IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2014 0477

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 60(2)
Section 67 of the ***Coroners Act 2008***

I, PETER WHITE, Coroner having investigated the death of BENJAMIN HODGSON
without holding an inquest:
find that the identity of the deceased was BENJAMIN HODGSON
born on 17 December 1984
and the death occurred on 21 January 2014
at 5/18 Wooddale Grove, Mitcham, Victoria
from:

1 (a) DIABETIC KETOACIDOSIS

Pursuant to section 67(1) of the *Coroners Act 2008* I make findings with respect to the following circumstances:

1. Benjamin Hodgson was a 29 year old man who lived in Mitcham with a house mate. On 20 January 2014, he visited his General Practitioner (GP) Dr David Carne with symptoms of increased urination, thirst and difficulty sleeping.
2. At this consultation, Hodgson weighed 122.9kg, with a Body Mass Index of 43.5. According to the GP medical record, he was febrile with a temperature of 38.6 degrees Celsius and a high blood pressure measure of 135/100mmHG. Dr Carne's clinical impression was that Mr Hodgson had a urinary tract infection, for which he was commenced on cephalexin antibiotics.
3. Mr Hodgson was referred by Dr Carne to Dorevitch Pathology the following day for blood tests including a full blood examination, liver function, thyroid stimulating hormone, urea and electrolytes and fasting blood glucose. Mr Hodgson was unable to provide a urine sample at the time of the consultation. A urine sample was supplied later that day, with a pathology report dated 21 January 2014 indicating the presence of ketones and glucose in urine.

4. Mr Hodgson was found deceased by his family at 9pm on 21 January 2014. According to the Victoria Police report of death, telephone records indicated that a taxi was booked at 5.30am that morning, however, Mr Hodgson did not respond to taxi alerts or the taxi's arrival between 7.40 and 8am.

Coronial Investigation

5. Pathologist Dr Sarah Parsons of the Victorian Institute of Forensic Medicine performed a post mortem medical examination. Dr Parsons provided me with a report of her findings at autopsy. Post mortem toxicological analysis showed an extremely high glucose concentration of 45mmol/L, in combination with raised acetone levels in the blood and vitreous. Dr Parsons commented that it was possible for raised acetone levels to be seen in response to fasting. However, the presence of markedly elevated glucose levels indicated that Mr Hodgson demonstrated previously undiagnosed diabetes which lead to his death from diabetic ketoacidosis.
6. Dr Parsons also noted that Mr Hodgson had acute appendicitis. She commented that the appendicitis may have been the cause of his fevers and general feeling of being unwell in the days leading up to his death. The underlying infection may have worsened his blood sugar levels. Dr Parsons further commented that it was unclear whether the appendicitis infection contributed to his death. It is probable that Mr Hodgson's glucose levels had been high for a period of time, given his symptoms, and ketoacidosis would have occurred without the concurrent infection.
7. Dr Parsons concluded that the cause of Mr Hodgson's death was 1(a) diabetic ketoacidosis. I adopt Dr Parson's findings in relation to the medical cause of death.
8. As part of my investigation, I requested that the Court's Health and Medical Investigation Team conduct an investigation into Dr Carne's treatment of Mr Hodgson. I also received letters of concern from Mr Hodgson's parents about the missed diagnosis of diabetes by Dr Carne.
9. I received a statement from Dr Carne, who outlined his assessment and differential diagnosis. Dr Carne stated that Mr Hodgson presented with difficulty sleeping since the beginning of the hot summer weather and noted the symptoms of polyuria and polydipsia. He also took note of Mr Hodgson's elevated temperature. Given his temperature, Dr Carne considered whether a urinary tract infection was present and commenced antibiotics. Mr Hodgson told Dr Carne that he felt unwell but there were no specific symptoms such as vomiting, diarrhoea or abdominal pain.
10. Mr Hodgson reported a considerable weight gain over the past year. There was no family history of diabetes and he had never been diagnosed with diabetes in the past. Dr Carne concluded that Mr Hodgson most likely had diabetes and ranked the likelihood of type 2 diabetes ahead of type 1 diabetes. He did not check Mr Hodgson's blood glucose at the time, but referred him for fasting blood tests the next day through Dorevich.
11. On receipt of Mr Hodgson's family's concerns I caused further questions to be asked of Dr Carne and he provided a further letter. Dr Carne agreed that it would have been appropriate to perform a finger prick test at the time of the consultation and that he is very regretful that he did not do that or arrange for a dipstick of his urine. If he had done so, and saw the level of glucose and ketone, he would have sent Mr Hodgson to hospital immediately. Dr Carne was under the impression that fasting blood tests was the most accurate way to diagnose

diabetes. Dr Carne did not consider that Mr Hodgson was in any immediate danger from diabetes.

12. I am satisfied that identification of markedly elevated blood glucose at the time of the consultation might have prompted testing for ketones and conceivably led to the earlier identification of Mr Hodgson's evolving ketoacidosis and referral for further testing and management in a hospital setting.

13. I note that in my decision dated 5 August 2015 to not hold an inquest into Mr Hodgson's death, I indicated that it was open to Mr Hodgson's family to notify AHPRA of the circumstances surrounding their sons' death.

RECOMMENDATIONS

Pursuant to section 72(2) of the **Coroners Act 2008**, I make the following recommendation(s) connected with the death:

Recommendation 1

The Royal Australian College of General Practitioners provides a clinical update to GPs to highlight the importance of recognising hyperglycaemia and ketosis in adult diabetic patients, as an uncommon but potentially serious complication of type 2 diabetes, or indication of newly recognised adult-onset type 1 diabetes.

Recommendation 2

The Royal Australian College of General Practitioners advise GPs that although uncommon in adults and clinically subtle in its earliest states, evolving diabetic ketoacidosis may produce a dangerous metabolic decompensation and require escalation of care to a hospital setting for further assessment and management.

In accordance with section 73 of the *Coroners Act 2008*, I order that this finding be published on the internet in accordance with the rules.

I direct that a copy of this finding be provided to the following:

Mr Hodgson's family

The Royal Australian College of General Practitioners

Dr David Carne

Signature:

PETER WHITE
CORONER
Date: **19 January 2016**