IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2011 /0144

FINDING INTO DEATH WITHOUT INQUEST

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

I, IAIN TRELOAR WEST, Deputy State Coroner having investigated the death of **MARIE GODER**

without holding an inquest:
find that the identity of the deceased was Marie Goder
born on 8 February 1925 and aged 84 years
and the death occurred on 25 November 2009
at Ringwood Private Hospital, 36 Mount Dandenong Road Ringwood East
from:

1 (a) MAJOR CEREBRAL INFARCT
1 (b) HYPOGLYCAEMIA

in the following circumstances:

PURPOSES OF A CORONIAL INVESTIGATION

1. The primary purpose of the coronial investigation of a reportable death[1] is to ascertain, if possible, the identity of the deceased person, the cause of death and the circumstance in which the death occurred.[2] The practice is to refer to the medical cause of death incorporating where appropriate the mode or mechanism of death, and to limit investigation to circumstances sufficiently proximate and causally relevant to the death.

[1] Section 4 of the *Coroners Act 2008* requires certain deaths to be reported to the coroner for investigation. Apart from the Jurisdiction nexus with the State of Victoria, the definition of a reportable death includes all deaths that appear "to be unexpected, unnatural or violent or to have resulted, directly or indirectly, from accident or injury".

[2] Section 67 of the Act.

2. Coroners are also empowered to report to the Attorney-General on a death they have investigated; the power to comment on any matter connected with the death, including matters relating to public health and safety or the administration of justice; and the power to make recommendations to any Minister, public statutory or entity on any matter connected with the death, including recommendations relating to public health and safety or the administration of justice.[3]

3. The focus of the coronial investigation is to determine what happened, not to ascribe guilt, attribute blame or apportion liability and, by ascertaining the circumstances of a death, a coroner can identify opportunities to help reduce the likelihood of similar occurrences in future.

Background

4. Marie Goder was aged 84 years and in a high care aged care facility at Regis Waverley Gardens Nursing Home in Dandenong North in the period leading up to her death. In the early hours of the morning on 2 November 2009, Mrs Goder was found unconscious and transferred by ambulance to Valley Private Hospital, then to Ringwood Private Hospital, where she was treated and eventually palliated until her death.

5. After her death, the death was registered at the Victorian Registry of Births, Deaths and Marriages, having been certified by Dr R Dupuche on 27 November 2009, but it was not reported to the coroner. Cause of death was recorded as:

> "Major cerebral infarct (3 weeks)
> Hypoglycemia (3 weeks)
> Diabetes (years)
> Bronchopneumonia (1 week)".

6. However, on 23 June 2010, the Coroners Court received correspondence dated 21 June 2010 from the Commonwealth Department of Health and Ageing, Victorian State Office to which was attached information about a complaint made by an anonymous informant. The matter was referred to the State Coroner for a determination as to whether the death was a reportable death under the Act.

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[3] Sections 72(1), 72(2) and 67(3) of the Act regarding reports, recommendations and comments respectively.

7. On 11 January 2011, I determined that the notification ought be treated as a reportable death and directed that a case file be opened, medical records be obtained from all relevant sources, and reports be obtained from the Health and Medical Investigation Team at the Coroners Court of Victoria, Mrs Goder's general practitioner, Dr T Adcock and an expert opinion from an independent general practitioner, associate Professor M Rawlin.

FOCUS OF THE INVESTIGATION

8. I have focused my investigation on the clinical management of Mrs Goder in the days leading up to her transfer and admission to hospital.

Complaint allegations

9. The complaint allegations received by the Commonwealth Department of Health and Ageing disclosed that Mrs Goder had a medical history of diabetes, hypertension, glaucoma and arthritis. It was alleged that the nursing home only had one Registered Nurse Division 1 for 160 beds, and that the level of staffing was inadequate to provide care. Further, it was alleged that Mrs Goder died after an incorrect dose of insulin was administered, and that Personal-Care Attendants were administering insulin. The information provided brief details of an investigation apparently based on the administrative and medical records of the nursing home. In particular, it was noted that there was "no evidence that Mrs Goder's BSLs (blood sugar levels) or condition were reviewed after the administration of Actrapid on 1 November 2009 until a post dated progress note on 2 November 2009".

10. Despite the allegations raising systemic shortcomings and practice deficiencies at the nursing home, there is no evidence that, at any relevant time, Mrs Goder's best interests were not the primary concern of all members of the staff at the nursing home.

Circumstances of Death

11. Over the two years preceding her death, Mrs Goder had multiple admissions to hospital for heart failure, pneumonia and urinary tract infections. In November 2008, she was commenced on an oral hypoglycaemic (blood glucose lowering) medication, Metformin. Her last discharge from hospital was on 19 October 2009 following a three-week admission to Ringwood Private Hospital due to a chest infection. Her admission was managed by consultant physician, Dr Dupuche, and the admission documentation in the medical record details a comprehensive list

of clinical issues and plan. During this admission, hyperglycaemia (high blood glucose), associated with infection, required treatment with the administration of short acting insulin (Actrapid), rather than her usual Metformin. Her condition and blood glucose levels improved and insulin was ceased three days prior to discharge from hospital on 19 October 2009, when she was returned to the nursing home requiring Metformin to maintain normal blood glucose levels (BGLs).

12. Over the next three days, Mrs Goder experienced the occasional episode of high blood glucose and her GP was contacted on 21 October 2009 requesting a medical review. No change was made to the medication regime. Between 24 and 31 October 2009, insulin was administered in response to episodes of hyperglycaemia. On 24 October 2009, a locum doctor prescribed a sliding scale of insulin dependent on BGLs, Actrapid being administered twice a day according to BGLs (to be taken twice daily) at the time.

13. On 1 November 2009 at 16.30 pm, Mrs Goder's BGL was 18.4mmol/L, with 8 units of Actrapid administered at 21.15 pm. There was no record of the BGL or Mrs Goder's condition being checked again until 5.05 am 2 November 2009, at which time Mrs Goder was found in bed unresponsive with a very low blood glucose level of 0.8mmol/L. One mg of Glucagon was administered to increase blood glucose. She was taken by ambulance to the Valley Hospital with hypothermia (low body temperature) and hypoglycaemia. Following admission, she was transferred to Ringwood Private Hospital, arriving with a significantly reduced level of consciousness, symptoms of sepsis and blood culture showing gram-positive staphylococci. A computerised tomography (CT) scan of the brain the following day showed recent large bilateral watershed infarcts (areas of cell death in the brain caused by an insufficiency of blood where the distributions of blood supply overlap) in both hemispheres. The infarcts in this case were presumed to be the result of inadequate blood glucose, that is, the cells of the brain had no glucose and died in a way similar to when cells are deprived of oxygen, regardless of inadequate blood supply. Mrs Goder developed seizures from the areas where the brain tissue had died. The intravenous anticonvulsant clonazepam was administered and she was commenced on another anticonvulsant medication phenytoin, administered via a nasogastric tube.

14. In summary, Mrs Goder had severe and presumably prolonged hypoglycaemia following administration of insulin. The stroke was presumed secondary to hypoglycaemia. Due to the stroke severity, and despite a return to normal glucose levels, Mrs Goder never regained

consciousness. She developed seizures, which were treated with phenytoin. The microbiology cultures of blood and urine were contaminated, including evidence of a significant preceding episode of infection. In hospital, active treatment was withdrawn after discussion with family, and Mrs Goder died on 25 November 2009. There were no suspicious circumstances.

15. The medical cause of death recorded above was taken from the death certificate.

Post Mortem Medical Investigation

16. No post mortem medical investigation was conducted because of the delayed circumstances of the report to the coroner.

Uncontentious Matters

17. A number of the facts about Mrs Goder's death are known and uncontentious. These include her identity, the medical cause of her death and aspects of the circumstances, including the place and date of death.

18. Given this, I formally find that the identity of the deceased was Marie Goder, born on 8 February 1925 and aged 84 years, and the death occurred on 25 November 2009 at Ringwood Private Hospital, 36 Mount Dandenong Road Ringwood East. The medical cause of death was a major cerebral infarct due to hypoglycaemia.

19. The inquest brief is effectively made up of medical records obtained from all relevant sources, including reports obtained from the Health and Medical Investigation Team (from which largely the summary of circumstances provided above was obtained), Mrs Goder's general practitioner, Dr Adcock and Professor Rawlin's independent expert opinion. Given the circumstances of the complaint, the family of Mrs Goder was not requested to contribute to the investigation. All other interested parties have fully co-operated with my investigation.

Major Issues

20. The major issues identified by the anonymous complainant are described above. They called into question the nursing care provided to Mrs Goder in the period between her previous hospitalisation and the morning of 2 November 2009 when she was discovered unconscious in bed, in particular the management of her diabetes condition, and the administration and recording of her prescribed diabetes-related medications.

21. Dr Adcock, Mrs Goder's GP since 2008, reported on the management plan that was in place for Mrs Goder and administered by staff at the nursing home. This set out the frequency of BGL testing, the acceptable range of levels, and action to be taken if the BGL was above or below the reportable levels (less than 3 and greater than 15mmol/L). There was also provision for the frequency of BGL testing to be varied as necessary. He highlighted that he had given instructions for the staff to contact him if Mrs Goder's BGL was found to be above or below the reportable levels.

22. Associate Professor M Rawlin, Adjunct Associate Professor in General Practice at Sydney University, reviewed the medical notes and reported on the death of Mrs Goder in the context of the medical management of diabetes in the nursing home, including risks of using short acting insulin, blood glucose monitoring and communication and recording of plans and documentation. He noted that, under the current GP guidelines for the management of diabetes, diet and exercise are the cornerstone of treatment with medication and insulin added as needed. Managing diabetes in the high-level care nursing home setting is complicated because patients are often unable to exercise effectively, may have problems taking an appropriate diet, and are more susceptible to infections and other illnesses that push up their blood sugars. Communication of patients is often variable.

23. Professor Rawlin advised that all diabetics require regular monitoring, with daily or several times per week blood sugar measurement usually sufficient. In this case, he opined that:

> "a combination of factors appear to have tipped Maria's (sic) diabetic control negatively. From the notes the problems of high sugars may have started with high calorie supplement use but infection such as a urinary tract infection may have contributed (although investigations were limited)."

24. He went on to accept that the use of short acting insulin is a quick and effective means of reducing blood sugar, but requires more frequent blood monitoring. He stated:

> "SIiding scale insulin is a rarely used solution to high sugars and is a short term only solution. It is difficult to monitor due to staffing requirements in nursing home settings and may cause fluctuating sugar levels that make control more difficult. It should also be used only in the setting of a short term episode in conjunction with action to elucidate and fix the cause of the sudden increase in sugar level.

Sliding scale insulin is used in hospital based care and many doctors have experienced its use in that context.

Because of its mechanism of action the main risks (sic) with sliding scale insulin is hypoglycaemia. Usually this is of short lived nature but the insulin can provide both profound and prolonged hypoglycaemia that can lead to life threatening reduction in sugar."

25. In relation to the monitoring and documentation, Professor Rawlin concluded that the recording of blood sugars prior to and after insulin dosage was lacking and documentation in this case was a problem, partly as no firm agreed protocols between the visiting doctors and the nursing staff appeared to be in place. In summary, he commented:

> "It is always difficult to know how far to go in terms of keeping the patient in care rather than transfer to hospital. It should be noted that this patient had requested a "do not resuscitate" directive.
>
> One of the factors in what therapies can be used in any setting is the assessment of whether the staff available have the time, education and experience to undertake the treatment plan as proposed. It is unclear if these necessities were met in this situation. A different plan to reduce the patient's blood sugar could have been considered. Even for a high care resident of a nursing home, hospital care is always an option.
>
> The need for extra staff to cover these types of treatment regimes should be considered as it would be in a hospital setting."

26. In its response to a request from me for further information about the checking of Mrs Goder's BGLs and administration of diabetes-related medications, including insulin, the National Manager Clinical and Care Service at Regis which owns and runs the Waverley Gardens nursing home, Ms A Sparkes, noted that there were several breaches of internal guidelines regarding the documentation of medication doses on 1 November 2009 and relevantly commented:

> "This incident raised concerns and identified gaps in medication administration documentation at Waverley Gardens. As a result, Regis engaged the services of an

external education consultant to provide education and training on medication management with an emphasis on Insulin administration. All registered nurses responsible for medication administration were required to attend this training and their competency to administer medication was assessed. Ongoing auditing of medication management and blood glucose management is conducted as part of the Regis continuous quality improvement system (at) the facility."

COMMENTS

Pursuant to section 67(3) of the **Coroners Act 2008**, I make the following comments connected with the death:

1. Having carefully considered the available evidence in the brief in this case, I am not persuaded that an inquest or obtaining further medical or other evidence beyond that available in the medical records and reports will clarify the relevant medical issues before me or the cause of death, as regrettable as the circumstances were.

.2. The issues identified in my investigation into Mrs Goder's death are not unique to the Waverley Gardens nursing home. The practice shortcomings in relation to the management of Mrs Goder's diabetes and the administration of medications and the proper recording of the same in the patient files are matters that can occur across the aged care sector.

3. The management of Mrs Goder's diabetic condition appeared deficient in several areas. There was an apparent lack of clear aims of therapy, particularly an understanding of the far greater risk of hypoglycaemia than of high BGLs because of her age and the use of short acting insulin given on a sliding scale, which exposed Mrs Goder to the risks of hypoglycaemia. According to medical advice and current best practice guidelines in relation to diabetes management (Diabetes Australia "Diabetes Management Guideline in General Practice" 2011/12), the use of short acting insulin, with doses guided by BGLs and given according to a sliding scale, is a short-term solution and infrequently used, especially in an aged care setting, as very close monitoring is required. In this case, the level of monitoring did not appear adequate to detect the complications of the therapy and, at the same time, documentation of the aims of therapy, monitoring requirements, results of BGL measurement, and dosage and administration of insulin were inconsistent and, at times, inadequate. Finally, there was an apparent lack of a long term approach to Mrs Goder's diabetes management and any

alternative plan to reduce her blood sugar levels, to investigate possible causes of high BGLs or to admit her to hospital, if appropriate in the circumstances.

4. This case highlights the importance of careful management of diabetes, including the documentation and communication of the goals of therapy, placing in administration of insulin, in careful monitoring of BGLs. In this case, the key issue was the apparent failure to appreciate the dangers associated with the prescribing of short acting insulin in the setting of a nursing home in the context of inadequate blood glucose monitoring and unclear documentation.

RECOMMENDATIONS

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

1. The Regis Waverley Gardens further review for their nursing management of residents' diabetic conditions and consider implementing the Australian Commission for Quality and Safety "National Residential Medication Chart" (NRMC) when available.

2. Highlighting the potentially fatal consequences in cases such as Mrs Goder's, the Royal Australian College of General Practitioners reinforce to all its members the importance of correctly implementing the clinical guideline for the management of type 2 diabetes as detailed in the 2011 Diabetes Australia "Diabetes Management Guideline in General Practice" which, I note, is readily available on the College's website.

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

The Family of Marie Goder

Dr T Adcock, 37 Langhorne Street Dandenong 3175

Regis Waverley Gardens Nursing Home

CEO, Regis Aged Care Pty Ltd, Suite 3, Level 1, 1933 Logan Road Mt Gravatt Qld 4122

CEO, Royal Australian College of General Practitioners, 100 Wellington Parade East Melbourne 3002

CEO, Royal Australasian College of Physicians, 145 Macquarie Street Sydney NSW 2000

CEO, Australian and New Zealand Society for Geriatric Medicine, 145 Macquarie Street Sydney NSW 2000

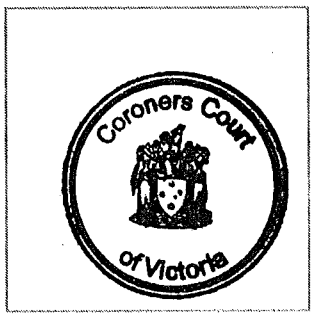
Secretary, Commonwealth Department of Health and Ageing, Victorian State Office, GPO 4898 Melbourne 3001

CEO, Diabetes Australia, GPO Box 3156 Canberra ACT 2601

CEO, Australian Commission on Safety and Quality in Health Care, GPO Box 5480 Sydney NSW 2001

The investigating member.

Signature:



IAIN WEST
DEPUTY STATE CORONER
Date: **29 April 2014**