Inquiry Witness Statement of

Dr Hugh CARMICHAEL

PERSONAL INFORMATION

1. My name is Hugh Alisdair Carmichael. My contact details are known to the Inquiry. I have been employed at Vale of Leven Hospital ("VOLH") since 1979 as a consultant. I retired in March 2010 though continued to work until May 2010 officially.

2. From 1979 until retirement in 2010, my duties encompassed working in acute medicine and acute receiving, which is effectively dealing with emergency admissions of all kinds. I also provided a gastroenterology service which involved me undertaking upper and lower endoscopy for in-patients and outpatients. This also encompassed me providing a consultative service for gastroenterology. Acute medicine involves working throughout the whole hospital. In particular ward 3 which is the critical care ward and ward 6 which is the acute medical receiving ward. I was also on the Infection Control Committee ("ICC") until 2003.

VOLH AT THE TIME OF THE OUTBREAK

Facilities

3. There is no doubt that the hospital was run down and this was concerning. There had not been much investment in the years leading up to the outbreak and as such the future was uncertain. I was involved in trying to maintain a safe service in medicine until a decision was made about the future of the VOLH.

4. By this I mean the hospital had lost the acute surgical facilities. We had no Accident and Emergency department. We lost our remaining ITU bed. I had to devise scoring tools and protocols to identify patients who should not be admitted to VOLH, because they were too ill, and should instead be admitted to Paisley at the Royal Alexandra Hospital ("RAH"). This process had evolved from what had been known as the Vale project. The tools were used on admission and the consultant would decide if the patient should stay or go, depending on a number of factors including the patient's condition and safety of transfer.

5. This was done at the behest of Argyll and Clyde Health Board who were keen to maintain a safe system in place during these times of uncertainty at VOLH.

6. I was aware of poor conditions at VOLH during the relevant time. For example, there was a lack of toilets, wash hand basins and single rooms. Many of us, including myself, had expressed concerns over the years leading up to the outbreak. I recall Dr Patricia Clarke having particular concerns about the lack of isolation facilities. All of this would likely have been discussed amongst ourselves and with ward sisters. I assume our concerns would have been relayed to hospital managers through the chain of command.

7. Since June 2008 the VOLH has really been transformed. Bed spacing is more appropriate, there are new and extra wash hand basins and new toilets. I would say it is now as it should have been. It is certainly more cared for.

Beds

8. I don't recall if there was a specific spacing policy. I don't really remember bed -pacing being an issue at the time.

9. I am not aware whether any risk assessments which were carried out in relation to bed spacing or infection control issues. I was on the Infection Control Committee until 2003 and certainly don't recall any issues with bed-spacing being raised at that Committee.

10. Various things may affect bed availability, including winter pressures. But there can also be summer pressure. There have also been times over the years where the local ability to accommodate patients in nursing homes, or residential homes is insufficient and therefore hospital beds would effectively be blocked by having the patient remain in hospital until a nursing home space became available.

11. I feel that comments about beds being so close that patients could hold hands are possibly exaggerated. There was at least a locker space between beds and probably also room for a chair. The spacing was normal for a Victorian-built hospital.

12. I do not recall extra beds being added in to rooms taking them over capacity. For example, I do not remember a 3 bed room having a 4th bed placed in it.

Specialist mattresses

13. There were specialist mattresses available for use in connection with treating certain conditions such as pressure sores, or patients with diabetes. Nurses would deal with specialist mattresses. In particular the tissue viability nurse, Sister Fox, would deal with issues arising including use of specialist mattresses.

14. Pressure sores are in the first instance a nursing issue, but may become a medical issue if nursing staff ask for further advice.

Cleaning

15. I am aware of the Infection Control Manual ("ICM"). I am shown a document **(Production - GGC00780001)** and this looks broadly like the ICM that would have been in use at the time.

16. I am aware of the expression 'terminal clean', which would normally be carried out once an infected patient had been discharged from an isolation room. Cleaning staff, I assume, would deal with this.

17. I had no real need to refer to the ICM on a day–to-day basis, but could have referred to it if need be.

18. Updates to the ICM would usually be a nursing issue. I would not necessarily have been directly involved, unless I had a particular concern, in which case I would have raised it with the particular ward manager.

19. Bruce Barnett was the hospital manager. It is a small hospital, so I would see him reasonably often and interact with him if required. As I mentioned, I was involved in the Vale Project so I saw him fairly regularly at meetings.

Staffing

20. My specific job description is general physician and gastroenterologist. I had no specific HAI responsibility. I did of course have a general responsibility for the welfare of my patients and of course hand hygiene is everyone's responsibility.

21. There was a yearly appraisal system in place for me. In the last few years approaching my retirement I did not have one. I did, of course, keep up to date with my education. Dr Douglas McCruden conducted my appraisals

22. I had no exit interview.

Leadership of staff

23. In terms of medical staff, Dr McCruden would have been responsible for leadership. He was lead clinician, but stopped that at some stage, at which point I was looked after by the lead clinician at RAH. We all of course had a responsibility to ensure our junior staff were supported.

24. At ward level, the ward sister would be responsible for leadership of the ward in general.

25. If there was an issue with one of my patients whilst I was not on the ward, I would expect a junior doctor to call me and advise me of the concern. If I was on annual leave, then Dr Al Shamma would most likely have covered for me. We tried not to take our holidays at the same time so we could cover for each other.

Staffing levels

26. Nursing staff seemed increasingly busy. When I came to VOLH in 1979 there were 1,200 admissions per year. When I retired in 2010 there were 4,000 admissions per year. The medical unit over time expanded, but we have had the same number of wards for the last 10-15 years. As turnover increased, nurses inevitably were expected to do more. Nursing bank staff were used occasionally.

27. At a medical level, I would say that there was an appropriate number of consultants. The concern was junior staff. It was not always easy to fill posts, which was a nationwide issue, not just a VOLH issue. This was down to cut backs on junior doctors. As such, there were far fewer doctors to help fill posts. Also, the training hospitals got first pick of junior doctors, which is fair enough. We used locums from time to

time. A further problem is that FY1s and FY2s passed through the hospital quickly, indeed every four months, so there was no real continuity of junior staff. GP trainees were slightly better as they were normally around for a year.

28. In summary, I would say that there was an issue with the number and experience of junior staff.

29. As far as I know the "Aberdeen formula" was adhered to in terms of staffing ratios.

30. A particular staffing issue arose when Dr Stephanie Dancer left VOLH and was not replaced. That raised a major concern. She was a highly respected and appreciated clinician. She was evangelical in her approach to infection control ("IC") and VOLH had perhaps the lowest rates of MRSA in Scotland as a result. She had an extremely positive approach to cleanliness and antibiotic prescribing. In her time we rarely used cephalosporins which are known to predispose patients to C.*diff.*

31. Staff from elsewhere in Greater Glasgow and Clyde did help out following her departure, such as Dr De Villiers and Dr Biggs, but they were not based at VOLH. If there were any issues requiring input from an ICD my personal policy was to ask middle grade staff to contact Dr De Villiers or Dr Biggs by phone. My personal policy was that any change in antibiotic prescribing should be discussed with a microbiologist.

Staff morale

32. Morale was not as low as you might expect, although the uncertainty of the future of the VOLH did have an impact. The staff were generally upbeat and loyal, but as time went on this became less so.

Hospital Management

33. The hospital manager was Bruce Barnett.

34. My impression at the relevant time was that the hospital and the Health Board were trying to maintain a safe level of patient care and to reach a decision about whether acute medicine should remain at VOLH. Obviously they had other focuses as well, although I have no knowledge of that.

35. I would say that as far as I am concerned Health Board were visible on site at VOLH because of the Vale situation and they were trying to adhere to a safe level of patient care. The Health Board were probably less visible to ward staff.

36. At hospital level the senior nurse managers were visible and would have a high profile on the wards

37. The clarity of direction was not ideal, given the uncertainly over the future of VOLH.

Do not attempt resuscitation policy ("DNAR")

38. I am aware of the DNAR policy from using it on a day-to-day basis.

39. It is the consultant's responsibility to decide the appropriate level of patient care. If it was deemed appropriate to manage the patient in intensive care then that would be discussed with the patient or the relatives. It would depend on the condition of the patient who matters were discussed with.

40. Intubation and ventilation can be harsh on a patient and really the anaesthetist would decide on whether it is appropriate to do so.

41. There are practical difficulties with DNARs because we are, of course, dealing with human beings. DNARs did not automatically get done all the time. If the patient was particularly ill and perhaps had a cardiac arrest, the team would decide on whether or not to resuscitate if there was no DNAR in place. Certainly in recent years DNARs have been completed as much as possible. VOLH is as good as anywhere else at doing so as far as I am aware.

Death Certification

42. At their inductions, FY1s and FY2s have a death certification induction. I always encouraged my FY1s and FY2s to discuss death certification with middle grade colleagues or a consultant if there was any issue that needed to be resolved. I believe that during the six months under review an independent inquiry concluded that C.*diff* was inappropriately listed as the primary cause of death in certain patients' death certificates.

43. Most deaths happened outwith office hours and the certificate was completed and handed to the relatives by junior staff, without consultant input.

44. Usually the patient had some kind of infection, for example a chest infection, and had been treated with various antibiotics. The patient developed C.*diff,* it settles down, the patient remained unwell and then died.

45. C.*diff* then somehow appears on the death certificate as the primary cause of death even though symptomatically the patient had settled down. C.*diff* should have appeared as a contributory factor, if at all, on the certificate and not as the primary cause.

46. I do not know why it would appear as the primary cause, other than to say that there must have been insufficient discussion regarding what should go on the certificate. The main issue seemed to be with staff who moved through the hospital quickly and were only at VOLH for a short period and moved on.

Estates

47. Estates did their best given the very difficult circumstances and with no finance to allow them to upgrade facilities.

C.*DIFFICILE*

Education

48. As a gastroenterologist I am very aware of C.*diff.* It has been an issue since the late 1980s.

49. During my general medical training MRSA was more of an issue and C.*diff* was not a great problem. We would have touched on it, including prescribing of particular antibiotics and hand hygiene.

50. Post qualification and during my time at VOLH I cannot recall any specific C.*diff* training.

51. Following the outbreak I had some training relating to C. *diff* which was provided by Helen O'Neill, the Infection Control Nurse ("ICN")

Infection Control

52. At ward level, the ward sister would be responsible for managing IC, along with interaction with the ICT. I was not aware that during the outbreak we had been down to one ICN only on the ICT. I was aware that there was no on-site Infection Control Doctor ("ICD") following Dr Dancer leaving.

Infection Control Manual ("ICM")

53. The ICM is kept on each ward, presumably in the sisters' rooms. You would need to ask each ward sister

Infection Control Team

54. As I recall during the relevant time the ICT consisted purely of Jean Murray and Helen O'Neill, ICNs, albeit Jean retired early 2008 and was not replaced.

55. As I mentioned I formed part of the Infection Control Committee ("ICC) until 2003. This included the ICT. We met every 6 weeks and discussed general matters in IC and any raised issues. I had no involvement in the ICC following 2003. Until 2003, Lesley Murray, pathologist, chaired the ICC. Dr Dancer ICD, was also on it.

56. I very rarely had contact with Helen O'Neill unless I wanted to raise a patient concern. Her role was more in relation to meeting with the ward sisters and organising rooms etc.

57. If I had a direct IC issue, I would most likely have raised it with the ward sister who would in turn raise it with the ICT.

Outbreak planning

58. I assumed that we would be told by whoever was monitoring C.*diff* levels what would happen in relation to any suspected or actual outbreak. I assumed that this would have perhaps been one of the microbiologists. I think they would have had primary responsibility for declaring any outbreak and deciding what steps to take and who to involve. I do not recall any specific approach from anyone regarding a possible outbreak.

59. I also assumed that the ICT would be communicating with the ICDs, albeit we had no ICD at VOLH.

60. I was aware of a rise in C.*diff* numbers at the time. It was not exceptional, however, in that I was aware of similar outbreaks at various other hospitals. I certainly was not aware of any exceptional death rate at VOLH. I was more concerned with issues of how to contain C.*diff* cases.

61. I think the rise in numbers of cases was discussed generally at ward level. I had weekly meetings with junior staff and every month we had a death audit, discussing DNARs, death certificates and other related matters. These meetings were not minuted. I do not recall anything that made me think there were too many C.*diff* deaths. The meeting would involve the team, clinical and medical staff. There would be no ICT or microbiologist presence.

INCIDENCES OF C DIFF FROM 1 DEC 07 – 1 JUNE 08

Awareness

62. I was generally aware of C.*diff* and was aware that there had been outbreaks in Glasgow at the Western Infirmary and at Stobhill. VOLH was, therefore, by no means unique.

63. I became aware of the outbreak at VOLH just shortly after coming back from my annual leave. I think the media reported it while I was on holiday and this is how I became aware of the situation. I would have expected to have been told of a concern at VOLH by whoever had been monitoring the rates of C.*diff* though it became clear that no one had been.

64. It is clear that an outbreak would eventually occur, given the increased use of antibiotics nationally and internationally. Patients have been developing increasingly resistant infections that may require 2-3 courses of antibiotics sometimes. It is no surprise to me that C.*diff* has become an increasing issue.

65. Once the outbreak was declared, prescribing changed somewhat. The use of cephalosporins was already under review and we were trying as a hospital to contain their use. However, if a patient is ill, their wellbeing is the primary concern and it may be that the patient requires, for example, co–amoxiclav. In general, medical units do use more broad spectrum antibiotics because of the significant numbers of elderly patients that they treat, who have often had recurrent infections, often requiring admission.

66. I don't know if the outbreak could have been averted. The 027 strain of C.*diff* which most of the VOLH cases may have been, is more virulent and more readily spread. Perhaps there is even a greater risk of death, although I do not know the answer to that. Also a lot of patients are simply pre-disposed to have it, following repeated doses of antibiotics. There is no doubt that some patients acquired it in hospital. It is of course a very difficult organism to isolate.

67. I attended various meetings following the outbreak, although I do not recall specifics. Dr Douglas McCruden was more heavily involved than me. I cannot really recall who was at the meetings, although I do recall the lead microbiologist from Glasgow came to talk to us about C.*diff* and prescribing. I do recall that when action was taken once the outbreak had been declared, that processes were put in to place efficiently and quickly.

CLINICAL RESPONSE

Samples

68. During the outbreak as now, nursing staff deal with collecting samples and sending them to the lab for testing. It takes around 24 to 48 hours to get a result. The results are noted in the patient's nursing records and should also be noted in the medical records, though sometimes this did not happen. I am aware that there was a fast track sample system in place at some stage closer to the end of the relevant period.

69. I have not used Infection Control Cards. I have not used Statistical Process Control Charts.

Surveillance of patients

70. I assumed that C.*diff* levels would have been recorded by ward and by hospital but it appears now that they were not being recorded or monitored. Presumably the ICN would or should have recorded the numbers and would have communicated with the ICD and/or microbiologist.

Location of patients

71. If a patient had diarrhoea they would be isolated whether or not there was a C.*diff* positive result. This, of course, assumes that there is a single room available. If there is no room available then the second best alternative would be to cohort symptomatic patients together.

72. I am not aware of isolation rooms without doors and would not imagine that doors would be left open.

73. I do not recall any specific ward closures during the relevant period, although there have been a few closures over the years mostly due to norovirus

74. Lomond ward was opened in an attempt to rationalise wards and to try to achieve a balance between patients and nursing numbers. When wards were upgraded, some beds were removed to create better bed spacing and as such we lost beds. This is why there was a requirement to open Lomond.

75. I do not recall isolation rooms being used as a storage facilities.

Isolation notices

76. I do not recall if there were isolation notices at the time. There probably were.

Hand hygiene

77. At the time I always washed my hands between patients with soap and water and encouraged junior doctors to do so, although I was not dogmatic about it. I tended to lead by example. I was aware from my own personal knowledge, rather than advice from ICT, that hand gel is not effective in cases of C.*diff.*

78. If I was concerned that a patient might have an infection I would use a gown and gloves. Generally there would be a trolley outside an infected patient's room containing personal protective equipment ("PPE") which I would use. If there was no trolley PPE was still available generally on the ward.

79. The lack of wash hand basins could make hand washing difficult. At times you had to walk quite a distance on the ward to get to a basin.

80. I had no involvement in visitors' or patients' hand hygiene.

81. I am not aware of any leaflets concerning C.*diff* being handed to patients and relatives, or any concerning laundry washing instructions.

Cleaning and Laundry

82. I was aware of a cleaning presence on wards. In general hospitals have had cleaning problems since the 1980s. I would say that the cleaning regime at the time was as thorough and frequent as it could be within the budgetary constraints.

83. I think that laundry goes to central laundry but have no dealings with that.

84. I assume patients' clothes are cleaned by their relatives, following a discussion with ward sister. I have no dealings with that.

Information

85. Generally nursing staff are in charge of giving information to relatives and patients unless they specifically request that a consultant speaks with them.

Treatment of patients with C. *diff*

86. The two antibiotics of choice for a patient with C.*diff* are metronizadole and vancomycin. Therefore, if the patient was receiving a different type of antibiotic and this could be safely stopped, we would do so and commence the patient on either vancomycin or metronidazole. Metronidazole is normally the first choice. At VOLH we were lucky to have a very interactive pharmacy who would provide guidance or question prescribing if appropriate.

87. The overall supervisory remit in relation to antibiotic prescribing following Dr Dancer leaving VOLH was unclear. My own personal policy was always to contact a microbiologist for guidance.

Reviews

88. A patient would be re-tested once asymptomatic to ensure that they were C.*diff* free. I think 3 further samples would be checked following the course of antibiotics.

89. It would be unusual, but not unheard of, for a patient to be discharged whilst still on metronizadole. Perhaps if the symptoms had cleared the patient might still be finishing the course of treatment, whilst being discharged home or to a nursing home. I certainly do not recall having discharged a patient with C.*diff* whilst they were still being treated with metronizadole.

Infection Control Team

90. ICT would become aware of a C.*diff* diagnosis from both the lab and the ward. Once Dr Dancer left, Dr De-Villiers had a weekly presence for a while at VOLH, but this tailed off. It would be unusual to see a microbiologist at VOLH. This is only my observation and it may be that I simply did not notice them.

Staffing

91. A ward sister would decide if any extra staff were required and would use bank staff if the burden of treating C.*diff* patients was such that the staff could not cope

MANAGEMENT RESPONSE

92. Management would most likely be made aware of a C.*diff* diagnosis through the chain of command from the Senior Nurse Manager to IC and then up through the ranks.

Communication

93. I think I probably had some emails but can't recall content. I do not recall any face to face instructions or meetings about dealing with the media. I think generally I heard about things by word of mouth.

INVESTIGATION

Internal Investigation

94. I became aware that an internal investigation was underway by word of mouth. I think Dr Douglas McCruden advised me. I perhaps got an email.

Outbreak Control Team ("OCT")

95. I became aware of the OCT when I came back from annual leave, so it was the same time as I became aware of the outbreak.
Dr Andrew Seaton came to see us to let us know what was happening and to talk generally to the medical staff.

Antimicrobial Management Team ("AMT")

96. I became aware of the setting up of the AMT as it happened. I had been aware that a national study had been carried out in relation to antibiotic prescribing. I was not part of it or spoken to about it.
Dr Andrew Seaton spoke to me as part of a group regarding prescribing. It was not one-to-one, but was a little interactive.

97. I think the AMT approach has been useful. There is a much stricter approach on the use of the "Cs", namely the antibiotics beginning with c such as co-amoxiclav and clarythromycin.

TREATMENT OF CERTAIN PATIENTS

Sarah McGinty

98. Sarah McGinty was admitted to the Medical Assessment Unit ("MAU") of the VOLH on 3rd December 2007 at 1340 hours by emergency ambulance **(Production - GGC0042003)**.

99. My only contact with Mrs McGinty was later that day, during the afternoon ward round. The ward round usually takes place between 1630 and 1700 hours. I have noted at **(Production - GGC0042006)** that Mrs McGinty had had a right-sided headache for several days and had developed a dense left hemiplegia overnight. I have noted that a CT scan confirms right cerebral infarcts. At this time I have noted that Mrs McGinty be treated with rectal asprin which the nurses would have administered.

100. Mrs McGinty would have been on ward 6 at this time. My only input would have been on admission to ward 6. When she was stable she was transferred to ward F which is the stroke ward. I had no further involvement with Mrs McGinty's care.

Margaret Kelly

101. My only contact with Mrs Kelly was on 17th March 2008 when I was on-call. Mrs Kelly had been moved from Fruin ward to ward 4 on 15th March 2008 with suspected pneumonia and heart failure. She had been seen by Dr Winkler on that day **(Production - GGC0033040)**.

102. I have noted **(Production - GGC0033043)** that on 17th May 2008 Mrs Kelly was still breathless with signs of suspected heart failure, stroke and chest infection. I ordered her to be given more intravenous furosemide. Mrs Kelly's inflammatory marker C-Reative protein ("CRP") was still rising in keeping with active infection. I, therefore, ordered that her antibiotics be continued as before, namely intravenous co-amoxiclav and oral clarythomycin. This was the only contact I had with Mrs Kelly.

Alister Johnston

103. Alister Johnston was admitted to the MAU of the VOLH on 22nd December 2007 at 1520 hours via emergency ambulance **(Production - GGC00300031)**.

104. My first contact with Mr Johnston was on 1st January 2008 **(Production - GGC00300040)** when he was within ward 3. I have noted that Mr Johnston seemed to be getting back to his usual self, was managing to do without oxygen and was without symptoms. I have noted that oxygen could be stopped and that he could go home if he appeared to be over the infection and coping.

105. I next saw Mr Johnston on 4th January 2008 **(Production - GGC00300042)**. I have noted that he was still producing purulent sputum which was rather mucous and watery, mainly during night, which perhaps suggested bronchiectatic areas. I have noted that he was breathless and perhaps had an ongoing infection. There was worry about other underlying lung problems. I have noted that chest drainage was to be tried and suggested a change to Mr Johnston's antibiotics.

106. This was the last contact I had with Mr Johnston. I am aware that he was discharged home and returned at a later date with loose stools. I did not see Mr Johnston during his second admission.

Catherine Stewart

107. Catherine Stewart was admitted to the MAU of the VOLH on 11th December 2007 via emergency ambulance **(Production - GGC00530055).** She was transferred to the RAH for a surgical assessment and then brought back to the VOLH on 12th December 2008.

108. My only contact with Ms Stewart was on 16th December 2007 **(Production - GGC00530077)**. I noted that she was seen by myself at the request or Dr Forbat and had been diagnosed as experiencing complications from alcohol liver disease, although this was presumptive rather than proven. I have noted that Ms Stewart has probably got mild or moderate ascitis but her liver function tests were only mildly deranged. I have noted coagulopathy, which is a clotting disorder, and that she was confused or drowsy but apyrexial throughout.

109. Ms Stewart's C-Reactive protein was mildly elevated at 34 whilst it had been 8 on admission, her albumin level was 13, urea was high and creatine was high. Ms Stewart was being given 6 hourly fluids when the venflon was in situ but she was frequently pulling this out and as a result had received less fluids than she required. She had deteriorating renal function and was almost anuric. I have noted that Ms Stewart urgently needed IV fluids by 2 hourly 2 bags then 4 hourly thereafter.

110. The on-call Senior House Officer contacted me at home around 1930 hours on 16th December 2007 to ask for advice with regard to this patient **(Production - GGC00530080)**. I advised that Ms Stewart be given 300 ml of 20% albumin along with 4 hourly bags of IV fluids. I am aware that the patient passed away the following day.

William Hunter

111. William Hunter was admitted to the MAU of the VOLH on 18th February 2008 by his GP, Dr Bell, with a 10 day history of foul-smelling diarrhoea **(Production - GGC00280008)**. I am noted as the admitting consultant **(Production - GGC00280013)** although I did not personally write these notes. A stool sample was obtained from Mr Hunter and sent to the laboratory and he was started on metronidazole 400mg 3 times a day.

112. I saw Mr Hunter on the morning of 19th February 2008 **(Production - GGC00280017)**. I have noted that he had had diarrhoea for 10 days with nausea or vomiting as well. I noted that Mr Hunter had schizophrenia. I also noted that he was a bit dehydrated according to a kidney function test checked by his GP on 8th February 2008. Mr Hunter was refusing IV access and blood tests. I have noted that a stool sample had been sent for C.*diff* toxin and that he had been started on oral metronidazole.

113. I next saw Mr Hunter on 21st February 2007**(Production - GGC00280018)**. I noted that Mr Hunter was eating and drinking okay, had allowed IV access, had raised C-Reative Protein and a white cell count indicating infection. The stool sample test had come back positive for C.*diff* and he had been found to have MRSA on various skin sites. I also noted that Mr Hunter was okay on metronidazole orally for 10 days in total.

114. I next saw Mr Hunter on 25th February 2007**(Production - GGC00280019)**. I noted that he was still having diarrhoea after 7 days of metronidazole. I requested that the antibiotic prescribing protocol be checked for guidelines in changing treatment.

115. I next saw Mr Hunter on 28th February 2007 at about 1000 hours **(Production - GGC00280019)**. I have noted that he continued to have diarrhoea and should receive a further 10 day course of metronidazole. I asked that the junior doctor discuss further treatment with the microbiologist. I also asked for a stool culture.

116. On 3rd March 2007 I have noted **(Production - GGC00280020)** that Mr Hunter had been continuing on a further 10 day course of metronizadole. I also note that he was drinking okay and that staff should try to persuade him to have his bloods checked.

117. On 6th March 2007 I noted **(Production - GGC00280020)** that there is no change and bloods have not been allowed. This was the last contact I had with Mr Hunter. I am aware that he died on 9th March 2007.

Margaret Thomson

118. I understand that Ms Thomson had 7 or 8 admissions to the VOLH during 2007 and 2008. She was suffering from the terminal stages of chronic obstructive pulmonary disease. I see from the medical records that I am noted as the admitting consultant on 4th January 2008 **(Production - GGC00540005)**. Ms Thomson was an emergency admission to the MAU with left-sided chest pain on 4th January 2008 at 1940 hours **(Production - GGC00540011)**. However, I did not actually see Ms Thomson until 5th January 2008.

119. On 5th January 2008 I have noted at **(Production - GGC00540016)** that Ms Thomson was known to have emphysema and chronic obstructive pulmonary disease. She had had frequent admissions of between 2 and 4 weeks and on this admission her pre-existing condition was exacerbated by a chest infection. Ms Thomson had already been prescribed levofloxacin 500mg twice a day and I did not recommend any change to this treatment. On 6th January 2008 Ms Thomson signed herself out against medical advice. I was not involved in Ms Thomson's care again.

Thomas McGowan

120. Mr McGowan was transferred from the RAH to the VOLH on the 24th March 2008 and assessed in the MAU **(Production - GGC00430006)**. He had right lower lobe pneumonia and a suspected urinary infection **(Production - GGC00430015)**. He was treated within ward 3 and ward 14 of the VOLH before being transferred to the HDU on 18th April 2008.

121. I saw Mr McGowan on 18th April 2008 and noted at **(Production - GGC00430021)** that he was on BIPAP (ventilator) for over 30 minutes and seemed very settled. On examination Mr McGowan's chest was clear but his breath sounds were a bit harsh. Mr McGowan's blood pressure was initially low but came up with 3 litres of gelofusin and saline. His blood pressure was initially 80/45 and came up to 100/45 after fluid challenge. Mr McGowan's urea and creatinine had increased suggesting obstructive uropathy. Mr McGowan's C-reactive protein was also very high. I have gone on to note **(Production - GGC00430022)** that the picture looked like hypovolemia and sepsis, giving hypotension with sepsis due to urinary infection - pus in the bladder.

122. I have noted that Mr McGowan responded well to resuscitation and the underlying COPD was not a major issue with BIPAP and antibiotic therapy. I recommended that gentamycin 240 mg IV be added to the ceftriaxone and that he should be continued on BIPAP intermittently as required. Mr McGowan was experiencing negative fluid balance of 5 litres out and 3 litres in so he was to be continued on IV fluids 2 hourly x 2 bags decreasing to 4 hourly. He was also started on vancomycin to cover the infective options including MRSA in urine.

123. On 20th April 2008 I have noted **(Production - GGC00430025)** that Mr McGowan was steadily improving. He had no BIPAP overnight and had been weaned off inotropes which are drugs to support blood pressure. Mr McGowan's blood pressure was 120/55. His urine output was good. I have noted that he had MRSA in blood and urine and was to be continued on vancomycin IV. His C-reactive protein was to be monitored.

124. On 21st April 2008 I have noted **(Production - GGC00430025)** that Mr McGowan was steadily improving. Mr McGowan's blood pressure was being maintained, his arterial blood gasses and peripheral oxygen saturation were stable and he was on nasal oxygen. Mr McGowan's urine was clear and a good volume. His C-reactive protein and white cell count were both falling slowly. I have noted that Mr McGowan was a bit confused at the time but okay usually.

125. On 24th April 2008 I noted **(Production - GGC00430030)** that Mr McGowan seemed stable but was still requiring BIPAP. His nutrition was being addressed with IV feeding. He was on miropenin and oral vancomycin.

126. On 25th April 2008 I noted **(Production - GGC00430031)** that although Mr McGowan was brighter that morning he had gone back again and felt unwell. As well as plural effusions he also now had significant ascites which may also have been transudate, although it was not clear why this had happened. Mr McGowan's bloods were reasonably good with falling C-reactive protein and low albumin.

127. On 28th April 2008 I have noted **(Production - GGC00430033)** that Mr McGowan seemed to be deteriorating. He was breathless and the plural left effusion seemed worse. Mr McGowan's abdomen was soft but not as distended. His C-reactive protein was rising, presumably due to C.*diff.* He had been started on metronidazole 500 mg IV 3 times a day. Mr McGowan's blood pressure was falling. This was the last involvement I had with Mr McGowan.

128. I see from the medical records that Mr McGowan died on 30th April 2008 **(Production - GGC00430035)** with C.*diff* noted as a contributing factor. I am aware that from a sample taken on 27th April 2008 Mr McGowan was found to be positive for C.*diff.* I would have taken all the necessary precautions when treating Mr McGowan on 28th April 2008.

Elizabeth Valentine

129. I first saw Ms Valentine on 23rd January 2008 **(Production - GGC00800016)** as an out-patient due to altered bowel habit and raised inflammatory markers. I arranged for a colonoscopy to take place **(Production - GGC00800004)** on 14th February 2008.

130. Ms Valentine was then admitted to the VOLH on 8th February 2008 **(Production - GGC00800041)** with hypercalcaemia

131. On 21st February 2008 I saw Ms Valentine in the endoscope suite for a colonoscopy **(Production - GGC00800067)**. The procedure had been delayed from 14th February 2008 because Ms Valentine had been too confused and agitated to co-operate **(Production - GGC00800050)**. The colonoscopy found her to have severe inflammation of the entire colon, the appearance being highly suspicious of C.*diff* colitis. The patient was returned to the ward with the advice that she be isolated and commenced on oral metronidazole 400mg 3 times a day.

132. I saw Ms Valentine on 6th March 2008 and have noted **(Production - GGC00800062)** that she was very poorly. She had rising C-reactive protein and white cell count with an increased shortness of breath. On examination of her chest I found some basal crepitations and her jugular venous pressure seemed elevated. Ms Valentine was very oedematous which was mostly due to low albumin. I had the impression that congestive cardial failure and left ventricular failure may have been part of the picture. The suggested treatment was 1 bolus of furosimide 50 mg IV, oral if necessary. A DNAR order was renewed.

133. I played no further part in Ms Valentine's care. I am aware that Ms Valentine died on 8th March 2008. There is no mention of C.*diff* being the main cause of death.

Archibald McInally

134. Archibald McInally was admitted to the MAU of the VOLH on 18th May 2008 at 1630 hours from his nursing home due to aspiration **(Production - GGC00450002)**.

135. I first saw Mr McInally on 19th May 2008 **(Production - GGC00450002)** and noted that he had previously suffered a right cerebrovascular accident and was experiencing residual left weakness and thalamic pain. He was also struggling to swallow due to a stroke and this had

got worse recently. He had experienced aspiration 2 days previously and had been breathless the day before. On examination his C-reative protein was up to 206, white blood cell count up at 14.6, neutrophils 13.2, a chest X-ray had shown Bl basal changes right more than left and he was off oxygen at 97% per 2 litre and his urea and creatinine was up.

136. My diagnosis was aspiration pneumonia, renal failure, cerebrovascular accident and poor swallowing. I recommended treatment with IV antibiotics in the meantime and assessment of his swallowing by the speech and language therapist. Mr McInally was prescribed IV cefuroxine 1.5g 3 times a day and metronidazole 500mg 5 times a day for 1 week.

137. On 22nd May 2008 I have noted **(Production - GGC00450007)** that Mr McInally was to receive nil orally as swallowing was unsafe. He was to be continued IV antibiotics over the weekend. I have noted that his C-reative protein was falling but still high at 174.

138. On 28th May 2008 I noted **(Production - GGC00450011)** the possibility of inserting a percutaneous endoscopic gastrostomy ('PEG') for gastric feeding but have decided against it.

139. On 12th June 2008 I have noted **(Production - GGC00450017)** that over the last week and into that week there had been a steady rise in C-reative protein and white cell count. There was no obvious chest infection. Oxygen saturation at 97% on 2 litres was recorded. Mr McInally's blood pressure was down at 72/38. It is noted that Mr McInally had developed diarrhoea that day and that a stool sample had been sent for culture. He had been on cefuroxine for 7 days from 18th May 2008 then cefriaxone from 6th June 2008 which was stopped. He had also been on ciprofloxacin from 26th May 2008 to 1st June 2008 for his aspiration pneumonia.

140. Blood cultures were also sent to the laboratory. Mr McInally had a fungal growth in his urine and the microbiologist suggested IV vancomycin and fluconazole. His DNAR order was updated. Central Venous Pressure ("CVP") was discussed with the anaesthetist but I was not keen on this.

141. Later that day I noted **(Production - GGC00450019)** that apparently when nasal gastric tube was passed this caused a lot of distress and choking. I discussed this with Mr McInally's wife who revealed that he had had a very poor quality of life in the nursing home with a lot of choking over recent years. She informed me that she knew Mr McInally would not have wished any more active treatment. In view of this I felt it was not appropriate to pass a nasal gastric tube to treat with vancomycin and that active treatment should be withheld to allow Mr McInally to pass away peacefully. It is note that Mr McInally died on 13th June 2008.

142. I have no objection to my witness statement being published as part of the evidence to the Inquiry. I believe that the facts stated in this witness statement are true.

Signed

Dated 08/11/2010