



FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 8th, 9th, 10th, 11th, 12th and 15th days of November 2010 and the 8th day of July 2011, by the Coroner's Court of the said State, constituted of Anthony Ernest Schapel, Deputy State Coroner, into the death of Jamie Stuart Bais.

The said Court finds that Jamie Stuart Bais aged 39 years, late of 5 Seccafien Avenue, Marion, South Australia died at Flinders Medical Centre, Flinders Drive, Bedford Park, South Australia on the 2nd day of November 2008 as a result of pneumococcal meningitis with severe cerebral oedema due to pneumococcal mastoiditis and sinusitis. The said Court finds that the circumstances of his death were as follows:

1. Introduction

- 1.1. Jamie Stuart Bais was 39 years of age when he died at the Flinders Medical Centre (FMC) on 2 November 2008. He had been a patient within that hospital since 18 October 2008.
- 1.2. Following his death the matter was reported to the State Coroner. An opinion as to Mr Bais' cause of death, based upon his clinical history, was sought from a forensic pathologist Dr Cheryl Charlwood. Dr Charlwood examined the casenotes concerning Mr Bais' admission to FMC. Dr Charlwood advised in writing that, in her opinion, a post-mortem examination of Mr Bais' remains was not necessary in order to establish the cause of death¹. Dr Charlwood states as follows:

'Given the above history and circumstances this gentleman has had ongoing resistant sepsis with mastoiditis and sinusitis, which has resulted in pneumococcal meningitis and

¹ Exhibit C2a

brain swelling despite active intervention. (Pneumococcus/Streptococcus pneumoniae is a bacterium, which can be a commensal within the upper aerodigestive tract of individuals without causing illness as well as producing minor (including ear infections) to severe sepsis including meningitis).

In conclusion, based on the evidence available to me a post mortem examination is not considered necessary to establish a cause of death. The cause of death in my opinion can be given as:

- 1a) PNEUMOCOCCAL MENINGITIS WITH SEVERE CEREBRAL OEDEMA
- b) PNEUMOCOCCAL MASTOIDITIS AND SINUSITIS'²

- 1.3. The clinical course concerning Mr Bais' treatment within FMC and the circumstances surrounding his death have also been examined by an independent medical expert, Professor John Cade, who is the Principal Specialist in Intensive Care at the Royal Melbourne Hospital and is a Professorial Fellow in Medicine at the University of Melbourne. Professor Cade has provided two reports both of which were tendered to the Inquest³. Professor Cade also gave oral evidence in this Inquest. As part Professor Cade's task, he reviewed Dr Charlwood's opinion as to Mr Bais' cause of death. In his first report dated 31 March 2009 Professor Cade expresses agreement with Dr Charlwood's opinion as to the cause of death.
- 1.4. I accept the conclusions of both Dr Charlwood and Professor Cade as to Mr Bais' cause of death. I find Mr Bais' cause of death to have been pneumococcal meningitis with severe cerebral oedema due to pneumococcal mastoiditis and sinusitis.
- 1.5. In his oral testimony at the Inquest Professor Cade elaborated upon the connection between pneumococcal meningitis and the originating pneumococcal mastoiditis and sinusitis. Professor Cade explained that the organism pneumococcus is one that many people harbour harmlessly within the upper respiratory tract. Generally, people remain unaffected by this organism. However, the organism can become a very serious pathogen. Typically it is one of the causes of severe pneumonia, but the organism may cause infections elsewhere in the body. The organism is one of the most common causes of meningitis, a serious and life threatening infection of the meninges of the brain. In Mr Bais' case he had suffered from an acute otitis media which involved a severe ear infection, together with mastoiditis and extensive sinusitis. Professor Cade explained that the underlying pneumococcal ear infection would have invaded the middle ear. The organism had also invaded the sinuses and

² Exhibit C2a

³ Exhibit C18 dated 31 March 2009 and Exhibit C18a dated 15 September 2010

caused sinusitis and mastoiditis. Immediately adjacent to the ear is part of the brain. One of the recognised complications of a serious middle ear infection is the spread of the infection to the adjacent meninges with associated meningitis or cerebral abscess or cerebral venous thrombosis. In Mr Bais' case the spread had caused meningitis⁴.

- 1.6. While meningitis is one of the recognised complications of a pneumococcal ear infection, it is an uncommon one⁵.
- 1.7. Professor Cade also explained that the pneumococcus organism is the most common cause of meningitis in adults. In addition, pneumococcus is the most common organism involved in middle ear infections⁶.
- 1.8. Professor Cade also explained that pneumococcus, like any organism, can only be definitively diagnosed by microbiological culture. However, in the case of pneumococcal meningitis there are other signs that might lead the clinician towards such a diagnosis, and at a time before the results of microbiological culture become available. Naturally enough, the patient's clinical presentation is of significance in this regard. Professor Cade stated that meningitis is suspected clinically from a variety of signs; most prominently headache but also fever, perhaps associated nausea and vomiting, commonly by photophobia which is the inability to tolerate bright light, and when the patient is examined most have what is referred to as neck stiffness. Professor Cade explained that one would not necessarily see all of those symptoms in a patient afflicted with meningitis. For example, the patient may not display photophobia and neck stiffness. Professor Cade suggested that the absence of neck stiffness does not exclude meningitis if other signs are present. He also stated that photophobia is a relatively weak sign. It is commonly present, but it is not necessarily present⁷. In any event, Professor Cade explained that most signs are subject to fluctuation, although if neck stiffness was present to any significant degree it would be unlikely to totally resolve while meningitis was active.
- 1.9. Quite apart from the patient's symptomatology, suspected meningitis might be diagnosed by examining the patient's cerebrospinal fluid (CSF). The CSF is the fluid that surrounds the brain and the spinal cord, all within a continuous space. The patient's CSF is obtained by way of a lumbar puncture that involves the insertion of a

⁴ Transcript, page 335

⁵ Transcript, page 340

⁶ Transcript, page 340

⁷ Transcript, page 337

needle into the space around the spinal column. Professor Cade explained that one would be able to detect meningitis within the CSF at a very early stage due to the detectable presence within the fluid of increased numbers of white cells that have been generated as part of the inflammatory process. The CSF at that stage might still be clear, but it will ultimately become turbid. Its overt turbidity is also a sign that there is an infective process such as meningitis present within the brain⁸.

- 1.10. There are risks associated with the administration of a lumbar puncture, one of which is presented by raised intracranial pressure within the brain. A CT scan of the brain should reveal whether any raised intracranial pressure exists. It is said that a CT scan might be dispensed with in suspected cases of meningitis where there has been no seizures, no focal neurological abnormalities nor impaired conscious state. I add here that neither a CT scan nor imaging provided by an MRI (or MRV) will exclude the presence of meningitis. However, such imaging might exclude other suspected pathology within the brain such as a tumour or a haemorrhage or, more relevantly in this case, infective processes such as an abscess or a cerebral venous thrombosis.
- 1.11. Professor Cade explained to the Court that meningitis due to pneumococcus is '*highly treatable if treated early*'⁹. On the other hand, if there is a delay in treatment the results can be very disappointing, involving either permanent neurological damage or a failure to survive at all. The illness is treated by way of a regime of antibiotics, most commonly ceftriaxone, vancomycin, meropenem and the administration of corticosteroids which have been shown to reduce mortality in this condition. Professor Cade also gave evidence that a clinical suspicion of pneumococcal meningitis might involve the patient being administered antibiotics that would, as it were, cover the disease until definitively diagnosed, and this is especially indicated having regard to the difficulty of excluding associated meningitis and the risk of high mortality if not treated¹⁰.
- 1.12. Mr Bais was a patient within the FMC for approximately 15 days prior to his death. It was only in the last 48 hours of that period that a diagnosis or conclusion was reached that Mr Bais had a serious infection within his brain. By then it was too late. Optimal intensive care management could not save him. Ultimately the infection resulted in brain death and he died on 2 November 2008.

⁸ Transcript, pages 344-345

⁹ Transcript, page 340

¹⁰ Transcript, pages 354-355

1.13. At different times during Mr Bais' admission to FMC the performance of a lumbar puncture had been discussed if not contemplated. Undoubtedly at a point in time during the course of his admission Mr Bais was suffering from pneumococcal meningitis. That possibility was raised by the first medical practitioner who examined him on his arrival in the FMC Emergency Department. Yet at no stage was a lumbar puncture performed either then or at any subsequent time over the next fortnight. As a result, Mr Bais' meningitis was not diagnosed until a time when it was too late for him to be effectively treated by way of the appropriate regime of antibiotic therapy. In essence, there is a clear connection between the failure to carry out a diagnostic lumbar puncture and Mr Bais' ultimate death from meningitis. This failure cannot in any sense be described as reasonable. This Inquest explored how such a situation had come to pass.

2. Mr Bais' presentation and admission to FMC

2.1. Mr Bais' partner, Ms Sharon Bais¹¹, provided a statement to the Inquest. A letter that Ms Bais addressed to investigating police¹² is exhibited to the statement. She states that in September 2008 their young son had been admitted to FMC and then to the Women's and Children's Hospital with a severe pneumococcal pneumonia. Prior to this Mr Bais had experienced an ear infection for which he had been given antibiotics. This infection had apparently cleared up. Mr Bais had stayed with their son during the son's hospitalisation. According to Ms Bais they had been home for approximately two weeks when Mr Bais experienced a relapse of the ear infection. He was again prescribed antibiotics by a general practitioner. Ms Bais states that by Saturday 18 October 2008 her partner had become very ill with the infection. He was discovered on the toilet vomiting and was vague, disoriented and clearly unwell. He was conveyed to FMC by his mother, Ms Julie Lagnado. According to Ms Lagnado's statement¹³, and a letter written by her to the State Coroner¹⁴, during the journey to the hospital her son had to hold his head in his hands because his headache was severe enough to be aggravated by bumps in the road.

2.2. Mr Bais was seen within the Emergency Department of FMC at approximately 7:30pm. Initial notations recorded that Mr Bais suffered facial pain and a headache

¹¹ Exhibit C3a

¹² Exhibit C3b

¹³ Exhibit C4a

¹⁴ Exhibit C4b

which was at the front of his head. It was also noted that he had been vague and lethargic and was febrile, which means that he had a temperature. The fact that Mr Bais' son had recently been admitted to the Women's and Children's Hospital with pneumococcal pneumonia was noted. I should perhaps add at this point that the son's pneumococcal recent illness is diagnostically relevant in the sense that it might make a pneumococcal origin for his father's illness more likely, but it would not necessarily carry any diagnostic implication as far as meningitis is concerned.

- 2.3. Mr Bais was initially seen by Dr Paula Giraldo¹⁵. Dr Giraldo at the time of the Inquest no longer worked at the FMC. She now works as an emergency registrar in the Royal Hobart Hospital. I received her statement in evidence. At the time with which this Inquest is concerned Dr Giraldo was a resident medical officer (RMO) at FMC and as such was relatively junior. Dr Giraldo noted symptoms that included 'neck stiffness at end of flexion'. Another notation within Mr Bais' casenotes¹⁶ indicates that he had no photophobia. Dr Giraldo has also written in her note '?meningitis'¹⁷, but the question mark seems to relate not only to that condition as a possible differential diagnosis but also to sinusitis and left otitis which in the event Mr Bais did have. In her statement Dr Giraldo has indicated that meningitis was considered as a possible differential diagnosis, but it is a fact that she had not made any notation at the time that a lumbar puncture was required at that point.
- 2.4. Mr Bais was also seen by Dr Tobias Otto who was a senior staff specialist at the Emergency Department of FMC. A note made by Dr Giraldo at approximately 8:30pm, which included observations that Mr Bais was feeling much better, indicates that at that point in time Mr Bais had no neck stiffness and 'no meningitis signs'¹⁸. Dr Otto's own notation made at 9pm specifically notes that Mr Bais had no rash, no photophobia and no neck stiffness but had mid to lower back pain at the end of forward flexion range. Dr Otto informed the Court in his evidence that he did not believe that Mr Bais had meningitis at that time. There was no photophobia, no neck stiffness and there was in his view a clear alternative diagnosis which would explain his symptomatology, that is the ear infection, severe as it was. Dr Otto prescribed an initial intravenous dose of 2mg of ceftriaxone which is an antibiotic that would target

¹⁵ Exhibit C19

¹⁶ Exhibit C9, page 12

¹⁷ Exhibit C9, page 15

¹⁸ Exhibit C9, page 15

a pneumococcal infection. This would appear to be an appropriate starting dosage for a suspected pneumococcal infection.

- 2.5. There is in any event insufficient evidence to conclude that on the 18th October 2008 Mr Bais' illness had already developed into meningitis. Professor Cade stated that while it is possible that Mr Bais had meningitis on 18th October, one cannot be firm about that¹⁹. I accept that evidence.
- 2.6. In my view a decision made at that time not to subject Mr Bais to specific diagnostic assessment for meningitis, nor to have prescribed specific or empiric therapy for that illness, cannot be said to be unreasonable. In any case there is insufficient evidence from which a safe conclusion could be drawn that a diagnostic procedure such as a lumbar puncture would have revealed evidence of meningitis at that time. This is not to say, however, that this remained the case for very long. There came a time, or times, when a lumbar puncture should have been performed. The issue in this Inquest can essentially be distilled into the question, when should it have been performed. In other words, when should the meningitis have been diagnosed and then treated.
- 2.7. As a result of Mr Bais' assessment within the Emergency Department, he was admitted to the FMC within the Ear, Nose and Throat unit, the 'ENT unit'. He would remain as a patient within that unit until his transfer to the Intensive Care Unit (ICU) on 1 November 2008. The team of medical practitioners that included an experienced ENT registrar, Dr Alethia Grobler, and ENT consultants, would be responsible for Mr Bais' treatment until his transfer to the ICU. That team is known as the 'home team'. During the course of Mr Bais' treatment within the ENT unit he would also be seen on a number of occasions by members of the Infectious Diseases (ID) team which would be referred to as the 'consulting team'. The ID team was first requested to review Mr Bais on 22 October 2008. By then Mr Bais had been in the ENT unit for four days. In the following section I deal with Mr Bais' treatment within the ENT unit and, as well, the involvement of the ID team in his treatment.

¹⁹ Transcript, page 344

3. **The course of Mr Bais' admission within the ENT unit**

3.1. That Mr Bais had a severe ear infection that required treatment with antibiotics is beyond question. There is no doubt that he had such an infection from the outset. The issue as to at what point in time the infection developed into meningitis is not as clear cut. In Professor Cade's second report²⁰ he states that the question as to at what point in time meningitis was likely to have been in existence, and therefore when it should have been diagnosable or at least anticipated, cannot be answered with certainty. He states, however, that it would seem likely that the complication of meningitis was responsible for Mr Bais' deterioration in hospital on or about 25 October 2008. I will deal with some aspects of Mr Bais' presentation and treatment in the period between 18 and 25 October 2008, but for the purposes of any sensible discussion about when a diagnosis of meningitis ought to have been made it is important to endeavour to identify the point in time after which diagnostic measures may have revealed that diagnosis. In his oral evidence before me, Professor Cade reiterated that while it was not possible to be firm about a diagnosis of meningitis on 18 October 2008, he said it was:

'...quite clear that on about 25 October there was a deterioration and this was associated with headache, recurrent fever, photophobia and it was clear the progress of the treatment had stalled.'²¹

He went on to say that he believed that at that stage a diagnosis of meningitis was likely and suggested in that context that it was a diagnosis that at that time would have been likely to have been picked up by way of testing of the CSF by lumbar puncture. Professor Cade did say that it is possible that as early as 18 October 2008, had a lumbar puncture been performed, that meningitis might have been picked up, but suggested that the CSF would certainly have been abnormal on 24 or 25 October 2008²². Indeed, Professor Cade suggested that it would have been a good idea to have performed a lumbar puncture on 18 October 2008 having regard to the then, albeit vaguely articulated suspicion of meningitis, and having regard to the fact that meningitis is too important a diagnosis to miss²³. The only difficulty about this, as I say, is that there is no sufficient evidence upon which a conclusion can be drawn that such a diagnostic exercise would have revealed meningitis at that time.

²⁰ Exhibit C18a

²¹ Transcript, page 344

²² Transcript, page 345

²³ Transcript, pages 348-349

- 3.2. On the whole Professor Cade was critical of the fact that an opportunity was not taken to perform a lumbar puncture even before 24 or 25 October 2008 because, in his view, there was reason to believe that there was evidence of meningitis even on 20 October 2008. At one point in his testimony Professor Cade suggested that, having regard to the physical findings on 20 October 2008, it is very unlikely that a lumbar puncture performed at that time would have been normal²⁴. The findings that Professor Cade had in mind were some neck stiffness on flexion and extension, as observed in the early hours of the morning, together with headache, fever, nausea and vomiting. Whereas I am prepared to accept Professor Cade's evidence that by 24 or 25 October 2008 a diagnosis of meningitis would have been revealed by a lumbar puncture almost as a matter of certainty, the position is not as clear on 20 October 2008. A resolution is probably of limited materiality because Professor Cade expressed the view, which I accept, that if Mr Bais' treatment for meningitis had commenced on 24 or 25 October 2008 it is likely that he would have made a full recovery²⁵. It would naturally follow that his chances of making a full recovery would have been no worse if treatment had commenced on 20 October 2008, but there is still something of a slight element of uncertainty as to whether or not meningitis would have been revealed if the appropriate tests had been undertaken on 20 October 2008. Professor Cade also suggested that Mr Bais had a good chance of recovery if he had been diagnosed and/or treatment for meningitis had commenced on 28 October. The decisions concerning Mr Bais' treatment and his diagnostic assessments can be examined against the background that certainly from 25th October, and possibly even before that date, he had meningitis that could have been diagnosed by way of lumbar puncture and that he stood a very good chance of recovery if treatment had been commenced in the days following that date.
- 3.3. The fact that Mr Bais was treated within the ENT unit was due to the fact that his diagnosis was acute otitis media with sinusitis and possibly mastoiditis. Mr Bais was, for the most part, managed by Dr Grobler, an ENT registrar. Dr Grobler was not on duty on each and every day that Mr Bais was within the unit, but he was seen from time to time by a visiting fellow, Dr Evans, and also by a RMO, Dr Trumble. Dr Evans was a practitioner who had undergone his training in the UK and who was working temporarily in this country. He has since left the employ of the FMC. Dr

²⁴ Transcript, page 361

²⁵ Transcript, page 381

Grobler gave evidence in the Inquest. Dr Grobler described Mr Bais' progress as revealed by her own examinations and also by reference to the progress notes as recorded by others.

- 3.4. The antibiotic therapy to which Mr Bais was initially subjected was intravenous ceftriaxone of 1gm per day. This regime would be altered by the ID team after a number of days. I heard evidence from a number of sources that this would be regarded as a suitable antibiotic and a suitable dosage to deal with a pneumococcal infection that involved the middle ear. However, Professor Cade suggested that it would be an inappropriate dosage if the patient was being treated for suspected meningitis in which case empirical therapy would involve the administration of ceftriaxone at a rate of 4gm per day intravenously. Other medications such as the antibiotic vancomycin would also be added. This is the type of antibiotic regime that Professor Cade suggested ought to have been in place in accordance with therapeutic guidelines that apply in Australia²⁶. However, Mr Bais was not being treated for a suspected meningitis. I understood the evidence to be clear that the regime that Professor Cade advocated would only be applicable in a situation where meningitis was suspected on clinical grounds but where it had yet to be confirmed. The point in this case is that Mr Bais was being treated for something other than meningitis. If meningitis had been clinically suspected in the initial stages it would not so much have been a question of empirical therapy. Of equal importance would have been the need to administer the appropriate diagnostic measure. In Mr Bais' case neither empirical therapy for meningitis nor the appropriate diagnostic measures were implemented because the index of suspicion of meningitis was not considered high enough. The real issue is whether there ought to have been a higher index of suspicion. It is Professor Cade's view that there ought to have been, and that if proper consideration have been given to that issue, and at the proper level, the necessary diagnostic measures would have been put in place and the necessary treatment provided.
- 3.5. There is another point about Mr Bais' ceftriaxone regime and it is that in the initial stages of its administration, it might have effectively dealt with some of the offending organisms but not all, such as to give rise to a misleading appearance of improvement.

²⁶ Exhibit C18b

However, in a case of meningitis the antibiotic regime would not have been of sufficient power to deal effectively with such a serious infection.

- 3.6. In fact, Mr Bais did show some signs of clinical improvement within the first 48 hours. There would be another brief period of improvement later in Mr Bais' clinical course. These intermittent periods of relative improvement would prove to be falsely reassuring to clinicians, to the point where on more than one occasion it was contemplated that Mr Bais might actually be discharged.
- 3.7. For example, when Dr Grobler and Dr Trumble examined Mr Bais on the morning of 21 October, Dr Trumble made an observation in the progress notes that Mr Bais would probably go home the following day if well. Dr Trumble also recorded among other things that Mr Bais felt slightly better, that his nausea had improved and that his headache was also improved. It was specifically noted that Mr Bais had been afebrile for the last 24 hours. In truth the 21 October represented the beginning of a significant decline. Indeed, the observation about Mr Bais being afebrile for the previous 48 hours was actually incorrect. During the night of 20 and 21 October 2008 Mr Bais had registered very high temperatures, in particular a temperature of 39.2°C as recorded in the nursing notes at 7:25pm on 20 October 2008, and 38.9°C as noted in the nursing notes at 3:30am on 21 October 2008. Dr Grobler acknowledged in her evidence that Dr Trumble's notation was inaccurate. She also acknowledged that the inaccuracy was disappointing²⁷. She said that a plan that involved Mr Bais' possible discharge on 22 October 2008 would not have even been contemplated if the true facts had been properly understood²⁸. She also suggested that if on 21 October she had appreciated that Mr Bais had experienced high temperatures during the course of the night they would have contacted the ID team 24 hours earlier than they ultimately did and would have brought them in that same day. In the event, the ID team did not see Mr Bais until 22 October 2008. Professor Cade has suggested that, having regard to Mr Bais' spiking temperatures and an added finding of some neck stiffness, Mr Bais' clinical presentation as of 20 October was out of proportion to 48 hours of a treated ear infection²⁹. It was in this context that he suggested that it would be very unlikely that if a lumbar puncture had been taken on that day it would have been normal.

²⁷ Transcript, page 136

²⁸ Transcript, page 137

²⁹ Transcript, page 360

- 3.8. On 21 October 2008 the nursing notes suggested that there were complaints of strong headache, nausea and at one point in time, a raised temperature.
- 3.9. In the event, when Mr Bais was again examined by Dr Trumble and Dr Evans on the morning of 22 October 2008 it was noted that Mr Bais felt no better and that there had been a temperature of 38.9°C recorded the previous night. It was on this day that the ID team was asked to examine and consider Mr Bais' treatment for the first time. Although Dr Grobler did not see Mr Bais on that day, she explained in evidence that as Mr Bais had experienced the spike in temperature, it was considered that there was a problem with the antibiotic he was currently on. Thus it was the ID team were asked to examine him. As well a second CT scan of the brain, this time with contrast, would be performed that day.
- 3.10. On 22 October 2008 Mr Bais was firstly seen by an ID RMO, Dr Kate Newland, following which he was seen by the ID consultant, Dr Papanoum. Dr Newland noted the findings from the CT of the head that had been taken upon Mr Bais' original admission which, together with his clinical presentation, had formed the basis of his diagnosis to that point. Dr Newland noted that Mr Bais currently had a frontal headache and mild photophobia and had difficulty placing his chin to his chest³⁰. She wrote in her note 'intracranial complication'. It was on this basis, and on the basis of Dr Papanoum's examination, that the CT with contrast was conducted later that day. Dr Papanoum's assessment was that Mr Bais remained febrile and unwell despite the administration of ceftriaxone, but she noted that for her part there was 'no convincing meningism'³¹. She suggested a broader antibiotic cover of timentin and gentamicin that was then administered in substitution for the ceftriaxone. Dr Papanoum also suggested that the ENT unit consider drainage of the sinuses and send those for culture. She then made the following additional notation in the progress notes:

'If ↑ headache an MRV would be useful to exclude cerebral venous thrombosis
± CSF (if no focal cerebral lesions)' ³²

Dr Papanoum explained in her evidence that this notation was a reference to the desirability of eliminating a cerebral venous thrombosis as an intracranial complication of Mr Bais' ear infection. The reference to '± CSF' is a reference to a lumbar puncture with a possible diagnosis of meningitis in mind.

³⁰ Exhibit C9, page 33

³¹ Exhibit C9, page 33

³² Exhibit C9, page 44

- 3.11. Professor Cade explained in his evidence that the intracranial complications that may have developed and which would be of diagnostic concern at this point in time would be meningitis, a cerebral venous thrombosis or an abscess, each of which are related to the spread of the infection from the adjacent ear to the contents of the skull. The exercise that Dr Papanoum had in mind was possible use of MRV imaging as a diagnostic tool, but this would not be actually performed until 30 October 2008, and in any event would not be of diagnostic utility in relation to meningitis. In the intervening period two further CTs with contrast were performed in relation to Mr Bais' head. The first of those was performed that very day, namely 22 October 2008 which was the day Mr Bais was examined by Dr Newland and Dr Papanoum of the ID team. The CT scan with contrast of Mr Bais' head was performed at 2:48pm. Results were reported that same afternoon at 4:54pm. In Professor Cade's opinion this CT with contrast meant that as of that afternoon a possible intracranial complication of venous sinus thrombosis could effectively be ruled out. In his view it also ruled out an abscess³³. Professor Cade suggested that the CT scan of that day effectively '*put to bed Dr Papanoum's concerns about cerebral venous thrombosis or a cerebral lesion*'³⁴ and rendered as somewhat superfluous the plan to perform an MRV which would not be performed for several days in any case. I accept Professor Cade's evidence in that regard.
- 3.12. However, the CT of 22 October did not exclude a possible complication of meningitis as an explanation for Mr Bais' current presentation and disappointing response to treatment so far. The point is that if Mr Bais' failure to respond to treatment was the result of an intracranial complication of his original ear infection, two of those possible complications were effectively eliminated at the one stroke that afternoon, but the question of possible meningitis still remained at large. Consideration of the performance of the CSF test that Dr Papanoum contemplated could thus have been given that day or at the latest the following day. This would have been the definitive measure in relation to the presence of meningitis, the third possible complication that required consideration.
- 3.13. There is one further matter that should be mentioned at this point. Dr Papanoum's notation is consistent with the idea that MRV imaging as a possible diagnostic

³³ Transcript, pages 366-367

³⁴ Transcript, page 367

measure would be contingent upon Mr Bais' headaches increasing in intensity. In respect of this, Professor Cade had this to say:

'I personally don't think it was a good call, I think the resident's assessment was in fact better. I think there is sufficient problem already present over several days. I don't think the headache has to increase any further, I think it has been sufficiently persistent. As far as the MRV is concerned, I think that's very nice finetuning. The CT scan has already put to bed the issue that the MRV was being designed for and it takes time to get an MRI with an MRV, the bookings for an MRI are much harder to get than a CT. A CT scan can be done at very short notice and is a very common and rapidly done test, whereas the MRI has a huge booking list, is much more complex, takes a lot longer and it takes time, usually, to get one of these tests, so that if the CT has squared away the issue that the MRI was planned to look for one can move on.'³⁵

Professor Cade also added in this context that he did not believe that any realistic comfort could be derived from Dr Newland's observation that Mr Bais' headache had been improving. He said that he did not believe this to be the case because the headache had in any event fluctuated, had been quite severe and had to be looked at against the fact that the patient was having intermittent analgesia. He said:

'The most important thing to say is it is still there.'³⁶

He also referred to the fact that on that same day there was, as well as persistent headache, difficulty putting chin to chest, some photophobia and a persistent temperature. In short, Professor Cade expressed the view that the indications for a lumbar puncture were, on 22 October 2008, '*stronger than ever*'³⁷. It is difficult to disagree with that observation, particularly having regard to the fact that the CT scan, designed to eliminate two intracranial complications but not the third, also cleared the way for the performance of a lumbar puncture because it did not reveal any raised intracranial pressure.

- 3.14. In the event, the CT results of 22 October 2008 were in reality not given sufficient weight in terms of Mr Bais' continuing management. As will be seen, the same exercise would in effect be repeated on 27 October 2008 when even at that stage there was little to be gained by doing so. There does not appear to have been any dialogue between members of the home team and the consulting team about the significance of the CT results of 22 October and what they may have signified as far as Mr Bais' ongoing management is concerned and, in particular, whether the CSF tests that were

³⁵ Transcript, pages 367-368

³⁶ Transcript, page 368

³⁷ Transcript, page 369

within Dr Papanoum's contemplation ought to have been immediately proceeded with.

- 3.15. The matter of Mr Bais' management following the events of 22 October 2008 become somewhat complicated by the fact that on 23 and 24 October 2008 Mr Bais, for the second time during his hospitalisation, showed some improvement. There are observations in the nursing notes for 23 October 2008 of Mr Bais being afebrile and stable with decreasing nausea. He experienced a temperature of 37.6°C which is raised, but not alarmingly so. There are also notations relating to his independent mobilisation.
- 3.16. According to Professor Cade the notes reflect that on 24 October Mr Bais had become stable and was improved symptomatically. He was seen by Dr Grobler and Dr Evans to begin with and was noted to be feeling better with improvement in pain, although still with a headache. He was afebrile and Dr Grobler noted that he 'looks well'. There is a further notation made by Dr Grobler that Mr Bais would be considered for discharge the following day if he was afebrile.
- 3.17. On 24 October Mr Bais was also seen by Dr Newland and Dr Papanoum from the ID team. Dr Newland also noted that Mr Bais was feeling better and had been afebrile for the past 24 hours. Dr Papanoum herself noted that Mr Bais was slowly improving clinically and suggested that he remain on the intravenous antibiotic regime that she had imposed on 22 October 2008 for the next few days. This effectively put paid to the idea that Mr Bais might be discharged the following day, not because of any clinical concern, but because IV antibiotics have to administered in a hospital. Dr Grobler saw Mr Bais at about 5pm on 24 October following the examination by the ID team. He was still afebrile on this occasion.
- 3.18. 24 October 2008 was the second and indeed final occasion that Mr Bais was seen by the ID consultant, Dr Papanoum. He would not be seen again by the ID RMO, Dr Newland, until 28 October, although on that day Dr Newland spoke to Dr Papanoum about Mr Bais' condition. On 25 October Mr Bais again showed evidence of decline. The notation for the ENT unit round that morning suggests that Mr Bais had a headache and was feeling unwell and, in addition, had a low grade fever of 37.6°C. A nursing note at 12:40pm reveals that he was complaining of a severe headache and was resting in a darkened room. Professor Cade suggests that this represents the time

at which Mr Bais' terminal deterioration commenced and certainly the evidence would suggest that from that point in time onwards, there was little improvement. In fact Professor Cade suggested that the relapse ought to have revitalised earlier thinking that there may have been the intracranial complication after all³⁸. He suggested, notwithstanding the period of improvement leading up to 25 October, that given the severity of Mr Bais' problems in days previous to that, his presentation on 25 October:

'Should have been a flag that there had been a significant relapse and things ought to be rethought.'³⁹

Dr Grobler explained that at this point blood cultures and bodily fluid samples were taken in an effort to look for a pathologic organism such as might have been involved with a urinary tract infection, septicaemia or sepsis. In the event no sepsis was present.

- 3.19. On 26 October Mr Bais experienced a spike in temperature of 38.3°C. It is noted at one point that he had some neck stiffness⁴⁰. To Professor Cade this suggested that as of 26 October Mr Bais was '*clearly unwell*'⁴¹.
- 3.20. Dr Grobler explained that by Monday morning, 27 October 2008 Mr Bais' presentation had become a matter of concern. She told me in evidence that by then his ear infection had basically settled to the point where, upon examination on the Monday morning, his ear was '*practically normal*'⁴², and yet he was still sick. There was very little fluid behind the eardrum and there was no evidence of a sinus infection such as might have been revealed by pus emanating from the nose. His sinuses continued to look normal. The concern was that there was a temperature that could no longer be explained by the ear infection. There was the question of his ongoing headaches and nausea which also could not be explained by reference to his ear infection at this point in time. A plan was formulated to perform another CT scan with contrast and this was administered during the afternoon of 27 October 2008. The radiology report⁴³ suggests that the result was reported just after 4:30pm on the same day. Dr Grobler suggested in evidence that she would have seen the formal report prior to the conclusion of her shift on the Monday evening. Dr Grobler told me in

³⁸ Transcript, page 371

³⁹ Transcript, page 371

⁴⁰ Exhibit C9, page 41

⁴¹ Transcript, page 371

⁴² Transcript, page 110

⁴³ Exhibit C9b, page 8

evidence that the ENT fellow, Dr Evans, had given instructions for the ENT RMO, Dr Trumble, to call the ID team and had used words to the effect that '*there is something else going on and we don't know what it is*'⁴⁴. The ID team would again not be brought into the matter until Tuesday 28 October when Mr Bais was again seen by the ID RMO, Dr Newland. Professor Cade expressed the view that having regard to Mr Bais' then clinical presentation and taking into account the fact that the last ID consultation had occurred 3 days earlier on 24 October 2008, the ID team should have been brought into the matter on the Monday⁴⁵.

- 3.21. In the event, the CT result from 27 October 2008 essentially repeated the findings of the CT of 22 October 2008 insofar as it too eliminated cerebral venous thrombosis and an intracranial abscess as possible complications and explanations for Mr Bais' current presentation. When the matter is considered carefully, it is difficult to identify a sensible reason why an immediate lumbar puncture ought not have been administered once the CT result of 27 October was in. There was at that point a clinically unexplained decline. Possible complications such as an abscess or a cerebral venous thrombosis had in reality been eliminated and had been so since the CT of 22 October 2008. Professor Cade expressed the view that as on 27 October 2008 the one intracranial complication that had not been '*squared away yet*' was meningitis⁴⁶. He suggested that consideration of that issue was the priority⁴⁷. It is hard to disagree.
- 3.22. On Tuesday 28 October 2008 at 10:15am Dr Trumble made a notation to the effect that he had discussed Mr Bais' case with the ID RMO who is Dr Kate Newland. The noted topic of discussion was whether other sources of infection, taking into account the spiking temperatures, needed to be considered. To the lay observer it is difficult to fathom why such a crucial discussion about a complex matter involving as it did the welfare of a patient in obvious decline would involve practitioners of such junior rank. Be that as it may, Dr Trumble noted in relation to Dr Newland that the latter '*will discuss with consultant and get back to me*'. The consultant was Dr Papanoum. She did not examine Mr Bais. The examination was performed by Dr Newland. Dr Newland's note reveals that she must have had access to the CT result of the day before that recorded a diagnosis of left-sided mastoiditis⁴⁸. Her notated summary of

⁴⁴ Transcript, page 113

⁴⁵ Transcript, page 372

⁴⁶ Transcript, page 373

⁴⁷ Transcript, page 373

⁴⁸ Exhibit C9, page 47

the CT scan does not refer to the fact that the dual venous sinuses appeared normal, which would provide evidence of the exclusion of a cerebral venous thrombosis as an explanation for Mr Bais then presentation, nor refer to the fact that no evidence of an abscess was revealed. When Dr Newland gave evidence in the Inquest she told me that she could not recall whether in her later discussion with Dr Papanoum she passed any information on to her about the normality of the CT scan as far as venous thrombosis was concerned⁴⁹. Indeed, at that stage of her experience and training, she thought that she may have been of the belief that an MRI or an MRV would be more sensitive as far as its diagnostic capabilities were concerned. In any event, Dr Newland noted on 28 October 2008 that there was no evidence of meningism. She did note that in her assessment there was ongoing spiking of temperatures despite intravenous antibiotic therapy and listed a number of possible differential diagnoses including venous thrombosis and sinus disease. The note that she made of her discussion with Dr Papanoum was to the effect that they should plan to:

‘Consider lumbar puncture
Await BC results
MRV
Drainage of sinuses for culture’

To the extent that this plan was based on an imperfect appreciation on Dr Papanoum’s part of the fact that a recent CT had already successfully investigated what an MRV would investigate, the plan was flawed.

- 3.23. On 28 October 2008 there does not appear to have been any discussion at consultant level between the home ENT team and the consulting ID team about the plan of management for Mr Bais. This was an important omission because the suggestions that an MRV be performed and that drainage of the sinuses should occur were somewhat misconceived. A discussion at consultant level would have established that whatever an MRV might reveal or exclude, it had already been excluded. Moreover, Dr Grobler for her part did not believe that drainage of Mr Bais’ sinuses would reveal anything of significance⁵⁰. Dr Wabnitz, the ENT consultant surgeon, who on 29 October 2008 discussed this plan with Dr Grobler, told me in evidence that in his view the drainage of sinuses for culture would have been unlikely to explain the recurrent febrile episodes that Mr Bais was experiencing⁵¹. That there had been a

⁴⁹ Transcript, page 429

⁵⁰ Transcript, page 116

⁵¹ Transcript, page 267

lamentable breakdown in communication between the senior medical practitioners involved in Mr Bais' care is evidenced by the fact that Dr Wabnitz's conversation with Dr Grobler contained the surprising revelation that Mr Bais was still in hospital. Dr Wabnitz expected that Mr Bais would have been discharged by then, keeping in mind that he had been diagnosed originally with an ear infection that ought to have responded by then and which would normally not have involved a hospital admission of such a duration.

- 3.24. The suggestion that is recorded in Dr Newland's note of 28 October to the effect that consideration should be given to a lumbar puncture does not appear to have been given practical consideration at an appropriate level or at all. As Dr Wabnitz said in his evidence, he could not recall any discussion about that with Dr Grobler on 29 October. He said that in his conversation with Dr Grobler she had not mentioned the option of performing a lumbar puncture. In fact, to his own knowledge, a lumbar puncture had not been mentioned as a possible diagnostic strategy at any time during the entire course of Mr Bais' admission⁵². Accordingly, he had not given consideration to that himself⁵³. As seen, Dr Wabnitz was unaware that Mr Bais was still a patient. Dr Grobler's position in respect of Mr Bais' management as of 28 and 29 October is encapsulated in a statement in her evidence to the effect that the sinus pathology was not significant enough to account for temperature spikes and that they were at a loss to explain Mr Bais' presentation having regard to the fact that his ear infection was resolved⁵⁴, but that she had acquiesced in the ID suggestion that the sinus operation be performed, '*so we proceeded down that path*'⁵⁵. There is no evidence that the ID team was told, either in terms or implicitly, that the considered opinion of the home team was that the measures that had been suggested by the ID team, such as the MRV and the sinus drainage, were superfluous.
- 3.25. The fact of the matter is that as of 28 October 2008 the suggested MRV and drainage of sinuses for culture were indeed both superfluous. Professor Cade described the MRV as 'redundant'. And there was an added complication. Performance of a lumbar puncture was in effective considered to be secondary to the performance of the MRV and the sinus drainage when it ought to have been a priority. The difficulty presented by this error was the delay of some days that would be occasioned in order to organise the MRV and the sinus drainage procedure. The prioritisation of the

⁵² Transcript, page 271

⁵³ Transcript, page 271

⁵⁴ Transcript, page 119

⁵⁵ Transcript, page 119

lumbar puncture as being secondary would mean that the procedure would possibly be delayed by some days. Professor Cade gave evidence that on 28 October 2008 '*the lumbar puncture was a priority*'⁵⁶. He said that by then it was crystal clear that the lumbar puncture had to be performed and it was not reasonable to wait for the MRV and sinus cultures to be performed. In his view by 28 October 2008 Mr Bais had become clearly unwell and that there was available to those treating him '*a very simple and very important diagnostic procedure that is still pending*'⁵⁷, namely the lumbar puncture.

- 3.26. In the event the MRV was not performed until 30 October. The sinus drainage was performed on the same day. It revealed nothing. The lumbar puncture would not be performed at all. The MRV performed on 30 October effectively excluded a cerebral venous thrombosis for the third time when the results of the CT contrast scans of 22 and 27 October 2008 are kept in mind. However, the MRV did reveal an abnormality and this was reported by Dr Ho, the radiology registrar, in the following terms:

'This may represent unusual area of infective or inflammatory change.'⁵⁸

- 3.27. There is no evidence that this radiological finding would normally be taken as an indication of meningitis. In many senses it was an accidental finding. Professor Cade suggested that this was a '*strange finding*'⁵⁹, and Dr Ho who gave evidence also suggested that it was of uncertain significance. Professor Cade did suggest that it may have represented some inflammation within the brain which would provide good enough reason to perform a lumbar puncture⁶⁰. Dr Wabnitz suggested in his evidence that although the radiological finding of 30 October 2008 was anomalous, he suggested that in retrospect it was a significant finding. He suggested that for the first time it indicated that there was intracranial inflammation or infection. He said that it would have been a finding that ought to have been communicated to the clinicians and, if it had been, the possible consequent action would have been a lumbar puncture⁶¹. It appears that this abnormality did not come to the attention of the ENT clinicians until 31 October 2008.

⁵⁶ Transcript, page 378

⁵⁷ Transcript, pages 379/380

⁵⁸ Exhibit C9, page 6

⁵⁹ Transcript, page 384

⁶⁰ Transcript, page 384

⁶¹ Transcript, page 278

- 3.28. Mr Bais experienced a significant decline on 1 November 2008 that was marked with a reduction in his conscious state. The infection in his brain was diagnosed by means other than by a lumbar puncture. He died on 2 November 2008.

4. **General commentary regarding Mr Bais' management**

- 4.1. In both of his reports Professor Cade passes some general commentary upon what he views as less than optimal management of Mr Bais within the FMC. In his first report he expresses the view that it was unfortunate that Mr Bais was admitted under an ENT unit rather than a general medical unit. Although the patient's initial problem was an ENT problem, he was seriously unwell at the time of his admission. Under such circumstances a medical admission with ongoing ENT consultation for any procedural needs would have been preferable. He is of the view that physician management would have been less likely to have overlooked the patient's diagnostic and treatment needs. In his second report he goes on to say that he believed that it is much more likely that a correct diagnosis would have been made in a timely way if Mr Bais had been admitted under a general medical unit.
- 4.2. It will be remembered that Mr Bais spent his entire admission in the ENT unit until his transfer in extremis to the ICU. For much of that period an ENT cause for Mr Bais' failure to respond to treatment had been eliminated. His ear infection had settled. The involvement of the ID team appears to have been somewhat spasmodic and not effectively coordinated with the efforts of the ENT unit. What communication there was appears to have been conducted at a junior level. No one entity or practitioner assumed ownership of Mr Bais' treatment. The lack of coordination of his management is exemplified by the fact that during the Inquest itself there was dispute as to whose responsibility it would have been to make a positive decision as to whether a lumbar puncture should have been administered and as to who should have administered it. When Dr Wabnitz, the ENT surgeon, was asked as to whose responsibility it was he, said '*the Infections Diseases unit without a doubt*'⁶². On the other hand, Dr Papanoum, the ID consultant, regarded that suggestion as '*absurd*'⁶³. It is therefore no wonder that the lumbar puncture was never carried out. That such a misunderstanding could exist within a public teaching hospital is difficult to comprehend. I found the debate about this issue to be unedifying. Clearly Professor Cade is correct when he says that on 28 October 2008,

⁶² Transcript, page 282

⁶³ Transcript, page 414

when the various options as suggested by the ID team were being postulated, including lumbar puncture, MRV and drainage of sinus for culture, a high level discussion about the benefits or otherwise of the proposed courses of action should have taken place between the services involved in Mr Bais' management at that point in time⁶⁴.

- 4.3. The evidence adduced in this case provides another example of how more effective communication could have better served Mr Bais. If radiological expertise had been consulted on 28 October 2008, it would have been revealed that in the light of the CT results that had already been obtained from the day before and from 22 October 2008, there was no real point in further imagery being performed. It is probable in my view that if that much had been established on 28 October, one of the other options that had been identified at that time, namely the lumbar puncture, would have been performed.
- 4.4. Dr Wabnitz himself suggested that there were shortcomings in communication involved in Mr Bais' care. He agreed that disappointment should appropriately be felt in respect of Mr Bais' treatment. He said:

'The fact that I wasn't informed after 48 hours of this patient being admitted under my care. I mean if it was a simple ear infection, patients go home after one or two days. So any admission where there's been an unexpected prolongation of that patient's admission, I should have been informed and there should have been an ongoing discussion about this patient's management but I was told over a week later, at which time there had been multiple scans done. It effectively excluded an ear infection, wasn't convinced about a sinus infection and we weren't really getting - there was a, I guess in a sense, a lack of progression in treatment and it would have been, I think, appropriate to have been involved in the conversation a lot earlier than that.'⁶⁵

5. Mr Bais' chances of survival

- 5.1. Mr Bais had little or no chance of survival while his meningitis remained untreated.
- 5.2. Professor Cade proffered a number of views about Mr Bais' chances of survival at different times during the course of his admission. I have already referred to some of his observations in that regard. There is no doubt in my mind, and I so find, that Mr Bais' was suffering from meningitis by 25 October. It is possible that he was suffering from it at an even earlier point in time having regard to his earlier decline on or about 21 October. There were many opportunities to have diagnosed Mr Bais' meningitis. Unfortunately they were all missed. The opportunity to diagnose on 27

⁶⁴ Transcript, page 379

⁶⁵ Transcript, page 300

or 28 October that was not taken after the results of the CT scan of 27 October was especially unfortunate because even then it was not too late for Mr Bais to have received effective treatment for meningitis had it been diagnosed on either of those two days. In respect of the position as it stood on 28 October 2008 Professor Cade expressed Mr Bais' chances in these terms:

'I think it's likely that he would have not only survived but survived well. At this stage we know his CT scan does not show cerebral oedema, there is still two or three days before he finally collapses, so that 24, 48 hours of very good antibiotic cover is likely to turn this around. The caveat is that pneumococcal meningitis is treacherous, it carries a high mortality and, indeed, there are sequelae to it if it's advanced; in other words, some long-term neurological or even psychiatric damage. So it is, I believe, likely that he would have made a full recovery, but there is a caveat that he might have perhaps had some damage, but I think it would be unlikely he would have died.'⁶⁶

'If it had been diagnosed on the 18th, his chances of a full recovery would have been almost guaranteed. When he deteriorated on the 24th, 5th, I think it would be likely, very likely, he still would have made a full recovery. I think now on the 28th the chances are slipping a little, but I think it would still be likely that he would have survived and probably made a very good recovery.'⁶⁷

- 5.3. Dr Papanoum, the ID consultant, suggested in her evidence that Professor Cade's assessment that a lumbar puncture on 28 October 2008 would have revealed meningitis was probably correct. She also expressed the view that if treatment had commenced at that time he probably would have survived, although that could not be expressed with certainty.
- 5.4. The evidence is clear and I so find, that although there were in all probability earlier opportunities to have diagnosed Mr Bais' meningitis, Mr Bais should undoubtedly have been administered with a lumbar puncture no later than 28 October 2008 once the CT results of 27 October 2008 were known and fully understood. I find that if a lumbar puncture had been performed at that time, it would have revealed evidence of meningitis. If so, Mr Bais undoubtedly would have been treated for meningitis and I find that he probably would have survived. His death could and ought to have been avoided. The fact that Mr Bais' did not receive a diagnostic lumbar puncture is in my view the result of poor and ineffective lines communication between clinicians rather than a lack of professional competence.

⁶⁶ Transcript, pages 380-381

⁶⁷ Transcript, page 381

- 5.5. Professor Cade expressed the view that by 30 October 2008, although Mr Bais may have survived if appropriate treatment for meningitis had been commenced, it would be unlikely that he would have survived in a totally normal neurological state. As far as 31 October and 1 November 2008 are concerned, Professor Cade expressed the belief that it would have been too late for good recovery and his survival would have been in doubt.

6. Recommendations

- 6.1. Pursuant to Section 25(2) of the Coroners Act 2003 I am empowered to make recommendations that in the opinion of the Court might prevent, or reduce the likelihood of, a recurrence of an event similar to the event that was the subject of the Inquest.
- 6.2. In the light of the events connected with this particular case a number of relevant changes have been implemented within the Flinders Medical Centre. I received into evidence two affidavits relating to change that has been effected. I also received into evidence a letter addressed to Ms Bosboom, counsel for Adelaide Health Service, relating to the making and implementing of certain recommendations concerning communications between clinicians and also relating to education of junior medical staff.
- 6.3. Exhibit ASC2 to the affidavit of Andrew Simon Carney, who is the Head of the ENT unit at FMC, is a FMC Surgical and Specialty Services Protocol relating to ENT patients with suspected meningitis. The protocol came into existence in March 2010. The protocol is said to apply to patients admitted under the ENT unit or who present to the Emergency Department with suspected meningitis who have either undergone recent 'at risk' ENT surgery or have had a cochlear implant. It will be noted that neither situation applied in Mr Bais' case. However, the protocol also relates to patients who develop symptoms suggestive of meningitis who are already admitted to the ENT unit. The protocol dictates that patients who develop such symptoms must undergo a lumbar puncture. Set out in the protocol is a list of symptoms that must be considered that include headache, neck stiffness, fever, changed mental state such as drowsiness and confusion, rash, rigours, light sensitivity, seizures and joint pain. The protocol correctly points out that symptoms may vary but most patients with meningitis have at least two of those symptoms. It will be remembered that Mr Bais consistently displayed, and initially presented with, a severe headache and a fever. He

had suggestions of other symptoms from time to time such as light sensitivity and suspected neck stiffness. He was also said to have been drowsy and confused prior to and on his presentation at the Emergency Department. The protocol goes on to state that the lumbar puncture will be performed by a neurosurgical registrar who should be contacted for this purpose. This would seem to clear up any doubt as to whose responsibility it would be to administer a lumbar puncture where more than one medical unit is involved in the patient's management as was the case with Mr Bais. The protocol states that, in the case of confirmed meningitis, the question of antibiotics should be discussed with the ID consultant on call.

- 6.4. The letter from the Director of the Southern Area Health Service, Dr Christine Dennis, to Ms Bosboom⁶⁸ contains a recommendation that a memorandum be sent to all medical staff highlighting the importance of lumbar puncture in patients with any clinical suspicion of meningitis. As well, an education session for junior medical staff regarding the performance, uses and interpretation of lumbar punctures was also contemplated. It would seem that this, together with the protocol that I have referred to, ought to at least alert practitioners at all levels to the need to seriously consider the possibility of meningitis in presentations such as Mr Bais'. I would only add that it would seem appropriate that, as part of any educational measure concerning the symptomatology of meningitis and its diagnosis, that practitioners be specifically advised to be alert to the possibility of a patient having an atypical presentation of meningitis in the sense that some symptoms which might normally be regarded as classical, such as neck stiffness, may not be apparent.
- 6.5. Originally received into evidence in the Inquest was the statement of Dr Robert Morrissey of the FMC ENT unit⁶⁹. Dr Morrissey explains in his statement that the unit has now put in place a requirement for the ENT registrar to telephone the consultant on call on a daily basis and to give the consultant a précis of all patients within the unit regardless of the consultant identified on the patient's bed card. This would provide an opportunity for the consultant to provide a second perspective on patient management. I make the observation here also that it would mean that a lengthy hiatus between interventions in the patient's management at consultant level, which occurred in the case of Dr Wabnitz, would not occur. It would also mean that doctors such as Dr Wabnitz would at all times be aware of the existence of the patient within their unit, and of the fact that the patient's management has been problematic.

⁶⁸ Exhibit C22

⁶⁹ Exhibit C6a

- 6.6. The affidavit of Ms Christy Pirone⁷⁰, who is the Principal Consultant for Safety and Quality in the South Australian Department of Health, sets out certain initiatives that have been introduced in an endeavour to improve patient handover and communication between medical units. A pertinent set of guidelines was introduced in October 2010. They include guidelines relating to structured shift to shift handovers with clearer leadership, multidisciplinary handovers, consideration of the pathology and radiology data and patient and family involvement in handovers. There is also contained within the material a standard regarding recognition of, and necessary clinical response to, the deteriorating patient. The standard focuses on the recording of information, thresholds of abnormality, what physiological factors will trigger an escalated level of care and what actions will be required when care is escalated.
- 6.7. In the light of the material that has been placed before the Court regarding change, I need only make the following recommendations. I recommend that the Minister for Health bring to the attention of the Chief Executive Officer of all public hospitals the Flinders Medical Centre protocol of March 2010 relating to ENT patients with suspected meningitis. I further recommend that the Chief Executive Officers of all public hospitals give consideration to the issue as to whether such a protocol should be employed in each such hospital.

Key Words: Meningitis; Diagnosis; Hospital Treatment

In witness whereof the said Coroner has hereunto set and subscribed his hand and

Seal the 8th day of July, 2011.

Deputy State Coroner

⁷⁰ Exhibit C21