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BEFORE THE CORONER OF NORTHERN IRELAND

MRS LOUISA FEE

THE INQUEST TOUCHING UPON THE DEATH OF

GILLIAN TREVOR

Introduction

1. Before I begin to deliver my findings in respect of the death of Gillian Trevor, referred to throughout the Inquest as the deceased, I wish to offer my sincere condolences to her family.

2. The inquest proceeded in hybrid form, meaning that a mix of remote technology and live courtroom attendance was utilised and I am grateful to those who attended and gave evidence to the inquest. I also utilised my powers under the Coroners (Practice and Procedure) Rules (Northern Ireland) 1963 to admit a number of statements and records under Rule 17. I do not intend to recite all of the evidence in these findings, but rest assured that all of the evidence received by me has been considered before arriving at these findings.

Inquest Evidence

3. The deceased, Gillian Trevor, of 16 Rosemary Place, Coleraine born on 13 February 1959, died on 23 September 2017 at the Royal Victoria Hospital. She was 58 years old.

William Chestnutt, husband of the deceased, made a statement dated 5 November 2021 which was admitted to the inquest under Rule 17. Mr Chestnutt sadly died on 23 December 2022. His statement records that, prior to the deceased's death, he was in a relationship with her for 43 years and they had three children, Claire, Emma and Lee. On 18 August 2017 he and the deceased

were at home when she failed to respond to him calling to her. He found her in the kitchen staring into space and unresponsive when he gently shook her. He contacted his son Lee and the out of hours doctor. His son arrived at the house and an ambulance was tasked to attend. Mr Chestnutt recorded that his son laid the deceased on the floor, and he noted froth coming from her mouth. When the ambulance arrived, some difficulties were encountered in getting the deceased from the house into the ambulance. He followed to the Causeway Hospital where he was subsequently advised that the deceased needed a computerised tomography scan (CT scan). Mr Chestnutt left the hospital around midnight and was unaware of the outcome of the CT scan. On 20 August 2017 he received a call to collect the deceased from hospital.

5. Over the course of the following week Mr Chestnutt records that the deceased was not herself, he described her as distant and quiet. She returned to hospital on 28 August 2017 and was discharged again. Thereafter, Mr Chestnutt noticed the deceased's face droop on the left side and observed her to lose power in her left leg. She had an appointment with her general practitioner (GP) on 1 September 2017 who sent her to hospital. Mr Chestnutt recorded that he visited her on 3 September 2017 and was unable to get any information about her condition from nursing staff, he thought she was trailing her left leg as she was assisted to the toilet. After he went home, he received a call at approximately 6.00 am on 4 September 2017 advising that the deceased had a CT scan and was going to be blue lighted to the Royal Victoria Hospital (RVH). He received a call thereafter from a doctor at the RVH who spoke to his son Lee. They were advised to attend the RVH later that afternoon.

6. Mr Chestnutt did not feel that as the deceased's next of kin, he was kept updated about her condition, he was annoyed that she was not given a second CT scan or magnetic resonance imaging (MRI) scan during her first attendance at the Causeway Hospital and that she was not provided with any letters or referrals on her discharge. He did not feel she was given the care and attention she required at Causeway Hospital however he had no concerns about the care she received at the RVH.

7. Claire Chestnutt, daughter of the deceased, gave evidence to the inquest. She said that when she was told that the deceased had taken unwell on 18 August 2017, she made her way to the Causeway Hospital and arrived about 7.00 pm. She recalled being told by someone in the hospital that the deceased required a second CT scan with higher definition. She was also told on 19 August 2017 that an MRI scan was required but couldn't be done as the deceased's temperature

was too high. Neither scan was carried out and the deceased was discharged on 20 August 2017. She returned to the hospital on 28 August 2017. Ms Chestnutt said that a nurse wanted a Locum doctor to carry out further tests on the deceased however the doctor did not detect any neurological issues and diagnosed a urinary tract infection. Ms Chestnutt was of the view that the deceased's mouth had already started to droop at this stage. The deceased was discharged later that same date. Ms Chestnutt recalled the deceased driving her car a few days later when she went the wrong way on a road, she was very familiar with, she was also unable to remember how to reverse the vehicle. Ms Chestnutt said that at 6.00 am on 11 September 2017 the family were informed that the deceased was being rushed to the RVH. The ambulance did not arrive until 8.00 am and the deceased did not arrive at the RVH until 9.35 am. Ms Chestnutt was of the view that time was critical and that it was unacceptable that over six hours had passed from the deceased's deterioration at 3.00 am. She was very disappointed with the treatment afforded to the deceased in the Causeway Hospital.

8. Dr Hawe, GP Mountsandel Medical Centre, gave evidence to the Inquest. He said that he consulted with the deceased on 16 August 2017 when she presented with acute sinusitis following her return from holiday in Bulgaria. She was prescribed a decongestant and nasal spray. The deceased contacted the surgery again on 17 August seeking an antibiotic for her sinuses, she was advised to leave in a sputum sample. At 7.12 pm on 18 August 2017 the deceased contacted the out of hours GP and an ambulance was arranged to take her to the emergency department. She was admitted to the Causeway Hospital from 18 to 20 August.
9. At 7.40 pm on 28 August 2017 the deceased contacted the out of hours GP and was referred to the emergency department for bloods and a possible diagnosis of unresolved sepsis was noted. The deceased attended the Emergency Department at the Causeway Hospital and was discharged for GP follow up care with a diagnosis of urinary tract infection, (UTI). A urine sample was left into Mountsandel Medical Centre on 1 September 2017 and the culture result recorded on the same date was negative on screen.

10. The deceased was reviewed in the medical centre on 4 September 2017 by Dr McGarrity. She presented with ongoing nausea, weakness, and tiredness. Pains in the right side of her face were noted to ease with paracetamol or neurofen. She had no urinary symptoms, and no problems were reported with her throat or hearing. On 8 September 2017 Dr Stevenson had a telephone encounter with the deceased's son who was concerned about his mother's behaviour and confusion over the previous three weeks. Dr Hawe told the inquest that the deceased

subsequently attended with him later that afternoon with confusion and sudden onset memory problems. Her family were noted to be very concerned and felt that the deceased posed a risk to herself. Dr Hawe was of the view that she needed assessed in respect of her acute delirium and seizure, he noted queries as to whether she may have a space occupying lesion or a possible cerebrovascular accident three weeks earlier. He referred the deceased to accident and emergency for bloods, CT brain scan and admission for investigation. His referral included the mini-mental state examination completed on 8 September 2017. Dr Hawe was of the view that the clinical situation on 4 September differed to that encountered on 8 September 2017 when a referral to hospital was deemed appropriate.

11. Dr Hawe said that he received a letter from Causeway Hospital Department of Emergency Medicine at 6.23 pm on 8 September which advised that the deceased had been admitted to the Medical Assessment and Admission Unit for CT brain scan and further examination of confusion. No further correspondence was received by the medical practice thereafter.

12. Dr Gilani, Emergency Medicine Registrar, gave evidence to the inquest. He first met the deceased in the Emergency Department on 18 August 2017, when she presented with headaches and a witnessed seizure earlier that day which lasted for 20 minutes. His examination findings were unremarkable, and he did not identify any focal neurology. He ordered blood tests, a CT scan of the head and venous blood gas test. Blood tests showed raised inflammatory markers, suggesting acute infection. The CT scan report confirmed sinusitis and the venous blood gas test confirmed raised lactate. His differential diagnoses included sepsis secondary to meningitis, encephalitis, and sinusitis, he had no concerns about a UTI at that time. Dr Gilani confirmed that he thought there was an ongoing intra-cranial process, and his treatment plan was intravenous paracetamol, antibiotics, antivirals and fluids. He said his treatment plan was in line with sepsis guidance and he discussed the deceased's history, investigations and management with the Emergency Medicine Consultant who agreed with the management plan. The deceased was subsequently admitted under the acute medical team.

13. Dr Tam, Consultant Radiologist, gave evidence to the inquest. He said that he issued a report on 18 August 2017 in relation to CT brain images of the deceased captured on the same date. He said that he was provided a history detailing first seizure, headache and 20 minute witnessed tonic-clonic seizure. He did not identify any intracranial cause that could account for the deceased's clinical

presentation from the scans however, he did note changes to the paranasal sinuses which could have represented pansinusitis.

14. Dr Tam confirmed that his role as a radiologist would not be to suggest every management option for all findings on a scan. However, he said that he would have expected follow-up in accordance with The National Institute for Health and Care Excellence (NICE) guidelines such as a referral to a seizure specialist. He said that his recommendation for ENT involvement was to ensure a potential cancer wasn't missed and to carry out any appropriate drainage of the sinuses.

15. Dr Unamuno, Locum Consultant in General Medicine, gave evidence to the inquest. He said that the deceased was admitted to Causeway Hospital from 18 until 20 August 2017, having been brought to hospital by ambulance following a seizure witnessed by her son. He said he first met the deceased on 19 August 2017 at 4.55pm in the presence of her son. Accident and emergency notes record that on admission she had a low degree of fever, normal consciousness and normal neurologic examination. No focal neurological abnormalities, neck stiffness or photophobia was noted. Her white blood count was high consistent with infection and a urine dip test had positive findings suggestive of a urinary tract infection. Dr Unamuno was of the view that although the midstream sample of urine test dated 19 August 2017 was negative, the deceased most likely had an upper urinary tract infection which was successfully treated by the prescribed antibiotic regime. A CT scan of her brain reported no acute intracranial pathology. The opacification of the sinuses may have represented pansinusitis and nasoendoscopy was recommended after the acute episode settled to rule out an obstructing lesion. Treatment commenced with broad spectrum antibiotics and the on-call doctors admitted her to the Medical Assessment Unit on 18 August 2017. Nursing notes dated 19 August 2017 record the deceased feeling nauseous on two occasions for which she required anti-sickness medication.

16. Dr Unamuno assessed the deceased as alert and orientated on 19 August 2017, his physical examination ruled out neck stiffness and did not identify any focal neurology. Although he said that it was unusual for a 58-year-old to have a temperature induced seizure, Dr Unamuno was of the view that the deceased's high temperature had been the trigger for her seizure and that the high temperature was related to bacterial sinusitis. He explained his examination of the cranial nerves to the inquest and what this entailed, and it was his firm view that a facial droop was not present. He said that, although he was aware of more serious complications such as cerebritis he did not, on balance, believe a further

CT or MRI scan was indicated as no focal neurology had been identified. He said that a contrast CT scan would have carried inherent risks for the patient as she had one functioning kidney and he did not believe, on balance, that this was appropriate in the circumstances.

17. Dr Unamuno told the inquest that the deceased was keen to be discharged from hospital on 19 August 2017, however, he persuaded her to remain in hospital on intravenous antibiotics to ensure no further seizures, focal neurology or meningeal signs developed and to monitor compliance with antibiotic medication. He received a call from a junior doctor on 20 August 2017 who told him the deceased was demanding to go home. Dr Unamuno considered her medical records noting no further seizures or nausea and said that he repeated a physical examination which did not show any focal neurology. He recommended to her that she stay until the following day and told the inquest that he advised her she would see ENT on 21 August 2017. As the deceased was adamant about leaving, and he had no concerns about neurological symptoms or factors, Dr Unamuno was satisfied she could be discharged with oral antibiotics on 20 August 2017; albeit he said this was contrary to his advice. He also said that he told her to return to hospital if she suffered any deterioration. In his evidence, Dr Unamuno agreed that oral antibiotics would not be effective for an infection in the brain but confirmed that he had not thought there was an intra-cranial problem. He also acknowledged that the deceased was reported to have had a spike in temperature at approximately 2.00 pm that day, that he had been unaware of. There are no medical notes or records detailing Dr Unamuno's examination or discussion with the deceased in relation to discharge or discharge arrangements on 20 August 2017.

18. Dr Unamuno was of the view that there would have been little benefit derived from seeking ENT input between 18 and 20 August 2017. In his opinion there was no evidence of bone damage, and it was more likely that the infection had spread to the brain via the veins. He opined that drainage probably wouldn't have made any difference at that time. Dr Unamuno acknowledged that he wanted the deceased referred to ENT quickly but not urgently, however, this was not because he believed there was a complication in respect of the deceased's brain. It is documented within the medical notes dated 19 August 2017 that the management plan was for discussion with ENT in respect of possible drainage.

19. Dr Unamuno told the inquest that he had no recollection of engagement with the serious adverse incidents (SAI) investigation. He could not recall

participating in any interview or commenting within that process, that he was mindful that cerebritis and cerebral abscess were a rare, but possible, complication of sinusitis and that the deceased's seizure may have been caused by this. He opined that this commentary may have come from his reflections during an annual appraisal in 2018. Dr Unamuno said that he had only recently read the SAI report and had not challenged the Trust in respect of their conclusions.

20. Dr Unamuno acknowledged that, following review of this incident and with the benefit of hindsight, a seizure should be considered as a presenting sign of cerebritis or brain abscess. He also agreed that an MRI scan should be considered in such circumstances.

21. Dr Cubitt, Foundation Doctor, gave evidence to the inquest which was admitted by way of Rule 17. In August 2017 she began her first placement as a foundation year one doctor at Causeway Hospital. She had no physical interaction with the deceased, however, she reviewed her records and recorded the bloods in the notes on 20 August 2017. On that same date, she wrote a discharge letter using the deceased's notes, under the instruction of Consultant Dr Unamuno.

22. Doctor Maybin gave evidence to the inquest by way of Rule 17. She wrote a referral letter to Dr Skally, Consultant ENT Surgeon in the Northern Trust on 31 August 2017 on behalf of Dr Unamuno. She documented that the deceased was admitted to Causeway Hospital on 18 August 2017 after four days of headache, fever and tonic-clonic seizure. The deceased had a CT scan of her head on 18 August 2017 which showed extensive sinusitis. The reporting radiologist advised nasoendoscopy once acute symptoms settled. Dr Maybin detailed treatment to date to include the antibiotic Co-Amoxiclav and a nasal spray. She also noted the deceased's past medical history.

23. Nurse Perry, Clinical Sister, gave evidence to the inquest which was admitted by way of Rule 17. On the 28 August 2017 she was responsible for triage in the Emergency Department of Causeway Hospital. She triaged the deceased at 10.00 pm on that date and noted her to be fully alert. The deceased said that she had been unwell from the previous day with slurred speech, lethargy, and vomiting. She advised that she had a recent hospital admission with seizure secondary to sinusitis and urinary tract infection. She was triaged as an unwell adult, category 3 under the Manchester Triage System with new neurological deficit more than 24 hours old.

24. Doctor Njisane gave evidence to the inquest. He said that on 29 August 2017 at 12.41 am he was on duty as a Middle Grade Doctor at Causeway Hospital when he attended to and examined the deceased, who was complaining of vomiting and increased lethargy for about 24 hours. She told him that she had been admitted to hospital ten days earlier after having a seizure. She advised that she had a CT scan and was diagnosed with chronic sinusitis. Doctor Njisane's examination noted the deceased alert and awake, Glasgow Coma Scale was 15/15 and no focal neurological deficit was detected. Blood tests were conducted, and a chest x-ray was unremarkable. Urinalysis showed 2+ microscopic haematuria and 2+ proteinuria. Dr Njisane's provisional diagnosis was urinary tract infection and he discharged the deceased with an oral antibiotic, nitrofurantoin and ondansetron for sickness with advice to return if there were further concerns.

25. In his evidence, Dr Njisane candidly acknowledged that he misread the results of the urinalysis and that his subsequent diagnosis of a UTI was incorrect. In his view the deceased's presentation did not obviously suggest cerebral concerns and therefore no further investigations in this regard were sought by him. He said he had not recorded slurred speech as he did not note this during his examination, nor did he identify any weakness or abnormality. Dr Njisane had access to the medical summary relating to the deceased's admission on 18 to 20 August 2017 and, although markers for infection were present on 28 August 2017, it was his view that the infection was resolving from her earlier admission.

26. Dr Njisane confirmed that he did not contact a consultant to consider the deceased's attendance on this occasion. He acknowledged that he should have done so, and that the deceased should have been admitted to hospital. Dr Njisane said that practices have changed and that, should similar circumstances arise, the matter would be referred to a more senior doctor. He also said that current practice at the Causeway Hospital required a review of any re-attendance by a patient to the hospital within a short time frame, by an Emergency Department Consultant the following morning. I pause to commend the implementation of these practices at the Causeway Hospital.

27. Dr Donaghy, General Practitioner, gave evidence to the inquest. At the time, she was a trainee GP in the emergency department at Causeway Hospital. She saw the deceased in the emergency department on 8 September 2017at 9.50 pm with her family. She clarified that triage notes recorded at 7.01 pm noted acute

confusion and definite left sided weakness. Dr Donaghy specifically recalled the family's concern about the deceased, particularly in relation to her altered behaviour. They were also distressed that the deceased had been unwell for a number of weeks and was not improving. Dr Donaghy completed a mini-mental state examination and noted that the deceased took a long time to answer questions and seemed vague; her family confirmed she had been like this for a number of weeks. Although Dr Donaghy did not have cerebritis in mind she was firmly of the view something was not right and believed that the deceased required further imaging and investigation. She discussed the matter with one of the senior doctors, who she believes was Dr Njisane, and asked if she should arrange an urgent CT scan. He advised that, as the deceased had recently had a CT scan and was not presenting with new symptoms, a scan did not need done that night. He said she should admit the deceased and the medical team would arrange a further CT or MRI scan the following day. Dr Donaghy couldn't recall if she recounted this to the family and acknowledged that she failed to record all her actions that evening.

28. Nurse McNicholl gave evidence to the inquest which was admitted under Rule 17. She was the admitting nurse on 9 September 2017 at the Medical Assessment Unit when she admitted the deceased at 5.40 am who was complaining of confusion and mild left sided facial droop. She noted that the deceased was stable, and her Glasgow Coma Scale was 15/15. Nurse McNicholl noted during night duty on 10 September 2017 that the deceased was vague and needed prompting. Her observations were stable, and her Glasgow Coma Scale was 14/15.

29. Nurse Maguire, Deputy Ward Sister, gave evidence to the inquest which was admitted under Rule 17. She was on duty on 9 September 2017 at the Medical Assessment Unit when the deceased was admitted with increased confusion and facial droop. She noted that the deceased was vague and slow moving, requiring assistance to mobilise. Following a post take ward round by the consultant, the plan was for a MRI scan and confusion screen bloods. She also noted that the deceased's family raised concerns about her condition.

30. Dr Hamida, Locum Medical Senior House Officer, gave evidence to the inquest. He said that he was on duty for the acute medical take on 9 September 2017. The deceased presented to the emergency department at 6.23 pm on 8 September 2017 with a history of three weeks increasing confusion, forgetfulness and left facial droop. He reviewed her for a medical clerking on 9 September

2017 at 5.01 am. His examination found a slight left facial droop, she was alert, her Glasgow Coma Scale was 15/15 and her abbreviated mental test was 4/4. His diagnosis was an unresolved confusion and mild facial droop. Dr Hamida said that his management plan was to admit the deceased for further investigation including a repeat CT scan of the head and possibly a MRI scan. He did not identify the facial droop as a focal neurological defect as he presumed this was a residual rather than acute presentation.

31. Dr Hamida recalled that the deceased's presentation was difficult to comprehend in terms of the sequence of events, and, although he did not consider cerebritis, due to his own inexperience at the relevant time, he knew the deceased required further investigation. Dr Hamida told the inquest that he did not determine the investigation of choice, however, he said an MRI scan would be the gold standard when the CT scan is negative. Dr Hamida was present at the morning post take handover at 8.45 am on 9 September where he verbally handed over the deceased suggesting a repeat CT and MRI scan of her head. He confirmed that a CT scan was available in Causeway Hospital 24 hours per day whereas MRI scans were conducted at Antrim Area Hospital and on an urgent basis at the weekend. Further management and investigation were handed over to the day acute medical take team.

32. Dr Hamida told the inquest that he had a discussion with Dr Morrow at 3.10 am on 11 September 2017, when they discussed whether the deceased's current neurological examination was consistent with his on 9 September 2017. Dr Hamida was unable to recall if he physically examined the deceased at this time or if he gave advice to Dr Morrow. He was clear, however, that Dr Morrow's neurological findings described a marked decline in the deceased's neurological function from his clerking on 9 September 2017. Dr Hamida advised that there should be an urgent CT scan of the deceased's head.

33. Dr Jelly, Locum Consultant Physician, gave evidence to the inquest and he provided a history of the deceased's admissions to hospital on 19 August and subsequent discharge on 20 August 2017. He said that she was readmitted to the Medical Department on 9 September 2017 at 5.01am complaining of facial droop, increased confusion, erratic behaviour and vagueness. Dr Jelly said that he reviewed the deceased on 9 September at 10.00am. His examination did not detect any focal neurological defect, her chest was clear and cardiovascular system and abdominal examination were normal. He found her well-orientated and not confused. He decided that she should have an MRI scan of her head,

confusion screening should be conducted, and a more detailed history taken from relatives. Dr Jelly said that he did not encounter the deceased again.

34. In his evidence, Dr Jelly told the inquest that he decided that an MRI scan was the appropriate investigation based on his assessment of the deceased on 9 September 2017. He did not identify any signs of confusion when he saw her and all her tests had returned with normal results. However, he said he was concerned that a person of her age had presented with confusion against a background of three attendances at hospital. He had in mind an extensive list of differential diagnoses to include cerebritis, encephalitis and cerebral abscess. In his view a CT scan would not have been appropriate at this time as it would not have identified problems such as empyema in the brain. Dr Jelly acknowledged the diagnostic effectiveness of a CT scan on 11 September 2017, however, he remained of the view that the clinical response was appropriate at the time.

35. Dr Jelly said that he conducted the post-take ward round accompanied by a junior doctor with whom he would have discussed each patient. He said that, having made the decision an MRI scan should be requested for the deceased, he expected the junior doctor to action this request. If any issues arose or the radiologist had any queries as to the appropriateness of this scan, then the radiologist would contact him directly. Dr Jelly couldn't recall the detail of his discussion with the junior doctor or whether he said the scan was urgent. He acknowledged that he did not specifically note that the scan should be urgent and confirmed that an MRI scan had not been requested. The management plan also included obtaining a collateral history from family members. In Dr Jelly's view, nursing staff should have organised a consultation between him and the family, however, this did not happen. Dr Jelly confirmed that despite being accessible to staff on 9 and 10 September 2017 he was not contacted again in relation to the deceased.

36. Nurse Dillon gave evidence to the inquest. On 10 September 2017 she was working night shift on the Medical Assessment Ward in Causeway Hospital alongside Nurse McCusker. She recalled that shortly after midnight Nurse McCusker raised concerns about the deceased's condition. She said that Nurse McCusker contacted the hospital at night team at 2.20 am on 11 September 2017. A trainee doctor, referred to as a F1 doctor, who Nurse Dillon believed to be Dr Cubitt, attended and said she would return later, as the deceased was sleeping. Nurse Dillon said she and Nurse McCusker were not happy with this and again contacted the hospital at night team. Dr Hamida attended and requested an urgent CT scan of the deceased's brain. Nurse Dillon said that, following this

scan, Dr Morrow discussed the findings with the neurosurgery team at the RVH and a further CT scan with contrast was advised. She said that she inserted an IV cannula at 5.20 am for the deceased to attend CT again. She also obtained bloods to be sent to the laboratory. Nurse Dillon recalled that the CT scan identified an abscess in the deceased's brain which was starting to cone, and she was to be transferred by blue light ambulance to the RVH. Nurse Dillon contacted the bed manager in Causeway and there was discussion about availability of a bed in the RVH. She was of the view that this discussion caused a delay in booking the ambulance. She was permitted to contact ambulance control at 6.55 am and was told an ambulance wasn't available until after 8.00 am. Nurse Dillon said that she gave handover to the day staff team at 7.30 am and thereafter finished her shift.

37. Dr Morrow gave evidence to the Inquest. At the time of the deceased's death, she was a Foundation Year 2 doctor working in General Medicine. She was first involved with the deceased on 19 August 2017 when she accompanied Dr Unamuno on his post take ward round at 4.55 pm. She did not personally take a history from the deceased or examine her on this occasion. She said that she documented the CT findings and that the working diagnosis was sinusitis and urinary tract infection. She also noted the management plan which included discussion with ENT in respect of possible drainage and prescribed the deceased intravenous co-amoxiclav and a nasal vasoconstrictor on her drug Kardex. Dr Morrow said that in her experience she found Dr Unamuno to be very thorough in his examinations as evidenced by the length of time taken to complete the post take ward round which commenced at 9.00 am. She explained that her medical notes did not detail all of the completed examinations on that date due to a combination of inexperience and lack of time.

38. On 9 September 2017 Dr Morrow was on night shift with Dr Hamida when the deceased was readmitted. She completed the drug Kardex for this admission and prescribed a range of medications. She did not examine the deceased or take her history. Dr Morrow reviewed the deceased on 11 September 2017 at 3.10 am regarding left arm weakness noticed at 10.00 pm by nursing staff. Her findings concerned her as there was a possible underlying blood clot or a bleed in the deceased's brain. She requested a CT brain scan and asked Dr Hamida to examine the deceased to confirm if the neurological findings as documented, were new since he had examined her on 9 September. He subsequently confirmed that the deceased was presenting with new symptoms.

39. At 5.15 am Dr Morrow documented a conversation she had with the Consultant Radiologist Dr Taylor who advised that the CT scan showed either a rapidly progressing primary brain tumour or an abscess, and that a further CT scan with contrast would be needed. Dr Morrow said that Dr Taylor advised her to await the results of this CT scan before contacting the neurosurgical team at the RVH. The CT scan with contrast was performed at 5.27 am. At 5.55 am Dr Morrow documented her second telephone call with Dr Taylor who advised that the scan had shown a brain abscess that was starting to cone and that she would require medical assistance for transfer to the RVH. Dr Morrow telephoned neurosurgery at the RVH and advised Dr Hamida of developments. She documented that the deceased's Glasgow Coma Scale was 15/15, pupils were equal and reactive, and her NEWS score was zero, bloods had been taken and sent to the lab. At 7.00 am Dr Morrow documented a retrospective note of her telephone conversation with the neurosurgical registrar at 6.15 am who advised that the deceased should be transferred as a blue light emergency to the theatre at the RVH. Dr Morrow said she informed the deceased's next of kin of the proposed plan and she telephoned the area director of the Ambulance Service at 7.00 am who advised that a crew would not be available until 8.00 am. She contacted the ambulance service again ten minutes later to impress upon them the urgency of the situation. An anaesthetics review was carried out on the deceased at 7.45 am to ascertain if an anaesthetic transfer to the RVH was required.

40. Dr Morrow recalled that Dr Jelly was informed she would be accompanying the deceased on her transfer to the RVH. She said that the deceased had no neurological deterioration during the transfer, she recalled that she was very tired but conversed with her throughout the journey. Dr Morrow telephoned the neurosurgical team when they were approximately 20 minutes away from the RVH. At approximately 9.00 am Dr Morrow handed over the deceased's notes to a member of the surgical team in the theatre at the RVH.

41. Mr McCloud, Patient Flow Co-Ordinator Causeway Hospital, gave evidence to the inquest by way of Rule 17. He was contacted by a doctor at 6.30 am seeking transfer of the deceased to the Royal Victoria Hospital. He described how in these circumstances, he would take a brief synopsis of the patient's condition from the doctor, which would then be relayed to the Patient Flow Co-ordinator of the receiving hospital. After the receiving hospital confirmed bed availability and acceptance by their medical team they would advise of the location to where the patient is to be transferred. Mr McCloud would then phone

the relevant ward so that they can arrange an ambulance. In the instant matter this phone call took place at 6.55 am.

42. Mr Cooke, Consultant Neurosurgeon, gave evidence to the Inquest by way of Rule 17. He said that the deceased had been transferred to the RVH from the Causeway Hospital on the morning of 11 September 2017 following CT findings in keeping with acute subdural empyema, cerebral abscess and frontal paranasal sinusitis. On arrival she was taken to theatre and underwent an initial right-sided craniotomy with evacuation of subdural empyema and abscess. Mr Cooke who was surgeon of the week, was informed that the deceased's condition had deteriorated postoperatively, and a repeat CT scan had demonstrated a postoperative haematoma. He said that he advised that she should be returned to theatre for evacuation of the haematoma and removal of the skull bone flap. Following this, she was admitted to the Intensive Care Unit where she was mechanically ventilated and sedated, she was also treated with antibiotics. Mr Cooke said he became concerned there was ongoing sepsis and requested that the ENT team review the deceased. Following a discussion with Mr Bailey, Consultant ENT Surgeon, she was taken to theatre for paranasal sinus surgery on 13 September 2017. A further CT scan of her brain was conducted which indicated that there had been evacuation of the right-sided postoperative extradural haematoma and reduction in mass effect and the intraparenchymal bleed within the right frontal lobe was unchanged as was the extensive oedema. A shallow right subdural haematoma persisted. Additionally, the scan indicated a right medial occipital lobe infarction.

43. Mr Cooke said that weaning from sedation was started on 14 September 2017 and a MRI scan was requested to fully assess the extent of brain injury. The scan took place at 12.21 pm and demonstrated bilateral occipital lobe infarction which was more marked on the right. Mr Cooke met with family members on 15 September 2017 with Dr Hutchinson, an Intensive Care Consultant, and advised about the deceased's prognosis. Family members expressed to him their concerns about attendances at Causeway Hospital.

44. A repeat MRI scan took place on 20 September 2017 which demonstrated slightly increased swelling in the right frontal lobe with increased brain herniation through the craniectomy defect. Appearances in the right thalamus were now felt to represent established ischaemia. Mr Cooke met with the family again on 22 September 2017 accompanied by Dr Sweeney, an Intensive Care Consultant. Together they explained the severity of the deceased's clinical

situation. Mr Cooke said the family were of the view that the deceased would not wish to have survived a severe brain injury and live with a high level of disability. It was agreed that withdrawal of care was appropriate, and the deceased subsequently died on 23 September at 9.00 pm. Mr Cooke said he discussed the family's concerns about care received by the deceased in Causeway Hospital with Mr Quigley who raised an Interface Incident with the Northern Trust and the Ambulance Service. He said that the deceased was also discussed at a Neurosurgical Mortality Meeting on 18 October 2017.

45. Mr Quigley, Consultant Neurosurgeon, gave evidence to the inquest which was admitted by way of Rule 17. He was the on-call consultant overnight on 10 September 2017. He said that the deceased was referred to his registrar by the medical team at Causeway Hospital at 6.00 am on 11 September 2017 with critical deterioration and a CT scan suggestive of subdural empyema. His registrar advised immediate transfer to the RVH for surgical evacuation. No ambulance was available at that time and Mr Quigley escalated his concerns in this regard with the Northern Ireland Ambulance Service (NIAS) and the Belfast Trust. The deceased was transferred to the RVH at 9.35 am where she underwent an emergency craniotomy and wash out of the haematoma by a registrar. Afterward she experienced a seizure like episode and was immediately re-intubated. A CT scan revealed significant brain swelling with a small amount of extra-dural blood. The consultant of the week advised the registrar to take the deceased back to theatre later on 11 September 2017 to remove the bone flap and washout the haematoma. On 13 September 2017 an endoscopic wash out of her sinuses was conducted however an MRI revealed diffuse bilateral occipital infarction secondary to brain swelling. After discussion about prognosis with the intensive care team it was decided that there would be no further surgical intervention and a palliative treatment pathway was followed. Mr Quigley was of the view that the deceased's death on 23 September 2017 was as a result of her subdural empyema.

46. Dr Toner, ENT Consultant, gave evidence to the inquest which was admitted by way of Rule 17. At the time of his involvement with the deceased he was an experienced higher speciality trainee, referred to as a ST8 trainee, in ENT at the Royal Victoria Hospital Belfast. He said that the deceased was transferred to the RVH from the Causeway Hospital on 11 September 2017 following clinical deterioration and neurological symptoms. On the same date the Neurosurgical team performed a decompression craniectomy and evacuation of the subdural empyema. The ENT team reviewed her CT scan on 12 September 2017 and noted opacification of her nasal sinuses. Dr Toner and ENT Consultant McKee

conducted sinus surgery on the deceased on 13 September 2017. They found a deviated nasal septum to the right, generalised thickened and unhealthy nasal mucosa with mucopurulent discharge in the left nasal cavity. Dr Toner also commented that bone of the nasal sinuses was thickened. The surgical procedure opened her Maxillary, Ethmoidal and Sphenoidal sinuses on both sides and opened the pathway to the Frontal sinuses on both sides.

47. Dr Nigel Ruddell, Medical Director, gave evidence to the inquest which was admitted under Rule 17. He recounted the lessons learnt by the Northern Ireland Ambulance Service (NIAS) following this incident. Having identified a number of areas for change and recommendations, the NIAS Clinical Response Model was implemented in November 2019 which is aimed at accurately identifying time-critical calls and improving the response to those patients who are at the highest risk. A new process for the management of calls arising from healthcare professionals and requests for transfers between healthcare facilities was introduced in October 2021 aimed at ensuring a more equitable approach to emergency calls arising in these areas. Changes to the management and clinical structure within the NIAS emergency control room have been enacted which allow for better oversight of emergency calls, including enhancement of the clinical support desk team. NIAS continues to work with frontline staff and their union representatives in relation to addressing delays in calls arising close to handover. They are also working to reduce sickness levels with a number of staff welfare initiatives, a peer support programme and access to counselling services and enhanced occupational health support. I commend and endorse the actions implemented by NIAS following the death of the deceased.

Inquest Evidence

Expert Evidence

48. Professor Crimmins, Consultant Neurosurgeon, instructed on my behalf, gave evidence to the inquest. He said that the deceased had a sinugenic brain abscess which he described as a collection of pus in the brain, resulting from a rare complication of sinus infection. He said that this probably occurs when the body is unable to drain a sinus infection down the nose and instead forces its way through the small vessels in the brain. The infection usually starts in the frontal lobe of the brain given its proximity to the infected sinuses and will present with swelling that won't necessarily be identified on a CT scan. Professor Crimmins said it is best seen with a MRI scan. Presenting symptoms are headache, fever, confusion, and seizure. At this stage recommended treatment is aggressive intravenous antibiotic management with drainage of

sinuses by ENT surgeons. He said that the outcome is normally good with timely intervention and there is unlikely to be significant neurological deficit although there is a higher risk of developing epilepsy. Professor Crimmins said if this timely treatment regime wasn't followed a brain abscess or empyema develops and neurosurgery is required to open the brain and drain the pus. At this stage, antibiotics alone are inadequate to treat the infection.

49. In his evidence, Professor Crimmins was of the view that the deceased had neurological symptoms of cerebritis when she first presented to hospital on 18 August 2017. He said that a history of facial weakness is commonly reported following seizure, although this may not be sustained weakness. He said that a CT scan is unlikely to show the early inflammatory changes in the brain, a contrast CT may have shown changes in the meninges at this stage. In Professor Crimmins' view a MRI scan during this first admission would likely have indicated cerebritis and this should have been the obvious next investigation as there was evidence of both infection and some involvement of the brain. He said there should have been ENT review at this point to drain the sinuses followed by prolonged intravenous antibiotics. Surgery of the brain at this stage would not have been required. He opined that it was unfortunate that the deceased did not have a MRI scan or ENT review during her first admission.

50. Professor Crimmins explained that the oral antibiotics prescribed for the deceased on discharge on 20 August 2017 would have been unable to penetrate the brain blood barrier and therefore were ineffective against an infection of the brain. He was of the view that cerebritis had not occurred to the treating clinicians and that the presenting symptoms were sufficient for a reasonable practitioner to seek an MRI scan. He disagreed that the deceased's seizure was temperature induced and was of the view this only occurred in babies. In his opinion treatment administered was unreasonable for someone who had presented with signs of sepsis, a history of seizure and Todd's paresis. Professor Crimmins did however acknowledge that the differential diagnosis and management plan noted by the Emergency Department doctor when the deceased first presented, was both reasonable and appropriate.

51. Professor Crimmins told the inquest that the deceased was suffering worsening neurological symptoms when she attended hospital for a second time on 28 August 2017. She is noted to have presented with slurred speech,

lethargy and vomiting. Professor Crimmins said that, if a MRI scan had been performed at this time, it would have been clear that the deceased had cerebritis. He was also of the view that the pus collection would have evolved to such an extent that it would have been visible on a plain CT scan.

52. In Professor Crimmins' opinion the deceased was very sick during her final presentation to hospital on 8 September 2017. She had presented with a deranged level of consciousness and focal neurological signs. Although doctors did not note any specific left sided weakness, Professor Crimmins was of the view that symptoms of a brain infection aren't necessarily present all the time and can depend upon other factors such as time of day or tiredness of the person. He said it was unfortunate that imaging was not carried out until 48 hours after the deceased's presentation at hospital. He opined that earlier imaging would have resulted in her being transferred to the RVH earlier for immediate surgery. In Professor Crimmins' view the deceased's death would have been prevented by earlier diagnosis and management of complications related to her sinusitis. He did not believe that the delay in ambulance transfer had any significant effect on the outcome.

53. Mr Cox, Consultant ENT, Head and Neck Surgeon, instructed on my behalf, gave evidence to the inquest. In his view, the deceased died as a consequence of intracranial sepsis, secondary to acute pansinusitis due to haemophilus. He opined that the acute sinusitis diagnosed as pansinusitis on 18 August 2017 following a CT scan was probably complicated by incipient or actual intracranial sepsis. This was based on the history of severe headache, fitting, vomiting and a left sided facial droop. Her white cell count was raised on admission as was her C-reactive protein blood test, referred to as CRP. Although Mr Cox reported that no formal examination of the facial droop was noted, he acknowledged in his evidence that examinations conducted by Dr Gilani, the clerking doctor and Dr Unamuno did not identify any facial droop between 18 and 20 August 2017. Mr Cox opined that it was unlikely signs of focal neurology would be transient and he would expect facial weakness to be constant.

54. Mr Cox was of the view that no appropriate action was taken following the post take ward round on 19 August 2017, as evidenced by the failure to seek an urgent ENT opinion, a contrast CT scan of the brain or MRI scan. Mr Cox told the inquest that, even in the absence of an identified facial droop,

ENT input should have been sought based on the history of headache, seizure and diagnosed pansinusitis. Mr Cox said the CT scan conducted on 18 August 2017 could not exclude cerebritis. In his view, the referral to ENT communicated by letter dated 31 August 2017 was inappropriate and could not be considered as urgent. He was also unable to identify any evidence to suggest that the deceased ever had a urinary tract infection at this time. In Mr Cox's opinion, management of the deceased during her first admission between 18 and 20 August 2017 was inadequate and an opportunity was missed to identify incipient or actual intracranial sepsis.

55. Mr Cox told the inquest that, in his view, the deceased had changing neurology when she attended hospital on 28 August 2017, however, no neurological cause appeared to have been considered. He said there was a presumptive diagnosis of urinary tract infection and an opportunity to arrange urgent imaging was missed. He opined that the management of the deceased during this admission was inappropriate.

56. The deceased next attended the hospital on 8 September 2017 when, in Mr Cox's opinion, she should have undergone an urgent contrast enhanced CT scan or MRI scan on readmission. He said the previous CT scan was not contrast enhanced, was not normal, and new symptoms of confusion had developed. He was of the view that there should be no range of opinion in this regard. He said that an opportunity to diagnose and refer the deceased for urgent neurosurgical and ENT opinion was missed on 8 September 2017. In his evidence, Mr Cox said that, in his opinion, management of the deceased during her three attendances at the Causeway Hospital was regrettably substandard.

Narrative Findings

57. In coming to my conclusions, I was greatly assisted by the expertise of Professor Crimmins and Mr Cox and the evidence of all the witnesses.

58. On the evidence before me, there were a number of missed opportunities, in the care and treatment of the deceased, which I outline below. I make each of my findings on the balance of probabilities (ie more likely than not).

59. Initial treatment and management of the deceased in the Emergency Department, when she first presented to hospital on 18 August 2017, was both

reasonable and appropriate. However, I find that, throughout this first admission, there was a failure to recognise symptoms indicating neurological involvement as a complication of pansinusitis. Although I accept that cerebritis is a rare complication of pansinusitis, it is a possibility, and the CT scan conducted on 18 August 2017 did not exclude it. I find that the differential diagnosis should have included cerebritis. On the evidence considered by me, I am not satisfied that the deceased had a UTI at this time.

60. Although none of the treating clinicians identified focal neurology in their examinations during this admission, I find that insufficient weight was placed on the history provided by the deceased and her family members in relation to her seizure, facial weakness and headaches. Throughout this admission there was evidence of ongoing infection with a diagnosis of pansinusitis from the CT scan. I accept the evidence of Professor Crimmins that focal neurological signs such as facial droop, can be transient in nature and dependent upon other factors such as time of day or tiredness. I find that the absence of focal neurology in such circumstances should not have precluded further investigation. I find that appropriate action was not taken following the post take ward round on 19 August 2017, as evidenced by the failure to carry out further imaging such as contrast CT or MRI scans. I accept the evidence of Professor Crimmins that the early stages of cerebritis are best identified with a MRI scan, which was described in evidence as the gold standard when there is a negative CT scan.

61. I find that an urgent ENT opinion should have been sought following the post take ward round on 19 August 2017. I accept the evidence of Mr Cox that even in the absence of facial droop, ENT input should have been sought based on the deceased's history of headache, seizure and diagnosed pansinusitis. I find that the referral letter to ENT dated 31 August 2017 was insufficient in the circumstances and lacked any sense of urgency.

62. I find there was a failure to maintain appropriate medical notes and records, particularly in relation to the treatment and management of the deceased on 20 August 2017. I find that no adequate or appropriate consultant review took place prior to the deceased's discharge on this date. There is no record detailing physical review of the deceased, discussions with her in relation to her discharge or of any discussions with ENT about potential review, as noted in the management plan the previous day. I find

that the deceased's notes were not sufficiently reviewed prior to her discharge on 20 August 2017, as evidenced by the lack of awareness of her temperature spike at 2.00 pm that day.

63. I find that the care and treatment afforded to the deceased from 18 to 20 August 2017 was lacking and inadequate in the circumstances. I find that opportunities were missed to accurately diagnose and treat the deceased at an early stage.

64. I find that, and as candidly acknowledged in evidence, the deceased was incorrectly diagnosed with a UTI on 28 August 2017. I find that insufficient investigation took place during this attendance, and the opportunity to perform cranial imaging was not taken despite a background of increasing neurological symptoms, including slurred speech, lethargy and vomiting.

65. I find that the deceased was very ill, with the development of new symptoms of confusion, when she attended hospital on 8 September 2017. I find she should have undergone an urgent contrast enhanced CT scan or MRI scan on readmission.

66. I find that the management plan instituted following the post take ward round on 9 September was lacking in detail and did not adequately address the urgency of the deceased's condition.

67. I find that there should have been an informed discussion with the deceased's family during this admission in relation to the deceased's normal behaviour and presentation, with more emphasis placed on their concerns.

68. I find that an opportunity was missed to transfer the deceased to the RVH earlier for immediate surgery by the delay in imaging until 11 September 2017 and I accept the evidence of Professor Crimmins in this regard.

69. The Medical Certificate of Cause of death records and I find that death was due to

1(a) Cerebral infarction
Due to
(b) Subdural empyema
Due to
(c) Sinusitis
2 Hypertension

70. The above findings should be considered in the following context. At inquest I heard evidence from Dr Dunn, Consultant in Emergency Medicine at Causeway Hospital, which was admitted under Rule 17. He said that he was involved in a review of the circumstances of the deceased's attendances to Causeway Hospital's Emergency Department and subsequent transfer to the RVH, relevant clinical records and reports produced in relation to her attendances. They also interviewed relevant staff members. The review culminated in agreed recommendations, actions and lessons learned for the improvement and development of the service.

71. Dr Dunn confirmed that arising from the review five recommendations were made.
Recommendation 1: Complete improvement in nursing and medical documentation. This comprised of improvement to nursing documentation by the introduction of the Person-Centred Assessment Plan of Care Evaluation across Causeway, Whiteabbey and Antrim Area Hospitals, and a programme of medical note audit which was commenced in November 2020.
Recommendation 2: Senior review of unscheduled re-attendances out of hours. At Causeway Hospital there is a note audit of all the previous day's attendances carried out by an Emergency Department Consultant. This includes all unscheduled re-attenders.
Recommendation 3: Learning from this incident would be cascaded and shared throughout the organisation, clinical council, professional forums and morbidity and mortality meetings.
Recommendation 4: The Trust will seek assurance from Locum Medical Agencies that consultants have completed facilitator reflection from the learning in this case, the Locum Agency have confirmed that the SAI was discussed at Locum Appraisal.
Recommendation 5: Regional alert to raise awareness of cerebral empyema abscess as a rare but possible complication of paranasal sinusitis.

72. Dr Dunn concluded that the Trust had introduced enhanced senior medical cover out of hours, with an increased number and seniority of junior medical staff. Weekend rotas are split between two consultants and there are now separate acute admission and review teams present in hospital at weekends and bank holidays. He opined that if the deceased attended now, she would have been reviewed daily by a consultant or other member of senior staff which may have led to her symptoms being investigated earlier.