IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2009 / 0577

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)
Section 67 of the ***Coroners Act 2008***

Inquest into the Death of: NOLA MARGARET MOXON

Delivered On:	12 September 2014
Delivered At:	Coroners Court of Victoria 65 Kavanagh Street SOUTHBANK 3006
Hearing Dates:	between the 19th and 21st of June 2013
Findings of:	PETER WHITE, CORONER
Representation:	Mr Paul Halley of Counsel on behalf of Alfred Health and Caulfield Hospital
Police Coronial Support Unit	Leading Senior Constable Nadine Harrison

I, PETER WHITE, Coroner having investigated the death of NOLA MARGARET MOXON

AND having held an inquest in relation to this death between the 19th and 21st of June 2013
At Melbourne
find that the identity of the deceased was NOLA MARGARET MOXON
born on 8 November 1931
and the death occurred on 2 February 2009
at Caulfield Hospital, 260 Kooyong Road, Caulfield 3162
from:

1 (a) VENLAFAXINE TOXICITY IN A WOMAN WITH SEVERE RENAL IMPAIRMENT AND DEPRESSION

in the following circumstances:

Medical history pre admission to the Caufield Hospital's Baringa unit on Friday 31 January, 2009.

Dr Richard Bonwick

1. The following psychiatric report dated 20 December 2010, was prepared by expert witness Psychiatric Consultant Dr Richard Bonwick, and became exhibit 1.[1]

2. Having reviewed all of the evidence (including Dr Bonwick's testimony given at Inquest), I respectfully adopt that part of the report, which includes Mrs Moxon's history and the authors (uncontested) medical opinion, set out below.

> *'In correspondence dated 25/11/10, I have been requested by the Coroners Court of Victoria to prepare a report on the above case.*
>
> *The report is based solely on information provided to me by the Coroners Court. This being a police brief (which includes statements from Caulfield General Medical Centre (CGMC) staff and a statement from the son of the deceased), post-mortem*

[1] Dr Bonwick MBBS, MMed, FRANZCP a Consultant Psychiatrist is the Clinical Director, Older Veterans' Psychiatry Program (OVPP), Austin Health, Victoria

Medical Director Old Age Psychiatry, The Melbourne Clinic, Richmond, Victoria

Victorian Chair RANZCP Faculty of Old Age Psychiatry. See statement in Remainder of Brief, which will become exhibit 8, (from page 33).

results (including toxicology), Alfred Hospital pathology results, medical records from Caulfield General Medical Centre and medical records from Ormond Medical Centre. I will refer to these specifically where appropriate in the report.

The request asks that I address two specific questions, which can be paraphrased as:

Q1. Whether the dose of venlafaxine given to the deceased was reasonable?

Q2. Whether the abnormalities of renal function should have been treated in a medical unit?

I will begin by summarising the case from my reading of the above.

The deceased was a 77-year-old woman with a long psychiatric history of multiple severe major depressive episodes requiring in patient care and ECT.

From August 2008, the deceased was under the care of CGMC community old age psychiatry team (also termed MAPS or Mobile Aged Psychiatry Team in some entries), a general practitioner (Dr Lichtblau), and a private psychiatrist (Dr Jeuniewic).

During December 2008 and January 2009 the deceased displayed a well-documented deteriorating mental state consistent with a major depressive episode. During this time the deceased was under regular review by a CGMC case-manager and clinical psychologist, and was also being reviewed by her general practitioner. Due to the deterioration she was reviewed by Dr Jeuniewic on 22/1/09. Documentation from this consultation has not been viewed, but CGMC notes relating to phone contact by the case manager with the psychiatrist, report that he increased venlafaxine (efexor XR) from 150mg to 300mg at that appointment. The deceased's mental state continued to deteriorate from 22/1/09, and direct admission to Baringa Unit (an acute old age psychiatry unit at CGMC) was arranged for 29/1/09.

The deceased was admitted to the Baringa Unit by Dr T McDonald at 1300 hours on Friday 31/1/09. The psychiatric admission is comprehensive. It includes the information that the deceased had been refusing to eat or take medication prior to admission and that venlafaxine had recently been increased to 300mg. The formulation included the comment "high risk of medical complications". The management plan included "push oral fluids to try to avoid IVT/transfer to AC 3" (presumably intravenous therapy which would require transfer to a medical ward).

Blood investigations, ECG and CXR were apparently ordered, although this is not noted in the admission note.

Dr McDonald also completed recommendation papers under the Mental Health Act to begin the process of making the deceased an involuntary patient.

Subsequent physical examination was completed by Dr Backay at 1700 hours on 30/1/09. This noted a tachycardia of 110, mildly febrile at 37.4 degrees, but blood pressure within normal limits. A diagnosis of "Probable UTI with assoc. dehydration" was made. Subsequent investigation results did not support a diagnosis of urinary tract infection (UTI). Management plan included the comment "Will need IV rehydration if oral intake inadequate".

The patient was reviewed by the Consultant Psychiatrist (Dr S McFarlane) on 30/1/09 (time unknown). Dr McFarlane assessed the deceased as suffering "MDD with catatonic Sx" (i.e. Major depressive disorder with catatonic symptoms). He confirmed involuntary status under the Mental Health Act (although my copy of the MHA 25 is faint and barely legible), completed paperwork for involuntary ECT commencing on the following Monday 2/2/09, am and commented in the clinical notes that "2nd opinion waived due to time constraints and need..." (the remainder is not legible on copy provided to me). His management plan also included "ECG, CXR, bloods", "push fluids", "oral intake chart", and "continue Efexor" (no dose specified – but medication chart shows a dose of 300mg mane).

Review of the clinical progress notes is as follows. Nursing entry at 1400 hours on Saturday 31/1/09 reported CXR, ECG and blood investigations, were performed. Nursing entries appear throughout 31/1/09 to 2/2/09 with no specific concerns highlighted.

There are no medical entries in the clinical progress notes for the period 31/1/09 to 2/2/09, so I can only assume the patient was not medically reviewed throughout this time.

Vital sign observations were performed once daily without significant abnormality. Pre-ECT observations on 2/2/09 were also within normal limits.

Fluid input chart shows fluid intake of 520mls on 30/1/09 (from 1430 hours only), 1030mls on 31/1/09 and 550mls on 1/2/09.

Alfred pathology provided the following investigation results for investigations performed during the admission.

30/1/09 (1730 hours): Na 153, K unknown, CI 118, urea 11.0, creat 140 and eGFR 32; Hb 164 and WCC 15.9.

30/1/09 (1020 hours): Na 153, K 4.6, CI 117, urea 11.0, creat 177 and eGFR 24.

The above is consistent with a severe and worsening decrease in renal function, secondary to dehydration.

No further blood investigations were performed after 31/1/09 (1020 hours).

There is no progress note to indicate that medical staff were informed of, or aware of, either of these sets of abnormal results.

(Mrs Moxon) proceeded to the ECT suite on the morning of Monday 2/2/09, was noted to be "anxious and shaky", and arrested prior to being given ECT. Attempts at resuscitation were unsuccessful and death was declared at 0816 hours.

The post-mortem report records cause of death as "Venlafaxine toxicity in a woman with severe renal impairment".

The past history of psychiatric admissions and use of venlafaxine is of some relevance.

(Mrs MOXON was previously admitted to Baringa Unit between 20/7/08 and 23/8/08 due to similar major depressive episode that responded well to ECT. Notes from CGMC report that the deceased was referred to Caulfield MAPS on 18/7/08, then referred to Alfred Hospital Emergency Department on 18/7/08 and received intravenous hydration, before transfer to Baringa Unit on 21/7/08. I do not have further details of assessment and management provided at Alfred Hospital.

During the admission to Baringa Unit the deceased received intravenous fluids on five occasions between 23/7/08 and 6/8/08 whilst receiving ECT. This is not standard practice and suggests ongoing concerns re level of hydration during the admission.

Venlafaxine was first introduced during an even earlier admission to Kingston Centre (another regional old age psychiatry unit) in 2007. The deceased was discharged in October 2007 on 122.5mg.

CGMC notes (dated 21/7/08) record a phone call to the private psychiatrist, Dr Jeuniewic, and state that the deceased had been on venlafaxine 225mg in May 2008, but that dose had been decreased due to "concerns re memory loss". Following the later admission to the Baringa Unit the deceased was discharged on the 23/8/08 on venlafaxine 150mg. It would appear the deceased was on this dose until the increase by Dr Jeuniewic to 300mg on 22/1/09.

Beyond the above vague comment re memory loss, I cannot find any concerns expressed about side effects to this medication.

I will now provide an opinion on the two (2) specific questions raised in the request.

Q1. *Whether the dose of venlafaxine given to the deceased was reasonable?*

Ans. *The deceased had previously tolerated doses of venlafaxine up to 225mg per day without severe side-effects or problems. The dose had been increased to 300mg in response to a marked deterioration in mental state, due to a major depressive episode, seven days prior to admission. The available notes do not indicate any subsequent side-effects at this dose. At admission to Baringa Unit this dose was continued and confirmed by the consultant psychiatrist following his review.*

In my opinion a dose of 300mg, whilst at the upper end of usual practice, <u>is within reasonable limits</u> for a patient of this age (even allowing for her weight of less than 50kg). Serotinergic syndrome is rare, and there were no findings in the past history, or at admission, to raise this as a potential problem. There was a high risk of further deterioration in mental state whilst awaiting ECT and so it was prudent to continue anti-depressant therapy following admission to Baringa Unit.'

<u>On balance the decision to continue venlafaxine 300mg at admission was reasonable.</u>

As an aside, the decision to make the deceased an involuntary patient and to prescribe ECT (under the Mental Health Act) was also appropriate, in my opinion.[2]

The underlining is mine.

Nola Moxon's admission to the Baringa unit between Friday 31 January 2009, and Monday 2 February 2009.

The second question addressed to Dr Bonwick addressed Mrs Moxons care post admission.

Q2. *Whether the abnormalities of renal function should have been treated in a medical unit?*

Ans. *The admission assessments by Dr McDonald, Dr Backay and Dr McFarlane accurately flag dehydration as a significant management concern. The initial management plan at admission (presumably prior to any investigations being performed) to "push" oral fluids was reasonable at that time. The possibility that intravenous fluids could be required is also clearly noted at admission. Appropriate investigations (including renal function) and recording fluid input were initiated at admission."*[3]

3. I turn now to the related question of whether appropriate intravenous fluid intake, with appropriate medical review, was in fact undertaken following her admission over the weekend from Friday 31 January 2009, until her cardiac arrest on the morning of Monday 2 February 2009.

4. Concerning this matter Dr Bonwick offered the following further opinion.

'The deceased had a history of requiring intravenous fluids for dehydration during a previous episode of major depression. This information obtained in CGMC clinical notes from the earlier admission should have been available to the admitting doctors. This would only reinforce the potential need for intravenous fluids as detailed in the admission management plan.

---

[2] See exhibit 8, page 37.

[3] Ibid.

In my opinion this aspect of the admission management plan was reasonable with due note given to potential problems and a possible need for alternative treatment, i.e. transfer to a medical ward for intravenous fluid.

However, this management plan required close medical follow-up and monitoring, including a review of all investigation results as they became available, review of the physical state, and review of all observations including fluid intake. This needed to take place on a regular (at a minimum, daily) basis. The need for medical review is not recorded in any of the medical assessment entries.

The underlining is again mine.

There is no record in the progress notes of any medical reviews taking place on the following days, leading up to the death of Mrs Moxon. If a medical review or reviews had taken place transfer to a medical setting for intravenous fluid treatment of dehydration and deteriorating renal function would have been reconsidered, and in my opinion should have occurred based on the information, which would have been available at the time of such reviews (i.e. Significantly impaired and deteriorating renal function, and ongoing poor oral intake).

I note that admission took place on a Friday afternoon and I assume medical reviews at the weekend would routinely be performed by covering medical officer/registrar/psychiatrist.

There is an absence in the clinical notes of any entry indicating that a handover was made to covering weekend doctors to alert them to the situation and what was clinically required. Therefore I must assume that appropriate communication was not made, and that this resulted in the absence of medical review over the weekend, and meant review of the need for intravenous rehydration did not occur. [4]

Assoc Professor Stephen McFarlane

5. Assoc Professor Mcfarlane was the Consultant psychiatrist who was responsible for Mrs Moxons care following her admission to the Aged Psychiatry Unit (Baringa) at Caulfield Hospital. He first assessed her following her admission to Baringa on 30 January 2009.

---

[4] See testimony of Dr Bonwick exhibit 8, (remainder of brief from page 33).

6. He noted that her history included recurrent unipolar depression, which had been resistant to multiple past trials of different antidepressant medication.[5] He also observed that she had previously been given electroconvulsive therapy (ECT) during two previous hospital admissions, the second at Baringa in 2008. He noted that she had declined rapidly prior to her current presentation. He further found that she was cachectic and displayed psychomotor retardation.

7. She was depressed with slow speech and maintained poor eye contact. She was mute at times and little information was able to be obtained about her. She specifically denied paranoid themes or odd ideas.

8. According to Assoc Professor McFarlane Mrs Moxon,

> *'revealed signs of dehydration and elevated pulse measured at 110 beats per minute.'*

9. He concluded that she had been through a major depressive episode complicated by catatonic features with the presence of early signs of dehydration. He considered that ECT was called for as a matter of urgency, which he felt might be lifesaving. Assoc Professor McFarlane then informed Mrs Moxon's son of his findings and having formed the opinion, that she was unable to give informed consent to ETC, he completed a Mental Health Act form 25, which allows the authorised psychiatrist to give consent to that procedure.[6]

10. He further instructed staff to encourage oral intake as much as possible, particularly of fluids and further instructed that an oral intake chart be commenced. He also ordered that her anti-depressant medication to be continued at its current dose.

11. In response to questions addressed to him by the Court, Assoc Professor McFarlane confirmed that he did not review Mrs Moxon on either Saturday January 31, 2009 or Sunday February 1, 2009.

12. He explained that he would expect nursing staff to undertake such a review in circumstances where deterioration was occurring. He further explained that on the basis of her physical presentation over the weekend he would not have expected nursing staff to initiate a review of her physical condition, which he states was objectively improving over that time. His

---

[5] Unipolar depression is to be distinguished from bipolar depression, the latter of which is a manic form of the illness with highs and lows experienced to a far greater degree, than is the case in regard to the former.

[6] He did not seek a second opinion in regard to the involuntary ETC procedure in accord with normal practise as he was the only psychiatrist on duty in the hospital, at that time.

further opinion was that her oral intake as reflected in her food record charts over the weekend also revealed, *'no particular concerns.'*

13. In response to further questions concerning her pathology results received over the weekend, of which he was not aware, he felt that there was nothing of particular concern. He agreed that he had not handed over to anyone when he left the hospital and he felt that it was appropriate for her to receive IV fluids in a psychiatric ward and by inference, it wasn't necessary to transfer to a medical ward, over the weekend.[7]

14. In answer to further written questions from the Court, Assoc Professor McFarlane advised that where pathology is carried out after hours in respect of a patient who is deemed unwell, it is the responsibility of the medical officer to, *'handover the need for these results to be followed up to after-hours covering staff.'*

15. In cases where the pathology ordered is routine in the absence of a clinical suspicion of illness, *'these tests would generally be reviewed by the requesting medical practitioner on the next available day.'*[8]

Finding

The fact that Nola Moxon, an involuntary patient at Baringa Ward, Caulfield Hospital, was not clinically reviewed following blood tests taken on Friday 30 January 2009 and 31 January 2009, was not put in dispute.

I am satisfied that Mrs Moxon presented on admission in an extremely poor psychiatric condition, which was complicated by her dehydration and renal impairment, of undiagnosed cause. These possibilities were identified (on admission), with appropriate tests ordered at that time.

I further find that in these circumstances there should have been a handover on the Friday evening to clinical staff, rather than just the leaving of nursing staff to respond to any change in her clinical picture, as they may observe and consider necessary.

Specifically I find that Associate Professor McFarlane should have either referred her to a medical ward over the weekend or handed over any of her issues identified by him for the benefit of incoming clinical staff, this to better assist in any response to either the deterioration in her presentation, or the adverse results received from said testing.

---

[7] See statement of Assoc Prof McFarlane at exhibit 3(b).

[8] See second statement of Assoc Professor McFarlane at exhibit 3c, page 1.

It was accepted that these tests revealed that she had a deteriorating renal function and dehydration, to a serious degree.

I am satisfied then that the failure of on duty staff to respond to her deterioration and to the incoming blood results, which occurred because of a handover systems error, took from Mrs Moxon and her family the opportunity for her to receive a medical response, which may have saved her life.[9]

Comment

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

Dr Ronald Leong, testified as to the measures taken at Caulfield Hospital to improve clinical handover practise following the death of Mrs Nola Moxon.[10] He described these measures as significant. He further described that clinicians had adopted the improved handover procedures and guidelines across all Alfred Health facilities.

Improvements were initiated in early 2013 with the focus on handover to doctors covering the hospital after hours.

From this time Ward handover has been formalised and has involved improved documentation with medical staff on each ward to meet with nursing staff to indicate the patients on their ward that require after hours medical review.

The names of these patients are also now recorded on the ward stations white board and the identification only removed once the HMO review and response to the review, has been recorded.

Such handover reviews are to occur Monday to Thursday at 5 pm and on Friday at 4.45 pm with this review to include patients requiring review over the weekend.

Similarly Dr to Dr medical handovers have also been formalised with meetings between incoming and outgoing responsible ward HMO's to take place at stipulated times throughout the day, commencing at 8.45 am and finishing at 9 pm each day.

---

[9] See Associate Professor McFarlanes evidence from transcript page 5 and the Apology to Nola Moxon by the Caulfield Hospital at exhibit 2.

'Unfortunately, although such blood tests were available to medical staff, due to systemic deficiencies in the handover process, their significance was not appreciated and an opportunity to treat Nola's dehydration and prevent her tragic death was lost.'

[10] Dr Ronald Leong is a Consultant Geriatrician at the Caulfield Hospital. See his statement at exhibit 7 and transcript from page 136-67.

Further direction was given by the requirement that receiving HMO's should not take leave on Friday afternoon's unless they are prepared to take telephone handover's at that time.

Certain other direction from this protocol establishes the mode of recording during handover, the ISBAR method, and the duty of the receiving HMO to ensure that all tasks are completed appropriately, or otherwise handed over to another HMO.[11]

The changes instituted by Alfred Health based upon the work of Dr Leong, are indeed significant and give promise of an improved and more efficient clinical service.

During the course of my investigation evidence was given concerning the use of Electro-convulsive therapy.

As set out above Mrs Moxon was taken to the ECT Unit on Monday 2 September 2009, where she was noted as appearing, '*anxious and shaky*,' following which she went into cardiac arrest and later died.

Prior to this, various tests were undertaken to seek to ensure that this 77 year old woman with concurrent illness, which included tachycardia, was well enough to undergo the ECT procedure. These included renal health testing and more generally testing and observations around her dehydration.

In (a most helpful) discussion with Dr Leong, the notion that the primary pre procedure review of such a patient by an anaesthetist should occur after the patient is scheduled for ECT and transferred to the ECT unit, was raised and received his measured support. Dr Leong further agreed that such an assessment might occur prior to the arrival of the patient within the ECT unit. The difficulty according to Dr Leong would be to establish the degree of expertise needed to assess the fitness of any particular candidate for ECT treatment.

In this matter, the concurrent illness suffered by Mrs Moxon was never identified and therefore Mrs Moxon was taken to the ECT unit without an appropriate assessment of her co morbidities having been undertaken.[12] (This omission occurred in error).

---

[11] See attachment to exhibit 7.

[12] I have reviewed the Electroconvulsive therapy manual, Exhibit 7 (a), which establishes clinical guidelines for the use of ECT in Victorian Hospitals. I note that the responsibility for review is not specifically given to an anaesthetist, and that rather that the responsibility of the Dr or Psychiatrist administering or supervising ECT, is to ensure that the patient has been appropriately assessed before the procedure is commenced.

I also note that at paragraph 4.1.11, the manual stipulates that concurrent medical illness should be evaluated by appropriate medical personnel and that ECT may need to be modified in the case of concurrent illness.

However, deterioration of the kind that occurred in this case can occur quickly, even when properly identified and managed.

It is also relevant that particular difficulties in regard to the diagnosis of medical co morbidities in the mentally ill, are common place; specifically patients prescribed ECT are usually in a deteriorating mental state, which will invariably be accompanied by poor perception and poor communication. In other words, patients like Mrs Moxon, can't speak for themselves.

I am mindful of the need to ensure that the expert skills of specialist anaesthetists continue to be employed in the most cost effective manner available. I am also aware of the focus of anaesthetists on the physical preparedness of patients to undergo any particular surgical procedure.

There is however in my view a need for additional back up for this particular grouping of mentally ill patients, which is over and above the support that they are entitled to receive from specialist medical personnel.

To ensure then that appropriate cover is provided to all ECT patients following their specialist assessments and the scheduling of an ECT procedure, I make the following recommendations.

Recommendation

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

1) Having considered the evidence given in this inquest I recommend that in all cases where the provision of ECT is scheduled at Caulfield Hospital, that a duty anaesthetist examines and reviews the fitness of the patient to undergo the procedure, at least 24 to 72 hours prior to the scheduled commencement of same.[13]

2) If it is not already the case I would recommend that a checklist should be established to support this procedure.

I further note that it is also the case that neither of these separate evaluations had occurred before Mrs Moxon arrived in the unit, and went into cardiac arrest.

[13] Compliance with the ECT manual should mean that concurrent illness is appropriately evaluated prior to the scheduling of an ECT procedure, taking place. Following the scheduling of a procedure an anaesthetist will also have the responsibility to assess fitness to undertake the procedure.

I am unaware of the availability of anaesthetist's at Caulfield Hospital. However, I would expect that qualified personnel would be available within any 3 day period, to undertake the appropriate fitness for ECT evaluation, (i.e following the scheduling of a procedure).

3) I further recommend that the on duty anaesthetist (again) examines and confirms the patient's fitness to undertake the procedure, on the morning of the scheduled commencement of same.[14]

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

The Family of Nola Moxon

The Chief Psychiatrist in the State of Victoria

The Chief Executive, Caulfield Hospital

Associate Professor Stephen McFarlane

Signature:

PETER WHITE
CORONER
Date: 12 September 2014

[14] I would expect the on duty anaesthetist would wish to review all scheduled patients awaiting ECT on the morning of the procedure, before the schedule for procedures to be carried out on that particular day is finalised.