IN THE CORONER'S COURT
HELD AT ROTORUA and TAURANGA

IN THE MATTER of the Coroners Act 2006

AND

IN THE MATTER of an Inquest into the death of IAN DONALD McLEOD

Before:	Coroner Wallace Bain
Date of Hearing:	4th March 2014 and 19th March 2014
Appearances:	Constable J Treloar – Inquest Officer A Fisher and C Farry for I D McLeod G Bingham for BOPDHB
In Attendance:	Mrs Anne McLeod – wife of the deceased Scott McLeod – son Peter McLeod – son E & D Tate - close family friends N & M McLeod - brother and sister-in-law R McLeod and Livy - daughter-in-law and granddaughter C Dawe - close family friend J Wieringa - close family friend
Final Submissions:	Filed May 2014

FINDINGS OF CORONER WALLACE BAIN

INDEX

	Page
INTRODUCTION	3
PURPOSE OF AN INQUIRY	3
EVIDENCE	4
Concern 1, Concern 2, Concern 3, Concern 4	7
FAILINGS	10
FINDINGS	11
COMMENTS AND RECOMMENDATIONS	11
COMMENTS	12
Adverse Comments	12
RECOMMENDATIONS	13

INTRODUCTION

(1) This Inquest raises extremely important issues about the standards of Hospital care and the multitude of failings that lead to the tragic death of Mr McLeod.

(2) This is an Inquest into the death of Ian Donald McLeod who died at the Waipuna Hospice, Tauranga on the 1st October 2012, his cause of death being acute pneumonia and chest infection against a background of colorectal adenocarcinoma with metastases to the liver and against a background immediately prior to his death of significant and serious failings in his health care which contributed significantly to his premature death.

PURPOSE OF AN INQUIRY

(3) The purpose of an inquiry is set out under Part 3 of the Coroners Act 2006 (Act). Section 57 of the Act defines the purpose of inquiries as follows;

(a) A coroner opens and conducts an inquiry (including any related Inquest) for the 3 purposes, and not to determine civil, criminal, or disciplinary liability.

(b) The first purpose is to establish, so far as is possible-

That a person has died; and
The person's identity;
When and where the person died; and
The causes of the death; and
The circumstances of the death.

(c) The second purpose is to make specified recommendations or comments that, in the coroner's opinion, may, if drawn to public attention, reduce the chances of the occurrence of other deaths in circumstances similar to those in which the death occurred.

(d) The third purpose is to determine whether the public interest would be served by the death being investigated by other investigating authorities in the performance or exercise of their functions, powers, or duties, and to refer the death to them if satisfied that the public interest would be served by their investigating it in the performance or exercise of their functions, powers, or duties.

EVIDENCE

(4) The Court heard considerable evidence over a two day Hearing. It involved evidence from Mrs Anne McLeod, the widow of Ian McLeod, his two sons Scott and Peter, expert evidence called on behalf of the family from Doctors Hilary Blacklock and David Milne. Police evidence given by Detective Senior Sergeant Greg Turner. Evidence from Doctor Murray Hunt from the Waipuna Hospice and evidence on behalf of the Bay of Plenty District Health Board, from the specialist in medical oncology and who was treating Mr McLeod and from a consultant radiologist employed by the Bay of Plenty DHB who surveyed the radiology images in respect of the migration of the catheter, fistula development and essentially confirmed the BOPDHB view that catheter migration into the Azygos arch was a rare medical complication and had not been encountered before.

(5) The evidence from the family confirms that Mr Ian McLeod was a much loved husband and father and a successful business man and was a leader in the local community. Although he suffered from significant and serious health issues his death was premature as a result of the lack of care afforded to him by the Bay of Plenty DHB and his premature death was devastating to his wife and to his sons.

(6) The evidence from Mrs McLeod and the two sons raise many questions surrounding the events leading up to Mr McLeod's death and they wanted it clearly established the causes and circumstances leading to the tragic event that in their view killed their husband and father. Primarily however, they wanted recommendations to come from the Inquest that would reduce the chances of a similar event that occurred to Mr McLeod happening in the future to someone else.

(7) Mr McLeod's medical history showed that in 2005 he was diagnosed with low grade non-Hodgkins' Lymphoma. He responded well to chemotherapy and his cancer went into remission. He was also diagnosed with B-cell lymphoma in 2008. The chemotherapy resulted in remission until 2010.

(8) In 2011 he was diagnosed with Adenocarcinoma in the lung and this was presumed to be metastatic disease from rectal cancer. He received private chemotherapy at Mercy Hospital in Auckland that enabled him to receive drugs not available through the public health system.

(9) In May 2011 he had a Portacath inserted at Tauranga hospital. Portacath's are used to infuse drugs/fluids/blood products into patients receiving chemotherapy.

(10) In May 2011 to February 2012 he received treatment in Auckland for his rectal cancer and in February he returned to Tauranga for on-going treatment of his lymphoma.

(11) In June 2012 his chemotherapy notes record that he was eating and drinking well and that you "wouldn't know there was anything wrong with him".

(12) In June 2012 the chemotherapy notes record the first instance of minimal blood return on the preparation of the catheter for his chemotherapy infusion. The blood drawback indicates all is well with the placement of the Portacath in that the tubing is floating freely within the vein.

(13) But on his 4th July 2012 chemotherapy treatment he experienced pain at the commencement of the flush and this was particularly confirmed by the evidence of Mrs McLeod. A chest x-ray on the 9th July 2012 showed that the distal end of the Portacath tubing had altered in position since the previous study and was now curving posteriorly rather than projecting inferiorly so that the distal tip was lying within the azygos vein. Mr McLeod had developed a constant and persistent cough and his clinical notes in September show that he had been coughing for the last three months.

(14) A CT scan on the 10th August 2012 showed the catheter in the azygos vein with no evidence of erosion through the vein wall into the trachea. But on the 15th August the oncologist reported that although he was coping with chemotherapy he had lost five kilograms and he thought there was more going on. Later in September he began coughing up blood in significant amounts and he was admitted to Tauranga hospital with a suspected respiratory tract infection. The chest x-ray confirmed that the tip of the Portacath was sitting in the azygos vein and Mr McLeod was sent home the next day.

(15) On the 19th September however, Mr McLeod woke up coughing and bringing up large amounts of blood. He went to the emergency department of the hospital at 2:30am and further respiratory tract infection was suspected and the notes recorded a question as to whether chemotherapy should be held. Later that day after further discussions with the medical team he was seemed okay to receive chemotherapy but there was no reference in the notes to the chest x-ray or its results.

(16) The evidence, and the Court records there was really no significant dispute concerning what factually had occurred to Mr McLeod, in the Court's view clearly shows a disconnect between his clinical symptoms and the radiology images. The expert evidence on behalf of the family is quite unequivocal that due to his significant clinical symptoms he should not have been given a green light to proceed with chemotherapy on that day as Mrs McLeod's evidence describe once he was given chemotherapy the reaction was severe. In essence the

chemotherapy drug was administered directly into Mr McLeod's lung because the Portacath had broken through the wall of the trachea from the azygos vein, causing a large fistula. It was there to be seen and this was not appreciated by the medical staff. Mr McLeod was transferred to Waikato hospital where there were discussions about the possibility of removing the Portacath but it was decided surgery not be proceeded with. However, on the 21st September 2012 Mr McLeod did convey to his family his concerns regarding the migration of the Portacath and they were recorded by Scott McLeod and they were presented in evidence. Mr McLeod wanted those concerns to be taken up with Tauranga hospital to ensure the same problems did not occur with any other patient having a Portacath in the future. Tragically on the night of the 21st September Mr McLeod had another dramatic coughing fit at home. He coughed up a significant volume of blood and lost consciousness. He was cared for at home and then transferred to a hospice and sadly died on the 1st October 2012.

(17) The expert evidence in the Court's view does establish clearly that the significance of the portacath tip being in the azygos vein was not appreciated by the radiologist reporting the imaging and was either not noted or not appreciated by the clinicians treating Mr McLeod's condition. It was thought by the clinicians incorrectly that his symptoms were due to an infection. There was a failure to correlate the imaging with the clinical picture and accordingly there was a delayed diagnosis of what his true medical position was. That disconnect between the clinical picture and the radiology imaging lead in the Court's view, based on the expert evidence before it, to the catastrophic delivery of chemotherapy into his trachea through the trachea-azygos fistula that had developed.

(18) The expert evidence expressed concern that the delay by the hospital staff in identifying the problem with the portacath was significant. This was seen by the radiology staff but not by the oncology staff – that is that the portacath was in the wrong place. On the day of the chemotherapy there were reports in respect of the catheter essentially conveyed that the catheter position was unchanged. There is concern from the evidence that the sequential reports had not been read by the oncology staff and therefore not appreciated. As a result of this Mr McLeod received antibiotic treatment for a presumed lung infection. The Court is satisfied from the expert evidence that as a result of what occurred to Mr McLeod it was a significant reduction in the quality of his life, there was an interference with the effect of the delivery of chemotherapy and the complications that resulted caused shortening of his life although it cannot be determined exactly what that period was.

(19) What is concerning here, in addition to the failures above, is that the family did put the concerns that Mr McLeod had raised before he died to the Tauranga Bay of Plenty DHB at the family meeting after Mr McLeod's death. They were very clear in the evidence before the Court that they wanted the hospital to make recommendations on new protocols and systems to guard against undetected migration of portacaths in the future. However after a case reviewed by Tauranga hospital the conclusion was that Mr McLeod's unusual presentation was "an extremely rare event" and no recommendations had been identified that would justify preventing a similar event in the future. Clearly the family were most unhappy with this.

(20) It is instructive to set out from the evidence of Mr McLeod's son Scott what in fact his father had conveyed to him concerning his concerns just before he died. He took verbatim notes whilst speaking to his father and produced those. Those concerns are set out below:

Concern 1:
Was it possible that due to the way the portacath was packaged (perhaps in a coil), upon insertion, the catheter was lying against the side of the superior vena cava vein and the chemotherapy drugs corroded that vein?

Concern 2:
During the third chemotherapy infusion, my father noticed that no blood was drawn back when the nurse prepared the catheter. The nurse appeared to ignore this. My father asked her if this was unusual. The nurse commented that it was unusual not to draw back blood but she carried on anyway.

Concern 3:
The force of the flush administered before the infusion of the chemotherapy drugs was very great. My father was concerned that this force may have damaged the vena cava the vein or even caused a hole in the vein. He recalled that the third flush, in particular, was very painful.

Concern 4:
Numerous CT scans and chest x-rays occurred between July and September 2012 but the placement of the catheter was never checked despite radiology evidence that it had migrated.

(21) Scott stated in evidence that his father was very clear that he wanted him to take those issues up with the doctors at the Tauranga hospital.

(22) What is also clear from the evidence here that had the Bay of Plenty District Health Board treated the concerns raised with the respect they deserved so that the family felt they were being listened to and proper actions were being taken, there would never have been an Inquest. The matter would have finished there. It seems clear to the Court that the family had pursued this matter to Inquest, and quite properly so, because they couldn't get any effective satisfaction to the concerns that they raised from the Bay of Plenty District Health Board. They have had to go to the trouble of bringing expert evidence which is clear and concise and in the Court's view, is essentially not disputed by the BOPDHB.

(23) Having said that, it is also clear that this was an unusual event and the radiologist in particular had not experienced what had occurred before. However that doesn't get away from the fact that the migration of the portacath was there to be seen, and it seems was seen, but what was seen was not appreciated at all by the highly trained radiologist and further was not conveyed to the oncologist.

(24) The evidence also established that the family have now been made aware but not communicated to until October 2013, that the DHB has in fact made some changes. The change was in the future comment would be made by the radiologist on the placement of all implanted catheters irrespective of the reason for the radiology request: The family are concerned that this was only communicated to them on the 8th October 2013. Then in a recent memorandum to this Court the DHB further acknowledge a further change in protocol which seems to be a direct response to one of the initial concerns raised by Mr McLeod. That was "following the occurrence of this rare complication with Mr McLeod the BOPDHB has changed protocol for the management of portacath infusion. Now, if blood cannot be drawn back from the catheter, a portagram is ordered to check catheter placement".

(25) The family are concerned that the failure to inform them of those changes and felt it was indicative of the attitude displayed by the DHB towards them. The experts called by the family have confirmed that the recommendations are appropriate and should have been made as a result of the case and should have been made earlier.

(26) The experts also feel that what has occurred should be broadcast to the wider oncology community so there can be learning from it. Dr Blacklock in particular makes three recommendations which the Court accepts and will adopt as recommendations. The Court does so and is particularly urged to do so by Mrs McLeod and sons Scott and Peter, so as to protect future patients from the suffering experienced by their husband and father. To their credit the family make the point that although they feel let down by the care and attitude of

Tauranga hospital they are not seeking to apportion blame. They just want to make sure that changes are made and lessons are learnt.

(27) The Court notes also that in submissions made to it by Counsel for the BOPDHB, the DHB acknowledges that if things had been done differently the tragic events could have been prevented. They still feel however, that given the information available to the treating team at the time, that their decisions were reasonable. They stress however that they have learnt from the event and put in place systems to reduce the likelihood that such an event could occur in the future. Based on the evidence before the Court it does seem that this has now occurred and the DHB is to be congratulated for finally having taken the steps it has as a result of the learning experience of this tragic death. However it is clear to the Court that they should have engaged with family in a more meaningful way earlier and certainly communicated to them throughout so that they could see what steps were being taken and when.

(28) The Court agrees with the submissions from the McLeod family following the Inquest as to the Tauranga hospital's failings. The Court has listened very carefully to all of the evidence and noted in particular that evidence from the experts. The Court also makes the comment however, that it is sad indeed to see medical experts and in particular the oncologist from the Tauranga hospital having to come and give evidence as a result of the tragic events that occurred to Mr McLeod. Clearly the oncologist who gave evidence is a highly trained and deeply caring health professional. He gave his evidence and was cross examined at length. At the end of all of that, he passed his condolences to the family and it was a moving occasion. He acknowledged that they had not communicated well enough to the family but that they do care. He had been treating Mr McLeod for a number of years. He said that the tragic death had changed the protocols and perceptions albeit that the complication was a rare one and he then stated "...and I want you guys (the family) to be aware that that has happened and that, you know, look we loved Curly just like you guys did, you know, and I've known him for a couple of years and he was a good mate with a flash car, so thank you". It was obvious to all the real pain and emotion that this highly trained oncologist was going through and it was clearly an emotional moment for both him and the family. The Court congratulates the oncologist for his openness and acknowledgment to the family.

FAILINGS

(29) In summary the Tauranga hospital's failings were:

i) Failure to correlate clinical symptoms and radiology images.

ii) Failure by the oncology department to appreciate the severity of Mr McLeod's condition on the 19th September 2012.

iii) Lack of communication between the emergency radiology and oncology departments.

iv) Lack of follow-up care by the Tauranga hospital following Mr McLeod's transfer on the 20th September 2012.

v) Failure by Tauranga hospital to acknowledge failings in Mr McLeod's care and result in changes in hospital protocol.

(30) The Court agrees with the submissions from Counsel for the family that there were systemic inter-departmental failures on part of the Tauranga hospital which resulted in a cascade of missed opportunities to prevent the tragic administration of chemotherapy on the 19th September 2012 which put highly toxic drugs directly into his lungs.

(31) Specifically the Court agrees with the evidence and the submissions that the hospital failed to:

a. recognise the migration of Mr McLeod's portacath from his superior vena cava vein into his azygos vein;

b. properly diagnose Mr McLeod's deteriorating condition as being the result of this migration;

c. recognise the seriousness of Mr McLeod's clinical condition on the day he was given the go-ahead for chemotherapy;

d. recognise the seriousness of Mr McLeod's clinical condition after the chemotherapy was administered into his lungs;

e. provide any follow up care to Mr McLeod from 21 September until he died on 1 October;

f. adequately respond to the concerns raised by the family in the wake of Mr McLeod's death; and

g. acknowledge to the need for changes to hospital protocols as a result of this tragedy.

(32) The DHB maintains that the migration of the portacath was such a rare condition that it could not be appreciated by the treating team. However the Court agrees that Mr McLeod had a deteriorating condition and there was a failure to recognise it properly. It is quite clear that what was occurring to him and what was recorded in the test taken, that the position in Mr McLeod was there to be seen and should have been recognised and acted upon earlier.

FINDINGS

(33) I find that Ian Donald McLeod died at the Waipuna Hospice, Tauranga on the 1st October 2012, his cause of death being acute pneumonia and chest infection against a background of colorectal adenocarcinoma with metastases to the liver and against a background immediately prior to his death of significant and serious failings in his health care which contributed significantly to his premature death.

COMMENTS AND RECOMMENDATIONS

(34) It remains to be considered whether any recommendations or comments should be made in terms of Section 57(3) In so doing the Court refers to the consideration given to this section by Heron J in Matthews v Hunter [1993] 2NZLR 683. Any recommendations or comments, in terms of the Section are to be for the avoidance of circumstances similar to those in which the death occurred. Section 51(7) of the Coroner's Act 1988 provides:
"A Coroner holds an inquest for the purpose of:

(b) Making any recommendations or comments on the avoidance of circumstances similar to those in which the death occurred, or on the manner in which any persons should act in such circumstances, that, in the opinion of the Coroner, may if drawn to public attention reduce the chances of the occurrence of other deaths in such circumstances."

(35) In *R v. South London Coroner* ex p Thompson (1982) 126 SJ 625 Lord Lane CJ said of Coroner's inquests (emphasising the important distinction that exists between *accusatorial* and *inquisitorial* processes):

"Once again it should not be forgotten *that an inquest is a fact finding exercise and not a method of apportioning guilt.* The procedure and rules of evidence which are suitable for one are unsuitable for the other. In an inquest it should never be forgotten that there are no parties, there is no indictment, there is no prosecution, there is no defence, there is no trial, simply an attempt to establish facts. It is an inquisitorial process, a process of investigation quite unlike a trial where the prosecutor accuses and the accused defends, the Judge holding the balance of the ring, which ever metaphor one chooses to use.

[1]As stated in Inquest AJD Paterson, Finding 31 May 2000 (Coroner Garry Evans) citing Anderson v Blashki [1993] 2VR 89; The Secretary of the Department of Health and Community Services v Gurrick 1995 2 VR 69; see also Phipson on Evidence (15th ed.), paragraph 4-31 at p. 81.

The Brodrick Committee (Report of the Committee on Death Certification and Coroners, dated September 22, 1971, CMND. 4810, chaired by Mr (later Judge) Norman Brodrick QC) exhaustively considered the role of the Coroners inquest in modern society and identified the following grounds of public interest which it believed a Coroner's inquiry should serve:

(i) To determine the medical cause of death;
(ii) *To allay rumours or suspicion*;
(iii) *To draw attention to the existence of circumstances which, if unremedied, might lead to further deaths*;
(iv) To advance medical knowledge;
(v) To preserve the legal interests of the deceased person's family, heirs or other interested parties."

(36) Furthermore case law amplifies how a Coroner should act and in the case of ***Luow v McLean*** C.P. 445/87 Hardie boys J, cited with approval excerpts from the following case which sets out the Coroners roles: -

In the case of Ex Parte Minister of Justice re ***Malcolm*** [1965] NSWR 1598 at 1602

"they can, and should, afford a quick and cheap method of drawing public circumstances attaching to a death, even though there is no suggestion of murder of manslaughter, are one example. Thus the relatives of a deceased person may feel that the deceased died owing to the negligence or inefficiency of medical authorities: there have been, for instance, several recent cases connected with the admission of patients to mental or other hospitals. If there has been any dereliction for duty, the facts are brought out into the open for all to judge; equally if the suspicions are unjustified, this also can be exposed and the persons cleared of unjustified suspicion. A properly conducted inquest has advantages in speed and cheapness over alternative judicial proceedings."

COMMENTS

(37) This is indeed a very sad case and demonstrates the need for health professionals to be ever vigilant in what is before them even if what they are seeing is rare. But it also demonstrates the need for there to be proper communication between different divisions of health professionals and importantly to a family and loved ones when a tragedy has occurred. The BOPDHB failed with these.

(38) These matters will be reflected in the recommendations of the Court as set out below.

Adverse Comment

(39) Provisional Findings were released to parties who may be subject to adverse comment, with opportunity to respond. This is a requirement of section 58 of the Coroners Act 2006. Submissions have been received raising a concern with a paragraph in the Press Release but not the substantive Findings.

(40) The submissions have been considered carefully by the Court A minor adjustment has been made which the Court considers fairly reflects the concern raised

RECOMMENDATIONS

(41) Having regard to the evidence accepted by this Court, the recommendations below are specific and designed to ensure that the events which resulted in the premature death of Mr McLeod are not repeated.

(42) The Court accepts that doctors Blacklock and Milne through their qualifications are experts in their fields and agrees with their evidence and their recommendations. Accordingly the Court recommends:

a. Hospital standard operating procedure should be available for the use of intravenous and central lines being used to deliver vesicant and irritating drugs especially chemotherapy. Such lines should not be used unless they are in a position where blood is freely flowing.

b. Patients who are unwell should be medically assessed before each course of chemotherapy.

c. Radiologists should use more standardised template reports to ensure that all aspects of a plain x-ray, ultra sounds or CT scans are reported. Also, phrases such as 'position is unchanged' should be avoided.

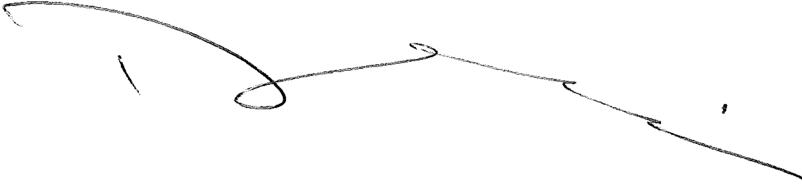
(43) The protocol set out above not only be accepted and implemented by Tauranga Hospital but be applied nationwide.

(44) That the inter-departmental gaps in communication between emergency, radiology and oncology departments at Tauranga hospital is established by the evidence in this case, be urgently addressed.

(45) It is recommended that a copy of these Findings be sent to:

i) The Director-General of Health, Ministry of Health, Wellington
ii) The Minister of Health, Wellington
iii) The Chief Executive of the Bay of Plenty District Health Board
iv) Chairman of the Board of the Bay of Plenty District Health Board

Signed by the Coroner at Rotorua on this 4th July, 2014



Coroner Wallace Bain

Regional Coroner - Bay of Plenty