IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2008 000483

FINDING INTO DEATH WITH INQUEST

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

Inquest into the death of GRAZIA GIOSSERANO

Delivered on:	17 April 2014
Delivered at:	Coroners Court of Victoria Level 11, 222 Exhibition Street Melbourne, Victoria
Hearing dates:	11, 12 February 2013
Findings of:	Coroner Paresa Antoniadis SPANOS
Representation:	Ms Debra FOY of Counsel, instructed by Monash[1] Health's Corporate Counsel, represented Monash Health/Dandenong Hospital. Ms Jacinta FORBES of Counsel, instructed by Monash Health's Corporate Counsel, represented Dr Hwee Min LEE
Police Coronial Support Unit Assisting the Coroner:	Leading Senior Constable Ross TREVERTON.

[1] Formerly Southern Health.

I, PARESA ANTONIADIS SPANOS, Coroner,

having investigated the death of GRAZIA GIOSSERANO

and having held an inquest in relation to this death on 11 and 12 February 2013 at MELBOURNE

find that the identity of the deceased was GRAZIA GIOSSERANO

born on 8 May 1946, aged 61

and that the death occurred on 1 February 2008

at Dandenong Hospital, David Street, Dandenong Victoria 3175

from:

1 (a) ACUTE RENAL FAILURE AND DEHYDRATION IN THE SETTING OF CIRRHOSIS (SECONDARY TO HEPATITIS C), RIB FRACTURES AND SOFT TISSUE DAMAGE SUSTAINED IN MOTOR VEHICLE COLLISION (PASSENGER)

in the following circumstances:

BACKGROUND AND PERSONAL CIRCUMSTANCES

1. Mrs Giosserano was a 61-year-old married woman who resided with her husband Marius Giosserano in Hampton Park. She had a significant past medical history that included hepatitis C, liver cirrhosis, gallstones/pancreatitis and osteoporosis. Mrs Giosserano's main ongoing medical problem was her liver disease, which was being managed on an outpatient basis at the Austin Hospital. She was otherwise reasonably active, walked regularly and was independent with all daily living activities.

THE MOTOR VEHICLE COLLISION ON 29 JANUARY 2008

2. On the morning of 29 January 2008, Mrs Giosserano was a front seat passenger in a vehicle being driven by her husband along the Princes Highway, Narre Warren. According to eyewitness accounts, Mr Giosserano turned right against a "no right turn" sign and collided with a 4WD vehicle travelling in the opposite direction. The impact points were the front and passenger sides of Mr Giosserano's vehicle. Witness estimates of the other vehicle's speed immediately prior to impact were between 70-80kph.
3. Mrs Giosserano was wearing a seat belt at the time of the collision and did not strike her head, or suffer any loss of consciousness. The driver side air bag deployed, providing some protection to Mr Giosserano. At the scene, Mrs Giosserano was assisted out of the vehicle, but was able to walk around. Ambulance paramedics fitted Mrs Giosserano with a cervical collar, and noted her complaints of left knee and left shoulder pain. However, as she was able to weight bear, the impression of the paramedics was of soft tissue injuries. They

transported both Mrs Giosserano and her husband to Dandenong Hospital, arriving at about midday.

DANDENONG HOSPITAL EMERGENCY DEPARTMENT – 29 JANUARY 2008

4. Dr Hwee Min Lee was the doctor responsible for clinical management and care provided to Mrs Giosserano, while she was in the Dandenong Hospital Emergency Department (ED) on 29 January 2008. Dr Lee took a history from Mrs Giosserano, conducted a physical examination, ordered investigations, and ultimately discharged her home with her family.

5. This episode of care will be discussed in some detail below.[2] Suffice to say for present purposes that Dr Lee diagnosed a fractured left clavicle and fractured left rib/s, provided Tramadol and Ibuprofen by way of analgesia, instructed her in the performance of breathing and coughing exercises, advised her to see her regular general practitioner (GP) in two days time, and to return to the ED if she deteriorated.

HOME VISIT BY DR ROTH – 31 JANUARY 2008

6. Mrs Giosserano did not attend her regular GP, as advised, but at the family's request, Dr Ronald George Roth conducted a home visit at 7.15pm on 31 January 2008. Although not her regular GP, Dr Roth had treated Mrs Giosserano in the past, and had some familiarity with her medical history. In particular, he was aware that she had liver cirrhosis.

7. Mrs Giosserano complained of significant pain, consistent with the fractures sustained in the recent motor vehicle collision. On examination, he found the lung fields were clear, and the areas over the left clavicle and left chest wall were tender to light palpation. Dr Roth advised deep breathing exercises and regular ambulation (to reduce the risk of pneumonia) and advised her to take the Tramadol for pain relief (but not the Ibuprofen), and to seek further review of analgesia if necessary.[3]

DANDENONG HOSPITAL EMERGENCY DEPARTMENT – 1 FEBRUARY 2008

8. The following day, Friday 1 February 2008, at about midday, Mrs Giosserano did not feel well and asked her husband to take her to hospital. By about 2.00pm she said she 'suddenly

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[2] See paragraphs 22 and following below.

[3] See paragraph 37 below.

had severe pain on her right side that was getting worse and worse'.[4] He called 000 and ambulance paramedics arrived a short time later.[5]

9. The paramedics documented a history of sudden onset of stabbing epigastric pain that was not radiating. They found Mrs Giosserano sitting in the lounge room, conscious, drowsy and jaundiced. She told them that she had minimal fluid intake, and had been taking Lasix, a diuretic and one of her regular medications. On examination, she had dry mucosa, her blood pressure was unrecordable and her radial pulse was 92, weak but regular.[6]

10. Mrs Giosserano was again taken to the Dandenong Hospital ED. On admission, she complained of epigastric pain, had signs of dehydration and her blood pressure could not be recorded. Investigations revealed anaemia and impaired renal function, and examination demonstrated a flail chest segment on the left side. According to the medical deposition, differential diagnoses entertained by the treating team, were gastrointestinal haemorrhage, thoracic aortic dissection and haemothorax. Despite attempts at resuscitation, Mrs Giosserano died at 6.15pm, about two hours after her re-presentation to the ED.

PURPOSE OF A CORONIAL INVESTIGATION

11. As her death appears to have *resulted indirectly from accident or injury*, Mrs Giosserano's death satisfies the definition of a reportable death in section 4 of the ***Coroners Act 2008.***[7]

12. The purpose of a coronial investigation of any reportable death is to ascertain, if possible, the identity of the deceased person, the cause of death and the circumstances in which death occurred.[8] The *cause* of death refers to the *medical* cause of death, incorporating where possible the *mode* or *mechanism* of death. For coronial purposes, the *circumstances* in which death occurred refers to the context or background and surrounding circumstances, but is

[4] Exhibit "A" is Mr Giosserano's statement dated 26 February 2009. It is uncontentious that Mrs Giosserano's pain had been predominantly left-sided before this complaint, consistent with fractures of her left clavicle (collarbone) and rib/s.

[5] Mr Giosserano recalled the ambulance arriving within 5 minutes of his call – Exhibit "A". According to Ambulance Victoria records, the call was received at 14:49, dispatched at 14:51, en route at 14:53, at scene/patient at 15:05, loaded at 15:25 and at destination at 15:44 – page 71 of Exhibit "N".

[6] Pages 68-70 of Exhibit "N".

[7] The ***Coroners Act 2008,*** like its predecessor the ***Coroners Act 1985***, requires certain deaths to be reported to the coroner for investigation. Apart from a jurisdictional nexus with the State of Victoria, generally, a reportable death is one that appears *"to have been unexpected, unnatural or violent or to have resulted, directly or indirectly, from accident or injury"* – see section 4 of the Act.

[8] Section 67(1) of the ***Coroners Act 2008.*** All references to legislation which follow are to the provisions of this Act, unless otherwise stipulated.

confined to those circumstances sufficiently proximate and causally relevant to the death, and not merely all circumstances which might form part of a narrative culminating in death.[9]

13. The broader purpose of any coronial investigations is to contribute to the reduction of the number of preventable deaths through the findings of the investigation and the making of recommendations by coroners, generally referred to as the prevention role.[10]

14. Coroners are also empowered to report to the Attorney-General in relation to a death; to comment (at large) on any matter connected with the death they have investigated, including matters of public health or safety and the administration of justice; and to make recommendations to any Minister or public statutory authority on any matter connected with the death, including public health or safety or the administration of justice.[11] These are effectively the vehicles by which the prevention role is advanced.[12]

SOURCES OF EVIDENCE/INVESTIGATION

15. This finding draws on the totality of the material the product of the coronial investigation of Mrs Giosserano's death. That is, the investigation and inquest brief compiled by Sergeant Tracey Weir, then from the Police Coronial Support Unit, and the statements, reports and testimony of those witnesses who testified at inquest, and any documents tendered through them. All this material, together with the inquest transcript, will remain on the coronial file. In writing this finding, I do not purport to summarise all evidence, but refer to it only in such detail as appears warranted by its forensic significance and the interests of narrative clarity.

FINDINGS AS TO UNCONTENTIOUS MATTERS

16. In relation to Mrs Giosserano's death, most of the matters I am required to ascertain, if possible, were uncontentious from the outset. Her identity, the date and place were never at issue. <u>I find, as a matter of formality, that Grazia Giosserano born on 8 May 1946, late of 4 Bunya Place, Hampton Park, Victoria 3976, died at Dandenong Hospital, David Street, Dandenong, Victoria 3175 on 1 February 2008.</u>

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[9] This is the effect of the authorities – see for example *Harmsworth* v *The State Coroner* [1989] VR 989; *Clancy* v *West* (Unreported 17/08/1994, Supreme Court of Victoria, Harper J).

[10] The 'prevention' role is now explicitly articulated in the Preamble and purposes of the Act, cf: the *Coroners Act 1985* where this role was generally accepted as 'implicit'.

[11] See sections 72(1), 67(3) and 72(2) regarding reports, comments and recommendations respectively.

[12] See also sections 73(1) and 72(5) which requires publication of coronial findings, comments and recommendations and responses respectively; section 72(3) and (4) which oblige the recipient of a coronial recommendation to respond within three months, specifying a statement of action which has or will be taken in relation to the recommendation.

17. The medical cause of death was somewhat problematic, but ultimately uncontentious. Senior Forensic Pathologist Dr Matthew Lynch from the Victorian Institute of Forensic Medicine (VIFM), performed an autopsy, reviewed the medical records and medical deposition from Dandenong Hospital and post-mortem CT scanning of the whole body (PMCT) and, initially advised that the cause of death remained undetermined, despite full post-mortem examination or autopsy and ancillary investigations.

18. Dr Lynch's autopsy findings included fractured left second to ninth ribs laterally, fractured sternum (chest bone)[13] with no significant haemothorax (blood in the chest), and fractured left clavicle (collar bone). He commented that Mrs Giosserano's cause of death *might* reasonably be formulated as *acute renal failure and dehydration in the setting of cirrhosis (secondary to hepatitis C) and rib fractures and soft tissue damage sustained in motor vehicle collision (passenger).*[14] In a subsequent Supplementary Report dated 12 March 2010, Dr Lynch advised that it would be reasonable to attribute Mrs Giosserano's death to the above cause.

19. At inquest, he explained his choice of the narrative style of formulation of the cause of death in the following terms – *"...because there's significant pre-existing natural disease and then superimposed upon that is some traumatic event, and then there's an elapse of a period of time...that's why I've chosen the words fairly carefully...so I would be artificial to extract any of those particular features and say, well, this is it, when obviously when there is a desire to say apportion contribution to those individual elements..."*[15]

20. Dr Lynch also testified that he could not say whether Mrs Giosserano's co-morbidities were such that she might have died regardless of the injuries sustained in the motor vehicle collision – *"...there is this pre-existing disease; there is this vulnerability for her health to deteriorate rapidly, but then there is this traumatic event which insinuates itself in amongst her pre-existing conditions and, in my view, they belong together as being part of the story of why she ultimately died. In terms of ... apportioning contribution [to her liver disease etc.,] I think that's artificial and even in a clinical setting ... these things would be addressed by the clinicians in toto, they would be trying to address everything at the same time ..."*[16]

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[13] The possibility, indeed likelihood that some rib fractures and the fractured sternum, represented attempts at CPR was conceded by Dr Lynch – see transcript pages 59-60.

[14] Exhibit "D" is comprised of Dr Lynch's autopsy report, supplementary report and ante-mortem and post-mortem toxicology reports.

[15] Transcript pages 51 and following.

[16] Transcript page 62.

21. Based on all the available evidence,[17] but primarily on Dr Lynch's reports and evidence at inquest, I find that Mrs Giosserano died from a combination of underlying natural disease and the injuries sustained when she was a passenger in a vehicle driven by her husband on 29 January 2008 when it was involved in a head on collision. The evidence does not allow me to be satisfied as to the precise contribution of each element, nor to determine the precise causal sequence between elements of the formulation. The evidence does support a finding that Mrs Giosserano's liver disease had been stable for a significant period of time, and she was not otherwise acutely unwell before the motor vehicle collision.

22. Based on the totality of the evidence available to me, I find that the medical cause of Mrs Giosserano's death is acute renal failure and dehydration in the setting of cirrhosis (secondary to hepatitis C) and rib fractures and soft tissue damage sustained in motor vehicle collision (passenger).

FOCUS OF THE CORONIAL INVESTIGATION

23. In correspondence with the Court, the family's paramount criticism was of the failure to admit Mrs Giosserano to hospital for a period of observation/treatment given her known liver disease and propensity to bleed. The family also expressed concern about the failure to liaise with her treating clinicians at the Austin and obtain a fuller history of her liver disease, and/or failure to transfer her to the Austin for treatment of her traumatic injuries.[18]

24. The first issue was also identified by Coroner Dr Jane Hendtlass at a Directions Hearing on 19 April 2012. Finalisation of the investigation of Mrs Giosserano's death was re-allocated in light of the impending retirement of Coroner Hendtlass.

25. The focus of my investigation of Mrs Giosserano's death, including the inquest, was on the overall adequacy of clinical management and care provided to her in the Dandenong Hospital Emergency Department, immediately following the motor vehicle collision, with a particular focus on the decision to discharge her home, and the failure to diagnose a flail chest segment.[19]

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[17] Also of relevance is the evidence of the treating clinicians as to the risk of bleeding, Dr Buchanan's evidence about the particular risk of bleeding in a coagulopathic patient with rib fractures (see paragraphs 43 and following), and the evidence of radiologists Dr Troupis and Dr O'Donnell which will be discussed below from paragraph 46.

[18] Conveniently encapsulated in the statement of Mr Guiseppe Corporente, Exhibit "C".

[19] See discussion at commencement of inquest from transcript pages 7 and following.

EVENTS OCCURRING IN THE EMERGENCY DEPARTMENT ON 28 JANUARY 2008

26. Dr Hwan Min Lee was the doctor who treated Mrs Giosserano in the Dandenong Hospital ED on 29 January 2008. At the time, she was an advanced trainee of the Australasian College of Emergency Medicine. By the time of the inquest, she was a Fellow of the Australasian College of Emergency Medicine having sat her fellowship examinations in May 2012, and was employed as a Consultant Emergency Physician in a hospital in Galway, Ireland.[20]

27. Dr Lee provided a detailed statement of her assessment of Mrs Giosserano including history taking, investigations, diagnosis and treatment plan.[21] She understood that Mrs Giosserano had been helped out of the vehicle after the collision, was able to walk around and did not suffer a head strike or lose consciousness. Mrs Giosserano gave a medical history of osteoporosis, and cirrhosis of the liver managed by Gastroenterologist Dr Angus at the Austin Hospital. Her regular medications were Vitamin K, Aldactone and Losec.[22]

28. On examination, Dr Lee found that Mrs Giosserano had a cervical collar on, was alert, haemodynamically stable, able to speak in sentences, had good oxygen saturations and was not using any accessory muscles to breathe. Her chest was clear, but tender on springing of the ribs and/or the left chest, her left clavicle was tender at the midpoint with some bruising over that area, her sternum was not tender, but she had some mild midline tenderness over her cervical spine (at C4-C5). Dr Lee's clinical impression at that stage was that Mrs Giosserano had fractured some ribs on the left, may have fractured her left clavicle, and that there was a possibility of a cervical spine fracture that had to be excluded.[23]

29. Dr Lee organised X-rays of the chest, clavicle and cervical spine. A radiologist's report of the X-rays was not available until the following day.[24] As a result, in accordance with usual ED practice, Dr Lee viewed the X-rays herself in the ED. She also sought the opinion of the on duty Consultant Dr Igor Tulchinsky. There were no apparent cervical spine fractures, confirmation of a left clavicle fracture, and at least one left rib fracture. Dr Lee thought it was the first rib, while Dr Tulchinsky thought it was the second.[25]

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[20] Transcript page 68 and Exhibit "F" Resume of Dr Hwee Min Lee as at December 2012.

[21] Exhibit "E" Dr Lee's statement dated 9 February 2009.

[22] Exhibit "E" page 1.

[23] Exhibit "E" page 2.

[24] Exhibit "L" was the statement of Consultant Radiologist Dr John Mikey Troupis dated 29 February 2012 discussed at paragraph 52 below.

[25] Exhibit "E" page 2 and transcript page 81. Exhibit "G" Dr Igor Tulchinsky's statement dated 15 December 2010.

30. It was uncontentious at inquest that this discrepancy was not material to the formulation of a treatment plan. Similarly uncontentious, was Dr Lee's evidence that rib fractures are difficult to diagnose on X-ray, and that the main purpose of X-ray imaging is to exclude the known complications of rib fractures, such as haemothorax and pneumothorax.[26] No such complications were apparent to either Dr Lee or Dr Tulchinsky at the time.[27]

31. On 29 January 2008, Dr Lee also accessed Monash Health (then Southern Health) liver function test results from January 2006 that confirmed the history of cirrhosis, which was not severe or decompensated at that time. Dr Lee also ordered blood tests that showed essentially normal renal function, a slightly low platelet count and slightly elevated INR and APTT, all consistent with cirrhosis with some degree of liver failure, as well as carrying a slightly increased risk of bleeding.[28]

32. With a fractured clavicle and a high suspicion of some fractured ribs, Dr Lee did not expect Mrs Giosserano to be entirely pain free.[29] Her plan was to provide sufficient analgesia so that Mrs Giosserano could do deep breathing and coughing exercises as instructed to minimise the risk of pneumonia, and could take a few steps unaided, so she could cope at home. Although aware of the family's reluctance for discharge home, Dr Lee felt that it arose from an apprehension that Mrs Giosserano was still in pain at that time, and waned once she responded to the administration of Tramadol 100g in the ED. Dr Lee felt that the family were then accepting of the decision to discharge Mrs Giosserano home with her husband.[30]

33. At about 6.20pm, after a stay of some 6 hours in the ED, Mrs Giosserano was discharged home with a broad sling for her fractured collarbone, analgesia in the form of Tramadol 50mg and Ibuprofen 400mg, three times a day.

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[26] Dr Lee at transcript page 72 – *"So rib fractures are usually quite difficult to diagnose on a chest X-ray, they can be very, very subtle, and so doing a chest X-ray is to actually look for any complications of rib fractures, so things like pneumothorax which is air on the outside of the lung, between the chest wall and the lung, or any effusion or – which is fluid, or blood collection outside. If you do see rib fractures, that's good, you can diagnose how many, what sites, whether they were displaced, but if I hadn't seen any rib fractures, the fact that I examined her and she was tender, I was clinically happy to say that she did have some rib fractures on that side."* Dr Tulchinsky at transcript page 92 – *"It wasn't a very good inspiratory film but then I would expect somebody who has got potentially broken ribs wouldn't be able to take a very good breath to give you a very good inspiratory film like you and I, but it was adequate for what it is I wanted to see which was the underlying lung and mediastinal structure; it wasn't particularly good for ribs but then chest X-rays never are."*

[27] Transcript pages 72 and 93.

[28] Transcript pages 69-70.

[29] Transcript page 76.

[30] Exhibit "E" page 2, transcript page 74 and following.

34. At inquest, Dr Lee explained that in prescribing analgesia, she took into account Mrs Giosserano's underlying liver disease (by prescribing Tramadol 50mg instead of 100mg), as well as the level of her pain. When challenged about the suitability of Ibuprofen, Dr Lee testified that the short-term use of Ibuprofen is relatively safe for a patient with cirrhosis, that the risk of gastritis or gastric ulcers only arises with long-term use, and that any risk had to be balanced against the risk that unrelieved pain would prevent her from being able to move her lungs by breathing deeply and coughing.

35. At discharge, Dr Lee advised Mrs Giosserano to see her regular treating doctor in two days time, and to return to the ED if she became unwell. Dr Lee provided a handwritten letter by way of discharge summary asking the GP to review the adequacy of analgesia and her breathing. On the reverse of this document were brief handwritten instructions about the breathing and coughing exercises that Dr Lee instructed Mrs Giosserano to do five times a day. Dr Lee testified that she demonstrated these exercises to Mrs Giosserano, as well as providing a written instructions.[31]

36. Dr Lee was questioned at inquest about the rationale for discharge over admission. She felt that so long as Mrs Giosserano was sufficiently pain free to undertake the exercises and able to walk a few steps at a time unaided, she was suitable for discharge home. Even with the benefit of more experience and hindsight, and having reflected on the case since, Dr Lee maintained that it was appropriate to discharge Mrs Giosserano and would do so again in similar circumstances – *"I was reflecting, if a junior Registrar came to me with this same patient taking into account her clinical state and her pain control, I would still allow her to go home with the same advice about breathing and coughing, analgesia, following up with her GP and if she was to deteriorate at any time, to return to the emergency department..."*[32]

WAS DISCHARGE APPROPRIATE?

37. As already mentioned, the evidence of Mr Corporente and Mr Guisserano was that they were never satisfied with the decision to discharge Mrs Giosserano home. They maintained that her underlying liver disease carried a higher than normal risk of bleeding, and that an admission was warranted on this basis. They also advised that Mrs Giosserano continued to

[31] Exhibit "M" page 3, transcript page 75.

[32] Transcript page 85. Dr Lee did concede that she may have prescribed different analgesia. Transcript page 86 – *"Now I would still choose short-term Nurofen at that dose, and I would actually even give her paracetamol at one gram, but at less frequent intervals and if she required more analgesia she could have Tramadol or even an oral opiate like Oxynorm, but at lower does obviously...[because of her cirrhosis]"*.

be in significant pain while she remained in the ED, that she did not demonstrate an ability to walk unaided while in the ED, and virtually had to be carried into her home by her son immediately after discharge. Once at home, she was virtually bedbound, ate very little and had to be pressed by her husband to ensure that she took enough fluids.[33]

38. That said, the family did not seek further medical attention until the evening of Thursday 31 January 2008, when it appears they called Dr Roth in a locum capacity to see Mrs Giosserano at home, apparently in lieu of attending their regular GP, as advised by Dr Lee.

39. According to Dr Roth,[34] Mrs Giosserano was still in pain, with the area over the left clavicle and left chest wall being tender to light palpation, consistent with the history, but otherwise was well enough, with a clear chest. He advised against taking the Brufen because of her liver cirrhosis, and advised that if the Tramadol was not providing adequate pain relief, she should seek another review of analgesia. Dr Roth advised deep breathing exercises and regular ambulation, and *"expected that she would be better able to do these things if her analgesia was adequate."*[35] Based on the information provided to him during the house call on 31 January 2008, and his assessment of Mrs Giosserano, there was nothing to suggest that a deterioration in her condition was likely.[36]

40. Dr Igor Tulchinsky was the Emergency Physician consulted by Dr Lee on the afternoon of 29 January 2008. Coincidentally, he was also the doctor who treated Mr Giosserano's injuries.[37] He recalled two discussions with Dr Lee about Mrs Giosserano; the first involving interpretation of the X-rays and, as to disposition, an indication from him that her ability to cope with the pain should be determined after removal of the cervical collar, and a trial of mobilisation.

41. During the second discussion that occurred a short time later, Dr Lee advised him that Mrs Giosserano was not for discharge, and would be referred to the surgical team for admission, which was in accordance with the family's wishes.[38] Dr Lee did not recall a discussion with

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[33] Exhibits "A", "B" and "C" and transcript pages 13 and following for Mr Giosserano's evidence and pages 28 and following.

[34] Dr Roth's statement dated 5 June 2009 is at pages 36-37 of the coronial brief, Exhibit "N". I note that Dr Roth had last seen Mrs Giosserano on 25 November 1995, and she was last seen by another doctor at his practice, on 28 September 2003.

[35] Dr Roth's statement in Exhibit "N". The history obtained by Dr Roth included that Mrs Giosserano had not been taking the medication that had been given to her when she was discharged. This is contradicted by Mr Giosserano's evidence that she had been taking them as prescribed (Exhibit "A").

[36] Dr Roth's statement in Exhibit "N".

[37] Transcript page 91.

[38] Exhibit "G".

Dr Tulchinsky along these lines, and suggested that if such a discussion had taken place, it was more likely to have been some time before discharge, perhaps around 4.00pm, before Mrs Giosserano's pain had responded to the administration of Tramadol 1000mg.[39]

42. Dr Tulchinsky did not assess Mrs Giosserano himself. However, he expressed the opinion that if X-rays had demonstrated multiple rib fractures, management would *"most likely have been definite admission...but that's a clinical decision, people with broken multiple ribs aren't able to breathe properly and are unable to walk; you should be able to assess that clinically."* While therefore deferring to Dr Lee's clinical assessment of the patient, he was critical of her ultimate decision to discharge, testifying that he would have been very hesitant to discharge her, not because of the rib or clavicle fractures, but based on her past medical history and the fact that she was coagulopathic.[40]

43. Another assessment of Dr Lee's decision to discharge Mrs Giosserano was provided by Emergency Physician Dr Mary Buchanan, Director of Dandenong Emergency Department. This was an assessment based on the medical records and made with full knowledge of the fatal outcome. In her statement, Dr Buchanan expressed the opinion that Dr Lee's decision to discharge Mrs Giosserano *"... irrespective of the normal observations, ability to walk, and pain control, did not take into account the other important clinical and potential risk factors. This would include her past medical history of cirrhosis, hepatic impairment and coagulopathy, the nature of that trauma and potential for complications with fractured clavicle and upper rib fractures, and also appropriate analgesia and pain management in light of her medical history. Further consideration to admission and other investigations would have been appropriate."*[41]

44. At inquest, Dr Buchanan agreed that the notes made by Dr Lee in the medical record were clear and comprehensive, but did not disclose her rationale as such, or the process by which she had evaluated Mrs Giosserano as suitable for discharge. Having heard both Dr Lee and Dr Tulchinsky's evidence before testifying herself, Dr Buchanan shared Dr Tulchinsky reluctance to discharge a coagulopathic patient like Mrs Giosserano, simply because of the risk of internal bleeding.[42]

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[39] Transcript pages 79 and 84.

[40] Transcript pages 97 and 99.

[41] Exhibit "H" is Dr Buchanan's report dated 13 January 2009.

[42] Dr Buchanan's evidence on this point is at transcript page 111-112, and formed the basis of the concession made by Ms Foy at the commencement of the inquest at transcript page 9 – *"I think it's proper that I make it formally known to the court that Southern Health has indicated that it concedes that Mrs Giosserano should have been admitted on the night of the 29th, however, of course, it's not possible to predict her course since that time and we don't know what*

45. Although Dr Buchanan would have supported a decision to admit Mrs Giosserano to hospital on 29 January 2008, she could not say how long an admission would have been appropriate or, whether admission would have changed the outcome. *"I couldn't say definitely she would have been discharged [in about 24 hours] but if she was stable and the pain was under control and there was no evidence of any internal bleeding, she may well have been discharged."*[43] Based on Dr Roth's assessment of Mrs Giosserano the evening before her second presentation to the ED on 1 February 2008, Dr Buchanan agreed that her clinical deterioration was in all likelihood rapid, and likely involved significant internal haemorrhage. The source or site of such a haemorrhage was not convincingly ascertained clinically, nor was it found at autopsy, but some possibilities were canvassed at inquest.[44]

RADIOLOGIST'S EVIDENCE

46. It was apparent that Mrs Giosserano had a flail chest segment[45] on re-presentation to the ED on 1 February 2008, prior to any resuscitative efforts. A number of witnesses testified that a flail chest is diagnosed clinically by observation of paradoxical breathing, and requires multiple (two or more) fractures of adjacent multiple (two or more) ribs. Implicit in the evidence was the proposition that the greater the number of fractures and/or fractured ribs diagnosed, the higher the suspicion or risk of a flail chest segment developing.[46] Dr Lee did not diagnose a flail chest clinically, and neither she nor Dr Tulchinsky interpreted the chest X-rays performed on 29 January 2008 as showing more than one rib fracture, which might have suggested the potential for a flail chest developing.[47]

47. It is not unusual for a radiologist's report of X-rays not to be available during a patient's episode of care, and for treating clinicians to rely on their own interpretation of X-rays for screening and diagnostic purposes.[48] The corollary of this state of affairs is that

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would have happened, given that there was a three day gapbetween the 29th and ... the afternoon of the 1st, which was the\Friday afternoon which , of course, makes Dr Roth's evidence of some importance."

[43] Transcript page 107.

[44] Transcript pages 112 and following. See also Dr Lynch's evidence transcript pages 53 and following regarding the possibility of haematemesis and bleeding varices contributing to blood loss sufficient to drop haemoglobin from "normal" at 120 on 29 January, to 70 on 1 February 2008.

[45] According to Mosby's Medical, Nursing and Allied Health Dictionary (4th edition) at page 622 "a thorax in which multiple rib fractures cause instability in part of the chest wall and paradoxical breathing, with the lung underlying the injured area contracting on inspiration and bulging on expiration. If uncorrected, hypoxia will result."

[46] Dr Lynch's evidence on this issue is at transcript page 50; Dr Lee's at transcript page 81; Dr O'Donnell's at pages 124, 131; Dr Troupis' at transcript page 164.

[47] Exhibits "E" and "G".

[48] This fact was not contentious, but see transcript pages 165-166 where the practice is confirmed by Dr Troupis.

interpretation of X-rays is a core competency of Emergency Physicians, albeit not to the same level as specialist radiologists.

48. Dr Buchanan advised that as official reports of X-rays might not be available prior to discharge, but were usually available within 24-48 hours, an audit system was in place to ensure follow-up of abnormal results. In cases of very significant findings, the reporting radiologist would contact the ED consultant in charge of the shift to ensure follow-up.

49. More routine reports were faxed to the ED where it is the responsibility of the ED consultant to follow-up all abnormal reports of discharged patients. The ED consultant does this by reconciling the report with the discharge diagnosis, and if necessary, follows up with the patient directly or with their general practitioner.[49] In relation to Mrs Giosserano, this audit process was of no practical effect, as Dr Troupis' reported findings were in keeping with the diagnosis and discharge plan.

50. The difficulty of diagnosing rib fractures on plain X-rays is amply described in the evidence of the two experienced Consultant Radiologists who testified at inquest.

51. Dr John Mikey Troupis from Monash Health (then Southern Health) was the Consultant Radiologist who reported the X-rays taken in the ED on 29 January 2008, the following day. Dr Troupis' three original reports were on the medical records and in the coronial brief.[50] Focusing on the chest X-ray, Dr Troupis reported that *"Lungs are clear, there is a left pleural apical density and the findings raise the suspicion of rib fractures involving the left second and third ribs posterolaterally. No definite pneumothorax."*

52. In a statement provided for coronial purposes, having reviewed the X-rays (and it must be said with the benefit of hindsight and the luxury of time), Dr Troupis confirmed these findings, the apparent absence of a pneumothorax or haemothorax, which he identified as the most common complications of rib fractures, and a further rib fracture involving the left sixth rib posteriorly, not mentioned in his earlier report. He also described a *"subtle irregularity of the fourth and fifth ribs which may reflect the subsequently diagnosed rib fractures which would require further imaging ... should there be the clinical need."*[51]

53. At inquest, he testified about the various difficulties in interpreting plain X-rays, in particular, making an accurate diagnosis of the number and precise location of rib fractures.

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[49] Exhibit "H".

[50] Exhibit "N" pages 44-46. Dr Troupis' report regarding the left clavicle dated 29/01/2008 16:26 hours includes the following *"Plain film series of the left shoulder confirms a moderately displaced left clavicular fracture, the shoulder joint appears satisfactory in alignment."* Dr Troupis report regarding the cervical spine dated 29/01/2008 16:26 hours is (to paraphrase) essentially normal with some degenerative changes and recommends further imaging for completeness, if clinically indicated.

[51] Exhibit "L".

Apart from the nature, extent and precise location of the particular fractures, and the limitations of the radiologist's eyesight, confounding factors identified by Dr Troupis were that plain X-rays are indiscriminate in terms of their sensitivity and pick up all the structures and vessels in the chest; exposure factors related to the patient's body size and parameters; and the radiologist's choice of penetration.[52]

54. On my understanding of his evidence at inquest, Dr Troupis conceded that the subtle irregularities of the fourth and fifth ribs noted in his report of the X-rays taken on 29 January 2008 may represent the fractures identified by Dr O'Donnell on the same X-rays, and subsequently by Dr Lynch at autopsy. Of significance to the potential for a flail chest, Dr Troupis maintained that the X-rays did not convincingly demonstrate dual or multiple fractures of the fourth and/or fifth ribs.[53] He did not concede that the X-rays revealed a fracture of the seventh rib (as identified by Dr O'Donnell), nor of the eighth and ninth ribs (as identified by Dr Lynch).[54]

55. Dr Chris O'Donnell is a Consultant Radiologist who was asked to provide an independent expert assessment of the X-rays of the 29 January 2008, and of the X-rays taken when Mrs Giosserano re-presented to the ED on 1 February 2008. To this end, he was provided with material from the coronial brief, notably the autopsy report with its reference to fractures of the left second to ninth ribs seen at autopsy, and flail chest diagnosed clinically on 1 February 2008.[55]

56. In his report of the X-rays taken on 29 January 2008, Dr O'Donnell identified markedly displaced fractures of the left second and third ribs as well as less markedly displaced fractures of the posterior and lateral left fourth, fifth and seventh ribs. Like Dr Troupis, he identified left apical pleural thickening. While also agreeing that plain X-rays are not optimal for diagnosing rib fractures, and that CT scanning is preferable, Dr O'Donnell expressed the opinion that the chest and shoulder X-rays show multiple left upper posterior and lateral rib fractures, two of which (ribs four and five), are suggestive of dual fractures along each rib. As to the significance of these findings, he advised that they can cause a flail segment that is prone to complications of poor lung ventilation.[56]

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[52] Transcript pages 156 and following, especially page 166.

[53] Transcript pages 158 and following, especially pages 161-162 and 171.

[54] Transcript page 172-3.

[55] Exhibit "D" and transcript pages 129-131, 139-141.

[56] Exhibit "J" is Dr O'Donnell's report and Exhibit "K" is a schematic of the ribs marked by Dr O'Donnell in the witness box to indicate the locations of the rib fractures he identified.

57. Although appearing significant on their face, at inquest, it became apparent that the differences between Dr O'Donnell's reported findings and those of Dr Troupis were ultimately nuanced, and less significant.

58. In response to questions from Ms Foy, Dr O'Donnell conceded that his use of language such as "suggestive of dual fractures along each rib" meant to convey his impression that that is the case and that without CT scanning he could not be certain. When Dr Troupis formulation of "subtle irregularities of the fourth and fifth ribs which may reflect the subsequently diagnosed rib fractures" was put to him squarely, Dr O'Donnell response was – *"I think what he is saying is the same as I'm saying, is that there are – the suspicion of fractures present. If you actually wanted to prove that they were present, you would need to do further investigation which would usually be CT scan."*[57]

59. Other aspects of Dr O'Donnell's evidence were entirely consistent with the evidence of the other medical practitioners who testified at inquest.

60. He agreed that the diagnosis of fractured ribs is made on clinical grounds and that X-rays are generally ordered to exclude common complications such as pneumothorax and haemothorax.[58] As to the need for CT scanning, he shared the view that this is not routinely performed simply to diagnose rib fractures, but would only be performed if there were a clinical need, such as instability in the patient, suggesting an underlying complication of rib fractures.[59] If visualised, multiple fractures on contiguous ribs would clearly need to be reported as they carried the <u>potential</u> for another known complication of rib fractures, namely flail chest.

61. Dr O'Donnell also agreed that flail chest is a diagnosis made clinically and, where it is present, can be seen by the naked eye on examination of the patient. As a condition that requires the observation of movement, X-rays (and even CT scans) are akin to a snapshot, which can, at best, only demonstrate the necessary pre-conditions for a flail chest, or the potential.[60]

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[57] Transcript pages 127 and following.

[58] Transcript page 124.

[59] Transcript pages 124-126.

[60] Transcript page 131 and following, especially 132.

CONCLUSIONS

62. The standard of proof for coronial findings of fact is the civil standard of proof, on the balance of probabilities, with the *Briginshaw* gloss or explication.[61] The effect of the authorities is that coroners should not make adverse findings against or comments about individuals or institutions involved in the clinical management or care of the deceased, unless the evidence provides a comfortable level of satisfaction that their negligence and/or departure from the generally accepted standards of their profession, caused or contributed to the death.[62]

63. Applying that standard to the evidence before me, I find that Mrs Giosserano did not have a flail chest on her first presentation to the ED on 29 January 2008. I also find that Dr Lee's management of Mrs Giosserano was not adversely affected by a failure to consult medical staff at the Austin Hospital regarding her medical history and known cirrhosis, in circumstances where she was treating traumatic injuries, and not taking over management of the liver cirrhosis.[63] The family's suggestion of a transfer to the Austin Hospital is not in accordance with the public health paradigm, where patients are transferred from one hospital to another only when required treatment is not available at the first hospital.[64]

64. The available evidence does not support a finding that there was any want of clinical management and care on the part of Dr Lee or the medical and nursing staff of Dandenong Hospital, that caused or contributed to Mrs Giosserano's death.

65. However, the available evidence does support a finding that optimal care of such a patient required an admission for pain management and for a period of observation, to guard against the possibility of occult bleeding. I am unable to determine whether or not Mrs Giosserano would have shown any signs or symptoms of clinical deterioration during this hypothetical admission to warrant further medical review, and/or whether earlier medical intervention could have saved her life, but the potential for a different outcome remains.

66. The evidence also supports a finding that the sternal fracture and some of the rib fractures identified at autopsy were likely caused or exacerbated by cardiopulmonary resuscitation

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[61] *Briginshaw v Briginshaw (1938) 60 C.L.R. 336 esp at 362-363.* "The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding, are considerations which must affect the answer to the question whether the issues had been proved to the reasonable satisfaction of the tribunal. In such matters "reasonable satisfaction" should not be produced by inexact proofs, indefinite testimony, or indirect inferences…"

[62] *Anderson v Blashki [1993] 2 VR 89 at 95; Secretary to the Department of Health & Community Service v Gurvich [1995] 2 VR 69 at 73-74; Re State Coroner; ex parte Minister for Health (2009) 261 ALR 152 at [21].*

[63] On this issue I accept the evidence of Drs Lee and Dr Tulchinsky that it was not necessary to do so – transcript pages 74 and 94.

[64] Transcript pages 102-103.

(CPR) undertaken on 1 February 2008, in order to save Mrs Giosserano's life. Apart from the sternal fracture, I am unable to determine which fractures were likely to have been caused or exacerbated by CPR. Obviously, an adverse comment is neither intended, nor to be inferred as in order to be effective, CPR requires the application of significant force, which depending on the body habitus of the individual patient, may result in fractures.[65]

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

The family of Mrs Giosserano

Dr Hwee Min Lee c/o Monash Health

Dandenong Hospital c/o Monash Health

Dr Ronald George Roth.

Signature:

PARESA ANTONIADIS SPANOS
CORONER
Date: **17 April 2014**

[65] This was uncontroversial – see transcript pages 49, 60, 98, 144, 172.