CITATION: *Inquest into the death of Alma June Green* [2009] NTMC 041

TITLE OF COURT:	Coroner's Court
JURISDICTION:	Darwin
FILE NO(s):	D0203/2007
DELIVERED ON:	27 November 2009
DELIVERED AT:	Darwin
HEARING DATE(s):	9 – 12 September 2009
FINDING OF:	Mr Greg Cavanagh SM

CATCHWORDS:

Unexpected hospital death, injuries resulting from a fall, adequacy of patient notes.

REPRESENTATION:

Counsel:

Assisting:	Mr Anthony Young
For Department of Health:	Mr Tom Anderson

Judgment category classification:	B
Judgement ID number:	[2009] NTMC 041
Number of paragraphs:	44
Number of pages:	13

IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0203/2007

In the matter of an Inquest into the death of
ALMA JUNE GREEN
ON 11 NOVEMBER 2007
AT ROYAL DARWIN HOSPITAL

FINDINGS

27 November 2009

Mr Greg Cavanagh SM:

INTRODUCTION

1. On 17 October 2007 Mrs Alma June Green ("the deceased"), who was then 82 years old, was admitted to Royal Darwin Hospital with symptoms of abdominal pain and vomiting. She had suffered from incarcerated bowel herniation for many years. On admission she was diagnosed as having a complete intestinal obstruction. She was treated by Dr Plani who introduced a naso-gastric tube to drain faecoloid effluent.

2. The deceased suffered from a variety of serious medical conditions, including diabetes. Nevertheless, she made a good recovery. However, on 21 October 2007 she was sent to the radiology department for an x-ray of her bowel. While the x-ray was being taken the deceased stood from her wheelchair, which then overbalanced causing her to fall. The deceased fractured her hip. There were no hospital staff present at the time apart from the radiographer.

3. On 24 October 2007 the deceased underwent a hip screw fixation to repair the fractured hip.

4. The deceased slowly recovered and by 7 November 2007 Dr Plani was satisfied that there was a complete resolution of the bowel obstruction.

Responsibility for the deceased's care was transferred from the General Surgical team to the Rehabilitation team.

5. On the morning of 11 November 2007 the deceased began vomiting. Her daughter thought she looked very unwell and worse than the day before. Dr Myra Hardy, as Intern Surgical Ward cover, was called to examine her at about 9 am in the morning and later that evening at about 8 pm. On each occasion the deceased's temperature, blood pressure and heart rate were normal. Dr Hardy was not alerted to the possibility of bowel obstruction or rupture because, other than vomiting and nausea, there were no signs or symptoms consistent with bowel obstruction or rupture. She assumed that the cause of the deceased's vomiting and nausea was a narcotic analgesic tablet she had taken some time before. Dr Hardy was probably mistaken in this assumption. She did not carry out any abdominal examination of the deceased. Such an examination may have revealed evidence of bowel rupture, although by this time it is unlikely the deceased could have been saved. There was uncontested evidence from experienced surgeons that this was a clinically challenging situation with little indication in the hours leading up to the deceased's death of the bowel rupture having occurred.

6. The deceased's condition deteriorated rapidly and she died at 22.41 hrs on 11 November 2007. The conditions leading directly to death were acute peritonitis, ruptured bowel and incarcerated bowel herniation. Other significant conditions contributing to the death but not related to the condition causing death were diabetes mellitus, cardiac hypertrophy, chronic endometritus and fractured left femur (surgically repaired).

7. Although the deceased had been originally admitted to hospital suffering from acute bowel obstruction, she had recovered from that condition. The underlying cause of her acute bowel obstruction was incarcerated bowel herniation. This had not resolved. Nevertheless, her death as a result of the rupture of her bowel on 11 November 2007 was unexpected and was thus

reportable to me pursuant to section 12 of the *Coroner's Act*. The holding of a public inquest is not mandatory but was held as a matter of my discretion pursuant to section 15 of that *Act*.

8. The inquest was held on 9, 10 and 11 September 2009. Mr Tony Young appeared as counsel assisting and Mr Tom Anderson appeared by leave for the Northern Territory Department of Health and for Dr Myra Hardy. I heard evidence from Brevet Sergeant Lade of the Coronial Investigation Unit, Ms Linda Green, nurses Ms Alison Brien, Ms Judith Nisbet, Ms Jill Schoolmeester and Ms Carol Francis, the co-director of nursing at Royal Darwin Hospital, Ms Sharon Sykes, Associate Professor Hamish Ewing, associate professor of surgery at the University of Melbourne and head of a surgery unit at the Northern Hospital, Melbourne, who was called as an expert witness by me, Dr Terry Sinton, a pathologist and Dr Myra Hardy. A letter from Associate Professor Phillip Carson, consultant surgeon at Royal Darwin Hospital was tendered. I also have before me the medical records of the deceased and a brief of evidence.

9. Pursuant to section 34 of the *Coroners Act*, I am required to make the following findings:

    (1) A coroner investigating:

        (a) a death shall, if possible, find:

            (i) The identity of the deceased person;

            (ii) The time and place of death;

            (iii) The cause of death;

            (iv) The particulars needed to register the death under the Births, Deaths and Marriages Registration Act; and

            (v) Any relevant circumstances concerning the death

10. Section 34(2) operates to extend my function as follows:

> A Coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated.

11. Additionally, I may make recommendations pursuant to section 35(1), (2) and (3):

> (1) A coroner may report to the Attorney-General on a death or disaster investigated by the coroner.
>
> (2) A coroner may make recommendations to the Attorney-General on a matter, including public health or safety or the administration of justice connected with a death or disaster investigated by the coroner.
>
> (3) A coroner shall report to the Commissioner of Police and the Director of Public Prosecutions appointed under the Director of Public Prosecutions Act if the coroner believes that a crime may have been committed in connection with a death or disaster investigated by the coroner.

FORMAL FINDINGS

12. Pursuant to section 34 of the *Coroners Act* ("the Act"), I find, as a result of evidence adduced at the public inquest as follows:

   i. The identity of the deceased was Alma Junee Green (the name "Junee" appears in the deceased's birth certificate although she was known as "Alma June Green").

   ii. The deceased died in Ward 3A of the Royal Darwin Hospital at 22.41 hrs on 11 November 2007.

   iii. The causes of death were acute peritonitis, ruptured bowel and incarcerated bowel herniation.

   iv. The particulars needed to register the death under the *Births, Deaths and Marriages Registration Act* are

      a. The deceased was female;

      b. The deceased was not an Aboriginal Australian;

c. A post-mortem examination was carried out and the cause of death was as detailed above;

d. The pathologist viewed the body after death;

e. The pathologist was Dr Terrence John Sinton;

f. The deceased's mother was Ellen Wilhelmina Bottcher and her father was James Wall;

g. The deceased lived at 6/2 Tamarind Road, Moulden;

h. The deceased was retired at the time of her death.

RELEVANT CIRCUMSTANCES SURROUNDING THE DEATH

13. The discussion of the circumstances relevant to the death may be divided into two parts: the circumstances of the deceased's fall and the rupture of her bowel, which was the immediate cause of her death on 11 November 2007.

The circumstances of the fall

14. On 22 October 2007 the deceased was taken to the radiology department for an x-ray of her bowel. She was conveyed there in a wheelchair and then left without a patient care assistant or nurse to assist while her x-ray was taken. As she stood for an abdominal x-ray her wheelchair, weighed down by two attached IMED intravenous pumps with a combined weight of about 15 kg, overbalanced and caused the deceased to fall. She broke her hip during the fall.

15. The hospital freely concedes that this fall should not have been allowed to happen and was easily avoidable. The placement of heavy IMED pumps was an obvious danger and the deceased, due to her age and frailty, ought to have been accompanied by a nurse or patient care assistant.

16. The investigation of the fall was unsatisfactory. A report of the incident was entered in the deceased's clinical progress notes by Ms Jill Schoolmeester,

the nurse in charge at the radiology department, but there was no other record of the matter. No statement from the radiographer or any other member of the hospital staff was recorded. This failure takes on some additional significance because the deceased reported to her daughter Linda that she fell because there was "skylarking" by some nurses. I heard evidence from Ms Schoolmeester that she was first on the scene, other than the radiographer, and there were no other nurses present. There was also unnecessary delay in explaining to the family what happened. I am satisfied that "skylarking" was not the cause of the fall but the family is entitled to feel that the matter was not handled satisfactorily.

17. There are at least two obvious reasons why such a fall should have been properly investigated by the hospital and the results of that investigation properly recorded. First, the deceased was a patient in the care of the hospital and the hospital had a duty to ensure that reasonable care is taken for her safety. Without an understanding of the reasons for the fall the hospital could not be satisfied that it had discharged its duty of care. Secondly, an analysis of the reasons for the fall was necessary if further falls were to be avoided by other patients.

18. Ms Sharon Sykes, co-director of nursing at the hospital, freely acknowledged the deficiencies in the care of the deceased leading to the fall, the inadequacy of the investigation of the fall and the less than satisfactory communication with the deceased's family about the matter. She expressed her regret to the family. Ms Sykes is to be commended for this.

19. Nevertheless, it is essential that the hospital address the deficiencies identified (and this is not the first hospital fall examined by me: see the findings of the *Inquest into the death of Margaret Winter* [2008] NTMC 049).

20. Ms Sykes gave evidence that concrete measures had been undertaken to address these issues: the IMED pumps had been replaced by newer and

lighter models, the hospital had introduced a policy requiring an assessment of whether a patient required assistance for inter unit transfers and, if so, what kind of assistance. A check list was tendered in evidence. Two extra nursing staff had been employed in the radiology department. Further, an online reporting system, "Riskman", had been introduced by the hospital to ensure adequate reporting and analysis of accidents and other sentinel events in the hospital.

21. Ms Sykes gave evidence of a concerted effort by the hospital to inculcate a "culture" of fall and accident prevention, backed up by deliberate policy initiatives. In the Territory, as elsewhere in Australia, this is of great importance as demographic change means older people make up an increasing proportion of the population.

The bowel rupture

22. The deceased had suffered from an incarcerated bowel herniation for many years, probably as a result of an unrepaired hernia following appendectomy in her youth. The deceased was treated for acute bowel obstruction and this resolved within a few days of her admission. However, the fall on 22 October 2007 interfered with her further treatment. Her bowel x-ray was not performed and consideration of treatment for her incarcerated bowel herniation was deferred until after recovery from her broken hip.

23. Her recovery from the broken hip was slow, with the deceased slow to mobilize. She experienced some pain and was prescribed narcotic analgesics: oxycodone and propoxyphene (Doloxene). The oxycodone was first administered on 24 October 2007 and the deceased took this drug almost daily from that time. The Doloxene was first administered on 8 November 2007 and administered at 6 hour intervals, starting at 12:00 hours on that day.

24. By 10 November 2007 the deceased was reported as saying she felt as well as she had since her admission.

25. On the morning of 11 November 2007 the deceased began vomiting. The deceased complained to her daughter Carol that she had been given a tablet overnight that made her feel ill. She described this tablet as yellow in colour and said it was not something she had taken before. Carol Green spoke to the nursing staff and some effort was made to identify what tablet she may have been referring to. However, none of the tablets the deceased had been prescribed were yellow and it has not been possible to identify any such tablet.

26. Carol Green was very concerned about her mother on that morning. She believed her mother looked worse than the day before. Carol Green communicated her concern to the nursing staff.

27. Dr Hardy was called and examined the deceased. Dr Hardy concluded that the likely cause of the vomiting was a reaction to oxycodone or Doloxene. Whether this was correct may be doubted. The deceased had been given oxycodone in 10 mg doses regularly since 24 October. She had taken Doloxene at 6 hour intervals since 8 November. Leaving aside the symptoms at the time of her admission on 17 October, there was no record of her vomiting or feeling nauseous before the morning of 11 November.

28. The deceased reported that she had been to the toilet to open her bowels that morning, although this must have been only a partial emptying of her bowels as the autopsy examination showed the deceased was significantly constipated. Dr Hardy gave evidence that in the light of this report she was not concerned about bowel obstruction. She prescribed oral aperients and an enema for constipation. Dr Hardy did not perform an abdominal examination.

29. Professor Ewing expressed the view that the deceased's vomiting and nausea on the morning of 11 November was a new symptom and was unlikely to be the result of oxycodone or Doloxene, there being no such reaction to either of those drugs previously. He believed the vomiting and nausea was the result of the bowel rupture.

30. If an abdominal examination had been undertaken it is possible that symptoms of the bowel rupture may have been detected. The post-mortem examination revealed discolouration under the skin of the abdomen resulting from the leaking bowel contents. Dr Sinton, the pathologist, gave evidence that he thought there was a good chance that this discolouration was present ante-mortem and would have been visible on examination.

31. Two nurses, Ms Brien and Ms Nisbet, gave evidence that they saw the deceased's abdomen on 11 November while, in one case, she was sponging The deceased and, in the other, while she was changing The deceased's nightdress. One said she noticed nothing unusual and the other said the abdomen was the patient's "normal blotchy colouring". Professor Ewing believed this was inconclusive as neither nurse was trained in abdominal examination.

32. Ms Brien gave evidence that one of The deceased's daughters also pointed to the similarity of the deceased's symptoms of nausea and vomiting on 11 November to her symptoms on first admission. Ms Brien says she recorded this concern in the doctors' "job list" kept in the ward but the list was destroyed and it was not possible to verify that independently. Carol Green did not recall such a complaint in her record of interview conducted with Sergeant Lade and did not seek to add to that evidence when interviewed by counsel assisting. Linda Green did not recall making such a comparison. I am unable to make any finding about that but I am satisfied that Dr Hardy was not made aware of any such concern.

33. The deceased continued to be unwell during the day. Her daughter Linda, who arrived at the hospital sometime after noon, was also concerned about her appearance and thought she looked "shocking" and much worse than she had looked the day before. The nurses, Ms Brien and Ms Nisbet, gave evidence that they did not notice any particular deterioration in the deceased's appearance. However, I accept the evidence of Linda Green that there was a marked deterioration. Nurses Brien and Nisbet had not nursed the deceased before, although they had had some passing dealings with her, and I am satisfied they did not notice what was, in fact, a significant change. The deceased continued to vomit, although how often is unclear. Nurse Nisbet thought the deceased's vomiting abated during the day. A note made by Dr Hardy at 23:00 hours on 11 November, that is, shortly after the deceased's death, notes that the deceased "had been nauseated with vomiting most of the day".

34. In any event, one or both of the deceased's daughters expressed concern about their mother's condition to the nursing staff. A note made at 21:10 hours in the clinical progress notes by Nurse Nisbet refers to the deceased's nausea having settled and that she was "seen by RMO due to daughter's concern". The notes say that otherwise the deceased's observations were "stable", meaning within a normal range. Nurse Nisbet gave evidence that she passed the concerns on to Nurse Francis, the nurse in charge of the ward. However, Nurse Nisbet did not recall what those concerns were. Nurse Francis did not recall being told of any concerns being expressed by the family. Nurse Francis gave evidence that she asked Dr Hardy to examine the deceased because of concerns about her fluid levels. At about 21:00 hours Dr Hardy examined the deceased.

35. Dr Hardy noted that the deceased was sitting comfortably in bed and conversing appropriately. She had eaten her supper. On examination her general observations were stable (afebrile, heart rate 75, blood pressure

115/85). Doctor Hardy was called away to other duties soon after examining the deceased.

36. At about 22:15 hours the deceased was noticed to be becoming increasingly drowsy and was not responding to questions and commands. Her blood pressure and respiration rates were falling rapidly. At about 22:23 hours the resuscitation team was called. It was not possible to resuscitate the deceased and she died at 22:41 hours of cardio-respiratory arrest.

37. The deceased was a frail 82 year old woman with multiple comorbidities and a large complex hernia. Even if recognised and treated vigourously a rupture or perforation of the bowel would produce a high chance of mortality: in the order of 70% to 80% according to both Professors Ewing and Carson.

38. Professor Ewing gave evidence that Dr Hardy was confronted with a very challenging clinical picture on the day of the deceased's death. Nevertheless, he considered it regrettable that she did not conduct an abdominal examination of the deceased or seek more senior advice. Dr Plani, a consultant surgeon, and a surgical registrar were present in the hospital on the day. Professor Carson thought it reasonable in the circumstances that she had not conducted an abdominal examination.

39. Dr Hardy was clearly very busy. She was the only intern covering that and another ward. She did not make any note of either of her examinations of the deceased. In evidence she acknowledged this was not satisfactory and, to her credit, did not seek to exculpate herself by blaming her obviously heavy workload on the day.

40. I am satisfied that it would be unreasonable to make any criticism of Dr Hardy's conduct on 11 November 2007, other than in respect of her note taking, a criticism she herself acknowledged as merited. I am satisfied that no different outcome was likely, even had a bowel rupture been recognized on the day.

41. However, one general comment should be made. The concerns of the deceased's family about her evident deterioration on 11 November were not adequately taken into account or were not passed on to Dr Hardy. This is perhaps understandable in a busy hospital ward and the deceased was, notwithstanding this, examined twice by Dr Hardy. Nevertheless, the deceased's daughters were correct in their concern (a point made by Professor Ewing and acknowledged by Professor Carson) and it is regrettable that those concerns were not taken into account more effectively although, for the reasons given above, it is unlikely the ultimate outcome would have been different if they had been.

42. Before concluding these findings I should deal with two other matters. The post-mortem toxicology report noted that there were greater than reported therapeutic levels off propoxyphene and paracetamol in the deceased's blood. I am satisfied that there was was nothing untoward about this and the most likely explanation was a failure to properly metabolise these drugs.

43. The other matter was Professor Ewing's criticism that some of the observations charts used by the hospital were confusing. He suggested that the charts should be improved. Ms Sykes gave evidence that this had been done and the hospital was considering the introduction of a national standard form of observation chart. I am satisfied that Professor Ewing's concerns are being addressed by the hospital.

RECOMMENDATIONS

44. I have considered whether specific recommendations are merited in this case as I am satisfied that the Royal Darwin Hospital has addressed, or is in the process of addressing, the issues raised by this inquest. I have concluded that some general recommendations ought to be made to encourage and reinforce the steps already taken by the hospital. Accordingly I recommend as follows:

i. A systematic process for investigating and responding to sentinel events, such as falls, unexpected injury or death needs to be entrenched and maintained in the hospital.

ii. As the hospital recognizes, falls are a serious risk in hospitals and will be an increasing concern as demographic change produces larger numbers of old and frail patients. Staffing levels in the radiology department and elsewhere ought to be assessed so as to take this into account.

iii. The process of assessment of falls risk during inter unit transfers is an important measure and its implementation should be encouraged and maintained.

iv. This inquest had underlined that the observations of lay persons, usually family members, who know patients well are often accurate and may be a valuable diagnostic tool. This needs to be reinforced.

Dated this 27th day of November 2009.

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GREG CAVANAGH
TERRITORY CORONER

CITATION: *Inquest into the death of Alma June Green* [2009] NTMC 041

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Counsel:

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ALMA JUNE GREEN
ON 11 NOVEMBER 2007
AT ROYAL DARWIN HOSPITAL

FINDINGS

27 November 2009

Mr Greg Cavanagh SM:

INTRODUCTION

1. On 17 October 2007 Mrs Alma June Green ("the deceased"), who was then 82 years old, was admitted to Royal Darwin Hospital with symptoms of abdominal pain and vomiting. She had suffered from incarcerated bowel herniation for many years. On admission she was diagnosed as having a complete intestinal obstruction. She was treated by Dr Plani who introduced a naso-gastric tube to drain faecoloid effluent.

2. The deceased suffered from a variety of serious medical conditions, including diabetes. Nevertheless, she made a good recovery. However, on 21 October 2007 she was sent to the radiology department for an x-ray of her bowel. While the x-ray was being taken the deceased stood from her wheelchair, which then overbalanced causing her to fall. The deceased fractured her hip. There were no hospital staff present at the time apart from the radiographer.

3. On 24 October 2007 the deceased underwent a hip screw fixation to repair the fractured hip.

4. The deceased slowly recovered and by 7 November 2007 Dr Plani was satisfied that there was a complete resolution of the bowel obstruction.

Responsibility for the deceased's care was transferred from the General Surgical team to the Rehabilitation team.

5. On the morning of 11 November 2007 the deceased began vomiting. Her daughter thought she looked very unwell and worse than the day before. Dr Myra Hardy, as Intern Surgical Ward cover, was called to examine her at about 9 am in the morning and later that evening at about 8 pm. On each occasion the deceased's temperature, blood pressure and heart rate were normal. Dr Hardy was not alerted to the possibility of bowel obstruction or rupture because, other than vomiting and nausea, there were no signs or symptoms consistent with bowel obstruction or rupture. She assumed that the cause of the deceased's vomiting and nausea was a narcotic analgesic tablet she had taken some time before. Dr Hardy was probably mistaken in this assumption. She did not carry out any abdominal examination of the deceased. Such an examination may have revealed evidence of bowel rupture, although by this time it is unlikely the deceased could have been saved. There was uncontested evidence from experienced surgeons that this was a clinically challenging situation with little indication in the hours leading up to the deceased's death of the bowel rupture having occurred.

6. The deceased's condition deteriorated rapidly and she died at 22.41 hrs on 11 November 2007. The conditions leading directly to death were acute peritonitis, ruptured bowel and incarcerated bowel herniation. Other significant conditions contributing to the death but not related to the condition causing death were diabetes mellitus, cardiac hypertrophy, chronic endometritus and fractured left femur (surgically repaired).

7. Although the deceased had been originally admitted to hospital suffering from acute bowel obstruction, she had recovered from that condition. The underlying cause of her acute bowel obstruction was incarcerated bowel herniation. This had not resolved. Nevertheless, her death as a result of the rupture of her bowel on 11 November 2007 was unexpected and was thus

reportable to me pursuant to section 12 of the *Coroner's Act*. The holding of a public inquest is not mandatory but was held as a matter of my discretion pursuant to section 15 of that *Act*.

8. The inquest was held on 9, 10 and 11 September 2009. Mr Tony Young appeared as counsel assisting and Mr Tom Anderson appeared by leave for the Northern Territory Department of Health and for Dr Myra Hardy. I heard evidence from Brevet Sergeant Lade of the Coronial Investigation Unit, Ms Linda Green, nurses Ms Alison Brien, Ms Judith Nisbet, Ms Jill Schoolmeester and Ms Carol Francis, the co-director of nursing at Royal Darwin Hospital, Ms Sharon Sykes, Associate Professor Hamish Ewing, associate professor of surgery at the University of Melbourne and head of a surgery unit at the Northern Hospital, Melbourne, who was called as an expert witness by me, Dr Terry Sinton, a pathologist and Dr Myra Hardy. A letter from Associate Professor Phillip Carson, consultant surgeon at Royal Darwin Hospital was tendered. I also have before me the medical records of the deceased and a brief of evidence.

9. Pursuant to section 34 of the *Coroners Act*, I am required to make the following findings:

   (1) A coroner investigating:

      (a) a death shall, if possible, find:

         (i) The identity of the deceased person;

         (ii) The time and place of death;

         (iii) The cause of death;

         (iv) The particulars needed to register the death under the Births, Deaths and Marriages Registration Act; and

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10. Section 34(2) operates to extend my function as follows:

A Coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated.

11. Additionally, I may make recommendations pursuant to section 35(1), (2) and (3):

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(3) A coroner shall report to the Commissioner of Police and the Director of Public Prosecutions appointed under the Director of Public Prosecutions Act if the coroner believes that a crime may have been committed in connection with a death or disaster investigated by the coroner.

FORMAL FINDINGS

12. Pursuant to section 34 of the *Coroners Act* ("the Act"), I find, as a result of evidence adduced at the public inquest as follows:

i. The identity of the deceased was Alma Junee Green (the name "Junee" appears in the deceased's birth certificate although she was known as "Alma June Green").

ii. The deceased died in Ward 3A of the Royal Darwin Hospital at 22.41 hrs on 11 November 2007.

iii. The causes of death were acute peritonitis, ruptured bowel and incarcerated bowel herniation.

iv. The particulars needed to register the death under the *Births, Deaths and Marriages Registration Act* are

a. The deceased was female;

b. The deceased was not an Aboriginal Australian;

c. A post-mortem examination was carried out and the cause of death was as detailed above;

d. The pathologist viewed the body after death;

e. The pathologist was Dr Terrence John Sinton;

f. The deceased's mother was Ellen Wilhelmina Bottcher and her father was James Wall;

g. The deceased lived at 6/2 Tamarind Road, Moulden;

h. The deceased was retired at the time of her death.

RELEVANT CIRCUMSTANCES SURROUNDING THE DEATH

13. The discussion of the circumstances relevant to the death may be divided into two parts: the circumstances of the deceased's fall and the rupture of her bowel, which was the immediate cause of her death on 11 November 2007.

The circumstances of the fall

14. On 22 October 2007 the deceased was taken to the radiology department for an x-ray of her bowel. She was conveyed there in a wheelchair and then left without a patient care assistant or nurse to assist while her x-ray was taken. As she stood for an abdominal x-ray her wheelchair, weighed down by two attached IMED intravenous pumps with a combined weight of about 15 kg, overbalanced and caused the deceased to fall. She broke her hip during the fall.

15. The hospital freely concedes that this fall should not have been allowed to happen and was easily avoidable. The placement of heavy IMED pumps was an obvious danger and the deceased, due to her age and frailty, ought to have been accompanied by a nurse or patient care assistant.

16. The investigation of the fall was unsatisfactory. A report of the incident was entered in the deceased's clinical progress notes by Ms Jill Schoolmeester,

the nurse in charge at the radiology department, but there was no other record of the matter. No statement from the radiographer or any other member of the hospital staff was recorded. This failure takes on some additional significance because the deceased reported to her daughter Linda that she fell because there was "skylarking" by some nurses. I heard evidence from Ms Schoolmeester that she was first on the scene, other than the radiographer, and there were no other nurses present. There was also unnecessary delay in explaining to the family what happened. I am satisfied that "skylarking" was not the cause of the fall but the family is entitled to feel that the matter was not handled satisfactorily.

17. There are at least two obvious reasons why such a fall should have been properly investigated by the hospital and the results of that investigation properly recorded. First, the deceased was a patient in the care of the hospital and the hospital had a duty to ensure that reasonable care is taken for her safety. Without an understanding of the reasons for the fall the hospital could not be satisfied that it had discharged its duty of care. Secondly, an analysis of the reasons for the fall was necessary if further falls were to be avoided by other patients.

18. Ms Sharon Sykes, co-director of nursing at the hospital, freely acknowledged the deficiencies in the care of the deceased leading to the fall, the inadequacy of the investigation of the fall and the less than satisfactory communication with the deceased's family about the matter. She expressed her regret to the family. Ms Sykes is to be commended for this.

19. Nevertheless, it is essential that the hospital address the deficiencies identified (and this is not the first hospital fall examined by me: see the findings of the *Inquest into the death of Margaret Winter* [2008] NTMC 049).

20. Ms Sykes gave evidence that concrete measures had been undertaken to address these issues: the IMED pumps had been replaced by newer and

lighter models, the hospital had introduced a policy requiring an assessment of whether a patient required assistance for inter unit transfers and, if so, what kind of assistance. A check list was tendered in evidence. Two extra nursing staff had been employed in the radiology department. Further, an online reporting system, “Riskman”, had been introduced by the hospital to ensure adequate reporting and analysis of accidents and other sentinel events in the hospital.

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The bowel rupture

22. The deceased had suffered from an incarcerated bowel herniation for many years, probably as a result of an unrepaired hernia following appendectomy in her youth. The deceased was treated for acute bowel obstruction and this resolved within a few days of her admission. However, the fall on 22 October 2007 interfered with her further treatment. Her bowel x-ray was not performed and consideration of treatment for her incarcerated bowel herniation was deferred until after recovery from her broken hip.

23. Her recovery from the broken hip was slow, with the deceased slow to mobilize. She experienced some pain and was prescribed narcotic analgesics: oxycodone and propoxyphene (Doloxene). The oxycodone was first administered on 24 October 2007 and the deceased took this drug almost daily from that time. The Doloxene was first administered on 8 November 2007 and administered at 6 hour intervals, starting at 12:00 hours on that day.

24. By 10 November 2007 the deceased was reported as saying she felt as well as she had since her admission.

25. On the morning of 11 November 2007 the deceased began vomiting. The deceased complained to her daughter Carol that she had been given a tablet overnight that made her feel ill. She described this tablet as yellow in colour and said it was not something she had taken before. Carol Green spoke to the nursing staff and some effort was made to identify what tablet she may have been referring to. However, none of the tablets the deceased had been prescribed were yellow and it has not been possible to identify any such tablet.

26. Carol Green was very concerned about her mother on that morning. She believed her mother looked worse than the day before. Carol Green communicated her concern to the nursing staff.

27. Dr Hardy was called and examined the deceased. Dr Hardy concluded that the likely cause of the vomiting was a reaction to oxycodone or Doloxene. Whether this was correct may be doubted. The deceased had been given oxycodone in 10 mg doses regularly since 24 October. She had taken Doloxene at 6 hour intervals since 8 November. Leaving aside the symptoms at the time of her admission on 17 October, there was no record of her vomiting or feeling nauseous before the morning of 11 November.

28. The deceased reported that she had been to the toilet to open her bowels that morning, although this must have been only a partial emptying of her bowels as the autopsy examination showed the deceased was significantly constipated. Dr Hardy gave evidence that in the light of this report she was not concerned about bowel obstruction. She prescribed oral aperients and an enema for constipation. Dr Hardy did not perform an abdominal examination.

29. Professor Ewing expressed the view that the deceased's vomiting and nausea on the morning of 11 November was a new symptom and was unlikely to be the result of oxycodone or Doloxene, there being no such reaction to either of those drugs previously. He believed the vomiting and nausea was the result of the bowel rupture.

30. If an abdominal examination had been undertaken it is possible that symptoms of the bowel rupture may have been detected. The post-mortem examination revealed discolouration under the skin of the abdomen resulting from the leaking bowel contents. Dr Sinton, the pathologist, gave evidence that he thought there was a good chance that this discolouration was present ante-mortem and would have been visible on examination.

31. Two nurses, Ms Brien and Ms Nisbet, gave evidence that they saw the deceased's abdomen on 11 November while, in one case, she was sponging The deceased and, in the other, while she was changing The deceased's nightdress. One said she noticed nothing unusual and the other said the abdomen was the patient's "normal blotchy colouring". Professor Ewing believed this was inconclusive as neither nurse was trained in abdominal examination.

32. Ms Brien gave evidence that one of The deceased's daughters also pointed to the similarity of the deceased's symptoms of nausea and vomiting on 11 November to her symptoms on first admission. Ms Brien says she recorded this concern in the doctors' "job list" kept in the ward but the list was destroyed and it was not possible to verify that independently. Carol Green did not recall such a complaint in her record of interview conducted with Sergeant Lade and did not seek to add to that evidence when interviewed by counsel assisting. Linda Green did not recall making such a comparison. I am unable to make any finding about that but I am satisfied that Dr Hardy was not made aware of any such concern.

33. The deceased continued to be unwell during the day. Her daughter Linda, who arrived at the hospital sometime after noon, was also concerned about her appearance and thought she looked "shocking" and much worse than she had looked the day before. The nurses, Ms Brien and Ms Nisbet, gave evidence that they did not notice any particular deterioration in the deceased's appearance. However, I accept the evidence of Linda Green that there was a marked deterioration. Nurses Brien and Nisbet had not nursed the deceased before, although they had had some passing dealings with her, and I am satisfied they did not notice what was, in fact, a significant change. The deceased continued to vomit, although how often is unclear. Nurse Nisbet thought the deceased's vomiting abated during the day. A note made by Dr Hardy at 23:00 hours on 11 November, that is, shortly after the deceased's death, notes that the deceased "had been nauseated with vomiting most of the day".

34. In any event, one or both of the deceased's daughters expressed concern about their mother's condition to the nursing staff. A note made at 21:10 hours in the clinical progress notes by Nurse Nisbet refers to the deceased's nausea having settled and that she was "seen by RMO due to daughter's concern". The notes say that otherwise the deceased's observations were "stable", meaning within a normal range. Nurse Nisbet gave evidence that she passed the concerns on to Nurse Francis, the nurse in charge of the ward. However, Nurse Nisbet did not recall what those concerns were. Nurse Francis did not recall being told of any concerns being expressed by the family. Nurse Francis gave evidence that she asked Dr Hardy to examine the deceased because of concerns about her fluid levels. At about 21:00 hours Dr Hardy examined the deceased.

35. Dr Hardy noted that the deceased was sitting comfortably in bed and conversing appropriately. She had eaten her supper. On examination her general observations were stable (afebrile, heart rate 75, blood pressure

115/85). Doctor Hardy was called away to other duties soon after examining the deceased.

36. At about 22:15 hours the deceased was noticed to be becoming increasingly drowsy and was not responding to questions and commands. Her blood pressure and respiration rates were falling rapidly. At about 22:23 hours the resuscitation team was called. It was not possible to resuscitate the deceased and she died at 22:41 hours of cardio-respiratory arrest.

37. The deceased was a frail 82 year old woman with multiple comorbidities and a large complex hernia. Even if recognised and treated vigourously a rupture or perforation of the bowel would produce a high chance of mortality: in the order of 70% to 80% according to both Professors Ewing and Carson.

38. Professor Ewing gave evidence that Dr Hardy was confronted with a very challenging clinical picture on the day of the deceased's death. Nevertheless, he considered it regrettable that she did not conduct an abdominal examination of the deceased or seek more senior advice. Dr Plani, a consultant surgeon, and a surgical registrar were present in the hospital on the day. Professor Carson thought it reasonable in the circumstances that she had not conducted an abdominal examination.

39. Dr Hardy was clearly very busy. She was the only intern covering that and another ward. She did not make any note of either of her examinations of the deceased. In evidence she acknowledged this was not satisfactory and, to her credit, did not seek to exculpate herself by blaming her obviously heavy workload on the day.

40. I am satisfied that it would be unreasonable to make any criticism of Dr Hardy's conduct on 11 November 2007, other than in respect of her note taking, a criticism she herself acknowledged as merited. I am satisfied that no different outcome was likely, even had a bowel rupture been recognized on the day.

41. However, one general comment should be made. The concerns of the deceased’s family about her evident deterioration on 11 November were not adequately taken into account or were not passed on to Dr Hardy. This is perhaps understandable in a busy hospital ward and the deceased was, notwithstanding this, examined twice by Dr Hardy. Nevertheless, the deceased’s daughters were correct in their concern (a point made by Professor Ewing and acknowledged by Professor Carson) and it is regrettable that those concerns were not taken into account more effectively although, for the reasons given above, it is unlikely the ultimate outcome would have been different if they had been.

42. Before concluding these findings I should deal with two other matters. The post-mortem toxicology report noted that there were greater than reported therapeutic levels off propoxyphene and paracetamol in the deceased's blood. I am satisfied that there was was nothing untoward about this and the most likely explanation was a failure to properly metabolise these drugs.

43. The other matter was Professor Ewing’s criticism that some of the observations charts used by the hospital were confusing. He suggested that the charts should be improved. Ms Sykes gave evidence that this had been done and the hospital was considering the introduction of a national standard form of observation chart. I am satisfied that Professor Ewing’s concerns are being addressed by the hospital.

RECOMMENDATIONS

44. I have considered whether specific recommendations are merited in this case as I am satisfied that the Royal Darwin Hospital has addressed, or is in the process of addressing, the issues raised by this inquest. I have concluded that some general recommendations ought to be made to encourage and reinforce the steps already taken by the hospital. Accordingly I recommend as follows:

i. A systematic process for investigating and responding to sentinel events, such as falls, unexpected injury or death needs to be entrenched and maintained in the hospital.

ii. As the hospital recognizes, falls are a serious risk in hospitals and will be an increasing concern as demographic change produces larger numbers of old and frail patients. Staffing levels in the radiology department and elsewhere ought to be assessed so as to take this into account.

iii. The process of assessment of falls risk during inter unit transfers is an important measure and its implementation should be encouraged and maintained.

iv. This inquest had underlined that the observations of lay persons, usually family members, who know patients well are often accurate and may be a valuable diagnostic tool. This needs to be reinforced.

Dated this 27th day of November 2009.

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GREG CAVANAGH
TERRITORY CORONER

CITATION: *Inquest into the death of Alma June Green* [2009] NTMC 041

TITLE OF COURT:	Coroner’s Court
JURISDICTION:	Darwin
FILE NO(s):	D0203/2007
DELIVERED ON:	27 November 2009
DELIVERED AT:	Darwin
HEARING DATE(s):	9 – 12 September 2009
FINDING OF:	Mr Greg Cavanagh SM

CATCHWORDS:

Unexpected hospital death, injuries resulting from a fall, adequacy of patient notes.

REPRESENTATION:

Counsel:

Assisting:	Mr Anthony Young
For Department of Health:	Mr Tom Anderson

Judgment category classification:	B
Judgement ID number:	[2009] NTMC 041
Number of paragraphs:	44
Number of pages:	13

IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0203/2007

In the matter of an Inquest into the death of
ALMA JUNE GREEN
ON 11 NOVEMBER 2007
AT ROYAL DARWIN HOSPITAL

FINDINGS

27 November 2009

Mr Greg Cavanagh SM:

INTRODUCTION

1. On 17 October 2007 Mrs Alma June Green ("the deceased"), who was then 82 years old, was admitted to Royal Darwin Hospital with symptoms of abdominal pain and vomiting. She had suffered from incarcerated bowel herniation for many years. On admission she was diagnosed as having a complete intestinal obstruction. She was treated by Dr Plani who introduced a naso-gastric tube to drain faecoloid effluent.

2. The deceased suffered from a variety of serious medical conditions, including diabetes. Nevertheless, she made a good recovery. However, on 21 October 2007 she was sent to the radiology department for an x-ray of her bowel. While the x-ray was being taken the deceased stood from her wheelchair, which then overbalanced causing her to fall. The deceased fractured her hip. There were no hospital staff present at the time apart from the radiographer.

3. On 24 October 2007 the deceased underwent a hip screw fixation to repair the fractured hip.

4. The deceased slowly recovered and by 7 November 2007 Dr Plani was satisfied that there was a complete resolution of the bowel obstruction.

Responsibility for the deceased's care was transferred from the General Surgical team to the Rehabilitation team.

5. On the morning of 11 November 2007 the deceased began vomiting. Her daughter thought she looked very unwell and worse than the day before. Dr Myra Hardy, as Intern Surgical Ward cover, was called to examine her at about 9 am in the morning and later that evening at about 8 pm. On each occasion the deceased's temperature, blood pressure and heart rate were normal. Dr Hardy was not alerted to the possibility of bowel obstruction or rupture because, other than vomiting and nausea, there were no signs or symptoms consistent with bowel obstruction or rupture. She assumed that the cause of the deceased's vomiting and nausea was a narcotic analgesic tablet she had taken some time before. Dr Hardy was probably mistaken in this assumption. She did not carry out any abdominal examination of the deceased. Such an examination may have revealed evidence of bowel rupture, although by this time it is unlikely the deceased could have been saved. There was uncontested evidence from experienced surgeons that this was a clinically challenging situation with little indication in the hours leading up to the deceased's death of the bowel rupture having occurred.

6. The deceased's condition deteriorated rapidly and she died at 22.41 hrs on 11 November 2007. The conditions leading directly to death were acute peritonitis, ruptured bowel and incarcerated bowel herniation. Other significant conditions contributing to the death but not related to the condition causing death were diabetes mellitus, cardiac hypertrophy, chronic endometritus and fractured left femur (surgically repaired).

7. Although the deceased had been originally admitted to hospital suffering from acute bowel obstruction, she had recovered from that condition. The underlying cause of her acute bowel obstruction was incarcerated bowel herniation. This had not resolved. Nevertheless, her death as a result of the rupture of her bowel on 11 November 2007 was unexpected and was thus

reportable to me pursuant to section 12 of the *Coroner's Act*. The holding of a public inquest is not mandatory but was held as a matter of my discretion pursuant to section 15 of that *Act*.

8. The inquest was held on 9, 10 and 11 September 2009. Mr Tony Young appeared as counsel assisting and Mr Tom Anderson appeared by leave for the Northern Territory Department of Health and for Dr Myra Hardy. I heard evidence from Brevet Sergeant Lade of the Coronial Investigation Unit, Ms Linda Green, nurses Ms Alison Brien, Ms Judith Nisbet, Ms Jill Schoolmeester and Ms Carol Francis, the co-director of nursing at Royal Darwin Hospital, Ms Sharon Sykes, Associate Professor Hamish Ewing, associate professor of surgery at the University of Melbourne and head of a surgery unit at the Northern Hospital, Melbourne, who was called as an expert witness by me, Dr Terry Sinton, a pathologist and Dr Myra Hardy. A letter from Associate Professor Phillip Carson, consultant surgeon at Royal Darwin Hospital was tendered. I also have before me the medical records of the deceased and a brief of evidence.

9. Pursuant to section 34 of the *Coroners Act*, I am required to make the following findings:

   (1) A coroner investigating:

      (a) a death shall, if possible, find:

         (i) The identity of the deceased person;

         (ii) The time and place of death;

         (iii) The cause of death;

         (iv) The particulars needed to register the death under the Births, Deaths and Marriages Registration Act; and

         (v) Any relevant circumstances concerning the death

10. Section 34(2) operates to extend my function as follows:

> A Coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated.

11. Additionally, I may make recommendations pursuant to section 35(1), (2) and (3):

> (1) A coroner may report to the Attorney-General on a death or disaster investigated by the coroner.
>
> (2) A coroner may make recommendations to the Attorney-General on a matter, including public health or safety or the administration of justice connected with a death or disaster investigated by the coroner.
>
> (3) A coroner shall report to the Commissioner of Police and the Director of Public Prosecutions appointed under the Director of Public Prosecutions Act if the coroner believes that a crime may have been committed in connection with a death or disaster investigated by the coroner.

FORMAL FINDINGS

12. Pursuant to section 34 of the *Coroners Act* ("the Act"), I find, as a result of evidence adduced at the public inquest as follows:

    i. The identity of the deceased was Alma Junee Green (the name "Junee" appears in the deceased's birth certificate although she was known as "Alma June Green").

    ii. The deceased died in Ward 3A of the Royal Darwin Hospital at 22.41 hrs on 11 November 2007.

    iii. The causes of death were acute peritonitis, ruptured bowel and incarcerated bowel herniation.

    iv. The particulars needed to register the death under the *Births, Deaths and Marriages Registration Act* are

        a. The deceased was female;

        b. The deceased was not an Aboriginal Australian;

c. A post-mortem examination was carried out and the cause of death was as detailed above;

d. The pathologist viewed the body after death;

e. The pathologist was Dr Terrence John Sinton;

f. The deceased's mother was Ellen Wilhelmina Bottcher and her father was James Wall;

g. The deceased lived at 6/2 Tamarind Road, Moulden;

h. The deceased was retired at the time of her death.

RELEVANT CIRCUMSTANCES SURROUNDING THE DEATH

13. The discussion of the circumstances relevant to the death may be divided into two parts: the circumstances of the deceased's fall and the rupture of her bowel, which was the immediate cause of her death on 11 November 2007.

The circumstances of the fall

14. On 22 October 2007 the deceased was taken to the radiology department for an x-ray of her bowel. She was conveyed there in a wheelchair and then left without a patient care assistant or nurse to assist while her x-ray was taken. As she stood for an abdominal x-ray her wheelchair, weighed down by two attached IMED intravenous pumps with a combined weight of about 15 kg, overbalanced and caused the deceased to fall. She broke her hip during the fall.

15. The hospital freely concedes that this fall should not have been allowed to happen and was easily avoidable. The placement of heavy IMED pumps was an obvious danger and the deceased, due to her age and frailty, ought to have been accompanied by a nurse or patient care assistant.

16. The investigation of the fall was unsatisfactory. A report of the incident was entered in the deceased's clinical progress notes by Ms Jill Schoolmeester,

the nurse in charge at the radiology department, but there was no other record of the matter. No statement from the radiographer or any other member of the hospital staff was recorded. This failure takes on some additional significance because the deceased reported to her daughter Linda that she fell because there was "skylarking" by some nurses. I heard evidence from Ms Schoolmeester that she was first on the scene, other than the radiographer, and there were no other nurses present. There was also unnecessary delay in explaining to the family what happened. I am satisfied that "skylarking" was not the cause of the fall but the family is entitled to feel that the matter was not handled satisfactorily.

17. There are at least two obvious reasons why such a fall should have been properly investigated by the hospital and the results of that investigation properly recorded. First, the deceased was a patient in the care of the hospital and the hospital had a duty to ensure that reasonable care is taken for her safety. Without an understanding of the reasons for the fall the hospital could not be satisfied that it had discharged its duty of care. Secondly, an analysis of the reasons for the fall was necessary if further falls were to be avoided by other patients.

18. Ms Sharon Sykes, co-director of nursing at the hospital, freely acknowledged the deficiencies in the care of the deceased leading to the fall, the inadequacy of the investigation of the fall and the less than satisfactory communication with the deceased's family about the matter. She expressed her regret to the family. Ms Sykes is to be commended for this.

19. Nevertheless, it is essential that the hospital address the deficiencies identified (and this is not the first hospital fall examined by me: see the findings of the *Inquest into the death of Margaret Winter* [2008] NTMC 049).

20. Ms Sykes gave evidence that concrete measures had been undertaken to address these issues: the IMED pumps had been replaced by newer and

lighter models, the hospital had introduced a policy requiring an assessment of whether a patient required assistance for inter unit transfers and, if so, what kind of assistance. A check list was tendered in evidence. Two extra nursing staff had been employed in the radiology department. Further, an online reporting system, "Riskman", had been introduced by the hospital to ensure adequate reporting and analysis of accidents and other sentinel events in the hospital.

21. Ms Sykes gave evidence of a concerted effort by the hospital to inculcate a "culture" of fall and accident prevention, backed up by deliberate policy initiatives. In the Territory, as elsewhere in Australia, this is of great importance as demographic change means older people make up an increasing proportion of the population.

The bowel rupture

22. The deceased had suffered from an incarcerated bowel herniation for many years, probably as a result of an unrepaired hernia following appendectomy in her youth. The deceased was treated for acute bowel obstruction and this resolved within a few days of her admission. However, the fall on 22 October 2007 interfered with her further treatment. Her bowel x-ray was not performed and consideration of treatment for her incarcerated bowel herniation was deferred until after recovery from her broken hip.

23. Her recovery from the broken hip was slow, with the deceased slow to mobilize. She experienced some pain and was prescribed narcotic analgesics: oxycodone and propoxyphene (Doloxene). The oxycodone was first administered on 24 October 2007 and the deceased took this drug almost daily from that time. The Doloxene was first administered on 8 November 2007 and administered at 6 hour intervals, starting at 12:00 hours on that day.

24. By 10 November 2007 the deceased was reported as saying she felt as well as she had since her admission.

25. On the morning of 11 November 2007 the deceased began vomiting. The deceased complained to her daughter Carol that she had been given a tablet overnight that made her feel ill. She described this tablet as yellow in colour and said it was not something she had taken before. Carol Green spoke to the nursing staff and some effort was made to identify what tablet she may have been referring to. However, none of the tablets the deceased had been prescribed were yellow and it has not been possible to identify any such tablet.

26. Carol Green was very concerned about her mother on that morning. She believed her mother looked worse than the day before. Carol Green communicated her concern to the nursing staff.

27. Dr Hardy was called and examined the deceased. Dr Hardy concluded that the likely cause of the vomiting was a reaction to oxycodone or Doloxene. Whether this was correct may be doubted. The deceased had been given oxycodone in 10 mg doses regularly since 24 October. She had taken Doloxene at 6 hour intervals since 8 November. Leaving aside the symptoms at the time of her admission on 17 October, there was no record of her vomiting or feeling nauseous before the morning of 11 November.

28. The deceased reported that she had been to the toilet to open her bowels that morning, although this must have been only a partial emptying of her bowels as the autopsy examination showed the deceased was significantly constipated. Dr Hardy gave evidence that in the light of this report she was not concerned about bowel obstruction. She prescribed oral aperients and an enema for constipation. Dr Hardy did not perform an abdominal examination.

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RECOMMENDATIONS

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Dated this 27th day of November 2009.

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