IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2007 1399
COR 2007 1397
COR 2007 1371
COR 2007 1423

REDACTED FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)

*Section 67 of the **Coroners Act 2008***

Inquest into the Deaths of:

PN

AT

TH

MD

Delivered On:	June 25, 2012
Delivered At:	Level 11, 222 Exhibition Street Melbourne 3000
Direction Hearing Dates:	October 6, 2009, November 30, 2009, December 9, 2009 and February 17, 2010
Inquest Dates:	April 12, 13, 14, 15 and 16, 2010, February 14, 2011 and March 15, 16,17,18, 21, 23, 24, 25, 30, April 4, 5, 7 and 8, 2011
Findings of:	JUDGE JENNIFER COATE, STATE CORONER
Representation:	Mr John Noonan SC with Ms Katie Stynes for Benetas/Anglican Aged Care Group

	Mr Guy Gilbert for Department of Health
	Mr Ron Gipp for Ms Jennifer Leslie, Ms Adeline Phan and Ms Anna Hunt
	Mr Chris Winneke for Dr Celia Sklovsky
	Mr John Constable for Ms Sharon Callister
	Mr Sean Cash for Dr Kazys Zdanius, Dr Zhongmei Liu and Dr Alfred Sammadar
	Mr Richard Attiwill for City of Boroondara
	Mr Stephen Maloney for Mr Graham Watts
	Mr Neil Rattray for Dr Schifter
Counsel Assisting the Coroner	Ms Fiona Ellis, instructed by VGSO Ms Huong Nguyen

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IN THE CORONERS COURT OF VICTORIA

AT MELBOURNE

IN THE MATTER OF INQUESTS INTO THE DEATHS OF:

PN (Coroners Case No. 1399/07)
AT (Coroners Case No. 1397/07)
TH (Coroners Case No. 1371/07)
MD (Coroners Case No. 1423/07)

I, Judge Jennifer Coate, State Coroner, having investigated the deaths of the above-named with Directions Hearings held on October 6, 2009 and November 30, 2009 and December 9, 2009 and February 17, 2010 and with Inquest held on the April 12, 13, 14, 15 and 16, 2010, February 14, 2011 and March 15, 16,17,18, 21, 23, 24, 25, 30, April 4, 5, 7 and 8, 2011 find that the identities of the deceased are the above named and that they died on the following dates:

PN April 8, 2007

AT April 11, 2007

TH April 12, 2007

MD April 16, 2007

The causes of death for each of the above-named are set out in the Interim Finding delivered on February 14, 2011(Appendix 1).

1. The circumstances in which these deaths occurred are as follows:

Background

2. In or around the first week of April 2007, there was an outbreak of gastroenteritis at Broughton Hall Nursing Home.[1] Each of the above-named persons were residents of the Broughton Hall Nursing Home at that time.

3. It is estimated that approximately 22 out of the 30 residents of the Nursing Home contracted gastroenteritis during this outbreak. Upon commencing this investigation, 6 deaths of residents of Broughton Hall Nursing Home in or around this time were reported to the Coroner. After further material was gathered and submissions received with respect to 2 of those 6 deaths, rulings were made that those deaths were not connected to this outbreak and that the deaths were not *reportable.*[2] Consequently, the investigations into those two deaths were discontinued.

4. Counsel for Broughton Hall, Mr Noonan SC indicated at the commencement of the Inquest that his client did not accept that the deaths of these four residents (named above) were causally connected to the outbreak of gastroenteritis. Thus, it was agreed that the Court would first deal with the issue of cause of death as it was considered a preliminary jurisdictional issue. Five days of evidence and submissions were devoted to the issue of cause of death resulting in the Interim Finding published on February 14, 2011 referred to above. This Finding follows on from that Interim Finding and is to be read in conjunction with it.

Significance of a gastroenteritis outbreak in an Aged Care facility

5. The Communicable Disease Prevention and Control Unit of the Department of Health (CDPCU) published a guide in 2010 for the management and control of gastroenteritis outbreaks in aged care, special care, health care and residential care facilities ("the 2010 Guide").[3] In the 2010 Guide, gastroenteritis is noted to be

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[1] "Broughton Hall" is an aged care facility run by Anglican Aged Care Services Group trading as "Benetas".

[2] Within the meaning of the *Coroners Act 1985*.

[3] This 2010 Guide supersedes the guidelines that were in place at the time of this outbreak in 2007. This 2010 Guide describes itself as a supplement to the Guidelines for the investigation of gastroenteritis outbreaks, which is a much more comprehensive guide for Environmental Health Officers of local Councils whose role it is to investigate such outbreaks.

generally a self limiting condition which requires no treatment, but noting that this generalisation is subject to an assessment by a treating doctor. However the 2010 Guide also notes that populations in aged care and health care facilities are highly susceptible populations who tend to experience greater severity and longer duration of illness.

6. The 2010 Guide also notes that in aged care facilities, transmission of the disease may be complicated by close living conditions, shared bathroom facilities, low mobility and incontinence. For all of those reasons it is considered essential that outbreaks of gastroenteritis in aged care facilities are contained as quickly as possible. The 2010 Guide notes that this should be done by implementing the infection control procedures contained in its guidelines.

7. A summary of the expert evidence given during this inquest with respect to gastroenteritis in aged care facilities was totally consistent with the advice contained in the 2010 Guide. For example, according to Dr Demeduik[4], elderly persons living in aged care facilities were particularly vulnerable to the effects of gastroenteritis:

"Elderly living in aged care facilities are more susceptible to contracting gastroenteritis by virtue of their usually compromised medical state, close living conditions, care by staff moving between residents and centrally prepared cooking and are at risk of death following infection due to their age and medical status... Residents living in aged care facilities are more susceptible to contracting salmonellosis[5] and the risk of death is increased by virtue of the same reasons."[6]

The issues for investigation at Inquest

8. At the Directions Hearing on October 6, 2009 the final issues for investigation at Inquest were set down as follows:

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[4] A general practitioner provided from the panel of General Practitioners of the RANZCGP.

[5] Salmonellosis is defined by 25th Edition of Dorland's Dictionary as "infection with certain species of the genus Salmonella, usually caused by the ingestion of food containing the organisms or their products and marked by diarrhoea attended by cramps and tenesmus and/or paratyphoid fever".

[6] Exhibit 19: P 7.

a) Cause of death;

b) Evidence for the existence/presence/source of salmonella at Broughton Hall and the connection between Salmonella and gastroenteritis;

c) Identification of the outbreak-the communication/notification of the outbreak to the DHS, local government and families. Communication between relevant agencies and/ or local government;

d) Timing of the report by Broughton Hall to the DHS[7] and whether the earlier reporting by Broughton Hall may have had a positive impact on the outcomes;

e) Role of the DHS and the time, place and circumstances of when it first visited Broughton Hall and whether this should/could have been earlier;

f) Role of the DHS and chief health officer;

g) Any link between the CEO of Broughton Hall and the lowering of standards and/or effect of the same from the management structure;

h) Management/control of the outbreak;

i) Systems and protocols for the handling of the infectious/communicable diseases;

j) Systems and protocols in place at Broughton Hall relating to food storage, food preparation, cooking, food handling and service; and

k) The need for a central control team at an early stage to ensure good coordination and communication and clarity of roles.

9. Notwithstanding the content and order of the issues identified for investigation at Inquest set out above, to avoid some repetition and overlap I have not followed the order set out above nor used exactly the same headings. However, the content of the issues identified and dealt with at Inquest have remained the same.

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[7] At the time of this outbreak, the Department of Human Services (DHS) was the responsible government department. The responsible government department is now the Department of Health.

Cause of death

10. As noted above, this issue in each of the four deaths was fully canvassed and decided in the Interim Finding delivered on February 14, 2011 and appended to this Finding. In summary, I found that the Salmonella pathogen either caused or contributed in a sufficient and material way to the causes of death of each of the above named residents such that it was appropriate to maintain each one in this investigation.

Identification of the outbreak

11. The agreed facts are that nursing staff at Broughton Hall identified that it had an outbreak of gastroenteritis during the afternoon of April 7, 2007 based on the number of symptomatic residents observed by the nursing staff. The evidence was that over the duration of the "outbreak" during April 2007 when the four residents the subject of this inquest died, there were thirty residents in the Nursing Home at Broughton Hall. Of these, 22 displayed symptoms of gastroenteritis over the course of the outbreak and sixteen ultimately tested positive for the Salmonella pathogen.

Notification of the outbreak by Broughton Hall to DHS

12. On the afternoon of April 7, 2007 RN[8] Leslie contacted Ms Page, the Benetas weekend manager for Broughton Hall and informed her that there were four residents affected by gastroenteritis and queried with her the requirements to inform DHS of the outbreak.

13. The evidence was that at the time of this call, the Infection Control Policy document required to be kept by Broughton Hall (as an aged care facility) was unable to be located by the nursing staff.[9] Contrary to DHS guidelines, the Infection Control Policy document appears to have been placed in the manager's office, which was locked, and not accessible to the nursing staff on 7 April 2007.[10] The contact numbers

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[8] Registered Nurse, Division 1.

[9] Final Written Submissions of Benatas: P20.

[10] Transcript 113 - 115 and 134 - 136 (Evidence of RN Leslie).

for the DHS and the local Council were contained within that Infection Control Policy document.[11]

14. It was not contentious during the investigation and Inquest that there was no mandatory statutory obligation upon Broughton Hall or the nursing staff to notify DHS or the local Council of this outbreak. The evidence is that notification was encouraged by DHS but not required.[12]

15. It has been accepted by Benetas during the course of this inquest that it would have been prudent for Benetas, as the operator of Broughton Hall to have made a notification to DHS on April 7, 2007. Benetas did not notify DHS or the local Council until 9.30am on April 10, 2007.

16. Benetas has accepted that it should have notified DHS of the gastroenteritis outbreak as at April 7 and that the delay in notification was not appropriate. [13] Benetas also accepts that its Infection Control Policy was not available, but should have been available, to nursing staff at the time the outbreak was identified.[14]

17. The lack of availability of the document contributed to the confusion about who and how to notify and what information was important.

18. On the morning of April 10, DHS notified the City of Boroondara[15] ("the Council") of the outbreak and the Council attended Broughton Hall on that same day. The evidence was that the Council was not notified that any resident had died as a result of the outbreak at that stage. However, Broughton Hall sent a case list to the Council

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[11] Transcript 289.

[12] See 2010 Department of Health Guidelines (for the management of gastroenteritis). The current requirements with respect to notification remain the same in so far as they do not mandate a notification in the circumstances such as occurred at Broughton Hall.

[13] Final Written submissions of Benetas : P 6 and Joint Statement Exhibit 70.

[14] Final Written Submissions of Benatas: P20.

[15] The relevant local government authority responsible for responding to and investigating, in collaboration with DHS, outbreaks of this kind.

on April 11 of residents with symptoms of gastroenteritis and that list contained the names of two residents who had symptoms who had died on April 8 and April 9.[16]

Notification to families

19. Issues were raised in the early stages of the investigation about communication to families about the outbreak, the nature of it and what actions were being taken. The weight of the evidence is that, subject to the general concerns about the detail and timing of the communications otherwise set out in this Finding, the notification provided to families by Broughton Hall was appropriate in the circumstances.

20. The only exception to this was with respect to the MD family. There was evidence from the daughter of Mr MD that her mother had told her that she was told by RN Hunt that her husband had the flu rather than symptoms of "gastro". RN Hunt in evidence stated that she had not considered that Mr MD had the flu and gave evidence that she did not tell Mrs MD that Mr MD had flu. Given there was no first-hand evidence from Mrs MD on this issue, and no plausible reason for RN Hunt to have made such a communication, I am satisfied on the evidence of RN Hunt that she did not make such a communication to Mrs MD. Given the stressful circumstances that ensued for the MD family over the next days, it is not surprising that some inaccuracy may have arisen for Mrs MD about this communication.

Conclusion on notification to DHS

21. Broughton Hall conceded at the commencement of the second stage of the Inquest that it had delayed its notification to DHS. That delay had several ramifications, which included an impact on the ability to identify the cause of the outbreak and treat those affected in an informed, appropriate, and timely way. Questions arose in the course of the Inquest as to whether or not outbreaks of this type should be the subject of mandatory notifications to DHS from aged care facilities. This issue is addressed below.

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[16] Joint Statement to the Coroner (Exhibit 70).

Identification of nature of the outbreak

Viral or bacterial

22. The issue of whether or not the identified gastroenteritis outbreak was caused by a virus or bacteria assumed some significance in this investigation. The evidence was that identifying the pathogenic cause of the outbreak was important for both treatment purposes and infection control.

23. The 2010 Guide published by the Department of Health CDPCU states: "*Gastroenteritis may be caused by a variety of different bacteria, viruses or parasites. Symptoms of diarrhoea, nausea, vomiting and abdominal pains may be experienced over several hours, days or weeks, and may also be accompanied by fever, headache and lethargy. Generally, gastro intestinal pathogens are spread by direct person-to-person transmission (viruses), via aerosols of vomit, from contact with contaminated surfaces, or by consuming contaminated food or water (bacteria, viruses or parasites). The time from becoming infected to the commencement of symptoms (incubation period) can vary from a few hours to several days.*"

24. The evidence was that outbreaks of gastroenteritis (with symptoms of vomiting and diarrhoea) at aged care facilities are not uncommon. The overwhelming majority of these outbreaks are viral in cause and are self limiting.[17] For this reason attending and treating doctors and health care staff will usually not initially suspect a food or water borne/bacterial cause and therefore not immediately order faecal samples to identify the possible cause. The general position of the treating doctors who attended, with the exception of Dr Liu (to whom I shall return below), was that the outbreak was most likely to be viral and therefore self limiting. The consistent evidence from the treating doctors was that the important treatment response was to monitor the

[17] In the Joint Statement to the Coroner (Exhibit 70), the Department of Health stated as follows:" In the years 2007 to 2010, there were a total of 656, 461, 503 and 557 outbreaks of gastroenteritis notified to the Department, respectively. Of these, 5 to 6 per cent were shown to be food borne, with a further 9 to 11 per cent of unknown transmission.....the large number of outbreaks are shown to be person to person spread (due primarily to norovirus) and are straightforward to manage." (Exhibit 70)

affected residents, ensure their hydration was adequate, and review if symptoms appeared to become worse, and the doctors maintained that this is what they did.

Complications of diagnosis of gastroenteritis in an aged care facility

25. Evidence arose in the course of the Inquest about some of the complexities of responding to gastroenteritis in an aged care facility.

26. Some of the issues which emerged beyond those previously identified included the difficulty arising from the inability of some residents to communicate at all or reliably about their own symptoms and condition; that diarrhoea may be difficult to distinguish from faecal incontinence or other underlying medical conditions and that frail nursing home residents may not exhibit increased temperatures even when affected by gastroenteritis.

27. Professor Grayson gave evidence consistent with this in that he stated that in elderly patients, Salmonella may initially be indistinguishable from other common causes of gastroenteritis outbreaks since, for example, such patients are more frequently afebrile than younger healthier patients and their medications and/or age may blunt symptoms.[18]

28. As stated above, the identification of the pathogen causing the outbreak was a significant feature of this investigation. A number of the interested parties responded to the suggestion that they had wrongly assumed the cause was a self limiting virus typical of those regularly causing outbreaks in aged care facilities by asserting that (a) most outbreaks are viral and (b) the response was appropriate to the circumstances as each of the treating doctors knew them at the time.

29. In contrast, Professor Grayson's opinion was that when one is dealing with an at risk populations such as that in aged care facilities, the judgement as to the probable cause of an outbreak should be a very cautious one. It was Professor Grayson's opinion that a proper examination of the clinical notes of the affected patients would have left him concerned that a bacterial pathogen could have been the cause of the gastroenteritis

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[18] Exhibit 23

and that he would have erred on the side of responding to rule out such a diagnosis before assessing the appropriate treatment option.[19]

Connection between notification and identification of the causative pathogen

30. It was the opinion of Professor Grayson[20] that identification of the outbreak on April 7 should have led to the following:

    a) Faecal samples being obtained on all symptomatic patients which in his view may have led to earlier identification of Salmonella as the responsible pathogen;

    b) Immediate and co-ordinated institution of infection control measures rather than the "patchy and variable" response evident;

    c) Food and environmental cultures being obtained by Tuesday April 10 rather than 13 April and earlier supervised enforced cleaning of the kitchen;

    d) Some particularly ill patients receiving specific antibiotic therapy that may have been beneficial (Professor Grayson included Mr MD in this group); and

    e) The risk of person to person transmission would have been reduced by early implementation of strict control procedures.

What actually happened?

31. Upon notification of the outbreak to DHS on April 10, DHS sent a fax to Broughton Hall directing that faecal samples be taken from ill residents.[21]

32. The evidence is that had the outbreak been notified to DHS on April 7 and faecal samples taken at that time, it is reasonable to assume that the conveying of those faecal samples to the MDU (Microbiological Diagnostic Unit) and the testing of them

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[19] Transcript 1134 and 1146.

[20] Exhibit 23: Pp 6-7.

[21] Transcript 713 (Dr Rosemary Lester).

would have commenced on April 8. This would have resulted in the Salmonella pathogen being identified on 11 or 12 April.[22]

33. The evidence of Dr Rosemary Lester[23] on this issue was that had the Department been notified on 7 April 2007, it is more likely that the outbreak would have been considered probably bacterial in nature.[24] In closing submissions, the Department of Health submitted that the delay in reporting by Broughton Hall may have contributed to it forming an initial view that the cause of the outbreak was viral in nature. It was submitted that the delay in notification had the effect of also "disguising the cluster occurring on the 7th" and had this been known at the time it would have pointed to a more likely food or water borne point source outbreak.[25]

34. Further, according to Dr Lester if the Department had been notified of the outbreak earlier then they would have "requested the faecal samples earlier and the pathogen may have been identified earlier."[26]

35. The Boroondara Council agreed with this view and added that had it been notified of the outbreak on April 7, faecal samples could have been directed and provided to the public health laboratory MDU on April 7, which may have produced identification of the pathogen two to three days earlier than what did eventuate.[27]

36. The Council submitted that, for its own part in this investigation, it did not compromise its investigation by assuming a viral cause when it attended at Broughton Hall on April 10. The Council inspected the kitchen at Broughton Hall, requested Food Safety Plans from Broughton Hall and reviewed a range of related issues such as refrigerator temperatures, food handling and hygiene and generally conducted a

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[22] Evidence of Professor Grayson; Dr Rosemary Lester.

[23] Acting Chief Health Officer for DHS at that time

[24] Transcript 711.

[25] Final written submissions of Department of Health: P 6.

[26] Transcript 763.

[27] Professor Grayson: Transcript 1038.

food safety audit of the kitchen. The Council also directed that all surfaces of the kitchen and equipment in it be cleaned with chlorine. The Council picked up three faecal samples for testing on this day.[28]

37. Broughton Hall, whilst conceding that there was a delay in notification and that it fell short in some aspects of its infection control response, relied on the actions taken by its staff to assert that much of what was done was appropriate to an infectious outbreak, whether it was viral or bacterial in cause.

The collection and testing and reporting of results of faecal samples

38. It emerged during the course of the evidence that there was considerable confusion and misunderstanding about what would happen during an infectious outbreak that was reported to the DHS or the Department of Health. One important aspect of this confusion was amongst the treating doctors relating to whether or not they should order faecal tests or whether this would be done by DHS and reported back to them.

39. The need for faecal testing was of crucial significance according to the infectious disease experts.

40. Professor Grayson stated that given the symptoms of viral and bacterial gastroenteritis are similar such that it is difficult to differentiate between them on clinical grounds, the testing of faecal samples of potentially affected persons is important given it is the only appropriate and reliable method to confirm if an individual patient is affected by the pathogen. Once it is known whether the gastroenteritis is bacterial or viral then decisions can be made as to appropriate treatment and properly directed infection control measures. Dr Hogg agreed with Professor Grayson on the need for faecal testing.

41. The Department of Health, in the Joint Statement to the Coroner[29] agreed with the importance of faecal sampling to both establish the causal pathogen and to ascertain its mode of transmission. The Department of Health also noted that faecal testing was

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[28] Exhibit 66: Statement/report of Ms Naismith.

[29] Exhibit 70.

the method needed to identify whether or not a particular individual has the pathogen and therefore informs the treating doctor about the clinical management of that individual.

Confusion as to who directs and does the testing

42. During the Inquest, as noted above, the evidence of some of the attending doctors was that they believed that DHS, once notified and involved in the outbreak, would be taking and testing faecal samples from all affected or possibly affected patients to identify whether that patient was affected. In this case, as at 11 April, only three faecal samples had been collected in circumstances where the outbreak case list indicated that of the 17 residents with symptoms of gastroenteritis, 10 had diarrhoea.[30]

43. The treating general practitioner for Mr MD, Dr Sklovsky, gave evidence that although she was not clear as to whether she had been advised about the involvement of DHS at Broughton Hall, had she been told, she would have known "that they would have taken faecal samples" and by inference communicated the results of those samples to her.[31] She gave this evidence on the basis that knowledge of the involvement of DHS in the outbreak would not have caused her to change her management of Mr MD. This view of how faecal testing would be performed and reported on was consistent with the majority of doctors who gave evidence on this issue.

44. Dr Rosemary Lester gave evidence[32] that made it clear that DHS then and Department of Health now, approach the testing of patients in an infectious outbreak from a public health perspective rather than a patient management perspective. That is, the Department is involved in collection and testing of faecal samples to get an understanding of the cause of the outbreak, to endeavour to investigate and identify the pathogen, not to obviate the need for individual patient management by a treating

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[30] Statement of Leah Gullan.

[31] Transcript 843.

[32] Transcript 761-2.

doctor. This understanding and approach was supported by Dr Hogg who confirmed that once the MDU laboratory is satisfied that it is dealing with an outbreak of gastroenteritis due to Salmonella, all testing beyond that is considered as further characterisation of the outbreak.[33]

45. Dr Lester's evidence was that DHS endeavours to obtain a reasonable number of samples, generally accepted as about five, in order to isolate and identify the pathogen. Dr Hogg stated that MDU stop testing once the pathogen has been identified unless requested by DHS to further examine some aspect of the pathogen or address some other specific issue.

46. As stated above, this evidence was in contrast to what the majority of attending treating doctors understood would happen once DHS was notified of an outbreak. The majority of treating doctors believed that once DHS was notified, then DHS would direct faecal samples to be taken from their patients and if found to be affected they would be notified.[34] Indeed it would seem that even an experienced infectious control nurse expert such as Ms Jane Hellsten[35] also believed this was what would happen.[36] Professor Grayson himself gave evidence that it was his understanding as at 2007 that all symptomatic residents in aged care facilities during an outbreak of gastroenteritis would have a faecal specimen obtained from them and be tested with results available to treating doctors.[37]

47. For the purposes of further sampling beyond symptomatic residents, for example food handling staff, there seemed to be reasonable consensus that this would be a matter for the Department of Health to direct. Indeed, in this case, after the identification of

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[33] Transcript 1184.

[34] See for example the evidence of Dr Sklovsky.

[35] Ms Jane Hellsten was nominated by Professor Grayson as a senior and experienced infection control expert nurse who was then requested by the Court to provide an expert opinion in this case.

[36] Transcript 970.

[37] Transcript 997.

the pathogen, on April 16, the Chief Health Officer directed the Department to obtain faecal specimens from all food handling staff.[38]

Who does the collecting of the samples?

48. As noted above, there was considerable variation in the evidence about who was both directing the taking of faecal samples and who was responsible for the collecting and delivery of the samples to the laboratory for testing. Following this, there was some variance in the opinions about who *could* or *should* be collecting faecal samples in these circumstances. The overall effect of the opinions expressed in evidence was that the aged care facility should be responsible for the collection of faecal samples from symptomatic residents during an outbreak.

The reporting back of faecal testing results

49. As noted above, it was evident during the course of the Inquest that this issue was one of considerable importance to outbreaks of infectious disease in aged care facilities and not necessarily well understood by some nurses and doctors. Not only were there variations in what people understood about who was taking samples and what was being tested, it also emerged that there was misunderstanding and lack of clarity about the reporting of the results.

50. On April 8, a resident of Broughton Hall was transferred to Box Hill Hospital with symptoms of gastroenteritis. A faecal sample was taken from her on April 9 and analysed at the Box Hill Hospital pathology service. In the early afternoon on 13 April, 2007, Ms Naismith of Boroondara Council was notified orally by a doctor at the Box Hill Hospital of the test result from that faecal sample indicating the presence of "food poisoning" bacteria.

51. According to Ms Naismith the reporting doctor did not state that Salmonella had been identified. Again, according to Ms Naismith, the doctor advised that she could not go

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[38] Statement of Ms Sturge dated 8 March 2011.

into detail for "confidential reasons".[39] Ms Naismith then advised Ms Liew the Regional Environmental Health Officer from DHS who made telephone contact with the pathology laboratory at Box Hill Hospital and was advised that the sample taken from the resident had tested positive for Salmonella.

52. Ms Liew advised Ms Naismith that she would ask CDPCU[40] to follow it up. Also on 13 April, 2007 the CDPCU of DHS was notified verbally by the pathology laboratory at the Box Hill Hospital that they had a sample from a resident from Broughton Hall which had tested positive for Salmonella. The CDPCU was also advised on the afternoon of 13 April, 2007 (by MDU) that of three faecal samples that had been collected from residents of Broughton Hall, one was possibly positive for Salmonella and that two other samples were "growing something".

53. On 13 April 2007 at about 3.30 pm, Council officers including Ms Naismith attended at Broughton Hall on the direction of DHS and disposed of foods and took samples.

54. Between four and five in the afternoon of April 13 in response to a call from Broughton Hall management, Broughton Hall was informed by DHS that the faecal sample taken from the resident admitted to Box Hill Hospital had tested positive for Salmonella.

55. The accepted evidence is that Benetas did not inform the clinical staff at Broughton Hall at this time of the positive identification of Salmonella, nor Dr Schifter who attended upon Mr MD at 8 pm on April 13 to treat him for symptoms of gastroenteritis.

56. A separate issue arose on the evidence that Broughton Hall did not notify the ambulance paramedics who transported Mr MD on April 15 to the Epworth Hospital nor the Epworth Hospital itself upon having Mr MD transferred into their care on April 15 that Salmonella had been identified in residents on April 13.

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[39] Report of Ms Naismith dated 18 June 2007 (Exhibit 66 Inquest Brief).

[40] Communicable Disease Prevention and Control Unit (Department of Health).

57. All of these important communications as between Box Hill Hospital, the Microbiological Diagnostic Unit, Department of Human Services, Boroondara Council and Broughton Hall were done verbally with no written advice, or written confirmation which could then be provided to treating doctors, transferring ambulances and hospital staff and placed on patient files.

58. The failure to provide the positive results for Salmonella to nursing staff and treating doctors was clearly unsatisfactory and put both residents and staff at risk. (See Comments.)

Food sampling as an investigative tool to identify pathogen and possible source

59. Dr Lester gave evidence that if the Department had been notified earlier (April 7 or 8) it would have assessed the outbreak as possibly food borne and then the prepared food would have been discarded, food sampling would have been undertaken and faecal samples requested.[41] The notification not having been made until April 10 meant that the relevance of any food testing was considerably reduced. Given the delay in the notification to DHS and the attendance of the Council on April 10, there was general agreement amongst the experts that food sampling was not going to be particularly helpful to the investigation at that time.[42]

Environmental sampling as an investigative tool to identify pathogen and possible source

60. There was a range of views expressed about the nature and value of "environmental testing" in this case. That is, whether or not testing such as swabbing of benches and testing from kitchen equipment should have been done. Again, the delay in notification added a dimension to this debate. Dr Lester stated, environmental swabbing will only provide a "secondary source of information" and as it could be an

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[41] Transcript 713.

[42] Professor Grayson: Transcript 1037; Jane Hellsten: Transcript 967.

incidental finding it would not necessarily be helpful in concluding the type and source of the infective pathogen.[43]

61. Both Ms Hellsten [44] and Dr Hogg agreed with this view.

Source of the outbreak

62. According to the Department of Health Guide ("the Guide"), most food borne illness is caused by bacteria which, given the right conditions, can grow in food to numbers sufficient to infect the consumer of the food. Certain foods are considered to be high risk for susceptible populations such as the elderly, very young children and those who are already ill. The Guide states that these foods should not be served to residents of aged care facilities or patients in hospital. For example the Guide states that eggs can be high risk as they may be contaminated with Salmonella bacteria, and so should not be eaten raw or undercooked.

63. For this reason the Guide states that *"care should always be taken to follow all aspects of the food safety program, especially with regard to personal hygiene of food handlers, temperature control, cross contamination and cleaning and sanitising procedures. Food safety record should be maintained continually to show that food is being stored, prepared and served safely and that food handling staff are well trained in all aspects of food hygiene".*

64. This aspect of the Guide was also consistent with the expert evidence. According to Professor Grayson[45], the transmission of Salmonella to humans can occur by many routes, "including consumption of food animal products, especially eggs, poultry,

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[43] Transcript 704.

[44] Transcript 959.

[45] As set out in the Interim Ruling of dated 14 February 2011, Professor Grayson is Professor of Medicine at Melbourne University, Director of the Infectious Disease Department, Austin Hospital (MMBS (Hons) Monash, FRACP, MD, FRCP (UK).

undercooked ground meat and dairy products, fresh produce contaminated with animal waste, contact with animals or their environment, and contaminated water."[46]

65. Whilst satisfied on the basis of the expert evidence and opinions that there was only one source of pathogen for the outbreak,[47] for a range of reasons it was not possible to identify to the appropriate evidentiary standard the **actual** source of the outbreak. The assessment and operating hypotheses for the "clean up" in the wake of the outbreak was that the Salmonella outbreak occurred in the kitchen of Broughton Hall, but it was not possible to be any more definitive than that.

66. An epidemiological report produced by Dr Rosemary Lester identified the vitamiser in the kitchen as the *possible* source of the Salmonella.[48] However, this hypothesis was unable to be established to the necessary evidentiary standard. The epidemiological report was prepared by Ms Kaye Sturge and Ms Joy Gregory. The report summarises a range of features of the outbreak which lead the authors to conclude that there was a statistically significant association between the consumption of vitamised food and the gastro affected patients. Dr Lester gave evidence that epidemiological evidence could not be definitive but it could and did find a statistically significant "association" in this case which makes it "very unlikely for that magnitude of association to have occurred by chance".[49]

Would earlier notification and identification have altered the outcome for any of the four above named residents?

67. It was submitted by Broughton Hall that even if the causative pathogen had been identified 1 or 2 days earlier, it would not have altered the outcome for Messrs PN or

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[46] Exhibit 23: P 2.

[47] There was evidence from microbiologist Dr Hogg that whilst two isolates of Salmonella were identified, it was his opinion that they should be considered as indistinguishable from each other. (Exhibit 15(1): Statement of Dr Hogg dated 5 April 2010).

[48] Exhibit 53 Inquest Brief: P 165-166.

[49] Transcript 709.

AT or Ms TH. Below is an examination of this question with respect to each of those three residents and a separate examination of the question for Mr MD.

Mr PN

68. Mr PN died just before midnight on April 7. The weight of the evidence is that this was before the causative pathogen could have been identified and a treatment response initiated. Professor Grayson stated that he did not believe that earlier notification or investigation of the outbreak including the taking of faecal samples would have altered the clinical course for Mr PN as it is unlikely that the Salmonella could have been identified by the time that Mr PN died. Professor Grayson also stated that he considered the medical management of Mr PN to have been appropriate.

69. There was no other medical opinion or evidence to the contrary with respect to Mr PN.

Mr AT

70. In the case of Mr AT, his family had requested that he not be treated with active medical intervention. Professor Grayson gave his opinion on the question of the outcome for Mr AT as follows:

"Given that active intervention and treatment, including transfer to hospital for IV fluids, was refused by the patient's relative, the overall medical management was appropriate under the circumstances. Based on the material available to me, Mr AT's death was imminent, regardless of the Broughton Hall outbreak. Earlier identification of salmonellosis at Broughton Hall would probably have not altered Mr AT's clinical course since his family did not want active treatment".[50]

71. There was no other medical opinion or evidence to the contrary with respect to Mr AT.

Mrs TH

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[50] Exhibit 23: P 7.

72. With respect to Mrs TH, it was submitted by Broughton Hall that even if her treating doctor (Dr Zdanius) had been notified on April 11 that she had tested positive for Salmonella, it would have been unlikely that her outcome would have been different, if for no other reason than she too was to be treated palliatively at the request of her family. This would have meant that she would not have received an aggressive hospital based intervention which was likely to have been the only life saving option at that point in the course of Mrs TH's illness.[51] The weight of the evidence was that antibiotic administration alone at that point was unlikely to have changed the outcome of her illness given her overall poor medical status and a family wish for palliative treatment.[52]

Mr MD

73. Of the four residents the subject of this investigation, the question of the detriment to Mr MD of the delayed and uncoordinated overall response to the outbreak was at its most pointed.

74. Dr Liu was the first doctor (a locum) to attend upon Mr MD during the outbreak and had raised the question as to whether or not there was a possible "food poisoning" in the facility. Dr Sklovsky stated that she read Dr Liu's notes of her attendance upon Mr MD upon her return to work on April 10. Dr Sklovsky recalls having telephone contact with Broughton Hall during which time she felt reassured that gastroenteritis was going through the facility and that she assumed it was viral. Dr Sklovsky stated that she was not called to attend upon Mr MD and she was advised that as at April 10-11 his hydration was reasonable and that his symptoms appeared to be resolving.[53]

75. Dr Schifter attended as a locum upon Mr MD on the evening of April 13.[54] He was aware that DHS and the local council were involved in the outbreak but was not made

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[51] See evidence of Dr Zdanius and Professor Grayson.

[52] See evidence of Dr Ong, Dr Zdanius and Professor Grayson.

[53] Exhibit 60.

[54] It was conceded in the Joint Statement (Exhibit 70) that the positive Salmonella test for a Broughton Hall resident was not made known to Dr Schifter.

aware of what the pathogen was which might be causing the outbreak despite this being known by Broughton Hall at this time and despite Dr Schifter asking for any test results.

76. Neither was he made aware that residents had died and some had been hospitalised. Dr Schifter gave evidence that had he been made aware of the presence of Salmonella, he would have either introduced antibiotics or had Mr MD transferred to hospital immediately. This information was highly relevant to the treatment of Mr MD who was seen by Dr Schifter on the evening of April 13 at about 8pm. Whilst Dr Schifter diagnosed gastroenteritis dehydration, this was without knowledge of the identification of the Salmonella pathogen in another resident of the nursing home earlier that day. He examined Mr MD and aside from ordering a change in his rehydrating fluid, he did not change his diagnosis or treatment regime.[55]

77. Dr Schifter stated that he provided notes of his visit upon Mr MD to Dr Sklovsky via the electronic system set up with the locum service on 14 April, noting that he thought Mr MD needed review. Dr Sklovsky stated that she did not see Dr Schifter's notes until April 16 despite checking her inbox at the beginning and end of the day of 14 April.

78. Broughton Hall accepted that the earlier identification of the pathogen may have "influenced the treatment regime" for Mr MD although it was not possible to say that a different *treatment* regime would have changed the outcome of the illness for Mr MD. Broughton Hall submitted that had the Salmonella been identified by April 11 or 12, antibiotics may have been prescribed. It is not necessary to speculate about this issue however, as the evidence of Dr Schifter is that he would have either prescribed antibiotics to Mr MD or had him transferred to hospital immediately.

79. Professor Grayson analysed at some length the poor communication trail surrounding the treatment response to Mr MD including that even at the time Mr MD was transferred from Broughton Hall to the Epworth Hospital by ambulance (on April 15), that neither the ambulance officer nor the admitting geriatrician at the Epworth

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[55] Transcript 533.

Hospital were made aware that the gastroenteritis at Broughton Hall was likely to have been caused by Salmonella.

80. [56]The question of whether or not appropriate anti-biotic treatment and/or hospital transfer on the evening of April 13 may have saved Mr MD's life arose squarely on the facts. Professor Grayson stated that had antibiotic medication been commenced at this time, it **could** have made a difference to the outcome for Mr MD. In my view, the opinion of Professor Grayson properly summarises and captures the answer to this question. The effect of Dr Schifter's evidence and Professor Grayson's evidence is that the opportunity for potential life saving intervention was lost for Mr MD.

Notification obligations for registered medical practitioners

81. As noted above, since this outbreak, the *Health Act 1958* has been repealed by the *Public Health and Well Being Act 2008*, which came into force on January 1, 2010.

82. This new Act contains a new regime of Regulations for the reporting of notifiable "diseases" and contains a new test for mandatory notification for medical practitioners.[57] In the wake of this legislative change, the 2007 Department of Health Guidelines have been substantially revised and replaced by the 2010 Guidelines.

83. Throughout the course of this outbreak, a considerable number of treating doctors and locum doctors attended Broughton Hall and examined and treated affected residents. Of that considerable number, only one doctor, Dr Liu, formally raised a query as early as April 7 that the patient she attended upon may be suffering from food poisoning.

84. It was Dr Liu's position that when she attended Broughton Hall on April 7 to treat Mr MD, she was made aware that at least two other patients had the same symptoms and thus she formed the view that the facility might be experiencing a food poisoning. Dr

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[56] Transcript 1157.

[57] See Joint Statement to Coroner (Exhibit 70).

Liu took the view that DHS should be notified of this and stated that she directed a member of the nursing staff at Broughton Hall to do so.[58]

85. Dr Liu accepted that she had a statutory obligation to report to DHS pursuant to Regulation 8 of the *Health (Infectious Diseases) Regulations 2001*, but believed that she complied with this requirement by delegating that task to the nurse she advised to report. The nurse who assisted Dr Liu denied that any such direction was given to her by Dr Liu. [59] There were no notes to this effect in the medical file and there was no corroboration from any staff member at Broughton Hall that such a direction was given. It was not possible given the state of the evidence to resolve the facts, but the issue remains an important lesson from these events with respect to doctors understanding that the obligation to notify is a personal one that cannot be delegated to the nursing staff.

86. Rather ironically, Dr Lui, the only doctor to apparently accurately assess what was happening at Broughton Hall over those chaotic days, has been singled out and was the subject of submissions that she failed to notify DHS and fell short of her obligations pursuant to the Regulations in force at that time. Broughton Hall submitted that Dr Liu, a locum that had treated Mr MD on April 7 had an obligation pursuant to the Regulations applicable at that time (Regulation 8 of the *Health (Infectious Diseases) Regulations 2001*) to notify DHS personally.

87. Counsel for Dr Liu did not endeavour to submit that the obligation to report to DHS was a delegable function of a doctor, but rather did submit that the obligations to notify and in what circumstances were not well understood by doctors.[60]

88. Indeed in final written submissions for Dr Liu, attention was drawn to the evidence of Professor Grayson himself who stated he had great sympathy for locums coming into a situation like this and added that he did not know, until his involvement in this case

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[58] Statements of Dr Zhongmei Liu dated 24 June 2007 and 21 December 2009 (Exhibit 40).

[59] Transcript 153.

[60] Transcript 345.

that two or more cases such as this required notification.[61] Professor Grayson also added that he probably would have done the same as Dr Liu in that he would have considered it appropriate to direct a nurse to make the notification without realising the requirement was upon himself. (See comments and recommendations)

Role of DHS and Council during the outbreak

89. Upon being notified of the outbreak at 9.30 on April 10, DHS sent a fax to Broughton Hall setting out directions as to what it should do in relation to the management of the outbreak. Consistent with the protocols, DHS also advised the local Council who sent its officer, Ms Naismith, to attend Broughton Hall. DHS itself did not attend Broughton Hall until April 15.

90. Whilst DHS has since changed its name to the Department of Health, it submits that it has not changed its role in response to notification of an outbreak of gastroenteritis.[62] It is responsible for the overall management and co-ordination of the outbreak in its public health role. The local Council, in this case the City of Boroondara, did at the time and continues to take direction from the Department of Health to conduct the investigation of outbreaks through its Environmental Health Officer.[63]

91. Whilst in the early stages of the investigation there appeared to be some question about the lack of clarity of roles and responsibilities as between the relevant agencies and entities, the evidence which emerged was rather that there was a lack of understanding as between those caring for the patients and the statutory bodies responsible for public health generally.

92. The Department of Health submitted throughout the investigation that it does not have and considers it should not have a direct role in the clinical care of individual

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[61] Transcript 1031.

[62] Throughout this Finding I have referred to DHS as it then was in 2007 at the time of the outbreak the subject of this investigation. I have thereafter endeavoured to refer to the Department of Health after its name change and restructure from 2010 onwards.

[63] See 2010 Department of Health Guidelines.

residents in an aged care facility undergoing an infectious outbreak. This responsibility does and should continue to rest with the individual's medical practitioner. Rather, the Department considers its role during an outbreak as the protector of the general public health, rather than the treatment of an affected individual.

93. Clearly the lines can and in this case were demonstrated to have become unclear on this issue of responsibility for individual patient management as between the doctors and the agencies. (See comments and recommendations.)

Communications to attending doctors by nursing staff

94. Some issues emerged in the course of the Inquest as to the communication between the nursing staff and management of Broughton Hall and the attending doctors.

95. For example, the evidence is that by late afternoon of April 13, DHS, Broughton Hall and Boroondara Council were informed that Salmonella had been identified in the faecal sample of a resident from Broughton Hall but this information was not communicated to nursing care staff or treating medical practitioners.

96. This information was highly relevant to the treatment of Mr MD who was seen by Dr Schifter on the evening of April 13 at about 8pm. Whilst Dr Schifter diagnosed gastroenteritis dehydration, he was not advised of the identification of the Salmonella pathogen, even after enquiring as to whether any test results were available. He examined Mr MD and aside from ordering a change in his rehydrating fluid, he did not change his diagnosis or treatment regime.[64]

97. Further, Dr Schifter's evidence is that he was not made aware that there were 17 symptomatic patients in the facility and three residents had died. He was aware that there was gastroenteritis in the nursing home and that DHS were in attendance. [65] (He too was of the view that given that DHS were involved he understood that this would

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[64] Transcript 533.

[65] Exhibit 49 and Transcript 509.