QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Hunter Campbell Marr**
TITLE OF COURT:	Coroners Court
JURISDICTION:	Southport
FILE NO(s):	2014/96
DELIVERED ON:	8 May 2015
DELIVERED AT:	Brisbane
HEARING DATE(s):	15 October 2014, 21 – 26 November 2014
FINDINGS OF:	James McDougall, Coroner
CATCHWORDS:	Asthma, Cough, Ventolin Inhaler, Mater Hospital, Asthma Action Plan

REPRESENTATION:

Counsel Assisting:	Ms D. Callaghan
Counsel for the Marr Family:	Mr P.B. Rashleigh
Counsel for the Mater Children's Hospital and Dr Dahiya:	Ms J. Rosengren
Counsel for the Queensland Ambulance Service:	Mr B.I. McMillian
Counsel for Ms Kristie Krone:	Ms S. Bain

Introduction

Hunter Marr was born on 20 October 2004. His parents are Matthew and Michelle Marr. The Marr family lived at Ormeau, Queensland.

In August 2010 Hunter had an episode of coughing and wheezing. He was taken to the Main Street Medical and Dental Practice at Beenleigh. Hunter improved after being treated with Ventolin by nebulizer and was prescribed treatment with a Ventolin inhaler ("puffer"), spacer and mask and Predmix, a liquid oral steroid medicine, and Amoxil, an antibiotic, and advised to proceed to hospital if his shortness of breath worsened.

On the evening of 19/20 June 2011, Hunter was taken to the Mater Children's Hospital ("the Mater") by ambulance with persistent symptoms of asthma, settled after nebulized Ventolin and was discharged home. On the evening of 22 June 2011, Hunter was taken to the Gold Coast Hospital by Queensland Ambulance Service with worsening symptoms of asthma. The QAS records *"Patient was first diagnosed with asthma 12 months ago*."

On 30 December 2013, Mrs Marr noticed that Hunter had developed a cough. Mrs Marr said that she purchased a new Ventolin inhaler the following day and Hunter started to use *"small amounts".* Hunter became more unwell on 2 January 2014. Hunter was admitted to the Emergency Department at around 8 pm on 2 January 2014 with Ventolin and Atrovent by puffer and oral Prednisone 50mg. He was admitted to the Mater Hospital.

Hunter was discharged into his parents care at 1540 hours on 5 January 2014. Mrs Hunter said that at around 0645 to 0700 on 6 January 2014, Hunter was not able to stop coughing despite his Ventolin. She administered the oral Prednisone syrup by syringe at around 7.30 am. At this point, Mrs Marr described Hunter as looking pale and clammy and swaying back and forth. She woke Mr Marr and Queensland Ambulance Service was called.

QAS electronic records show that they received a call from the Marr residence at 0820. Shortly into the call, Mrs Marr advised that Hunter was now unconscious and turning blue. At 0823, a dispatch page was sent to unit A6495, the closest available Intensive Care Paramedic team which was located at Ewing Road, Logan. At 0828, a second unit 86852, the closest Advance Care Paramedic unit was dispatched from Helensvale. At 0836, unit 86852 advised that there was heavy traffic congestion on the M1 around Pimpama, which was delaying a response. A further unit was dispatched from Logan Hospital, having just cleared from a previous case. During the time between the call to QAS and arrival of unit A6495, Mr and Mrs Marr performed cardiopulmonary resuscitation on Hunter with instruction over the telephone from QAS.

The QAS paramedics continued resuscitation efforts. The ECG showed asystole from the time of arrival. QAS transported Hunter to the Logan Hospital at 0929, arriving a 0944. Further resuscitation treatment was provided with no improvement. Resuscitation was ceased at 10am. Mr and Mrs Marr and Hunter's two brothers spent time with Hunter.

The Inquest

The inquest was held pursuant to section 28 of the *Coroners Act 2003* (Qld) (the **Act):**

a) An inquest may be held into a reportable death if the coroner investigating the death is satisfied it is in the public interest to hold the inquest.

b) In deciding whether it is in the public interest to hold an inquest, the coroner may consider-

c) The extent to which drawing attention to the circumstances of the death may prevent deaths in similar circumstances happening in the future; and

d) Any guidelines issued by the State Coroner about the issues that may be relevant for deciding whether to hold an inquest for particular types of deaths.

At the pre-inquest conference on 15 October 2014, an opening was given, witnesses identified and the issues to be considered were proposed as:

- The finding required by section 45(2) of the Coroners Act 2003; namely the identity of the deceased, when, where and how he died and what caused his death;
- The circumstances leading up to the death;
- The appropriateness of the health services provided to Hunter by the Mater Children's Hospital and the Queensland Ambulance Service;
- The extent to which any deficiencies have been addressed;
- Any other matters relevant to the Coroner's function to help prevent deaths from similar causes happening in the future.

Autopsy

An autopsy was conducted by Dr Rebecca Williams on 8 January, 2014. The findings at autopsy showed a small right-sided pneumothorax and overlying subcutaneous emphysema (air in the chest cavity and the soft tissues of the chest wall). This is considered a complication of the needle decompression performed during resuscitation efforts. The lungs were mildly over-inflated, in keeping with asthma.

External examination showed multiple signs of recent medical therapy consistent with resuscitation attempts. Internal examination confirmed the lungs to be mildly hyper-inflated. There were no signs of pneumonia or any other natural disease process that would have contributed to death.

Dr Williams concluded, based on the circumstances surrounding death, consideration of the medical records and full internal post-mortem examination and testing, that the cause of death was asthma. She described asthma as a relapsing inflammatory disease characterised by paroxysms of reversible bronchospasm of the tracheobronchial airways due to smooth muscle hyper-reactivity. Clinically this manifests as breathing difficulty, cough and wheeze. It is an episodic disease, with acute exacerbations interspersed with symptom-free periods. Most attacks are short lived, however acute episodes can cause death.

The Evidence

Hunter Marr had an episode of coughing and wheezing in August 2010. He was taken to the Main Street Medical and Dental Practice at Beenleigh. Hunter improved after being treated with Ventolin by nebulizer and was prescribed treatment with a Ventolin inhaler ("puffer"), spacer and mask and Predmix, a liquid oral steroid medicine, and Amoxil, an antibiotic, and advised to proceed to hospital if his shortness of breath worsened.

Mrs Marr could not recall this consultation. Mr Marr said he was not aware that Hunter had been treated for asthma prior to June 2011. He said Hunter may have been treated with Ventolin but he did not recall this. He said if Hunter was, then it wasn't significant use.

Hunter had an episode of coughing and wheezing in June 2011 and presented to the Main Street Medical and Dental Practice on 19 June 2011, consulting Dr Colin Rayner. The history noted was *"Gets bad asthma one or twice* a *year".* Mrs Marr said that she attended the consultation with Hunter' but did not recall giving that history to Dr Rayner. It was also noted that Hunter *"Has Asmo puffer only. Uses it through* a *spacer."* Mrs Marr did not recall that Hunter was already using an Asmol puffer with a spacer at that time and had never heard the word asthma until that consultation. Hunter was treated with nebulized Ventolin and

advised to return for review the following day. Mrs Marr's recollection was that the first time Hunter had used a puffer and spacer and the nurse showed her how to use them.

On the evening of 19/20 June 2011, Hunter was taken to the Mater Children's Hospital (the Mater) by ambulance with persistent symptoms of asthma, settled after nebulized Ventolin and was discharged home. Mrs Marr said that she had attended the Mater with Hunter but did not recall being given any information or having a discussion with nursing staff about asthma management but having been shown the relevant page of the Mater record and thought she may have been given an asthma booklet but did not remember.

The entry in the Mater record on 20 June 2011 at 0745 was, inter alia, *"Ventolin given at 0730 by Mo - good technique and asthma knowledge adequate. Asthma plan given by doctor and asthma info pack given to* Mo". Mrs Marr stated that she didn't think Hunter was classed as asthmatic at that time or *"get the feeling that he was a diagnosed asthmatic".* Mr Marr said he *"did not believe there was a diagnosis"* and did not recall being given any information about how to manage Hunter when he got home.

On the evening of 22 June 2011, Hunter was taken to the Gold Coast Hospital by
Queensland Ambulance Service (QAS) with worsening symptoms of asthma. Mrs Marr agreed that she was present when the QAS attended Hunter and with her husband, provided some background history. She recalled that she might have said that he had an asthma attack a couple of days ago. She could not recall having given the history recorded in the QAS records *"Patient was first diagnosed with asthma 12 months ago*."

Mr Marr could not recall whether he was present when the QAS officers took a history but said he would be surprised if a history of asthma being diagnosed 12 month ago had been given. Mrs Marr provided further clarification about her understanding at the time of what an "*asthmatic kid was like - on Serotide (steroid puffer) every day and having to carry a Ventolin puffer every day"*. She said that Hunter used the Ventolin 4 times a day if required when he had a wheeze and cough and otherwise only when needed. She said he used it a couple of times a week, sometimes after running but when he was on steroids he didn't use it much at all. Mrs Marr accompanied Hunter to the Gold Coast Hospital. She recalled providing history to a doctor and saying *"he's not an asthmatic, he's not an asthmatic, he's not an asthmatic".* The hospital records at 0330 state under the heading past medical history - *"Asthma - previously mild, no ICU admission, Ventolin around 3/year, precipitated by viral illnesses, not on pre venter".*

Mrs Marr said that did not accord with her recollection. She said Mr Marr did not arrive until the time Hunter was retrieved. Hunter's condition deteriorated during the night and he was intubated and ventilated, and transported from Gold Coast Hospital by the Mater paediatric retrieval team to the Mater at around 5am on 23 June 2011. Hunter was treated in the Paediatric Intensive Care Unit (PICU) for two days and then in the children's ward for two days. Testing showed positive for Rhinovirus.

Mrs Marr recalled that during that admission she was given an Asthma Plan and information to read but could not recall if anyone spoke to her in depth. She said she understood that Hunter was a seasonal asthmatic, *"not someone who got asthma all the time but maybe if he had a really bad* cold'.

The discharge summary of that admission noted that the *"Asthma Education"* information sheets had been given to Mrs Marr, as well as a copy of the discharge summary that noted the diagnosis of *"asthma exacerbation".* Mrs Marr acknowledged that it was her signature at the bottom of the second page and it was *"more than likely"* that she had been given the documents. She did recall getting a copy of an asthma management plan and agreed that she had read the plan and understood that she was to follow it. The terms "asthma action plan" and "asthma management plan" appear to be used interchangeably.

Mr Marr said that he was not provided with any information in relation to asthma and was told that Hunter had rhinovirus. He said he was aware of Mrs Marr being given some sort of documentation that was a plan of types- *"Michelle I think relayed to* me *they weren't sure what it was but this was the best they could come up with."* Mr Marr said that he did not look at the plan or at any other documentation in relation to asthma. He said that Hunter's puffers were kept in a cabinet near the fridge and the spacer could be on the kitchen table or next to the bed. He was not aware of any documentation being kept in the same place.

Hunter was reviewed at the Mater Children's' Respiratory Outpatient Department until November 2012, by which time he was symptom free and not taking any "preventer" medication. Mrs Marr said that she had accompanied Hunter to the four consultations.

On the second occasion, Hunter saw Dr Scott Burgess, paediatric respiratory Physician. A history was taken that: *"He has had one exacerbation of asthma in August, lasting two days. Requiring frequent Ventolin. His mother managed him with one dose of Prednisone".* Dr Burgess wrote a letter to Dr Rayner and also sent a copy to Mrs Marr, which she acknowledged. In the section *"Problems"* at the top of the letter it stated: *"1. Severe exacerbation of asthma requiring ICU admission (June 2011) 2. Previous episodic asthma"*

Mrs Marr also agreed that Dr Burgess gave her an Asthma Action Plan on that day and she recognized the copy of the plan in the Mater record. Mrs Marr recalled being reviewed again by Dr Burgess on 29 November 2012. Again the letter is marked as being copied to Mr and Mrs Marr. Mrs Marr said that possibly she had received a copy. Mrs Marr could not recall Dr Burgess having *"reiterated the importance of having an active asthma management plan"* but said the understanding was that it was to be used *"When he had asthma. All the time", "All the time, but he didn't have asthma."* She responded to a question about when she would refer to the plan as when Hunter was coughing and had shortness of breath which he *"never had that, like, since."*

Mr Marr said that Mrs Marr showed him how to use the puffer and spacer and he was involved in administering the medication to Hunter. He was aware that Hunter had used a Ventolin puffer and a preventer puffer on discharge - the use of which decreased over the next year and then ceased. He did not attend the outpatient sessions and was not aware of getting any letters from the Mater or any other asthma plans than the one on discharge in June 2011.

Hunter was taken to the Jacobs Well Medical Practice on 1 March 2013. Dr Pussella noted that he was not on any asthma medication and noted that the school required an Asthma Management Plan so she provided one. Mrs Marr said that she had circled the box *"Asthma"* on forms when Hunter went on excursions, although she said that it was seasonal asthma, and the school wanted an asthma management plan.

Mrs Marr said she kept the asthma management plans with Hunter's medication in a basket in the kitchen, where she could access it if needed but he did not need it in 2013. Mrs Marr said that Hunter *"never actually was* a *wheezer"* and it was excessive coughing that would alert her to needing medication.

Mr Marr was shown the asthma action plans dated 26 June 2011; 13 October 2011 and 1 March 2013 and said he had never seen these before.

Because of the denials and professed ignorance of Hunter's clear and quite serious history of asthma by Mr and Mrs Marr, it has been necessary to address the available evidence of this history in some detail. On the evidence it seems quite apparent that Hunter's parents knew that Hunter suffered from asthma and that it was not just a "seasonal" illness. I find that they, particularly Mrs Marr, had been told this on numerous occasions since 2010. I find they had been warned about the nature of the illness. I find that they had been given an Asthma Management Plan document that Mrs Marr kept in a basket in the kitchen along with Hunter's asthma medication.

I do not know why Mr and Mrs Marr told this inquest and doctors that Hunter did not have asthma. I am unable to find a reason for Mr and Mrs Marr's denials

concerning Hunter's asthma. According to Dr South and Dr Sly, who are independent experts, this apparently unreasonable denial by parents of asthma sufferers is not unknown. However, I find it difficult to accept that they did, in good conscience, hold those beliefs. Nevertheless, the doctors and nurses responsible for Hunter's care were obliged to take Mr and Mrs Marr's statements in this regard at face value and respond accordingly so far as educating them regarding asthma was concerned.

January 2014 admission

On 30 December 2013, Mrs Marr noticed that Hunter had developed a cough. Mrs Marr said that she purchased a new Ventolin inhaler the following day and Hunter started to use *"small amounts"* of Ventolin.

Hunter became more unwell on 2 January 2014. *"Toward the end of the day"* Hunter was using Ventolin every two to three hours and *"because it was pretty close together, and then he vomited',* Mrs Marr thought she should take him to the doctor to *"check him* out'. Mrs Marr could not identify the frequency of using Ventolin that the asthma management plan suggested was the trigger for seeking medical advice - *"maybe one, two, three hourly, I'm not sure. I can't-I don't know."*

Mrs Marr took Hunter to Beenleigh Medical Centre. The Centre could not fit him in. At around 7pm, the Marr's called QAS who transported Hunter to the Mater Children's' Hospital. Mrs Marr agreed that she was probably present and provided information to the QAS. She said that the information recorded in the QAS record was probably like something she had told QAS: *"Pts' mother stated patient has had cold/flu symptoms for the past 1/7 with a dry cough. Mother noticed over the past 24 hrs Pt's cough had increased and pt appeared to be SOB this evening. Mother stated she had been to the chemist this am and had purchased a ventolin inhaler ... Pt used this quite a few times today with NIL marked improvement. Mother stated pt is not an asthmatic ... mother stated pt was in PICU at MCH 2.5 yrs ago with rhinovirus but has been fully cleared for the past 12/12."*

Mrs Marr gave evidence that she did not believe Hunter had asthma the way the people understand asthma to be but on this occasion she thought he may have had asthma, *"obviously, what was happening was* some *sort of respiratory something".* Hunter was admitted to the Emergency Department at around 8 pm on 2 January 2014 with Ventolin and Atrovent by puffer and oral Prednisone 50mg. He was subsequently treated at 21:50 pm and 22:15 pm with further Ventolin and Atrovent by puffer. Hunter was reviewed by Dr Nandini Choudhury, paediatric registrar and Dr Susan Thornton, paediatric consultant, whilst in the Emergency Department.

Mr Marr attended the Mater with Hunter on the evening of 2 January 2014 and stayed through the night. Hunter was admitted as a public patient "outlier" in the Mater Private Hospital by the paediatric registrar, Dr Philline Tanchi. After her assessment, Hunter was prescribed 1- 2 hourly Ventolin by puffer and oxygen at a rate required to keep his oxygen saturations above 92%. Dr Tanchi inserted an intravenous line and gave a fluid bolus of 260 mls and 100mg hydrocortisone.

Mr Marr recalled Dr Tanchi coming to see Hunter, her asking questions and discussing Hunter's condition. However, he denied being given the history of asthma that was recorded by Dr Tanchi or being told of any diagnosis.

The Mater Children's' Early Warning Tool (CEWT) indicates that Hunter's oxygen treatment was reduced and then removed at around 0820 am on 3 January 2013. RN Katrina Smith provided a statement dated 28 February 2014, exhibit 816, and also gave oral evidence of her independent recollection of Hunter. She was the Clinical Nurse (a more senior role) who was responsible for looking after Hunter during day shift on 3 February 2014. RN Smith said that she had received a handover from RN Claire Kann that Hunter had a history of asthma. She did not recall any question by Mr Marr about that diagnosis. She said that she looked at Hunter and said to Mr Marr *"he looks really good'* and Mr Marr agreed. Mr Marr did not recall such a conversation.

The Mater records indicate that at around 08:45 am, Hunter was reviewed by Dr Lalji, paediatric registrar, and Dr Joshi, paediatric resident. A history and examination were recorded and the plan was to stretch the Ventolin treatment to 2 - 4 hourly with likely discharge on the following morning. The notes record *"Asthma action plan".*

Dr Smitri Joshi explained the clinical notes, which she said she had written whilst Dr Rowena Lalji examined Hunter, as showing that Hunter was breathing on room air, drinking juice, with a normal respiratory rate and demonstrating no extra work of breathing. He had good air entry on listening to his chest with a stethoscope but with a prolonged expiratory phase, which she interpreted as Hunter was coming out of his acute attack of asthma. Dr Joshi said that she did not speak to Mr Marr during this review but recalled Dr Lalji speaking to Mr Marr about *"the diagnosis, emphasizing on the red flag that he had an ICU admission in the past and that we planned to keep him over the night despite him looking really good at this point."*

On cross-examination by Counsel acting for the family, Dr Joshi said she was *"very sure"* that Dr Lalji was discussing the plan with Mr Marr as Dr Joshi was documenting the content of the conversation in the records.

Dr Joshi provided a statement dated 25 February 2014. She wrote that Dr Lalji had asked her to provide a written asthma action plan for Hunter to give to his father to take home which she believed she did within one or two hours after the review. Dr Joshi identified the asthma action plan with her handwriting at the base of the form. In her oral evidence, she retracted two sentences, in relation to her explanation of the asthma action plan, as follows: "*I went through the plan as best as I could to ensure it was very clear and I gave him the copies. I definitely recall reiterating what to do in the case of emergency and going through the danger signs and symptoms that are listed in the plan".*

In her oral evidence she said that her recollection was that: *"So because when I gave the asthma action plan to the dad, he was very confident and I started to read the asthma action plan to dad and he said he was very familiar with the asthma action plan, so as soon as I started to read the first few sentences, he said he is aware of this and he would like to read it himself. So I just showed him the written part of this asthma action plan, which mentions this attack. So I told him you might be- Hunter might be distressed tomorrow and that it be at four hourly. So you have to follow the- the plan according to this attack and this is the asthma action plan and he said he was very familiar of the plan and he would read through it himself."*

In relation to the handwriting at the bottom, Dr Joshi said: *"So I emphasised about this attack, so - because our plan was not to distract him on the very day, since there was a red flag that he was admitted in the ICU a year before. So we wanted to make sure he was saturating well enough over the night. So he was on two-hourly Ventolin on the day- on the morning when we saw him. So our plan was to send him home if he was well enough on the very next day, and normally, our policy is to send patients home when they are more stable, on three to four-hourly Ventolin. So this was the plan of action once he get discharged and I said in case if you get discharged tomorrow, it'll most likely be three to four hourly Ventolin and this is what you have to follow."*

On examination by Counsel for the Mater, Dr Joshi said that when she spoke to Mr Marr, she said *"this is the asthma action plan"* and he did not question either the diagnosis or why the plan was relevant. When Dr Joshi's evidence was put to Mr Marr, he denied that Dr Joshi was the one who gave him the plan, that he said that he was familiar with asthma action plans and declined to discuss it or that the handwriting on the plan had been discussed with him at all. He said that the plan was given to him before the ward round by Drs Joshi and Lalji. This was contrary to the evidence in his statement dated 7 November 2011 paragraph 15 when he said that it was an hour after the ward round.

Dr Rowena Lalji provided a statement dated 26 February 2014. She set out the details of a discussion with Mr Marr on the morning of 3 January 2014. She was asked in the Inquest to detail her recollection without reference to her

statement. Dr Lalji said that she had performed the examination of Hunter and discussed her findings with Dr Joshi, who recorded the details. She recalled that Mr Marr was present and her recollection of the discussion was, as follows: *“So I make it a practice to run through the presenting complaint with a patient's family and the patient on the first time that I review them, so I asked Mr Marr what had brought them to hospital, and we discussed the fact that his breathing had become an issue over the previous couple of days, that he had what sounded like viral symptoms, with a little bit of a cough and a runny nose, that they'd had an old - I believe it was an old Ventolin inhaler lying around the house, but it had been sometime since he'd had to use it- months, I believe- and then when his breathing got worse, they actually presented to the hospital. Okay. Now, was there any discussion about the diagnosis, Hunter's diagnosis?- I tried to qualify with Mr Marr about the fact that Hunter had been diagnosed as an asthmatic in the past and that he'd also had a previous ICU admission for his asthma. And when you say you tried to qualify that, can you give - tell us what was said and what the response was? - I don't recall the exact words that I said, but I said something to the effect of, "Hunter's been in ICU with his asthma before." Okay. And what was Mr Marr's response? Do you recall? - Mr Marr responded by saying that he believed that it was rhinovirus that had put him into ICU. I didn't take that discussion any further. My next question to him was whether he'd been known to the respiratory team.”*

Dr Lalji gave oral evidence about further discussion with Mr Marr to the effect that Hunter was progressing as expected, was responding to treatment but she wasn't going to discharge him because he had only just come off oxygen and his Ventolin was not at a safe level to be discharged. She said that for Hunter to be discharged home, he must be off oxygen with a normal oxygen level for at least 12 hours and his Ventolin at least 3 - 4 hourly. She said she had a specific recollection of that conversation. Dr Lalji said she did not recall discussing management when Hunter went home or discussing how to recognize deterioration of asthma. She said that she did lift Hunter's shirt and look for work of breathing and try to demonstrate that to Mr Marr.

Dr Lalji’s oral evidence was not completely consistent with her written statement- in the latter she said she had discussed weaning the Ventolin after discharge and that if Ventolin is needed any earlier they should give it. In her oral evidence, she stated that she could not recall such a discussion but it is part of her standard practice, albeit usually on the day of discharge with the aid of an asthma action plan.

Mr Marr gave evidence that he was present on the morning of Friday 3 January 2014 when the doctors did a ward round. He recalled that the doctor who examined Hunter was male. This is incorrect - Dr Rowena Lalji is female, as is Dr Joshi. He recalled that Hunter was "still wheezing and he was still, still labouring for breath.” Mr Marr said he could recall being told by the doctors that

because of Hunter's past admission to intensive care and having had oxygen during the night, they wanted to keep him in and make sure he was off oxygen for at least 12-24 hours.

Mr Marr said there was no discussion at all about the use of Ventolin, stretching to 3-4 hourly or how to wean it at home on the morning of 3 January 2014. Mr Marr denied that a doctor had spoken to him about signs of deterioration or demonstrated on Hunter's chest signs of his condition getting worse. He did recall telling Dr Lalji about Hunter not being on treatment for about a year and attending Respiratory Clinic, but not anymore. Mr Marr said he was not provided with any paperwork during the ward round but later a Caucasian girl who "looked like a receptionist buzzing around" "dropped three pages of something on- on the bed."

Mr Marr said that he asked about the diagnosis and was told "We're unsure". Dr Lalji specifically denied this in examination by Counsel for the Mater. She said she told Mr Marr that the diagnosis was asthma. He specifically denied that one of the doctors who had been on the ward round had provided the Asthma Action Plan.

Mrs Marr said: "*When I arrived, there were three pieces of paper rolled up on the bed, and Matthew said, some doctors have just come in and thrown this on the bed, and I opened it up, and it was one sheet -looked like an action plan, but not filled in, and down the bottom it had things about Ventolin, and I think, how to wean off Ventolin. But it wasn't really very clear as to what that meant.*"

When asked whether he rolled up the documents or folded them, Mr Marr repeated "*I gave them to Michelle when she came in".* Mrs Marr said that as at the morning of 3 January 2014, she did not consider that she had a written asthma action plan that she was intended to use on discharge. She said that she did not recall anybody explaining the plan to her. Her responses when examined by Counsel for the Mater were less clear. She said that "possibly" she told RN Smith that the doctors had provided the plan and she felt confident. She agreed that she would feel confident with the plan because she had plans back in 2011. Mrs Marr could recall being given a book called "Asthma" and identified the Booklet as similar but coloured blue. This booklet contains information about the nature, triggers and treatment of asthma. It includes advice to seek urgent medical attention if the child repeatedly needs reliever medication sooner than 3 hours, if the child gets little or no relief from the reliever or if the symptoms worsen suddenly.

Mrs Marr said in response to the question: "*Now, during that day, and I'm talking on the- about the 3rd of January, which is a Friday, during that day, did Katrina Smith or any nurse perform any assessment of your awareness of how to use*

the Ventolin pumper and spacer? Did anyone ask you to administer it to Hunter and watch how you did it?-They may have".

RN Smith said that during the course of the day she saw Hunter more frequently than hourly. This is supported by the documentation. RN Smith said that during the day she spoke to Mrs Marr a couple of times about how well he was doing, his wheeze and whether she had an asthma management plan - to which Mrs Marr responded that she did. RN Smith said she asked whether Mrs Marr had any questions but she didn't.

RN Smith was not aware that Mrs Marr had been given an asthma action plan that day. She said that neither Mr nor Mrs Marr had told her they had been given an asthma plan but didn't understand it and wanted her to go through it with them. Mr Marr had stated in his statement dated 7 November 2014, that *"When Michelle turned up, we told a nurse that we didn't really know what the paperwork was so I asked a nurse to take us through it. She said that someone would discuss it with her. She didn't ask* me *any questions, in fact, it seemed like she was in a hurry to get to her next job."* Mrs Marr gave no evidence about such an interaction.

RN Smith gave evidence that she went through the process of administering Ventolin with Hunter and his mother was in attendance reminding him to pay attention. Mrs Marr says that one of the nurses *"may have"* performed some assessment of her awareness of how to use the Ventolin puffer and spacer.

The Mater records indicate that the Ventolin treatment was stretched to 3 hourly during the afternoon of 3 January 2014. The Mater records indicate that oxygen therapy was recommenced at around midnight on 3 January 2014 when Hunter's oxygen saturations dropped. Dr Djatmiko was called to review Hunter. She noted that Hunter's chest was clear with good air entry and ordered that Ventolin be maintained at 3 hourly and oxygen therapy continued at 1 L/min.

RN Claire Kann was allocated to care for Hunter during the night shift. She provided a statement dated 27 February 2014 and gave oral evidence at the Inquest. RN Kann did the observations at midnight and noted that Hunter was desaturating (oxygen levels decreasing) down to the low 90s and high 80s in percentage terms. She said the oxygen saturation monitor was alarming. She attempted to reposition Hunter but this didn't work so initiated oxygen at 2L via nasal prongs. She performed observations and administered Ventolin. She called the on-duty doctor to assess Hunter and notified the Team Leader, RN Olivia Miles. RN Kann recalled that Mr Marr was concerned about Hunter's previous PICU admission and she reassured him that a doctor would review Hunter. RN Kann did not recall Mr Marr asking her to call a doctor. She recalled that during the conversation about the previous PICU admission, Mr Marr had mentioned that Hunter had been seen by respiratory and did ask whether

Hunter would be reviewed by a respiratory doctor. She said she responded as follows: "*My response, at that stage, was that I was going to get just the doctor who was on overnight to come and see Hunter at that stage. And then, in my statement, I've written that I handed over the next morning about Mr Marr's concerns and about wanting to see a respiratory- or that Hunter had been seen last time and this – and that Mr Marr was concerned because he was presenting the same way that he had last time he was in.*"

RN Kann said that she handed this information over to RN Emma Brown. RN Kann's statement was to the effect that Mr Marr raised concerns about Hunter's previous presentation and being reviewed by the respiratory team during the handover between her and RN Brown. There was no mention in her statement about Mr Marr requesting a respiratory review.

RN Emma Brown provided a statement dated 28 February 2014, exhibit B21, but was not called to give evidence. She stated that she received handover from RN Kann, was told that Hunter needed oxygen overnight but no longer required it, had been in PICU previously and Mr Marr agreed Hunter had had a good night. She did not mention any handover about Mr Marr wanting review by a respiratory doctor.

Mr Marr's account of what happened around midnight on 4 January 2014 was similar in a material sense, and in his statement dated 7 November 2014, he stated that when the nurse was putting oxygen on that night, he asked he if they could see the head of respiratory as Hunter appeared to be getting worse and the nurses said they would try to arrange that. There was no evidence that such a request was passed on and/or actioned.

The Mater records indicate that oxygen therapy was ceased at around 0700 on 4 January 2013.

In his statement dated 7 November 2014, Mr Marr stated that on the morning of Saturday 4 January 2014, he had to ask a nurse to get a doctor to see Hunter and the nurse told him that *"they must have forgotten him and would ring downstairs to get someone to come up. When she came back, she said that they were going to move Hunter anyway so he would see* a *doctor after that. I told her that if she couldn't get* a *doctor to come and see him straight away then I wanted the Head of Respiratory to come and see him. She said she would make* a *phone call but nothing happened. "*

In his oral evidence, Mr Marr said he did not go home until late in the morning because they were still trying to get a doctor and the nurse said that they missed Hunter on the rounds and then told them that Hunter was being moved down to the public ward. He stayed until that occurred but left before Hunter was reviewed by a doctor.

RN Sarah Perkins provided a statement dated 28 February 2014, exhibit 822, and also gave oral evidence. Her evidence was to the effect that she cared for Hunter in the Mater public ward 7E between 1.45am and 3.00pm and he was her only patient, she performed hourly observations. Hunter remained very well during that time. She recalled Mr Marr asking to move Hunter back up to the private ward but not that he requested to see the "head of respiratory". She handed over to RN Hewitt at 3.00 pm which included that Hunter had been admitted with asthma and Mrs Marr did not question the diagnosis.

Mrs Marr in her evidence said that: "*Saturday was a balls up of a day. They- we were meant to be moved or discharged or then moved down. So I saw lots of different people that day".* She said that she had a conversation with the female doctor who came to review Hunter and told her that they wanted Hunter to be moved back to the private ward so that he and his father could get a good night's sleep, so that Hunter could be away from everything and be calm. Mrs Marr said that she was told by the doctor that the reason Hunter was staying in was because he had needed oxygen the night before and wanted to make sure he could go through the night without oxygen before he was sent home. Mrs Marr said she was told the paediatrician would now be there in case he was needed, probably wouldn't come in that day but would see Hunter the next day and she was happy with that at the time.

Dr Angela Berkhout, resident, provided a written statement dated 25 February 2014. She reviewed Hunter at around 1400 on 4 January 2014. A history and examination was noted. Hunter was noted to be in no distress with a clear chest. On the request of the Marr's, Hunter was transferred to the care of the private paediatrician on call, Dr Rachana Dahiya. She prescribed Ventolin at 3-4 hourly intervals. Hunter was transferred back to Mater Private late in the afternoon on 4 January 2014.

Dr Berkhout's discussion with Mrs Marr is similar in material issues. Dr Berkhout said that she told Mrs Marr that problems with oxygen saturations often occur during sleep but Mrs Marr did not recall this and said that she did not know this fact. Hunter remained on room air and 4 hourly Ventolin until around 2230 on 4 January 2014.

Night of 4/5 January 2014

There are some significant differences in the perception of Hunter's wellbeing, between Mr Marr and the Mater staff, during the night of 4/5 January 2014. The Mater CEWT indicates that hourly observations were recorded except at 0300

and during this time, Hunter's oxygen saturations remained at or over 95% on room air, his respiratory rate and heart rate remained in the normal range and he was noted to have no respiratory distress.

The paediatric respiratory observation chart shows that at the time of all observations between midnight and midday, Hunter was awake except at 0200 and no observations were recorded at 0300. It was noted at midnight, 0400, 0900 and midday that Hunter had a frequent dry cough which had not been noted on 3 or 4 January 2014.

Mr Marr stated in his complaint to the Health Quality and Complaints Commission: *"I had been sleeping nights with Hunter, my wife during the day. The night of 4th/5th he had a bad night. I called a nurse no less than 5 times. He couldn't breathe or he was coughing. On the morning of the 5th we still had not seen a doctor. My wife arrived and Hunter had a coughing fit that lasted between 2 - 3 hours..... When the doctor finally arrived I explained the situation and that I was concerned that Hunter was getting worse".*

The Mater has provided the call data which is electronically collated from the bedside call "buzzer" which shows that the calls were made on 4 January 2014 at 2245 and 2324 hours and then at 0545, 0815 and 0839 hours. It noted that there is no record of the buzzer in Hunter's room being activated between 11.24 pm on 4 January 2014 and 5.45 am on 5 January 2014.

In his statement dated 7 November 2014, Mr Marr stated that during this night, the oxygen saturation machine went below 94% and the alarm went off and he rang the buzzer. He said that the machine kept alarming and going down to 91%, 89% and even 88% on one occasion and he rang the buzzer each time. He said the nurses who responded listened to Hunter's chest and said they could still hear a gurgle but said Hunter was fine. He said that on one occasion, the nurse reset the alarm and said that that should stop the alarming

.

Mr Marr said that around 1am a nurse came in and turned off the buzzer and said that she would be back shortly and came back about half an hour later, at which time she put Hunter back on oxygen at 1 L per minute. Mr Marr said the nurse came back every 15 minutes and reduced the oxygen by about 250 mls each time. Hunter settled down but at around 4 am started coughing again and Mr Marr pressed the buzzer and asked for more oxygen to be given. He said he was told that the nurse administered Ventolin and said that she could not administer oxygen at the same time. He said that the Ventolin did not work because Hunter continued to cough. Mr Marr's evidence about Hunter being given oxygen in the early morning of 5 January 2014 was inconsistent with his previous evidence.

In his statement to Police dated 17 January 2014, he specifically noted that during this night *"The medical staff didn't do anything except give him Ventolin, no oxygen or anything".* He was questioned about this in oral evidence and said that that paragraph referred to early in the night. In his statement to the Police, Mr Marr also stated that he said he wanted a doctor to come and a doctor did review Hunter that night. In his oral evidence, he confirmed this and said that it was around 7.30pm or 8pm that night and it was a female doctor but not the female doctor who had done the review on the previous night. There is no record of any doctor or by a doctor of a consultation on the night of 4/5 January 2014.

In Mr Marr's complaint to the Health Quality and Complaints Commission, exhibit G1, Mr Marr had written: "*The night of the 4th/5th, he had a bad night. I called a nurse no less than five 10 times. He couldn't breathe or he was coughing. On the morning of the 5th, we still had not seen a doctor. My wife arrived and Hunter had a coughing fit that lasted two to three hours. The nurses advised only to give Ventolin; no oxygen or other tests were done."*

Mr Marr was asked about this in the inquest and stated that the *"no oxygen"* related to around 9am on Sunday 5 January 2014. He conceded that he had not commented on oxygen having been given during the night on 4/5 January 2014 prior to his statement in November 2014. However, it is important to note that Mr Marr provided his statement to the Police on the day of Hunter's death shortly after arriving home from Logan Hospital. Mr Marr gave evidence at the hearing that the nurse who adjusted the oxygen saturation machine and administered oxygen was a Kiwi. Mr Marr had been in court when RN Amy Heaps gave evidence and said she was not the nurse to whom he referred.

The nursing staff who were on duty during the night of 4/5 January 2014 were called to give evidence. RN Heaps provided a statement dated 28 February 2014 and gave oral evidence. She was on the day shift on 3 January 2014 and recalled that at the handover to the evening shift, she had referred to Hunter as being asthmatic and Mr Marr corrected her, saying that Hunter was not an asthmatic. RN Heaps' other involvement was responding to a buzzer for Hunter overnight on 4/5 January 2014. She did not recall the time but presumed it was between 2am and 4am, because it was the quieter time on the ward. She later said that Mr Marr had advised that the monitor had alarmed but when she attended, Hunter was settled and asleep and all clinical signs were within normal limits. In her oral evidence, RN Heaps confirmed that she had performed observations on Hunter and administered Ventolin to him at 4am on 5 January 2014. She noted that he was on room air. His observations were all stable. She did note a frequent dry cough on the paediatric respiratory observations chart.

RN Heaps did not observe Hunter being on oxygen during that night but on inspecting the rounding log and the call system data {showing the times of

buzzers), she said that she did not recall having visualized Hunter between midnight and 4am. She said she did not reset the oxygen saturation monitor at any time. She did not recall being asked by Mr Marr about giving oxygen or requesting that oxygen be administered. On questioning by Counsel for the Mater, RN Heaps said that it was not consistent with her practice to commence oxygen without consulting a doctor or to wean the oxygen off over an hour. She said she would leave the oxygen on until the child started to wake up in the morning.

RN Maree-Cecilia Prior provided a statement dated 4 March 2014, exhibit 826, and gave oral evidence. RN Prior recalled receiving a handover from RN Lauren Andrews when she commenced night duty on 4 January 2014. She recalled RN Andrews mentioning the diagnosis of asthma during the handover and Mr Marr stating that Hunter was not admitted for asthma but for a viral infection. She did not discuss this perception with Mr Marr. RN Prior was allocated the care of Hunter but said that they did team nursing during night shift. She had initialed the rounding log hourly from 1pm until 3am and then at 6am, which she said indicated that she walked into the room and had a good look at the patient and ensured they were safe and stable. She said she did not visualize Hunter between around 3am to 5.30am as she had had her break between 4am and 5am.

RN Prior said that at no time did she see Hunter on oxygen during that night. She said he was coughing but she did not observe him to be distressed and coughing was not a consistent feature. She said that the oxygen saturation monitor did alarm but she could not recall the number of times and this was due to Hunter coughing or moving. RN Prior said she observed this mainly on her rounding or observation rather than in response to a buzzer. She said she did not change the threshold for the alarm on the oximeter at any time. RN Prior said that she did not apply any oxygen to Hunter.

Later in her evidence, RN Prior said that she had responded to Hunter's buzzer on two or three occasions. She could not recall the times or any other details of what had occurred. RN Prior performed and entered the results of her observations in the paediatric respiratory observations chart and CEWT from 10pm on 4 January 2014 until 6am on 5 January 2014, except for the observations at 4am. She was asked about the fact that Hunter was noted to be asleep at 1am and 2am but on all other occasions was awake. She said that she did not recall how much sleep Hunter had or how deeply he was asleep but appeared settled and stable most of the time.

RN Prior said she handed over to RN Andrews on the morning of 5 January 2014 to the effect that Hunter had had a good night, had not needed oxygen and the plan was that he could go home. She said that Mr Marr was at the bedside and did not make any objection.

On cross-examination by Counsel for the Marr's, RN Prior was clear that she had not applied oxygen and had not been told by Mr Marr that he did not want Hunter to be discharged. RN Prior gave evidence that she did not recall having called a doctor to see Hunter or had seen a doctor come to the ward to see Hunter. She later gave evidence that if a doctor had been called, she would recall that and would have handed over that information.

RN Prior, both in her statement and oral evidence, said that she recalled asking Mr Marr if they could leave Hunter's door open so that they could see the oxygen saturation monitor and could keep an eye on that in view of the desaturations the previous night.

RN Kirstie Krone provided a statement dated 27 February 2014, exhibit 825, and gave oral evidence. RN Krone had worked at the Mater since 2010 and now worked in intensive care. She was the team leader on the night shift 4/5 January 2014. RN Krone performed the observations and administered Ventolin after two and half hours, at midnight, due to Mr Marr's concerns about Hunter coughing and finding a mild wheeze in Hunter's left lung. She said that Hunter was awake with a frequent dry cough at the time. She performed an assessment and found no signs of respiratory distress. She said that she was attending a sick child in the next room and kept an eye on Hunter as she went past on a number of occasions as his door was ajar and she could see the monitor. She said that she did not notice a persistent cough and he was asleep most of the time between midnight and around 4am.

RN Krone said that no nursing staff had expressed any concerns to her about Hunter during that shift and apart from the brief interaction with Mr Marr at midnight when he said words to the effect - he's coughing, give him some Ventolin - Mr Marr expressed no concerns to her. RN Krone said that she was not aware of any doctor coming to see Hunter and as the team leader, she would have known about it. She said that it was not difficult or uncommon for private consultants or the on-duty doctor to be called if there were concerns. She was not aware of any repeated episodes of desaturations or any oxygen being administered and again, said she would have been made aware of this as the team leader.

RN Krone said that she had never said to Mr Marr that she had heard a "gurgle" on listening to Hunter's chest and that did not make any sense to her. She also stated that it would not be within her practice or the Mater's oxygen weaning protocols to start a child on oxygen at 1 L per minute and wean off by 250mIs every 15 minutes. RN Krone said she had an independent recollection of having been told by RN Prior and Heaps that Hunter had maintained saturations on room air overnight. This had been recorded in her statement. RN Krone said that if Hunter had required oxygen overnight it was definitely something she

would have handed over to RN Emily Brogan as it might mean Hunter was not as ready for discharge as previously indicated.

RN Emily Brogan provided a written statement dated 28 February 2014 and gave oral evidence at the inquest. She has been a paediatric nurse since 2005 and was the team leader on day shift on both 3 January 2014 and 5 January 2014. She was not aware of any approach by the Marr's to nursing staff on 3 January 2014 to discuss an asthma action plan nor was she aware of any request for review by a respiratory doctor.

On 5 January 2014, RN Brogan attended Hunter on one occasion, responding to a buzzer at around midday. Hunter was coughing at the time and as he was due for observations, RN Brogan performed those and administered Ventolin. RN Brogan was aware that Hunter was reviewed by Dr Dahiya on the morning of 5 January 2014 but was not involved in the review, did not have a discussion with Dr Dahiya about it and could not comment on how long it took.

RN Brogan said that she was aware that Mr Marr was concerned about Hunter's cough through that report by RN Cranney but did not speak to Mr Marr directly. She said that she became aware that Hunter was to be discharged after Dr Dahiya's review and was told by the nurse looking after Hunter that if his Ventolin was stretched to midday, he could be discharged. She said that Mrs Marr expressed no concerns to her about the discharge. RN Brogan said that at no time on the morning of 5 January 2014 was she made aware that either Mr or Mrs Marr had expressed concerns about Hunter being discharged.

RN Joanne Cranney provided a statement dated 17 March 2014, exhibit B29, and gave oral evidence at the hearing. She worked from 7.30 am until 7.30 pm on 5 January 2014 at the Mater. RN Cranney attended Hunter in response to a buzzer on the morning of 5 January 2014. She could not recall the time but it was before the doctor attended Hunter on this day. In her statement she wrote that when she attended, *"Mr Marr responded quite abruptly with words to the effect 'we need to see a doctor immediately' and when asked why, he responded 'Hunter has been coughing* more'."

RN Cranney provided her recollection about the interaction at the hearing: "*I went into the room and his father said we need to see a doctor. I asked why and he said he'd been coughing more. The patient was looking very comfortable, sitting up in bed. I - he looked very comfortable. I wasn't concerned with him. He wasn't coughing. He was attached to an oxygen saturation monitor and his oxygen saturations were above 95 per cent. I then listened to his chest with a stethoscope and I could not hear a wheeze and that's when the Mum had told me that she had given Ventolin a little while before I came in. He was sitting there looking very comfortable. I was not concerned about him. I then spoke to the parents and tried to alleviate some of their concerns and spoke to*

them and told them that I would go and speak to their nurse, Nurse Andrews, as soon as I left the room and I did".

Mrs Marr said that she arrived at around 8.30am and 9am on Sunday 5 January 2014. She said that Hunter was having a coughing fit and she buzzed and when no-one came, administered Ventolin. She did not know whether Hunter was wheezing as he was coughing and dry retching. She said that when the nurse came in, she got into trouble. Hunter was still coughing. Mrs Marr thought the nurse listened to Hunter and checked the machine. She said the nurse did not explain why Ventolin was not appropriate. Mrs Marr did recall that the nurse said that there was not medication specifically to stop a cough and cough medicines were not used at the hospital.

RN Samantha Zurvas provided a statement dated 26 January 2014, exhibit 28, and gave oral evidence at the hearing. RN Zurvas gave evidence that her interaction with Hunter was responding to one buzzer at around 9am on 5 January 2014, as follows: *"The call buzzer went off and I was at the other end of the ward, but saw that it was buzzing, so - and I was free, so I walked down and answered the buzzer. As I entered the room, I noticed Hunter's mother was administering Ventolin to Hunter in bed and she - the - when I asked how I could help, she said, "I had to give Ventolin to Hunter, because he was coughing". I had - did a quick primary assessment of Hunter and he was on an oxygen saturation monitor and all of his observations, that I could see, were all within normal limits, and so I just proceeded to speak to Hunter's parents about the Ventolin administration and then respond to some questions that Hunter's father directed towards me".*

RN Zurvas said that Hunter's oxygen saturation was above 95% on room air. His respiratory rate was normal and there was no significant work of breathing noted. She did not listen to Hunter's chest with a stethoscope and did not hear or report the presence of gurgling - which she said she would consider a potentially alarming sign.

As to the discussion with Mrs Marr, RN Zurvas said: "*She mentioned to me that she had to give Ventolin because Hunter was coughing and previously in handover, for the shift, we had been told that the parents, according to nursing staff, had been administering Ventolin for the cough when nursing staff maybe thought it was not necessary or hadn't been able to make an assessment of that. So I just, sort of, discussed with her the reasons why she felt it was necessary to give the Ventolin and I talked to her about the fact that sometimes Ventolin is not effective in stopping a cough. It may not be the only thing that will work to stop the cough. That was really the main thing I spoke to her specifically about, yes."*

RN Zurvas said that when she was leaving the room, Mr Marr said something like: "*You've got to do something for this cough*". She said she discussed how it could be a normal component of asthma and respiratory conditions and it is not something that they stop. She said that Mr Marr re-iterated that Hunter had to be given something to stop his cough. RN Zurvas said that Hunter had been coughing when she entered the room but only briefly and then stopped. She said she told RN Andrews and Dr Dahiya about the Marr's concerns about Hunter's cough. RN Zurvas said that RN Andrews had mentioned to her that she was unsure whether Hunter would be going home because the Marr's weren't happy. She said she did not pass on that comment to Dr Dahiya.

In his oral evidence, Mr Marr recalled that he expressed concern to a nurse at around 9am about Hunter's cough and Ventolin had been given at that time because it was due. He had little recollection of that interaction. However, he said that Hunter was struggling and was not normal at that time. He said that the nurse who listened to his chest described wheezing and gurgling. He denied that there had been any assurance given by the nurse but there had been a discussion "*exactly what it was, I don't know. It was -just telling Michelle off."*

RN Lauren Andrews provided a statement dated 3 March 2014. She provided a further statement dated 30 September 2014. She was excused from giving evidence for medical reasons. RN Andrews was involved in Hunter's care for a short period on the afternoon of Saturday 4 January 2014 and then again on 5 January 2014. In her first statement, RN Andrews said that she recalled being told by the 7 East nurse on 4 January that Mr Marr was reluctant for Hunter to be discharged that day.

RN Andrews recalled that when she handed over to RN Prior who was on night duty, Mr Marr was present. She mentioned to RN Prior that Hunter's diagnosis was exacerbation of asthma and Mr Marr corrected her and said that Hunter did not have asthma. RN Andrews said that she responded that she thought this admission was for the treatment of asthma and Mr Marr refuted that. Mr Marr's evidence was "every time *there was* a *handover they talked about it being asthma and I said well, we still don't have* a *diagnosis".*

RN Andrews commenced work on the morning of 5 January 2014 and was allocated the care of Hunter. She said she took the handover at Hunter's bedside and Mr Marr was present. She said that RN Prior told her that Hunter had a good night on room air, although there had been on occasional cough and Mr Marr had buzzed when Hunter coughed to let staff know. She said they discussed Hunter going home that day and Mr Marr expressed no concerns.

Mr Marr denied that there was a discussion about Hunter going home at the handover that morning. He said that he told any nurses that came in that he didn't want Hunter to go home. RN Andrews said that as the morning wore on,

Mr Marr buzzed a lot about Hunter coughing and she responded about twice, both times Hunter's chest being clear and oxygen saturations normal. She formed the impression that the Marr's may not want to take Hunter home or the doctor may decide to keep Hunter in for another night. She said that nothing was said to her directly by the Marr's about not wanting Hunter to be discharged. RN Andrews said she reviewed Hunter after RN Zurvas had reported her conversation with the Marr's and she tried to alleviate Mr Marr's concerns about Hunter's cough. She said that Mr Marr said that Hunter was continuously coughing but she spent a lot of time with Hunter that morning and she recalled an infrequent cough but at no stage was Hunter struggling for air or did the monitor alarm. She said that at some point Mrs Marr asked when the doctor would be attending.

RN Andrews said that she informed Dr Dahiya about Hunter's cough and advised that she had listened to Hunter's chest at those times and did not think Hunter needed Ventolin. She said that she advised that the Marr's were concerned about the cough and had administered Ventolin in response to the cough.

RN Andrews said that she advised Dr Dahiya about Hunter's father's objections to the diagnosis of asthma the previous evening. RN Andrews was present during Dr Dahiya's review as were the Marr's. She said that:

- Dr Dahiya talked to the Marr's during her examination.
- Dr Dahiya said they would do further nasal swabs and blood tests and any positive results would be sent to the general practitioner.
- Mr Marr said that Hunter had coughed continuously for two hours straight.
- The Marr's asked if they should be seen by the respiratory team and Dr Dahiya responded that she did not see there was a need for this admission.
- Dr Dahiya advised that if Hunter went another 3 - 4 hrs without needing Ventolin, they would be fine to go home.
- Dr Dahiya told the Marr's that if Hunter needed Ventolin more than 3 hourly, he would need to be brought back in to hospital
- Mrs Marr seemed keen for Hunter to go home and quite happy with the plan.

- She heard no objection raised by the Marr's about discharge.

Review by Dr Dahiya, paediatrician

The Mater records indicate that Hunter was reviewed by Dr Dahiya, paediatrician, on the morning of 5 January 2014. The time is not recorded. Dr Dahiya noted a cough and exacerbation of asthma. She noted that he had an "ongoing dry cough with clear sputum, paroxysmal at times but not lasting long". She noted that the parents were anxious about this and administered Ventolin after 2 hrs and 45 mins.

Dr Dahiya noted no increased work of breathing, a respiratory rate of 15, oxygen saturations of 97 - 99% and heart rate of 137/min. She noted a wheeze at both lung bases. Dr Dahiya recommended a trial of 12 puffs and "can discharge on 3 - 4 hourly Ventolin". She noted that if serology was positive the following day, she would treat the infection.

Dr Dahiya provided a statement dated 28 February 2014, and gave oral evidence. She had been a paediatrician since 2012 and said she had treated hundreds of patients with asthma in different situations from the emergency department to PICU. Dr Dahiya recalled Hunter and becoming involved in his care as the doctor on call for the Mater Private on 4 January 2015. She received a phone call from a doctor whose name she could not recall, referring Hunter and because Hunter was described as stable, she reviewed him on the morning of 5 January 2014 at around 9.30 am.

Dr Dahiya recalled that she reviewed the records and the observations charts before she saw Hunter. She wrote her entry in the record either at the time of the consultation or immediately afterward. She said that she got the history of the current admission from Mrs Marr. Dr Dahiya said she had spoken to a few nurses, one being RN Andrews who told her that the Marr's were concerned about Hunter's cough and had treated it themselves with Ventolin. She also spoke to Dr Scott Burgess who was on the ward because she had noted that he had seen Hunter previously. She asked Dr Burgess if there were any other tests she should do in relation to the cough and he suggested a chlamydia test.

Dr Dahiya recalled: "*So the history that was provided by Mum was that Hunter had been unwell since the 31st of December and he had a cough during that time, and over the course of the time he developed some work of breathing, so they had administered Ventolin, initially three to four hourly and then they had increased that to one to two-hourly Ventolin.*"

She clarified that Mrs Marr had said words to the effect of Hunter finding it harder to breathe rather than increased work of breathing. Dr Dahiya said that the use of one to two hourly dose of Ventolin raised some concern for her which

she addressed later in the consultation by strongly emphasizing that they needed to return to the hospital if Ventolin was needed more than 3 hourly.

Mrs Marr said that she thought she recalled Dr Dahiya telling her to bring Hunter back if he needed Ventolin more than three hourly. Dr Dahiya said that Mrs Marr had used the word "asthma" in providing the history of the previous admissions.

In relation to her examination, Dr Dahiya said: "*So I went step by step through the examination with them verbally, expressing what I was finding. So, basically, he looked well at the end of the bed. He had an episode of the cough and I did go through the cough with them and explained to them that it was a dry, nonproductive cough at that time. He coughed up some saliva, by the looks of it, and the cough resolved pretty quickly at that time. I went through step by step the signs that they should look out for, for asthma, and he had- so I went through the steps, that he had not had increased work of breathing at that time, and that was one of the signs they should look for, in that they should look for how fast he was breathing; they should look for whether he had recession or, you know, a in-sucking of his muscles between- so I went through, in layman's terms so that they could understand it, the muscle below the ribs, between the ribs and above the ribs if he had an episode; you know, he had- when he needed his Ventolin - basically; and also that, you know, because they couldn't tell when his saturations were going down by the oxygen oximeter- that they should look for blue lips, if, you know, he was in a severe sort of case of- of asthma.* And *I hadn't finished my examination, so I went out to get the otoscope and a – you know, a tongue depressor so that I could have a look in his throat and in his ears and- just to make sure that there wasn't an underlying bacterial infection or viral infection that we had missed that was a trigger for this episode of asthma, and when I came back I had a look in his throat. It was red, which I relayed back to the parents, and I noticed that his lymph glands were also increased in size, which I also relayed back to the parents and informed them that it's most likely a viral trigger, but it was one of the viral triggers that we had not picked up on our- on our investigations, so we may need to do further investigations for that.*

Mrs Marr said that she did not recall Dr Dahiya going through the symptoms that she should look for to alert her to a deterioration such as using extra muscles to breathe, having shortness of breath, having an increased respiratory rate but said *"I know that that's what to look for."*

Dr Dahiya said she also listened to Hunter's chest and he had a few wheezes in his lower zones, which she considered to be expected. She said that he had an acute episode of asthma but was stable. Dr Dahiya said she was sure she mentioned the diagnosis of asthma to Mr and Mrs Marr. She said they were

both present throughout the consultation. She did not recall a response to the diagnosis or any questioning or dispute about the diagnosis.

Mrs Marr said that the "asthma word never came out of her mouth" and "*asthma was never mentioned in that conversation at all"* in relation to Dr Dahiya.

Dr Dahiya said that she could not recall any concern about the Marr's not realizing or accepting that Hunter had asthma because they had mentioned to her that he had asthma. Mr Marr said that Dr Dahiya responded to a question from Mrs Marr about what was wrong with Hunter by asking Mrs Marr what she thought. Dr Dahiya said that she did see the Asthma Management Plan but it was her understanding that they had been given one during the admission. She said she asked Mrs Marr to recite the plan. In her statement, Dr Dahiya said that she went through the plan and *"verbally went through the signs of deterioration ... to ensure that they knew and could express back to me what to do if Hunter deteriorated. I was satisfied that they understood the plan."*

Mrs Marr said that she did not recall discussing an asthma action plan with Dr Dahiya. Dr Dahiya said she told Mrs Marr, with Mr Marr present, that if Hunter was able to remain stretched out 3 - 4 hourly with Ventolin he could go home. Mrs Marr said that she took it that Dr Dahiya meant more than just from 9 am to midday but two more administrations of Ventolin. She said that she knew that they were going to see how Hunter went and then possibly could go home. Mrs Marr said that she did not express any concern or objection to Hunter being discharged home and didn't remember Mr Marr making any such comment but knew he wasn't happy about Hunter going home.

Dr Dahiya said that she told Mrs Marr that Hunter was to stay on 3 - 4 hourly Ventolin for the next day and then stretch out to six and eight hours over the next few days. She said of the Marr's that: "*they recited it back to me*". In her statement, Dr Dahiya said that she recalled Hunter's mother saying to me that she would aim for 4 hourly Ventolin the following day with the goal to stretch to 6 hourly when he was more stable.

Mrs Marr said that she understood the plan was to use Ventolin 4 hourly the following day and then try to stretch it to six hourly a day after but could not recall having this discussion with Dr Dahiya. Mrs Marr said that she could not recall what she had told Dr Dahiya about Hunter's past history but had asked Dr Dahiya why Hunter was coughing the way he was and not being able to stop and was told "I don't know".

Dr Dahiya said that she had not been told by anyone that Hunter had been on oxygen during the previous night or that Hunter's oxygen monitor had been alarming frequently during the night. She said she would have placed some significance on this and would have kept him another day but there was no

record of that and it was clear to her that it didn't happen. She said that she had specifically noted that Hunter had been off oxygen for 24 hours and there was no dispute from the Marr's.

Dr Dahiya said she had been told about a coughing fit that had lasted some time (similar to two hours). However, she said that he did not have a coughing fit whilst in the consultation. She said that he had maybe 6 -10 coughs that lasted about half a minute and was dry non-productive cough with no change in oxygen saturation. Dr Dahiya said that she did not consider starting inhaled steroids because Hunter's asthma was infrequent episodic asthma rather than frequent or persistent asthma. She said that starting inhaled steroids was not discussed or suggested by Dr Burgess. Dr Dahiya said she was not aware that the Marr's wanted Hunter reviewed by a respiratory specialist. Dr Dahiya and the Marr's agreed that most of the discussion on the morning was between Dr Dahiya and Mrs Marr. Mr Marr said very little.

Mr Marr denied that Dr Dahiya had discussed:

- The symptoms of asthma;
- Any discussion about Hunter's oxygen level;
- Her examination findings;
- The cough was not due to asthma;
- The results of blood tests that had already been done;
- If Hunter remained stable he could go home;
- An asthma management plan
- The plan to stretch out the Ventolin;
- Hunter was to be brought back if he needed Ventolin more than 3 hourly;
- Hunter could have 12 puffs of Ventolin rather than 6 because he was a bit older;

Mr Marr said Dr Dahiya did discuss:

- Hunter's cough but she could not explain it;
- That Mr Marr did not want Hunter to go home.

Mr Marr said he probably asked Dr Dahiya if Hunter could see a respiratory doctor but did not remember 100% as he wasn't in control of that conversation.

Discharge

RN Andrews wrote that she administered Hunter's Prednisone dose at 11.30 am. A colleague administered the 12.15pm Ventolin. She recalled that Hunter did not go home for some time after that as they were waiting for oral prednisone to take home to come up from pharmacy. RN Andrews said "*I specifically recall going through the asthma management plan"* with Hunter's mother in preparation for discharge and believed that that happened at around 1.30pm. She said she asked Mrs Marr if she had a plan with her and Mrs Marr showed it to her. RN Andrews said that she went through the steps of stretching the Ventolin over the next few days and *"reiterating that if Hunter had any increased work of breathing or required Ventolin more frequently than 3 hourly or if they had any other concerns at all then they needed to return to hospital'.*

RN Andrews said that Mrs Marr asked if it was okay to give Ventolin more often and they needed to bring Hunter back in. She gave Mrs Marr a copy of the discharge form and went through the information including Ventolin 3 - 4 hrly. The discharge summary, which was signed by Mrs Marr includes the reason for admission as *"exacerbation of asthma"* with a past history of *"infrequent episodes of asthma* ~PICU *admission 2011", "one more dose of prednisone. Present to ED if concerned'* and *"Ventolin 3 - 4 hrly* as *required'.*

RN Andrews also stated that she completed the Asthma Carepath day of discharge likely after the family had left the hospital. Despite ticking the item "parent/carer aware of the need to maintain a smoke free environment post-discharge", RN Andrews said she did not do this.

Despite also ticking the item "*Asthma education checklist has been completed"*, there is no such document in the Mater records. RN Andrews was asked to address this by a Form 25 delivered to the Mater. She provided the statement dated 30 September 2014. She agreed that the form was not in the record and "although it does not appear that I completed this form for Hunter, I honestly believe that at the time of discharge" Mrs Marr would have answered yes to the relevant items". A copy of the form used at the time was attached to her statement. It seems clear that this document is meant as a proactive assessment of the parent/carer's understanding by questioning about each item such as "do you know the signs and symptoms that indicate your asthma is becoming worse?". RN Andrews did not address the question of whether she had, in fact, posed any of these questions. And it can only be concluded, in light of Mrs Marr's evidence as well, that she did not. However, Mrs Marr recalled the nurse who "came *in with the discharge papers"* and signing the discharge summary. She recalled *"going through the points".* She recalled being told that

if she thought he needed to come back in, Hunter could come back in. She said the discharge summary said that Hunter should be using his Ventolin three to four hourly and he should come in if he required more than that and if the medication was not working.

Mrs Marr said that she did not recall RN Andrews going through a checklist about asthma knowledge. She did not recall RN Andrews asking about what Mrs Marr understood asthma to be (the first question on the checklist). Mrs Marr responded she would have said *"not what Hunter had'* but she understood it be *"restriction of the airways- difficult to breathe."*

Hunter was discharged at 1540. Mrs Marr was given oral Prednisone for two further daily doses and a Ventolin puffer.

After discharge

Hunter had a McDonald's meal on arriving home, had a bath and changed into his pyjamas. At around 1900, he played on his electronic tablet for about half an hour, used his puffer and went to bed. Hunter slept in the main bedroom with Mrs Marr. Mrs Marr said she woke about every two hours to feed her baby and Hunter woke frequently during the night and used his Ventolin puffer *"to suppress his coughing*".

In her statement dated 7 November 2014, Mrs Marr stated that Hunter had used Ventolin with her assistance at around 11 pm, 2-3 am and then 5 - 5.30 am. He settled and went back to sleep. Mrs Marr said that at around 0645 to 0700 Hunter was not able to stop coughing despite his Ventolin. She administered the oral Prednisone syrup by syringe at around 7.30 am. At this point, Mrs Marr described Hunter as looking pale and clammy and swaying back and forth. She woke Mr Marr and Queensland Ambulance Service was called.

QAS electronic records show that they received a call from the Marr residence at 0820. Shortly into the call, Mrs Marr advised that Hunter was now unconscious and turning blue. At 0823, a dispatch page was sent to unit A6495, the closest available Intensive Care Paramedic team which was located at Ewing Road, Logan. At 0828, a second unit 86852, the closest Advance Care Paramedic unit was dispatched from Helensvale. At 0836, unit 86852 advised that there was heavy traffic congestion on the M1 around Pimpama, which was delaying a response. A further unit was dispatched from Logan Hospital, having just cleared from a previous case.

During the time between the call to QAS and arrival of unit A6495, Mr and Mrs Marr performed cardiopulmonary resuscitation on Hunter with instruction over the telephone from QAS. Upon their arrival the QAS paramedics continued resuscitation efforts. The ECG taken and showed asystole from the time of

arrival. QAS transported Hunter to the Logan Hospital at 0929, arriving a 0944. Further resuscitation treatment was provided with no improvement. Resuscitation was ceased at 10am and life extinct was pronounced.

Inconsistencies in the factual evidence

As I have previously mentioned it is inevitable that there are inconsistencies in the recollections of witnesses, some of which require a finding to be made about which evidence is to be accepted. I have already made findings on certain obvious matters, in particular Mr and Mrs Marr's knowledge of Hunters illness and what they were told by Dr Dahiya. The task is made easier when there are reliable contemporaneous records which support the evidence of one witness over another. Not all of the inconsistencies need to be resolved, nor is it warranted to question the honesty of any of the witnesses who generally appeared to be genuine in their attempts to give accurate recollections of their involvement.

Discussion about asthma and asthma management on 3 January 2014

In relation to the number of different versions of events surrounding the provision of the Asthma Action Plan on 3 January 2014, Mr Marr stated that it was given after the ward round and then later saying it was given before the ward round. Dr Joshi's written statement says that she had "gone through the plan as best I could to ensure it was very clear". She then said in oral evidence words to the effect that shortly after starting to explain the plan, Mr Marr stopped her and so she focused on explaining her handwriting on the bottom of the plan about weaning off Ventolin when Hunter went home. Having observed the witnesses give evidence this later version seems likely. Mrs Marr said she had been told by Mr Marr on 3 January 2014 that "some doctors" had thrown the plan onto the bed. Mr and Mrs Marr agreed that they had received an asthma action plan that morning and Mrs Marr had put it in her handbag. This plan was disclosed by the Marr's prior to the inquest.

I find that an asthma action plan was given on that morning but I cannot conclude what discussion took place or what explanation was given regarding it.

I have no difficulty finding that there was mention of asthma and Mr Marr disputed that Hunter had asthma and that was not taken any further. It was discussed that Hunter was progressing on treatment. A plan was discussed about stretching the time between dosage of Ventolin and that Hunter needed to stay in hospital as he had only just ceased oxygen and needed to be off oxygen for 12 hours before going home. The previous admission to PICU was mentioned as was the previous diagnosis of rhinovirus.

The evidence of RN Smith who had spent a lot of time with Hunter and Mrs Marr on the day shift on 3 January 2014, was both reliable and honest. The concessions by Mrs Marr in cross-examination leads to a conclusion that there was a discussion about the plan and Mrs Marr was asked if she had any questions about it.

Administration of oxygen during the night of 4/5 January 2014

The contemporaneous records including the paediatric respiratory observations chart and the CEWT do not support that oxygen was given in circumstances where these records were diligently completed and showed accurately the other occasions on which oxygen was administered.

RN Prior, RN Heaps and RN Krone appeared to be reliable witnesses and gave evidence consistent with the contemporaneous records and statements provided shortly after the events. Mr Marr's evidence appeared to be confused with the previous evening in other respects - such as a doctor being called (which was not supported by any other evidence).

There was no mention of oxygen being given in Mr Marr's previous statements whilst there were positive assertions that oxygen was not given in the time period of 4/5 January 2014. The buzzer activation record indicates that the buzzer in Hunter's room was not activated between 23:24pm on 4 January 2014 and 05:45am on 5 January 2014.On the balance of evidence I find that oxygen was not administered during the evening on 4/5 January 2014.

The consultation with Dr Dahiya

These events would have been stressful for all parties. The medical witnesses have the opportunity of course, to refer to the notes made in the chart. To some extent they also rely upon what is their normal practice. I accept that to Mr and Mrs Marr, this was the most important moment in their lives and the medical staff had other patients requiring their attention around this time. Taking this into account, in so far as there is a contest between the recollections of Dr Dahiya and the nursing staff and the Marr’s, I reject the evidence of the Marr’s as being an accurate recollection of these events where it conflicts with Dr Dahiya. This is particularly so regarding the conversation Dr Dahiya had with the Marr’s regarding the diagnosis and symptoms of asthma and their ability to recognise these symptoms.

Mr Marr denied certain information had been discussed, which Mrs Marr could recall. Importantly, evidence about returning to hospital if 3 hourly Ventolin was not effective. He also admitted that the conversation had taken place mainly with Mrs Marr and he had contributed very little. On his account, he had had

very little sleep over the past few days. I conclude that his recollection of the consultation is not reliable.

It is inherently unlikely that the consultation took place, given the history recorded by Dr Dahiya and the discussion about Ventolin, without the subject of asthma arising. It may be that the cause of the exacerbation was not known and was being further investigated. Dr Dahiya said that she was not aware of the parents' objection to the diagnosis of asthma. RN Andrews said she told Dr Dahiya about Mr Marr's comments to her, in her statement dated 3 March 2014. There was no evidence from any witness that this issue was aired and discussed in this consultation.

Mrs Marr denied that an Asthma Action Plan had been discussed at all. These matters were not recorded in the medical records. Dr Dahiya said that she did not see the Asthma Action Plan given to Mrs Marr. The absence of the plan inevitably decreases the effectiveness of discussing the actual plan.

What can be concluded from the consultation, from the points of agreement between Dr Dahiya and Mrs Marr is that Mrs Marr was told that Hunter should return if his Ventolin needed to be given more frequently than 3 hourly. Hunter was to be discharged that afternoon if he remained on 3- 4 hrly Ventolin. No objection was raised about the discharge.

Dr Dahiya wrote in her initial statement on 28 February 2014, around seven weeks after Hunter's death, that she had gone through the symptoms of deterioration during her consultation and was satisfied that they understood. Dr Dahiya did not give evidence that she had actively assessed Mrs Marr's understanding of signs of deterioration. In any event, Mrs Marr said she knew what these signs were and could describe them to the court.

Expert Evidence

An autopsy was performed on 8 January 2014. The autopsy report is exhibit A3. Dr Rebecca Williams, forensic pathologist, certified the cause of death as asthma. She suggested that should an opinion about inpatient management and discharge be sought, that the opinion of an independent paediatrician should be obtained.

I sought a review of the Mater records from Dr Gary Hall, Forensic Medical Officer, Clinical Forensic Medicine Unit. His report dated 13 February 2014. I also sought information and documents from the Mater and QAS pursuant to section 16 of the Act.

The HQCC sought an opinion from Professor Michael South, paediatric respiratory physician at the Royal Children's Hospital Melbourne. His response was provided to me on 24 June 2014. Professor South gave evidence at the inquest.

In summary, Dr South:

- Considered the care provided by the Mater "was generally at a high level and in keeping with contemporary clinical guidelines and accepted practice standards";

- From a clinical perspective Hunter was not discharged prematurely;

- He "had some concerns about the education provided to Hunter's parents and the assessment of their understanding of the care he required".

- Denial of a diagnosis of asthma by patients and family is recognized as a potential risk factor for a fatal episode;

- Another potential flag for concern was that Mrs Marr had been giving Hunter Ventolin hourly prior to his admission on 2 January 2014; He was not confident that three important items in the MCH set of asthma tools, the Asthma Patient Information Booklet, the asthma action plan and the Asthma Education Checklist, were used appropriately during Hunter's admission;

- He queried whether the Marr's were appropriately trained in the use of the puffer and spacer.

Dr South was provided with further documentation prior to the inquest, including the general practitioners' records, the further statements of Mr and Mrs Marr and other witnesses including RN Andrews and the Asthma Action Plan of 3 January 2014.

Dr South's opinion, in summary was:

- The Marr's did not fully appreciate the nature of Hunter's condition and have a complete understanding of how to recognize a severe episode and take appropriate action;

- He acknowledged that the Marr's had been given an Asthma Action Plan;

- The Mater Root Cause Analysis and Implementation Plans showed that there were excellent plans to improve education to parents "through a thorough assessment."

- The Mater may want to consider the introduction of an Asthma Outreach Education service to provide home visits and additional educational reinforcement, similar to the Community Asthma Program in Victoria.

Dr South gave oral evidence that if Hunter had been desaturating down to 88% at times during the night of 4/5 January 2014 and been put on oxygen for about an hour, on the background of his previous PICU admission, he would have kept Hunter in for another night. Also if Hunter's cough has worsened toward the end of his hospital admission, it didn't weigh very heavily into the assessment of severity of his asthma or the decision making about discharge. It is very common to have a persistent cough that might go on for weeks after discharge. The cough was a pretty consistent presenting sign when Hunter presented to doctors or hospitals for management of asthma but this would be expected if asthma was precipitated by a viral infection. The cough only has a very loose association with the severity of asthma.

He also said the issue of whether a cough was or was not important in the context of asthma was a question which came up every day in clinics and emergency departments. It is important for parents to be educated in the more important signs of asthma such as difficulty breathing, struggling, inability to talk in sentences and use of accessory muscles. It was difficult with a child like Hunter, to predict when the next flare-up or exacerbation would happen. He had experienced children and parents who denied the diagnosis of asthma. He said this emphasized the need for more education. In his team, he would expect nursing staff to raise it with the rest of the team and put a bit more emphasis on face-to-face education. He said it was important for asthma education to be an ongoing concern, using every attendance at clinic review to check understanding and whether there is an up-to-date plan. He said it is really important to perform active assessment of the parent's understanding. The type and degree of education would depend on the family. There were some indications that suggested a bit more effort would be required in this case. The Asthma Management plan needed to be succinct but the document was meant to be accompanied by a verbal discussion.

Dr Peter Sly, paediatric respiratory physician at Royal Children's Hospital and professor at the University of Queensland, provided a report to the solicitors for the Mater dated 16 October 2014. He said Hunter's asthma was adequately and accurately assessed. He said the examination by Dr Dahiya on 5 January 2014 was thorough and more than adequate and all indications were that he was fit for discharge. It would have been preferable for Hunter to have been

seen by a respiratory physician before discharge because there was evidence that his parents did not accept that he had asthma or the severity of his asthma exacerbations. A respiratory physician may have been able to reinforce that Hunter had asthma.

The majority of children who were admitted for asthma were seen by general paediatricians without input from paediatric respiratory physicians. A respiratory review may have resulted in Hunter commencing inhaled steroids but this would have taken days to weeks to have any effect. He said lung function tests are likely to have been near normal at time of discharge and being given an appointment for an outpatient respiratory clinic may have helped the Marr's recognize the severity of the asthma exacerbation. It is not clear that the Marr's were able to recognize when Hunter's asthma was severe enough to warrant calling an ambulance. This had been evident in 2011 and in 2014.

Dr Sly gave evidence in person at the Inquest that Hunter had a severe exacerbation of asthma in January 2014 requiring admission to the Mater. This, and his admission in 2011, put him in a very high risk category for having further severe attacks of asthma. He said parents' lack of acceptance of asthma makes it less likely that they will act appropriately during an acute exacerbation. On both admissions, Hunter had become less and less responsive to Ventolin and that is a very dangerous sign. Hunter's discharge was appropriate from a medical perspective. Hunter's cough would not have concerned him or prevented him from being discharged.

Dr Sly said if Hunter's cough had worsened prior to discharge, he would look for other signs to assess the asthma such as wheezing, respiratory distress, oxygen saturations, and frequency of Ventolin. A cough was a frequent feature when Hunter did present with asthma but what was more important was the relief that he got from treatment. A cough in isolation was not informative, was part of a symptom complex and on its own was very rarely a sign that a child needed to stay in hospital. If Hunter had been given oxygen on the night of 4/5 January 2014, he would not have been discharged home.

It is unpredictable when the next asthma exacerbation will occur. It does happen in practice that parents deny that their children have asthma - there is still a stigma about asthma. If this happened in his practice, he would expect nursing staff to advise the medical staff so that they could explore the matter further. An active assessment of the child and parent's understanding of asthma was very important. Asthma Action Plans require more than just handing them out, they require discussion. In the asthma action plan, as well as seeking medical attention if Ventolin was required more than 3 hourly, it was also important to do so if the child was getting little or no relief from the Ventolin.

Care provided to Hunter Marr by the Queensland Ambulance Service and the Mater Children's Hospital

There are no grounds to comment adversely on the appropriateness of the health services provided to Hunter by Queensland Ambulance Services. QAS provided detailed submissions about the reason it took 20 minutes to reach the Marr household. The reasons are intrinsically logical and there is no evidence, fact or opinion, to challenge these submissions.

There has been no criticism by any expert about the management of the QAS paramedics once they attended upon and attempted to resuscitate Hunter. Those issues were not explored any further at the inquest, except to ascertain the agreement of Drs South and Sly that any medical treatment provided by QAS was likely to be futile in the circumstances.

There can be no adverse comment on the medical treatment provided by the Mater Hospital to Hunter during his admission from 2- 5 January 2014. The three issues which do arise are: first, the appropriateness or otherwise of discharge on 5 January 2014; and secondly, the adequacy or otherwise of the information given to Mr and Mrs Marr about Hunter's diagnosis and management; thirdly, the management of Mr Marr's request that Hunter be reviewed by a respiratory specialist.

Appropriateness of discharge

Dr South's opinion was that Hunter's discharge was clinically appropriate. Dr Sly agreed with this. There is some evidence through RN Zurvas that the Marr's were not happy about the discharge on 5 January 2014. RN Zurvas had heard this from RN Andrews and did not pass it on to Dr Dahiya. RN Andrews indicated that she thought Mr Marr may not be happy because of his concern about Hunter's cough but neither parent mentioned any concern about his discharge. Mrs Marr said that she did not express any concerns about discharge to Dr Dahiya and could not recall Mr Marr doing so. I find that Hunter's discharge was clinically appropriate.

Education and assessment

Hunter had a number of consultations with two general practitioners and two hospitals in relation to asthma prior to admission on 2 January 2014. He had been given three asthma action plans. He was reviewed four times over 18 months at the Respiratory Clinic at the Mater after having a hospital admission that involved retrieval from Gold Coast Hospital intubated and ventilated and two days in intensive care. He had been using Ventolin on occasion for at least 3.5 years, albeit very little, if any, in the year before his last admission. He had also required treatment with oral steroids on at least two occasions and also a

steroid puffer. It is a reasonable conclusion that Mrs Marr had volunteered the previous diagnosis of asthma to medical practitioners and QAS on a number of occasions, although on 2 January 2014, she told QAS that Hunter was not an asthmatic, had been in PICU for rhinovirus 2.5 yrs ago and had been cleared for the past 12 months.

While it is possible to conclude that at the time of Hunter's admission in January 2014, Mr and Mrs Marr did not believe or accept that Hunter was an "asthmatic", the reasons for this are unknown. As are the reasons why there is no indication in any medical records (Mater inpatient and outpatients, Gold Coast Hospital, Main Street Medical and Dental and Jacobs Well Medical Practice) prior to January 2014, when Hunter was treated on numerous occasions for asthma that this diagnosis was questioned or disputed by his parents.

When Mr Marr told Dr Lalji that Hunter did not have asthma, the discussion was not taken further. Mr Marr made the same comment to a number of nursing staff – they did not take the matter further, if only by relaying their concerns to medical staff. Looking at this issue in retrospect armed with the knowledge of Dr South's comment that parents not accepting the diagnosis of asthma is a risk factor itself, the Mater lost an opportunity to explore the Marr's' knowledge of asthma and provide appropriate education. There is no documentation of Hunter's understanding of his diagnosis.

The expectations required for the completion of the Asthma Carepath did not appear to be completely understood and some items had been initialled when the nursing staff could not explain what actions they had taken to warrant their initials. As a tool to remind staff to undertake educative steps, alert them to outcomes which had not been attended or met and to clearly document what outcomes had been met, it was not effective in this case. While there is no doubt that the Mater had made a number of attempts to provide information and documentation about asthma to the Marr's from 20 June 2011, it is apparent on the evidence the Asthma Education Checklist was not used.

Drs South and Sly have emphasised that asthma education is not a once-off event but a continuing exercise with repetition and reinforcement. Active assessment of the child and parent's understanding is important because it is not "just a one-way dialogue". Dr Sly said that if there was no active assessment of the parents' understanding of asthma, he did not think that was appropriate. It is apparent on the evidence that a number of flags were missed or not appropriately handed on - the most important being the Marr's' lack of acceptance that Hunter had asthma and repeated evidence of Hunter being brought to hospital at a later than optimal time.

Although this is an assessment that is made with the benefit of hindsight, the Marr's were not sufficiently educated about the serious and unpredictable

nature of asthma. Assumptions were made about other staff providing education and assessment and the level of knowledge and understanding of the Marr's because to hospital staff, Hunter was a known asthmatic. The repetitive and reinforcing nature of effective education was not recognized.

Review by a respiratory specialist

The evidence of Mr Marr and RN Kann was that at around midnight on 3 January 2014, Mr Marr requested that Hunter be reviewed by a respiratory specialist. This information was not documented. It does not appear to have been passed on but if it was, it was not actioned. The Marr's had private health insurance. However it is noted that on 4 January 2014, Hunter was transferred to private care under a general paediatrician.

On the balance of the evidence, review by a paediatric respiratory physician would not have made a difference to the outcome. However, it may have provided a further opportunity to actively assess the Marr's' understanding and emphasize the serious and unpredictable nature of asthma and the potential for rapid deterioration.

The extent to which deficiencies have been addressed

The Mater Hospital performed a root cause analysis (RCA) and provided a copy of this report, an Implementation and Audit plan as at mid-September 2014 and a Final Implementation and Audit Plan at end October 2014. This documentation identified some lessons learnt, recommendations and actions, outcomes, measures and progress to date.

Drs South and Sly are both experienced paediatric respiratory physicians who work in two major centres. Their review and input into the recommendations are valuable. Dr Sly said that he could not see any action that was not included in the RCA and the only recommendation he did not think was adequate was for a child to be reviewed in 24 hours. He said that this was not sufficient in a private hospital. Dr South considered that the Mater had excellent plans to improve the care of children admitted with asthma and provide appropriate education with thorough assessment of their understanding.

The first lesson learnt was to raise awareness amongst patients, parents and staff of the risk of asthma and actions for reducing the risk. Recommendation 1.1 was to raise awareness about the increased risk of mortality following an admission with life threatening asthma. The steps taken were (in summary):

- The Asthma Carepath and Asthma Education Checklist have been amalgamated to increase compliance with the latter.

- The Mater Nursing Education Plan has been updated to include information about the risks of life-threatening asthma.

- The wording of the Asthma Patient/Parent Handbook has been reviewed and will be reviewed in relation to more information about the use of spacers when the Lady Cilento Children's Hospital commences, as it now has.

- The Shared Clinical Handover Tool has been updated to include prompts about past admissions, particularly to PICU.
- A presentation was made at Grand Rounds on 19 September 2014 and it is planned to hold a session by an external medico legal lawyer about the importance of documentation.

- Liaison had been held with Queensland Health Patient Safety and Quality Unit to educate medical staff about the risk of life-threatening asthma.

- The Nursing Director Acute Paediatric Services will explore the use of the Clinical Nurse with Asthma portfolio being available to general outpatient clinics.

Recommendation 1.2 was that parents and patients receive appropriate education aimed at reducing life-threatening episodes. The steps taken are:

- A prompt in the Carepath that patients who have been admitted to PICU in the past are reviewed by the respiratory team.

- The day of discharge outcome now includes the requirement for the asthma action plan to be available and used for education with the patient/parent/carer.

- The Asthma Education Checklist directs the clinician to use the asthma action plan which specifically requires written instruction on how to recognize and treat severe asthma, what treatment to institute and when to seek medical advice including when to present to the PED or call an ambulance.

- All resident medical staff and VMOs have been directed to use the new Care path.

Recommendation 1.3 was that if there are inconsistencies between the parents' understanding and the working medical diagnosis, steps must be taken to

address this inconsistency and these steps must be documented. The steps taken to date are (in summary):

- Modifications in the Carepath which allow this to be identified and escalated;

- The shared clinical handover book has been revised to assist clinicians to identify discrepancies with the diagnosis or issues with clinical care at handover.

The second lesson learnt is standardization, review and understanding. The recommendations and steps taken are:

- There is an online tool developed by the Royal Children's' Hospital Melbourne which has been reviewed and adopted as the standard asthma action plan.

- Three copies are to be printed. One for the records, one for the family and one for the general practitioner. There is not currently an automated system to distribute the plan to the general practitioner but they can access the plan through the Mater Doctor Portal. The Mater is working towards an integrated electronic health record.

- After an audit on 29 October 2014, there is now a cue in the Carepath to ensure a copy of the plan is in the record.

- The asthma action plan must be reviewed on each presentation with asthma.

- Understanding of the asthma action plan is now included in the revised asthma education checklist in the Carepath.

The third lesson learnt is that all patients who have been admitted to PICU for asthma are to be reviewed by the respiratory team. Children who are treated in the emergency department but not admitted are to be referred to Respiratory Outpatients. This has been and will be audited.

The fourth lesson learnt is that all acute admissions are reviewed by a relevant specialist within 24 hours. Staff have been notified of this and it is part of the audit process.

The fifth lesson learnt was using particularly the admission and discharge phases as an opportunity to explore parental/patient understanding and re-educate as needed. The steps taken are:

- The updated Carepath

- Two additional asthma educational pamphlets being given as well as online resources on the Mater intranet.

- After an audit on 6 November 2014, due to a large number of patients being admitted on night duty with an average of a 2 day stay, the initial education, provision of the information and prompt for review of children previously in PICU, has been moved to day 2 of the Carepath. The day of discharge checklist has also been moved to day 2.

The sixth lesson to be learnt is to develop a strategy to escalate parental concerns. A Parental and Carer Escalation Model **(PACE)** has been approved for use. Queensland Health have advised that these measures will be implemented in Lady Cilento Children's Hospital.

The seventh lesson to be learnt is in relation to discharge planning and advice. All relevant points itemized in the recommendation of the National Asthma Council of Australia are included in the revised Asthma Carepath/ Asthma Education Checklist. The eighth lesson to be learnt is in relation to Clinical Handover Tools. These have been updated to action parental concerns.

The ninth lesson to be learned is in relation to documentation. Sessions about documentation are given frequently by both internal and external medico-legal lawyers. Fourteen such sessions have been held since February 2104. The importance of documentation has also been included in Grand Rounds in September 2014 and in corporate sessions in October 2014.

The tenth lesson is to improve communication to families during the root cause analysis process. This had been actioned.

Findings pursuant to section 45(2)

Hunter Campbell Marr died on 6 January 2014 at the Logan Hospital, Logan, Queensland. He died from an acute episode of asthma which became increasingly resistant to Ventolin on the morning of 6 January 2014.

Recommendation in accordance with section 46

Section 46 of the Act provides that a coroner may comment on anything connected with a death that related to:

a) public health and safety

b) the administration of justice, or

c) ways to prevent deaths from happening in similar circumstances in the future.

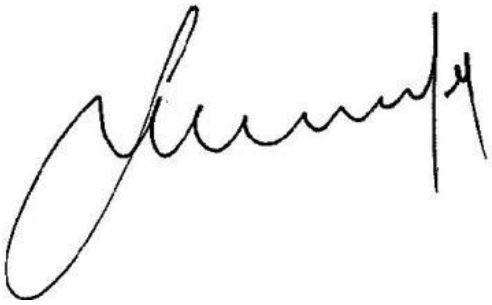
There are three issues arising: First, that parents' lack of acceptance or understanding of the diagnosis and appropriate management of their child's illness, as understood by the treating clinicians, particularly in relation to a potentially life-threatening illness, must be flagged, documented, escalated and addressed as a matter of urgency.

Secondly, an expressed or perceived reluctance or dissatisfaction about the discharge of a child by a parent, particularly in relation to a potentially life-threatening illness, must be flagged, documented, escalated and addressed as matter of urgency.

Thirdly, didactic education of patients and parents must be supplemented by active assessment of understanding, particularly in relation to a potentially life-threatening illness and clinical staff reminded that it is what patients/parents understand that is crucial, not what information has been provided in oral or written form. However, it is acknowledged that the Mater had devoted considerable time, thought and action to addressing these issues.

Exercise of discretion to refer hospital staff in accordance with section 48(3)

Section 48(3) of the Act gives a coroner discretion to refer information about a person's professional conduct to the relevant professional disciplinary body if the coroner reasonably believes the information may cause that body to inquire further or take steps in relation to conduct. The circumstances leading up to Hunter's death do not warrant the referral of any treating staff to the Australian Health Practitioner Regulatory Authority.



James McDougall
South Eastern Coroner
8 May 2015