

Inquiry into Convictions of Kathleen Folbigg

Submissions on behalf of Kathleen Folbigg

PART C - LAURA

Laura

Cause of Death

1. Laura was not a well child. She had myocarditis which could trigger a cardiac arrhythmia. There is a great deal of difference between the evidence at trial and at the Inquiry on this issue. Further, an analysis of the evidence at the trial demonstrates the Crown Prosecutor significantly overstated the evidence of the experts as to the effect of myocarditis as to an available alternative to smothering in the “pigs might fly” address. That address demonstrated his reliance on the now discredited Meadow’s Law in order to solve whatever difficulties the Crown had with causation. This will be demonstrated below.

Crown Opening

2. The Crown opened to the following effect:¹

IN THE PRESENCE OF THE JURY

CROWN PROSECUTOR: Ladies and gentlemen, I told you that Laura was pronounced deceased at about 12.45, that is, the 5 early afternoon of 1 March 1999.

...

A post-mortem examination was done on the body of Laura by a Dr Cala, who was then employed in the New South Wales Forensic Pathology Service, who is now the head of the whole of Forensic Pathology for the State of South Australia.

Dr Cala ... found that there was mild inflammation around the lining of the heart, consistent with a condition known as mild myocarditis, which you often find in people who have viral infections. In fact, many people who have colds or flu have this either during or after they have those illnesses. The heart itself appeared to be perfectly

¹ Exh F T 44.01-.56.

normal and the doctor was of the view that the myocarditis had not caused her death, although more severe myocarditis can sometimes cause death.

The doctor was unable to ascertain any cause of death and he was of the view that the cause of death was - this is what he wrote in his report - "undetermined". He will tell you that asphyxiation must be considered as a possible cause of death. He was of the view that this was definitely not a SIDS death due to the age of the child.

That, ladies and gentlemen, is what I anticipate will be the evidence concerning the lives and deaths of each of those children.

(Emphasis added.)

3. The Crown further opened:²

[The doctors] cannot say that it was accidental or deliberate, whether it was suffocation or a blanket or whatever. All they can say is that it was induced asphyxiation from an external cause - not from an internal cause, not from any internal abnormality of the children, but from some external cause.

The Crown case is that from these doctors, from these experts, you will be able to conclude the following. Firstly, none of these children died from the mysterious disease of SIDS. ... Laura did not die from myocarditis or any other natural cause.

The Crown case is that from these expert witnesses you will come to the conclusion that all four children died from the same kind of unexplained asphyxiating event.

... the Crown says that Kathleen Folbigg in anger and/or resentment and/or stress either intended to kill her children or intended to render them unconscious, thereby causing them grievous bodily harm or thereby intending to cause them grievous bodily harm. Alternatively, the Crown alleges that she was recklessly indifferent and that she realised that her actions in restricting their air intake may well cause them to die. The Crown says that she was well aware that by doing this she was placing her children at critical risk of death.

Ladies and gentlemen, the Crown says that this is not a case where you will hear any evidence in the Crown case to suggest that the accused Kathleen Folbigg had any mental illness such as postnatal depression, or Munchausen syndrome by proxy, or any other mental illness. Kathleen Folbigg did not kill or injure her children to get attention for herself or in a state of profound depression. The Crown says she killed them because she couldn't stand their crying and the demands that they made on her life.

Whilst all parents sometimes feel frustration, exasperation and anger with their children her feelings ran deeper to intense anger, hatred and resentment to the extent of prompting her to kill her children. She saw her children, the Crown says, particularly Sarah, as being engaged in a fierce battle of wills with her which she desperately had to

² Exh F T 67.01 - T 68.02.

win. When she could get away from her kids, such as to the gym, she was on top of the world and she was very eager at all stages of all the babies lives to resume her social life, her sporting life, her working life, her sexual life that she had when she didn't have children.

(Emphasis added.)

Evidence at Trial

4. The Crown adduced the following evidence from Dr Cala:³

...

Q. *Now, going back to your examination of Laura Folbigg, did you examine the area of her heart?*

A. *Yes.*

Q. *And when you looked at the heart itself, did you notice anything abnormal?*

A. *With the naked eye?*

Q. *With the naked eye.*

A. *No.*

Q. *Did you then conduct a microscopic examination of the heart?*

A. *Yes.*

Q. *And did you find what is called an inflammatory infiltrate of the heart?*

A. *Yes.*

Q. *Would you explain to the court what an inflammatory infiltrate is?*

A. *Yes. It is a condition where inflammatory cells which are part of the body's armamentarium used to combat infection for whatever reason and usually due to a virus or an organism, but it may be drug related, target a particular organ, and in this case the heart, and the heart becomes a focus of inflammation.*

Q. *Now, is that sort of finding, the finding that you found on Laura's heart of: inflammatory infiltrate, consistent with the after effects of a cold or flu?*

A. *I believe so.*

Q. *In your opinion did it play any role in causing her death?*

³ Exh F T 713 - T 715.

A. *I don't believe so.*

Q. *Would you explain to the court why you have that. opinion?*

A. *As I said, the heart was normal to the naked eye, but my microscopic examination did reveal inflammation of the heart. Having said that, the inflammation was quite patchy and rather mild in the sense that although the inflammation existed it was of a rather low amount as opposed to other cases that I've seen where the inflammation was much heavier in the heart and in other organs.*

Q. *Where the inflammation is much heavier, can it cause death?*

A. *Yes.*

Q. *And where it causes death is that: a condition that is known as myocarditis?*

A. *Yes, it is.*

Q. *And if somebody had died from myocarditis of the kind that you have described, what would you expect to see in and around the heart?*

A. *I'd expect to see a number of things. The heart may, but not always, I have to say, it may be flabby and have a - when you cut through the pump of the heart. the left ventricle in particular, it may have a stripey appearance. In other words, areas of paleness against areas of more normal looking heart, and that is just the way that the inflammatory process is.*

Q. *Did you find any of those in Laura's case?*

A. *No. This is with the naked eye, looking at the heart with the naked eye. The left ventricle, that is the main pump of the heart, may be a bit flabby and the chamber itself may be a bit dilated. I didn't find those changes in this case.*

Then there may be evidence of heart failure because a number of these people, both children and adults, may have myocarditis and it presents clinically to doctors as heart failure, so they may have fluid around the lungs and they may have fluid in the abdomen and I didn't find either of those things in this case.

Q. *And in your experience as a pathologist have you sometimes come across persons who have died from totally unrelated causes like car accidents who have been found to have these, this mild inflammatory infiltrate of the heart?*

A. *Yes. I've seen them personally and they have been written in the literature.*

(Emphasis added.)

5. One problem with this evidence is that no account was taken of the potential for infection to cause a sudden cardiac arrhythmia that would show no signs on autopsy.
6. Second, there was no evidence about a combination of genetic variants in combination with infection that could cause the death.
7. Thirdly, in a leading question from the Crown, a link was created between heavy infiltrate and death, whereas with even light infiltrate, death can occur. The evidence presented at trial was wrong.
8. Dr Cala gave further evidence at trial:⁴

CROWN PROSECUTOR: Q . Dr Cala, you gave evidence before the lunch hour in relation to Laura Folbigg that in your opinion the inflammatory infiltrate in the heart which you said was consistent with being myocarditis was, in your view, not a cause of her death?

A. That's right.

CROWN PROSECUTOR: I would like to play to you a video taken of Laura the day before she died, exhibit K. Would you have a look at this, please?

EXHIBIT K PLAYED

Q. Doctor, if you accept that that tape was made of Laura the day before she died, does that assist you in any way in your opinion that inflammatory infiltrate of the heart or myocarditis did not cause her to die?

A. I think that Laura Folbigg appeared to me in quite normal health on that video, and that was about 23 hours roughly before she died. I think from that, given that she appears in quite good health, I think it is quite unlikely that she has died as a result of the effects of myocarditis.

Q. What do you say to the possibility that she died of myocarditis?

A. I think, it's known that myocarditis can cause sudden death, usually by a cardiac rhythm disturbance, and I can't say that didn't happen with Laura Folbigg but I think it's, in all likelihood, very unlikely.

Q. Is it a reasonable possibility in your opinion that she died from myocarditis?

A. I don't believe it is.

⁴ Exh F T 719.

(Emphasis added.)

9. The problem with this evidence was there was no reasoning given to explain the opinion proffered. Dr Cala still did not give any detailed reasoning for his opinion at the Inquiry. Nothing much has changed in this regard. Further, there was a real doubt as to whether the likelihood of myocarditis affecting an individual can be seen by watching a video of a child playing. Further, a great deal can happen in 24 hours with infection.

10. Further evidence at trial:⁵

Q. Doctor, could you describe to the court what the difference is between a pathologist finding undetermined causes of death and SIDS?

A. Undetermined causes of death include natural causes of death that are unable to be found and other inflicted causes of death.

Q. Such as suffocation?

A. Such as suffocation, accidental causes of death and so on. So the spectrum of natural disease through to - incorporating various types of trauma. And as opposed to SIDS, which is quite different. SIDS is, I have to say, not a natural disease, it is an invented term. It stands for, of course, sudden infant death syndrome, and it was invented about 30 years ago to try to come to an understanding about cot death and who died and under what circumstances. Now, that's completely different. SIDS is thought to be due to some natural process. It is not known what it is. But after a post-mortem examination and examination of the scene, that is where the child died, after microbiological testing and toxicological testing and so on, no cause of death is able to be established. Its felt then that the child has died of SIDS.

Q. So is this in essence what you are saying, that a determination that a person has died from unknown causes includes both natural disease and illness processes and unnatural causes?

A. Yes.

Q. Whereas SIDS, although it is an unknown process, is considered to be a natural process?

A. Yes.

⁵ Exh F T 721.

11. The problem with this evidence is that it is incorrect. The SIDS definition includes unnatural causes. This evidence as it was presented at trial was wrong and likely to be confusing. This has been dealt with in Part A of these submissions.
12. Further evidence was taken from Dr Cala:⁶

ZAHRA: Q. Doctor, can I take you to the issue of myocarditis?

A. Yes.

Q. Would you agree that as a general principle it is recognised in paediatrics and paediatric forensic pathology that children with myocarditis may die suddenly and unexpectedly with no symptoms or signs?

...

Q. So when you make the assessment, as you have from observing the video of Laura the day before, that you would need to take into account that children with myocarditis may die suddenly and unexpectedly with no symptoms or signs?

A. The answer is yes, but in a minority of cases.

Q. There are numerous reports in the literature confirming this?

A. There are some. I wouldn't say they are numerous, but that is a well recognised entity that they may, that a small percentage may die suddenly and unexpectedly from myocarditis.

Q. Without there being any signs externally?

A. Yes.

Q. So when you make the assessment, as you have from observing the video of Laura the day before, that you would need to take into account that children with myocarditis may die suddenly and unexpectedly with no symptoms or signs?

A. Yes.

Q. Are you aware of some of the studies, for example, of DESA?

A. Yes.

Q. And in that study was it the case that 17 out of 24 cases of isolated myocarditis presented as sudden death or with a clinical history of under 24 hours, that 13 of whom had no preceding symptoms?

⁶ Exh T 754 - T 759.

- A. *Yes. I would need to have that paper in front of me before I definitely agreed with that, but I seem to recall that that's correct.*
- Q. *Are you aware of a research paper by Grady and Costanzo Nordin?*
- A. *I don't remember the authors' names. Perhaps if you read out the title of the report.*
- Q. *Myocarditis, Review of Clinical Enigma?*
- A. *Which journal was that in?*
- Q. *Can I just show you this (documents handed to witness.)?*
- A. *No, I wasn't aware of this.*
- Q. *Were you handed a bundle of reports yesterday by me?*
- A. *Yes, I was.*
- Q. *And they are the bundle?*
- A. *Yes. When you gave me these many of them I was aware of. This particular article, up until yesterday, I wasn't aware of. That's why the names were unfamiliar to me. And I have to say, without being disparaging, that it is from a nursing journal so that is not something I would typically look at.*
- Q. *What about as a general proposition that patients with myocarditis may present with highly variable clinical pictures, ranging from no clinical manifestations to overt clinical congestive heart failure or sudden death?*
- A. *Yes.*
- Q. *And that's the proposition in that particular paper?*
- A. *Yes, by its very name, Review of Clinical Enigma.*
- Q. *Despite what you say about their status, the proposition you would agree with that the clinical pictures of myocarditis represent a highly variable clinical picture?*
- A. *Yes, I do agree with that.*
- Q. *And the range is from no manifestation to overt manifestations?*
- A. *Certainly overt manifestations or some manifestations is the norm. But I think I would have to say on careful review of, certainly of a death from myocarditis, I think it would be very unusual to have absolutely no symptoms or signs of some abnormality prior to the death by way of a fever or constitutional symptoms of*

being unwell, aches and pains in the joints, maybe a bit of shortness of breath, a bit of chest pain and so on.

Q. *Are you aware of a study by Professor Byard, also in relation to a review of 16 children who died of myocarditis at the Adelaide Children's Hospital over a 35 year period?*

A. *Yes.*

Q. *And in that particular study that sudden death occurred in five of those 16?*

A. *Yes.*

Q. *Professor Byard is a colleague in your institution?*

A. *Yes.*

Q. *And he is published widely?*

A. *Yes.*

Q. *And quite respected in his opinions?*

A. *Yes.*

Q. *Can I take you to the macroscopic examination?*

A. *Yes.*

Q. *In other words, the observation through the naked eye?*

A. *Yes.*

Q. *Do I understand your evidence is that you say that you would expect to see certain features of the macroscopic observation of the heart if this child died of myocarditis?*

A. *Yes, that's what I would expect to see.*

Q. *The first was in relation to flabbiness of the heart, particularly the left ventricle?*

A. *Yes.*

Q. *When you gave evidence yesterday you however qualified it in this way. You said the heart may, but not always, you would have to say, be flabby, and then particularly the left ventricle?*

A. *Yes.*

Q. *So in other words it is a non specific finding?*

A. *It is non specific, but generally speaking if those people who die of myocarditis have this form of examination, most, I believe, will have an abnormal looking heart when you examine it with the naked eye.*

Q. *The absence, however, does not exclude it?*

A. *No, it doesn't exclude it.*

Q. *Similarly, that the second you referred to was the stripey appearance?*

A. *Yes.*

Q. *Again to quote you in evidence, "It may have a stripey appearance"?*

A. *Yes.*

Q. *Again in the same way that, if it were not there, it would not exclude myocarditis?*

A. *No.*

Q. *And I think the third macroscopic feature that you spoke about that you were looking for to see whether there was support for myocarditis was fluid around the lungs?*

A. *Yes.*

Q. *Again you used the word "may" in that description?*

A. *Yes.*

Q. *So again that is a finding that in its absence you can't exclude myocarditis?*

A. *No.*

Q. *Can I take you to the microscopic examination of the heart? You took samples of the heart and put them on slides?*

A. *Yes.*

Q.

...

Q. *Some parts of the heart are more important than others when one is considering the effect of myocarditis?*

A. *Well, specifically the conduction system of the heart, which refers to the electrical pathways which naturally exist in the heart.*

Q. *What you are saying there is, obviously, if there is myocarditis within those parts of the heart that are part of the conductive system, then they may have a greater relevance to the question whether myocarditis could have caused the death?*

A. *They may, but I have to say it remains speculative as to what, if any, effect that inflammation in that conduction system might have.*

Q. *But it is --*

A. *If I could finish. The finding of inflammation in the conduction system of itself doesn't necessarily indicate exactly what mode of death that person may have suffered, whether it was due to heart failure or a rhythm disturbance and so on.*

Q. *If the myocarditis was in the conductive system of the heart, that that would be a significant feature?*

A. *Yes, it would.*

Q. *Additionally there is a process that is available to you to in fact test the conductive system?*

A. *Well, no. I can't, if you mean test it by stimulating it, I can't do that. The heart is dead, so it doesn't respond to any testing.*

Q. *Is there any test that you can undertake in relation to testing the conductive system?*

A. *The only testing that I could do and any other pathologist could do is to take sections through those important areas, the pacemaker centres and through the conduction system of the heart, to look for abnormalities.*

Q. *Have you done that?*

A. *No, I didn't.*

Q. *Why didn't you do that?*

A. *That's not part of the normal examination of the heart. The normal examination of the heart would be confined to a number of sections and it's variable as to how many, of the right and left ventricle and it would not be routine to examine the conduction system. ...*

13. This cross-examination demonstrates the difficulty faced by the cross-examiner in challenging the evidence of Dr Cala given his evidence and the manner in which the case was opened. He was able only to cross-examine on the basis that there was inflammation of the conductive part of the heart that could have triggered an arrhythmia. He faced an assertion that death would only occur

with serious myocarditis or heavy infiltrate. If one assesses this evidence in the face of the assertion that the video did not show any abnormality in function, the jury and the Court of Criminal Appeal would be excused from thinking the chance of death from myocarditis was only a “*debating point possibility*”.

14. However, given the evidence at this Inquiry regarding the role infection has to play in triggering an arrhythmia, and the evidence of the majority of the forensic pathologists, then in the face of a clinical history of respiratory infection, the findings on autopsy, the identification of necrotic tissue in the heart as well as infiltrate, the chance of myocarditis being a reasonably available alternative natural cause of death shifts significantly in Ms Folbigg’s favour.
15. Returning to the trial, Prof Hilton gave evidence that demonstrates limited nature of the cross-examination and the limited evidence that was available to the jury.⁷

...

A. *The heart slides showed a fairly extensive inflammation of the heart muscle.*

Q. *Could you describe how extensive the inflammation seemed to be?*

A. *Well, there were a number of slides taken from different parts of the heart and inflammation was present in each one of the slides I saw. The severity of the inflammation on a scale of 1 to 10 I would put at probably about 6 -5, 6, somewhere like that, so it was significant because it was there, it was of more than just moderate intensity.*

Q. *And can you describe this inflammation in more detail, what it was?*

A. *Yes. The heart muscle is made up of a lot of interlinking fibres, and there are little spaces between these fibres. And this inflammation consisted of white blood cells which had migrated out from the small blood vessels into the spaces between the muscle fibre. There was also some - in association with that there was also some degeneration of some muscle fibres.*

Q. *Did you form the view that this child had had myocarditis?*

⁷ Exh H T 907.09 – T 908.43. s.

- A. *At the time of the child's death she was suffering from myocarditis or the physical manifestations of myocarditis.*
- Q. *Is that a condition which can lead to death?*
- A. *Yes.*
- Q. *And in your opinion did it possibly lead to this child' s death?*
- A. *Yes, it could have. It was of an intensity and a severity and a distribution which could have caused this child's death.*
- Q. *Would this be fair to say. You would not dismiss it as an incidental finding?*
- A. *Oh, that is a difficult question to answer in a very simple way. ... I would not regard it as an incidental finding, I would have to regard it as an important finding, and in someone who unexpectedly was found dead I would regard it as a highly significant finding, although it may be incidental to something else.*
- Q. *Now, did you see any other indication on autopsy or from any of your subsequent investigations for what could have caused this child's death?*
- A. *No.*
- Q. *So the only cause of death or possible cause of death that was there, as far as you are concerned, is myocarditis?*
- A. *The only pathological lesion that was present that could account for the child's death was myocarditis.*
- Q. *You said a couple of moments ago something about an unexpected death, right? Is myocarditis something which will have observable symptoms prior to the death of the person who suffers it?*
- A. *Yes, it can do and in fact it usually does.*
- Q. *What sort of symptoms?*
- A. *Shortness of breath, heart failure, which may be fairly obvious both to the person who has got it and to the medical attendant and the relatives, for that matter. On the other hand, it's well recognised that myocarditis can be entirely silent until it results in a totally unexpected death.*
- Q. *And is that something which is in any way affected by the age of the person who suffers it?*
- A. *No.*

Q. *Now, are you aware that there is a video of the child Laura playing in a swimming pool and around the swimming pool that was made the day before she died?*

A. *I have been told that, yes.*

Q. *Now, what do you say as to the significance of an apparently symptom free child 24 hours before death from myocarditis?*

A. *That certainly doesn't preclude myocarditis as a cause of death, an unexpected death. ...*

16. Prof Hilton gave further evidence in re-examination:⁸

Q. *And, Professor, what sort of illnesses can cause myocarditis?*

A. *Oh, yes. Well almost any infectious agent. The most common, or perhaps the most insidious and dangerous, are viruses, for instance, flu virus, and it's not unknown in flu epidemics for people to have a dose of flu and then to partly recover and then to die unexpectedly maybe two or three weeks after the event because of influenza myocarditis.*

Q. *Do the vast majority of people who have myocarditis progress to become well again?*

A. *Yes.*

Q. *Can myocarditis be caused by the common cold?*

A. *Oh, well, nobody knows what the common cold is, but it is a viral illness of some sort and any viral illness can produce myocarditis.*

Q. *You were asked some questions about the video of Laura taken the day before she died which shows her playing in a swimming pool and with other children?*

A. *Yes.*

Q. *Apparently in a normal fashion, and you were asked by Mr Cook about observable symptoms that you might expect to see of myocarditis and you said usually shortness of breath and heart failure?*

A. *Yes.*

Q. *What sort of symptoms would you expect to see in a child?*

A. *Well, again there's a spectrum from a child being gravely ill with congestive heart failure through to a child appearing apparently well. This is not just a child, this can happen in an adult as well.*

⁸ Exh F T 912 - T 913 .

Q. *Would you generally expect a person, either an adult or a child, to feel very unwell with myocarditis?*

A. *No, not necessarily, and I have had the misfortune of seeing people who have felt well enough to engage in athletic pursuit and they have dropped dead while they are doing this from myocarditis and it was totally unsuspected.*

Q. *You have said that the finding of myocarditis is a highly significant finding. Does the finding of myocarditis in your view exclude deliberate suffocation as a possible cause of death?*

A. *No.*

17. Again, there was no evidence at the trial of the mechanism by which infection can cause death. The cross-examination raised possibilities of a sudden death, without being able to establish the underlying postulate of inflammation in the conductive parts of the heart or infection of itself as a cause of death. The evidence before this Inquiry has tilted the scales far more favourably in Ms Folbigg's favour, due to the medical research that has taken place over the past 15 years and the evidence of Prof Corner, Prof Duflou and Prof Hilton.

18. Prof Herdson gave evidence:⁹

Q. *Did you, yourself, look at some slides taken from the heart showing those areas of myocarditis?*

A. *I did.*

Q. *And were you able to see the myocarditis?*

A. *Yes.*

Q. *In your view, what was the significance, if any, of the myocarditis?*

A. *Given the total circumstances, I don't think Solomon, with all his wisdom, can really differentiate the cause of myocarditis from other possible causes of death.*

We are well aware that a viral myocarditis, which this almost certainly was, can be lethal. Also, we are well aware that many children with a viral myocarditis do not die, are not particularly ill and recover completely from it. One can only postulate that the findings are consistent with what I understand was a relatively minor respiratory infection in this child a few days before death, and that was probably a viral infection.

⁹ Exh F T 1039 - T 1042.

You can tell I am suffering from one now and I hope not to drop dead in front of you from myocarditis. But I just don't think you can say "yea" or "nay" as to the significance in this particular case.

Q. You are aware, are you, of a difference of opinion between Dr Cala on the one hand, and Professor Hilton on the other?

A. I am.

Q. Do you prefer any of those two views over the other?

A. At the risk of never being allowed to visit Sydney again, I favour Dr Cala's interpretation, given all the circumstances. In other words, he believes that this was an incidental finding.

Q. Why is it that you prefer that view?

A. It is a definite viral myocarditis but it is not a roaring one. It is fairly diffuse. I have seen sections from various parts of the heart, and in most of those there is this evidence. There is a little cell necrosis. That means that individual heart muscle fibres have died, as part of the viral infection. If that were not present, I would be very much more confident in saying that it was totally incidental, but the presence of those occasional necrotic or dead fibres prevents me from saying, categorically, that it wasn't important; but, given the total circumstances, I think it is most likely to have been incidental.

Q. And, by "incidental", do you mean not a cause of death?

A. That it wasn't the cause of death.

Q. And, doctor, in your experience, as a pathologist, have you had cases where you have found myocarditis completely coincidentally, where it has not been the cause of death, in both adults and children?

A. I have, as well as the opposite, where I am sure that the viral myocarditis was the cause of death.

...

Q. And some of those examples of myocarditis are more serious and more obvious than the myocarditis in Laura's case?

A. Yes. As I have tried to describe, if in Laura's case there had not been any cell death of heart fibres, then I would be much more confident in writing it off as being totally incidental, but as soon as there is evidence of some cell necrosis, then it raises a question of a possibility.

Q. Was the cell necrosis very slight?

A. *Yes. It was - it was there, and I think each of us who have looked at these slides have seen it, but it wasn't raging.*

Q. *Now, Professor, you are aware, from the material that you have been provided with, that these children were tested during their life times for a very wide spectrum of diseases, illnesses and conditions?*

A. *I am.*

Q. *And that all of that testing failed to come up with any disease, illness or condition that these children were suffering from?*

A. *Correct.*

Q. *Now, putting aside all of those diseases, illnesses and conditions that they were tested for, and that they did not have, can you think of any disease, illness or condition that could have accounted for the deaths of all these children?*

A. *No, I can't.*

19. Again, the problem with this evidence was it assumed myocarditis would only lead to death if there was structural damage to the heart or heavy infiltrate. There was no assessment at all of the capacity for myocarditis to trigger an arrhythmia (whether or not genetic variants were involved) caused by the body's inflammatory response to infection. Again, this evidence led at trial minimised the role of myocarditis on sudden death, even without consideration of the inflammatory process.

20. Returning to the trial, Prof Herdson gave further evidence:¹⁰

...

Q. *In isolation. Now, so far as your examination of the slides of myocarditis of Laura are concerned, do you recall whether, in fact, it was in all of the slides of the heart that you observed myocarditis?*

A. *I can't be positive about that. I can say that I was shown several, or was asked to examine several, slides of the heart and certainly, in most of them, there was evidence of viral myocarditis.*

Q. *That is significant in itself.*

A. *Sorry?*

¹⁰ Exh F T 1045 - T 1049.

- Q. *In other words, it is significant in itself because it appears to be diffuse?*
- A. *Yes. It did appear to be diffuse, and, as I have tried to explain, relatively mild.*
- Q. *If, for example, that myocarditis was in a conductive system of the heart, you would expect that that could, in fact, be fatal?*
- A. *That is a very difficult one to come down firmly on one way or the other. I don't think it is well-established in cases of viral myocarditis why, in one instance, as we have already described, you have death arising from it and then in another apparently similar case the person recovers completely. But, of course, if there is inflammation in relation to the conducting system, it has a potential and serious implication*
- Q. *And there could be sudden death with such a condition of myocarditis; in other words, there being absent any prior indication of ill-health?*
- A. *Oh, yes, I think so.*
- Q. *When you were asked the question whether you would be aware of any natural condition which could explain the deaths of the four children, you say that you are unaware of any natural condition which could cause the death?*
- A. *That's correct.*
- Q. *By that, is it to be understood that you are aware of no single condition that could cause death?*
- A. *That was the way I interpreted the question.*

21. Again this evidence demonstrated the assumption that for myocarditis to be lethal, there needed to be significant structural anomalies of the heart and serious myocarditis. This was not so in the light of the evidence given at this Inquiry.

22. In re-examination, the Crown Prosecutor asked the following question of Prof Herdson:

- Q. *Professor, in relation to Laura, if a child of her age, which was 19 months, had the kind of mild myocarditis that was observed around her heart, if she was deliberately smothered, what effect would the myocarditis have in relation to her death?*
- A. *One would have to say that a heart with inflammation of the nature that we are talking about would be more susceptible to a period of anoxia.*

Q. *Anoxia being a lack of oxygen?*

A. *Being a lack of oxygen.*

Q. *So, is this the case: That she would die more easily than a child without myocarditis?*

A. *You would have to run a control trial to really establish that, but I think scientific thought and commonsense would lead you to conclude that a heart with viral myocarditis is certainly not a heart that can get by with less oxygen; it needs more.*

23. Again, the evidence proceeded on the assumption that for a child to die suddenly, there had to be structural damage to the heart. It ignored the triggering of an arrhythmia by infection, whether there was genetic involvement or not.

24. Dr Berry gave evidence:¹¹

Q. *Moving now to Laura, the fourth child, you are aware that there was a finding of myocarditis in relation to Laura?*

A. *Yes, I am.*

Q. *And you yourself saw slides of her heart?*

A. *Yes, I did.*

Q. *What, in your view, is the significance of the myocarditis?*

A. *It is extremely difficult. As with the other experts, I entirely agree it is consistent with myocarditis consequent on the relatively mild viral infection that Laura had in the days before her death. I think its significance is that, in isolation, it presents an explanation for the death. It is not a certain explanation because it could be an incidental finding, but I think, in isolation, most pathologists would probably have ascribed Laura's death to myocarditis. That is in isolation.*

Q. *Is her death also consistent with suffocation?*

A. *Yes, in that there are no findings to exclude suffocation.*

Q. *If there was somebody like her who had myocarditis to the degree that she had, who had been suffocated, what would be the effect of the myocarditis?*

A. *Again, I am moving out of the area where there is literature. The classical scenarios of dying suddenly with myocarditis are young athletes, people*

¹¹ Exh F T 1064 - T 1067.

swimming, people running, young servicemen doing strenuous activity. Suddenly their heart takes on an abnormal rhythm and they drop down dead. So, there is evidence of people having myocarditis as a result of a mild viral infection who are stressed. This may be the straw that breaks the camel's back and pushes the heart into an abnormal rhythm that causes their death.

I think it is highly possible, indeed probable, that if a child who had myocarditis was subjected to a severe stress such as an asphyxial episode, then this might precipitate an abnormal beat of the heart leading to that sudden death.

Sorry, that is a long answer to your question. Yes, it might facilitate death by suffocation.

Q. In relation to Laura, were the findings also consistent with death from suffocation?

A. Yes.

Q. And in relation to Sarah was the death also consistent with suffocation?

A. Yes, it was.

Q. You have said, generally, people die of myocarditis who are engaged in athletic activity.

...

Q. I think you said that the classic scenarios of people who subsequently die from myocarditis are young athletes, people swimming, people running, young servicemen doing strenuous activity. Suddenly their heart takes on an abnormal rhythm?

A. I think I should say a classical scenario. There are also people who are clearly ill from myocarditis, and the heart muscle is so damaged the heart cannot pump properly, and those people will find their way to hospital and recover or not, as the case may be.

Q. If you accept that Laura showed no signs of that and that the day before her death she was acting physically in a normal manner so far as her parent, her father, was concerned and, as shown on a video, what do you say is the significance of a suggestion that she died during her sleep?

What I am trying to ask you, Professor, is this: It was said, according to the version of the accused, that she died during a sleep period, not during a period of abnormal activity. Is there any significance in that?

A. As a pathologist, that does not help me either way. I think people with myocarditis may die suddenly in their sleep, but I think a clinician might be better able to help you with that than I am.

(Emphasis added.)

25. Again, the evidence proceeded on the belief there needed to be significant structural damage to the heart to trigger the sudden death, rather than a mild infiltrate or an infective response. His evidence is important as he opines that most forensic pathologists would give cause of death as myocarditis, which is what in fact happened at the Inquiry.

26. Dr Herdson gave further evidence:¹²

Q. *Do I understand that your answer in relation to each of the questions is based upon a statement that in suffocation there can be no observable findings and consequently these deaths could be consistent with suffocation?*

A. *I think the answer is based on the absence of disease processes that - recognised disease processes, which lead to death, with the exception of Laura, and the possibility in isolation that each of those cases might have died from suffocation.*

Q. *But, again, so far as the positive findings of suffocation are concerned, in relation to each of the children we don't have those?*

A. *Confining myself to the pathology, that is correct, and taking each case in isolation.*

Q. *Can I ask you actually about the myocarditis? Do you recall whether, in fact, in all the slides that you saw before, myocarditis was present?*

A. *Yes, I think it was. I went back and relooked at all the slides before I came over, and I think I would describe it as a moderate myocarditis.*

Q. *But quite diffuse, in a sense, in that it was present in all the slides you observed?*

A. *Yes. I don't think - its significance is not related to the quantity that is found, but I accept your observation.*

Q. *It is significant that it is obvious?*

A. *I don't think it is, particularly. I don't think the patients who die suddenly with myocarditis necessarily have more or less than patients who survive.*

Q. *I was about to ask you that. It may be, in a sense, there could be a small amount of myocarditis, but if it is in, for example, the conductive system, it could be fatal?*

A. *Yes, it could be serious.*

¹² Exh F T 10- T 1076.

Q. *There may be a very small amount of myocarditis, but if it is in an area such as the conductive system, then that could be fatal in itself?*

A. *I believe so. It just requires sufficient to set-off an abnormal beat of the heart. Similarly, quite diffuse myocarditis may not lead to death.*

Q. *You indicated that one scenario of myocarditis is, for example, an athlete who has stressed that person's heart, and the myocarditis might have been such as to cause sudden death?*

A. Yes.

Q. *However, at the same time you don't exclude the possibility of a person dying of myocarditis in their sleep?*

A. *I didn't exclude it. I think -again, I suggested it is a question perhaps more appropriately put to a clinician, but I personally, as a pathologist, could not exclude that.*

27. Again, this evidence demonstrates the belief that only a structural abnormality could trigger sudden death. It tied the cross-examiner into apposition of being unable to establish infiltrates in the conductive parts of the heart, otherwise the mild infiltrates were not an explanation for the deaths.

28. The evidence of mild levels of infiltrates was combined with the theory that by reason of the detection of the agonal rhythm by ambulance officers when they arrived, the death must have occurred minutes beforehand and that breathing must have stopped first then the heart. This theory was debunked at the Inquiry. On this issue Dr Bailey gave evidence:¹³

Q. *Now, on looking at the heart rhythm tracing that was taken by the ambulance officers, have you been able to come to any conclusions about what it shows?*

A. *Yes. This showed for a children with an extremely slow heart rhythm, we call that a bradycardia. The rate was about 30 per minute. And the electrical complexes on it are a lot wider than the complexes that are seen in a normal healthy heart. The heart rate for a child of that age, I suspect the normal heart rate is about 120. So it is very slow and the width of the electrical complexes would be a lot narrower, perhaps a quarter or certainly less than a half of what these complexes are, so this is a very abnormal rhythm. Taken in context with the fact that, of the ambulance officers report, which said that Laura had no pulse at this time, I would call this an agonal cardiac rhythm.*

¹³ Exh F T 1099 - T 1107.

Q. Could you spell "agonal"?

A. A-g-o-n-a-l.

Q. What does that mean?

A. This is the last activity that you see in the heart before the heart dies. Basically it is the stage where the heart is no longer pumping any significant amount of blood but still retains a tiny amount of very slow electrical activity.

Q. Doctor, is that sort of agonal heartbeat consistent with injury due to lack of oxygen?

A. Yes. It is not specific for that but it certainly would be consistent with that, yes.

Q. Is it correct to say that breathing stopped before the heart stopped?

A. It is most likely that breathing stopped before the heart stopped, given this tracing but you can't be certain of that by something that clearly is being recorded you know some considerable time after the event occurred.

29. The problem with this evidence has been addressed in Part A of these submissions. The agonal rhythm can be extended by resuscitation.

30. Dr Bailey was then asked about myocarditis.

Q. Now, doctor, have you, in the course of your practice, treated patients for myocarditis?

A. Yes, I have.

Q. Are you able to tell us how common it is for patients who have had respiratory infections to have myocarditis?

A. It is. You have to define here what you mean by myocarditis. Clinical myocarditis is rare and I won't go into the symptoms that lead us to diagnose it, but pathological myocarditis is common. Now what I mean by that is that it is estimated that some five, perhaps even up to 10 percent of people with common viral infections may have inflammatory cells found in their heart, but that in these cases there is not any, the patients don't have any symptoms of involvement of the heart. In other words, they would be thought to have a cold, the flu, but would not have chest pains or a lot of breathlessness or faint or die or do any of these things that would indicate a problem with their heart. But in these patients, this can be diagnosed because they have an abnormal electrocardiogram and it is in this way that it has been picked up. But a considerable proportion or small proportion of people with very common illnesses may have underlying myocarditis even though a doctor wouldn't diagnose it without some ancillary aid.

Q. *Now, doctor, in this case, you have read Laura's autopsy report, which refers to her having localised areas of myocarditis?*

A. *Yes.*

Q. *Was this, in your opinion, probably related to a viral infection that she had at the time?*

A. *Yes. I think it most likely was.*

Q. *And are you able to say whether or not in your view it was of a sufficient extent to account for her death?*

A. *I would have thought it was unlikely to have accounted for her dying.*

Q. *And why is that.*

A. *Well, firstly because of what I have already said, that people with common illnesses are thought to often have or at least in say 5 or 10 percent to have myocarditis. And of course people with the flu or colds or similar gastric upsets, don't commonly drop dead.*

Secondly, there are other cardiac conditions where inflammatory cells are found in the heart similar to this, cells similar to what were found in Laura's heart. One is a condition called pericarditis which is an inflammation of the lining outside the heart which causes often a lot of chest pain. But it also happens very often frequently after cardiac surgery and this can be accompanied by a myocarditis which is localised. But patients with pericarditis do not frequently drop dead. In fact they rarely drop dead, otherwise a lot of people would die after cardiac surgery. Another similar condition is transplant rejection. Patients who have had another person's heart put into them need to be on drugs that suppress their immune system because the natural tendency is for the body to reject the translated organ and in that condition there is also inflammation similar to myocarditis in the heart. But in the mild or moderate stages that is often asymptomatic.

Q. *Asymptomatic meaning?*

A. *That the patients have no symptoms. The doctor can't detect anything. But if you were to obtain samples of the heart to look at under the microscope, then you would find they were quite abnormal, and sudden death is not a common feature of that.*

Q. *For those reasons, you are of the opinion that it is unlikely that myocarditis caused her death?*

A. *Yes. And I think the other thing to state is that it is found in a number of routine post-mortem examinations. It is not an unusual thing to find a degree of*

myocarditis in a perhaps four or five percent of post-mortem examinations. So for all those reasons I suspect that this was not likely to have been the cause of death.

31. Again, the evidence was to the effect one required structural problems with the heart to trigger an arrhythmia. Further, it introduces irrelevant statistical material to an analysis that is then applied with false logic. The frequency of myocarditis findings in post-mortem examinations has nothing to do with the fact Laura had myocarditis with necrotic cells. The comparison with pericarditis is irrelevant. Post-surgical myocarditis is irrelevant. This evidence was irrelevant and bolstered the opinion of Dr Bailey with puffery rather than science.

32. This is compounded by linking the disease to an everyday infection like a cold or influenza from which most people do not die without any explanation. It is clear from the experts who have given evidence at this Inquiry that a genetic variation combined with a cold or influenza could give rise to a fatal combination.

33. This issue became far more focussed in the cross-examination by Mr Zahra:

Q. Doctor, did you look at the slides that were prepared on post-mortem?

A. No.

Q. So in a sense when you are relying on the extent of this myocarditis, you are relying on other persons statements as to the extent for myocarditis?

A. Yes, I am relying on Dr Cala's post-mortem report.

Q. What part of his report are you relying on, so far as assessment of the extent of myocarditis?

A. Two parts. Well, obviously on the part that refers to heart, but two parts to the post-mortem reports; the first being his findings on what we call macroscopic examination, that is what you see before you put the heart under the microscope. That is what you see from examining the heart. And he found, when he sectioned the heart, that the walls of the heart looked normal and I would infer from his report that heart weight and other features of the heart were normal; and those findings would be inconsistent with a very extensive myocarditis involving all the tissues of the heart, at which you would expect the walls to be pale and flabby and the heart chambers to be dilated and he does not make any comment that that was so. The second part of the post-mortem report is the histological report where

he mentions particular areas that were involved by, with inflammatory cells. The implication being that there were areas of the heart which were normal and, again, it would not be in my opinion, consistent with a very extensive involvement that the findings on non microscopical examination were normal.

Q. *But did you not look at those slides?*

A. *But I am relying on his report, I did not look at his slides.*

Q. *You are relying on his assessment. as to whether his opinion this was moderate myocarditis or mild?*

A. *Yes, that's correct.*

Q. *So essentially you are relying on what he means by the use of the word 'mild myocarditis'?*

A. *I am not sure it is critical. whether you call it mile (sic) or moderate because neither of my statements earlier would apply to either. If the myocarditis had involved the whole heart and if there are obvious abnormalities at the time that it was looked at without the microscope, then it would be more feasible that an arrhythmia can occur.*

...

34. Again, this evidence focusses on the need for widespread infiltrate with myocarditis to trigger an arrhythmia. This is not so.

35. Dr Byard gave evidence that was far more balanced and reasoned but still demonstrated the limitations of scientific understanding at trial:¹⁴

Q. *Can I take you to the child, Laura?*

A. *Yes.*

Q. *What were the findings at post-mortem that you consider relevant to any diagnoses of death?*

A. *Laura had and established inflammation (sic) of the heart, myocarditis. It was of moderate myocarditis. It was the sort of inflammation (sic) that I have seen in a number of cases of sudden death in children.*

Q. *Did you examine a number of slides of samples of the heart of Laura?*

¹⁴ Exh F T 1216 - T 1221.

- A. *Yes, I did.*
- Q. *Do you recall how many there were?*
- A. *There were seven slides with eight samples of the heart.*
- Q. *What did you observe about those samples in relation to myocarditis?*
- A. *Each one of the sections of hte (sic) heart had areas where there was inflammatory cells, so there was information there was some areas where the heart muscles had died and there was also swelling in the tissues. So this is an established myocarditis.*
- Q. *Can you tell us about the condition of myocarditis?*
- A. *It's an interesting condition. It's caused usually by a virus and people have quite a range of presentations. You can have people who have full blown heart failure, they're having trouble breathing, they're coughing, you have flu, they have a fever, they are really unwell. You can have other people who appear absolutely normal. I think the reason for this is that because the heart relies on contraction, if you have areas of inflammation (sic) that cause palpitation and if it is in a critical condition, you can get a palpitation (sic) that can kill you with relatively modest inflammation (sic). I have had cases where people have had minimal symptoms and most of their hearts have been involved, so it has a tremendous range of presentations.*
- Q. *Is it important to consider what part of the heart the myocarditis was in fact present?*
- A. *Well people will say if you have got inflammation (sic) in the electrical circuitry that is more likely to cause death. I think death in myocarditits (sic) can occur from inflammation (sic) from just about anywhere. What happens, the heart gets irritated and has this rythym (sic) disturbance and people die.*
- Q. *Did you observe necrosis?*
- A. *Yes, I did.*
- Q. *Can you tell us about necrosis?*
- A. *To make a diagnosis of myocarditis you need to have inflamatory (sic) cells and you need to have evidence that the heart cells are dying, so you have dead heart cells.*

- Q. *Firstly, in relation to the observation that there was myocarditis in the eight samples on seven slides, does that tell you anything about the extent of myocarditis?*
- A. *Well it's not just one focus. I mean it is everyone that was sampled. So it means it's not just a minor myocarditis. It is quite well established and well spread.*
- Q. *You have talked about the possibility of myocarditis in the electrical system within the heart: Is that the conductivity?*
- A. *That's correct.*
- Q. *Section of the heart. If there was myocarditis in the conductivity system, could that have been fatal?*
- A. *Yes it can.*
- Q. *What would be the processes involved?*
- A. *Again what happens is you have a virus which is infecting the cells and you have all the inflammatory (sic) cells that come in, because of that the cells become very ill, they breakdown, they die, they set off discharges when they shouldn't be. So you get this problem the conduction in the heart, the heart could stop or the heart could have an abnormal rhythm (sic).*
- Q. *Is there any observation you made when examining the slides as to whether this myocarditis was or was not conductivity system?*
- A. *To examine the conduction system it is a very specialised study, it requires taking a lot of slides. It is not routine. It wasn't done in this case. I wouldn't have expected it to have been done in this case. So I can't comment whether it was involved or not.*
- Q. *If there was necrosis in the conductivity system, what would you expect in that situation?*
- A. *Well exactly the same. If we have myocarditis, we have got part of the heart that is affected. If it is the electrical wiring or electrical circuitry, then you're probably more likely to have arrhythmia.*
- Q. *Are you aware that Dr Cala examined a video of the child who died previous?*
- A. *That's correct.*

- Q. *What assistance can be gained from looking at a video of a child that died before, as to the question whether this child did or did not die of myocarditis?*
- A. *I'm not sure. I did a lot of clinical medicine and if it was so easy to get a diagnoses (sic) by looking at a video for four minutes, then life would have been a lot easier I think. What the video shows is that apparent normal little girl, but it doesn't tell me whether she has a fever or tell me whether she is off colour, or doesn't tell me anything much. Even if she was normal that doesn't prevent her dying from myocarditis. There is a report in the literature of a young girl who, I think she played basketball for an hour, swam metres in a pool and dropped dead from myocarditis. So, you know, she was obviously absolutely normal, still had this problem.*
- Q. *Is that a typical scenario; in other words playing of sport or some exertion?*
- A. *It varies. I think you're more likely to drop dead when you're exerting yourself with it.*
- Q. *The fact that Laura died whilst she was a sleep, does that exclude myocarditis (sic)?*
- A. *No, it really makes no difference.*
- Q. *Have you studied the relationship between children dying of myocarditis and the question of whether they may or may not have been well immediately prior to that?*
- A. *Yes, I have.*
- Q. *To your knowledge have there also been other studies in relation to this issue?*
- A. *Yes there are.*
- Q. *Can you tell us a bit about, not only your own researches but researches of others?*
- A. *The study I did went back about 35 years in Adelaide. I wanted to look at all of the children and babies who had a diagnosis of myocarditis and I found about 32 cases. In half of those cases death had been caused by the myocarditis. So that is 16 cases. Five of those children died suddenly, unexpectedly. And three of those had had no symptoms. So basically 60 percent of those died suddenly unexpectedly, had no symptoms or signs. There is another study of Dr Derek Dissar, a well-known and respected paediatric pathologist in Canada. I can't find the actual figures here, but I think he found something like 70 to 80 percent of the children he looked at, either had no symptoms who died suddenly or only had*

symptoms for about a day. So it is a well recognised phenomenon that apparently normal people can have myocarditis and it can be quite severe.

...

Q. What is your diagnosis in the present case?

A. I've put the cause of death as undetermined because I can't exclude myocarditis as the cause of death.

Q. What is your processes of reasoning, coming to the conclusion of that being undetermined?

A. If I looked at her cases in isolation I would, without anything else, I would have said myocarditis. But the fact that there have been other deaths in the family makes me less certain that I can say myocarditis. So I said undetermined because of the circumstances.

36. Again, the evidence is that widespread structural cardiac damage is not determinative of whether a person is at risk of sudden death. The only reason why Prof Byard was reluctant to make a finding of myocarditis was because of the other deaths in the family. As such, if one or more of those deaths had a reasonably available natural cause, Prof Byard would have made a diagnosis of myocarditis. This is part of the structural problem with the Crown case. If it cannot reasonably exclude a natural cause of death which exists in the other children, then then Crown conclusion is that all deaths are unexplained which equals to murder as a reasonable alternative. This imports a circular reasoning.

37. Dr Jones gave evidence:¹⁵

Q. Do you understand the history of Laura Folbigg prior to her death was that she was noted to have cold or flu-like symptoms from about 21 February?

A. I noted that.

Q. An (sic) that prior to her death that she was asleep, and obviously unwell, when she was put to bed at about 11am on 1 March?

A. Correct.

¹⁵ Exh F T 1261 – T 1271.

- Q. *Do you understand the history, that approximately half an hour or so later, that her mother heard her cough, and when she made a check on the child, that she found the child lifeless?*
- A. *That is my understanding.*
- Q. *You understand that she commenced CPR and called OOO?*
- A. *That is my understanding.*
- Q. *And the Ambulance Service arrived at about 12.14pm?*
- A. *Yes.*
- Q. *And that the ambulance officers observed the child in cardiorespiratory arrest?*
- A. *Yes.*
- Q. *And that an ECG showed that as asystole CPR?*
- A. *I do make a further comment about that in my report. The observation of asystole, I guess, is a combination between the clinical finding, that there had been no pulse which is showing that there is no effective output from the heart; an (sic) the electrical evidence of what the heart activity is, asystole, is technically sort of the flat line on the ECG, with no electrical activity at all. In fact the ECG tracing are able to review there was still some residual electrical activity present, but this was extremely slow and wide, complex, and what we would call an agonal rhythm, which is residual electrical activity that can be seen in a patient who is essentially deceased.*
- Q. *So far as that agonal rhythm is concerned, how long would you expect that to continue?*
- A. *It can certainly continue for several minutes, and I'm not sure that there is information available as to the longest that it can possibly go on for; but I have certainly observed it personally continue for many minutes after the clinical death of the patient.*
- Q. *You have had the opportunity of reading the transcript of proceedings in this court of Dr Bailey?*
- A. *I have.*
- Q. *Dr Bailey expressed view that in looking at that tracer ECG, that one might be able to determine the sequence of breathing and cardiac arrest leading to death?*
- A. *I don't believe that it's possible to state the sequence to which you refer.*

38. Again, there is a problem with this evidence as set out in our submissions in Part A. He continued:

Q. In the autopsy report of Dr Cala, did you note that there were no observations of any abnormality on macroscopic examination?

A. I did note that.

Q. Did you note Dr Cala's microscopic examination?

A. I did.

Q. What did you note from that?

A. The description of the microscopic findings in the heart were those of myocarditis, which is an inflammation of the heart muscle.

Q. Did the microscopic examination reveal there was a moderately dense infiltration of lymphocytes?

A. It did.

Q. That those lymphocytes as aggregated in certain areas?

A. It did.

...

ZAHRA: Q. These are cases of individuals that you would be treating and who subsequently die?

A. These are cases of patients who I have been, who I have been treating, who may or may not have subsequently died. They may have recovered naturally. They may have recovered in response to treatment, which has been delivered to them but, nonetheless, I believe that a cardiologist, an adult cardiologist have (sic) experience of liaising with pathologists in the management of patients with myocarditis.

...

ZAHRA: Q. What did this study reveal in relation to persons dying unexpectedly who are later found to have myocarditis?

A. The study showed, on gross examination to the naked eye examination of the heart, that there were no abnormal findings. The hearts were of normal weight, and the cut surface of the heart looked perfectly normal to the naked eye. On the histological examination of the heart, there were varying degrees of myocarditis present. There were cases in which the myocarditis was described as diffuse, and there were cases where the myocarditis was described as being focal. The cases also varied according to the degree of myocytes that is was in the heart muscle,

myocyte necrosis present. In some cases myocyte necrosis was absent. In some it was minimal. In others it might be extensive. So there is clearly a range, in terms of distribution of inflammation, and a range of the consequences of that inflammation, so far as muscle cell death is concerned in these patients who have all died suddenly, with no other explanation for their death.

Q. *In determining whether or not the child Laura died of myocarditis, would you be assisted by descriptions of the myocarditis as being mild or moderate?*

A. *I think it is clear from this publication that the myocarditis might be focal and mild, and nonetheless be implicated in the sudden death of that patient.*

39. The problem with this evidence is that while it assists Ms Folbigg to some extent, it is not made clear that mild widespread myocarditis can cause death, it does not have to be focal. This evidence was incomplete.

40. Dr Jones gave further evidence:¹⁶

CROWN PROSECUTOR: Q. *Doctor, is this the case: That you don't feel qualified to comment on whether or not Laura's myocarditis was a cause of death?*

A. *I'm prepared to state that it's a possible cause of death but I'm not in a position to state that it is the cause of death.*

Crown Closing Address

I would like you to go over Laura's medical evidence a bit more carefully because it is a bit more complicated. The reason is this: Laura was, as you know, found to have mild myocarditis. We would submit the most accurate expert evidence in relation to Laura was taken from Dr Cala who did the post-mortem. He was of the view firstly, at point three; that the post-mortem findings of small areas of bleeding and collapse in the lungs was consistent with asphyxiation. He did see some inflammatory infiltrate in her heart caused by myocarditis, but it was consistent with the after effects of a cold or flu.

Now, ladies and gentlemen what has been explained to you is this: In medicine nothing is certain. Nobody can say you cannot die from mild myocarditis. You can die from a splinter in your finger. You can get septicemia. A finger might be infected and infection in the blood and systemic septicemia and you die. You cannot die from a splinter in your finger. You can't. Did Laura die from the myocarditis? Nobody could ever say to you she never died from the myocarditis. That is looking just at the medical evidence on its own. Dr Cala was of the view it was an incidental finding. That means she happened to have myocarditis, but that was not the cause of her death. That was

¹⁶ Exh F T 1275 - T 1279.

because, not just a view he advanced out of thin air, but a view based on the fact that there was no evidence of heart failure, that her heart was normal, not to the naked eye, and that the inflammation was patchy, mild and of a low amount. He, therefore, was of the conclusion that it was very unlikely that Laura died as a result of this myocarditis.

(Emphasis added.)

41. This is important because necrotic cells were found on microscopy. Further, the Crown Prosecutor is relying on lack of structural abnormality to exclude a cause of death. Further, there is no material relating to the combination of genes and the common cold or influenza. This not being critical but it demonstrates the changes in medical knowledge since the trial.

In fact he does not believe that it is even a reasonable possibility that Laura died from myocarditis. Professor Herdson supports this view and believes that myocarditis was an incidental finding and not the cause of death. Professor Berry could not see any dead heart muscles on the slides he looked at. Professor Hilton was of the view that myocarditis could have led to Laura's death but he agreed that the finding of myocarditis did not exclude deliberate suffocation. Dr Bailey gave evidence in the Crown case, he is a paediatric cardiologist, he specialises in children's hearts. His view was that the agonal or dying heartbeat found in Laura by the paramedics, after Laura's breathing had stopped, 'made it most unlikely, sorry, made it most likely that Laura's breathing stopped before her heart stopped and that it was, therefore, unlikely that myocarditis caused Laura's death.

(Emphasis added.)

42. This is important as the issue of agonal rhythm was clarified by Dr Skinner and is the subject of other submissions. This method of reasoning is no longer available.
43. He further addressed:

Because of that agonal rhythm it is more likely that the breathing stopped before the heart which is not what you would expect from myocarditis as a cause of death. It is more consistent with smothering than with myocarditis. That is point nine.

Dr Cala did not fall in the same trap as Professor Hilton had fallen into. He found the medical cause of Laura's death was undetermined.

...

Now, I know there have been varying opinions expressed, whether it was mild, moderate or more than moderate. In our submission you would accept Dr Cala's assessment it was mild myocarditis. We submit from all the evidence you will conclude that she just happened to have some inflammation around her heart, which is a not very uncommon consequence of a cold or a flu. She just happened to have that at the time she died. Were it not for the previous deaths in the family, any doctor would have looked at her on post-mortem and said she must have died from the myocarditis, because I can't find anything wrong.¹⁷

...

44. This summing up demonstrates the Crown's reliance on Meadow's Law. Further, it demonstrates the lack of appreciation that myocarditis itself can trigger arrhythmia regardless of the extent of infiltrates.

Judge's Summing up

45. The following passage was the extent of Barr J's summation of the myocarditis issue:

This is not a death in which the defence suggests that there is a reasonable possibility that it is a SIDS death, a death occurring from some natural but unidentifiable process. There are two only possibilities on the evidence and one is a deliberate mothering, contended for by the Crown. The other is myocarditis.

As you are aware, myocarditis was detected throughout the heart on the autopsy carried out by Dr Cala. Dr Cala came to the view that it was an incidental finding and not the cause of death. I think it fair to say that none of the experts was prepared to say that myocarditis could be absolutely excluded as a cause of death and indeed there is evidence to the effect that if an expert knew nothing else about the case, nothing else about the other deaths, he or she might well ascribe death to myocarditis. All the experts, I think, also agree that the condition in which Laura was found is consistent with death by asphyxiation. So nobody says it could not have happened that way.

The views of the Crown witnesses are summarised for you, as I have said, and I do not need to read those to you.

Professor Byard pointed out, and I think so did one of the other witnesses, that apparently healthy people, in fact fit people, can die of myocarditis without exhibiting any particular sign of illness beforehand. Whether those situations that were described are appropriate to apply to the conditions that applied to Laura is a matter entirely for you, but the kinds of examples that were given were when people were under stress,

¹⁷ Exhibit F, T 1356.53 – T 1359.27

when athletes, who were very fit and exercised vigorously and then relaxed, they might die of myocarditis. Those were the sort of examples given of deaths from myocarditis with no apparent ill effects beforehand.

You have the video of Laura in the swimming pool taken on the day before she died. Pretty obviously she does not display any sign of any disability. She appears to be moving freely and easily and voluntarily. That is a matter that you can take into account.

Dr Cala said that he could use that view of Laura to come to the view that she probably did not have myocarditis, at least not to any degree that would affect her and be likely to cause her death, and having seen that video he confirmed his view that myocarditis was an incidental finding. It did not play a part in the causation of her death. At the other end of the scale, there was Professor Byard, who said that it was inappropriate to give an expert opinion merely by looking at a video tape in that way.

There is another subissue, if I can call it that, in this question of myocarditis or not. Myocarditis, of course, is a disease of the heart, an inflammation of the heart. It is believed that many people have it and recover from it. Of course, it is never established that such people have it, because they are not examined. You do not look at their hearts. That seems to be the belief of experts in the field.

If you do die of myocarditis, of course, the first thing that will happen will be that your heart will cease to function properly. You will remember the questions asked by Mr Zahra whether the myocarditis was in the conduction system of the heart, the parts of the heart that transmit the electrical current that make the muscles move, and the answer was that if it is established in the conductive system that is likely to lead to an arrhythmia of the heart; that is, the heart beat getting out of kilter and the heart losing its ordinary function to beat in the way that it must do regularly in order to supply the muscles with oxygen. If a person dies of myocarditis, the heart stops. That is the first thing that happens, because the heart is the first organ that is affected. Everything else follows.

(Emphasis added.)

46. Again, this analysis does not address arrhythmia caused by infection or mild myocarditis. It poses a false dichotomy between fit healthy people and Laura. It introduces coincidence reasoning as the basis of exclusion of myocarditis and it reverses the onus of proof by stating that “*If it is established in the conductive system*”, then myocarditis can cause death.
47. The trial judge continued:

On the other hand, if the person is suffocated, the breathing might stop first and the heart might continue to beat for some little time after breathing has stopped. That is the point of the evidence about what was called the agonal heart beat. You will remember, when the ambulance officers attended, a test was done that showed that Laura's heart was still exhibiting some electrical signs. It was not beating normally. In fact I do not know that one can say that the heart was beating in the sense of an ordinary heart beating, but there was still electrical activity in the heart. The evidence was that that electrical activity might continue for some time after a person had stopped breathing for some minutes. I think up to twenty-four minutes one of the experts said.

Well, which order did things happen in? Professor Berry looked at the tracings of the electrocardiogram and thought it a reasonable conclusion that here the heart was continuing to try to beat, electrical signals were continuing in the heart, after breathing had stopped. The evidence was, you see, from the ambulance officers, that there was no breathing.

Other experts strongly disagree with that, particularly Professor Byard, who says you cannot, it is just not an appropriate exercise to, try and use a tracing in that way. He says it cannot be done, and it should not be done. – Exhibit F, Summing Up pp 98-102

48. Again, this analysis has been dealt with elsewhere – agonal rhythm analysis leads nowhere. It was and remains a false issue with false logic.

Evidence at Inquiry

49. In the opening, Counsel Assisting described the Prof Herdson's evidence at trial about the role of myocarditis in the death of Laura Folbigg. In this regard, there is a couple of matters that require correction, or qualification in order to ensure absolute precision in the account of the evidence at trial. She addressed, *inter alia*, in the following manner:

Professor Herdson viewed the slides from the post mortem. He agreed that histopathology of Laura's heart revealed a myocarditis most probably viral in origin, and agreed with Dr Cala that it was incidental to Laura's death. (paragraph 170)

50. However, Prof Herdson's evidence does not exclude myocarditis as a cause and it should be read rather than paraphrased. For example:¹⁸

¹⁸ T 1039.55.

*There is a little cell necrosis. That means that individual heart muscle fibres have died. as part of the viral infection. If that were not present. I would be very much more confident in saying that it was totally incidental, **but the presence of those occasional necrotic or dead fibres prevents me from saying, categorically, that it wasn't important**; but, given the total circumstances, I think it is most likely to have been incidental.*

. . . .

Q. *If, for example, that myocarditis was in a conductive system of the heart, you would expect that that could, in fact, be fatal?*

A. *That is a very difficult one to come down firmly one way or the other. I don't think it is well-established in cases of viral myocarditis why, in one instance, as we have already described, you have death arising from it and then in another apparently similar case the person recovers completely. But, of course, if there is inflammation in relation to the conducting system, it has a potential and serious implication. (T 1/5/03, 1046.15)*

(Emphasis added.)

51. In her opening, Counsel Assisting described the evidence of Prof Berry. She stated:¹⁹

In isolation, Professor Berry considered the myocarditis to be moderate, and that it provided an explanation but he was not certain – it could have been incidental. He also thought it was highly possible – “indeed, probable” – that if a child who had myocarditis was subjected to an asphyxial episode, this might precipitate an abnormal beat of the heart leading to sudden death.

52. Again, the evidence he actual gives about the role of myocarditis should be read. He stated, *inter alia*:²⁰

Q. *What, in your view, is the significance of the myocarditis?*

A. *It is extremely difficult. As with the other experts, **I entirely agree it is consistent with myocarditis consequent on the relatively mild viral infection that Laura had in the days before her death. I think its significance is that, in isolation, it presents an explanation for the death.** It is not a certain explanation because it could be an incidental finding, but I think, in isolation, most pathologists would probably have ascribed Laura's death to myocarditis. That is in isolation.*

¹⁹ Paragraph 172.

²⁰ Exh F T 1064.55.

(Emphasis added.)

53. About the evidence of Dr Bailey, Counsel Assisting stated:²¹

Dr Bryan Bailey, a consultant cardiologist, gave evidence that it was unlikely that myocarditis accounted for the death.

54. Dr Bailey was of the view that myocarditis did not cause the death of Laura Folbigg. However, he was relying on Dr Cala's autopsy report and did not view the slides.²²

55. Once again it is appropriate to read the evidence carefully. In fact, Dr Bailey states, *inter alia*:²³

Q. You can't rule out the possibility that myocarditis was in fact in the conductive system?

A. No.

Q. And if it were in the conductive system it could have fatal results?

A. It could have, but: it would have to have either occurred in a very tiny area of the heart where the conductive system is small or else affected a very large part of the conducting system in the lower part of the heart where it spreads out like a fan, so it: would have had to have affected it all to really have lead (sic) to that problem.

Q. You can't tell in this given case because you haven't seen the slides?

A. No. I haven't seen the slides.

Q. And therefore you can't tell?

A. No.

56. Counsel Assisting did not refer to the evidence of Dr Owen Jones, a paediatric cardiologist, whose evidence was tested at trial. He was called by the defence and gave evidence at trial on 8 May 2003.²⁴ His evidence concerned the death of Laura Folbigg. He was the last expert called at trial.

²¹ Paragraph 173.

²² Exh F T 1102.

²³ Exh F T 1103.40.

²⁴ T 1260 - T 1279.

57. His evidence is especially important because he is a paediatric cardiologist and is the evidence is to be properly considered it needs to be included.
58. Dr Jones expressed his view most clearly about the cause of death of Laura Folbigg being myocarditis during re-examination.²⁵

Q. *You were asked or you referred to Dr Cala's reference to myocarditis being patchy; do you recall being asked questions about that a moment ago?*

A. *I recall, yes.*

Q. *You indicated that you had reliance on Dr Cala's post-mortem report?*

A. *That's correct.*

Q. *In that post-mortem report consisting of the questions I asked you in examination in chief, was it noted that in the myocardium was a moderately dense infiltrate of lymphocytes?*

A. Yes.

Q. And they had aggregated in certain areas?

A. Yes.

Q. Particularly subendocardially?

A. Yes.

Q. And along the superficial surface of myocardium?

A. Yes.

Q. And that further showed large aggregates in the central area of the left ventricle?

A. Yes.

Q. And that in those areas there were large clusters of lymphocytes surrounded by degenerate myocytes?

A. Yes.

Q. And myocytolysis was present?

A. Yes.

Q. Would you consider they're significant findings?

²⁵ Exh F T 1278.15.

A. Yes.

Q. *And in those circumstances what can you say about the possibility of myocarditis causing the death of Laura Folbigg?*

A. *I would say that this examination is consistent with the diagnosis of myocarditis in Laura and that it is an explanation for the death of Laura.*

Q. *You were asked about a number of symptoms in relation to severe myocarditis?*

A. Yes.

Q. *And you were taken to those symptoms?*

A. Yes.

Q. *Does it necessarily follow in the absence of any of those symptoms that you can rule out in this present case the death of the myocarditis?*

A. *It certainly doesn't rule this out.*

(Emphasis added)

Evidence at the Inquiry

59. The general thrust of the report of Prof Hilton expressed agreement with Prof Cordner.²⁶

Laura died with, and highly probably because of, florid myocarditis. There was no medical evidence demonstrable or demonstrated in the report of post mortem examination to support another cause of her death.

60. Prof Cordner²⁷ takes head on the proposition of Dr Cala at trial, that, even in isolation, the death could not be attributed to myocarditis. After quoting extensively from the transcript of Dr Cala's evidence at trial (and the page references set out below to Dr Cala's statements relate to Dr Cala's evidence at trial and the page references are to Prof Cordner's report), he summarises, then responds to, what he sees as the six main elements as to why Dr Cala refrained from attributing the death to myocarditis:

(a) Cala stated:

²⁶ Exh O Hilton Report page 2 [1.(f)].

²⁷ Exh Q Cordner report.

[t]he myocarditis was patchy and mild compared to other cases where the inflammation was more marked – p76

- a. On the contrary, Prof Cordner states: *I do not think the myocarditis is patchy and mild; I think it is better described as widespread and at least moderate in degree. – p77*
- b. He then describes how he tested this opinion by sending the necessary information to ten colleagues asking if cause of death was myocarditis. All responses were in the affirmative, the majority emphatically so. – p77 (Note: the value of this exercise was the subject of much scrutiny at the inquiry – T 212.21 - 218.03)

(b) Cala stated:

In Laura's case the heart seemed (to the naked eye) normal compared to other cases where death is due to myocarditis; in the latter the heart is possibly flabby, the left ventricle a bit dilated and has a striped appearance. In other words, Dr Cala would expect to see these signs to support the view that death was due to myocarditis. – p78

- a. On the contrary, Prof Cordner responds that 12/27 cases of myocarditis in his study came with abnormal appearance of the heart, and 13/27 with no abnormal appearance. – p78

(c) Cala stated

In Laura's case there were no preceding symptoms or signs referable to myocarditis or viral illness. Dr Cala believes this absence is very unusual in deaths from myocarditis – p78

- a. On the contrary, Prof Cordner refers to the study where 15/27 of those who died from myocarditis had prior symptoms of viral illness (where a symptom as basic as 'being off food' sufficiently qualifies),²⁸ and 8/27 showing no preceding signs of illness. (4/27) had no data. – p79
- b. He also points out that Laura did seem to have a preceding runny nose - 78

(d) Cala stated:

In only a small percentage of cases when myocarditis causes death does it cause a sudden and unexpected death – p79

- a. On the contrary, Prof Cordner refers to the study where 13/27 died in hospital (indicating prior warning of the death), and 12/27 were

²⁸ This is consistent with the evidence of Prof Blackwell, Prof Clancy and Prof Goldwater.

dead before arriving at hospital, 10 of which were discovered in a cot or bed. – p79

- b. Thus, he concluded: *On this basis it would appear that sudden and unexpected death is not all that unusual in this population of infants and toddlers dying from myocarditis, happening in about half the cases. This conclusion is supported by the experience of Weber et al (2008) from Great Ormond Street, as set out above.* – p79

(e) Cala stated:

Laura appears normal in a video taken 23 hours before her death. '.... given that she appears in such good health I think it is quite unlikely that she died of the effects of myocarditis'. – p80

- a. On the contrary, Prof Cordner postulates that, given the data in the two previous responses, probably between 8-12/27 of those whose deaths were the subject of the study were capable of appearing normal 23 hours before death. – p80

(f) Cala stated:

If this had been an isolated death, Dr Cala would not have given the cause of death as myocarditis because the amount of inflammation was not particularly heavy; there was no evidence of heart failure; the heart to the naked eye looked normal. – p80

- a. On the contrary, Prof Cordner states that there will not usually be time for general signs of heart failure to develop, in the case of myocarditis.
- c. He further states: *The actual degree of myocarditis present was, in my opinion, substantially more than mild, and at least of moderate severity. And I have mentioned above that 13/27 cases were regarded as having a normal looking myocardium when assessed with the naked eye.* – p80

61. Prof Cordner's conclusion as to myocarditis as Laura's cause of death can be set out in full:

I believe the middle of the road conclusion in relation to Laura's death is that considered alone, most forensic pathologists would be comfortable ascribing the death in similar circumstances to Laura's as being due to myocarditis. This is indeed my own view. It would have been acceptable, and I would support a pathologist who gave the cause of death as "I(a): Undetermined", but in the comments section of the report, fully canvassed the possibilities that death could be due to myocarditis, but because it was the

4th death in the particular family there could be other factors, including but not limited to homicide, at work.

Thus, I do think Dr Cala could have justified the cause of death as he gave it: Undetermined. He was incorrect to argue that there were medical and pathology reasons for excluding myocarditis. He could simply have said that, as this was the fourth infant/childhood death in the family, he was worried about smothering (but see below) or other natural causes having played a part. He could have accepted that death might have been due to myocarditis - and he does accept this as a minor theoretical possibility - but the circumstantial information - four deaths in one family - concerned him. And simply left it at that. To the extent that he says that death could not be due to myocarditis, I disagree, and the evidence from the NCIS is against Dr Cala's view. Laura could very well have died from myocarditis, and it is my view that a clear preponderance of forensic pathologists would so conclude if Laura's was an isolated case.

Consideration of Laura's cause of death could easily extend into a discussion about how pathologists go about, or should go about, concluding the cause of death generally. See Appendix 5 for a discussion of this. – pp 80-81

(Emphasis added.)

62. The following can also be extracted from his conclusion as to the deaths as a whole:

If the convictions in this case are to stand, I want to clearly state there is no pathological or medical basis for concluding homicide. The findings are perfectly compatible with natural causes. The findings cannot rule out smothering in one or more of the cases, but especially in the case of Laura, not only is there an acceptable natural cause of death easily visible, it is important that absolutely no signs of asphyxia or compression of the face are present. (Emphasis added.)

In my view, the correct way to view this case-as mentioned above-is not as four unexplained deaths and an unexplained ALTE.

Considered separately:

- *Caleb's death is best regarded as SIDS (Category II)*
- *Patrick's ALTE is unexplained*
- *Patrick's death is an unsurprising consequence of the state he was left in following the ALTE*
- *Sarah's death is best regarded as SIDS (Category II)*
- *Laura's death has been caused, unexceptionally, by myocarditis.” – p90 (emphasis added)*

63. This is very important information as the predominant basis for Dr Cala not to conclude the death was caused by myocarditis was the existence of three other deaths in the one family. In the event that for any of those deaths there is a reasonably available alternative natural cause, then, by implication, Dr Cala would shift his opinion that myocarditis is the probable cause of death. This needs to be borne in mind at this Inquiry.
64. The following is extracted from Dr Duflou's conclusion²⁹ as to the cause of Laura's death:

In my opinion, there is without doubt myocarditis of a severity which can readily cause sudden and unexpected death. As indicated by multiple pathologists, myocarditis can either cause death through the gradual development of congestive cardiac failure, or can result in a sudden onset lethal cardiac arrhythmia without evidence of prior illness in the patient. I have seen multiple examples of both presentations in my autopsy practice. I have also co-authored multiple papers where death due to myocarditis has been examined, and in common with many other authors have concluded that myocarditis can be both incidental to death and causative of death. Attempts at differentiating the two on the basis of naked eye and microscopic appearances of the heart has been attempted, but in general both severe myocarditis can be incidental while relatively mild myocarditis can readily cause death, and grading schemes have not gained widespread acceptance.

In this case, no competing cause of death has been identified at autopsy, therefore based purely on the autopsy findings, the cause of death would be given as MYOCARDITIS. If so, in all likelihood the myocarditis would have resulted in a lethal cardiac arrhythmia and caused sudden death, given an absence of features of congestive cardiac failure at autopsy, and descriptions of the deceased not being obviously short of breath in the days leading up to death.

Acknowledging that there is no other obvious cause of death in Laura, I nevertheless consider it not unreasonable to give the cause of death as UNDETERMINED in the alternative, as proffered by Dr Cala. The reason for this is the knowledge that myocarditis can be incidental to death, and the fact that three siblings died leads one to consider causes of death where death is not simply due to myocarditis but that the myocarditis may have been a contributor or incidental to death in this case. – pp 34-35 (Emphasis added.)

²⁹ Exh L Duflou report.

65. The following is an extract from Dr Cala's opinion³⁰ as to Laura's cause of death:

Professor Cordner believes myocarditis to be the cause of death however I disagree with this opinion. The finding of "an abnormality" at autopsy is not automatically "upgraded" to be the cause of death unless it satisfies other criteria such as according with the clinical history, or after laboratory tests are performed. Part of Byard's article (11) is worthy of quoting:

"... care should be exercised in proposing a cause of death even when obvious significant disease is present While death is often confidently ascribed to lesions found during post mortem assessment, the nature of autopsy material makes it difficult to precisely correlate histological lesions with functional impairment. For example, it is often impossible to determine why apparently identical lesions result in death in one individual and yet cause minimal disturbance in another. This reflects the complex and idiosyncratic nature of pathophysiological processes and the limitations of autopsy pathology. It also underlines the importance of obtaining good clinical and death scene information so that the final decision on the cause of death can be guided by clinicopathological correlation rather than based on pathological findings in isolation."

When opining a cause of death, especially in a young child, the circumstances surrounding the death must be considered in detail, as well as the autopsy findings. In this case I was aware of a recent cold or 'flu type illness around the time of death but I had no knowledge or information that indicated Laura had been unwell with this or showed any symptoms of an underlying more serious illness prior to her death. Although on occasions, persons with myocarditis can die suddenly and unexpectedly, in my opinion I did not consider this to be likely as Laura had not been unwell on the day of her death and the amount of inflammation in the heart was quite light and patchy. I have seen fatal cases of myocarditis in this age group and in my view this case was not typical of sudden death from myocarditis.

From a clinical perspective, children with myocarditis have a range of symptoms from asymptomatic or non-specific generalised illness to cardiogenic shock and sudden death (25). "Infants and young children more often have a fulminant presentation with fever, respiratory distress, tachycardia (fast heart rate), hypotension (low blood pressure), gallop rhythm and cardiac murmur. Associated findings may include a rash, or evidence of end organ involvement such as hepatitis, or aseptic meningitis".

³⁰ Exh M Cala report.

The diagnosis clinically can be very difficult to make as most children recover fully and no tissue diagnosis is ever made (it would require a biopsy of the heart which is clearly a medical procedure that is not undertaken for casual reasons).

The autopsy findings have been documented in Professor Cordner's report, pages 22-23 with the cause of death ultimately given by me as 1 (a) Undetermined.

Even allowing for the passage of nearly 20 years since the autopsy, I remain of the view that myocarditis does not adequately explain this child's death. Other organs examined at autopsy and which were subsequently microscopically examined also showed features consistent with what I believe is an incidental viral infection around the time of death.

(Emphasis added.)

Evidence of Hilton, Cordner, Duflou and Cala at Inquiry

Dr Cala

"FURNESS SC: You had described myocarditis before as it might have been the cause of death.

WITNESS CALA: Yes.

FURNESS SC: Here you say "played no role whatsoever" which is more emphatic. What was it that caused you to be more emphatic in your view?

WITNESS CALA: I found the video to be important. As depicted, it showed a child who appeared to be in very good health but who, 24 hours or less than 24 hours later, was deceased. She exhibited no outward sign of symptoms as I've said in that and so I was of the view then based on the video that it made it even less likely for me to be of the view that she's died of myocarditis.

FURNESS SC: Do you understand that people including children can die of myocarditis without showing any symptoms beforehand?

WITNESS CALA: A small number can, yes.

FURNESS SC: Why couldn't she be part of that small number?

WITNESS CALA: She could. She could be part of that small number.

FURNESS SC: It's a very emphatic description, Dr Cala, "played no role whatsoever."

CALA: Yes. I accept that.

FURNESS SC: And that's still the view you hold today?

WITNESS CALA: No, I temper that. I would say when I've said "played no role whatsoever" that categorically excludes it as being a cause of death and I think that's -I think that's incorrect.

FURNESS SC: So what would you say today?

WITNESS CALA: I'd say I cannot positively exclude myocarditis as being the cause of death. I did say that at trial and although I believe it's -in my view she did not die of myocarditis I do not believe I could categorically exclude it as being the cause of death.

FURNESS SC: You consider it to be an incidental finding.

WITNESS CALA: That's my view.

FURNESS SC: Thank you. At trial as you say, you didn't exclude the possibility but you said that you did not believe it to be a reasonable possibility. Is that still the position you hold

WITNESS CALA: It is.

FURNESS SC: You described it as quite patchy and rather mild, the amount of infiltration, and that it was not particularly heavy. Is that to your mind consistent with what you've said at the autopsy?

WITNESS CALA: Those are not the exact words used, when I said not particularly heavy, that's -it's not saying it's moderately heavy, it's different terminology I accept that.

FURNESS SC: It's more than just terminology isn't it, I mean to say something is quite patchy and rather mild, differs from saying it's moderate?

WITNESS CALA: Yes I agree.

FURNESS SC: And your view now is that what you said in the autopsy is the best evidence as to what your opinion was close to the time of the autopsy?

WITNESS CALA: Yes.

FURNESS SC: Is that right?

WITNESS CALA: Yes." – T 203.26-204.47

(Emphasis added.)

Professor Cordner

"FURNESS SC:perhaps if we can have Professor Cordner's report on screen, at page 80. It's the second last paragraph. And Professor you there say that you believe the middle of the road conclusion in relation to her death considered alone, most

forensic pathologists would be comfortable ascribing the death in similar circumstances to Laura's being due to myocarditis, and that's your view?

WITNESS CORDNER: Yes.

FURNESS SC: You state in your report, and that's still your view?

WITNESS CORDNER: That's still my view.

FURNESS SC: Then you say it would've been acceptable and you would support a pathologist who gave the cause of death as undetermined and in the comments section fully canvases the possibilities. In saying that, you ultimately agree with Dr Cala's determination as to cause of death but you may well have said something different in the comments section?

WITNESS CORDNER: Well partly, I partly agree with that I suppose, I disagree with Dr Cala's basis reasons for thinking that death is not due to myocarditis, I mean he has a number of -certainly gave a number of reasons at the trial that he believed indicated that meant the death was not due to myocarditis and I don't think there are any reasons to suppose that the death is not due to myocarditis, but ultimately as long as it's explicit, if somebody said undetermined and then was explicit about why they had come to that view, then at least we can have a discussion about those explicit reasons.

FURNESS SC: And you say in this paragraph that you'd support effectively Dr Cala who gave the cause of death as undetermined, and fully canvass the possibilities but because it was the fourth death in the particular family, there could be other factors including but not limited to, homicide?

WITNESS CORDNER: So that means, including natural causes but including homicide at work, yes.

FURNESS SC: So by the time of the fourth death that would be something that would be in your mind?

WITNESS CORDNER: Yes." - T 207.04-.45

(Emphasis added.)

Professor Duflou

"FURNESS SC: Professor Duflou, you I think effectively agreed with Professor Cordner that you would be of the view that it wouldn't be unreasonable to call Laura's death as undetermined?

WITNESS DUFLOU: It would not be unreasonable but at the same time I would be more than happy to give it as myocarditis yes.

FURNESS SC: *I think your report said that you believed that myocarditis can be incidental but you also took into account that three siblings had died?*

WITNESS DUFLOU: *Yes.*

FURNESS SC: *How did you take into account the death of the three siblings?*

WITNESS DUFLOU: *Well it's certainly in the background of any thinking that you have to do about this case, they appear to have died of unrelated causes and people certainly can die from a variety of conditions in the same family. I think as with Professor Cordner, is it possible that there was involvement by a person causing death, I can't exclude that.*

FURNESS SC: *So Professor Cordner has said that because of the fourth death there could be other factors including but not limited to, homicide, you'd accept that?*

WITNESS DUFLOU: *I'd accept that" – T 207.47-208.21*

Professor Hilton

"FURNESS SC: Professor Hilton, the view you have expressed to the Inquiry in your report is that she died with and highly probably because of florid myocarditis?

WITNESS HILTON: *Yes.*

FURNESS SC: *Having listened to the others and having in your report that you're in substantial agreement with Professor Cordner?*

WITNESS HILTON: *Yes.*

FURNESS SC: *Is this an area where you are not in complete agreement with Professor Cordner?*

WITNESS HILTON: *I don't know, I don't know that I am in complete agreement with Professor Cordner, I mean I've got my own view and I've expressed it there I think very conservatively that in my opinion Laura might have died with or because of myocarditis.*

FURNESS SC: *Might have?*

WITNESS HILTON: *Might have died.*

FURNESS SC: *Is that your view?*

WITNESS HILTON: *Yeah that's my view, she may well have died of myocarditis. I tend to feel that myocarditis over any other objective feature in Laura's death.*

FURNESS SC: *In your report to the Inquiry and we can put it up on the screen if you like, you say died with and highly probably because of and I think your evidence in the trial was a little different from that, in that in your evidence in the trial was that it was*

the only pathological lesion that was present that could account for her death, however you didn't form the view with the same certainty that you have in the report to the Inquiry, has your mind changed?

WITNESS HILTON: *It's certainly true that was the only pathological lesion that was there, was observable, observed or presented.*

FURNESS SC: *So your view at the trial was myocarditis could possibly have led to her death?*

WITNESS HILTON: *Yes.*

FURNESS SC: *Which is of a different characterisation of what I've indicated you said to the Inquiry, what's your present opinion?*

WITNESS HILTON: *I think it depends on the strength you put on the words "could have", of course –*

FURNESS SC: *Well it could've been highly probably did, there's some distance between the two?*

WITNESS HILTON: *And I would agree with what you've just said, highly probably did, could have highly probably did, I would favour, there is no evidence of - there is no physical evidence, no pathological evidence of any other cause of death, dead she certainly is, myocarditis she certainly has, can myocarditis kill, yes it can, may it well have killed her, is it the favoured diagnosis in this particular case, yes it is, my favoured diagnosis in this particular –*

FURNESS SC: *Favoured, is that the word you use?*

WITNESS HILTON: *Favoured yes.*

FURNESS SC: *Taking into account as each of the other forensic pathologists has, the fact that this was the fourth death, would that lead you to agree that it would not be unreasonable for a finding of undetermined to be made?*

WITNESS HILTON: *I personally wouldn't have put it as undetermined but I can follow Dr Cala's reasoning and this is almost a tautology, I don't think his reasoning is unreasonable.*

FURNESS SC: *You don't think it's unreasonable –*

WITNESS HILTON: *But I don't agree with it.*

FURNESS SC: *So you don't think it's unreasonable for a forensic pathologist to have come to a view in the case of Laura, that the cause of death was undetermined?*

WITNESS HILTON: I would not have, but I don't think it's an entirely unreasoned conclusion from what Dr Cala has told us here today and in his writings." – T 208.23-210.06

66. Prof Clancy in his report Exh W, he confirmed his view Laura's cause of death was myocarditis.
67. Prof Cordner gave evidence at the Inquiry and provided a detailed report. In his report he stated of Laura Folbigg cause of death: .³¹

I believe the middle of the road conclusion in relation to Laura's death is that considered alone, most forensic pathologists would be comfortable ascribing the death in similar circumstances to Laura's as being due to myocarditis. This is indeed my own view. It would have been acceptable, and I would support a pathologist who gave the cause of death as "I(a): Undetermined", but in the comments section of the report, fully canvassed the possibilities that death could be due to myocarditis, but because it was the 4th death in the particular family there could be other factors, including but not limited to homicide, at work.

*Thus, I do think Dr Cala could have justified the cause of death as he gave it: Undetermined. He was incorrect to argue that there were medical and pathology reasons for excluding myocarditis. He could simply have said that, as this was the fourth infant/childhood death in the family, he was worried about smothering (but see below) or other natural causes having played a part. He could have accepted that death might have been due to myocarditis - and he does accept this as a minor theoretical possibility - but the circumstantial information - four deaths in one family concerned him. And simply left it at that. To the extent that he says that death could not be due to myocarditis, I disagree, and the evidence from the NCIS is against Dr Cala's view. **Laura could very well have died from myocarditis, and it is my view that a clear preponderance of forensic pathologists would so conclude if Laura's was an isolated case***

(Emphasis added)

68. Dr Cala was the most junior of forensic pathologists who gave evidence at trial and the Inquiry. His conclusions about causes of death at trial are not accepted by more senior and experienced forensic pathologists. Those who clearly disagree with Dr Cala about smothering being the causes of death include:
 - (a) Professor John Millar Napier Hilton, Transcript, 14 April 2003, pages 615 to 656 and 24 April 2003, pages 906 to 918;

³¹ Ibid 80.

- (b) Professor Stephen Cordner, *Report and Opinion in the Case of Kathleen Folbigg*, Inquiry Exhibit C;
- (c) Professor Michael S Pollanen MD PhD FRCPATH DMJ (Path) FRCPC, Founder forensic pathology Chief Forensic Pathologist for Ontario, *Review of Cordner Report*, Inquiry Exhibit C;
- (d) Professor Johan Duflou, Report, 13 February 2019.

69. There is no mechanical formula for reaching a decision where experts are in conflict: see *CJ v Regina* [2012] NSWCCA 258. However, the Court found there are limited bases for rejecting the evidence of reputable experts:³²

The judicial duty to provide reasons may have a particular content where a trial judge is required to resolve differences of opinion between properly qualified reputable experts. In a passage which has been frequently cited with approval in New South Wales, in Flannery v. Halifax Estate Agencies Limited [1999] EWCA Civ 811; [2000] 1 WLR 377 (at 381 - 382; 377 - 378), Henry LJ said:

"It is not a useful task to attempt to make absolute rules as to the requirement for the Judge to give reasons. This is because issues are so infinitely various. For instance, when the Court, in a case without documents depending on eye-witness accounts is faced with two irreconcilable accounts, there may be little to say other than the witnesses for one side were more credible ... but with expert evidence, it should usually be possible to be more explicit in giving reasons: see Bingham LJ in Eckersley v. Binnie (1988) 18 Con LR 1 at 77 - 78:

*'In resolving conflicts of expert evidence the Judge remains the Judge; he is not obliged to accept evidence simply because it comes from an illustrious source; he can take account of demonstrated partisanship and lack of objectivity. **But, save where an expert is guilty of a deliberate attempt to mislead (as happens only very rarely) a coherent reasoned opinion expressed by a suitably qualified expert should be the subject of a coherent reasoned rebuttal, unless it can be discounted for other good reasons ...'***

...

[w]here the dispute involves something in the nature of an intellectual exchange, with reasons and analysis advanced on either side, the Judge must enter into the issues canvassed before him and explain why he prefers one case over the other ...

[See Moylan v. Nutrasweet Co. [2000] NSWCA 337; Mistral International Pty Ltd v. Polstead Pty Ltd [2002] NSWCA 321; Archibald v. Byron Shire Council [2003] NSWCA 292; (2003) 129 LGERA 311; Wiki v. Atlantis Relocations

³² Paragraph 92.

(NSW) Pty Ltd [2004] NSWCA 174; (2004) 60 NSWLR 127 at 136 [60] - 138 [68]].

(Emphasis added)

70. It is submitted however that Dr Cala has not provided adequate reasons for his opinion with regard to the causative impact of myocarditis. He shifted significantly from his evidence at trial but was unable to give a clear and cogent explanation for his opinion, other than to say he reaffirmed it. The other experts did give reasons for their preferred view. In those circumstances, it is submitted the Inquiry would be reluctant to accept Dr Cala's opinion on this issue.

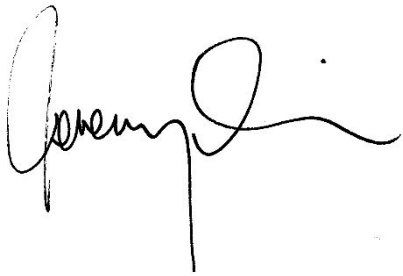
Summary

71. In the case of the death of Laura Folbigg the experts agree or do not exclude myocarditis as the cause of death. The majority of the forensic pathologists at this Inquiry would have classified this death as being caused by myocarditis. We submit this finding should be made. In order to reject the evidence of Australia's leading forensic pathologists it would be necessary to rely on the discredited Meadows Law and engage in speculation about the act of smothering. In the event a natural cause of death for the other children cannot be excluded, then the cause of death for Laura must significantly shift towards myocarditis.
72. In the event the coincidence evidence is not permitted (which is the subject of submissions elsewhere) then the cause of death shifts strongly towards myocarditis.
73. In the event this death is assessed in isolation (on the basis the coincidence reasoning is not available and each death needs to be assessed separately) then the balance shifts strongly towards myocarditis.
74. The fact Counsel Assisting submits that smothering cannot be excluded is the wrong test. The Crown has the obligation to exclude any natural disease


process. It cannot do that on the medical evidence. It cannot do that if coincidence reasoning is excluded.

75. This Inquiry should find myocarditis was the likely cause of death of Laura.
76. This finding has a consequential impact upon the issues of the cause of death of other children, the use of coincidence reasoning and the issue of the joint trial. As such, this Inquiry would comfortably conclude there is a reasonable doubt about Ms Folbigg's guilt with respect to Laura's death.

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