

SHERIFFDOM OF TAYSIDE, CENTRAL & FIFE, AT ALLOA

[2025] FAI 21

ALO-B40-23

DETERMINATION

BY

SUMMARY SHERIFF NEIL BOWIE

UNDER THE INQUIRIES INTO FATAL ACCIDENTS AND SUDDEN DEATHS ETC
(SCOTLAND) ACT 2016

into the death of

PETER CARTER

ALLOA, 21 March 2025

DETERMINATION

The Sheriff having considered the information presented at an inquiry into the death of PETER CARTER (date of birth 17 April 1966), under the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016 (the Act), determines in terms of section 26 of the Act that:

1. In terms of section 26(2)(a) of the Act, Mr Peter Carter born 17 April 1966, died on 11 June 2019 at 2313 hours within the Intensive Care Unit of Forth Valley Royal Hospital, Stirling Road, Larbert, Stirlingshire.
2. In terms of section 26(2)(b) of the Act, there was no accident which caused or contributed to Mr Carter's death.

3. In terms of section 26(2)(c) of the Act, the cause of Mr Peter Carter's death was:
 - 1a Complications of ischaemic bowel.
4. In terms of s26(2)(e) of the Act any precautions which—
 - (i) could reasonably have been taken, and
 - (ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided,
 - (1) A precaution which could reasonably have been taken that might realistically have resulted in the death being avoided would have been to not discharge Mr Carter from hospital on 4 June 2019. The discharge to have been delayed and he remain in hospital for further review.
 - (2) A precaution which could reasonably have been taken that might realistically have resulted in the death being avoided would have been the immediate reporting of blood test results on 10 June 2019 to the requesting clinician.
5. In terms of section 26(2)(f) of the Act, any defects in any system of working which contributed to the death or any accident resulting in the death,
 - (1) The system in place at Forth Valley Royal Hospital laboratory relating to the clinical oversight / review of patient blood tests by clinical scientists between 23 May 2019 and 11 June 2019 was defective. There was then and now no system that provided for adequate levels of clinical oversight / review of blood test results that are outwith normal parameters. Had there

been an adequate system of clinical review, it is reasonable to suggest that the blood test results of 4 June and 10 June 2019 would have been reported to the relevant clinician. As such this defect contributed to the death of Mr Carter.

- (2) The system in place at Forth Valley Royal Hospital relating to the reporting of patient blood test results to requesting clinicians between 23 May 2019 and 11 June 2019 was defective in that:
 - (i) the set criteria relating to “new findings” did not account for changes in patient’s circumstances. Had Mr Carter’s results of 10 June 2019 been considered a new finding in terms of the Standard Operating Procedure it is reasonable to suggest that a telephone alert would have been made and consequently Mr Carter would have been returned to hospital.
 - (ii) The current system does not provide any alert to clinicians when results are generated. This defective system led to the results generated on 4 June 2019 remaining unchecked. It is reasonable to suggest that Mr Carter’s discharge would have been delayed had the results been known.

As such these defective systems contributed to the death of Mr Carter.

6. In terms of section 26(2)(g) of the Act, any other facts which are relevant to the circumstances of the death. Failure to properly record requested tests, specifically blood tests resulted in a situation whereby the discharging Consultant was unaware of outstanding test results.

7. In terms of section 26(1)(b) of the Act such recommendations (if any) as to any of the matters mentioned in subsection (4) as the sheriff considers appropriate.

(4) The matters referred to in subsection (1)(b) are —

- (a) the taking of reasonable precautions,
- (b) the making of improvements to any system of working,
- (c) the introduction of a system of working,
- (d) the taking of any other steps which might realistically prevent other deaths in similar circumstances.

Recommendations

1. NHS Forth Valley Health Board should conduct a review of the clinical oversight of test results within its laboratories with a view to establishing a system of parameters that increases clinical oversight of blood test results. This should be undertaken within 6 months.

2. NHS Forth Valley Health Board should urgently increase awareness of the set criteria applied to the reporting of abnormal blood test results to all clinicians.

3. As part of its ongoing review into its laboratory system, NHS Forth Valley Health Board should consider whether the set criteria for phoning in test results to

requesting clinicians should account for any change in the patient's location regardless of whether the findings are new or unexpected.

4. NHS Forth Valley Health Board should carry out a review of its discharge process for patients to a prison setting increasing awareness of the checklist created by Dr Sayers, increasing awareness of medication available in a prison setting and consideration of including a requirement that outstanding test results are reviewed prior to discharge.

NOTE

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Introduction

[1] This is a mandatory inquiry in terms of section 2 of the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016, to establish the circumstances of the death of Mr Peter Carter, born 17 April 1966, who was in legal custody at HMP Glenochil, King O' Muir Road, Tullibody, Clackmannanshire FK10 3AD, at the time of

his death. Mr Carter was serving a sentence of imprisonment, namely an extended sentence comprising 9 years imprisonment with a 3 year extension period, imposed on 21 May 2015 at the High Court of Justiciary. He was 53 years of age at the time of his death.

[2] The inquiry is brought following an investigation by the Procurator Fiscal into the circumstances of the death, and it is regulated by the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016 (the Act), and the Act of Sederunt (Fatal Accident Inquiry Rules) 2017 SSI 2017/103 (the Rules).

[3] Inquiries under this Act are held following an investigation into the circumstances of the death conducted by the Procurator Fiscal. The Procurator Fiscal then arranges for an inquiry to be held before the Sheriff. The Procurator Fiscal represents the public interest. The purpose is to establish the circumstances of the death, and to consider what steps (if any) might be taken to prevent other deaths in similar circumstances. It is not the purpose of an inquiry to establish civil or criminal liability. The standard of proof is on balance of probabilities.

Procedural history

[4] The death of Mr Peter Carter was first reported to the Procurator Fiscal on 12 June 2019 with further enquiries thereafter.

[5] The Procurator Fiscal gave first notice of the requirement of a mandatory inquiry into the death of Mr Carter by notice in terms of rule 3.1 and form 3.1 on 26 May 2023.

First orders were given by the court on 29 May 2023 and a preliminary hearing assigned for 14 July 2023. Public notice was given dated 5 June 2023 on the SCTS website.

[6] The Notice of an Inquiry in terms of the Act and form 3.1 advised of the following circumstances:

That the deceased Peter Carter was a serving prisoner at HM Prison Glenochil at the time of his death. The deceased's parole qualifying date was November 2019 and his sentence end date was May 2024. The deceased reportedly suffered from abdominal pain from October 2018. On 23 May 2019 the deceased was transferred from HM Prison Glenochil to Forth Valley Royal Hospital, Larbert via ambulance with severe abdominal pain. The deceased was admitted to Forth Valley Royal Hospital and was treated for suspected cholecystitis. On 4 June 2019 the deceased was discharged from Forth Valley Royal Hospital and returned to HMP Glenochil. On 10 June 2019, the deceased was seen by NHS Forth Valley nursing staff within HMP Glenochil, observations were carried out and at the request of the Clinical lead, Dr Sayers, bloods were taken to be analysed. On 10 June 2019, the sample taken from Peter Carter was analysed within Forth Valley Royal Hospital Laboratory. The test results did not meet a pre-determined "set criteria" and were not communicated to medical staff within HMP Glenochil. As per standard procedure within the laboratory there was no clinical oversight of the blood test results. On 11 June 2019 the deceased was examined by NHS Forth Valley nursing staff within HMP Glenochil, the blood test results were accessed by medical staff within HMP Glenochil and an ambulance was summoned.

On 11 June 2019, the deceased Peter Carter underwent surgery at Forth Valley Royal hospital where it was discovered that he had a perforated gangrenous ischaemic small bowel, gangrenous gallbladder and gangrenous colon. That the said condition was not survivable and he was palliated.

On 11 June 2019, the deceased's life was pronounced extinct at 2313 hours.

On 17 June 2019 a post mortem examination was carried out at Edinburgh City Mortuary and the cause of death is recorded as: 1a complications of an ischaemic bowel.

Issues for the inquiry:

- i. To determine when and where the death occurred in terms of section 26(2)(a) of the Inquiries into Fatal Accidents and Sudden Deaths etc. (Scotland) Act 2016.
- ii. To determine the cause or causes of death in terms of section 26(2)(c) of the Inquiries into Fatal Accidents and Sudden Deaths etc. (Scotland) Act 2016.
- iii. To determine whether there were any precautions which could reasonably have been taken and, had they been taken, might realistically have resulted in the death being avoided in terms of section 26(2)(e) of the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016.
- iv. To determine any defects in any system of working which may have contributed to the death, in particular, whether the lack of clinical oversight of blood test results on 10 June 2019 contributed to the death in terms of

section 26(2)(f) of the Inquiries into Fatal Accidents and Sudden Deaths etc. (Scotland) Act 2016.

- v. To consider the appropriateness or otherwise of the medical care and treatment Mr Carter received within HMP Glenochil and Forth Valley Royal Hospital in terms of section 26(2)(g) of the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016.

[7] A preliminary hearing was held at Alloa Sheriff Court on 14 July 2023. The following parties appeared and were represented:

The Procurator Fiscal was represented by Ms Ramage, Procurator Fiscal Depute.

The Scottish Prison Service was represented by Mr Bell, solicitor, Anderson Strathern solicitors Edinburgh.

The NHS (Forth Valley Health Board) was represented by Mr Dundas advocate and Ms Soutar, solicitor of the NHS Central Legal Office, Edinburgh.

Parties addressed the court in respect of preparation. Ms Ramage intimated that Mr Ian Carter the deceased's brother, on behalf of his family, intended to follow the inquiry, and would be updated by the Crown. The family however would not participate or be represented. Parties were at an early stage of preparation, and in particular the NHS Forth Valley Health Board had instructed an expert surgical opinion. After a number of callings thereafter to ensure parties preparation, at a further preliminary hearing on 19 March 2024 parties intimated that they were now fully prepared to proceed to an inquiry. Dates were assigned for the inquiry to commence on 18 September 2024 and days thereafter, in person at Alloa Sheriff Court. Those dates were reassigned to

December 2024 as further preparation was subsequently required by parties including the addition of further witnesses. The Inquiry was intimated upon Mr Crozier and Mr Rodger, Consultant Surgeons. Neither intimated that they intended to be represented. A joint minute agreeing evidence was lodged along with witness statements. The matters likely to be in dispute remained the care and treatment of Mr Carter at HMP Glenochil and at Forth Valley Royal Hospital and included the laboratory test result protocols.

- (i) Whether the system in place at FVRH relating to oversight of patient blood test results between 23 May 2019 and 11 June 2019 was adequate.
- (ii) Whether the system in place at FVRH relating to the reporting of patient blood test results to requesting clinicians was adequate.
- (iii) Whether the records maintained during Mr Carter's hospital admission between 23 May 2019 and 4 June 2019 were lacking in essential information.
- (iv) Whether the decision to discharge Mr Carter from FVRH to HMP Glenochil on 4 June 2019 was appropriate in all the circumstances.
- (v) Whether the discharge process in place at FVRH on 4 June 2019 was adequate, specifically in relation to outstanding patient test results.

[8] The Inquiry proceeded on 9, 10, 11, 12, 13 and 16 December 2024 when evidence was heard. Written submissions were lodged and heard on 19 February 2025. Parties were represented as follows:

The Procurator Fiscal was represented by Ms Ramage, Procurator Fiscal Depute.

The NHS (Forth Valley Health Board) was represented by Ms Davie KC and Mr Dundas advocate, instructed by the NHS Central Legal Office. Ms Soutar solicitor.

The Scottish Prison Service were represented by Ms Johnstone, solicitor, Anderson Strathern, Edinburgh.

Evidence was heard from the following witnesses called by the Procurator Fiscal:

Dr Craig Sayers, Clinical Lead for Prison Healthcare, Forth Valley.

Ms Gillian Lowe, Department Manager at Forth Valley Royal Hospital.

Dr Karin Belch, Queen Elizabeth Hospital, Glasgow.

Mr Mark Redpath, Consultant in Clinical Bio Chemistry and Clinical Director, Labs and Haematology, NHS Borders.

Mr Christopher Rodger, Consultant Surgeon, Forth Valley Royal Hospital.

Mr Joseph Crozier, Consultant Surgeon, Forth Valley Royal Hospital.

Mr David Anderson, Consultant Surgeon.

Dr Anthony Higginson, Consultant Gastrointestinal Radiologist. Portsmouth Hospitals University NHS Trust.

NHS Forth Valley Health Board called the following witnesses:

Ms Rebecca Pattenden, Consultant Clinical Bio Chemist and Clinical Lead, NHS Forth Valley.

Mr Ronald Coggins, Consultant Surgeon.

The SPS did not call any witnesses.

A statement was lodged on behalf of Mr Carter's family authored by Mr Ian Carter. That was received by the inquiry and fully considered. It is the hope of Mr Carter's family that any lessons to be learned arising from the death of their brother will be highlighted through this fatal accident inquiry to allow them closure and help prevent future similar deaths. Parties also entered into a joint minute agreeing evidence and the provenance of productions which I have incorporated below. The following abbreviations refer:

- a. "HMP Glenochil" refers to His Majesty's Prison Glenochil
- b. "SPS" refers to the Scottish Prison Service
- c. "FVHB" refers to Forth Valley Health Board
- d. "FVRH" refers to Forth Valley Royal Hospital
- e. "NEWS" refers to National Early Warning Score ¹
- f. "CRP" refers to C-reactive protein
- g. "WCC" refers to White Cell Count
- h. "CBD" refers to Common Bile Duct

Productions

1. Crown Production Number 1 comprises the Final Post Mortem Report dated 12 August 2019 in relation to the Autopsy carried out by Dr Gillian Wilson on 17 June 2019 on the deceased, Mr Carter.

¹ CP 5 Additional FVRH Medical Notes p 339

2. Crown Production Number 2 comprises the Intimation and Certification of Death form in relation to Mr Carter.
3. Crown Production Number 3 comprises the Prison File of documentation and records held by the Scottish Prison Service in relation to Mr Carter.
4. Crown Production Number 4 comprises Forth Valley Royal Hospital medical records maintained in relation to Mr Carter.
5. Crown Production Number 5 comprises additional Forth Valley Royal Hospital medical records maintained in relation to Mr Carter.
6. Crown Production Number 6 comprises HMP Glenochil medical records maintained in relation to Mr Carter.
7. Crown Production Number 7 comprises the Death in Prison Learning, Audit and Review (“DIPLAR”) Report carried out after Mr Carter’s death. This type of report is completed after the death of any prisoner in custody by the Scottish Prison Service and the relevant National Health Service Board.
8. Crown Production Number 9 comprises NHS Forth Valley Reporting Emergency and Abnormal Results Standard Operating Procedure Version 2.5.
9. Crown Production Number 10 comprises NHS Forth Valley Handling Urgent Samples and Reporting Results that Exceed Alert Limits Standard Operating Procedure version 6.4.

10. Crown Production Number 11 comprises NHS Forth Valley Handling Urgent Samples and Reporting Results that Exceed Alert Limits Standard Operating Procedure version 6.8.
11. Crown Production Number 12 comprises NHS Forth Valley Reporting Emergency and Abnormal Results Standard Operating Procedure Version 2.6.
12. FVHB Production Number 4 compromises NHS Forth Valley Transportation of Samples from Health Centre to Labs Standard Operating Procedure dated 16 August 2017.
13. FVHB Production Number 5 compromises NHS Forth Valley Transportation of Samples from Health Centre to Labs Standard Operating Procedure dated 17 November 2020.
14. FVHB Production Number 6 comprises NHS Forth Valley Transportation of Samples from Health Centre to Labs Standard Operating Procedure dated 8 February 2021.
15. FVHB Production Number 7 comprises NHS Forth Valley's "SBAR" document relating to the proposed management of hospital discharges to prison.
16. FVHB Production Number 8 comprises NHS Forth Valley's "Hospital Discharge to Prison" form relating to the proposed management of hospital discharges to prison.

17. FVHB Production Number 9 comprises guidance issued by the Royal College of Pathologists titled “The communication of critical and unexpected pathology results” dated October 2017.
18. FVHB Production Number 10 comprises the audit trail for the set of blood tests requested on 3 June 2019.
19. In addition, Crown Productions 8, 13 are draft and final reports, prepared by Mr Anderson Consultant Surgeon instructed by the Crown. CP 14 is his curriculum vitae. Crown Production 15 is a report prepared by Dr Higginson consultant radiologist instructed by the Crown.
20. FVHB Inv 1 Production 1 is a report prepared by Mr Coggins, Consultant Surgeon instructed by FVHB, Pro 2 is his curriculum vitae and Pro 3 a paper referenced by him - Gurasamy et al, “*Meta Analysis of randomized controlled trials on the safety and effectiveness of early versus delayed laparoscopic cholecystectomy of acute cholecystitis*”, British Journal of Surgery 2010; 97; 141-150.

Factual circumstances

Mr Carter

[9] Mr Peter Carter was born on 17 April 1966 and died on 11 June 2019, aged 53 years. Mr Carter died on 11 June 2019 at 2313 hours within the Intensive Care Unit of Forth Valley Royal Hospital, Stirling Road, Larbert, Stirlingshire. At the time of his death, Mr Carter remained in the lawful custody of His Majesty’s Prison Glenochil.

Background

[10] On 1 November 2011, the responsibility for the provision of healthcare to prisoners transferred from the Scottish Prison Service to the National Health Service. Since then, individual regional NHS health boards have been responsible for the delivery of healthcare services within prisons in Scotland which fall within their geographical ambit for the provision of medical care.

[11] On 21 May 2015, at the High Court of Justiciary at Paisley, Mr Carter was convicted following trial of lewd, indecent and libidinous practices and behaviour, contraventions of the Sexual Offences Scotland Act 2009 sections 19 and 20 and rape. The court adjourned the diet for the purposes of obtaining a criminal justice social work report and Risk Assessment until 17 June 2015 and ordered Mr Carter to be detained in custody.

[12] On 17 June 2015, at the High Court of Justiciary at Glasgow, Mr Carter was sentenced to an aggregate sentence of 12 years imprisonment comprised of a custodial term of 9 years and an extension period of 3 years following conviction for the said offences.

Medical history and treatment

[13] On admission to HMP Low Moss on 21 May 2015 an admission profile form was completed and Mr Carter's prison medical notes were updated to reflect his known health issues and current medication prescription. Mr Carter reported to NHS staff that

he had recently been in hospital following a perforated ulcer and advised that he was due for endoscopy².

[14] On 2 October 2018 Mr Carter consulted with Miss Jackie McKeich, an Advanced Nurse Practitioner (ANP) within HMP Glenochil, as he had been experiencing chest pain while working in the gardens. On examination, the ANP noted no obvious distress, looks well, pain to epigastric region through to mid back, describes pain as ache, intermittent and occurring over a period of 3 weeks. Miss McKeich noted that Mr Carter was not suffering from nausea or vomiting and had no dizziness. On examination his abdomen was soft and non-tender with no increased discomfort on palpation and bowel sounds were present. An electrocardiogram undertaken at that time was normal. Routine bloods were requested for the following morning and Mr Carter was advised to inform staff if symptoms worsened. Further review with an ANP was arranged for the following morning.³

[15] On 3 October 2018 Mr Carter consulted again with ANP McKeich who recorded that Mr Carter's pain was much improved but had returned to a lesser degree 15 minutes after waking. A review of Mr Carter's medical history was carried out. A blood sample was taken and his case discussed with a GP who noted that if his condition worsened Mr Carter could be referred for an endoscope.⁴ ANP McKeich prescribed Omeprazole.

² CP 6 HMP Glenochil Medical Notes at p399.

³ *ibid*, p398.

⁴ *Ibid*, pp397 and 415.

[16] On 24 October 2018, Mr Carter consulted with Staff Nurse Sadie McKay.

Mr Carter requested additional Omeprazole as he had been using twice daily due to abdominal pain.⁵ On 25 October 2018 ANP Louise Kane consulted with the on duty GP who prescribed ranitidine.⁶

[17] On 4 February 2019, Mr Carter was reviewed by ANP Louise Kane due to ongoing vomiting. Mr Carter reported that he had last vomited on 31 January and that his stomach was now improved. He reported that greasy foods made his stomach pain worse. He advised that he was utilising ranitidine and using Omeprazole occasionally. He was avoiding greasy foods. The clinical notes record that Mr Carter appeared to be improving and worsening advice was given.⁷

[18] On 29 April 2019, Mr Carter self-referred to healthcare due to a sore stomach. Mr Carter did not attend the scheduled appointment on 30 April 2019. On 17 May 2019, Mr Carter self-referred again due to abdominal pain. He was reviewed by ANP Ms Kane on 20 May 2019. Mr Carter advised he had been experiencing abdominal pain for 7 months which was localised to the epigastric / left upper quadrant region. Following discussion with the prison GP, Mr Carter was referred for an endoscope.⁸

[19] On 23 May 2019, Mr Carter consulted with ANP Miss McKeich, reporting worsening abdominal pain. ANP McKeich contacted Forth Valley Royal Hospital and

⁵ Ibid, p397.

⁶ Ibid, p397.

⁷ Ibid, p396.

⁸ Ibid, p396.

spoke with the surgical team. It was arranged for Mr Carter to transfer to the surgical assessment unit within Forth Valley Royal Hospital.⁹

First admission to Forth Valley Royal Hospital 23 May 2019

[20] On 23 May 2019 Mr Carter was transferred from HMP Glenochil to Forth Valley Royal Hospital (“FVRH”) surgical unit with abdominal pain. Mr Carter was assessed in the Emergency Department at around 1456 hours by Dr Farruga. Mr Carter reported a history of abdominal pain for 7 months associated with vomiting and worse with food. He reported that his symptoms had been significantly worse over the preceding 5 days with pain radiating into his back which was exacerbated on movement and deep inspiration. He was also complaining of epigastric pain and reported weight loss of 2 stone over 7 months due to reduced food intake due to ongoing vomiting.¹⁰ On examination Mr Carter was tender in the right upper quadrant of his abdomen. He was Murphy’s sign positive.¹¹ The clinical plan was for (i) intravenous (IV) fluids; (ii) blood tests; (iii) midstream urine tests; and (iv) ultrasound.¹²

[21] Mr Carter was reviewed by Mr Brennan during the consultant ward round on 23 May 2019.¹³ Mr Brennan noted Mr Carter’s history of presenting complaint. Mr Carter’s temperature was 37.9C. At that time, it was noted that Mr Carter’s blood tests had shown elevated white cell count (“WCC”) and C-reactive protein (“CRP”)

⁹ Ibid, p396.

¹⁰ CP 5 Additional FVRH Medical Records at p287.

¹¹ Ibid, p289.

¹² Ibid, p290.

¹³ Ibid, p291.

levels.¹⁴ At that time possible diagnoses of cholecystitis, hepatitis and metastatic disease were considered. Mr Carter was admitted to Forth Valley Royal Hospital for further investigations and treatment including: (i) an abdominal ultrasound scan; (ii) IV fluids; and (iii) triple therapy IV antibiotics.¹⁵

[22] Mr Carter underwent an ultrasound scan on 24 May 2019. The radiology report dated 24 May 2019 noted “Conclusion: Mild hepatomegaly, Distended gallbladder, thickened wall positive Murphy’s sign however no calculi noted. Dilated CBD.” “CBD”.¹⁶

[23] On 24 May 2019, after 1230 hours, Mr Carter was reviewed by Mr Rodger on the consultant ward round. Prior to that review, Mr Carter’s CRP levels had been reported by the laboratory as 350. It was noted that the ultra sound had shown no gallstones. Following review, the clinical plan was for Mr Carter to undergo a CT scan the following day and to continue with IV antibiotics in the meantime.¹⁷ It was noted Mr Carter “remains sore.”¹⁸

[24] On 25 May 2019 Mr Carter was reviewed by Mr Crozier on the consultant ward round. It was noted at that time that Mr Carter was suffering from cholecystitis with a dilated common bile duct. At that time IV antibiotics were continuing. Mr Carter’s WCC was 21 and his CRP was 350. The plan was for Mr Carter to undergo a CT scan

¹⁴ Ibid, p291.

¹⁵ Ibid, p292

¹⁶ CP 4 FVRH Larbert medical notes at pp 192-194.

¹⁷ CP 5 Additional FVRH Medical Records at p 298.

¹⁸ Ibid p 298.

and continue with antibiotics. It was noted that Mr Carter could eat and drink after the CT scan.¹⁹

[25] Mr Carter underwent a CT abdomen and pelvis scan on 25 May 2019. The radiology report dated 25 May 2019 concluded: "Appearances in keeping with acute cholecystitis with minor prominence of the biliary tree."²⁰

[26] On 26 May 2019 Mr Carter was reviewed by Mr Crozier on the consultant ward round. It was noted that Mr Carter was suffering from cholecystitis. At that time Mr Carter was afebrile, meaning that Mr Carter did not have a temperature. It was noted that Mr Carter's CRP was 412. It was noted that Mr Carter remained on IV antibiotics. The plan was to continue with IV antibiotics. It was noted in the clinical records "will need lap chole in due course."²¹

[27] On 27 May 2019 Mr Carter was reviewed by Mr Crozier on the consultant ward round. It was noted at that time that Mr Carter was doing well and that his CRP levels reduced. The plan was to continue with IV antibiotics.²²

[28] On 27 May 2019, Mr Carter was reviewed by Dr Anna McClatchey, FY1 regarding ongoing abdominal. Mr Carter was noted to feel feverish and nauseous and observed to be in pain. Dr McClatchey's impression was of ongoing severe cholecystitis and the plan was to continue regular medication with pain relief as required.²³

¹⁹ Ibid, p299.

²⁰ CP4 FVRH Larbert medical records at pp189-191.

²¹ CP5 Additional FVRH Medical Records at p 301.

²² Ibid, p 303.

²³ Ibid, p 304.

[29] On 28 May 2019 Mr Carter was reviewed by Mr Rodger on the consultant ward round. At that time Mr Carter's National Early Warning Score ("NEWS") was 1 and it was noted bloods improving. On examination Mr Carter was tender upon light palpation. The clinical plan was to discontinue IV fluids but to continue with IV antibiotics²⁴.

[30] On 28 May 2019 at around 1555 hours Mr Carter was reviewed by Mr Rodger on the consultant ward round. At that time Mr Carter was complaining of abdominal pain and not managing food. Mr Rodger noted that Mr Carter's CRP levels had risen to 443. He noted that Mr Carter's WCC was 18.6. Mr Carter was switched to IV Tazocin, which was a change of antibiotic. It was noted that Mr Carter was to be given analgesia²⁵.

[31] On 28 May 2019 at 1630 hours it was noted that Mr Carter had had a settled day. He had refused pain relief at the medication round, but had since accepted same. He was mobile and was not complaining of nausea. His clinical observations were stable.²⁶

[32] The overnight notes from 28 May to 29 May 2019 note that IV Tazocin was continuing and that Oramorph was given for pain relief. At this time his NEWS was recorded as 2.²⁷

[33] On 29 May 2019 at around 0800 hours Mr Carter was reviewed by Mr Crozier on the consultant ward round. At that time Mr Carter was complaining of intermittent pain. Mr Crozier noted that Mr Carter's CRP and WCC had been elevated the day

²⁴ Ibid, p 306.

²⁵ Ibid, p307.

²⁶ Ibid, p 307.

²⁷ Ibid, p308

before and that he had been switched to IV Tazocin. Mr Carter's abdomen was soft on examination. The clinical plan was to take further bloods and to continue with IV Tazocin. Mr Carter was advised to eat and drink as able, but to avoid milk²⁸.

[34] On the morning of 30 May 2019 Mr Carter was reviewed by Mr Rodger on the consultant ward round. At that time his NEWS was 1. Upon review, Mr Carter looked improved. His abdomen was soft on examination and mildly tender. It was noted that Mr Carter's CRP had decreased from 445 to 409. The plan was to continue with IV Tazocin. Mr Carter was advised to eat and drink as able²⁹. On review at 1150 hours it was noted that Mr Carter had had a settled morning. It was noted that he had been given Oramorph for pain relief over the course of the morning, he was not voicing any concerns and was independent in his activities of daily living. On review at 1755 hours it was noted that Mr Carter was given Oramorph for pain relief with some effect, his observations remained stable and IV antibiotics continued³⁰.

[35] On 31 May 2019 Mr Carter was reviewed by Mr Crozier on the consultant ward round. It was noted at that stage that Mr Carter was on day three of IV Tazocin and that his blood results were improving. Mr Carter reported that he felt sick. On examination he had a distended soft, non-tender, abdomen. The clinical plan was to continue with IV antibiotics over the weekend and, if he was well, to switch Mr Carter to oral antibiotics

²⁸ CP 5 Additional FVRH Medical Records at p 308.

²⁹ Ibid, p 310.

³⁰ Ibid, p 311.

on Monday 3 June 2019. Mr Crozier decided that no bloods would be taken on 31 May, but would be checked the following day and Monday 3 June.³¹

[36] On 1 June 2019 at around 0915 hours Mr Carter was reviewed by Mr Wilson. It was noted that Mr Carter was well at that time with no issues. It was documented that Mr Carter was suffering from ongoing pain and that his CRP levels had fallen. It was noted that IV antibiotics would continue.³²

[37] On 1 June 2019 at around 1405 hours nursing staff noted that Mr Carter had had a settled day. IV antibiotics were continuing. Medications had been given as prescribed and Oramorph had been provided for break through pain relief. He was independent with his activities of daily living. He was passing urine spontaneously. It was noted that there were no concerns at that time.³³

[38] On 2 June 2019 Mr Wilson reviewed Mr Carter on the consultant ward round. At that time his NEWS was 2. It was noted that pain was ongoing and that IV antibiotic Tazocin would continue for the time being.³⁴

[39] On 2 June 2019 at around 1520 hours Mr Carter's NEWS was 0. He was provided with medication but had not required any breakthrough analgesia that day so far³⁵.

³¹ CP 5 Additional FVRH Medical Records at p 312.

³² Ibid, p 310.

³³ Ibid, p 315.

³⁴ Ibid, p 316.

³⁵ CP 5 Additional FVRH Medical Records at p317.

[40] The overnight notes from 2 June 2019 to 3 June 2019 record that Mr Carter had complained of abdominal pain, had been given analgesia and was now settled. No concerns were noted.³⁶

[41] On 3 June 2019 Mr Carter was reviewed by Mr Crozier on the consultant ward round. At the time of his review Mr Carter was feeling better. It was noted that his CRP was 263 the previous day. The clinical plan was to undertake bloods and, if those were better, to switch Mr Carter to oral antibiotics. It was noted that Mr Carter could be discharged the following day following review, if fit, with follow up in the outpatient surgical clinic, “ ? Lap chole.”³⁷

[42] On 3 June 2019 at 1655 hours medical records note that Mr Carter had a settled day. He was independently mobile on his feet. He was independent in his activities of daily living. Observations were stable and pain scores were 0.³⁸ IV antibiotics were continued and analgesia was given throughout the day.³⁹

[43] The overnight report from 3 June 2019 to 4 June 2019 notes that Mr Carter slept well at times, he had pain and nausea / vomiting and was given an IV antiemetic and pain analgesia (Oramorph) with good effect. No concerns noted.⁴⁰

[44] On 4 June 2019 Mr Carter was reviewed by Mr Rodger on the consultant ward round. At that time Mr Carter was feeling better. He had minimal tenderness in the right upper quadrant on examination. The clinical plan was for Mr Carter to continue

³⁶ Ibid, p318.

³⁷ Ibid, p318.

³⁸ Ibid, p343.

³⁹ Ibid, p319.

⁴⁰ Ibid, p320.

eating and drinking as able. He was to be discharged from FVRH later that day with oral antibiotics. Liver function tests were to be checked 1 week later by the prison doctor. Mr Carter was to be followed up in the outpatient surgical clinic 8 weeks later.⁴¹

[45] The immediate discharge letter compiled by Dr McCollum at 0956 hours on 4 June 2019 contains a clinical summary that details diagnosis of cholecystitis and discharge home to complete a course of oral antibiotics and with a short course of dihydrocodeine and Oramorph for ongoing pain. The prison healthcare team were asked to review as needed.⁴²

[46] On 4 June 2019 at 1700 hours nursing staff noted that Mr Carter had had a settled day. He was independently mobile. His observations were stable. His NEWS score was 1. Oral antibiotics were administered as prescribed. He was tolerating a low fat diet and fluids. He was passing urine. He was discharged back to HMP Glenochil to complete the course of oral antibiotics. It was noted that there had been a telephone call from the prison nurse and that information for discharge had been given on the discharge letter. It was noted that no complaints were offered and that the planned care regime would continue.⁴³

[47] The immediate discharge letter completed on 8 June 2019 noted that Mr Carter was admitted to FVRH on 25 May 2019 with Right Upper Quadrant pain radiating into his back. The letter noted that:

“Investigations: AUSS: Mild hepatomegaly. Distended gallbladder, thickened wall positive Murphy’s sign however no calculi noted. Dilated CBD. CTAP:

⁴¹ CP5 Additional FVRH Medical Records at p 320.

⁴² Ibid, pp388-391.

⁴³ Ibid, p321.

Appearances in keeping with acute cholecystitis with minor prominence of the biliary tree.”

The letter confirmed Mr Carter was treated with IV Tazocin and he made a good recovery. Mr Carter was discharged to HMP Glenochil with a course of oral antibiotics and was provided with worsening advice. The follow up plan was by way of surgical review in the outpatient clinic 8 weeks thereafter with the prison doctor being asked to check liver function tests 1 week thereafter. The prison GP was advised that the patient was discharged to complete a course of antibiotics and with a short course of dihydrocodeine and Oramorph for ongoing pain, the GP was asked to review the pain medication and titrate as necessary.⁴⁴

Blood test results 23 May 2024 to 3 June 2024

[48] Throughout his hospital admission, Mr Carter’s CRP levels were recorded as follows:⁴⁵

- i. 23 May: 178
- ii. 24 May: 350
- iii. 25 May (erroneously recorded as April): 412
- iv. 26 May (erroneously recorded as April): 385
- v. 27 May: 365
- vi. 28 May: 445
- vii. 29 May: 409

⁴⁴ CP4 FVRH Larbert medical notes pp 100-102.

⁴⁵ CP5 Additional FVHB Medical Records pp 322-323.

viii. 30 May: 301

ix. 1 June: 263

x. 3 June: 233

The CRP level recorded in the sample from 4 June 2019 was 276. Throughout his hospital admission, Mr Carter's WCC levels were recorded as follows:

i. 23 May: 15.4

ii. 24 May: 21.0

iii. 25 May: (erroneously recorded as April) 19.3

iv. 26 May: (erroneously recorded as April) 17.2

v. 27 May: 13.0

vi. 28 May: 18.3

vii. 29 May: 20.0

viii. 30 May: 15.5

ix. 1 June: 15.7

x. 3 June: 15.6

The WCC level was 16.7 in the sample from 4 June 2019.

Condition and treatment after discharge from FVRH

[49] On 4 June 2019, Mr Carter returned to HMP Glenochil with a prescription for morphine oral solution as required hourly and dihydrocodeine four times daily. On duty medical staff contacted the on call GP, Dr Sayers, who advised not to administer morphine oral solution and to give one dose of dihydrocodeine and to utilise

paracetamol overnight if required. This was reviewed the following day.⁴⁶ At 1930 hours, Mr Carter was seen within his cell by nursing staff, and dihydrocodeine and antibiotics were administered under supervision.⁴⁷

[50] On 5 June 2019, Mr Carter consulted with healthcare staff and requested that he receive his daily medication within his cell. Healthcare staff were not able to accommodate this request but confirmed they would look at an alternative. Following discussion with the Clinical Manager and an ANP a decision was made to alter Mr Carter's pain medication and implement a soft diet for 3 months. The liver function test was to be repeated in 1 week and a weekly weight report to be compiled.⁴⁸

[51] On 9 June 2019 Mr Carter was reviewed by healthcare staff following reports from prison officers that Mr Carter was in pain. Mr Carter was given Oramorph 10mg/5mls. He was also prescribed paracetamol and advised to take the same regularly. Mr Carter advised healthcare staff that Dihydrocodeine was providing relief for approximately 6 hours and then pain would increase. It was noted that this would be discussed with the GP the following day with a view to Mr Carter's medication being reviewed. The medical notes state that Mr Carter had not been receiving a soft diet or supplements.⁴⁹ It was noted that healthcare staff would contact the kitchen manager in the morning to discuss the same. In the meantime, Mr Carter was given six fort-juice supplements.⁵⁰

⁴⁶ CP 6 HMP Glenochil Medical notes p395.

⁴⁷ *ibid.*

⁴⁸ *ibid*

⁴⁹ CP 6 HMP Glenochil Medical Notes p395.

⁵⁰ *Ibid.*

[52] On 10 June 2019, Mr Carter was brought to the Clinical Lead, Dr Sayers' attention as he had been using Oramorph both that day and the previous day. Dr Sayers reviewed the discharge letter and noted the following in the records:

“CRP and WCC were markedly raised at time of discharge and indeed increasing at time of discharge ? Appears that his pain is worsening given increasing requests for analgesia – was he fit for discharge at time given worsening picture ? “

Dr Sayers requested bloods to be taken for analysis and noted that he would await the results and consider discussion with surgeons at FVRH.⁵¹

[53] On 10 June 2019, at 1330 hours, Mr Carter was seen by nursing staff and blood samples were taken as per Dr Sayers' request. Mr Carter's pain medication was reviewed and he was prescribed Co-codamol to assist with pain relief.⁵²

[54] On 10 June 2019, prison officers reported concerns about Mr Carter to healthcare staff as he was in pain. Upon review by healthcare staff, observations were taken (pulse: 76; oxygen saturations: 99%; temperature: 36.1 degrees Celsius; blood pressure: 164/95). It was noted that Mr Carter was not reporting any other symptoms and that Dr Sayers had changed his pain medication that day. Mr Carter was told he would be reviewed in the morning.⁵³

[55] On 10 June 2019, the sample taken from Peter Carter was analysed within Forth Valley Royal Hospital Laboratory.⁵⁴

⁵¹ Ibid.

⁵² Ibid.

⁵³ CP 6 Glenochil Medical Notes p394.

⁵⁴ Ibid.

[56] On 11 June 2019, Mr Carter's blood test results were viewed by Advanced Nurse Practitioner Jackie McKeitch within HMP Glenochil via the NHS IT system⁵⁵. His CRP level was 296 and his WCC was 21.3⁵⁶

[57] On 11 June 2019 Mr Carter was reviewed in his cell by healthcare staff. At 10.30am, it was noted that Mr Carter was crouched on top of his bed, evidently in pain and pointed to a distended stomach. Mr Carter stated that he had not slept much and had vomited during the night. Observations were taken and an emergency ambulance was contacted. Paramedics attended, stabilised Mr Carter and transferred to Forth Valley Royal Hospital.⁵⁷

Second admission to FVRH 11 June 2019

[58] On 11 June 2019, Mr Carter attended the emergency department at Forth Valley Royal Hospital.⁵⁸ It was noted that he was unwell with abdominal pain and that his symptoms had deteriorated over the previous 3 days. Following examination, it was thought that Mr Carter was in septic shock with an acute abdomen. The plan was inter alia, to arrange surgical review and undertake a CT scan.⁵⁹

[59] At 13:50 on 11 June 2019 Mr Carter was reviewed by the surgical team at FVRH. It was noted that there had been a three day deterioration in Mr Carter's symptoms, with increased abdominal pain and decreased eating and drinking. Following review, it

⁵⁵ Statement of ANP Jackie McKeitch, dated 13 July 2022 DC Esplin.

⁵⁶ Ibid.

⁵⁷ CP4 FVRH Medical Notes p104 and CP6 HMP Glenochil Medical Notes p394.

⁵⁸ CP4 FVRH Medical Notes pp 107-111.

⁵⁹ Ibid. p111.

was arranged for Mr Carter to undergo a CT scan, for a catheter to be inserted and for the critical care team to review Mr Carter.⁶⁰

[60] At 1410 hours on 11 June 2019 Mr Carter was reviewed by the critical care team at FVRH. It was noted that blood gasses had shown significant lactic acidosis. It was noted that a CT scan had been arranged and, following that scan, Mr Carter would either undergo surgery or be admitted to the HDU depending on the findings of the scan.⁶¹

[61] Blood results reported on 11 June 2019 showed, inter alia:

- a. CRP: 286⁶²
- b. WCC: 31.5⁶³

[62] Mr Carter underwent a CT scan on 11 June 2019. The CT showed an ischaemic small bowel with occlusion of the superior mesenteric artery and coeliac trunk.⁶⁴

[63] An emergency laparotomy was performed which showed a perforated gangrenous ischaemic small bowel, gangrenous gallbladder and gangrenous right colon to transverse colon.⁶⁵ Said condition was non-survivable and Mr Carter was transferred to the Intensive Care Unit to remain ventilated until his family arrived.⁶⁶

[64] On 11 June 2019, at 2215 hours Mr Carter's brothers and nephew arrived at the Intensive Care Unit. By around 2230 hours Mr Carter's sister also arrived at the

⁶⁰ Ibid p127.

⁶¹ CP 4 FVRH Notes p128.

⁶² Ibid p180

⁶³ Ibid p181

⁶⁴ Ibid p128

⁶⁵ Ibid pp205-207

⁶⁶ Ibid pp200. Entry 17.25 hrs.

Intensive Care Unit. Mr Carter's family remained with Mr Carter. Prison staff remained close by in an ante room. At 2250 hours Mr Carter's treatment was withdrawn and the ventilator disconnected. Mr Carter's life was pronounced extinct at 2313 hours.⁶⁷

Post mortem examination.

[65] On 17 June 2019 a post mortem examination was carried out at Edinburgh City Mortuary and the cause of death is recorded as⁶⁸:

1a Complications of ischaemic bowel

Witnesses

[66] The following witnesses gave evidence.

Mrs Gillian Lowe

[67] Ms Lowe is the department manager for Clinical Chemistry, Haematology and Blood Transfusion at FVRH. She has a BSc (Hons) and MSc in Biomedical science, and a postgraduate management qualification. She is 57 years of age. She gave evidence by webex video link. She has undertaken this role since 2017. Previously she was deputy manager. Ms Lowe explained the process for blood samples being tested in the laboratory. A sample is received into the lab, booked onto the computer system, and then taken to the lab for testing. All results are automatically transmitted to the

⁶⁷ Ibid at pp199-200

⁶⁸ CP1 Post Mortem Report.

computer system "ilab". The results are then authorised, a paper copy printed and transported to the prison by a lab van, usually a day or two after the sample received. The testing is highly automated by machines called Analysers. The results are looked at by a biomedical scientist. The purpose of this is to confirm the accuracy of the result. It is a process of validation of the accuracy. They also look to see if the result has triggered a set criteria for phoning the result urgently. There is a protocol for this to be followed.

[68] Some samples, according to the type of test, are looked at by a clinical scientist. A clinical scientist has enhanced qualifications and expertise. A consultant clinical scientist will likely have pathology qualifications such as membership of Royal College of Pathologists. They are able to interpret results and look at a result in context. The biomedical scientists have a different role. It is more, the production of the results on the machine, and quality control to ensure validity. They do not interpret the results. That is their role in the general chemistry lab. CRP, electrolytes etc are general chemistry. They do phone results too, but on the basis a result has breached a phoning criteria (set out in Standard Operating Procedure).

[69] The clinical scientists review some specialist test results (immunoassay etc) in the lab. They do not clinically review any general chemistry results. This is the position now and also in 2019. It is still dealt with in much the same way. The results are uploaded to a computer system. The prisons would access that system. There is no prompt to the recipient (Prison or GP) to do so. The prisons in 2019 would also receive a paper copy. Ms Lowe referred to CP 9 - SOP. She authored this Standard Operating Procedure which was in force in 2019. It is a list of critical test results for Haematology,

that have to be phoned urgently. It is a set criteria. Where those limits are met, the result has to be communicated urgently including out of hours by phone call. CP 12 is an updated version of the same protocol. CP 10 is the SOP for urgently communicating general chemistry test results, in force in 2019. CP 11 is an updated version of the same protocol. These protocols instruct the bio medical scientists to phone test results that exceed set limits.

[70] The CRP limits for phoning is 300 or greater if the patient is in hospital. In primary care, to phone if the CRP is greater than 200, but only if it is a “new finding”. That applies to primary care, GPs and includes prisons. It remains the same presently albeit under review. Mr Carter’s CRP of 296 recorded on 10 June 2019 was not phoned because it was not a “new finding” above 200. He had results above 200 when discharged the week prior.

[71] She confirmed there was no mechanism for input from a clinical scientist in relation to CRP test results no matter what the test result. She stated there were too many results to have clinical oversight. The results in general chemistry would simply not be looked at for a clinical picture.

[72] Asked whether there were any circumstances when the lab would phone and would take steps to highlight some results to the requestor in primary care, Ms Lowe said it would only happen if the result met the criteria listed numerically for breaching a phoning limit in the SOP.

[73] Since 2019 there have been some limited changes in communication with prisons. She believed the SPS wanted electronic transmission and therefore NHS IT and SPS IT

became involved to allow the prisons to access “Order Comms” electronic reporting. In 2019 the request and report were paper. Most users are now using the electronic system. It is a major benefit reducing transcription errors. All information is contained in a bar code allowing scanning etc. Prisons were one of the last users to adopt Order Comms.

[74] Re clinical scientists, there was only one in 2019, Mr Redpath. There are now two in post since September 2019. They still do not clinically review standard results. Their role is restricted to certain specialist tests being reviewed. They set criteria, undertake service development and provide advice to clinicians.

[75] She confirmed the laboratory does not have UKAS accreditation. UKAS is the relevant standard setting and accreditation body. The Chemistry lab is not accredited and was not in 2019. The Haematology lab is progressing towards an assessment in March 2025. For Chemistry a third clinical scientist has been approved to be hired. That is part of the plan because Ms Lowe advised the lab will not achieve accreditation without a third clinical scientist. The lab has been unaccredited since before 2016. The issue for UKAS being a lack of clinical direction in reporting results. It was why Mr Redpath was hired. Ms Lowe advised that he came in and decided another clinical scientist was required. UKAS have a set of standards the lab must adhere to. The lab needs to have process based risk assessments etc. There are many requirements. A business case has been approved for a third scientist. Ms Lowe confirmed that results will still not be phoned if “abnormal”. They must breach the “critical” phoning limits.

The local guidelines are stricter for CRP than elsewhere, or indeed the RCPATH⁶⁹ guidelines. That was put in place by Mr Redpath after review.

Dr Craig Sayers

[76] Dr Sayers. 55 years of age. Clinical Lead for the Prison Health Service in Forth Valley. Dr Sayers advised that he is a doctor practising as a general practitioner leading the prison healthcare in Forth Valley. That encompasses three prisons including HMP Glenochil. He has undertaken that role for 24 years. He has been qualified as a doctor for more than 30 years.

[77] He was working in the role in 2019. He did not meet Mr Carter (hereinafter referred to as PC) but recalled the case well. He advised that the service is nurse led with a number of advanced nurse practitioners. He is the clinical lead and only doctor. He serviced all three institutions and held clinics at HMP Glenochil on Mondays.

[78] His first contact re Mr Carter was on 4/6/2019 when the nurse team phoned him at 5.00pm approx. Mr Carter was a prisoner who had just been returned from hospital to Glenochil. They advised he was on Oramorph. This is an opiate pain killer, and a controlled drug. It is not allowed to be taken into a cell. It can be administered by nurses but only lasts 2 hours so it is difficult to manage as the nurses are not at the prison 24 hours a day. Apart from practicalities, it is a very powerful painkiller.

Dr Sayers wondered why PC was being released from hospital if requiring it. Dr Sayers

⁶⁹ Royal College of Pathologists

was at home when the nurse called him. He then telephoned the ward at FVRH Mr Carter was released from and queried this with staff (nurses) there. Dr Sayers advised them that Oramorph cannot be given in prison and also, it is very strong so asked why he needed it at discharge. They told him that no Oramorph had been given to the patient that day 4/6/19. The previous day it was given a couple of times. That it did not need to be given following discharge.

[79] Dr Sayers hence phoned the health centre nurses at the prison and told them he had spoken to the ward and PC did not need Oramorph. He told the prison nurse to give PC alternative pain medication and his antibiotic. He was not spoken to about Mr Carter again until 10/6/19. That day was a Monday, and is the one day of the week Dr Sayers held a clinic at Glenochil prison. A nurse asked him to write a prescription of Oramorph for PC. He realised it was the same man from the week before. He does not think he had been given Oramorph. He had been written up for Dihydrocodeine which is a strong pain killer that is allowed in prison but was not getting adequate pain relief. He reviewed the Kardex and advised PC could get Co-codamol in his cell. He advised that he knew PC had been home for a week and he was still sore. He did not know the diagnosis; what was wrong with him and so he accessed PC's medical records on the computer. A discharge letter dated 8/6/19 advised the diagnosis was acute Cholecystitis (inflammation of gallbladder) and there was an instruction to repeat his liver function tests in 1 week which would be 11/6/19. CP4-p100. That is the letter he found he advised. In 2019 while those in the community received electronic letters to their doctors, the prisons were less well connected to the hospital. A paper copy discharge

letter was sent and a more limited one accompanied the patient home. More recently that has become electronic which is better. He subsequently accepted that nurses had also received discharge information requesting the Liver Function Test be repeated, close to discharge as recorded in the notes on 5/6/19.

[80] Dr Sayers wished to check previous test results to see how abnormal the liver function tests were to compare with next ones to be taken. He then checked all the blood test results which he could access on line. Two results were particularly notable. The CRP at 276 and the WCC 16.7 on discharge on 4/6/19. For CRP the normal range is 0-5. On checking the results on Clinical Portal he was very concerned that the results on 4/6/19 were actually worse than on 3/6/19. He was concerned they had deteriorated and he had been back a week. It was clear to him they needed to take a full set of blood results from Mr Carter urgently. Dr Sayers referred to CP6 at p395 Prison Health care notes, where he has noted that the patient brought to his attention on 10/6/19 as he had been using Oramorph over 10 and 9 June 2019. There is a note regarding his concerns at release with Oramorph and his phone call to the ward. He notes the change to DHC and Co-codamol for break through pain relief. There is a further note including:

“CRP and WCC were markedly raised at time of discharge and indeed increasing at time of discharge ? Appears his pain is worsening given increasing requests for analgesia-was he fit for discharge at time given worsening picture ? Await results then consider discussion with surgeons.
Dr Craig Sayers.”

[81] He told the nursing staff that when the prison reopened in the afternoon to visit Mr Carter and take bloods urgently. To make observations of him and if they had concerns about him to telephone Dr Sayers right away and he would call the surgeons at

FVRH if they had clinical concerns. If not, then to send the blood sample away urgently and have them phoned back. He never received a call from the nurses that day. The blood results are recorded at p394 of CP 6 from 10/6 sample. WCC 21.3 and CRP 296. Mr Carter was transferred by staff to FVRH by ambulance the next day as he was unwell.

[82] He advised that the blood test was requested by a paper copy. It is now electronic. In GP practices the lab van comes once a day. It was 12-12.30pm so they had already missed the lab van. The sample would either be taken by taxi or a member of staff. If the request was urgent, then normally he would expect it phoned back. If out of hours and results are abnormal or urgent, the lab would call the GP out of hours service. Dr Sayers said that would have been his expectation in this case.

[83] A nurse would take the blood from PC in his cell at 1.30pm after the prison unlocked, and it would be after 2.00pm before it got through the prison. It is about 40-50 minutes by car or ambulance to the lab. It would need to be taken.

[84] He advised that he was unaware there was a set criteria whereby a CRP reading greater than 200 would not be phoned by the lab if not a "new finding". As a consequence the result was not telephoned.

[85] He said that he would expect those results to be phoned back urgently. The CRP and other parameters were elevated significantly. The WCC was 21.3 which is a significant increase. It was very surprising the WCC alone did not trigger a phone call. It is a pattern of a steady increase. He was looking at the pattern and the context. PC had been receiving antibiotics since discharge but the bloods told him things were

getting worse. Dr Sayers advised that if he had been told of the blood test results on 10/6/19 he would have had Mr Carter admitted to FVRH straight away by ambulance, such were his concerns.

[86] Since 2019 there have been some changes. The move to greater electronic communications is an improvement. He approached the hospital to say the prisons are not content. When a prisoner is discharged back to prison from hospital there are limited numbers of prison officers. There are nurses but it is not a 24/7 service. He explained the prison system to the hospital staff. A discharge checklist was created at his instigation. See FVHB Inv 1- Pro 8. – Hospital Discharge to Prison Document. The hospital must phone the prison in advance of discharge and go through the check list. (Eg What was diagnosis, what tests done, tests outstanding, medication, changes to meds etc). They go through that with prison medical staff and the SPS can tell them to not discharge - they will not accept the patient back if not content or ready for them. Some patients require facilities or equipment the prison simply does not have. The check list was implemented a year ago. Dr Sayers was instrumental in its set up. Unfortunately it is not always used. Dr Sayers has recently spoken to the surgeons at FVRH at a very constructive meeting. That was because of another patient. The checklist is electronic and it must be utilised. A paper copy is pinned to the front of all prisoner patient's notes. They cannot be discharged without using it. There have been frank discussions and he has raised awareness and asked to speak and present the discharge check list to all ward nurses.

[87] The check list has a section “Any abnormal investigations”. That should highlight blood test results. In this case he advised that if he had been aware of Mr Carter’s blood test results from 4/6/19 he would have refused to accept him back from the hospital. The result is rising. He is acutely unwell.

[88] He was asked if 9/6/19 was the first note of PC being in pain and whether this was a worsening picture. He advised that he could not say if it was a worsening picture on 9/6 or not. He was clearly in discomfort. It was not raised that he was significantly worse really, just that he was not managing his pain. That it is not unusual in his experience, to have continuing pain after being in hospital for 11 days. He was asked whether a patient can look well but may not be and replied, that is where blood tests help you out in knowing the clinical picture.

[89] In relation to the blood test results from 10/6/19, he confirmed that they were communicated in the following manner. On 11/6/19 ANP McKeitch went to see Mr Carter. He presented worse. She went to look on line for the test results and had sight of them. They appear once available, but you have to go and look for them, unless they are phoned or flagged in some way.

Mr Joseph Crozier

[90] MBChB MRCS, FRCS (Gen surg) MD. Consultant general and colorectal surgeon at FVRH, Larbert. Aged 48 years. Consultant at FVRH since 2012. Mr Crozier confirmed that Mr Peter Carter was his patient at FVRH. Mr Crozier stated that he first saw Mr Carter on 25 May 2019 on a ward round. It was noted that he had cholecystitis

with a dilated common bile duct. That is inflammation of the gallbladder. He was already on IV triple therapy (three antibiotics). His WCC was 21 and CRP was 350. These are measures of inflammation. Both results are high. He explained the morning ward round usually involves looking at the previous day's blood results due to timings. A junior doctor FY1, will order the blood tests the previous day. The phlebotomist will then attend at 8.30am. The results start to come back around lunchtime. They will be looked at by a junior doctor in the afternoon. Anything significant is escalated to a more senior doctor to act upon.

[91] He advised that if the labs consider there is a result that is alarming they will sometimes telephone the ward. That did happen on 24 May 2019 for Mr Carter re a CRP result. Mr Rodger, a consultant colleague had seen Mr Carter on 24/5/19 and arranged a CT scan. An ultra sound on 24/5 showed he had cholecystitis. He would have arranged this CT if Mr Rodger had not. A CT was undertaken on 25/5 but the result not seen until the following day. A CRP of 350 he said, was a pretty high inflammatory marker, so a CT would be done to check they were not missing anything. For example, an abscess or perforated gallbladder. You are undertaking a CT scan he advised to rule out other complications. The scan result confirmed appearances in keeping with acute cholecystitis with minor prominence of the biliary tree. There were no obvious gallstones demonstrated. He confirmed that gallstones even if present (as they were here at post mortem), are not always seen on CT or ultra sound imaging.

[92] Surgery would have been considered, as it is for every patient with cholecystitis. If the CT scan had revealed something such as a perforation, they would have operated

to remove the gallbladder. He had been fasted prior to the CT scan in case surgery was required. Mr Carter remained on the IV antibiotic treatment and pain relief. On 26 May 2019 on the ward round the CT scan results were noted as in keeping with cholecystitis. His CRP was raised at 412. These are the results from the day before. He did not have a temperature. The note from the ward round indicates we were content we had a cause for his high CRP ie cholecystitis. The blood results can take a while to improve he said. CRP goes up after an inflammatory insult. WCC comes down earlier as it drops quicker.

[93] The plan was to continue with intra venous (IV) antibiotics. It was noted Mr Carter would need a laparoscopic cholecystectomy in due course. An operation to remove the infected gallbladder, at some later point, but not as an emergency. He said that there was no clinical indication to do an emergency cholecystectomy in his opinion, and Mr Carter was improving on antibiotics. He was responding to conservative treatment (ie antibiotics) and even with hind sight he did not think he would have done anything differently. He then saw Mr Carter on 27 May 2019. It was noted the CRP had decreased and he was doing well. His observations and bloods were improving.

[94] He next saw Mr Carter on 29 May 2019. At that time he was still complaining of intermittent pain. That is not unexpected. He saw that Mr Rodger had changed the antibiotic to Tazocin the day before. His CRP and WCC had increased the day before. The plan was to continue with this antibiotic. He saw him on a ward round on 31 May 2019. That was day 3 of the IV Tazocin. The blood results were improving. He did feel a bit sick which is not uncommon. The plan was to continue the IV antibiotic over the weekend and there would be a switch to oral antibiotics on Monday 3 June 2019 if he

was well. That was because he was clinically improving. That is his standard practice with improving patients. He said bloods should be checked the following day 1 June 2019 and then Monday 3 June 2019. The CRP was decreasing from 401 on 29 May 2019 to 301 on 30 May 2019. He was seen by Mr Wilson a consultant surgical colleague over the weekend who was happy to continue with the conservative treatment.

[95] Mr Crozier next saw Mr Carter on 3 June 2019 ward round. He was noted to be feeling better and his CRP was 263 the day prior (actually Saturday 1 June 2019 test - he said he was to have a day off on Sunday 2 June from testing.) It has been noted that if Mr Carter's bloods were better he should be transferred to oral antibiotics and sent home the following day and followed up in the clinic. Basically, what Mr Crozier was saying is that if his bloods on Monday 3 June were ok then he would be able to be transferred onto oral antibiotics, and then when reviewed on Tuesday 4 June if he was continuing to improve he would be able to go home (prison). Mr Rodger saw the results from 3 June 2019 on Tuesday 4 June which showed the CRP down again. Clinically he seemed to be improving and he discharged him. Mr Crozier also would have been happy to discharge home on the basis of the 3 June 2019 blood results. Mr Carter had been seen every day and was improving. Repeat bloods were to be taken in a week's time to check his progress. It is likely he would have been re scanned when he came back to the clinic to check for gallstones prior to an operation. A laparoscopic cholecystectomy.

[96] Mr Crozier confirmed that conservative treatment is treatment with IV antibiotics allowing the intra-abdominal infection (here acute cholecystitis-gallbladder) to settle. It will allow surgical intervention, if necessary, at a later date with less

complicating factors. Ultra sound, blood tests and CT scans are all normal investigations used. He confirmed that when he is doing a ward round he is usually looking at blood test results from the previous day. However, those results would probably have been reviewed the previous day by a colleague. In respect of the process, a junior doctor will usually automatically order blood tests. Sometimes, as with Mr Carter the consultant may say (test every second day over a set period). There is a named consultant but it is a junior doctor who types the order in. There is no notification to tell the consultant a test has been requested. While he was aware the lab do sometimes phone the ward with a concerning result, he was unaware of the criteria or alert parameters the laboratory used to do this.

[97] He confirmed that while a doctor had ordered a blood test on 3/6/19 which was taken and available on the 4/6/19, the blood test result was not phoned to the ward and furthermore there did not appear to be any consultant awareness of that test / result. He said he was unaware. If he had been he would have reviewed it. He does get a lot of phone calls along the lines, "Mr A is due to go home, but there is a blood test here. Please view it and decide if you still want him to go home." It did not occur here with Mr Carter. Usually, Mr Crozier himself, Mr Rodger, or the specialist registrar would be called about a result. He was not. He accepted it was a possibility that none of them were made aware of the 4/6/19 blood test result and hence none acted upon it. There are no references in the medical notes to the 4/6 blood test result. When referred to that test result as recorded in CP-6 p400- a CRP of 276, he said he would expect to be told of this result. He would expect a phone call to his team given the trend here.

[98] The patient is about to be discharged. He has been switched to oral antibiotics. Normally a senior team member would be alerted. The question would be, "Do you still want to discharge?" One possibility is that no one saw the results. Mr Crozier confirmed he was aware of the new Discharge to Prison Check list. When asked if there were a way to ensure blood test results were looked at he advised there are two electronic systems. Order Comms, and Clinical Portal. The clinician has to actively look for results. One has an audit trail. Mr Crozier was asked about Alkaline Phosphatase results from 1 and 3 June. They show an upward trend. That can be for varying reasons he advised. It is a liver enzyme.

[99] Mr Crozier was asked about his statement that surgery was not indicated. He said Mr Carter had pain for several days prior to hospital. In his training, there is a window of 3-4 days from onset of pain, to operate. The only reason to operate outwith that window were if there were dangers present such as peritonitis. Outwith 4 days there are increased risks associated with surgery as the inflammation has progressed. Additionally, he did not have radiological evidence of gallstones. The plan was to let it settle with antibiotics and then in a few weeks re check with scans and if gallstones are present to operate in more favourable conditions. Asked if he would do things differently he advised it was difficult to say as he had not seen Mr Carter on 4 June 2019. It was put that Alkaline Phosphatase was increasing. He advised that ALK Phosphatase is not a result he affords significant weight. CRP and WCC, particularly CRP are more significant indicators to him. He was asked about discharging on the same day as moving Mr Carter from IV to oral antibiotics. He said this was his standard practice and

is such in the west of Scotland. He sees no reason to delay discharge further. Asked about failing to conduct a further CT scan, Mr Crozier advised that CT scanning was available. It was not a resource issue, but he would not re scan unless there was a requirement indicated.

[100] Asked whether a CT scan can detect acute mesenteric ischaemia, he confirmed that sometimes that can be seen on a scan. You would have severe abdominal pain and require to intervene quickly as it kills people quickly. Either you treat the clot or in other types an operation to remove the dead part of the gut.

[101] Mr Crozier emphasised that on reviewing the patient he is assessing how he is overall. How does he seem, feel, look? He was not made aware of any clinical observations that caused him concern. Eg if he is saying he is in pain that is noted. A lot of what he does is looking at trends. Bloods are a factor but only one aspect. Re CRP he is not looking for it to return to normal but a trend downwards before discharge. He confirmed the bloods (not requested by Mr Crozier) on 4/6/19 would have been available on the afternoon of 4/6/19. The issue is they do not come to him. You have to look for them or more usually a colleague ordering them will draw them to his attention he said. He would have expected this CRP 276 to be shown to him.

[102] He would have reviewed the discharge if made aware of the blood results from 4/6/19. It was hard to say exactly what action he would take. If the patient still in the hospital he would have stopped the discharge, kept him in the hospital, kept him on oral antibiotics and reviewed the next day. Further blood testing would be undertaken. A CT scan was a possibility. If PC had left, they would phone the prison and either bring

him back or require testing to be done there first. This would certainly have made him pause to rethink the discharge.

Mr Christopher Rodger

[103] Mr Christopher Rodger, Consultant General & Colorectal Surgeon at Forth Valley Royal Hospital. MBChB and fellow of the Royal College of Surgeons. Mr Rodger advised that he had been a Consultant Surgeon since 2010. Mr Rodger referred to his statement of 6 November 2023 and confirmed the following. He advised that he did remember Peter Carter. That was because he was particularly sore when he first came into the hospital. Demonstrably in pain and that stuck in his memory. He confirmed the following. His recollection of him is more from when he was first admitted rather than when he was discharged.

[104] Mr Rodger saw Mr Carter five times, each time on a ward round. One of the junior doctors has written the notes following each ward round. He first saw him on 24 May 2019. By that time, he had had an ultrasound which had shown a distended gallbladder with a thickened wall and positive Murphy's sign. A positive Murphy's sign is tenderness directly over the gallbladder. There were no sign of gallstones. The ultrasound was looking for gallstones, inflammation in the gallbladder, or a liver pathology. The most common diagnosis for someone with a distended, thick walled gallbladder with positive Murphy's would be inflammation in the gallbladder and that is most commonly secondary to gallstones. The labs had phoned in his blood results prior to the ward round and his C-Reactive Protein (CRP) was recorded as 350. That is

significantly elevated. CRP measures an inflammatory response. It indicates that there is an inflammation process somewhere. It is not an absolute but you use it as a guidance with other bloods results, clinical signs and other physiological parameters. This was a slightly unusual picture so he was referred for a CT scan, which took place later on 25 May 2019. He remained sore and was to continue on IV antibiotics. The CT scan was reported as having appearances in keeping with acute cholecystitis with minor prominence of the biliary tree. He next saw the patient on 28 May 2019. The first entry in the note is noting an event overnight, when he had pulled out his cannula. He had a NEWS score of 1, which is an early warning score of 1. 1 is not concerning. There is then an entry "HR" which stands for heart rate, but no value has been entered. It then says that his bloods are improving. On examination, he was tender on light palpation. His clinical signs were improving. The plan was to continue on IV antibiotics and to stop fluids. He could take enough fluids orally so he did not need IV fluids. He had pulled the cannula out the previous night and did not want IV fluids.

[105] He had reported that the painkillers were making his pain worse. That was unusual. He was on Paracetamol and that does not have many side effects. The plan was to continue IV antibiotics because inflammatory markers were still high. He saw him again later in the afternoon on 28 May 2019 on the ward round at 1555 hours. His bloods were noted. His CRP was raised to 443 and his White Cell Count (WCC) was raised to 18.6. He was still complaining of abdominal pain and was not managing food. Neither of those things are unusual for patients with cholecystitis. He changed his antibiotics to Tazocin. That was to provide additional microbiological cover. Tazocin is

a “stronger” antibiotic. We have also noted that he was to be given analgesia. There is then an entry saying “fast from now”. The only reason to fast would be if there was concern that there might be a deterioration. You are always thinking about the possibility of surgery especially when someone is very sore. He thought that his pain would settle with antibiotics. In his case, he did respond to conservative treatment after a period. Surgery in the presence of significant cholecystitis can be associated with higher risk of peri-operative complications. He next saw the patient on 30 May 2019 on the ward round. That would have been sometime between 8.00am and 9.00am. His NEWS score is 1. Again, there is an entry “HR” with no entry. It is noted that he looks improved. His IV Tazocin was ongoing. His bloods have been noted. His CRP was recorded as 409, which was a drop from the previous day. This is not a huge drop but it is a drop in the right direction.

[106] It was reassuring that things were going in the right direction based on his clinical picture. He was mildly tender and soft on his abdomen on the right side. The plan was to continue management with IV Tazocin and that he should eat and drink as able. If his blood results had started to go up again, he might have arranged further imaging or he might have done so if there had been a change in the clinical picture. He did not think it was necessary in his case.

[107] He next saw him on 4 June 2019 on the ward round. He was noted as feeling better. On examination, there was minimal tenderness in the right upper quadrant of the abdomen. His bloods were noted. His CRP was 233. He would have been looking at

the results from the day before when he saw him that morning as the blood result available first thing in the morning is the result from the day before.

[108] The plan was that he should eat and drink as able. He was to be discharged that day. His liver function tests were to be checked after 1 week by the prison doctor. He was to be followed up in the clinic after 8 weeks. He was to be given oral antibiotics.

This patient's inflammatory markers were not normal and he was still sore. That meant he did still need antibiotics. The entry in the notes from the ward round with Mr Crozier on the previous day had said that if his bloods were better he would be transferred to oral antibiotics and discharged the following day.

[109] He was not aware that one of the junior doctors had requested further bloods the night before. He certainly would not have been expecting them to check the bloods again based on the ward round on 3 June 2019. The report from the day before (3 June 2019) was that if his bloods were okay he should be going home. Nothing appeared to him to have changed in a negative way and he was carrying on with that plan. Looking at the trend over the previous days, stepwise his CRP had gone down. His pain was controlled and his general clinical condition was better. The overall picture was that he was okay for discharge. He cannot deny that his CRP had gone up on the day that he went home. If he had been aware of that before he was discharged he would have said not to send him home and to check them again the following day. If the results had been reported to him after he had been discharged, he would have said to notify the prison doctor and for the bloods to be checked again the following day.

[110] Mr Rodger advised that while the lab does on occasion phone blood test results to the ward, that is when they are abnormally high but he is unaware of the criteria or numbers the laboratory will apply. The patient was treated with first and then second line antibiotics. As the diagnosis was cholecystitis he confirmed that he would be considering surgery. Laparoscopic cholecystectomy. That is a significant risk if the cholecystitis is advanced. These risks were described as bleeding, damage to the common bile duct which can prove disastrous, increased infection etc laparoscopic surgery may not be possible. He reasoned that with the Tazocin, matters were progressing satisfactorily. Further imaging may have been considered if blood results had started to increase. CRP and WCC and also some liver function tests would be the markers to watch. If those rose imaging would be reconsidered. In respect of the blood test result of 4/6/19, he was unaware it had been requested or reported. It was not relayed to him in any way. If requested on the morning he would expect it to be noted in the ward notes. It was not. CP5-p318, p320 are the notes of his ward round on 4/6/19. Under reference to the blood results from 4/6/16 (CP6-p400), he commented that two results are notable. CRP at 276, and alkaline Phosphatase at 597. Both are elevated from before. On the basis of those he said it was unlikely he would send Mr Carter home (prison). These results demonstrate the start of a trend upwards, in the wrong direction. It may be a sign of a problem or something else happening. He would not necessarily have replaced the oral antibiotics with IV. He would wait to see the pattern first. Repeat blood tests would be taken. The discharge would hence not go ahead. If the

patient had already left he would make the prison doctor aware. Tell them, an abnormal result and to be retested.

[111] Mr Rodger was referred to the blood test results of 10/6/19. These are higher than 4/6/19 results. He would have found them concerning. If advised of the context, including that the patient was requiring significant pain medication, he would advise the prison to return him to hospital. If readmitted he would almost certainly have been CT scanned. Has he perforated his gallbladder? After that period of time we would be expecting him to get better not worse he advised. That would trigger a CT to look for the reasons. On being asked about not waiting to observe the patient for 1-2 days on switch to oral antibiotics he said this was not his practice during his time as a consultant. The ward does not have capacity for this. Beds are in demand. It depends on the clinical context not a rule.

[112] The discharge letter process is conducted by a junior doctor. It can be days before they come back. Asked about not re imaging, he said he felt the bloods were improving over several days. The clinical position appeared to be improving so it was not considered necessary. There is massive pressure on radiology. Scans have to be justified. Asked about the 4/6/19 blood results he confirmed he received no communications about it. He would expect it to be escalated to him by any doctor seeing it, a junior or registrar. When a test result is in the system there is no alert. You have to go and look for it. There are two systems (Order Comms & Clinical Portal). He would expect to have been told of it. No colleagues alerted him. It was also not noted. It is possible no one looked at the results that day he confirmed. He confirmed that

since 2019 there had been a change in practice whereby lap top computers were now used on ward rounds and test results should be easily accessible through them.

[113] In respect of the discharge on 4/6/19 there was nothing that he saw that appeared to contradict Mr Crozier's plan to discharge. Bloods were one aspect but he would also speak to the patient, observations re his eating, drinking, mobility, pain etc. There were no clinical signs causing him concern. Asked about Mr Carter vomiting the previous night, he said that he would not discharge a patient who could not keep oral antibiotics down. The request for LFT to be repeated in a week was because the alkaline phosphatase was elevated at time of discharge. That was in keeping with cholecystitis and so he wanted that to be checked again. In respect of changes to practice since 2019, he advised that the ward round system had been stream lined into two teams of six consultants. The nurses are more involved now and the lap tops are available. It is an improvement. The main benefit is the ability to check certain results and prescriptions on line on the ward round.

Dr Karin Belch

[114] Dr Belch, aged 30 years, MBChB, BSc. Qualified in 2018 as a doctor and is presently employed as an anaesthetic trainee at the Queen Elizabeth University Hospital in Glasgow. Dr Belch was working in June 2019 at FVRH in Larbert. She was a Foundation Year 1 doctor. It is the most junior grade of doctor commencing after graduation. She has no recall of Peter Carter or the case and relies upon notes she has seen. She explained that at that time as a FY1 you were not officially registered with the

GMC. The role is primarily administrative. There are no prescribing rights and any clinical decisions are escalated. At that time the role involved Dr Belch working on the surgical ward with other junior doctors completing basic organisational tasks such as ordering imaging, ordering blood tests, writing discharge letters and documenting management plans formed by the consultants and senior doctors. She attended the consultant ward round and it was usually the FY1 who took notes. The ward round could often involve several doctors and the lead nurse etc. According to the notes Dr Belch first saw the patient on 3/6/19 during Mr Crozier's ward round. She documented the plan as per the consultant on the round. ("if bloods better, IVOST IV to oral switch, and if patient ok, home tomorrow"). Following recording this plan in the notes she ordered routine blood tests for the following day. Dr Belch was not working on the ward the following day. She also completed the discharge letter.

[115] The process of ordering blood tests was by a computer system. She would order bloods for every patient on that ward, unless told by the senior doctor not to. It was effectively an "opt out" system. Dr Belch confirmed she thinks the system was called "Order Comms". She has not used that system since. It was not very user friendly. She confirmed under reference to pro 10 FVRH Inventory, that the test was ordered at 1644 hours on 3/6/19.

[116] Dr Belch confirmed she had asked for standard blood tests and also a Gamma GT test. It is a liver scan test. She subsequently ceased requesting this test routinely as she learned it was inappropriate. The blood test results were made available on line. You would have to go and look for them. There is no prompt. She was asked about the

ward round. The consultant would look at the blood result from the previous day's blood test to inform the round. A spreadsheet is updated manually by the FY1 for the ward round showing a table of blood results. That is administrative and for the ward round. The round is between 8.00-9.00am. On being asked whose responsibility it was to check a blood result and whether it was allocated to any grade, Dr Belch advised it was collective responsibility, and not one particular grade. She thought that Mr Crozier usually checked all blood results. In respect of a patient being discharged, Dr Belch advised that there was no system in place to check all results when writing the discharge letter (which was an FY1 duty). You would not routinely check to see if any outstanding blood results when writing the discharge letter.

[117] The discharge letter is a template, and she tended to start the letters in advance and add to the letter closer to discharge to save time. Hence she started it on 3/6/19 and Dr Catherine McCollum, a junior colleague who was on the ward the next day, finalised the discharge letter. Dr Belch thinks she was working on a different ward on 4/6/19. She advised that the hospital used different computer systems which she described as a complicating factor. Dr Belch advised that while the initial discharge letter has information re drugs for discharge and other detail, the follow up discharge letter replicates that and can add further detail. This is to ensure the discharge takes place and is not delayed.

[118] In relation to the blood test result Dr Belch advised that where she currently works in Glasgow there is a different computer system called "Trak Care". It generates a list of test results and forces a response from the responsible clinician to acknowledge

the test results have been seen. You must click to confirm you have seen the result.

There was no such system at FVRH, although “Trak Care” existed at that time elsewhere. The responsible clinician is the clinician attached to a patient. It is not necessarily the same individual as the requesting clinician.

Mr Mark Redpath

[119] Mr Redpath adopted his affidavit. Aged 45 years. Bsc (Hons) in Cell Biology and Pathology, MSc in Clinical Biochemistry, a Post Graduate Diploma in Medical Toxicology. Fellow of the Royal College of Pathologists, a Chartered Scientist and member of the European Specialist Register for laboratory medicine. A Consultant since 2011.

[120] Between 2017 and 2023 he was the Consultant Clinical Biochemist and Clinical Lead for Biochemistry with NHS Forth Valley. He is presently employed as Consultant Clinical Biochemist and Clinical Director, Labs and Haematology at NHS Borders. He stated:

[121] Within laboratories, the general chemistry analyses are performed on highly automated analysers the results of which are technically reviewed by biomedical scientists. The majority of results are produced automatically by analysers, clinical results that fall outside clinically approved critical limits are trapped and viewed by biomedical scientists. Where applicable, pre / post analytical interferences are investigated / excluded as a potential cause. Once the biomedical scientist is satisfied

that the result is technically valid, the result is telephoned to the location at which the request has been made. A record is made of the result having been telephoned.

[122] Results falling outside critical phoning limits are reviewed by biomedical scientists in isolation of the clinical context. The process is protocol driven and excludes any clinical scientist from the assessment of the clinical impact of any results. In his experience elsewhere following technical lab validation, there would be clinical validation of results by either a clinical scientist or a medical biochemist. That would involve looking at the results in view of the current clinical picture, in combination with other results, the clinical history, even down to patient location and to check that the laboratory protocol has been followed. For example checking that the results have been telephoned.

[123] Mr Redpath's job at NHS Forth Valley was his first job in NHS Scotland and he remembers being completely shocked at the level of service provided for a large district general hospital. Forth Valley is a very large geographical area and when he arrived there was no clinical validation of test results whatsoever. He had never come across this before. When I say "clinical validation" I am referring, he explained, to the process that follows the technical examination of the specimen. Essentially the clinical scientist or medic reviews the results considering the clinical context, including the location of the patient.

[124] He wrote a position paper on the department in September 2017, highlighting concerns about the services provided and the potential impact on patient safety. He did not get a response to that paper. A review of the workforce was undertaken, and

business cases were submitted for additional non consultant grade clinical scientists but were unsuccessful.

[125] NHS Forth Valley repatriated several testing services from Greater Glasgow and Clyde laboratories to make the department more attractive to potential candidates that would allow for the clinical reporting service to be expanded. These test results could not be reported without clinical review.

[126] He was eventually successful in appointing a second consultant on 0.8 basis to establish clinical reporting of blood test results within the biochemistry lab. This was a significant improvement for him as there was another consultant to assist with the workload. At one stage he had not had a day off for 2½ years. He had concerns for patient safety but it was impossible for one person to oversee results. As the service was being developed, not all abnormal results were reviewed clinically, so those where he felt greatest added value and possibly, risk if not reviewed were included for clinical review.

[127] He undertook a review of the critical phoning limits in response to colleagues raising concerns about not being informed in a timely manner of critical results, this included patients with significantly raised CRP and deteriorating kidney function. It was mainly GP colleagues raising concerns, ie primary care. He implemented the CRP phoning limit of 200 for patients in primary care and 300 for hospital patients. The critical phoning limits were agreed alongside acute medical colleagues and the primary care liaison group. (CDUG; Clinical Diagnostic User Group). CP 10 is a Standard Operating Procedure he developed. NHS Forth Valley Handling Urgent Samples and

Reporting Results that Exceed Alert Limits. He developed this SOP, the purpose of which was to give instruction to staff. The critical limits for telephoning new abnormal results in this SOP are stricter than the critical phoning limits provided by the Royal College of Pathologists but reflected more closely his previous experience and practice.

[128] Clinical reporting / authorisation of results, in his experience is not limited to critical results but includes the review of a larger number of abnormal results, by doing this you can provide interpretation and advice on further testing to prevent the clinical picture deteriorating. It was not uncommon for him to be contacted by consultant colleagues expressing concern that results had not been communicated, resulting in delayed diagnosis and or treatment. Expanding the clinical reporting service with 1.8 members of staff was not possible and it was considered that having the telephoning policy would ensure that new critical results would be communicated.

[129] Another challenge at that time, was that as far as he was aware Forth Valley were the only unaccredited laboratory in Scotland. The Accreditation body UKAS inspect labs against international quality standards ISO 15189 and a decision had been taken to allow the accreditation to lapse between him accepting the job and starting in post.

They remain unaccredited

[130] Mr Redpath was asked now to review the blood test results of Mr Carter between 10 and 11 June 2019. He notes that the CRP level does not really change however the ALT has risen significantly (from 21 on 10th to 923 on 11th). ALT is the marker of liver cell necrosis, and he can see from these results that something significant has happened in the time between these two samples being taken.

[131] Had he had clinical oversight of the blood results on 10 June he would have looked for trends. For example, the ALP marker is increasing from 3 June onwards.

[132] Mr Redpath confirmed that there was no clinical review of general chemistry results when he arrived at FVRH. Only technical validation by the biomedical scientists and phoning of results if passed set critical alert levels. CRP is a general chemistry result. The SOP he introduced set tighter phoning limits than were in force previously. The CRP phoning limits he set were 300 for an inpatient and above 200 for a patient in primary care (if it is a new finding). He advised that a new finding would be one above the set limit unless similar result in days prior. However, if it took a turn for the worse it would be phoned. The CRP on 10/6 was 296 and Mr Carter had been returned to prison. He confirmed that the result was not phoned and that was in accordance with the SOP set criteria. He advised that if he had clinical oversight of the test on 10 June 2019, he would have phoned the result to the prison. He would have looked at the result, a significantly raised CRP at 296, in conjunction with his location being in prison. Because it is significantly raised and Mr Carter was not in hospital. The ALT indicates something is going on in the biliary tract-usually a blockage. The CRP indicates a significant infection or inflammatory process. He can access the previous results and look at the trends. That is something he does now in Borders NHS trust, but did not do at FVRH. Biomedical scientists can access that information but it is neither their role or within their remit or capability to interpret clinically. In respect of the test result on 4/6/19 the lab would not have information the patient was being discharged.

[133] Mr Redpath said that in his current role he does undertake clinical oversight of tests. It is targeted and risk based as not all can be reviewed. He is the only clinical scientist. It is a small NHS trust. It is a third of the size of NHS Forth Valley but it still has a greater level of clinical review than Forth Valley. There are limits to what he can undertake. That includes “Ghost results” where he will allow results to be released quickly to avoid delay but flagged to the recipient that it is subject to clinical review which will be undertaken and updated as appropriate.

[134] Asked about service provision elsewhere he advised that he worked in England for several NHS trusts. All had significant levels of clinical review of the test results. Sheffield reviewed almost everything deemed abnormal. Central Manchester, Newcastle and Northumbria trusts all undertook similar significant levels of clinical review of results. NHS Forth Valley had none when he arrived. Borders had none when he arrived. In respect of Scottish trusts he was aware from a colleague who worked in Highlands that they do have a level of clinical review that is more comprehensive. He confirmed he had repatriated certain tests from Glasgow. (Re tumours and hormones). These were specialist tests that he knew had to be brought in house to attract an additional clinical scientist. Review is required for these specialist tests. It was put to him that blood results are only one factor a doctor will consider. He advised that the clinical scientist does not look at a result in isolation. They attempt to put it into clinical context. He was asked how general chemistry test results would be brought to his attention to review. He agreed that reviewing every abnormal result today is probably unrealistic due to the volume, but there are ways of identifying appropriate sections of

results. There can be a halfway house between reviewing all or none. It can be by location etc. There can be parameters set for results to be reviewed clinically. IT can be used to set parameters. Other NHS labs manage to do it. He had contacted Sheffield to see if they were able to assist at one point. Asked about lab accreditation he advised that accreditation is not a legal requirement and Forth Valley is not unique, but is certainly the only NHS lab in Scotland without it. He would not choose to work in an unaccredited lab. FVRH are still working towards achieving accreditation.

Dr Anthony Higginson. Consultant Gastrointestinal Radiologist

[135] Dr Higginson MB ChB. DA. MRCP (UK) FRCR, Member of British Society of Gastrointestinal and Abdominal Radiologists. Dr Higginson gave evidence by webex. He has been a Consultant Gastrointestinal Radiologist for 22 years as a core member of the Portsmouth Hospitals University NHS Trust. He has conducted over 35,000 cross sectional abdominal radiology studies. He routinely reports ultra sound, CT and MRI scans for acute abdominal presentations. Dr Higginson was accepted by parties and the inquiry as an expert witness. He had been instructed by the Crown to examine imaging in this case in respect of Mr Carter. He did so examining the ultra sound and CT scans from 24/5, 25/5 and 11/6/2019. He spoke to his report CP-15 which he adhered to. He had seen the reports from Mr Anderson and Mr Coggins who differed in their opinions in respect to various areas of Mr Carter's condition at presentation and progression. He had also had access to the inventories of productions which included Mr Carter's medical records.

[136] Dr Higginson confirmed his opinion remained that Mr Carter presented with acute cholecystitis on a background of chronic mesenteric ischaemia with a probable short segment of Superior Mesenteric Arterial (SMA) thrombus at that stage (and therefore the potential for small emboli to effect end organs such as the bowel, unlikely to be seen on imaging). This progressed, most likely secondary to acute cholecystitis and sepsis, to more significant thrombotic occlusive mesenteric ischaemia and thrombotic occlusion of the coeliac axis, resulting in the subsequent acute presentation with infarcted small bowel and additional ischaemic injury to the gallbladder and liver.

[137] It is likely that due to the effects of the ongoing biliary sepsis that the thrombus within the vessels extended from 1.5cm on 25/5/19 to 3cm on 11/6/19 scan and led to subsequent significant occlusive mesenteric ischaemia. It is likely that the extension was at the time when there was significant clinical deterioration and deterioration of the associated parameters measured in the blood. That is a logical deduction he advised. He advised that therefore there was likely to have been a window of opportunity, after the presentation of acute cholecystitis (admission to hospital) and at the point at which significant occlusive mesenteric ischaemia developed, where it could be argued that intervention to optimally manage the cholecystitis (in the presence of a situation where there was a short segment of thrombus at the origin of the SMA) may have further delayed or prevented development of more significant occlusive mesenteric ischaemia.

[138] There were two overlapping issues. There are narrowing of blood vessels over time. Chronic narrowing. Then, a process that has Mr Carter acutely unwell. Acute cholecystitis. The inflamed gallbladder with stones. There is no evidence of chronic

cholecystitis. There is a small thrombus on 25/5. There is blood flow then. There is no significant ischaemia of the bowel on 25/5. The thrombus was having no visible end organ effect in terms of thickening of the wall of the stomach, small bowel or intestine at this point. The scan on 11/6 shows ischaemic bowel. This was reflected at post mortem. The thrombus then extended over time. That is due to the biliary sepsis following upon the acute cholecystitis. His examination of the scans told him this was acute cholecystitis. He explained the features were consistent with this rather than being consistent with non-occlusive vascular ischaemia as the cause. It fitted with a patchy process rather than a sudden event of blood supply loss. He further explained that primary acute cholecystitis was even more likely in his opinion due to the presence of both intrahepatic biliary dilatation which could not be explained by a primary vascular pathology and suggested there is an underlying biliary component causing the cholecystitis. Dr Higginson confirmed that the changes he saw on scans 24/5 and 25/5 were subtle. He would not criticise the radiologist who scanned Mr Carter then, for not seeing them. He was also working with the benefit of not just his expertise but hindsight. He advised that the occlusive event (and infarction) was much more likely to be a biliary event than the contra thesis posited by Mr Coggins. There was no challenge to his opinion in cross-examination.

Mr David Anderson

[139] Aged 65 years. Consultant general and colorectal surgeon. MBChB, FRCS.

Mr Anderson has been qualified for 40 years and a Consultant Surgeon since 1996. Until

18 months ago he was employed by the NHS at the Western General, Edinburgh as a consultant general and colorectal surgeon. He retired from the NHS recently and is now employed at the Spire Murrayfield private hospital as a consultant general and colorectal surgeon.

CP14 - CV. Mr Anderson was taken through his curriculum vitae which he confirmed in respect of experience, practice, positions, publications, presentations etc. Mr Anderson has been a Consultant Surgeon since appointment in 1996 and has a large experience in all aspects of general and particularly colorectal / intestinal surgery and the management of the complex colorectal patient. He has 20 years' experience of dealing with complex emergency intestinal patients. He is an external assessor for the Royal Surgical Colleges in Scotland at Consultant Surgeon interviews and as such is aware of the necessary level of competencies and training requirements in colorectal and general surgery. He has undertaken over 2000 bowel resections - one of the highest in UK. Much re cancer.

Biliary tract surgery, hernias, clinical proctology, gallbladders. In respect of gallbladders he advised he was one of the first surgeons in Scotland to undertake laparoscopic (keyhole) cholecystectomy to remove gallbladders. He did this for 10 years. He was accepted by the inquiry as an expert witness.

[140] Mr Anderson produced a report on the instruction of the Crown. CP-13 which incorporates an original report and supplementary report. This was to look at and comment upon the circumstances of Mr Peter Carter's medical care and death. In doing so he had access to medical records and notes from FVRH and HMP Glenochil, radiology reports, post mortem reports. He also considered published material and on

line research. Mr Anderson's report is very detailed and broken down into four segments. The first segment was the period Mr Carter was in prison from 2014 up to 23/5/19 when he was admitted to hospital. Mr Anderson noted there were obvious problems with abdominal pain intermittently. A long history and weight loss due to lack of eating. However, he still had a new event on 23 May 2019 when he was admitted to hospital. Mr Anderson had no criticisms of the prison which recognised PC's ongoing stomach issues and acted accordingly. When he required a sudden admission they ensured that occurred appropriately.

[141] The second segment is 23/5/19-4/6/19 which was the first admission to hospital. PC was assessed by ultra sound and then a CT scan. The u/s does not always give great detail, and a CT gives more. The CT scan showed the common bile duct was dilated. The diagnosis is acute cholecystitis. He agrees with this diagnosis and says it is correct. The treatment plan was to treat PC with intravenous antibiotics. 1st and then 2nd line antibiotics. That is a recognised and acceptable treatment, as an alternative to immediate surgery to remove the inflamed gallbladder. He was referred to comments in his report p589 where he said:

"the astute clinician may have added some concern around the previous diagnosis of testicular cancer and possibility of vascular damage from radiotherapy but this would be low in a differential diagnosis list."

He confirmed it was important to bear in mind other conditions and not be too fixed on one diagnosis. That meant PC was predisposed to atheroma, reduced blood supply to organs including the gut, which fitted with the history of pain after eating. There was a

presentation favouring acute cholecystitis. That diagnosis was correctly made and a decision had to be made on which of two courses to take:

1. Immediate laparoscopic cholecystectomy
2. Delayed lap cholecystectomy after successfully managing the acute infective / inflammatory event (6 weeks or so later).

[142] He advised that removal of the gallbladder on first admission is preferred by him and many surgical centres. There are risks, but that has to be weighed against the risks of not conducting surgery then. This is Acute Cholecystitis, known as a “hot gallbladder”. It can be delayed to allow the infection to reduce and make surgery easier. You can have inflammatory complexity in the acute stage. If delayed with conservative (antibiotic) treatment, the patient then goes home and will return for elective surgery. However, often when you do that the patient returns as an emergency admission a second time prior to the elective date. He considers from scans that PC’s gallbladder on admission was free and was accessible to surgery without excessive complication. Although he does not criticise the decision to treat conservatively, which is a reasonable decision, what transpires is that PC remains in hospital for 11 days on antibiotics which is a long period of time, and when he is returned to prison on discharge there are a number of concerning factors.

[143] In Mr Anderson’s opinion 11 days is at one end of the scale for conservative treatment and that most patients would be out by 7 days. That said, he would be discharging because the infection has been brought under control. He confirmed an open laparotomy can be performed. Keyhole surgery is preferred as the recovery time is

much quicker. A laparoscopic cholecystectomy deals with the infection by removal of the source of it, the gallbladder, caused by gallstones in acute cholecystitis. The concerning factors he highlighted were as follows: When Mr Carter returned to prison.

- No consideration seems to have been given for a laparoscopic cholecystectomy.
- He has been subjected to 10 days of intravenous antibiotic therapy
- He has had second line, more powerful intra venous antibiotics introduced (Tazocin)
- His WCC and CRP have never settled completely on this treatment
- He was discharged with an actual elevation in his CRP and a high WCC
- He was still symptomatic, in pain and vomiting, the night before discharge
- He was changed from intra venous to oral antibiotics despite a high WCC and rising CRP
- He was changed to oral antibiotics without 24 hours monitoring thereafter
- PC was returned to HMP, where careful monitoring could not take place despite all of the above reasons that it should.
- He was sent back to HMP still requiring Oramorph and dihydrocodeine, some 10 days after admission, for his pain control
- Sent to HMP with a markedly escalating alkaline phosphatase and known dilated common bile duct.

[144] The initial radiological imaging of PC showed not only acute cholecystitis but also a dilated common bile duct. Mr Carter's alkaline phosphatase was climbing during

this admission rising from 146 - 597 on his day of discharge. We have imaging of PC on the 24th and 25th, yet despite the obvious pathology noted and the fact he fails to settle on maximal antibiotic therapy and has blood tests which do not revert to normal, and in some areas worsen, he has no re imaging performed. Under these circumstances, and with worsening bloods tests, it would have been good clinical practice to have at least repeated the imaging of the biliary tract. This would have been by repeat CT scan or MRI of the biliary tract. At post mortem, 1 week later, the gallbladder was necrotic and did contain stones. Although some of these changes may have been due to poor blood flow through the coeliac axis, the gallbladder was irrefutably the source of the initial inflammatory process during this first admission to FVRH.

[145] The standard of care during this 10 day period failed to address the issues of continuing inflammation and sepsis. PC should have been re imaged, particularly as little improvement had been noted clinically and on repeat blood testing. He should have been assessed for worsening biliary tract sepsis, and treated by either laparoscopic/open cholecystectomy or cholecystostomy and drainage, as a bridge to elective laparoscopic cholecystectomy. Both of these options would have controlled his sepsis and reduced the risk of further deterioration. In reality PC was returned to HMP armed only with oral antibiotics and strong pain killers despite showing a rising CRP, grossly abnormal WCC/platelet count and dramatically worsening alkaline phosphatase and an inability to eat and drink with severe pain and new onset vomiting.

[146] Mr Anderson was asked re his concerning factors. That the treating consultant stated he did keep lap cholecystectomy under review. He advised that there was

nothing in the notes recording that decision, which he would expect to see. He advised that re blood results not settling on antibiotics, he meant that the blood had not returned to normal parameters. He would not be happy to discharge a patient who had been on Tazocin and bloods not normal. Mr Carter's CRP was 50x normal levels when discharged. He was in pain and vomiting. That indicates he has not settled from the inflammatory condition. He accepted he had not seen the patient. He is looking back, but said you have to look at the patient. Is he mobile? Is his temperature normal? Is he eating? The Alkaline Phosphatase was not normal. Inflammatory markers were not normal. You factor all these things into a decision to discharge he advised. He confirmed a rising Alkaline Phosphatase level indicated a pathology in the common bile duct. It would have been good practice to reimage the biliary tract.

[147] He was asked to consider the blood results. It is known the doctor discharging did not see the 4/6/19 test result. CP 13- p 600. From 23/5/19 to 3/6/19 the ALK PH went from 146 to 455. The CRP from 178 to 233. The CRP is quite non-specific. Usual is 5. It is not normal. It will go up and down with Tazocin after a lag. There is a change, namely a plateau. It fell from 28/5/19 but is still grossly abnormal. This has to be considered along with other results. WCC rises then falls but not normal. Platelets-it is important not to omit as an important marker of infection. It continues to rise. Mr Carter was admitted as an emergency on 23/5/19, and on 3/6/19 his Alkaline Phosphatase, WCC, platelets and CRP are all higher at time of discharge.

[148] CP 13 - p601 he confirmed his comments:

“Taken alone, these results are very concerning, but in the context of continuing clinical signs of ongoing problems, it is very difficult to understand the logic in transferring PC back to HMP. Likewise, it is very difficult to understand why PC was never considered for a laparoscopic cholecystectomy during this first admission, when the gall bladder was obviously the source of his sepsis. Sepsis which probably played a major role in the development of catastrophic intestinal ischaemia and infarction, in less than a week’s time following his transfer back to HMP.”

[149] Mr Anderson was asked about the period when PC was back in prison. Bloods ordered on 10/6 and not seen until 11/6. It is clear that in prison Mr Carter never really settled. A lot of genuine concern was shown by the staff there. Blood was taken. They scanned the medical notes. Over the 9 and 10 June he was clearly distressed and this was picked up and acted upon by the guards and other staff. The growing concern on 10/6 led to a blood sample being taken. There was a clear delay in that being communicated back. The results were released at 1820 hours. A concern is how these were communicated back to HMP. HMP made a very important observation that the inflammatory markers from blood tests on PC were not only high at the time of discharge but actually worsening and that perhaps he had been prematurely discharged. By the 11/6/19 it is a different clinical picture. PC is in extremus. He was in clinical shock by then. The concern is that having been in hospital where he can be monitored, has access to doctors, testing, imaging, fluids, drugs etc he is sent somewhere he cannot be monitored. Then when bloods are taken vital time is lost. In Mr Anderson’s opinion he had a catastrophic event between 10 to 11 June 2019. CP 13 p 600. Blood Tests. He would highlight the Amylase result. On 10/6 sample it is normal at 28. On 11/6 it is 392.

The ALT is 21 (normal) on 10/6 and 923 on 11/6. Both of those readings are “off the scale” on 11/6, 24 hours later from being normal he stated. The Lactate on 11/6 shows also he is non survivable. Effectively the bloods on 11/6 shows he is in an unsurvivable state. On 10/6 the bloods show no signs of liver death or infarcted bowel. There has been a significant change from 10 to 11 June 2019. At some point from 10 to 11 June 2019 an event has happened. He confirmed that it would have made a difference if Mr Carter had been in hospital. He would have been imaged on 10/6. He would get IV fluids, put in a bed and put on Tazocin, seen by surgeons. He would be closely monitored and investigated. That would be 24 hours before.

[150] Mr Anderson advised he had no criticisms of the care on admission on 11/6/19. He had good input but by then, but sadly it was unsurvivable. Asked if Mr Carter had been taken to hospital on 10/6 if the blood sample had been dealt with quickly (result phoned urgently), he said it would have been 24 hours earlier. He does not think he had infarcted bowel by then so there was a window. We know there is a window of up to 12 hours after occlusion when the bowel can compensate. It may have been less. A few hours from occlusion perhaps. There would be more than a 50/50 chance of surviving if intervening on the 10/6. The bowel was dead by laparotomy on 11/6. There are procedures that can be used to deal with the thrombus. It is not straightforward but there are options to intervene with the patient to prevent his death.

[151] Mr Anderson commented on the laboratory protocol Handling Urgent Samples. CP 13 p632. He was critical of it. He does not understand why the CRP on 10/6 was not phoned urgently. The set criteria is greater than 200 but only for a “new finding”. That

is a new finding he stated. PC is now in prison. The result at 296 is 60x normal range.

It does not take account of the other results either. He had four clearly grossly abnormal blood results on 10/6, (CRP, LFTs, WCC, platelets). Despite having 4 grossly abnormal results in a clinically deteriorating patient recently released from hospital from an emergency admission none of the results raised an alarm. No element of the SOP alert system takes into account the fact several measured indices can all be abnormal simultaneously or the heightened concern of such a finding.

[152] It resulted in the patient losing valuable hours from a potential optimal pathway of care. Mr Anderson made similar criticisms of the SOP for Haematology CP 9. He feels the WBC limit is unreasonably high. The protocol does not really address surgical patients. You can have severe sepsis and never have a WBC (white blood/cell count) more than 50. He notes Alkaline Phosphatase is not listed with an alert limit for phoning. The strength is to look at all results together not in isolation. Asked re discharge without monitoring he advised that he thinks most surgeons would monitor a patient for 24 hours at least prior to discharge if converting to oral antibiotics. It is routine for many. It is good practice although not mandatory. He was on Tazocin and it took days to take effect so it would be sensible to monitor the switch. Asked what PC's likely path would have been if not discharged on 4/6/19 he said he believed his bloods would have been tested and become more abnormal. Platelets would become deranged. We know that a bit of thrombus was present. He would certainly have had a CT scan. If it showed thrombus further investigations and intervention. He was sure he would have been scanned again. The surgical options would have been available

from 4/6 and easier to do earlier. If CT showed the gallbladder was still inflamed then he could at least have had a drain inserted (cholecystostomy) to drain the gallbladder to reduce the infection and then sent for revascularisation surgery in Glasgow.

[153] Under cross-examination re the SOPs he advised he had been clinical surgical director at the Western General for 5 years and they would have someone involved in SOP standard setting. He accepted that not all abnormal blood results required phoned but the magnitude of the abnormalities here meant they should be. CRP 60x normal range. He said there should be a filter, namely a clinical scientist deciding what should be phoned.

[154] He was asked about current experience of hepatobiliary surgery. He advised that it was his specialty for 10 years at St John's hospital, accepting it was 20 years since he has done this surgery. He concentrated on colorectal surgery at the Western General Infirmary. He advised he was aware of current practices, and furthermore he deals with most of the ischaemic gut cases which is what ultimately this case is he stated. Asked about decision to do a laparoscopic cholecystectomy or conservative treatment, he advised it was still the same parameters that apply. He accepted it was 20 years since he last removed a gallbladder but not since he had dealt with a patient with acute sepsis.

[155] Asked about criticism of surgeons not considering laparoscopic cholecystectomy he was told the surgeons say they did. He advised he saw no notes to confirm that. He said it would be unusual not to note a decision of that magnitude. He accepted the surgeons actually saw the presentation of the patient but commented it was five different surgeons which lacked the desired continuity. It is better to see the same

surgeon. Asked about 10/6/19 and possible intervention he advised that PCs chance of recovery depended on “patency” of the artery, ensuring the blood was able to flow.

Open the gut and address the Superior Mesenteric Artery.

[156] Mr Carter had acute cholecystitis with a background of arterial damage. Asked what could have been done to intervene on 10/6 he advised that there were possible interventions. One procedure was to dissolve the thrombus by injection of drugs through a catheter. On 10/6 he was of the opinion the thrombus was not 3cm. There was still a patent channel, which meant blood was flowing and the artery not totally blocked. Not occluded. The drugs once introduced dissolve the thrombus. There was a chance and it depended on the size of the thrombus. This was the best approach for this patient. There was another procedure that introduced a wire device to unblock the artery, but that required an adequate channel which was less likely here with Mr Carter due to his background of arterial disease. The other option was invasive bypass surgery where another artery was taken from the leg and used as a bypass. That would have limited success in this patient. Injecting the medicine by catheter to dissolve or aspirate the thrombus was the desired approach along with anticoagulants. On 10/6 a window of opportunity existed which was gone by 11/6. On the 11/6 he thinks there was complete occlusion of the blood vessel. It was not on the 10/6 and has propagated. The thrombus builds up over time and then ultimately expands quite rapidly and completely blocks the channel. There may have been a chance on 10/6 and he does not consider that on the 10/6 the thrombus was 3cm. The angiogram showed that despite having arterial disease he had good blood flow on 25/5 at start of admission. The procedure described

involves a radiologist and most literature would say a 50% chance. He would hope with a small enough clot you would clear it. If not, then an open laparotomy. Mr Anderson considered that Mr Carter would be towards the low end of the spectrum range of 50% probability of success. The possibility was gone the following day. Mr Anderson clarified that while Mr Carter did have mesenteric arterial disease that was a chronic long term condition. The acute issue was acute cholecystitis that brought him to hospital. He had sepsis as a consequence, and the driver to the sepsis and the driver to the thrombus is the cholecystitis. He thinks that the platelets triggered it, then growing over time. Dr Higginson subsequently also confirmed that there was indeed acute cholecystitis. He also confirmed a thrombus was present which had not been seen at the hospital, and saw there was blood flowing. It was suggested to him that Mr Carter remained fairly consistent between 4 - 9 June 2019. He advised that the context was of a man lying on his prison bed, not eating or drinking and not well. He had grumbling sepsis then. He did not have an occluded artery. He said the bloods from 10/6 do not indicate any infarction. It was suggested to him Mr Coggin's theory that arteries blocked over time-not an occlusion. He disagreed saying it was platelets to thrombus and he did not have intestinal death on 10/6. Infarction most probably in the early hours of 11/6/19, and the bowel compensated for some time, but the bowel was dead when he went to hospital.

NHS FVHB called Mr Ronald Coggins and Ms Rebecca Pattenden

Ms Rebecca Pattenden

[157] Aged 49 years. Consultant Clinical Biochemist and Clinical Lead NHS Forth Valley. BSc Chemistry, MSc Biochemistry, Fellow of the Royal College of Pathologists. Ms Pattenden commenced work with NHS Forth Valley in March 2024. She previously worked at NHS Lothian as a consultant clinical scientist. Prior to that she had experience of working in Kirkcaldy, Tayside and 20 years ago, Birmingham. She advised that processes in Scottish labs were broadly similar, with technicians booking in samples and a clinical element at the end reviewing results. The SOPs for critical phoning alerts are similar in her experience and based upon RCPATH⁷⁰ guide lines. She was asked about striking a balance between phoning too many results and actioning them. She confirmed that the lab receives approximately 2000 samples per day and each has up to 11 tests. You simply cannot phone all abnormal results she said. It has to be limited to what you consider reasonable to manage and for requestors to action. Hence, the critical limits trigger the phone calls. Those that are phoned are deemed “critical”. However there are many more “abnormal”. It is the clinically significant that need communicated.

[158] In respect of clinical oversight of results she agreed that tumour markers and hormones had to be reviewed by a clinical scientist. They would look at patterns, abnormalities, perhaps call the clinician to discuss further tests etc. Beyond that, in

⁷⁰ Royal College of Pathologists.

respect of general chemistry results the only ones clinically reviewed in Forth Valley were kidney results that change dramatically. She advised that ultimately it is up to each laboratory to determine what cohort of test results they clinically review. The criteria can be set to trap certain results for review. It depends on the lab you work in and is rule based. The rules can be changed if you wish, and resource it.

[159] In terms of the protocol in force, the CRP of 296 on 10/6/19 would not be phoned as the patient was in primary care. His results were abnormal before. She did not think it clinically significant, although admitted she was assuming the doctors knew of the 4/6/19 result when PC discharged. She accepted that the change of location from hospital to prison ought to be taken into account. Likewise, the Alkaline Phosphatase was raised to 714 but that test result did not feature in any phoning criteria.

[160] Ms Pattenden was aware of "Ghost Result" reporting referred to by Mr Redpath and approved of that system. It was used in Fife. It allows reporting without delay with a caveat of pending review. She would like to introduce that if she got another clinical scientist. Although she has only recently started work in FVRH, Ms Pattenden confirmed changes since 2019. A second clinical scientist commenced at the end of 2019. A quality and training officer started in 2023. A new diagnostics manager is in place. An IT lead has been appointed to look at validation processes and UKAS processes. To consider how cohorts of test results will be selected / triggered. A third clinical scientist has been approved but not yet recruited. The lab is progressing to a UKAS accreditation assessment in March 2025 for Haematology. In General Chemistry there is an action plan to progress towards accreditation. A lot of work is being undertaken.

[161] Asked about the system for blood test results being received by doctors, she confirmed that in Lothian NHS the system there required an electronic acknowledgement much like a read receipt. An electronic tick box. It is an aspiration to have that system in Forth Valley NHS. She is not involved in discussions re this but believes there are moves towards that, but had little direct knowledge of it or the time scales involved. She confirmed that in Lothian, the laboratory did undertake more clinical review of test results than in FVRH, adding that they had more staff to do it. She confirmed that previously there was no clinical review of general chemistry. Now, only limited review of some esoteric tests-tumours. Ms Pattenden advised that her clinical scientist staffing level is very low compared to laboratories elsewhere. Soon, there will be three Clinical scientists. Ideally, she would like four.

Mr Ronald Coggins

[162] Mr Coggins, Consultant Surgeon, MB ChB, FRCS, MML, Raigmore Hospital, Inverness. Aged 58 years. Mr Coggins is a Consultant General Surgeon. He also has an interest in upper gastro intestinal and hepatobiliary surgery. He has been a consultant since 2005 when he commenced at Raigmore Hospital. His curriculum vitae is at FV NHS inventory 1, Pro 2. The inquiry was directed to it, and taken through it. Mr Coggins was the clinical director at the hospital between 2012 - 2020. He trained in Manchester in general surgery and then in sub specialty training 2001 - 2005 as a registrar in Manchester and London. He has been involved in the training of surgical trainees in the north of Scotland who have entered sub specialty. He has undertaken

medico legal work for the NHS central legal office previously, and for pursuers as well as defenders. He was accepted by the inquiry as an expert witness. Mr Coggins explained that while he previously undertook complex cases including pancreatico, biliary surgery he no longer routinely does. When he arrived at Raigmore he was the sole surgeon undertaking that work. There is now a team of four surgeons and his role is in the planning and decision making rather than undertaking that surgery. He does still undertake general surgery on the acute receiving rota. That includes biliary work, eg gallbladders.

[163] Mr Coggins spoke to his report FV NHS inv 1 Pro 1. He was instructed to produce a report for the NHS central legal office in respect of Peter Carter's medical treatment. He had access to medical and prison records, witness statements and associated documents.

[164] Mr Coggins adopted his report. In his report he considered that the diagnosis of acute cholecystitis was a reasonable one for the surgeons to make on PC's admission to hospital but that it was ultimately wrong. That PC was suffering from significant mesenteric ischaemia as eventually demonstrated by the onset of extensive infarction of the small bowel. That there was no clear evidence of this at the time of admission. The possibility of mesenteric vascular disease was not referenced in the CT report of 25 May 2019 while there was a clear description consistent with cholecystitis. At the time of presentation he believed PC had significantly compromised mesenteric blood flow. The inflammatory changes identified in his gallbladder were, most likely related to reduced blood flow through all three mesenteric arteries, rather than being evidence of

cholecystitis as a primary event. The history of abdominal pain after eating, along with his heavy smoking and radiotherapy for testicular cancer were indicators of predisposition to arterial disease. That the admission was most likely the terminal event of a lengthy (chronic) process. That on that thesis, if the cholecystitis is not the driver of the sepsis, then removal of the gallbladder without addressing the mesenteric ischaemia would not have prevented the outcome.

[165] He advised that on admission he also would have ordered a CT scan, following the ultra sound. The bloods were deteriorating. The surgeon will have to decide whether to intervene. The options are either an operation to remove the gallbladder (laparoscopic cholecystectomy), or treatment with antibiotics and thereafter, conduct a delayed operation. He confirmed that you have to keep the decision to manage conservatively under review. While there was no note this had been considered (keeping the decision to treat conservatively, under review), all decisions will not necessarily be transcribed by a junior doctor. The CT scan showed an inflamed gallbladder. Stones were not seen. It is thick walled and with minor soft tissue stranding. He did not think that necessarily indicated the start of a process, or that it is indicative of severe cholecystitis. He confirmed that diagnosis is based not just on scans, but is a clinical decision including examination, bloods, scans etc. He confirmed that on 26/5/19 the CRP of 412 was very elevated. The clinicians were pursuing conservative treatment of IV antibiotics. He was then commenced on a different antibiotic Tazocin. First line IV antibiotics of (triple therapy) were not working, so they were trying a different spectrum of antibiotic. Mr Carter's abdomen was soft and managing pain, so

he is improving over subsequent days. Mr Coggins confirmed that he also allows patients to leave hospital before they have fully resolved. He is looking for a trend of improvement. It is a balancing exercise. On 3/6/19 staff see PC and he appears improved. He is mobile independently. He is taking morphine but managing the pain. You would speak to the patient also about how they feel to get the picture he advised.

[166] The blood results were improving until 4 June when they deteriorated. He would expect an improvement on antibiotics. This was generally improving, but the WCC less convincingly so. It was an expected trajectory. He expected morphine taken at 5.19am to have worn off by the ward round 8.00 – 9.00am on 4/6 when Mr Rodger saw PC. He did not have any more morphine prior to leaving at 5.00pm so presumably he was not requiring more. Notwithstanding pain and vomiting overnight he appears to have had a settled day on 4/6. This would not affect the discharge decision for him he said. He got a lot of analgesia and that is a problem he conceded. Is he ready to go he would ask, balanced against the context of PC improving with treatment. Clearly by 10/6 PC was in pain in prison as he was getting morphine. He cannot comment on the period 4 - 9 June 2019 as there is an absence of information. By 11/6 the situation was very different. By reference to CP 4 p128. Occlusion of the superior mesenteric artery (SMA) and coeliac axis. Both occluded. Some blood getting through other vessels but the small bowel was being starved. Mr Coggins looked at the CT scan from 11/6. The gallbladder remained distended. He accepted he is not a radiologist in respect of interpreting scans. He said the gallbladder was noted to be gangrenous on 11/6 at laparotomy as was the small bowel. The post mortem showed an occlusive thrombus in

the SMA. A clot that has grown and blocked the SMA. All three mesenteric arteries occluded.

[167] Mr Coggins was asked about the blood results. By 10/6 the CRP was 296 which he described as a modest rise from 4/6. If it was acute cholecystitis then it is not getting better. It is not controlled. Asked about Alkaline Phosphatase levels rising he advised that he could not really explain the bloods. They seem unusual to him. He was asked about platelets and the criticism made by Mr Anderson, that Mr Coggins had not mentioned this in his report. He accepted that platelets generate clots and they are inflammatory markers. With the benefit of hindsight, with a rising CRP the platelets also show a rising inflammatory process. He said that he cannot with certainty, say where the inflammatory process comes from. Often, gallbladder disease can do it. If you have imaging that shows cholecystitis then likely to be the case. In the vast majority of patients it will be driven by the gallbladder but PC had a history of food avoidance, stomach pain, but also gallstones. Hence a significant effect of reduced blood flow through the gut. He has difficulty accepting it was just the gallbladder causing the inflammatory process. Also, a chronic gut process.

[168] He was asked about Dr Higginson's report. CP 15. He accepted that Dr Higginson's opinion was that it was highly likely to be a biliary process, and highly unlikely to be occlusion of vascular supply. Mr Coggins struggles to accept it is a consequence of an inadequately treated gallbladder, biliary sepsis. He would expect to see evidence of eg a perforation. He is not excluding the effect of the gallbladder. He

did not disagree with much of what Dr Higginson says in his report but thinks the sepsis is the cumulative effect of the mesenteric ischaemia.

[169] Mr Coggins did not however criticise the diagnosis made by the surgeons at Larbert. It was reasonable. He does not criticise the standard of care. Conservative treatment is a recognised and appropriate treatment path. He agreed there was an optimal window of time for operating in acute cholecystectomy. Complications can increase as time goes on. Practitioners vary as to what the window is. Research shows there is little evidence as to what the period is. It can be as short as 72 hours. 7 days recognised also. An alternative is cholecystostomy which is drainage of the gallbladder as a bridge to further treatment. He agreed the situation did have to be kept under review. Some criticism he was seen by several different surgeons rather than same person. The risk of mistakes can be mitigated by good handovers he advised. He was satisfied that overall PC's care was appropriate.

[170] He advised that a further CT scan would have been a way of monitoring progress. Re imaging on 28/29 May 2019 would show ongoing cholecystitis. He was sure a CT request would be granted then due to ongoing symptoms. However they were monitoring by changing to Tazocin. A CT was not mandatory. Later PC is switched to oral antibiotics and more bloods were taken. In respect of delaying discharge to monitor the switch to oral antibiotics he advised that is something he often does. It is being cautious and it is reasonable. It is context dependent and there are plenty of occasions he would simply allow a patient home. It is balancing risks. It

would have been reasonable to do that here but he thinks the surgeons were comfortable with discharging Mr Carter at the time.

[171] On being advised Mr Rodger would not have discharged on 4/6 if he had been aware of the blood results on 4/6, he agreed that he would not discharge Mr Carter either. The bloods show a sudden deterioration, indicated. You would monitor to see if it is a trend starting. He would be kept in hospital to do further blood tests the next day. He advised that if the bloods indicated that PC was either deteriorating or not improving (CRP rose or plateaued) then treatment would escalate. A CT scan would then be done on 6/6/19.

[172] On his theory that it is not biliary sepsis he did not think it would show significant change. However, the thinking process may open up to what is going on. He thought it most likely the same plan would be followed. He did not think surgery and attention to the gallbladder would affect the underlying vascular condition. He was asked about the delay in reporting the 10/6 blood test result. He agreed that was very unfortunate. You would want to know that information. He did not agree the bowel could compensate for 12 hours. He could not find it in reported literature. Knowing that at laparotomy there was gangrenous tissue he thinks it was a process over 2-3 days. The operating surgeon described gangrene. That is dead tissue. That takes time to develop. It is difficult to say how long but in his experience, looking at a gangrenous gut, that is a process going on for 2 or possibly even 3 days. Mr Coggins also relied upon information morphine was given on 9 June 2019, but accepted there was limited information in respect of that. He was not permitted morphine prior, and it did not

mean he did not require it prior to that date. There is a reversibility to some damage for a period of time up to a point.

[173] He advised that any laparotomy on 10/6 was likely to be in the evening and he did not think there would be many options by then. Saving PC then would be dependent on a vascular resection which he cannot comment on as a general surgeon. He agreed that with hindsight the platelets rise from 265 up to 694 is hard to ignore as an inflammatory marker but he is not surprised the surgeons did not notice. The rise in Alkaline Phosphatase 146-714 he did not have an explanation for. He would carry out an investigation. The results would lead to readmission.

[174] Under cross-examination Mr Coggins agreed that Dr Higginson as a consultant gastro intestinal radiologist had looked at and seen blood flow in the scans. That was not something Mr Coggins was trained to do. He agreed that there was a window of opportunity if the gallbladder had been removed or drained (cholecystectomy or cholescystostomy), agreeing that it would have stopped the escalation of the sepsis. However, he did not think removal of the gallbladder was indicated. He said he did not disagree with Dr Higginson. The main driver of the sepsis was the gallstones, but the current description of the gallbladder both at CT scan and at laparotomy do not quite fit. There are two processes. He has difficulty accepting that the only plausible explanation for the whole inflammatory process was the gallbladder alone, without considering what is known was going on chronically and probably in an escalating fashion involving the bowel. He acknowledged that the finding of gallstones at post mortem is relevant as it may give an explanation for cholecystitis. Gallstones are the most common cause.

[175] In relation to blood result reporting, he explained that in his hospital there is a level of clinical oversight of blood results by clinical scientists. Reporting is by way of protocols. There can be clinical oversight to different levels and they can give advice. Phone calls before and after tests by scientists can be helpful.

[176] Mr Coggins advised that it was a common theme across a number of health boards that test results could be ordered and there was no mechanism for enforcing acknowledgement of checking the results, or indeed before discharge with outstanding results. The process is passive. That the blood test results of 4 June 2019 not being seen prior to discharge, was not a unique problem. He believed that there should be a software solution to this issue.

Assessment of witnesses

[177] In this inquiry there is a great deal that is not factually in dispute. There is evidence of opinion. All witnesses are credible and reliable and assisted the inquiry. I accepted the agreed evidence, narrated above. I also accepted the evidence of fact from witnesses. In respect of matters where opinions were given, I will outline what I accepted. There are also matters from the evidence I found established.

[178] Ms Lowe was credible and reliable. However, she tended to defer in her answers to both Ms Pattenden and Mr Redpath as being better able to answer a number of points. Dr Sayers impressed me as a witness. He was credible and reliable. He had a strong recollection of the events in question. He took action both at the time, raising

important observations about the discharge, and afterwards to make processes better for patients under his care in the prisons he oversees for healthcare.

[179] Mr Redpath impressed me as a compelling witness. He was credible and reliable. He had a good recollection of the events in question. He highlighted relevant concerns to the NHS Trust in relation to levels of clinical oversight in the laboratory well in advance of the death of Mr Carter. He has extensive experience in his field in a number of laboratories in different health trusts over many years. Mr Crozier was a credible and reliable witness. Mr Rodger was a credible and reliable witness.

Mr Rodger did recall Mr Carter despite the passage of time and gave clear and helpful evidence. Dr Belch was credible and reliable. However, Dr Belch had no recollection of the events due to the passage of time and relied entirely on medical notes.

[180] Mr Anderson was called as an expert witness. He was credible and reliable. He was impressive and clear in his evidence. In a very significant respect his evidence was supported by the evidence of Dr Higginson who I also accepted. Namely, that the diagnosis of acute cholecystitis was correct, and that it was the biliary sepsis from that, that was the cause and consequential driver of the thrombus that grew until occlusion leading to infarction and death. That this was much more likely to be the case than Mr Coggin's opinion that chronic mesenteric ischaemia was the major cause.

Dr Higginson was called as an expert witness. He was credible and reliable. He was an impressive witness who is clearly highly experienced in his field of gastrointestinal radiology. His evidence and report were clear, succinct and measured. His evidence was not realistically disputed, and not by a comparable expert. I accepted his evidence.

[181] Mr Coggins was called as an expert witness. He was a credible and reliable witness and assisted the inquiry. There was however a certain tension between aspects of his report and ultimately his position in evidence. For example, the clear rejection of acute cholecystitis as an accurate diagnosis, as outlined in his report, and adopted, and ultimately his broad acceptance of the majority Dr Higginson's opinion albeit with reservations. Ms Pattenden was credible and reliable. It was my impression that she was initially a little defensive in some of her responses. Ms Pattenden only recently started working at Forth Valley NHS trust. She was not working there at the time of the events. She was able to helpfully comment on processes in other trusts she had worked at and current developments at the laboratory.

Evidence & findings in fact

[182] As outlined above there was an extensive joint minute. I have accepted that and incorporate it as facts found established. See paras [9] - [65] Factual Circumstances, above. In respect of the witnesses I accept that all were credible and reliable, and doing their best to assist the inquiry. Where there were any disputes it was largely matters of opinion.

Mr Carter's medical condition, diagnosis and death

[183] There was a difference of opinion between Mr Anderson and Mr Coggins in respect of a number of issues. However, one of the definitive issues was the actual condition Mr Carter presented with on admission to hospital on first admission, and the

progression of his condition thereafter. Mr Coggins did not accept that he had acute cholecystitis, but that it was the effects of mesenteric ischaemia, and that this progressed to occlusion, infarction and death. On that basis, said Mr Coggins, although the diagnosis of acute cholecystitis was reasonable, it was wrong, and any intervention to address the gallbladder by cholecystectomy would have made no difference to Mr Carter's outcome.

[184] This was as opposed to Mr Anderson who said there is irrefutable evidence that Mr Carter had a background of mesenteric vascular disease, but that his primary diagnosis was acute cholecystitis. That a failure to adequately address the source of sepsis in the gallbladder predisposed PC to the events in the mesenteric artery which culminated in thrombus which escalated. This is fully supported by Dr Higginson and his expert radiological analysis. I accepted Dr Higginson whose evidence was convincing and realistically unchallenged by any comparable expert. He had the requisite skill and knowledge to examine and interpret all of the scans. He has seen such cases previously and gave clear and measured evidence with supporting reasoning. Not only was Dr Higginson clear that the presentation was acute cholecystitis, he was clear that from the scans on 25/5/19 that there was blood flow and no evidence of any significant ischaemia to the bowel. That was clearly very different by 11/6/19. This also undermines Mr Coggins thesis. Hence, I accept Mr Anderson and Dr Higginson that this was acute cholecystitis with biliary sepsis driving the thrombus and growth to cause the terminal event which was occlusion and infarction of the small bowel. I also accept that there was a window of opportunity where intervention could

have delayed or prevented the development of subsequent significant and ultimately fatal occlusive mesenteric ischaemia. In addition, Mr Coggins' evidence in respect of the causation, in my view changed from an initial clear rejection of that pathway in his report, which report he adopted, to a position which seemed to accept Dr Higginson's opinion to a significant degree, while maintaining that he could not accept it was purely the infected gallbladder driving the sepsis. I do accept Mr Anderson's evidence in this regard.

[185] There was also a difference of opinion as to whether Mr Carter's death may have been avoided if he had not been discharged on 4 June 2019. I am satisfied on balance of probabilities on the evidence that if Mr Carter had not been discharged on 4 June 2019 his death might realistically have been avoided for the reasons given by Mr Anderson. In addition Mr Rodger advised that a CT scan by that point would be undertaken as if Mr Carter was not improving, was actively deteriorating or simply plateauing, active investigations were likely. Interventions would be reconsidered as after 2 weeks on antibiotics significant improvement would be expected. Mr Carter would be in a hospital bed, being monitored, with consultant as well as nursing care. Regular blood tests would be carried out. Investigations would be available. CT, MRI etc. Tazocin was available. Adequate pain relief and anticoagulants etc would be available. Close monitoring while in a hospital bed would be available. Diet and hydration would be accommodated, managed and properly monitored. Indicators could be acted upon in a way clearly not possible in the prison environment, located in a cell with a limited nurse based health service. Mr Coggins himself acknowledged that further investigations may

have alerted clinicians to ongoing processes. Mr Anderson described the procedures available to intervene, with a higher prospect of success the earlier intervention took place. This was supported by Mr Higginson who also spoke of there being a window for intervention.

[186] I am also satisfied on balance of probabilities that if Mr Carter had been readmitted to hospital urgently on 10 June 2019 his death might realistically have been avoided. Mr Coggin's opinion was that due to the presentation at laparotomy on 11 June 2019 which showed gangrenous tissue, an advanced state had been reached which indicated a process of 2 or 3 days since the event. That in his opinion little could be done to save Mr Carter by 10 June 2019 and the blood results cannot be interpreted as indicating infarction of the bowel. That the request for morphine on 9 June 2019 indicates an event precipitated on that date fitting with his thesis of mesenteric ischaemia to occlusion and a 2 day process. Mr Anderson's opinion was that there was not infarcted bowel on the 10 June 2019. That is demonstrated by blood results from that date. There are normal indicators that change by the test on 11 June to grossly abnormal results at that point indicating very significant tissue / cell death. That indicates the catastrophic event between those blood tests. This was supported by Mr Redpath's evidence. His interpretation of the results as a Consultant Clinical Scientist, is supportive of Mr Anderson's evidence, and is afforded due weight. He referred in particular to the ALT-the marker of liver cell necrosis. I have already explained that I also have accepted Mr Anderson and Dr Higginson's opinion that it was acute cholecystitis with biliary sepsis driving growth of the thrombus. Mr Anderson

explained the thrombus grows with platelets and at the end there is a sudden expansion of the thrombus. I am satisfied on the balance of probabilities that Mr Anderson is correct. Little weight can be afforded to morphine being administered on 9 June 2019. There was a relative absence of evidence in respect of Mr Carter's condition in prison from 4-10 June 2019. He was not permitted Oramorph in prison, and it strays into elements of speculation to afford significant weight to that factor.

Blood Test results of 4 and 10 June 2019.

[187] I am satisfied on the evidence, that the blood test result of 4 June 2019 was not viewed by any doctor on the 4 June 2019, and that it was consequently not brought to the attention of those discharging Mr Carter that day. It was available prior to Mr Carter's discharge. I accept Mr Rodger's evidence that if he had been made aware of the test result he would not have discharged Mr Carter from hospital on 4 June 2019. The fact a blood test had been ordered on 3 June 2019 for 4 June 2019 was not recorded in any medical notes available to the discharging doctors on 4 June 2019. The blood test result of 10 June 2019 was not reported urgently out of hours by telephone by the laboratory. It did not meet the urgent phoning criteria in force at the laboratory. It was uploaded to the IT system, viewable by medical staff at a time the prison healthcare office was closed for the day, at 1823 hours. It was accessed by prison staff on line on 11 June 2019. I accept Dr Sayer's evidence that if he had been made aware of the test results on 10 June 2019, he would have arranged for Mr Carter to be immediately readmitted to hospital by ambulance. I accept Dr Sayer's evidence that if he had been

aware of the test results of 4 June 2019, he would have refused for the prison to accept Mr Carter back from hospital at that point.

Findings re laboratory

[188] At the time of Mr Carter's death there was no clinical oversight or review of blood test results undertaken at the NHS Forth Valley laboratory in respect of general chemistry. Mr Redpath brought certain tests back in house to the laboratory to attract an additional clinical scientist. These tests required clinical review. They were limited in number, and included tumour markers and hormones. The only other general chemistry results subject to clinical review presently are kidney results that show dramatic changes. This relative lack of clinical review of general chemistry test results remains the case presently, subject to a review. There was also relatively limited clinical review of blood test results in respect of haematology. There was no clinical oversight undertaken of Mr Carter's blood test results by clinical scientists or clinicians at the laboratory from first admission on 23 May 2019 to 10 June 2019. This was in accordance with the laboratory's protocols at the time. There was only one clinical scientist employed at the laboratory, Mr Redpath. Mr Redpath had sought increased staffing of clinical scientists for the laboratories for some time to enable some clinical oversight of blood tests to be undertaken. A business case for increased staffing of the lab, highlighting safety concerns went unanswered for some considerable time. A second clinical scientist ultimately commenced at the laboratory in September 2019. If Mr Redpath had had clinical oversight of the blood test result on 10 June 2019 he would

have considered the clinical context and ensured it was phoned urgently to the requestor (prison doctor).

[189] There was no United Kingdom Accreditation Service (UKAS) accreditation of the laboratory. This is the relevant accreditation body. That is unique amongst Scottish NHS Trust laboratories (or at least NHS trusts in mainland Scotland). The level of clinical staffing at the laboratory still remains comparatively low compared to other laboratories. There remains virtually no clinical oversight of general chemistry test results. The relative lack of clinical oversight compares poorly with NHS laboratories in health trusts elsewhere in Scotland and England.

The Standard Operating Procedures at the laboratory:

CP 9 Reporting Emergency and Abnormal Results. Haematology V 2.5 (in force at May/June 2019.)

CP 12 Reporting Emergency and Abnormal Results. Haematology V 2.6 (last update December 2022 under review)

CP 10 Handling Urgent Samples and Reporting Results that Exceed Alert Limits V6.4 (in force 23 May 2019-1 Sep 2022)

CP 11 Handling Urgent Samples and Reporting Results that Exceed Alert Limits V6.8 (in force from 2022)

CP 9 and 12 relate to haematology results.

CP 10 and 11 relate to general chemistry results which Mr Carter's blood test results came under.

[190] The Standard Operating Procedures at the laboratory refer to reporting results that exceed alert limits. There are prescribed lists of blood tests. Each test result listed has a limit, predetermined to be at a limit beyond which it is sufficiently abnormal that the result must be urgently reported to the requestor. That is by telephone, within the hospital if an inpatient, or to primary care if an outpatient, including out of hours measures to the out of hours service. The SOPs exclude any other information as a relevant factor, such as location of patient, prior medical history, recent release from hospital etc. The criteria are purely numerical. They exclude consideration of multiple results being abnormal simultaneously, as being a relevant factor. The critical phoning limits in the SOPs at the time, and presently, are based upon guidance from the Royal College of Pathologists. That guidance while giving recommended phoning limits, does not stipulate that other factors should be disregarded. It does not take account of levels of clinical review. It is guidance.

Reporting test results

[191] Test results ordered from the laboratory are reported to clinicians on two different IT systems in Forth Valley Health Board's area. They are named "Clinical Portal" and "Order Comms". Both systems are passive. They do not require confirmation that the result has been received and / or read by a clinician. There are systems utilised elsewhere in the health service, that require confirmation the test result has been seen by the responsible clinician, by a mechanism analogous to a read receipt. "Trak Care" is one such system.

Scottish Prison Service

[192] Since the death of Mr Carter the Hospital Discharge to Prison Protocol has been implemented between the Prisons in Forth Valley and the discharging Hospitals. It has not however been used consistently. The Scottish Prison Service have moved to utilising the “Order Comms” system for ordering laboratory tests.

Results

On 4 June 2019 (date of discharge)

Alkaline Phosphatase was 597 (It was 146 on 23 May 2019).

WCC was 16.7

Platelets were 625 (greatly elevated).

CRP was 276 (abnormal and rising. Normal range is < 5).

On 10 June 2019.

Alkaline Phosphatase 714

WCC 21.3

CRP 296

Amylase 28

AST 27

ALT 21

On 11 June 2019

Alkaline Phosphatase 758

WCC 31.5

CRP 286

Amylase 392

AST 1373

ALT 923

[193] A catastrophic event took place in respect of Mr Carter between 10 and 11 June 2019, demonstrated by the changes in blood test results.

[194] It would have made a difference to Mr Carter's survival had he been in hospital on 10 June 2019. There was a chance of survival for Mr Carter if there had been surgical intervention to address the thrombus on 10 June 2019. The chance of survival at that point with intervention, was less than approximately 50%.

[195] The surgical options would have been available from 4 June 2019 and would have been easier to undertake earlier with a greater prospect of success.

[196] Cholecystectomy or cholecystostomy procedures, if carried out during first admission would have controlled the sepsis and reduced the risk of further deterioration.

The law

[197] Section 26 of the Act sets out what must be determined:

“26 The sheriff's determination

- (1) As soon as possible after the conclusion of the evidence and submissions in an inquiry, the sheriff must make a determination setting out—
 - (a) in relation to the death to which the inquiry relates, the sheriff's findings as to the circumstances mentioned in subsection (2), and
 - (b) such recommendations (if any) as to any of the matters mentioned in subsection (4) as the sheriff considers appropriate.
- (2) The circumstances referred to in subsection (1)(a) are—
 - (a) when and where the death occurred,
 - (b) when and where any accident resulting in the death occurred,
 - (c) the cause or causes of the death,
 - (d) the cause or causes of any accident resulting in the death,
 - (e) any precautions which—
 - (i) could reasonably have been taken, and
 - (ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided,
 - (f) any defects in any system of working which contributed to the death or any accident resulting in the death,
 - (g) any other facts which are relevant to the circumstances of the death.
- (3) For the purposes of subsection (2)(e) and (f), it does not matter whether it was foreseeable before the death or accident that the death or accident might occur—
 - (a) if the precautions were not taken, or
 - (b) as the case may be, as a result of the defects.
- (4) The matters referred to in subsection (1)(b) are—
 - (a) the taking of reasonable precautions,
 - (b) the making of improvements to any system of working,
 - (c) the introduction of a system of working,
 - (d) the taking of any other steps,
 which might realistically prevent other deaths in similar circumstances.
- (5) A recommendation under subsection (1)(b) may (but need not) be addressed to—
 - (a) a participant in the inquiry,
 - (b) a body or office-holder appearing to the sheriff to have an interest in the prevention of deaths in similar circumstances.
- (6) A determination is not admissible in evidence, and may not be founded on, in any judicial proceedings of any nature.”

[198] It is important to remember that that the conduct of a Fatal Accident Inquiry is not a fault finding exercise. It is separate and distinct from the determination of criminal or civil liability. It is inquisitorial rather than adversarial. It involves the application of the benefit of hindsight. Its purpose being to seek to prevent similar deaths occurring in the future. In the present case that of course includes those who are in lawful custody. The standard of proof is on balance of probabilities. In considering the time, place and cause of death in terms of section 26(2)(a) to (c) of the Act the court should exercise its traditional fact finding functions. In respect of any finding under section 26(2)(e) of the Act there is an additional consideration. Section 26(2)(e) of the 2016 Act provides that the Sheriff's determination must set out:

“any precautions which-

- (i) could reasonably have been taken, and
- (ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided, “

As regards any finding in terms of subsection (2)(e) of section 26 of the Act:

[199] Lord Armstrong in *Sutherland v Lord Advocate*, 2017 SLT 333 stated at para [31]:

“In determining whether the death might have been avoided by a reasonable precaution, the appropriate test has been described as that of a ‘lively possibility.’ Such a description is entirely apt and consistent with the language of S6(1)(c).”
(The preceding legislation-1976 Act).

His Lordship goes on to confirm that in determining whether a precaution is reasonable, foreseeability has no part to play. That question falls to be determined with the benefit of hindsight. Such a finding that the death might have been avoided by the application of a reasonable precaution carries no implication that the failure to take the precaution was negligent or unreasonable.

[200] The Policy Memorandum which preceded the introduction of the 2016 Act to the Scottish Parliament as a Bill explicitly referred to a recommendation that the wording of this subsection be clarified. "... the interpretation of the word 'might'" in the previous analogous legislation to the Act "was not intended to be construed as 'any chance at all no matter how slim" and that the inclusion of the word "realistically" in the Act "is intended to imply an actual rather than fanciful possibility that the recommendation (sic) might have prevented the death", per the Scottish Government's Policy Memorandum to the 2016 Act, paragraphs 178-179.

[201] There has to be an adequate evidential basis for any finding under section 26(2)(e). While it is an area of lively possibility rather than probability, speculation must be avoided.⁷¹

[202] The Crown submitted that section 26(2)(e) although worded differently to section 6(1)(c) of the 1976 Act has the same meaning. Parliament's intention was to clarify rather than to change the provision. Section 26(3) of the Act specifically states that for the purposes of (2)(e) and (f) it does not matter whether it was foreseeable before the death or accident that the death or accident might occur - (a) if the precautions were not taken, or (b) as the case may be, as a result of the defects. The inclusion of the word "realistically" clarifies that the possibility cannot be a fanciful one. The authorities under the predecessor Act remain relevant to interpretation of section 26(2)(e).

⁷¹ Macphail, *Sheriff Court Practice*, (3rd edn, ed. Welsh, KC) para 28.17 (referring to analogous provisions in the 1976 Act), "... speculation must be avoided; (as with all the paragraphs of section 6(1) of the 1976 Act), there has to be evidence which satisfies the sheriff on the material points."

[203] Hence the inquiry is to consider, with the wisdom of hindsight, whether there were any precautions which could reasonably have been taken which might realistically have resulted in death being avoided. The question of reasonableness relates to the availability and suitability of the precautions involved.⁷² The court is required to consider, not whether any particular precaution complied with any relevant guidance or procedure, but whether it could reasonably have been taken.⁷³ Where adopting the precaution would have been within the range of reasonable responses available to the individual or organisation the first part of section 26(2)(e) is met. Where adopting the precaution would have been unreasonable, the test is not met.

[204] To meet the second part of section 26(2)(e), the court must be satisfied that, had the reasonable precaution been adopted, this might realistically have resulted in the death being avoided. There is no need to consider whether a death was foreseeable, as a fatal accident inquiry is not concerned with questions of negligence or fault; findings may be made in relation to a precaution which should not have been foreseen as necessary.⁷⁴ The phrase “might realistically have resulted in the death or any accident resulting in the death being avoided” is a wide one: ...“It means less than ‘would, on the balance of probabilities have been avoided’ and rather directs one's mind in the direction of the lively possibilities.”⁷⁵ what is envisaged is not a “probability” but a real or lively possibility that the death might have been avoided by the reasonable

⁷² Bellfield FAI [2011] FAI 21 at [39]

⁷³ Bartlett FAI [2022] FAI 17 at [42]

⁷⁴ Bellfield FAI [2011] FAI 21 at [40]

⁷⁵ Carmichael, Sudden Deaths and FAIs 3rd edition at para 8-99

precaution.⁷⁶ The term “might” should be applied in the sense that it incorporates a notion of something qualitatively more than a remote possibility: a possibility with some substance or potential rather than a fanciful or notional possibility.⁷⁷ See also *Petition for judicial review by Karen Duncan* [2024] CSOH 114 per Lady Haldane. At paras [47] - [51]. A finding in terms of section 26(2)(e) of the Act can be made, even although a precaution that had been taken was reasonable, where other reasonable precautions might also have been taken which might have prevented the death. A finding was not dependent upon the action that had been taken being unreasonable.

[205] In terms of section 26(2)(f), the court must be satisfied on the balance of probabilities, that the defect in question did in fact contribute to the death.⁷⁸ There must be a causal connection to the death. A defect may “contribute” to a death without being the main or only cause. It is sufficient it was significant or material, whether alone or in conjunction with other factors, but not so remote from the death as to have played no real part. The use of hindsight is permitted, and in terms of section 26(3) of the Act, it does not matter whether it was foreseeable before the death or accident that the death or accident might occur if the precautions were not taken, or as a result of the defects. The inquiry may consider matters in hindsight when deciding upon findings in a determination. Where there is no causal connection between a failure to adopt a reasonable precaution or a defect in a system of working, the requirements of

⁷⁶ Ibid at para 5-75.

⁷⁷ Beattie FAI [2014] FAI 14 at para 583.

⁷⁸ McAlpine FAI (Glasgow, 17 January 1986) referenced in Carmichael, Sudden Deaths and FAIs, 3rd Edn. At paras 8-99.

sections 26(2)(e) and (f) cannot be met. However, the court may wish to make a finding under section 26(2)(g) to publicly record what occurred. The only condition imposed by section 26(2)(g) is that the finding is relevant to the circumstances of the death.

[206] In accordance with section 26(1)(b) and 26(4), the Sheriff may make recommendations which might realistically prevent other deaths in similar circumstances. The phrase “might realistically” should be given the same meaning as in section 26(2)(e). Section 26(4) provides that recommendations may be made as to any of the following matters:

- a. the taking of reasonable precautions,
- b. the making of improvements to any system of working,
- c. the introduction of a system of working,
- d. the taking of any other steps,

which might realistically prevent other deaths in similar circumstances. Section 26(4) does not require a causal connection to the death which is the subject of the inquiry. It is not necessary to demonstrate that, had the recommendation been adopted, the death might have been prevented. However, there must be a real or lively possibility that, by adopting the recommendation, similar deaths might realistically be avoided in future. The word “similar” should be given its ordinary meaning: having a significant or notable resemblance. Such recommendations are made as the Sheriff considers “appropriate”. It is hence an exercise of judicial discretion.

Submissions

[207] Parties lodged helpful written submissions, supplemented with oral submissions on 19 February 2025. I then made avizandum. All parties formally expressed their condolences to the family and friends of Mr Carter and I join them in doing so. I do not intend to rehearse all that was submitted. Written submissions are lodged in process.

The Scottish Prison Service representing the Scottish Ministers sought only formal findings in respect of the place and cause of death, there being no criticisms made in respect of the SPS. The Procurator Fiscal in the public interest sought a number findings in addition in respect of sections 26(e), (f), (g) and recommendations under 26(1)(b) and (4) of the Act. Forth Valley NHS Health Board responded to the submissions and Findings sought by the Procurator Fiscal. They also highlighted changes being effected by Forth Valley Health Board since Mr Carter's death emphasising that the FVHB recognised that there were lessons to be learned following Mr Carter's death. Parties were in agreement that formal findings as per the joint minute ought to be made in respect of the time, place and cause of Mr Carter's death and I have accepted that in respect of section 26(2)(a) and (c) of the Act. That Mr Peter Carter's death occurred within the Intensive Care Unit at Forth Valley Royal Hospital, Stirling Road, Larbert, life being pronounced extinct at 2313 hours on 11 June 2019. The cause of Peter Carter's death was 1a. Complications of ischaemic bowel.

Reasonable precautions

The decision to discharge Mr Carter to HMP Glenochil on 4 June 2019

[208] **Finding 1** sought by the Procurator Fiscal.

Section 26(2)(e) Any precautions which-

- (i) could reasonably have been taken, and
- (ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided.

“The blood test results generated on 4 June 2019 ought to have been considered by the clinicians prior to discharge. There is evidence before the inquiry that confirms had the clinicians been made aware of the results discharge would have been delayed and Mr Carter would have remained in secondary care setting under review.”

[209] Ms Ramage submitted that it would have been a reasonable precaution for the blood test results generated on 4 June 2019 to have been considered by the clinicians prior to discharge. There was agreement between Mr Anderson and Mr Coggins that discharge should have been delayed in light of the results to allow ongoing monitoring. Clinicians monitor trends and consider the whole picture. That while Mr Rodger confirmed the treatment plan would not necessarily have altered immediately, ongoing monitoring, blood tests and likely imaging would have provided clinicians with additional information. That Mr Coggins’ evidence in his report that the principal treatment had he remained in hospital for several days would have been the same as that received at HMP Glenochil, was contradicted by the evidence. He would have received 24 hour inpatient hospital care with consultant review, nursing care, testing and treatments including pain relief. The evidence indicated further imaging was likely

and the question of surgery was always under consideration. The evidence of Mr Anderson was that 11 days for conservative treatment was a long time, confirmed by Mr Rodgers. Mr Anderson's evidence was that if not discharged on 4 June, then Mr Carter's bloods would become even more abnormal. He had ongoing sepsis and a large number of platelets in his view. He almost certainly would have had another CT scan, and if the thrombus was recognised a CT angiogram as well as looking at the gallbladder. That he gave evidence that the sooner intervention was performed the better.

FVHB

[210] Ms Davie KC for FVHB responded to the findings sought by the Procurator Fiscal. While there was common ground between parties in respect of quite a number of matters, in respect of the evidence I was asked to prefer the evidence of Mr Coggins to that of Mr Anderson. I was asked to hence accept his evidence and opinion that there was not acute cholecystitis on admission. That although this diagnosis was wrong it was reasonable to make. That Mr Coggins was to be preferred that it was chronic mesenteric ischaemia that culminated in significant mesenteric disease whereby the vessels become occluded resulting in a critical ischaemic event and death. Sepsis was an inflammatory response to underlying ischaemia which in turn caused gallbladder inflammation. In respect of Dr Higginson's report that there was no evidence of occluding vascular disease in the scan of 25 May did not alter his opinion. The presence of blood flow did not mean it was adequate. That Mr Coggins was better placed to

comment than Mr Anderson in respect of recent experience of gallbladders. That Mr Coggins was more willing to make concessions in his evidence. Hence, reliance was placed on Mr Coggins' evidence in the submissions made by Ms Davie KC. I considered these written and oral submissions along with the evidence and other submissions and have made assessments of the evidence and findings in fact. I have narrated those above. They are that I accepted the opinion of Mr Anderson rather than that of Mr Coggins in respect of presentation and progression of the pathology, for the reasons I have previously explained.

[211] Effect of bloods of 4 June 2019 being reviewed prior to discharge. Relying on Mr Coggins' evidence FVHB accepted Mr Carter would not have been discharged. On his evidence further monitoring of bloods would follow to see if the deterioration in test result was a one off or a pattern. It was difficult to say what would follow with certainty. A CT scan would follow probably a couple of days later but it was unlikely to mandate a change in management as the ongoing assumption of cholecystitis remained the same. He acknowledged the possibility a scan around 6 June may open up investigations as to what was going on, closer scrutiny of the mesenteric superior artery and alert clinicians to impending arterial catastrophe and intervention. He thought it more likely the treatment would remain the same and he be discharged in 2-3 days time.

[212] FVHB did not resist the premiss that the blood results of 4 June 2019 ought to have been considered by the clinicians responsible for Mr Carter's care prior to discharge. Ms Davie KC argued that properly viewed this ought more appropriately to be considered a defect of a system of work under section 26(2)(f) of the Act. That is

because, in hindsight the system of work implemented by FVHB should have included a mechanism to ensure outstanding results were considered and if significant brought to the attention of the clinician responsible for discharge (Mr Rodger). Such a system is in place in other health boards. Not implementing such a system which allowed Mr Carter's results to go unnoticed by the consultants responsible for Mr Carter's care was a defect in the system. The FVHB intimated that there is a review of the IT system which will include examining this issue. In respect of the second leg of the test in section 26(2)(e), the FVHB accepted that if the clinicians had known of the 4 June blood test results they would not have discharged Mr Carter. FVHB relied on Mr Coggins evidence who thought it on balance unlikely that death would have been prevented if he had remained in hospital. However they accepted that the test was lower, namely, "might realistically be avoided" often described as a lively possibility. Hence the FVHB accepted that on that basis Mr Carter's death might have been avoided if he had not been discharged on 4 June 2019.

[213] I invited submissions in respect of a reasonable precaution being that Mr Carter not be discharged from hospital on 4 June 2019. Discharge had been a focus of the inquiry and featured in the Notice. Further, the inquiry has the benefit of hindsight when considering any precautions which could reasonably be taken. FVHB relied upon the evidence of Mr Coggins that at the time of discharge before the blood results were reported the decision to discharge was reasonable. The blood results were improving on an apparent trajectory. It was not contemporary practice to wait until results had improved significantly to normal. Mr Carter was tolerating diet and fluid and

undertaking independent activities of living (toileting etc). His abdomen was soft. Pain scores and NEWS scores were low.

[214] Discussion. Discharge on 4 June 2019 was a focus of the inquiry. In their submissions the Crown sought no findings in respect of clinical matters. The FVHB endorsed that. The diagnosis of acute cholecystitis was correctly made. Conservative treatment with intravenous antibiotics and pain relief is an appropriate treatment path for acute cholecystitis with a view to a delayed laparoscopic cholecystectomy as an outpatient. It was appropriately kept under review. Discharge was however inextricably linked to Mr Carter's death. I am satisfied that if Mr Carter had not been discharged on 4 June 2019 his death might realistically have been avoided. I am also satisfied that if Mr Carter's blood test result had been known to the clinicians responsible for his care, he would not have been discharged. That was the evidence of Mr Rodger and Mr Crozier. It was the opinion of both expert witnesses Mr Anderson and Mr Coggins. Dr Sayers said if he had known he would have refused to accept Mr Carter back to HMP Glenochil. It was the opinion of Mr Anderson that there were a number of reasons to not discharge Mr Carter back to prison on 4 June 2019 even without knowledge of the test result of 4 June and he was critical of it. There were a number of contra indicators to discharging. I accepted Mr Anderson's opinion in that regard. Mr Carter had been in hospital since 23 May 2019 and subject to first and second line antibiotics for over 11 days. This length of time subject to conservative treatment is lengthy and described as an outlier. The blood results were improving. However, the 3 June 2019 blood test results while on a downwards trajectory, (CRP and WCC) were

still no better than on admission to hospital as an acute admission on 23 May 2019.

Indeed, CRP was worse. This was after powerful IV antibiotics administered over that time. Mr Carter was vomiting overnight on 3/6/19 to 4/6/19 and was given an antiemetic. Mr Carter required and was given Oramorph several times in the 24 hours prior to discharge, lastly at 5.00am approximately on 4 June 2019 indicating significant pain. Mr Carter was switched to oral antibiotics without a period of 24 hours observation to check his response, despite first line intravenous antibiotics not controlling his sepsis and requiring Tazocin and a lengthy period subject to IV antibiotics. Mr Carter was discharged requiring Oramorph and dyhydrocodeine for pain control after a protracted period of time in hospital.

[215] The discharging doctors clearly saw Mr Carter in person and were able to assess his presentation, including speaking to him and noting his abdomen was soft. They were able to assess his mobility, abilities to eat, drink and toilet etc. and that is clearly an important consideration to be given due weight.

[216] Taking the constellation of factors listed above, there was certainly a significant case for being more cautious about discharging Mr Carter, even without the knowledge of the blood test result of 4 June. The inquiry has the benefit of hindsight however.

Applying hindsight and knowledge of the test result of 4 June 2019 it is clear that Mr Carter should not have been discharged. Indeed, it is known he would not have been. The inquiry is not prevented from stating that a precaution under section 26(2)(e) was available and could reasonably have been taken, only if the action actually taken was unreasonable. *Petition for judicial review by Karen Duncan* [2024] CSOH 114 at

paras [47] – [51]. Applying hindsight and the knowledge of the blood test result of 4 June 2019 I make the following Finding instead of the Crown’s proposed finding 1.

Finding 1.

Section 26(2)(e) Any precautions which-

- (i) could reasonably have been taken, and
- (ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided.

A precaution which could reasonably have been taken that might realistically have resulted in the death being avoided would have been to not discharge Mr Carter from hospital on 4 June 2019. The discharge to have been delayed and he remain in hospital for further review.

[217] **Finding 2** sought by the Procurator Fiscal.

Under section 26(2)(e) of the Act.

“A reasonable precaution that may have realistically resulted in death being avoided would have been the immediate reporting of blood test results on 10 June 2019 to the requesting clinician. There is evidence before the inquiry that had these results been reported to the requesting clinician an ambulance would have been contacted to return Mr Carter to hospital and that there was a window of opportunity between the 10th and 11th June 2019 during which time surgical intervention may have realistically resulted in death being avoided.”

[218] The Crown submitted that there was evidence before the inquiry relating to set criteria of reporting abnormal blood test results and it had been established that despite Mr Carter having been transferred to a primary care setting following a period of

emergency hospital admission of 11 days, the results generated on 10 June did not meet the criteria to be phoned to the requesting clinician and as per the passive system utilised by Forth Valley Health Board no clinician was alerted to the presence of the results until ANP McKeich actively sought the information on 11 June 2019.

Mr Anderson gave evidence to the inquiry that in his opinion there was a catastrophic event that took place between 10 and 11 June 2019. He confirmed this was based on a comparison of the blood test results from 10 June and 11 June. Mr Anderson addressed this within his report which is before the inquiry and also in his evidence to the inquiry. Mr Anderson confirmed that he did not think Mr Carter's bowel had infarcted on 10 June. His evidence was that there would be a window of opportunity for treatment whilst recognising that this would still not be easy but that he had more than a 50% chance of survival on 10 June as opposed to 11 June. He qualified the prospects of success in cross-examination but there was a realistic possibility of survival. There was support from Mr Redpath and Dr Higginson.

[219] FVHB submitted that the result was reported at 1832 hours on 10 June.

Healthcare is not provided overnight in prison. The requesting clinician would not have been at work. The current system provides that the out of hours GP service be contacted to take action as appropriate. Any reasonable precaution would need to factor in that context. However, primarily FVHB submitted that Mr Coggins' evidence was to be preferred that surgical intervention would not realistically have avoided Mr Carter's death. That findings at laparotomy, in particular gangrenous bowel, demonstrated that the process of ischaemia had reached its end point by 11 June. Hence there was an

insufficient basis to conclude that earlier intimation of the blood results might realistically have avoided Mr Carter's death.

[220] I accept that a reasonable precaution that might realistically have resulted in death being avoided would have been the immediate reporting of the blood test result on 10 June 2019 to the requesting clinician. For the reasons I have outlined above at the findings in fact, I accept that the death might realistically have been avoided if Mr Carter had been readmitted on 10 June 2019. In that regard I accepted the evidence of Mr Anderson, Mr Redpath and Dr Higginson. I accept that had the prison doctor been advised of the blood test result on 10 June 2019 Mr Carter would have been readmitted by ambulance on 10 June 2019 as an emergency. The CRP of 296 was not regarded as a "new finding" in terms of the critical phoning limit protocol, only because Mr Carter had had a similar result recently while in hospital. If it had however been phoned, which would have been reasonable to do given the circumstances, namely to consider it as a "new finding" he would hence have been urgently returned and options were then available that might realistically have prevented his death. In regards to the prison clinic being closed by 1832 hours the out of hours GP service would be alerted that this was a "critical limit phone call being made". It is reasonable and to be expected the laboratory either directly itself, or through the use of the out of hours GP service would ensure the prison doctor was advised of the test result. The SOP at that time emphasised the scope and purpose being:

"to ensure that results that exceed alert limits are communicated to the requesting source as quickly as possible. For clinical chemistry results to be

relevant and appropriate to a patient's treatment, they must be available to the requesting clinician as quickly as possible.⁷⁹"

[221] **Finding 3** sought by the Procurator Fiscal.

Under section 26(2)(f) of the Act any defects in any system of working which contributed to the death or any accident resulting in the death.

"the system in place at Forth Valley Royal Hospital relating to the oversight of patient blood test results between 23 May 2019 and 11 June 2019 was defective. There was then, and is now, no system that provides for clinical oversight of blood test results that are outwith normal parameters. Had there been such a system, it is reasonable to suggest that the blood test results of 4 June 2019 and 10 June 2019 would have been reported to the relevant clinician. As such, this defect contributed to the death of Mr Carter."

[222] The Crown submitted that there was clear evidence before the inquiry that had the test results been considered by clinicians a different course of action would have been taken, namely delayed discharge or emergency readmission to hospital. That there was evidence that either actions might realistically have resulted in death being avoided and therefore the defective system contributed to the death of Mr Carter.

[223] FVHB disagreed with the Crown's characterisation of the system as one that provides for no clinical oversight of blood tests outwith normal parameters, highlighting critical phoning alerts and the changes Mr Redpath had introduced. However FVHB did not resist a finding that had Mr Carter not been discharged and had remained in hospital, it was a lively possibility his death might have been avoided had he not been discharged on 4 June 20219. In respect of the 4 June 2019 the issue it submitted, was the failure of treating clinicians to receive the result rather than lack of clinical review. It

⁷⁹ CP-10 Handling Urgent Samples and Reporting Results that Exceed Alert Limits, at para 1.1. scope and purpose.

would not be reasonable to expect all abnormal results to be reviewed. In respect of the 10 June 2019 result, the issue was that the CRP result did not trigger the alert system. Further, that anyway the death was not preventable on 10 June 2019 relying on Mr Coggins' evidence. That this did not detract from the premiss that increased clinical review of tests was desirable and conducive to patient outcomes. That FVHB is actively working to improve the system by increasing staffing and introducing IT system improvements.

[224] I accept this proposed Finding with amendment for the following reasons. At the time of Mr Carter's death there was no clinical oversight or review of blood test results undertaken at the NHS Forth Valley laboratory in respect of general chemistry. Mr Redpath brought certain tests back in house to the laboratory to attract an additional clinical scientist. These tests required clinical review. They were limited in number, and included tumour markers and hormones. The only other general chemistry results subject to clinical review presently are kidney results that show dramatic changes. This relative lack of clinical review of general chemistry test results remains the case presently, subject to a review. There was also relatively limited clinical review of blood test results in respect of haematology. There was no clinical oversight undertaken of Mr Carter's blood test results by clinical scientists or clinicians at the laboratory from first admission on 23 May 2019 to 10 June 2019. This was in accordance with the laboratory's protocols at the time. There was only one clinical scientist employed at the laboratory, Mr Redpath. Mr Redpath had sought increased staffing of clinical scientists for the laboratories for some time to enable some clinical oversight of blood tests to be

undertaken. A business case for increased staffing of the lab, highlighting safety concerns went unanswered for some considerable time. A second clinical scientist ultimately commenced at the laboratory in September 2019. If Mr Redpath had had clinical oversight of the blood test result on 10 June 2019 he would have considered the clinical context and ensured it was phoned urgently to the requestor (prison doctor). That was his evidence. The fact it was not clinically reviewed was because the system then did not allow for it.

[225] The level of clinical staffing at the laboratory still remains low compared to other laboratories. There remains virtually no clinical oversight of general chemistry test results. The relative lack of clinical oversight compares poorly with NHS laboratories in health trusts elsewhere in Scotland and England. It is possible to have a system in place that provides an increased and adequate level of clinical oversight / review of blood test results conducted by clinical scientists. It is a question of planning and resourcing by FVHB. The absence of such a system of any, or an adequate level of, clinical review of those tests is a system defect. The evidence was clear that if Mr Carter had not been discharged on 4 June 2019 his death might realistically have been avoided and there was also a realistic possibility of his death being avoided if readmitted as an emergency on 10 June 2019. The evidence of Mr Redpath was that if he had clinically reviewed Mr Carter's blood test on 10 June 2019, he would have considered the context. That being patient location, prior hospital admission, previous results and ensured it be telephoned as a priority to the requestor. That would have led to his readmission. In respect of 4 June 2019, the issue was more the failure to ensure the result was received

and considered by the requesting clinicians. However, if the system had had an adequate level of clinical review it may well also have involved considering that abnormal result on 4 June and the fact it was a deterioration and ensuring it was hence communicated. The absence of any system of clinical review of those tests at the time prevented consideration of the 4 June result for clinical review. I am satisfied that the absence of clinical review was a defect in the system that contributed to the death.

The Finding with amendment is:

The system in place at Forth Valley Royal Hospital laboratory relating to the clinical oversight / review of patient blood tests by clinical scientists between 23 May 2019 and 11 June 2019 was defective. There was then and now no system that provided for adequate levels of clinical oversight / review of blood test results that are outwith normal parameters. Had there been an adequate system of clinical review, it is reasonable to suggest that the blood test results of 4 June and 10 June 2019 would have been reported to the relevant clinician. As such this defect contributed to the death of Mr Carter.

[226] **Finding 4** sought by the Procurator Fiscal.

“the system in place at Forth Valley Royal Hospital relating to the reporting of patient blood test results to requesting clinicians between 23 May 2019 and 11 June 2019 was defective in that:

- (i) the set criteria relating to ‘new findings’ did not account for changes in patient’s circumstances. Had Mr Carter’s results of 10 June 2019 been considered a new finding in terms of the SOP it is reasonable to suggest that a telephone alert would have been made and consequently Mr Carter would have been returned to hospital.
- (ii) The current system does not provide any alert to clinicians when results are generated. This defective system led to the results generated on 4 June 2019 remaining unchecked. It is reasonable to

suggest that Mr Carter's discharge would have been delayed had the results been known.

As such these defective systems contributed to the death of Mr Carter."

FVHB

[227] In relation to 4(i), FVHB acknowledged that it would be desirable for its system to have recognised the results of 10 June 2019 as constituting a new finding given that Mr Carter had been discharged from hospital. Evidence was heard from Ms Pattenden that such a system could be introduced in tandem with a system of "ghost reporting". That can be considered as part of the ongoing review into the Lab's process. However, it was submitted that it is not open to the court to make the finding sought by the Crown. That is because, for the reasons narrated already, by 10 June 2019 Mr Carter's condition was not survivable. Thus, even if a defect in the system existed, it did not contribute to Mr Carter's death. FVHB submitted that, if the court wishes to make a finding that their system ought to have treated the results of 10 June as a new finding, the appropriate section under which to make that finding is section 26(2)(g): any other facts relevant to the circumstances of the death. FVHB accepted that, had a phone call been made following the reporting of the results on 10 June 19, Mr Carter would have been returned to hospital. In relation to 4(ii), FVHB accepted that its current system does not provide any alert to clinicians when results are generated. It does not resist a finding that the failure to implement a system of that sort resulted in Mr Carter being discharged without the blood results having been given the appropriate consideration by a senior member of staff. Nor does it resist a finding that, if senior members of staff

had been alerted to the blood results of 4 June, Mr Carter would not have been discharged.

[228] FVHB hence accepted both proposed findings in respect of the set criteria for reporting CRP results, and that the system for reporting test results in general to requesting clinicians were defective. However, maintained that the death could not have been avoided on 10 June 2019 but could have been if not discharged on 4 June 2019.

Finding 4(i). I have little difficulty accepting both proposed findings. The evidence in respect of the test result of 10 June 2019, which as explained I have accepted, is that if reported it would have resulted in Mr Carter being readmitted urgently, and I have accepted that his death at that time might realistically have been avoided. There was evidence which I accepted that Mr Carter's CRP reading on 10 June 2019 of 296, was not phoned urgently in line with the SOP⁸⁰. This was because it was not considered a "new finding" as he had previously had a result over 200 a week previously. The reading was almost 60 times normal range. The previous test result a week prior, was as a hospital in patient-acute admission. He had been discharged home (prison). It did not take account of the changes in the patient's circumstances that he was no longer in hospital, or indeed of other results being abnormal also (CRP, WCC, Platelets, Liver Function together). If it had taken account of the changes in circumstances the SOP would reasonably consider this to be a new CRP finding and hence qualify for urgent communication by telephone. Mr Anderson whose evidence I accepted was clear that in the circumstances of

⁸⁰ CP-10 Standard Operating Procedure-Handling Urgent Samples and Reporting Results that Exceed Alert Limits (Clinical Chemistry Laboratory).

Mr Carter this ought to be considered a “new finding” and hence be treated as such.

Hence the set criteria in the Standard Operating Procedure was defective and contributed to Mr Carter’s death.

[229] Finding 4(ii). Parties were in agreement with this finding and I accept it. The systems in place do not provide any alert to clinicians when a result is available or require any acknowledgement it has been seen or read. Other systems elsewhere do have such a mechanism. Dr Belch spoke of the system in place in the hospital she works in, in Glasgow having such an alert. “Trak Care”. Mr Coggins spoke of this issue not being unique to Forth Valley but being an issue elsewhere also. He considered that it was surely an IT issue that could be addressed. Ms Pattenden referred to ongoing work in respect of IT systems which is considering this issue as part of a wider review.

Clearly if there had been such an alert, or a system that forces a response with an escalation if no response is given within a certain timescale, it is likely the clinicians on 4 June 2019 would have been made aware of Mr Carter’s blood test result on 4 June and taken appropriate steps for Mr Rodger to see and consider it prior to discharge.

Mr Carter would then not have been discharged. I hence accept both Findings proposed.

[230] In terms of section 26(2)(g) of the Act, any other facts which are relevant to the circumstances of the death.

Failure to properly maintain records.

Finding 5 sought by the Procurator Fiscal.

“Failure to maintain proper records of treatment considerations resulted in increased risk to patients during handover periods.”

The Crown made no substantive representations to support this Finding. I agree with the FVHB that it lacks specification and it is not supported in the evidence. It is not clear how this proposed finding is relevant to Mr Carter’s death. While there was some discussion in respect whether certain treatment considerations could have been better documented, notably consideration of laparoscopic cholecystectomy, in respect of this or particularly in respect of hand over periods there was not evidence supportive of the finding. There have to be facts relevant to the circumstances of the death in terms of section 26(2)(g). I accordingly do not make this finding.

[231] **Finding 6** sought by the Procurator Fiscal.

“Failure to properly record requested tests, specifically blood tests resulted in a situation whereby discharging Consultant was unaware of outstanding test results.”

This proposed Finding is accepted by FVHB. I also accept it. (Renumbered as Finding 5). The failure to properly record the requested blood test on 3 June 2019 for 4 June 2019 resulted in Mr Rodger being unaware that the test had been ordered when he undertook the ward round on 4 June. Had he been aware of an outstanding blood test result that would have triggered obtaining and checking the results. That is clearly a fact relevant to the circumstances of the death because it is accepted that once the CRP result was known, namely that there had been a notable deterioration on 4 June 2019 Mr Carter would not have been discharged. There was confusion as to whether the

blood test was ordered to be carried out or not. Dr Belch thought it was and actioned it. Dr Crozier thought it was not ordered. Mr Rodger was unaware it had been ordered. However, this confusion was easily avoided if the system in place properly recorded that it had been ordered and the result expected, in a place the discharging Consultant would see on the ward round. ie The Medical notes. It would then be seen, and appropriate action taken to obtain the test result and for the consultant to consider it in the context of the proposed discharge. Likewise, if the test result system required a response from the responsible clinician to acknowledge receipt, it would provide a measure of protection against human error in failing to record tests. The issue at Finding 4(ii) above.

Discharge Process

[232] **Finding 7** sought by the Procurator Fiscal.

“In the Crown’s submission there was a weakness in the discharge process in Forth Valley Royal Hospital in that a patient can be discharged without outstanding test results being considered.”

FVHB submitted that this proposed finding relates to the same issues arising in respect of the Crown’s proposed Finding 4(ii). There is a potential overlap, and it was submitted that the relevant issues are more appropriately dealt with in the earlier proposed finding. It was suggested that it was not established in evidence whether or not the blood results on 4 June were seen by a clinician prior to discharge. They were either not seen or, if they were seen, confusion may have led to an assumption that they had already been considered. There was evidence heard that junior doctors complete

the documentation for discharge. The focus of the documentation is to provide a summary of the patient's treatment during the admission to hospital. As the evidence identified, it is an administrative task, often started at the point of admission, and completed to varying degrees, often by different junior doctors, during the process of discharge with an interim discharge letter following the patient on immediate discharge, and a subsequent final discharge letter completing the process, often a matter of days following physical discharge. Consideration of blood test results is not an administrative matter. Placing emphasis on consideration of blood test results in the context of a discharge has potential to detract from the fact that they are of clinical significance. They require to be considered by a clinician in determining the clinical question of whether a patient should be, or continue to be, discharged, and that issue ought to be determined independently of any administrative discharge process. The defect, properly characterised, relates to the absence of a system which required the clinician responsible for Mr Carter's care (ie Mr Rodger, who had discharged Mr Carter) to electronically review and sign off on any outstanding test results (of the sort operated in Greater Glasgow Health Board). That matter is properly encompassed by the proposed Finding 4(ii).

[233] In respect of the issue of whether or not the blood test result was seen by a clinician prior to discharge on 4 June 2019, I am satisfied on the evidence that it was not. I have hence made a finding in fact to that effect. I am satisfied on the evidence I heard from Mr Crozier and Mr Rodger that had it been seen it would have been escalated and drawn to their attention, and that while Dr Belch ordered it she did not follow up as

working elsewhere the next day. Dr McCollum was working the next day as FY1 on the ward. She did not give evidence. Her statement was silent on the issue of test results. I do however agree that there is an overlap with finding 4(ii). There is an attraction to the FVHB position that discharge combines an administrative process, whereas blood test results have to be seen and considered by the clinicians treating the patient. The system in place should ensure that occurs, which inevitably would be in advance of discharge as it plays a role in the decision whether to do so. That is by the treating clinician responsible for the patient's care. The actual discharge process was described as an essentially administrative one, carried out by FY1 doctors with a limited role and experience. That follows on from the clinical decision to discharge made by the treating consultant responsible for the patient who of course should have all the necessary information, including test results. The best safeguard that the test result has been correctly seen by the clinician responsible, is one that requires sign off from that person, rather than an administrative discharge process. As this issue is better encompassed by the finding at 4(ii), I will decline to make it.

Changes made since Mr Carter's death

[234] There was some evidence from witnesses of changes made to practices since Mr Carter's death. This is in respect of Forth Valley Royal Hospital, and also the prisons in Forth Valley. In respect of the SPS the primary change is the introduction of the discharge checklist instigated by Dr Sayers, in conjunction with the SPS raising awareness with the hospital, of the issues the prisons have with medication and facilities

for patients who are prisoners. It is to Dr Sayers' credit that he instigated and advocated for these changes to processes. Test ordering by the prison is now wholly electronic. In respect of FVHB submissions were made that there were ongoing improvements to address issues that Mr Carter's death had highlighted. Clearly, in respect of the laboratory that encompasses levels of clinical review of blood tests. It also includes the Standard Operating Procedures for communicating results urgently. A significant issue is the mechanism of how any test results can be confirmed to have been received and / or signed off by the treating clinician. That is ultimately an IT system issue. FVHB advised that there is a review ongoing of the IT system. This was spoken to in evidence to a limited extent by Ms Pattenden. It will include the development and implementation of a single electronic IT system which will allow clinical teams to see what investigations have been requested and what results require to be electronically signed off. In conjunction with that an escalation process will be triggered if sign off is not completed within an agreed timescale. These changes will require procurement of new systems followed by an implementation phase to provide assurance the system is compliant and safe. That FVHB is establishing a short life working group which is tasked with improving the discharge process for, and documentation associated with, patients returning to prison from hospital. As part of that process FVHB will review its processes to ensure that all available results for a patient have been reviewed prior to discharge, with a clear record of any outstanding investigations or results.

[235] That there were improvements to the laboratory with a third clinical scientist approved for hiring. The hiring process is underway. That the pandemic had delayed

that process. There had been considerable work undertaken towards UKAS accreditation of the laboratories. There will be an assessment in March 2025 by UKAS in respect of the Haematology lab. Transfusion will undergo an assessment at the end of 2025. No date has been set yet for the Chemistry lab, but work was ongoing to meet the standards required for it also to be accredited by UKAS. If the other labs pass the accreditation, the general chemistry lab will undergo an “extension of scope” process as a full assessment will not be required. Work is ongoing with these processes. On my querying the time frame for the introduction of new IT systems, Ms Davie KC advised that it was approximately 2 years. The intention is to bring it in. There have been other changes also. The ward rounds have been bolstered. There is a rearrangement of consultants into a more streamlined system of two teams of six. There are now laptop computers available on trolleys on the ward rounds for the consultants to access. There is also more involvement by nursing staff on the ward round. Hence, changes had been made and were ongoing.

Recommendations

[236] The inquiry may make recommendations. It is an exercise of judicial discretion and it is forward looking. There must be a real or lively possibility that by adopting the recommendation, similar deaths might realistically be prevented in the future. “Similar” being given its ordinary meaning: having a significant or notable resemblance. In terms of section 26(1)(b) of the Act such recommendations (if any) as to any of the matters mentioned in subsection (4) as the sheriff considers appropriate.

- “(4) The matters referred to in subsection (1)(b) are —
- (a) the taking of reasonable precautions,
 - (b) the making of improvements to any system of working,
 - (c) the introduction of a system of working,
 - (d) the taking of any other steps
- which might realistically prevent other deaths in similar circumstances.”

Recommendations sought by the Procurator Fiscal

[237] **Recommendation 1:**

“NHS Forth Valley Health Board should urgently conduct a review of the clinical oversight of test results within it’s laboratories with a view to establishing a system of parameters that increase clinical oversight of blood test results.”

FVHB submitted that while it accepts the underlying premiss of the recommendation, a formal recommendation was neither necessary nor the most appropriate way to achieve the stated aim. Active efforts are ongoing to improve the laboratory system at FVRH. It is committed to that process. Reporting to prisons is now electronic. Active steps have been taken to hire additional staff and to achieve UKAS accreditation. That there is an ongoing review as to how to improve the laboratory system operated within FVRH and that will benefit from input from the IT department. Any changes require careful consultation with clinicians and to consider resources are effectively utilised. As any changes requires IT input as to what is technically feasible, it is not beneficial for the review to be rushed through on an urgent basis. That the evidence heard does not support the proposition that clinical oversight of the results at the laboratory was lacking. However, if the inquiry considered it was appropriate to make a recommendation it proposed the following: “As part of its ongoing review into its

laboratory system, FVHB should consider what steps should be taken to improve the communication of the results of blood tests.”

[238] The evidence at the inquiry clearly highlighted that there are two significant issues with test results. The first is lack of clinical review of blood test results at the time of Mr Carter’s death and, the continuing relatively low amount of clinical review of blood test results at the laboratories at FVRH. That is what this proposed recommendation is directed at. I use the phrases clinical oversight and clinical review interchangeably in this context. The second significant issue is the system of communication of blood test results, which fails to require an electronic sign off by the responsible clinician, such as is available in some other health board areas (eg Trak Care). That is being addressed by FVHB with the introduction of a new IT system which will incorporate improved measures to address this. That issue is being properly progressed, although it will take time to implement a new IT system. A recommendation is not sought nor necessary in respect of it. Clinical review, or rather the lack of it, was also a significant feature of the inquiry in respect of Mr Carter’s death. Having an increased level of clinical review by clinical scientists within the laboratory is likely to prevent other deaths in similar circumstances. Changes have been made to the laboratory and are ongoing. However, in respect of levels of clinical review that is notably little different from 2019 when Mr Carter died. Mr Redpath managed to hire an additional 0.8 clinical scientist who commenced in late 2019. That staffing level was not sufficient to have a notable change in levels of clinical review. A third clinical scientist has been approved but not yet hired. It is almost 6 years since June 2019. There was

evidence in relation to different levels of clinical review and how that can be achieved. It involves resourcing with staff. It also involves IT. Parameters can be chosen after appropriate consultation. It is achievable. Other health boards do provide greater levels of clinical review of test results in their laboratories. The evidence suggested that almost all have higher levels of clinical review than FVHB. Mr Redpath, Mr Anderson, Ms Pattenden and Mr Coggins all spoke to it. Levels of clinical review of blood test samples clearly impacts on patient safety. It can impact on timing of diagnosis and treatment. Clinicians have previously flagged concerns to the laboratory, as did Mr Redpath himself to FVHB. It is the responsibility of the senior management at Forth Valley Health Board to ensure adequate resources are allocated to allow an appropriate level of clinical review of test results within the laboratories. As such it is appropriate to make a recommendation in respect of levels of clinical review. I understand FVHB's point that "rushing" a review may be counter productive given the issues. However, it should certainly be carried out as a priority and expeditiously, and could be considered in conjunction with other reviews / changes ongoing of the laboratory service. Almost 6 years has elapsed since Mr Carter's death. It has a direct bearing on patient safety. I will recommend this takes place within 6 months.

NHS Forth Valley Health Board should conduct a review of the clinical oversight of test results within it's laboratories with a view to establishing a system of parameters that increases clinical oversight of blood test results. This should be undertaken within 6 months.

[239] **Recommendation 2:** “NHS Forth Valley Health Board should urgently increase awareness of the set criteria applied to the reporting of abnormal blood test results to all clinicians.”

FVHB accepted that greater awareness amongst staff of the set criteria can only be of benefit to patient care. It advised that it has re shared the phoning limits with staff on receipt of the Crown’s submissions. The information is also contained within FVHB’s Clinical Chemistry Handbook. FVHB submitted that a formal recommendation is hence not required. I agree that this recommendation should be made. It was notable and surprising how many witnesses in giving evidence were unaware of the phoning limits. That included the Consultant Surgeons Mr Crozier and Mr Rodger, and Dr Sayers. They were unaware of the rationale for particular limits or indeed why they would be phoned, other than the laboratory considered them to be urgent. Surprise was expressed at the level some of the limits were set at. Although she did not give evidence, in her statement Dr Else, Associate Medical Director Scheduled Care, Forth Valley Health Board, was also not aware of what set criteria were applied to the reporting of results. As such it would be beneficial to patient care for the set criteria to be widely understood by clinicians.

NHS Forth Valley Health Board should urgently increase awareness of the set criteria applied to the reporting of abnormal blood test results to all clinicians.

[240] **Recommendation 3:**

“NHS Forth Valley Health Board should urgently conduct a review of its set criteria for reporting blood test results, specifically in relation to a change of patient status (ie Discharge from hospital)”.

FVHB submitted that it did not disagree with the underlying premiss of the recommendation. Following the evidence and Crown submissions FVHB had decided to change its process so that if a patient has been discharged from hospital, any subsequent result which breaches the primary care phoning limits will be communicated regardless of whether it is a new or unexpected finding. Hence a formal recommendation may not be required. If the inquiry thought it were appropriate it proposed the following:

“As part of its ongoing review into its laboratory system, FVHB should consider whether the set criteria for phoning in test results to requesting clinicians should account for any change in the patient’s location regardless of whether the findings are new or unexpected.”

I will adopt the proposed recommendation suggested by the FVHB. There was clear evidence that the reason the CRP reading of 10 June 2019 was not reported urgently by telephone was that in terms of the Standard Operating Procedure, it was not a “new finding” as Mr Carter had been discharged from hospital a week prior when he also had a high reading. It was clear that this was illogical. It is positive that FVHB have decided to change their process, particularly in respect to patients who have been discharged. However, a recommendation is still merited given the importance of the criteria for phoning test results, to the safety of future similar patients and I will make the recommendation proposed by FVHB.

As part of its ongoing review into its laboratory system, NHS Forth Valley Health Board should consider whether the set criteria for phoning in test results to

requesting clinicians should account for any change in the patient's location

regardless of whether the findings are new or unexpected.

[241] **Recommendation 4:**

“NHS Forth Valley Health Board should carry out a review of it's discharge process for patients to a prison setting increasing awareness of the checklist created by Dr Sayers, increasing awareness of medication available in a prison setting and consideration of including a requirement that outstanding test results are reviewed prior to discharge.”

FVHB highlighted that since Mr Carter's death there have been concentrated efforts to make the process for discharge to prison from hospital safer, highlighting both the evidence of Dr Sayers, and the hospital discharge to prison SBAR document in particular. They recognised that greater efforts required to be made to increase staff awareness of that process and did not therefore oppose the recommendation. It was clear in evidence given by Dr Sayers, that while the changes instigated by him were introduced almost 2 years ago, it was not being applied consistently. There was not a clear awareness within the hospital of the Hospital Discharge to Prison Document (checklist), or indeed of the particular issues of discharge to prisons. It was Dr Sayers (the prison doctor) who was actively seeking meetings with the hospital staff and seeking to raise awareness. It was only in the run up to the inquiry that the FVHB appeared to publicise it and take more action in this regard. It is important for the safety of future similar patients, being discharged back to the prison estate that this is pursued and so I will make the recommendation.

NHS Forth Valley Health Board should carry out a review of it's discharge process for patients to a prison setting increasing awareness of the checklist created by Dr Sayers,

increasing awareness of medication available in a prison setting and consideration of including a requirement that outstanding test results are reviewed prior to discharge.

[242] I wish to express my thanks to parties for their assistance and efficiency throughout proceedings. A significant amount of evidence was agreed, and all witnesses were heard over a number of consecutive days.

[243] Finally, all parties formally expressed their condolences to the family of Mr Carter and I join them in doing so.