were inevitable in vulnerable patient cohorts and the infection control team was simply resigned to the infections occurring with no appetite for trying to proactively reduce the risk of infection.

Concerns about patient placement

249. In mid-January 2020 I became aware that ID Consultants were raising concerns about where patients could be safely placed. The policy was that it was for clinicians to decide on patient placement, but the Microbiologists were being asked for advice by treating clinicians who were concerned. I recall getting a call at 3am when I was not on call from Dr Wright who was being asked by the ID Consultants about where to put an infectious patient safely. On 14 January 2020 there was an exchange of emails about this which involved Prof Leanord. I have provided the Inquiry with a copy of the correspondence. There was a further exchange of emails on 15 January 2020 (a copy of which I have provided). I felt that the patient placement policy was still inadequate, despite me having raised concerns about it over many years, including recently following a chicken pox case in RHC in September 2019. Given the increasing risks of a future pandemic which were emerging at this time, I felt this was an urgent problem.

250. Concerns about patient placement persisted during January 2020. On 24 January 2020 I became aware of an immunosuppressed lymphoma patient who had been in a negative pressure room in the ITU for several day when they should have been isolated in a PPVL room. In addition, not all of the ITU rooms were HEPA filtered. When I tried to look into this, I discovered that the on call Microbiologists had not been informed of numerous concerns raised by treating clinicians about patient placement, particularly in light of the developing concerns about coronavirus. I wrote an SBAR (a copy which I have provided), summarising my concerns about this. At this point I was aware of recent or ongoing issues relating to the placement of patients with both HIV and TB.

251. On 31 January 2020 Prof Leanord circulated a patient placement policy by email, which included provision on coronavirus, and stated that ID Consultants would be responsible for patient placement. I responded by email (a copy of which I have provided) raising a number of concerns about the policy, including suggesting that there would need to be a walkaround to check that the ventilation pressure of the rooms was functioning as intended. I believed they were not and that there were only four proper functioning negative pressure rooms in the hospital at that point. I also highlighted that there was a lack of clear understanding amongst clinicians working in

the QEUH about the ventilation properties of the various rooms. I asked if the AECON report which the Board had commissioned could be used to inform patient placement and was told that it could not, until it was placed in the public domain. I thought it was very surprising that a report paid for by the Board on this issue was not going to be used to inform these important decisions.

Environmental screening results

252. On around 10 January 2020 Fiona Reynolds, Laboratory Operations Manager, sent me a set of results from environmental swabs which had been taken from 6A. Fiona sent them to me directly because she noted that I had been excluded from the communications about these results (which included detection of *Cupriavidis* and other environmental gram negatives). I have provided the Inquiry with her email. Normal practice would have been to include me in all of this communication because I was the Clinical Lead at QEUH. I advised the oversight team of these results. They advised me that they had not been made aware of the results by the Board. The set up felt farcical, and I had decreasing confidence in the ability of government set up oversight to have any impact on the core ethos.

253. On 13 January 2020 I told Ms Bain and Ms Shepherd about concerns with isolation rooms on 4B which clinicians on the ward had told me about, but which had not been relayed to me via the normal IPC channels, despite me being the Clinical Lead for the QEUH. Ms Shepherd indicated that they would take this forward and said she was also aware of other issues in 4B including a blocked toilet and a problem with the heating in one of the rooms, neither of which I had been told about.

254. On 20 January 2020 I was asked to give feedback on an environmental sampling policy prepared by Prof Leanord. I gave feedback (a copy of which I have provided) on the policy which in my view was not fit for purpose.

Instigation of the Case Note Review

255. Around 26 January 2020 I became aware that Jeane Freeman was going to commission a Case Note Review. On 7 February 2020 I was asked by Shona Cairns at HPS to provide a list of patients who should be externally reviewed as part of this exercise. These patients were to include those with environmental organisms that had caused infection in the paediatric haematology/oncology cohort. I had some correspondence with Shona Cairns and Ms Shepherd regarding cases. I identified over 100 cases and they ended up looking at 84 of them. I am not sure how the final decisions were made on which patient cases were to be investigated. I recommended that they look at fungi, gram positives, mycobacteria, and gram negatives in order to have a complete picture. I looked at the available laboratory data with Kathleen Harvey Wood including post mortem samples. I suggested that they look at PICU cases as I thought some of the post-mortem results suggested that HAI caused by environmental organisms might have played a role.

256. On 28 January 2020 I became aware that a positive *Stenotrophomonas* case had been identified which matched with another infection from 2018. It is very unusual to get *Stenotrophomonas* types that match because it is such a genetically diverse organism. Therefore matching indicates the strong possibility of a common source which warrants investigation because of the possibility of continued patient exposures to an environmental source. The most likely explanation would be infection from a common water source with biofilm lingering within an extensive water system given the knowledge at that time.

Relationship with Oversight Board

257. Dr Inkster and I were never given the opportunity to interact with the whole of the Oversight Board and it was very clear that the Board would not allow us to have a role in contributing to the way forward in infection control. During meetings with Ms Bain, I recall Dr Inkster raising issues with inaccuracies in Board papers such as the reasons for upgrading the ventilation in Ward 2A.

258. The Oversight Board was meant to be a strategy to incorporate our expertise into the structure of infection control. It failed to deliver that. We were relying on Ms Bain to pass on our concerns about the science when she had no Microbiology qualifications or experience. We had been told by Ms Freeman, Ms McQueen, and Ms Shepherd that we would be part of the Oversight Board. It became clear that the Board did not want that to happen, and the result was that the only involvement we had was via the conduit of discussion with Ms Bain.

Report of Keith Morris

259. On 31 January 2020 I received an email from Dr Keith Morris who had written a report for the Scottish Government HAI policy group. Dr Morris had met with us and he wrote a report which outlined concerns he had about infection control. There was no follow up or action following on from his report, and we heard nothing further from him or about the report. In Dr Morris' report (a copy of which I have provided to the Inquiry), he observed the following:

> "There needs to be a complete overhaul of the IPCT structure and the roles and responsibilities of the microbiologists who provide infection control advice." (at p. 3)

> "The toxic nature of microbiology in GGC has led to individuals being appointed to roles in which they may not be comfortable. The number and severity of infection control incidents has resulted in the advice of the most experienced ICDs to be ignored because the truth is inconvenient. In such an environment there is a risk bullying, mysogeny *(sic)* and nepotism could take place." (at p. 2)

February 2020

260. On 14 February 2020 I was advised that there was a case of *Pseudomonas putida* on PICU with a possible link to a leak from the toilet area of the floor above. The leak had occurred in room 17 where the patient had been.

261. On 17 February 2020 Ms Bain made a number of recommendations as a result of advice we had provided to her. She focused on patient placement policy which everybody recognised was a serious problem by that point. She did not deal substantively with any of the other issues we had raised. I can provide a bundle of correspondence summarising our dealings with Ms Bain if the Inquiry wishes to have it.

262. On 18 February there was a leak into the ceiling of Room 44 (ICU) which was one of the negative pressure isolation rooms designated for the care of any patients admitted with coronavirus. The room was therefore clearly not fit for purpose.

263. On 21 February 2020 an interim patient placement policy was circulated. I have provided the Inquiry with a copy of the policy. At this point 5 rooms were awaiting revalidation but I believe they were still being used.

264. On 24 February 2020 I sent an SBAR regarding the PICU situation (a copy of which I have provided) to Laura Imrie, Ms Bain, and Prof Leanord, also attaching my SBAR from 2019 re ventilation which I have also provided making 12 recommendations. Laura Imrie had asked me to prepare the SBAR. Despite the hospital having been open for five years by this point there were still significant ongoing problems in the PICU with ventilation, repeated leaks, and concerning epidemiology and typing results. The Board had dismissed all of my concerns and therefore missed opportunities for remedying the situation and learning from it.

265. On 25 February 2020 I sent a letter to Ms Bain highlighting a number of concerns including inaccuracies in the Board papers. I have provided the Inquiry with a copy of the letter.

266. On 27 February 2020 I received a letter from Ms Freeman (a copy of which I have provided) indicating that she was pleased to hear that we were working with Ms

Bain and that she looked forward to meeting us when she visited RHC. In fact this visit never happened as a result of the subsequent pandemic.

Plant Room Photographs

267. On 20 February 2020 Dr Hood forwarded to Dr Inkster photographs that we had never seen before of the plant room. These pictures demonstrated extensive guano contamination, dead pigeons and what looked like an attempt to spray the guano affected area.

268. These photos were sent to Dr Hood by Darryl Conner and I was shocked that they had not previously been shared, particularly with Dr Inkster as chair of the IMT or with me when I was investigating the plant room hypothesis. The level of contamination is completely unacceptable. I have provided the Inquiry with the photographs I am referring to. In my view these photographs support the reasonableness of the hypothesis that the *Cryptococcus* cases were probably caused by pigeon guano in the plant room.

269. On 28 February 2020 Dr Inkster and I sent a detailed email to Ms Bain summarising where things were at that point in time and pulling together our ongoing concerns. I have provided the Inquiry with this email.

Coronavirus/[redacted]

270. On 12 February 2020 I circulated a document following a series of emails with Dr Bell which deal with the "Current Knowledge Thus Far" relating to the threat posed by a coronavirus pandemic at that point. As a hospital with 100% single rooms, we should have been able to minimise nosocomial coronavirus infections within the hospital but the subsequent data suggested that in fact there was a lot of transmission within the building. I suspect that was related to the ventilation and a lack of clarity about where to put which patients. [redacted] is an example of a patient who is likely

to have caught coronavirus whilst [redacted] was an inpatient at QEUH and who subsequently died. The Board were slow to implement staff screening on the high risk wards.

271. Around about this time the problem of not being sure about the suitability of various isolation rooms at the QEUH became extremely problematic. The ID Consultant was meeting with colleagues from Estates and having to re-ask questions which I had been asking for years in order to develop a safe pathway for COVID admissions. I offered to go to wards and look at rooms given my knowledge base but Marion Bain told me in front of Dr Inkster that GGC management did not want my input.

March 2020

272. By early March 2020 we had started to receive coronavirus patients but mask testing for staff had not taken place, and there was no clarity on suitability of rooms for accommodating these patients. There was still water ingress in room 44.

273. On 3 March 2020 I wrote to Ms Wallace (who had been appointed to assist/take over from Ms Bain) to highlight that there were no POC filters on the taps in the ITU, and that there was an ongoing leak in room 44. Ms Wallace is a nurse who informed us she had no formal infection control training who had previously worked in Forth Valley. On 6 March 2020 I wrote to her about my ongoing fungal concerns relating to Ward 4C (cases had been reported that day).

274. Jenny Copland had prepared a document logging all of our input. Ms McQueen had informed us of the appointment of two psychologists to work with our team to do organisational development work. Jenny was one of the two psychologists. The emphasis was very much on personality issues and working culture and not on actually dealing with any substantive problems. We thought that the Oersight Board was going to deal with the substantive problems but that proved not to be the case. I was asked to spend a large amount of time with Jenny. I did this and I persuaded all of my team

to take part too; there obviously was a problem with culture which I had repeatedly raised myself and I thought we should enter into the exercise in good faith.

275. In fact none of the issues we were actually trying to resolve were resolved as part of this exercise. I thought Jenny was an external appointment but actually she had been appointed by Jane Grant. I asked for evidence of what was presented to Jane Grant or what Jenny's conclusions were but I was told there was none available. Jenny told me it had all been deleted. We instead had individual feedback on the findings of the work and I recall a major finding was that colleagues considered whistleblowing to be "unprofessional". I think this view still prevails. There was no attempt to validate any opinion other than triangulation, and it ended up being a record of opinions rather than seeking to adjudicate on the safety issues. I believe it was an entirely misguided use of time and money in retrospect.

276. During this time we had also finished giving evidence to the Independent Review (Drs Fraser and Montgomery) which had been a very unsatisfactory process as none of the experts had interacted with us at all and the questioning focused on our supposed lack of credibility. Inaccurate minutes of my evidence were taken. I felt that it was a whitewash. In July 2020, Dr Inkster and I took several steps to try to respond to the Independent Review. These are discussed below.

April 2020

277. On 16 April 2020 I was advised of *Enterobacter sp.* cases on the ITU. I was covering that unit for two weeks at the time. I asked for updates on the outbreak and I was not given them. Throughout April 2020 and into May 2020 there were ongoing issues with this outbreak, with a reluctance by some of my colleagues to accept that these infections were, or might be, HAIs.

278. On 24 April 2020 I sent a detailed email to Ms Bain setting out my concerns at that time and highlighting the ongoing issues. I have provided the Inquiry with a copy of this email.

279. On [redacted] 2020 I became aware that a child on PICU had died of a healthcare acquired *Serratia* and that Dr Inkster was concerned about a lack of candour arising from inferences that the infection was not linked to the hospital.

May 2020

280. A plan was instigated to have weekly buzz meetings (this followed discussion with Jenny Copeland and Ms Wallace). The meetings would involve infection control and Microbiology. The Microbiologists recognised that we needed a way to escalate concerns and have them listened to and acted upon and taken seriously internally so that we could raise concerns without having to take the very unusual step of dealing directly with government. We wanted to improve the relationships between clinical Microbiology, virology, estates and infection control. We were initially told Dr Inkster would go to the meeting but then I was told in fact I would go as clinical lead to bring the Microbiology perspective. Jenny attended the first meetings as an observer. I left the first meeting in tears. I was the only Microbiologist from QEUH at the meetings. Rob Gardiner chaired the meetings. Ms Wallace sometimes attended. This was meant to be the forum for me to raise issues on behalf of all of my Microbiology colleagues in a safe space; observed by a psychologist, who would debrief after the meetings. The meetings were extremely difficult. Prof Leanord would literally laugh at me whenever I tried to speak. On one occasion Jenny actually pulled him up on this and on talking over me in the meeting which was awkward. They did not achieve the desired outcome as I was always in the position of a minority view and the only representative on the QEUH team. No minutes were taken.

281. On [redacted] 2020 I became aware that a patient had died of *Acinetobacter* in the PICU. The clinicians had reported this to the PF as an HAI but it had been

reclassified as not being an HAI even though there was a typing match. Again, I felt there was a clear candour issue. Even if the cause of death was different, this does not mean it was not an HAI.

282. On 19 May 2020 Ms Wallace asked me for a summary of the current issues/concerns which I provided along with a list of historical issues which were of current relevance at the time. I have provided the Inquiry with my response.

283. As mentioned above, Dr Redding continued to step 3 of the whistleblow. I did not do so. However, I was given the opportunity to comment on the report which was produced in response to the step 3. I have provided these comments to the Inquiry. Once again I was unimpressed with the process and the lack of understanding of the facts surrounding the building and its consequences. I was dismayed to see in writing a misrepresentation of the whistleblow to HPS. It seemed to me to be a clear attempt at narrative building once again. I wrote my response to Jennifer Haynes on 22 May 2020.

June 2020

284. On 2 June 2020 I emailed Ms Wallace to point out that the ongoing *Enterobactor* outbreak in the ITU was inaccurately described in Board papers as involving 2 patients when in fact 3 patients had died and one was very unwell. I have provided the Inquiry with my email to Ms Wallace.

285. By this point I felt I had exhausted every possible avenue through which I could raise concerns relating to patient safety and I remained convinced of ongoing risks to patients, and the inability of the Board's IPC team to react appropriately so when I was approached by Lisa Summers from the BBC about doing a Disclosure programme on the QEUH, I agreed to do so, having first taken advice from the BMA. Dr Inkster and Dr Redding also took part in this programme. The Disclosure programme aired in June

2020, following which the parents had meetings with Ms Freeman and she agreed to set up a this Inquiry.

July 2020

286. On 3 July 2020 I wrote to Ms Wallace to advise that there was an inaccuracy in the IMT minutes about a new haematology/oncology *Cryptococcus* case in paediatrics. I have provided the Inquiry with this email. This was an important case because it was not being properly investigated as a healthcare acquired infection. So far as I am aware it has not appeared in any reports.

287. Following the publication of the Independent Review, Dr Inkster and I prepared a response which we sent to the Chairs of the Independent Review in which we explained why we thought the report was wholly inadequate. In summary, we advised that: (i) the review had exceeded its remit by making conclusions on bullying and culture (including sexism). The fact that the report covered these areas was of concern because we had not provided evidence about them because we thought this was outwith the scope of the review; (ii) the pool of people spoken to was concerning. Specifically, the experts had spoken to Microbiologists but had not spoken to myself, Dr Inkster or Dr Redding. The review had also not spoken to key colleagues including [redacted] and Mrs Harvey Wood; and (iii) the report contained clear errors of fact. I have provided a copy of this response dated 2 July 2020 to the Inquiry. The "extensive commentary" on the findings of the Independent Review totalling 33 pages which is referred to in our letter can be provided to the Inquiry if it would assist.

288. In addition, Dr Inkster and I contacted Jeanne Freeman by letter dated 30 July 2020 to alert her to our ongoing concerns including in the relation to the Independent Review. In this letter, we advised that our primary concern was that Dr Inkster and I were not afforded a right to reply as others were. I have provided a copy of this letter and the email enclosure (email chain titled "Responses to Parents Question 6A" dated 11 to 18 December 2019) to the Inquiry.

August 2020

Further paediatric Cryptococcus case

289. In August 2020 there was discussion re the further case of *Cryptococcus* in a paediatric oncology patient that was identified from an antigen test (this is the same case I referred to in my email of 3 July 2020 – see above). Prof Leanord chaired an IMT during which the clinical Microbiology view was that this was a case that needed investigation, but the IMT proposed that this was a false positive result.

290. I had a discussion with Dr Sastry who was the clinician in charge and he indicated that he had been told by Jennifer Rogers to tell the parents that this was a false positive case and that this was not *Cryptococcus*. Three other doctors witnessed him tell me this. Dr Sastry refused to do this and instead informed the parents that the child had *Cryptococcus* and would be treated as such. The child was treated early and recovered. I can provide the patient's details if the Inquiry wishes to have it. As far as I am aware ARHAI were told this was a false positive. It was for Dr Sastry and I to decide whether this was a false positive or not; after discussion with the lab in Bristol we agreed it was not a false positive and we treated it accordingly to good effect.

September 2020

291. On 1 September 2020 a "buzz" meeting took place. Amongst the concerns raised were a case of *Cryptococcus* in Ward 6A, an *Aspergillus* infection in a mediastinal wound in cardiothoracic surgery, and concerns about ciprofloxacin prophylaxis in Ward 6A patients. Prof Gibson had queried its use. We had been informed TauroLock solution was being used in lines instead.

292. On 6 September 2020 I emailed Ms Wallace again to inform her that there was pressure put on a clinician to change the diagnosis when speaking to the parents. There was a lack of dialogue with infection control and Microbiology. I have provided the Inquiry with this email.

293. Information regarding infection risks was given to parents via a Board Facebook page update without any discussion with Microbiology. The update stated that *Cryptococcus* had been isolated on a ward but that there were no cases. I was told that the parents of the child were upset because they had now been informed that their child was being treated for this infection.

294. There had been no discussion about the relevancy of this case in the context of the previous paediatric case ([redacted]). This is a very rare diagnosis to make and having two separate cases is highly unusual and very concerning.

295. We discussed this case in our weekly complex case discussion group and we identified that there were further cases of *Cryptococcus* in adults. Looking back at the cases I noticed that in 5 out of 6 cases there was an epidemiology link to the QEUH. At this meeting a colleague stated that a relative of one of the cases who was treated in another hospital had pointed out that the patient had been in the QEUH previously. I forwarded this information to Dr Hood on 23 September. I have provided the Inquiry with my email.

296. On 7 September 2020 I was made aware of very high TVC counts in water testing. Microbiology had not been informed. I had email correspondence with Phil Raines which included highlighting the ongoing need for POC filters on the taps. I have provided the Inquiry with my email to Phil.

297. On 18 September 2020 I emailed Ms Wallace raising a number of serious issues which were ongoing at the time to highlight to her the inadequacy of the Friday reports as a means of keeping Microbiology informed. I have provided the Inquiry with my email. The Friday reports were weekly updates for the Microbiology and infection

control teams intended to keep everyone updated. They were particularly important as handovers for the on call Microbiologists at the weekend who are not ICDs and therefore may not be in the loop.

298. Dr Inkster and Dr Hood were both involved in meetings with the family of [redacted] at the end of September 2020. Dr Inkster copied me into an email on 1 October 2020 addressed to Dr Hood, copied into Ms Wallace, in which she raised eight serious concerns regarding information shared with the family of [redacted] at the meeting she attended. I have provided the Inquiry with a copy of the email. The concerns are not reproduced here for the sake of brevity.

299. I followed this up with an email response (a copy of which I have provided to the Inquiry) in which I pointed out a number of serious concerns arising.

300. On 23 September 2020 I was told by Dr Inkster that gentamicin resistant MSSA had been isolated and there was a lack of information sharing by IPC about these cases. An outbreak of this infection subsequently developed.

October 2020

301. On 5 October 2020 I was informed of two cases of *Stenotrophomonas* in haematology oncology patients with line related sepsis. There had been a recent case of *Burkholderia sp.* and other gram negatives and I asked if interventional radiology had been checked for possible environmental source of infection. My understanding is that this was not done. I was told they were looking at vascular access teams, which was not what I was suggesting should happen.

302. On 9 October 2020 I received an SBAR from Ms Wallace (a copy of which I have provided) about an *Aspergillus* case in PICU. There was leak in the room. The SBAR concluded that mould from the leak area could not have caused the patient's infection. This was wrong in my view. I responded with a list of actions I would expect to be

taken given that there was a leak and a known case of *Aspergillus* in a high risk unit. I ahave provided the Inquiry with my response. I was aware from Kathleen Harvey Wood that there were ventilation works ongoing in PICU at this time but was given no information on what was being done or why.

[redacted]

303. I am aware that [redacted] was admitted to Ward 4B in the QEUH in October 2020 to undergo an allogenic stem cell transplant (SCT). I was involved in giving Clinical Microbiology advice in relation to [redacted] case as part of my routine rota work at QEUH covering the Critical Care Unit along with other Consultant Microbiology colleagues. I have been asked to comment on [redacted] case.

304. The Telepath entries from October to December 2020 for [redacted] show that a number of Microbiologists gave advice about treating for Aspergillosis following discussion with the clinical teams. There was a consistent view that we were treating a probable Aspergillosis infection post-SCT and COVID pneumonia.

December 2020

305. Sadly, [redacted] died on [redacted]. I was doing the ward round on ITU on the day that [redacted] death was to be reported to the Procurator Fiscal by a Critical Care Consultant. I mentioned to [redacted] that I would let the IPCT know about this as we had been worried about [redacted] being a case of HAI COVID in our team discussions. I felt it was appropriate to let the ICD, Dr Valyraki, know about [redacted] death. I immediately sent an email to Dr Valyraki informing her of the death. I have provided a copy of this email to the Inquiry.

306. In terms of [redacted] being a case of HAI COVID, I am aware that [redacted] tested negative on admission to hospital but became positive for COVID on day 8. According to the national definitions of COVID HAIs, [redacted] was a "probable" HAI case.

However, given [redacted] immune suppressed state and the fact that the majority of cases are positive by day 8 post-exposure, it seemed likely to me that [redacted] had acquired COVID in hospital. I was also aware from Dr Inkster that there were concerns at the time of staff on Ward 4B being infected. As I recall, no respiratory protective masks were being worn at the time by staff, although this was in keeping with national guidance this was a high risk setting and in my view should have been in place.

307. In terms of [redacted] possible exposure, risk of transmission to [redacted] from asymptomatic staff is plausible. Staff testing had been discussed at the "Buzz meetings" with Virology and IPC but it was not clear to me that there was any different or special policy following risk assessment for the BMT unit staff in relation to the frequency of testing or how early in the pandemic it had been implemented. I understand that Dr Inkster received emails in which BMT unit staff raised concerns about IPC for protecting their patients from COVID as she was the BMT Microbiologist at the time. I would expect all this to be recorded in IPC documentation that I have not seen.

308. It is also possible that [redacted] could have acquired COVID before [redacted] admission to the QEUH, with a longer incubation time. Whole genome sequencing information would be helpful in differentiating this to a higher degree of certainty, as well as any epidemiological information regarding positive contacts in previous hospital settings. However, as staff cases were not being systematically considered in IPC outbreak analysis to my knowledge, it would be difficult to reach definitive conclusions regarding a source of [redacted] infection unless they were sequenced and analysed in this context. Again, I have no information about whether [redacted] specific whole genome sequencing result was analysed with regard to relatedness to cases on the ward, in the QEUH or in Edinburgh.

309. [redacted] was also treated for Aspergillosis based on imaging changes in [redacted] chest, failure to respond to broad spectrum antibiotics and a high bio marker – an antigen positive result with a negative baseline level. The decision to treat for Aspergillosis was agreed by several Microbiologists, the Critical Care consultants and Haematology Consultants. At the time, there was a growing awareness of the increase in risks of fungal infections in COVID patients but, irrespective of this, [redacted] was in a high

risk category due to being a SCT patient. [redacted] met the criteria of the European Organisation for Research and Treatment of Cancer (EORTC) for probable invasive *Apergillus* infection based on being in a high risk category (even without the additional risk of COVID), the imaging changes (which were in keeping with invasive aspergillus) and a high level of aspergillus antigen in [redacted] blood. I had no reason to question [redacted] clinical care at all.

310. On reading [redacted] statement to this Inquiry I am now aware that [redacted] had many concerns and interactions with GGC regarding [redacted] placement in multiple rooms, COVID being hospital acquired, and the diagnosis of Aspergilliosis. I was not aware of any of this at the time. My next involvement in this case was in November 2021 which I discuss below.

January 2021

Further cases

311. I continued to have concerns regarding the attitude of Infection Control to investigating hospital acquired infections. The conversations at the Consultant meetings were far from reassuring, for example there was a child with a mould growth on a post mortem sample and initial assessments were that it was either a contaminate, not the cause of death or that the patient definitely caught it somewhere else. A full investigation would have been needed to be able to make these conclusions. I am unaware how that investigation concluded but it was the initial reactions that continued to illustrate a lack of learning.

February 2021

312. On 19 February 2021 I emailed Phil Raines about all of the issues at the QEUH. I have provided the Inquiry with a copy of my email. I had read the draft report of the Oversight Board and had significant concerns about gaps in the report, in particular

because it failed to mention that we had raised issues repeatedly in writing since 2015. The suggestion was that the whistleblowing in 2017 was the first time senior management were made aware of the issues. I did not understand why he had ignored the documents that we had submitted which made it clear that we had raised concerns far earlier. The report was opaque about the process around the decision making of moving 2A to 6A, specifically relating to the involvement of senior management.

313. During this time the Case Note Review was also ongoing. I had mentioned to Phil Raines that neither Dr Inkster nor I had been contacted by the Case Note Review and I found this to be surprising given that I had submitted over 100 CHI's to them and had been told by Ms Freeman and Ms McQueen that we would be involved in the Case Note Review assessment of the cases.

May 2021

314. In May 2021 the Chair of the Case Note Review Professor Mike Stevens contacted Dr Inkster and I to arrange a meeting. The meeting lasted about an hour and a half. Those present were Professor Stevens, Professor Willcox (who was only there for half an hour), Linda Dempster (who is now appointed as an expert to the Inquiry) and Gaynor Evans. It was clear that they were unaware of much of the evidence we had and we did not discuss specific patients in detail.

315. Both the Oversight Board report and the Case Note Review were made public in June 2021 just before the designated period of time before an election which relates to communication sensitivities. I found this to be carefully timed to minimise the risk of us making public statements as we had done after the Independent Review Report came out. I was very conscious that the QEUH problems were easily seized upon by differing political ideologies and I didn't think it would be helpful at that time to make any public statements even though I still had concerns regarding the process and conclusions.

316. Following this, Dr Inkster and I had a meeting with the new Chief Nursing Officer, Amanda Croft. During this we reiterated that our concerns remained. The meeting took place very shortly before publication; the reports must have been largely completed already at that point. I have provided the Inquiry with a copy of my emails seeking involvement in this exercise.

November 2021

317. On 17 November 2021, I was contacted by Dr Aleks Marek, the ICD Lead for Environment. She said that she had been asked to provide information regarding press queries on the [redacted] case and she recalled that I had discussed the case at Buzz meetings. I followed up the call with an email providing the information that I felt was relevant. I have provided a copy of this email.

318. On 18 November 2021, there was some publicity about [redacted] concerns. I wrote to Angela Wallace, as lead for IPC at the time, to highlight the information I had about the case. I have provided the Inquiry a copy of this email. I also mentioned in this email that concerns had been raised about *Aspergillus* cases including a case concerning a child who had been on Ward 4B. I wanted to ensure that this information was not lost or forgotten when the Board responded to the concerns [redacted] had discussed in the press. Specifically, in this email I included the CHI number of the child who had acquired *Aspergillus* on Ward 4B and advised that Aspergillosis had been on the death certificate as a contributing cause.

319. Given the foregoing, I was astonished to read in [redacted] statement that Nicola Sturgeon had told her there was no such case. As a result of reading [redacted] statement, I looked up the case again, but the death certificate is no longer available on the portal. However, my opinion still stands that this case at the time was considered likely to be a Ward 4B acquired Aspergillosis and that this was a

contributory factor in the sad clinical decline of the patient along with underlying disease progression.

320. I am unaware, as Clinical lead for Microbiology at the time of the case, of any reassessment of the paediatric *Aspergillus* case or of the cause of death on the death certificate. No one in GGC or externally has ever approached me to clarify which patient I was referring to in the emails obtained by [redacted] under a Freedom of Information request, or to advise me that there had been a change in clinical opinion on the case. I would have expected the South Microbiology team to be involved in any reappraisal of the case as good practice in communication, peer review and learning. It is possible that alternative and entirely valid views have been presented on the case. If so, this should be done transparently, candidly and with all teams involved.

321. There was a much publicised HIS assessment of *Aspergillus* in QEUH after Nicola Sturgeon intimated a reassurance exercise on the back of [redacted] complaints. I had no involvement or interactions with the inspectors in relation to this assessment, and there was absolutely no communication internally from the IPCT regarding the scope or information shared with the inspectors. I was appalled by the quality of the report issued on 1 December 2022 and wrote a response to it which I shared with another external agency, the Scottish Public Services Ombudsman. In my opinion, the report seemed to have missed both cases on Ward 4B in 2020, and offered no evidence of a careful review as to why they would be excluded. A copy of my response has been provided to the Inquiry.

322. I also repeatedly asked for clarification of the information and HIS process at the local Microbiology Consultant meetings. It eventually transpired that the ICD, Dr Bal, had been involved in the HIS visit. My concerns about the data and the process were not entertained, despite other colleagues also expressing agreement (see copies the minutes of Consultant Meetings).

323. Despite my role as Clinical Lead and my prior involvement in [redacted] case, it was only from conversations with Critical Care consultants in April 2022 that I

became aware that [redacted] case had been internally and externally reviewed. As a result, I wrote to my Head of Service, Dr Mairi MacLeod, to ask about this. She told me she was not aware of any review. I have provided the Inquiry with a copy of my email to Dr MacLeod. However, I was later shown (but not sent a copy of) a document in which my colleague in the North Glasgow team, Dr Laura Cottom, had in fact reviewed the case and given an opinion which undermined the diagnosis of *Aspergillus*. This was not discussed with the team of Microbiologists advising the ITU consultants and Haematologists at the QEUH. I again wrote to highlight this to the Head of Service. I did not agree entirely with the opinion (particularly the likelihood of a false high level positive *Aspergillus* antigen from food, in the gut of a patient who had not been eating). However, the main issue for me was the lack of transparency and the unwillingness to consider the case as a learning opportunity.

324. I am at a loss to comprehend why myself and other Consultant colleagues have been so entirely side lined in the assessment of *Aspergillus* cases that we were involved in the diagnosis and treatment of. There is a deeply uncomfortable air of secrecy and information management around these cases that I do not think fits with GMC guidance on candour.

325. On reading [redacted] statement, it is apparent that [redacted] was not accommodated in the appropriate protective environment for the duration of [redacted] high risk immune suppressed state. I would have expected there to be a risk assessment with IPC involvement as to which locations were most appropriate for an infectious and vulnerable patient. This case perfectly illustrates the need for putting in place a sound patient placement policy. I have been advocating for such a policy since the QEUH opened.

December 2021

Ongoing infections and concerns

326. All of my concerns continued to the extent that I whistleblew again to the Scottish Public Services Ombudsman in December 2021. There were ongoing problems with repeated ingress of water and mouldy ceiling tiles in a neurosurgical ICU, and poorly carried out HAI Scribes.

327. In the lead up to my December 2021 whistleblow I had raised a number of issues with Ms Wallace with regards to 6A, 4B and NICU and did not get a satisfactory response. I have provided the Inquiry with my email to her.

328. Gram negative environmental organisms continue to be a concern for the paediatric Microbiology Consultants, for example there was a death of a cardiac baby on ECMO in [redacted] 2021. This baby had an HAI *Serratia*. Again, the cause of death being another factor is immaterial to the relevance of the HAI given the potential for others to be exposed.

329. The view of the lead ICD at the time (Dr Bagrade) was that they could not categorically say that the *Serratia* was acquired in hospital. The fact that this case met the definition of an HAI bacteraemia and that it was a death means that it requires a red HIATT and a clear IMT process to ensure that all possible measures to prevent such infections are in place. My understanding is that this was not done. I have provided the Inquiry with an email from Dr Bagrade to the pathologist telling her to be careful about mentioning HAI because the hospital was under scrutiny.

330. My understanding is that this *Serratia*, although it did not match another *Serratia* case on the PICU, did match a previous isolate in the hospital. I raised this as evidence of an environmental source on 12 December 2021. I have provided the Inquiry with my email to Linda Bagrade dealing with this.

April 2022

331. In around April 2022 I received an email from [redacted] in which [redacted] asked to meet me. I was very happy to meet with [redacted]. However, I felt such a meeting would be best done with the full agreement of the Board management and clinical teams. I did not wish to undermine the clinical teams in any way. However, I also felt I would be able to give clear information on the diagnostics as well as the history of the BMT accommodation that could be relevant to [redacted]. Unfortunately, such a meeting never took place. I believe the Board and [redacted] were unable to agree the terms on which such a meeting would take place including on the question of proposed attendees.

332. At the time of receiving [redacted] request, I phoned the GMC for advice. I felt a real duty of candour to [redacted], but was keenly aware of the difficulties in going alone and against the Board's wishes – I was already experiencing a lot of difficulties as a result of my whistle blow. More specifically, at that time, I was experiencing what I consider to be aggression and bullying towards me due to my whistleblowing activity.

333. The GMC agreed it was good practice to meet with bereaved relatives if requested to answer questions. However, the GMC suggested that any meeting should be done through the relevant health care organisation first, failing which I could proceed on my own. The GMC were clear that the ultimate decision was a matter for me.

334. Given the difficulties in fixing a meeting between [redacted] and the Board, I was determined to agree a time to meet [redacted] on my own when I was informed by the department which handles complaints that there was now a complaint process in place. I was informed that the complaint had been made by [redacted] but was not informed what it was about. I asked the relevant department for a meeting to understand this process as I had never been the subject of a complaint in relation to my practice before. It was clear that this new process would supersede any previous interactions and I was advised to wait for the complaint process to be completed before taking any further steps in relation to meeting [redacted].

335. I have heard nothing about this complaint since from the relevant department. I can only assume, given the passage of time and the fact I have never been contacted about the specifics of the complaint that it was not about me specifically. I deeply regret not having been able to meet [redacted] to answer [redacted] questions openly – including uncertainties and varying opinions. I think [redacted] deserves to have answers and confidence that nothing is being hidden from [redacted]. Cases of Aspergillosis diagnosis are not straightforward and it is possible for there to be valid differences of opinion. This should all be discussed openly.

336. I would value a full review of the case by truly independent experts, with specific regard to the diagnosis of Aspergillosis and the IPC aspects of both COVID and *Aspergillus*. If such a review were to take place, I would also value the opportunity to interact with the experts to ensure all the relevant details and context are fully considered and discussed. It is deeply unfortunate that defensive positions have been taken that are now difficult to reverse.

March to May 2024

337. As discussed above, in December 2021 I contacted the Scottish Public Services Ombudsman to raise concerns about incidents in Neurosurgery, NICU, the new building and the IPCT approach to refusing to attribute infections to possible environmental sources. In March 2024, I received notification of the Ombudsman's provisional decision to discontinue the investigation into six of my "complaints", primarily because of the passage of time and the overlap between the Ombudsman's investigation with this Inquiry's Terms of Reference. In May 2024 I was advised of the Ombudsman's final decision, which confirmed her provisional decision. In writing about this now, I am waiving my right to anonymity as I believe there is a really serious issue that needs to be resolved in the realm of patient safety in the NHS in Scotland.

338. On receipt of the provisional decision, I was permitted to make comments on it in order that they could be taken into account before the decision was finalised. Amongst other matters, I raised the following, all of which were rejected:

a. I explained that when I first contacted the Ombudsman this Inquiry's Terms of reference were well known and fully discussed. I also explained that I informed the Ombudsman that I had discussed the whistleblowing attempt with the Inquiry, who were in agreement that this was a reasonable course of action for current patient safety issues, given the Inquiry was a long process likely to take years, and was focussed on past events. As the patient issues were (then) acute, included sites of the estate not covered by the Inquiry's Terms of Reference – namely the Neurosurgical Institute and the Neonatal Unit, it was within the remit of the standards of the newly set up INWO whistle blowing provision within the NHS governance systems to investigate these extremely serious concerns.

b. I pointed out that, given the considerable period of time which elapsed since I had first contacted the Ombudsman, if the investigation was discontinued this would result in a waste of the time and resources expended on the investigation to date, all of which were expended in the full knowledge of the existence of the ongoing Inquiry.

339. I will ask for a review of the Ombudsman's decision but my current view is that Scotland lacks a system that is able to respond in a timely, truly independent manner where reasonable safety concerns are raised by experienced clinical staff.

Ongoing Concerns at statement date

340. At the time of the preparation of this statement I have ongoing serious concerns about the risks posed to patients at QEUH and RHC. My recent concerns include the following:

i. HAI SCRIBES which fail to ensure patient safety (recently in Ward 4B and the neurosurgical ITU).

ii. A failure to acknowledge and act on the fact that dirty water ingress and damp material poses a real danger to high risk patients (recently in Ward 4B and the neurosurgical ITU). This concern includes repeated recent incidents of burst plumbing in Wards 4B and 6A.

iii. A failure to respond adequately to gram negative infections and to acknowledge a probable link to the hospital environment (e.g., *Stenotrophomonas* typing indicating possible links and *Pseudomonas* cases in the PICU with matching types).

iv. A lack of communication from IPC to Microbiology.

v. A refusal to report invasive fungal infections in a high-risk clinical environment (recently a fatal case on Ward 4B).

vi. A lack of a proper database for typing results (discussed further below).

vii. Refusal to allow Microbiologists to attend IMTs for units that they are clinically responsible for.

viii. Minutes failing to record concerns raised at meetings.

ix. Uncertainty regarding remedial work being completed.

x. How out of specification water results are responded to especially in high risk areas.

xi. Post neurosurgery infections.

341. I have no confidence that lessons have been learned regarding either the science of infection control or the organisational culture which failed to acknowledge our concerns over many years.

342. There has been no opportunity for the recommendations from the Oversight Board and the Case Note Review to be discussed within the Microbiology team. The process of implementing the recommendations has been entirely hidden from the whistleblowers and the Microbiology team. I discuss the implementation of the Case Note Review recommendations in more detail below.

343. I am aware that numerous organisms have been grown from the water in the years since the establishment of the Inquiry (e.g., *Delftia* and *Roseomonas*) and there have been bacteraemia cases with these organisms .

344. In March 2023 there were leaks in the neurosurgical unit and bits of ceiling fell off into bed space.

345. There is a serious problem of faults with the building, but an even more serious problem of a culture which does not value honesty, does not adequately value patient safety, lacks transparency, and prioritises hierarchy at the expense of integrity and expertise. I believe this is the core issue and the root cause of all the failings.

346. It is my view that, in taking the position in the Public Inquiry that there never has been a risk to patients of increased infections due to the building defects, the Board continue to jeopardise patients to this day. This is despite the findings and recommendations of the Case Note Review.

347. There has been an absence of open monitoring and analysis of typing results, Root Cause Analysis for gram negative bacteraemia and fungal cases. I can provide data that the Clinical Scientist for Paediatric Microbiology used to collate before retirement which may be of assistance to the PI. She kept track of typing matches

which is useful in establishing links and understanding pathogenicity of particular strains.

348. This leaves many of us with real concerns about the possibility that the extent of the risks from the building deficiencies will remain unrecognised. I suggest that in order to appropriately assess the current state of the hospital, the Inquiry needs to examine the following up to and including 2024:

a. all results from patients and water and environmental testing and typing;

b. records of all RCAs of bacteraemias in high risk areas and PAG records;

c. IPC SMT meetings to date;

d. IPC agenda item minutes for Microbiology SMT, MMT, and South and pan GGC consultant meetings; and

e. all Estates logs of works especially leaks in the new build and plant failure.

349. I am left in a position where I have ongoing serious safety concerns and no effective forum in which to raise them that would actually have an impact on the present day patients and their experience and exposure to infection risks.

Implementation of the Case Note Review recommendations

350. As far as I am aware, the recommendations of the Case Note Review were officially accepted in full by GGC. However, nothing has been shared with me about their implementation. I have not been involved in any discussions around the recommendations despite being the Clinical Lead for Microbiology at the time.

351. I have raised different aspects of the recommendations, orally and in writing, at Microbiology Consultant meetings, SMT meetings and with Jamie Redfern. I was informed that the recommendations were seen to be for the IPCT to implement. None of the recommendations of the Case Note Review, the Oversight Board and the Independent Review have been discussed by the Clinical Microbiology Team. Both Heads of Service over the time period since the Case Note Review report, Dr Mairi MacLeod and Dr Abhijit Bal, have indicated to me that they consider these recommendations to be historic matters and of little relevance to the current team. They have expressed their wish to move forward. Until recently, Dr Bal had not read the Case Note Review. Whenever we raise the review at meetings, the GGC management line is that all matters have been dealt with, are historic and the Public Inquiry will adjudicate on whether there ever was a real issue with the environment and infection risk. This approach has made my role extremely difficult and I am not willing to renege on all my previous statements.

352. Due to the lack of involvement of the Clinical Microbiology Team in the discussions around the implementation of the recommendations, some areas of "implementation' have affected our team and my practice adversely. I will mention a few of these areas. First, the recommendations on line removal morphed into the requirement for a Microbiology Consultant to decide on line removal in the case of a blood culture positive and that this would be documented in a data base by the quality team. This has caused significant difficulty for our team. I wrote emails about this which I have provided to the Inquiry. The decision to remove a line is not one for a Clinical Microbiologist to make as we do not actually remove the line. My view is that the recommendation was taken in a very superficial manner, not appropriately discussed and was treated as a tick box exercise. Further, the response has in fact exacerbated the issues around the management of infections by making a multidisciplinary discussion problematic and with the edge of a blame culture.

353. Another issue is that line infections are to be reviewed with a Root Cause Analysis (RCA) performed by the IPCT. I first became aware of this at a Multi-Disciplinary Team meeting. It was clear that the Microbiology advice on probable

source of infection was being overridden by the IPCT because it was that team which was responsible for completing the RCA with no consultation with the Microbiologists. I asked where the recommendations were discussed and discovered a level of governance that Microbiology had been excluded from (see the emails which I have provided to the Inquiry). I asked to attend these meetings. So far, I have been invited to and have attended only one. At that meeting, I was extremely unhappy about the discussions as I disagreed with Dr Bagrade regarding the assessment of the organisms and line infections. I stated that the organism was an "environmental gram negative" and she stated that this was not a recognised entity and was a term that should not be used. Given the recent history of our unit, I was unimpressed. It was at this meeting that I also learned they had stopped air sampling in the Schiehallion Unit, a decision which I consider is unwise. I have provided the Inquiry with the emails I sent to Dr Bagrade about this.

354. The need to keep a proper database of typing results was a clear recommendation of the Case Note Review. I am very concerned that nothing has been done to implement this recommendation for several years now. I raised the issue of a database repeatedly at Buzz meetings, at meetings of the SMT, at meetings of the Microbiology Management Team and Consultant meetings and was assured that Dr Aleks Marek, as the Lead Microbiologist for Built Environment and Deputy Lead ICD, was working on this and that this was not an issue for the Clinical Lead of Microbiology. Eventually, it became clear that there was no such database being kept up to date. In fact, it transpired that IPCT did not take ownership of the database that had been set up, and its purpose was unclear despite the IT staff working very hard on it (I have provided the Inquiry with emails on this point.)

355. Currently, I have no visibility of how typing is being monitored or the adequacy of this. However, it continues to be a serious area of disagreement with pressure being applied by Dr Bagrade and Dr Bal to Microbiology Consultants and Scientists not to get typing done and a view by the IPCT that, if they did not request typing, then they would not deal with the implications whatever our interpretation of those results were. I have provided emails to the Inquiry on this issue. In the past, Kathleen Harvey

Wood kept excellent records of typing. This was discussed as a key element of her role that she handed over to Dr Mairi MacLeod and Dr Bal. However, it has not been replaced or kept up to date as far as I am aware.

356. One example of the difficulties we have experienced in relation to typing results is of a *Pseudomonas* HAI associated death case which occurred in the PICU and which I got typed. The report confirming the matching types was received on 4 July 2023 and I emailed the clinical team and the IPCT with the match. However, by asking for the case to be typed, I was accused by Dr Bagrade at a Consultant meeting of poor practice and of not communicating with IPCT. Dr Bagrade told me that I should have sought permission from her to do so. At this meeting, and in front of all the team, I asked Dr Bagrade whether she would have given permission had I made the request for the case to be typed. She said that she certainly would not have because it was unnecessary. The typing matched a previous case. Whole genome sequencing was done. I do not know to this day where those results are being reported or stored or what communications have taken place despite being the Clinical Microbiologist involved in sending the isolate for typing. This is an important governance issue. I have raised at the SMT the need to record when whole genome sequencing is done and the interpretation for the patient records and for communication to all relevant staff.

357. A further example of the difficulties in relation to typing results is of *Stenotrophomonas* typing results in a CF patient suggesting a clustering of cases over a number of years in different locations at the QEUH. Unfortunately, I was excluded from the assessment despite being the Clinical Microbiologist who has dealt with CF Microbiology since 2015. However, I am aware that two ICDs phoned the reference laboratory in Colindale to question the report which advised of the typing match. I disagree with the conclusion of the QEUH ICDs that there is no issue with this acquisition of *Stenotrophomonas* given the history of the water, the lack of a filter in the outpatient clinic where the patient was seen, and the refusal of IPCT to test that specific outlet for *Stenotrophomonas*. I also disagree with the decision of Dr Bagrade that there is no need for a point of care filter in the CF clinic based on her position that *"the water is safe".*

358. In my opinion, a surveillance system should be sensitive to differences in specific patient groups and take into account the context and history of microbiome and epidemiology of a specific setting. However, no surveillance system is perfect and it is crucial to listen to alerts picked up in these high risk areas by the clinicians and Microbiologists most familiar with the setting. This is not currently happening in GGC and I think there is a huge opportunity for sources of infections to be missed to the potential detriment of current and future patients.

Reporting of Concerns

359. It is a matter of considerable regret to me that I have had to raise such serious concerns, repeatedly and through multiple channels. I have taken no pleasure at all in doing so, and indeed it has come at a considerable cost both personally and professionally and has caused enormous upset to me and to my family over many years. I believe that I should never have been placed in this position by the Board. As a doctor I am duty bound to act in the best interests of my patients, even when to do so is contrary to my own interests.

360. I am aware that others have criticised me for what they perceive to be an excessive reliance on sending emails. I quickly discovered that if I raised issues more informally nothing would ever happen, and so it was my practice to deal with my colleagues in writing to ensure a clear audit trail of what was said and when. As a result of that I am now able to clearly evidence the history of concerns that I raised; had I done this via less formal verbal means I have no doubt that it would be suggested that I had failed to timeously identify the points I am now making.

361. I am aware that others have also criticised me because of a perception that I involve myself in matters that are not strictly within my remit. I do not accept this criticism; I have regularly been asked to provide my input on issues that have arisen relative to my experience and expertise, regardless of whether the issue in question

related specifically to my role and responsibilities. I do not seek out involvement; but I always respond if I am asked to help. Where I have raised new concerns they have been about matters which I have become aware of in the course of my day to day duties, not through snooping in matters that are not relevant to me.

362. I am aware that others may suggest that I have acted as I have out of bad faith, as a result of a desire to seek attention, a lack of willingness to accept that I am wrong, or an inability to accept the views of others. I was, for example, once accused of "*over the top bad behaviour*' by Dr Green for raising genuinely held concerns about safety. I do not accept this criticism. I am aware that I can sometimes be assertive and definitive in my delivery, but when faced with a situation in which I was raising serious concerns about the safety of the most vulnerable patients in our hospital and not being taken seriously I felt that I had no choice but to raise those concerns assertively at times.

363. I would be delighted to discuss my ongoing concerns with the Inquiry or its appointed experts at any time. I consider it to be of critical importance that the Inquiry experts are given a tour of the facilities by someone with ongoing concerns and familiarity with the issues that have arisen since opening.

364. I have attempted to use plain English where possible in the writing of this statement. There are areas in which I anticipate the Inquiry will want more detailed identified input and I would again, be delighted to provide that.

365. I remain concerned that the built environment at the hospital poses safety risks to our most vulnerable patients, and I very much hope that the Inquiry will be a catalyst for positive improvements in that regard. This is not a reflection on the excellence of the care delivered in the hospital by what I believe to be outstanding clinical teams. It is one of the most grievous consequences of the building and IPC issues that staff have had to contend with poor environment and pressures arsing from infections and public scrutiny when they should have been able to concentrate on doing their jobs, aided by a brand new bespoke building. The terrible consequences

for our most vulnerable patients and their families are the reasons I have sought to carry on ensuring learning occurs, and to prevent future repetition of the same problems.

CURRICULUM VITAE

Dr Christine Peters

BSc(Hons), MBChB, DTM&H, FRCPATH

PERSONAL DETAILS

Name: Dr Christine Jennifer Peters **DOB:** [redacted]

GMC Status: Full with Specialist Registration with a licence to practice no: [redacted]

Specialist Register Entry: Medical Microbiology and Virology

Certificate of Completion of Training: 18th November 2011

Address: [redacted]

Mobile: [redacted]

Email: [redacted]

QUALIFICATIONS

- May 2010 FRCPATH Medical Microbiology and Virology *Royal College of Pathologists*
- April 2001 Diploma in Tropical Medicine & Hygiene *Royal College of Physicians, London*
- July 1998 MBChB *University of Edinburgh*
- July1996 BSc - 1st Class Parasitology and Entomology *University of Edinburgh*

PRIZES

- March 2010 Science Technology Engineering and Maths Ambassador (STEM-NET) Best Activity Award
- March 2003 South Glasgow Medical Society Annual Research Prize
- December 2021 Giving Voice Award Royal College of Speech and Language Therapy
- May 2023 Honorary Companionship College of Paramedics

MEMBERSHIP

British Infection Association

Environmental Microbiology Network

ASHRAE

European Biosafety Association

EMPLOYMENT HISTORY

08/12 – Current	Consultant Clinical Microbiologist, QEUH Glasgow
	Additional Roles
	Infection Control Doctor 08/14– 08/16
	Clinical Lead 06/17- 08/22

Cystic Fibrosis Clinical Microbiology liaison

Committee membership

Laboratories Clinical Governance

Antimicrobial Utilisation Committee

Biosafety Group

04/12 – 08/12	Clinical Microbiology Consultant and Infection Control Doctor Crosshouse Hospital, NHS Ayrshire and Arran
07/01/12 – 29/03/12	Clinical Microbiology Consultant Sultan Qaboos Hospital, Muscat, Oman
24/10/11- 05/01/12	Acting Microbiology Consultant Southern General Hospital, Glasgow
01/08/01 – 24/10/11	SpR Microbiology Greater Glasgow and Clyde Health Board
21/08/00- 01/08/01	SHO Microbiology South Glasgow University Trust
01/08/99-01/08/01	Year out -Voluntary work in India and Glasgow
03/02/99- 02/08/99	Pre-registration House Officer in Medicine Edinburgh Royal Infirmary
03/08/98- 02/02/99	Pre-registration House Officer in Surgery St Johns' Hospital, Livingstone

National Work groups

- SMVN CF Microbiology Working Group 2022-2023
- Royal College Nursing Risk Assessment tool for COVID-19 COVID-19 workplace risk assessment toolkit | Royal College of Nursing (rcn.org.uk)
- CAPA member 2021-2023 – COVID Airborne Protection Alliance – working with RCN, BMA, BPEN, and 20 other organisations to advocate for the recognition of airborne SARS-COV2
- Scottish CF Infection Control standardisation group 2018
- Scottish Neonatal Screening Short Life working Group 2017
- HPS- NPGO Steering Group –2016
- Scottish ICD network rep on VHF Response Group – 2015-2016
- RCPath Lahore Infection Control Conference Faculty member 2016
- Scottish HAI Standards development 2014- 2015 as SMVN rep.
- Short Life Working Group HPS – Transmission Based Precautions Posters 2015
- HPS e-bug Project 2015

- SMVN –NHS AAA Microbiology Representative 2013-2014

Courses Attended

2018 – Coaching Conversations – Management Course

March 2014 Good Clinical Practice research and clinical trials web based training course completed

January 2013: Welcome Trust Advanced Course Genomics and Clinical Microbiology

2011NES Management Courses:

Recruitment and Selection

Meetings and Time Management

Information and the Law

June 2007 *Don't Panic! Practical Aspects of Infection Control* Sheffield Teaching Hospitals Trust

October-December 2006 *Epidemiology* – online module, of the Masters in Infection Control from University of Highlands and Islands

November 2006 *Educational Workshop Hospital Acquired Pneumonia* BSAC/HIS/AMM

September 2006 *Medical Statistics* three day course at University of Glasgow

September 2004 *Parasitology* UK NEQAS Training day

November 2000 – April 2001 *Tropical Medicine and Hygiene*: Glasgow Microbiology and Infectious diseases evening lecture series

PUBLICATIONS

Book Chapters

Peters C Brain Abscess, *Chapter in* Problem solving in Infection Dancer S, Seaton A, *Clinical Publishing* 2011

Academic Papers

1. Inkster T, Peters C, Dancer S. Safe design and maintenance of bone marrow transplant units: a narrative review. Clin Microbiol Infect. 2022 Aug;28(8):1091-1096.Inkster T, Peters C, Soulsby H . Potential infection control risks associated with chilled beam technology, experience from a UK hospital. Journal of Hospital Infection 2020;106:613-616

2. Inkster, T., C. Peters, T. Wafer, D. Holloway, and T. Makin. "Investigation and control of an outbreak due to a contaminated hospital water system, identified following a rare case of Cupriavidus pauculus bacteraemia." *Journal of Hospital Infection* 111 (2021): 53-64.

3. Inkster, T., C. Peters, A. L. Seagar, M. T. G. Holden, and I. F. Laurenson. "Investigation of two cases of Mycobacterium chelonae infection in haemato-oncology patients using

whole genome sequencing and a potential link to the hospital water supply." *Journal of Hospital Infection* (2021)

4. Blackstone J, Stirrup O, Mapp F, et alProtocol for the COG-UK hospital-onset COVID-19 infection (HOCI) multicentre interventional clinical study: evaluating the efficacy of rapid genome sequencing of SARS-CoV-2 in limiting the spread of COVID-19 in UK NHS hospitalsBMJ Open 2022;12:e052514

5. Oliver StirrupJames BlackstoneFiona MappAlyson MacNeilMonica PancaAlison HolmesNicholas MachinGee Yen ShinTabitha MahunguKordo SaeedTranprit SalujaYusri TahaNikunj MahidaCassie PopeAnu ChawlaMaria-Teresa Cutino-MoguelAsif TamuriRachel WilliamsAlistair DarbyDavid L RobertsonFlavia FlavianiEleni NastouliSamuel RobsonDarren SmithMatthew LooseKenneth LaingIrene MonahanBeatrix KeleSam HaldenbyRyan GeorgeMatthew BashtonAdam A WitneyMatthew ByottFrancesc CollMichael ChapmanSharon J PeacockCOG-UK HOCI Investigators The COVID-19 Genomics UK (COG-UK) consortium Joseph HughesGaia NebbiaDavid G PartridgeMatthew ParkerJames Richard Price **Christine Peters** Sunando RoyLuke B SnellThushan I de SilvaEmma ThomsonPaul FlowersAndrew CopasJudith Breuer (2022) Effectiveness of rapid SARS-CoV-2 genome sequencing in supporting infection control for hospital-onset COVID-19 infection: Multicentre, prospective study eLife 11:e78427.

6. Stirrup O, Hughes J, Parker M, Partridge DG, Shepherd JG, Blackstone J, Coll F, Keeley A, Lindsey BB, Marek A, Peters C, Singer JB; COVID-19 Genomics UK (COG-UK) consortium; Tamuri A, de Silva TI, Thomson EC, Breuer J. Rapid feedback on hospital onset SARS-CoV-2 infections combining epidemiological and sequencing data. Elife. 2021 Jun 29;10:e65828

7. Panca, M., Blackstone, J., Stirrup, O., Cutino-Moguel, M-T., Thomson, E., Peters, C., Snell, L. B., Nebbia, G., Holmes, A., Chawla, A., Machin, N., Taha, Y., Mahungu, T., Saluja, T., de Silva, T. I., Saeed, K., Pope, C., Shin, G. Y., Williams, R., ... Breuer, J. (2023). Evaluating the cost implications of integrating SARS-CoV-2 genome sequencing for infection prevention and control investigation of nosocomial transmission within hospitals. *Journal of Hospital Infection*. https://doi.org/10.1016/j.jhin.2023.06.005

8. Lawton, Tom, Matt Butler, and Christine Peters. "Airborne protection for staff is associated with reduced hospital-acquired COVID-19 in English NHS trusts." *Journal of Hospital Infection* 120 (2022): 81-84.

9. Butler, M. J., et al. "Impact of supplementary air filtration on aerosols and particulate matter in a UK hospital ward: a case study." *Journal of Hospital Infection* 135 (2023): 81-89.

10. Lawton, T., Butler, M., Peters, C., Hughes, E., Waters, H., Tomlinson, D., & Fraser-Moodie, L. (2021). Use of airborne precautions for COVID-19 outside "AGPs" in healthcare settings. *Authorea Preprints*

11. Therapondos G, Plevris JN, Stanley AJ, Peters CJ, Teig M, Hayes PC. Cerebral near infrared spectroscopy for the measurement of indocyanine green elimination in cirrhosis. *Alimentary Pharmacology and Therapeutics* 2000; 14(7):923-928

Opinion Pieces

1. Lawton, Tom, Matt Butler, Christine Peters, Eilir Hughes, Huw Waters, David Tomlinson, and Lindsay Fraser-Moodie. "The BMJ–Opinion: Use of airborne precautions for covid-19 in healthcare settings."
2. "Wearing a mask is not a political statement" - New Statesman
3. Peters, C. and Lawton, T., The BMJ–Opinion: Fresh air unmasked.
4. Peters C, Public Engagement ; The Bulletin of the Royal College of Pathologists 155: July 2011, page 183
5. Peters C, Lawton T, Butler M, et al. Why is respiratory protective equipment still an issue in the NHS? BMJ 2022;377:o1082
6. When it comes to staff safety during the pandemic, the buck stops with the chief executives Kevin Brampton, Prof Raymond Agius, Dr Christine Peters, Rose Gallagher, Barry Jones

POSTERS

1. Langley R, K Dervla, N Mustafa, PetersC, Turton J An in-silico investigation of DNA repair gene variation in the *Mycobacteroides abscessus subspecies abscessus* ST26 clonal lineage 2019 BTS Winter Meeting
2. NgW, Peters C, Analysis of *Pseudomonas aeruginosa* Epidemiology and rising antibiotic resistance among Cystic Fibrosis Patients .
3. Sinha U, Peters C, Mcgregor G, Kenna D Analysis of Pseudomonas Aeruginosa Typing in an adult - CF Centre CF Trust Annual Conference 201
4. Wilson J , Eastaway A, Edwards G, Cosgrove B, Peters C *The epidemiology of MRSA in Scotland* Five Nations Health Protection Conference 2010
5. Peters C, Redding P, Allardice G. *Is the nose enough?* Poster and oral presentation at Federation of Infection Society, Birmingham 2009
6. Peters C, Hassan-Ibrahim M, Aitken C *How useful are Throat swabs in the Diagnosis of Viral Respiratory Tract Infections?* European Society of Clinical Virology, Helsinki 2008
7. Peters C, Redding P *Inappropriate use of Cephalosporins*. SSHAIP Conference: Confronting the Challenge of Healthcare Associated Infection 2003
8. Inkster T, Peters C , McGregor G Epidemiology of *Exophiala dermatitidis* in a Glasgow hospital, potential hospital sources and control measures ICPIC Conference 2022

ABSTRACTS

- J Wilson 1, A Eastaway , G Edwards , B Cosgrove , **C Peters** *The changing epidemiology of MRSA in Scotland Abstract P1067,* European Congress of Clinical Microbiology and Infectious Diseases . Vienna, Austria, April 2010

PRESENTATIONS

Case Study QEUH Problems after the Big Opening – Hospital Infection Society Spring Meeting How Do you build a safe hospital? June 2023

Ventilation Matters Knowlex knowledge Exchange Infection Prevention and Control Conference Edinburgh May 2022

Hospital Building Importance of Comissioning – Environmental Network London Spring 2022 **Changing Microbiology in CF with Modulator therapies** Scottish Cystic Fibrosis Group Annual Education Meeting May 2022

Ventilation Going Wrong Hospital Infection Society London 2022

Following the Science? – Accountability in the time of COVID | Events | Garden Court Chambers | Leading Barristers located in London, UK May 2021

PPVL and isolation facilities Scottish Microbiology Association Meeting 2018

Public engagement Scottish Microbiology Association Meeting 2017

NICU Outbreaks Health Protection Scotland Study Day 2017

Sinks Baffles and Overheating Infection Control Conference, by invite of British Deputy High Commission – Bombay 2016

Infection Control – plenary Speaker at 38th Annual PAP Conference, 3rd joint conference of societies of Pathology in collaboration with RCPath November 2015

Introduction of Bruker Sepsi Typer – clinical importance Scottish Microbiology and Virology Network 2014

Workshop Presentation on **Public Engagement** SAPG 2014

Infection Prevention and Control HAI-SCRIBE– Estates education session NHS AAA2013

Dawn of the post antibiotic Era – Hospital Grand round NHS AAA2013

Thinking inside the box Case presentation Southern General Clinical Society March 2010

Sensitivity of throat swabs for detecting respiratory viruses by molecular methods Scottish Diagnostic Virology Group May 2008

Everything Covered? Case presentation Scottish Microbiology Association May 2007

Inappropriate Antibiotic Use Victoria Infirmary Medical Society November 2006

Inappropriate use of Cephalosporins – an Audit Junior Infection Forum February 2002

Cephalosporins and Clostridium difficile South Glasgow Medical Society November 2003

TEACHING EXPERIENCE

Faculty Member and lecturer for Post Graduate short courses

- Microbiology Boot Camp for Specialty trainees in Microbiology and Infectious Diseases 2023
- Environmental Microbiology and Infection Control GOSH 2023
- Joined ID/Micro Training day on Paediatric infections 2017
- Microbiology Workshop – Lahore Pakistan 38th Annual PAP Conference, 3rd joint conference of societies of Pathology in collaboration with RCPath

- Antimicrobial Susceptibility Testing Workshop Institute of Health Sciences, Muscat, organised by the Oman Medical Specialty Board and Ministry of Health, Sultanate of Oman October 2013

Biomedical Scientist Masters Level Project Supervision:

- *Mycobacterium abscessus* in CF samples – use of agar plates for improved sensitivity
- Carbapenem Producing Organisms in waste water in ITU
- Synergy Testing for *Pseudomonas aeurginosa* in CF patients

Undergraduate medical students:

- 2005-2010 laboratory demonstrator for Microbiology labs in Glasgow University
- 2012 overseeing microbiology special studies module placements
- 2014- 2022 – Lectures for Glasgow Medical School as part of Microbiology course and Problem based learning facilitation.

Foundation year doctors

- 2004 – present: Regular tutorials on antibiotics and clinical case based discussions

Pharmacists

- 2009 – 2021 : Annual lectures on Introduction to Microbiology for Pre - Registered Pharmacists

Science Undergraduates

- 2011: Lecture to Life Sciences students in Glasgow University on Science Communication
- 2009: Supervising an eight week work experience placement for a Glasgow University BSc student

Microbiology Post graduate Specialty Training

- I regularly take part in teaching programmes Higher Specialty Training in Glasgow and Scotland
- 2011 Glasgow, 2012 Oman I organised mock FRCPath exams
- October 2013 I worked with the Oman Medical Specialty Board to organise the first Antimicrobial Susceptibility testing workshop which involved preparing practical sessions for over 60 participants and delivering two lectures.

PUBLIC ENGAGEMENT

Podcasts :

Infection Control Matters: Airborne Transmission - would air filtration reduce a range of infections and why is there reluctance to recognise it? With Matt Butler, Christine Peters and Evonne Curran on Apple Podcasts

Opinions from around the world on contact, droplet, airborne paradigms for IPC - Part 3 (Maria Juraja, Egil Lingaas, Ramon Shaban, Elaine Cloutman-Green, Christine Peters) | Infection Control Matters | Podcasts on Audible | Audible.co.uk

#062 #CovidisAirborne - Panel Discussion - Edifice Complex Podcast - YouTube

NHE365: Building sustainable hospitals fit for purpose | UK Healthcare News (nationalhealthexecutive.com)

Public Engagement Regional Coordinator for Scotland for the RCPath, 2014 and have been a STEM Ambassador for 10 years.

- 2019 – National Pathology day event in Gurudwara to raise awareness of career in Microbiology
- 2015 Arranged for Cabinet Secretary for Health to visit QEUH laboratory and a public demonstration of how antibiotics work as part of Antibiotic Awareness Day, launching Antibiotic Guardian awareness.
- Organised six all-day events at schools, three as part of National Pathology Week involving over 400 children overall. The "Bugs on the Runs" day received the Best Activity Award from STEM Net and I was invited to speak at an event at the Scottish Parliament about the schools work I am involved in.
- Taken part in a "Meet the Expert" session at the Glasgow Science Centre where I set up a stand entitled "Hot on the Trail of Mutant Superbugs"
- June 2011 -microbiology lab for fifth year school pupils in Glasgow University during the Glasgow Science Festival
- Demonstrated at a Parasitology workshop during Science Week February 2011
- 2012 -open day as part of Glasgow University Science Festival at the Southern General Microbiology Lab
- 2012- organised a school event in a secondary school in Kilmarnock with an ICN and Antimicrobial Pharmacist on Antimicrobial resistance – a report of it made it to the local newspaper, the Kilmarnock Standard.
- 2013 made a video with Indian Comedian and You Tube star, Wilbur Sargunaraj about antibiotics not being a good treatment for the common cold - over 3500 views so far
- April 2014 taken part in an Education Scotland Resilience training day for 88 primary school children
- I worked on material about pandemic flu for Education Scotland for an update on their "Ready for Emergencies" web site.

RESEARCH Projects

Addenbrooks Air Disinfection Study AAirDS– inception and Consultant on team: NHSE Funded 2020-2023

***Streptococcus Pneumoniae:* clinically relevant Single Nucleotide Polymorphisms**

Supervisors: Mitchell T, Leanord A, Mitchell A,

Institute of Infection, Immunity and Inflammation, Glasgow University

A six month project which involved testing clinical strains for the presence of previously identified potentially clinically relevant SNPs.

Redding P, **Peters C**, Allardice G, Leanord A. MRSA screening and decolonisation: a retrospective analysis of 1709 patients **SIRN Funded Research Project**

Near infra red spectrometry: a non-invasive method of indocyanine green elimination measurement in cirrhotic patients Department of Medicine, Royal Infirmary of Edinburgh 1997

An eight-week project which involved assessing a novel method for liver function testing in patients with liver disease. The results were presented in poster format at The European Association of Studies of the Liver in Birmingham, October 1997

Concerted evolution of *Plasmodium berghei* EF-1□ genes BSc Project Department of Parasitology, Leiden University, 1996

This four month research project involved using molecular biological techniques to sequence a gene of a rodent malaria parasite which is used as a model for human malaria, the sequencing results have been published in,

Vinkenoog R, Speranca MA, van Breemen O, Ramesar J, *et al*. Malaria parasites contain two identical copies of an elongation factor 1 alpha gene. *Molecular and Biochemical Parasitology* 1998;94(1):1-12.

***Burkholderia cepacia* transmissibility and Cystic Fibrosis** *Scottish Home and Health Department funded* Student Vacation Research Project, Department of Medical Microbiology, University of Edinburgh 1994

Additional Skills

- **Language** – Fluent conversational Hindi and Urdu, basic reading and writing skills in Hindi.