



## **SYDNEY CORONERS COURT**

### **Inquest into the death of Israelu Pele**

#### **Summary of findings: 31 May 2010**

##### ***Introduction***

In his play *The Suppliant Women*, the Greek playwright Euripides wrote, “What greater pain can mortals bear than this: to see their children killed before their eyes?”<sup>i</sup> Fai and Lila Pele have had that terrible experience watching bacterial meningitis slowly kill their much-loved 8-year old son Israelu, or Elu, over a few days leading up to his death in Bankstown Hospital on the night of 18 December 2007.

Heightening the tragedy and sadness of this case is the fact that Mr and Pele were careful, vigilant parents who sought medical attention for Elu from the time he became sick on 14 December until he was at death’s door on 18 December. Despite the attentions of a number of doctors, his fatal illness remained undiagnosed until an autopsy was conducted following his death.

Meningitis is an inflammation of the leptomeninges or the inner membranes that enclose the brain and the spinal cord. Meningitis may develop very quickly and bring on severe signs and symptoms within 24 hours. Bacterial meningitis is well-known to be a disease that has a high morbidity and mortality rate if not detected and treated sufficiently early. Suspected meningitis is a medical emergency. Untreated, bacterial meningitis is almost always a fatal disease.<sup>ii</sup> On the other hand, most bacterial meningitis presentations are not acute but symptoms develop over a number of days. One estimate is that about 75 per cent of patients

suffering from meningitis fall into this category.<sup>iii</sup> The slower onset of signs and symptoms, however, does not reduce the urgency of the need for diagnosis and treatment.

Following Elu's death, his parents requested a coronial investigation. They raised a number of questions about his care and treatment. In particular, they felt that Elu's condition had not been appropriately addressed by staff at Bankstown and Westmead Children's Hospitals when he was presented there in the days before his death.

One of the purposes an inquest may serve is to address and, if possible, allay the suspicions and fears of family members of the person who has died, as well as the concerns of the wider community. Unexpected or sudden deaths raise troubling questions and issues. Civilised societies know that what harms one of its members may harm many others. Coroners seek to answer some of those troubling questions by exploring the facts that can be discovered.

A proper inquest is neither a witch-hunt nor a whitewash but a search for truth. It is intended to be an independent, objective examination of the available evidence relating to the circumstances of a person's unexpected or unnatural death.

A coroner's primary task is, if possible, to make formal findings concerning the identity of the person who has died, when and where the death took place and the cause and manner of death. Death is a process which culminates in a final shutdown of our hearts and brains and respiratory systems. In seeking to understand the "cause of death" a coroner attempts to identify the physiological and medical problems the person suffered which directly contributed to that ultimate event.

The phrase "manner of death", as far as a coroner is concerned, relates to the circumstances in which the process of death took place. The coroner asks, "How did this death come about?" The manner of Elu's death, and the lessons that can be learned from it, has been the focus of this inquest.

### ***The issue for this inquest***

The principal questions for the inquest are what happened and why the gravity of Elu's illness was not recognised until too late despite the fact that he was seen on a number of occasions by two experienced General Practitioners and in the Emergency Departments of two

hospitals. There is no dispute about Elu's identity, where or when he died, or the physiological cause of his death.

A coroner has a discretion to make recommendations relating to the death if he or she considers them to be appropriate. I propose to make certain recommendations. They are outlined and discussed below.

Before I go on to discuss those questions, however, it is important to say something about Elu himself.

### ***Elu Pele***

Elu was born on 6 December 1999 and was one of six children. His parents, Fai and Lila Pele, are Samoans who came to Australia, like many hopeful immigrants, to give their children a chance of a better standard of living than they could give them at home. The Pele family are strong and affectionate towards one another.

Elu was described by his mother and his brother Pao, who were supported her during the hearing, as a very active boy who "loved life". He was a talented sportsman, playing basketball and rugby, and representing his school in athletics.

His mother described him as "the handsome and pretty boy of the family". Indeed, his photographs show him to have been a very good-looking boy. He was charming and an integral part of his Samoan community and his church congregation.

The pain of losing Elu in such tragic circumstances has been very difficult for the family. Mrs Pele wrote that the family visited his grave every week and that "his image in the remaining moments of his short life will never be forgotten."

### ***What happened: a short chronology***

Prior to his death Israelu had attended the GP on three occasions - on 14 December (Dr Poovaiyah), 15 December (Dr Chugh – who had been Israelu's GP since February 2002) and 17 December (Dr Chugh), and had attended hospital on twice occasions – 16 December (Bankstown Hospital) and 17 December (Children's Hospital Westmead) --

before being taken to Bankstown Hospital on 18 December when he was noted on arrival to have had a cardiac arrest. Even after his tragic death at Bankstown Hospital the report of death to the Coroner indicates that the cause of death was unknown by the hospital.

This chronology gives rise to obvious questions about the reasons why his illness was not identified and appropriately treated notwithstanding the clear vigilance of his parents in accessing medical care. The questions are all the more stark given that the post mortem microbiology report indicates that the streptococcus pneumoniae was susceptible to erythromycin, penicillin and tetracycline.

I have dealt in much greater detail with the chronology of events in the full decision. There were different recollections and versions of events given by some witnesses in relation to some aspects of the evidence. Where there has been a significant conflict I have relied as much as possible on contemporaneous records. Where there has been a conflict between the Pele family, especially Mrs Pele, and hospital witnesses I have generally preferred the family's recollections because, unlike the medical staff, they were concentrating on one patient only and they knew that patient very well. The medical staff, on the other hand, were busy, had significant numbers of other patients to attend to and did not know this patient. It is a principle of diagnosis that doctors should pay close attention to the concerns and observations of parents with sick children because they know them very well.

Elu's first presentation was to a GP, Dr Poovaiah at the local medical centre. Elu reported vomiting after eating McDonalds fast food. His parents reported that he was not eating or drinking. It appears that Dr Poovaiah assumed a link between his vomiting and the food, not an unreasonable hypothesis but not the only available diagnosis. He prescribed anti-emetic medication to stop the vomiting.

The next presentation was on the following day when Elu saw his usual GP, Dr Chugh. He presented with headaches but had not vomited before seeing the doctor that day. Dr Chugh prescribed paracetamol. Later that day the vomiting started again. Elu was lethargic and rubbing his neck and head. Dr Chugh checked for signs of meningitis but found no specific signs.

On 16 December, his parents took Elu to Bankstown Hospital. He was now sicker. He was dehydrated, not eating or taking fluids. He was suffering headaches and fever. He

was pale. He had no diarrhoea but continued to vomit and on occasion the vomits contained blood. He had an inflamed left ear. Although the doctors at Bankstown considered a diagnosis of meningitis they did no blood tests and did not conduct the definitive test for meningitis, a lumbar puncture. This was a lost opportunity to save Elu's life. Instead, the diagnosis reached was that he was suffering from a relatively benign viral gastroenteritis. He was sent home.

The next day he was taken to Dr Chugh again because he continued to vomit and was bringing up blood in the vomit. He had no diarrhoea, a strong indication that he was not suffering from viral gastroenteritis. Dr Chugh sent him urgently to the Children's Hospital at Westmead. Here, once again, no one diagnosed a serious bacterial infection or treated him with antibiotics. The diagnosis was again of viral gastroenteritis despite the evidence to the contrary.

In fairness to the doctors at both hospitals and the GPs, Elu does not appear at any stage to have exhibited the classic signs of meningitis: stiff neck, rash, photophobia, Kernig's and Brudzinki's signs. There was no *specific* indication that he had meningitis when they saw him. Elu was sent home from the Children's Hospital probably without a discharge note due to a communication breakdown there.

On 18 December, he was very ill but his parents had lost confidence that the hospitals they had been to could help their child. Nevertheless, when he was found by his mother to be cold and unresponsive she called an ambulance. He was taken to Bankstown hospital where he died, still without an accurate diagnosis. It was only at autopsy that the bacterial meningitis was finally recognised.

### ***What went wrong?***

Except for Dr Chugh on 17 December, none of the clinicians who saw Elu recognised that he was a seriously sick child. None of them recognised that he was suffering a serious bacterial infection. Absent specific signs, meningitis can be very difficult to diagnose but the real failure here was not so much the failure to diagnose meningitis as the failure to recognise Elu as a very sick child and to take sufficient steps to exclude a diagnosis of meningitis before falling back on a more benign diagnosis.

Counsel Assisting, Ms Stern, in her closing submissions, suggested that:

... the clinicians responsible for Elu's care between 14 and 17 December 2007 were led astray by the combination of a history of vomiting after eating McDonalds, an overemphasis upon the vomiting and an underemphasis upon the combination of presenting signs and symptoms, by the normal vital signs, and by the lack of any signs of meningism. Despite obvious references in the clinical notes to signs of toxicity, and common symptoms of meningitis, including lethargy, persistent headache, persistent fever, pale colour, repeated vomiting, absence of diarrhoea, dizziness and Elu looking sick, the clinicians treated Elu for dehydration secondary to either a viral illness or gastroenteritis, without apparently giving serious consideration to the possibility that Elu had meningitis. This is a clear omission given how clearly Elu's signs and symptoms reflect indicators which, on the guidelines set out above required further assessment, investigation and treatment.

She also submitted that:

...the clinicians fell into the trap of attributing significance to Elu's apparent improvement with paracetamol, a trap which is clearly identified in the guidelines referred to above. Also, that the clinicians failed to attributed sufficient significance to Mrs Pele's obvious concern, reflected in her repeated attempts to obtain medical assistance for Elu. Elu clearly presented to both the Bankstown Hospital and the Children's Hospital at Westmead with signs of toxicity. He had continuing complaints of headache and fever. He was clearly increasingly finding it difficult to walk. His family saw that he was not himself and was seriously ill.

I agree.

I have dealt in greater detail with these issues in the full decision, together with a number of other issues of lesser significance such as poor-record keeping on the parts of some clinicians.

In the full decision, I have also considered at greater length the phenomenon of diagnostic error, touching on some of the literature about medical misdiagnosis. A recent study carried out by the Children's Hospital at Westmead and published in the British Medical Journal in April this year found that "Emergency department physicians tend to underestimate the likelihood of serious bacterial infection in young children [ie children under 5 years] with fever."<sup>iv</sup> It found that only 70-80 per cent of febrile children presenting with serious bacterial illnesses were prescribed antibiotics on their first presentation at the hospital.<sup>v</sup> It also found that while most children with serious bacterial illnesses were tested with cultures or other appropriate tests, 5-6 per cent were not.<sup>vi</sup> In fairness, I note, however, that the study was of children of under 5 years and excluded the small number of children suffering meningitis.

The study is, nevertheless, relevant to this inquest. It suggests both that diagnosis of serious bacterial illness can be difficult but also that in a significant number of cases doctors do not exclude the worst-case scenarios before making a more benign diagnosis. Ms Stern's summary of the errors made by clinicians points us to the central idea that comes out of the literature on misdiagnosis, namely that it often occurs because doctors develop a fixed idea

and stay “anchored to it” despite evidence contradicting their idea and without further testing the hypothesis.

***What has been done since Elu’s death?***

Following Elu’s death, a Root Cause Analysis investigation was conducted and a number of recommendations were made for improvements at the Children’s Hospital. In essence, they will result in more supervision of junior doctors by senior clinicians and more frequent assessment of sick children by senior staff. The requirements of record-keeping have also been made more stringent. Further details are outlined in the full decision.

The Children’s Hospital has gone further than the RCA team’s recommendations. It has improved observation facilities for sick children. It has developed a better triage questionnaire. Perhaps most importantly, the Children’s Hospital has developed a computerised diagnostic tool to assist doctors in detecting serious bacterial illness in children.

***What more can be done?***

A coroner has power to make recommendations especially in relation to public health and safety. I have decided to make 11 recommendations to the Minister for Health. I have discussed the thinking behind the recommendations in the body of the full decision.

The recommendations are as follows:

1. That the Royal Alexandra Hospital for Children (the Children’s Hospital at Westmead) and the Sydney South West Area Health Service review their guidelines to provide for the assessment by senior staff of children presenting with any signs of toxicity before such children are discharged;
2. That the Children’s Hospital and Area Health Service review their guidelines to provide for annual training of clinical staff in Emergency Departments in relation to the detection of meningitis, including the possibility of children presenting without signs of meningism and with normal vital signs, and in relation to the appropriate tests to be conducted;

3. That the children's Hospital and Area Health Service review the efficacy of CRP and other tests, whether alone or in combination, in improving the diagnosis of serious bacterial infection;
4. That the Children's Hospital and Area Health Service review the literature concerning meningitis they distribute to parents (or carers) on discharge of children with any sign of toxicity. The document given to parents ought include clear, succinct instructions on what to look out for and the importance of returning immediately to a doctor if signs or symptoms are seen.
5. That the Children's Hospital and Area Health Service consider amending the triage questionnaires to include an inquiry as to the number of recent attendances made by children at hospitals or on General Practitioners in relation to the same illness.
6. That the Children's Hospital and Area Health Service consider amending their triage questionnaires to include an inquiry seeking to measure the degree of parental concern.
7. That the Children's Hospital consider whether a measure of "parental concern" can and should be built into its computerised diagnostic tool for serious bacterial infection.
8. That NSW Health consider rolling out the Children's Hospital's computerised diagnostic tool to all NSW hospital Emergency Departments.
9. That NSW Health consider ways in which the Children's Hospital's computerised diagnostic tool (or a suitable version of it) may be made available to primary carers.
10. That, if it has not already done so, the Children's Hospital consider developing a training module in which clinicians not only discuss but *practice* the diagnosis and treatment of rare but serious bacterial infections in simulated settings.
11. That, if it has not already done so, the Children's Hospital consider formally integrating the study of cognitive bias and error into its teaching and training syllabus concerning differential diagnosis.

## ***Conclusion***

“Evidence-based medicine”, with its emphasis on scientific method, is, correctly, the dominant paradigm in clinical diagnosis. Diagnosis, however, is art as well as science. Open-mindedness, experience, intellectual curiosity, respect for others and sensitivity to their genuine concerns are defences against leaping to conclusions, the diagnostic errors that sometimes prove fatal.

In her statement to the court, Mrs Pele said “There is nothing worse than carrying your baby, caring and guarding it so jealously and dreaming of its future, only to have it ripped away from you. The pain of losing a child is so incomprehensible by someone who has not experienced such a loss, there are no words to describe it. We have tried many times to describe the feeling of Elu’s loss and we have never managed to fully describe it.”

I am sure that everyone who heard her speak in court was moved by her words and pain. It would be foolish for a coroner to think that he or she could eliminate that pain or provide “closure” to a family who have lost a child like this. I hope, however, that it may be some small measure of comfort to the Pele family to know that this Court and all those who have taken part in this inquest have taken Elu’s death very seriously and hope that some good will come of it so that the risk of other families suffering the same experience will be reduced.

I now turn to the formal findings.

## ***Findings***

I find that Israelu Pele died on 18 December 2007 at Bankstown Hospital, Bankstown, New South Wales of bacterial meningitis that had not been diagnosed by a number of clinicians who had examined him.

Magistrate Hugh Dillon  
*Deputy State Coroner*

## ***Endnotes***

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<sup>i</sup> *The Suppliant Women* lines 1120-1121.

<sup>ii</sup> See NSW Health *Management of meningitis in infants and children: Clinical practice guidelines* (2005) p.3.

<sup>iii</sup> Marjorie Lazoff MD “Meningitis” eMedicine Emergency Medicine; see [emedicine.medscape.com/article/784389-overview](http://emedicine.medscape.com/article/784389-overview) viewed 01/03/10.

<sup>iv</sup> Craig et al. op cit p.1 of 12 of PDF version.

<sup>v</sup> Ibid p11 of 12.

<sup>vi</sup> Ibid Fig 2 p.4 of 12.