**FORM 38**

Rule 60(2)

# FINDING INTO DEATH WITHOUT INQUEST

*Section 67 of the* ***Coroners Act 2008***

**Court reference:** 1090/07

In the Coroners Court of Victoria at Melbourne

I, IAIN TRELOAR WEST, Deputy State Coroner

having investigated the death of:

**Details of deceased:**

Surname: KENNY
First name: MARLENE
Address: 60 Stanley Street, Orbost, Victoria 3888

without holding an inquest:

find that the identity of the deceased was MARLENE KENNY
and death occurred on the 11th January, 2007

at Gippsland Base Hospital, Guthridge Parade, Sale, Victoria 3850

from

1a. PULMONARY EMBOLISM - BILATERAL
2. LEFT MIDDLE CEREBRAL ARTERY/POSTERIOR CEREBRAL ARTERY STROKE - ST ELEVATION AMI

Pursuant to Section 67(2) of the **Coroners Act 2008**, an inquest into the death was not held and the deceased was not immediately before the person died, a person placed in custody or care; but there is a public interest to be served in making findings regarding the following circumstances:

1. Mrs Marlene Kenny, aged 64 years, was taken to Orbost Hospital on the morning of the 8th January 2007 by her son, after waking feeling ill with symptoms of breathing difficulties, sweatiness and loss of colour. Her past medical history included hypertension, depression, panic attacks, gastro oesophageal reflux and osteoarthritis. She first presented at the Medical Clinic at about 9:00am and gave a history of tightness in her chest and heavy breathing when making her bed. The clinic nurse took Mrs Kenny by wheelchair to the outpatients of the hospital and at the resuscitation bay of the emergency department she took and recorded the following observations; pulse 87, blood pressure 172/97, oxygen saturation 83-86%. Due to the low oxygen saturation, an oxygen mask was placed, with a delivery rate of 6 litres per minute and an ECG was performed. At approximately 10:00am Mrs Kenny's condition was assessed by Dr Aktar

Hassian, who diagnosed panic attack, and prescribed 5mg of Diazepam which was given at 10:20am. Dr Hassian indicated that he would review Mrs Kenny later in the morning. Observations were repeated at 10:30am, 11:00am and 11:30am, with her condition improving over this period. Mrs Kenny, left the hospital shortly before midday in the company of her son, without further medical review.

2. The next day at approximately 8:15am, a request was made for ambulance attendance at Mrs Kenny's home, with this occurring shortly thereafter. The ambulance officer took a history of left arm weakness while showering (which had since resolved), and noted slurred speech with a slight droop to the mouth. There was no pain discomfort; hand grip appeared normal and there was good coordination and gait. Heart rate and blood pressure were within normal limits and a three lead ECG was normal, however, there was difficulty in obtaining blood pressure in the left arm. It was believed Mrs Kenny had suffered a trans ischaemic attack (TIA being a condition in which neurological symptoms of a stroke appear, but subsequently resolve). An offer of hospital examination was accepted and Mrs Kenny re-presented to Orbost Hospital at 8:45am. A handover of findings was given by the ambulance officer, including his difficulty in obtaining blood pressure in the left arm.

3. At 9:00am Mrs Kenny was seen by the admitting GP, Dr Hulme Hay, who recorded that she was conscious, alert and orientated, and that she had a slight slurring speech. He noted the history of slurred speech and parasthesiae in the left arm. Dr Hay ordered bloods and admitted Mrs Kenny for observation. Oxygen saturation on admission was 89%, resulting in oxygen therapy being applied at 4 litres per minute. At approximately 3.30pm, when family members visited, Mrs Kenny complained to them that she was having trouble with her left arm and that she had no feeling in it and was unable to use it properly. Nursing observations recorded that the left arm/hand was cold and that Mrs Kenny required supervision in walking to the toilet. The observations taken at 4:00pm recorded a 94% oxygen saturation, a temperature of 37.6 degrees, pulse 92 and blood pressure 118/83. Dr Hay reviewed Mrs Kenny at approximately 5:00pm, finding her speech improved and noting the temperature difference between her arms. Borderline blood glucose on admission pathology resulted in him ordering fasting for a glucose tolerance test the next day. An ECG that was undertaken disclosed no changes.

4. On the morning of the 10th January 2007, Mrs Kenny was medically reviewed by two colleagues of Dr Hay (he being absent with commitments in Cann River), one of whom was Dr Hassian. Cholesterol lowering medication was commenced (Simvastin) for elevated cholesterol and it was noted that some neurological symptoms remained unresolved. Slightly slurred speech was noted and numbness of the left arm. Physiotherapy exercises were to commence for weakness in that arm. In the mid afternoon there was a change in symptoms, with Mrs Kenny experiencing right arm weakness, disorientation with visual disturbances and deteriorating slurred speech. Nursing staff commenced neurological observations at 3:00pm and Dr Hay was notified. Following his return from Cann River, Dr Hay reviewed Mrs Kenny at 3:45pm and

believing she had suffered a further TIA, directed that half hourly neurological observations continue for review at approximately 5:00pm. After this review, and noting some improvement, he discussed her condition with a physician in Sale and the decision was made to transfer her to a tertiary hospital in Melbourne. Following a number of phone calls a bed was arranged in the neurology ward at the Austin Hospital and at 6:16pm, Rural Ambulance Victoria (RAV) received a faxed request, for non-urgent ("routine") air ambulance transfer.

5. The ambulance transfer was delayed for more than 9 hours, despite a number of unsuccessful plans to transfer Mrs Kenny by air and/or road. Over this time her symptoms were indicative of deteriorating right sided weakness; in addition her Glasgow Coma Score reduced to 8, she became sweaty, very pale and confused, and suffered a period of loss of consciousness. Mrs Kenny was reviewed by Dr Hay at 9:00pm and although he noted the obvious deterioration, he was satisfied that her airway and oxygenation were acceptable, in order to await ambulance attendance. A road ambulance arrived shortly after 11:00pm and on being placed in the vehicle and being connected to an ECG, the attending paramedic noted ST depressions (indicative of a myocardial infaction) on the monitor. Dr Dobber was called in to make an assessment and Mrs Kenny was returned to the emergency department, with further monitoring confirming that she was having a myocardial infarction. Angina medication was given and blood was taken for Troponin testing, with this subsequently coming back positive. Multiple attempts were made by Dr Hay and also by Dr Dobber to find an appropriate bed placement. A chest X-ray was performed at 1:30am following a request from the Austin Hospital and at 1.45am, confirmation of acceptance came through of a bed in the cardiology ward at hospital. At approximately 2:00am a "Time critical/Emergency" request was made to RAV for transfer, however, staff were later advised that no air transport was available due to weather/smoke conditions between Bairnsdale and Orbost. Contact was made with Sale Hospital at 2:15am and a bed was arranged in the Intensive Care Unit, with Mrs Kenny being discharged from Orbost Hospital at 2:40am. During the course of transfer to Sale, a mica paramedic was collected at Lakes Entrance to accompany the crew and Mrs Kenny for the continued journey to Sale Hospital, where she was admitted at 5:10am.

6. A CT brain scan was performed at 9:00am and showed a large area of sub acute infarction which, together with her other symptoms, prompted the suspicion of an aortic dissection and hence a subsequent CT angiogram was performed. This investigation was undertaken at 11:00am and excluded aortic dissection, but did reveal a large severe bilateral main pulmonary artery emboli, impeding blood flow through the right side of the heart and lungs. The plan that was formulated during the course of the morning was to transfer Mrs Kenny to Melbourne, however, at 1:15pm she arrested, and despite the medical emergency team attendance, could not be resuscitated.

7. As Mrs Kenny's death was considered to be due to natural causes, a death certificate was issued and hence, the death was not reported to the coroner. In these circumstances no post

mortem examination was performed and the cause of death was registered as certified at Sale Hospital. The death was brought to the coroner's attention by the deceased's son, Barry Kenny, in February 2007, setting out a three page summary of events and stating in a covering letter:

> *"We, as a family, firmly believe our mother's death could have been prevented if Orbost Regional Health Service had provided the proper medical care or advised mum be transported, without haste (sic), to another hospital better equipped to provide the necessary medical care".*

MEDICAL MANAGEMENT

8. The Coroners Court requested a review of Mrs Kenny's medical management from Dr Helen Parker, a Forensic Physician at the Victorian Institute of Forensic Medicine. At the time of the review, Dr Parker also held the position of Staff Specialist in Emergency Medicine at the Sandringham and District Memorial Hospital. Dr Parker conclude her report of the 2nd July 2007, by stating:

> *"The CT scan findings indicate an uncommon condition - where a hole in the heart has allowed the passage of a blood clot from the right to the left side of the circulation, thus creating TIA and stroke symptoms, and probably her myocardial infarction. It is highly probable that clots also involved the arteries to her arm causing it to be cold. One could not expect a doctor to have predicted this as the cause of her initial presenting symptoms, nor even her evolving picture".*

9. In August 2007, the Coroners Court received from Orbost Regional Health (a multi purpose service that incorporates Orbost Hospital), a report that followed Root Cause Analysis (RCA) investigation of Mrs Kenny's management. The investigation team was multidisciplinary, with representatives from the hospital, Rural Ambulance Victoria (RAV), Air Ambulance Victoria (AAV), Victorian Adult Emergency Retrieval and Coordination Service (VAERCS) and the Department of Human Services (DHS). The report identified the following concerns and areas of suboptimal clinical management:

**First presentation**

a. The significance of symptoms was not recognized contributing to the Mrs Kenny being discharged without further investigation.

- The cause of the hypoxia was not investigated:
    - There was no documented medical assessment or plan;
    - The ECG was not definitive;
    - There were no further investigations such as chest X ray;

- o Pulse 87-Mrs Kenny was on Sotolol which can mask potential underlying tachycardia.

- Mrs Kenny was on Alprazolam for a history of panic attacks.

- The medical officer documented the symbol for definitive diagnosis in front of panic attack and had not verbalized or documented other differential diagnosis under consideration.

- No senior nurse was in the Emergency Department at the time, due to working in the ward area.

- A nurse documented that Mrs Kenny appeared to respond to diazepam ordered for anxiety.

b. Mrs Kenny was discharged without further medical review contributing to her not having further investigations.

- There was no documented medical plan for review.

- Verbal instructions by the GP may have been misunderstood due to accent differences.

- The nurse did not seek clarification of the medical plan when there was no documented plan and potential for misunderstanding verbal instructions.

- Mrs Kenny was anxious to go home.

- There was a significant drop in oxygen saturation when Mrs Kenny was removed from oxygen therapy prior to discharge, which was not recognized.

- There was no follow-up of Mrs Kenny when the GP returned and found she had been discharged without review.

**Second presentation**

a. The significance of admission hypoxia on day 2 and the link to previous day's admission was not recognized.

- Oxygen saturations on admission was 89%, with oxygen therapy applied.

- There was no documented medical assessment or plan in the inpatient history.

- There was limited documented nursing assessment and plan for observation.

b. There was limited documented medical assessment or plan.

- There was limited medical notation on day one.
- There was no documented medical admission in the inpatient history.
- There was no documentation of medical reviews on day two.
- There was limited medical documentation from the ward round on the morning of day three.
- There was no medical documentation of medical review and medical plan at 3:45pm and 5:00pm on day three.
- There was no medical documentation of assessment in progress notes when Mrs Kenny returned to the Emergency Department.

c. There was limited documented nursing assessment and care planning.

- There was limited nursing assessment documented on admission.
- No neurological observations were ordered, planned or done.

d. The opportunity to plan transfer for early investigation and potential treatment while Mrs Kenny's condition was stable, was not considered.

- There was no action or documented medical consideration, for transfer for further review and investigation, until Mrs Kenny's condition deteriorated and she was medically reviewed at 5:00pm on day three.

e. Hospital staff were unaware of the complexity of Mrs Kenny's condition.

- The change in Mrs Kenny's cardiac condition was not identified in the hospital, prior to loading into the ambulance a 11:05pm
  - o Mrs Kenny was not monitored prior to transfer;
  - o She had increasing cerebral symptoms and no cardiac history;

- o The link with admission and symptoms on day one had not been made.

f. <u>Family distress over Mrs Kenny's deterioration in condition was exacerbated in the setting of transport delays and the family's perception of staff confusion.</u>

- There was an inability of staff to adequately inform the family of what was happening, as there was no confirmed diagnosis and limited information about what was happening with the transport.

TRANSPORT MANAGEMENT

10. The RCA report from Orbost Regional Health, concluded there was a failure to transport Mrs Kenny to a tertiary facility which would have provided optimum investigation and treatment options. This occurred in the setting where, over a period of approximately 9½ hours, her condition deteriorated, while a number of unsuccessful plans were made to transfer her to a tertiary facility by air and road.

11. The report identified the following contributing factors:

- Ineffective communication by the hospital to RAV and AAV of Mrs Kenny's clinical condition;
  - o When Mrs Kenny deteriorated and the hospital rang RAV and AAV at 7:34pm to confirm transport, the only clinical information passed on was "patients having another episode", with the result that the RAV controller did not recognize the need to increase priority to urgent;
  - o There was no other transfer of clinical information until 10:03 when the hospital rang VAERCS;
  - o There are two category options on the ambulance request form: 'routine' and 'time critical,' with the fax form requesting routine response.

- No clarification by RAV with the hospital of her condition:
  - o RAV controller did not clarify what 'another episode' meant;
  - o There was no request by RAV for a clinical condition report when plans to transfer Mrs Kenny changed, or when the hospital rang requesting time of transfer.

- Ineffective communication from RAV to the hospital of potential delays in transport:
  - o When RAV first contacted AAV at 6:16pm and was advised they could not do the transfer, RAV did not inform the hospital there may be a delay in transport by plane;

- At 9:37pm RAV did not notify the hospital that AAV could not do the transfer for 20 minutes; then there was a further delay in being able to discuss the issue with VAERCS of 25 minutes, contributing to a delay of more than an hour in coming up with a plan to 'bunny hop' by road;
- At 10:03 the local paramedic (not RAV controller) informed the hospital of there being no aircraft available for transfer.

- Option of RAV to activate contingencies was not exercised, with contributing factors being:
  - Ineffective communication of changes to Mrs Kenny's clinical condition, by the hospital;
  - No clarification of Mrs Kenny's condition by the RAV controller;
  - The RAV controller focused on a plan to transport Mrs Kenny by fixed wing aircraft.

- Limited transport platform resources.

- At 6:16pm when the initial request was received by AAV, they were resourced with 2 fixed wing and 2 rotary wing aircraft.
  - Plane 1 was in the area at the time and was tasked to an urgent case in the Hume region; it then would have 2 stretchered patients, one loaded and one to be loaded from the area, to Melbourne.
  - Plane 2 was tasked to an urgent case in Barwon region.
  - Plane 3 needed repair in Mildura and was grounded.
  - Rotary wing aircraft are generally only used for urgent retrievals.

- AAV then planned to task to Orbost when a plane became available at approximately 9:00-9:30pm and whilst a flight plan was prepared, this was changed due to a higher priority multi-trauma case in the Barwon south west region. Plane 2 was still unavailable.

- At 1:40am when the request was made for a rotary wing aircraft, the only one available was in the northern part of the state, which was too far to assist with the transfer.

- Environmental and geographic conditions.
  - Transfer was being arranged at the time when the eastern half of Victoria was experiencing major bushfires over a large area between the hospital and Melbourne, with EPA reports indicating air particles above the highest recorded ratings.
  - The hospital is situated 400km by road away from the nearest tertiary centre and 170km from the nearest hospital with a physician and diagnostic support.

- Delays in being able to arrange beds.
    - o Arranging a stroke patient bed took 5 phone calls and approximately 45 minutes of medical and nursing time.
    - o Contacting VAERCS took approximately 25 minutes: 15 minutes on hold with a message the left and return call after another 10 minutes.
    - o Arranging an ICU bed took 5 phone calls over approximately a 75 minute period.

- Waiting for receipt of a fax delayed the response back to the hospital that the rotary wing could not do the transfer, by 1 hour 20 minutes.
    - o Policies and procedures in the Operations Centre of RAV regarding aircraft request, do not provide procedural differences between routine and time critical transfers.
    - o Hospital staff were not aware that rotary wing aircraft would not be arranged without receipt of an urgent fax.
    - o Staff were busy obtaining an X ray for the tertiary hospital at the time the fax was requested.

RCA RECOMMENDATIONS

In relation to the First Presentation

- The hospital develop and implement guidelines for reportable observations and include them as prompts on observation charts.

- The hospital develop and implement key performance indicators on the completion of medical documentation to be reportable to the Director of Medical Services and the Clinical Risk Review Committee of the hospital.

- The hospital develop and implement key performance indicators on the completion of nursing documentation to be reportable to the Director of Nursing and to the Clinical Risk Review Committee of the hospital.

- The hospital develop and implement guidelines for the recall or follow-up of patients who have been discharged without medical review.

In relation to the second presentation

- The hospital, RAV and AAV services, work collaboratively to develop and implement a standardized, structured, clinical handover process to standardize communication between all agencies which includes:
  - Options for providing information on the:
    - maximum number of hours transfer can take for optimum patient management;
    - maximum time the patient can be outside the hospital environment for optimum patient management.
  - Systems to:
    - provide the transferring agency with the expected time frame for transfer;
    - notify all agencies of change in condition and or change to expected time frames for transfer;
    - provide transfer agencies with clinical information prompts.

- The hospital, RAV and AAV services to work collaboratively to develop a new classification guideline which includes definitions and descriptors, to expand the options from the current, limited, non urgent and time critical options for transfer.

- The RAV review operations centre guidelines for contingency planning for transport arrangements.

- The RAV review operations centre policies and procedures regarding the requesting of aircraft for routine and time critical requests.

- The RAV develop and implement a process to audit clinical decision making processes made by staff working in the operations centre.

- The hospital develop guidelines for the optimum time to transfer high risk patients which take into consideration the location of the hospital and the time taken to activate resources and effect a transfer if the patient's condition deteriorates.

- The hospital implement an evidenced based risk screening tool for the management and transfer of patients with transient ischaemic heart attacks.

- The hospital review the Medical Officer orientation program to include;
  - Circumstances where they may have to escort patients with ambulance services.
  - The most time effective means of arranging beds in higher level facilities and time critical transfers.

- The hospital neurological observation charts be amended to include an area for recording of oxygen saturations and oxygen delivery.

- The hospital develop and implement a stroke/transient ischaemic attack, care pathway to assist with improving nursing assessment and documentation.

- The Department of Human Services consider developing a process where facilities can determine bed availability for medical patients requiring urgent transfer to tertiary facilities through a central point, reducing the time and resources required to find a bed.

- That hospital and ambulance service staff be reminded of the importance of the patient, family members and carer's receiving information and support throughout care delivery.

12. Following delivery of the RCA report, Dr Parker reviewed her original report and noted that the RCA team had access to more clinical information than she had. In these circumstances differences in opinion could be explained. Dr Parker was concerned that the attending doctor took no action to recall Mrs Kenny for review and that the significance of her low oxygen saturations was not recognized. In Dr Parker's opinion, the criticism of lack of a medical plan and incomplete documentation, particularly of neurological observations, was appropriate.

COMMENTS:

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

1. The evidence satisfies me that Mrs Kenny's treatment and management at Orbost Hospital was sub optimal; outside the normal parameters of reasonable health care practice. There was a failure to recognize her complex presentation and the ramifications of her symptoms. In addition, there was a breakdown in communication between the hospital and transferring agencies, in respect to her clinical condition and transport availability.

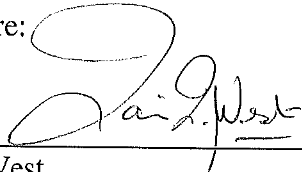
2. I am further satisfied that the failure to appropriately monitor and transfer Mrs Kenny, deprived her of optimum investigations and treatment options. It is speculative as to whether timely and appropriate management in a tertiary centre would have prevented the tragic outcome; I have no doubt, however, that her prospects of recovery would have been significantly enhanced, had this occurred.

RECOMMENDATIONS:

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

1. I adopt the recommendations of the RCA report, as set out in paragraph 11 of this finding. I do so, as I am satisfied that a thorough and comprehensive analysis of the circumstances surrounding Mrs Kenny's death was conducted by the RCA team, which has lead to appropriate recommendations being made. What remains unclear, however, is whether all the recommendations have been implemented since they were made in 2007. By adopting the recommendations they become recommendations made by the coroner, pursuant to s72 *Coroners Act 2008*. This section mandates the statutory authority or entity that has received the coroner's recommendations, to provide a written response, not later than three months after the date of receipt, specifying a statement of action that has, is or will be taken in relation to the recommendations. Following receipt of the response, the coroner is then required to publish it on the Internet and to provide a copy to interested parties.

Signature:



Iain T West
Deputy State Coroner

29th July, 2011

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