OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Kate Emma Dossetto**
TITLE OF COURT:	Coroner's Court
JURISDICTION:	Ipswich
FILE NO(s):	COR 3524/08
DELIVERED ON:	19 August 2010
DELIVERED AT:	Ipswich
HEARING DATE(s):	21 November 2008
FINDINGS OF:	DM MacCallum, Coroner
CATCHWORDS:	CORONERS: Inquest – sertraline toxicity
REPRESENTATION:	
Counsel Assisting:	Sgt K Carmont

1. On the 26 June 2008, Kate Emma Dossetto died at Riverview Gardens, Moggill Ferry Road, Riverview. She was located by staff of the residential facility in a chair in her bedroom.

2. Mrs Dossetto was born on 9 May 1922 and was 86 at the date of her death.

3. At the time of her death, Mrs Dossetto was on a substantial amount of medication as follows:

    Alepam – for anxiety
    Eleva – an antidepressant
    Uremide – a diuretic
    Kredex – for heart disease
    Transiderm nitro patches – for angina
    Acimax – for reflux and ulcers
    Gastrogel – an antacid
    Norspan patches – a narcotic analgesic
    Daktarin – an antifungal cream
    Rectinol – an anorectal cream
    PVA tears – eyedrops

4. Prior to her death Mrs Dossetto had a significant medical history which included:

    Heart attack (myocardial infarction)
    Cardiac failure
    Atrial fibrillation having been treated with a pacemaker in 1999
    Osteoporosis
    Osteoarthritis
    Reflux oesophagitis
    Hiatus hernia repair
    Urinary tract infection
    Anxiety/depression/confusion

5. An external only examination was performed by the pathologist due to family objections to an internal autopsy and initially Dr Milne was of the view that death has been as a consequence of ischaemic heart disease. However, upon receipt of the results of toxicology, a potentially fatal concentration of the antidepressant sertraline (Eleva) was found in the blood. Dr Milne was therefore unable to ascertain if that drug caused or contributed to the death.

6. In evidence at the inquest, Dr Milne stated that the fatal range of a drug is derived after a number of autopsies have been conducted where a particular substance has been known to have been consumed and ultimately it is possible to determine the fatal range based on those cases in which the substance has been demonstrated to be the cause of death. For this drug, the fatal range has been determined to be between 0.61mg/kg and 1.6mg/kg.

7. Dr Milne noted that the drug was found to be in the concentration of 1.7mg/kg and the metabolite of the drug in the concentration of 2.3mg/kg. For this reason he considered that the drug may have been the cause of or contributed to death.

8. Dr Milne expressed the view that the reason for the high concentration may have been the result of liver damage which causes the drug to be metabolised more slowly. He also stated that age can be the cause of slower metabolising of the drug or it may be that there has been an ingestion of more than the prescribed dose.

9. Mrs Dossetto's medical practitioner, Dr Ratnam had previously stated there did not appear to him to be any symptoms of drug toxicity when he last examined her. However, Dr Milne did not think that necessarily swayed him towards a finding of ischaemic heart disease because it is sometimes very difficult to determine symptoms in elderly patients who are not communicative and not substantially ambulatory.

10. Margaret Woolcock is an analyst in the employ of the Forensic Toxicology Laboratory in Brisbane and had analysed the blood sample taken at autopsy and had provided the certificate of analysis. Ms Woolcock however was unable to provide any assistance with the questions as to the effect of sertraline and the possible toxic consequences as this is an area outside of her expertise.

11. Subsequent to the adjournment of the inquest, a report was obtained from Associate Professor Arduino Mangoni. Professor Mangoni is an associate professor and senior consultant in clinical pharmacology and general medicine at Flinders University and Flinders Medical Centre in Adelaide. For the purpose of his review, Professor Mangoni was provided with a copy of the autopsy report and the analyst's certificate dated 22 August 2008. A series of questions were also directed to the Professor for his consideration.

12. Professor Mangoni agreed that based on the analysis, the level of sertraline was in the potentially fatal range. He stated that toxic concentrations may "*theoretically increase the risk of arrhythmias and seizures although the evidence demonstrating this relationship is limited*".

13. Professor Mangoni was of the opinion that sertraline is metabolised by the liver but accumulation might occur in patients with liver disease. However, from the information provided, the Professor stated that it did not appear Mrs Dossetto suffered from liver disease. Neither was he of the view that age significantly affected the rate of metabolism. He says that studies comparing both younger and older subjects have failed to demonstrate major differences in concentrations and/or metabolism.

14. According to Professor Mangoni symptoms of overdose include somnolence, vomiting and nausea, increased heart rate, tremor, agitation, dizziness, seizures and/or coma. The Professor said that he would have expected some of these symptoms to be *florid*" in someone with acute

sertraline toxicity. He was not of the opinion that any of the drugs listed as having been regularly taken were likely to significantly interact with sertraline thus causing a toxic reaction.

15. In relation to the question of whether a person with a known heart condition is more likely to be adversely effected, the Professor took the view that "*it is theoretically possible that toxic plasma concentrations of sertraline are more likely to result in an adverse outcome in a patient with significant pre-existing ischaemic heart disease and heart failure*." At the time of completion of his report Professor Mangoni said that studies were still underway as to the safety on patients with congestive heart failure. Neither did the Professor consider that blood concentrations of sertraline were likely to change significantly during the first few days after death and that therefore the fact that the sample was taken approximately two days after death was not of significance.

16. In his final comment, Professor Mangoni said "….*the very high concentrations of sertraline found in Mrs Dossetto are the result of an overdose, either intentional or non-intentional. Such high concentrations might have increased the risk of death due to cardiotoxicity and/or seizure. Unfortunately the lack of a full autopsy limits the identification of other possible factors contributing to Mrs Dossetto's death*."

17. This is a difficult matter. It would seem that there is the probability, base on the way in which Mrs Dossetto was discovered by staff at the residence that death was as a result of heart failure. In the absence of an internal autopsy there is no possibility of ascertaining the actual cause of death although in fairness, Dr Milne also stated that even then the results may have been inconclusive. Accordingly, I don't think that I can take the matter any further than the situation in which Dr Milne found himself. There is no evidence to prove that there was any direct intervention in her death.

18. Accordingly my findings pursuant to Section 45 (2) of the *Coroners Act 2003* are as follows:

Name of the Deceased:	Kate Emma Dossetto
Place of Death:	Riverview Gardens, Moggill Ferry Rd, Riverview
Date of Death:	236 June 2008
Cause of Death:	Unable to be determined
How Death occurred:	Mrs Dossetto was located seated in a chair in her room at Riverview Gardens, an aged care facility where she was residing. There were no suspicious circumstances surrounding her death.

DM MacCallum
Coroner
19 August 2010