OFFICE OF THE STATE CORONER

NON-INQUEST FINDINGS

CITATION:	**Investigation into the death of R, aged 1 day**
TITLE OF COURT:	Coroners Court
JURISDICTION:	SOUTHPORT
FILE NO(s):	2012/764
FINDINGS OF:	James McDougall, Coroner
CATCHWORDS:	suitability to home birth, meconium, AHPRA

REPRESENTATION:

Counsel Assisting: Ms Megan Jarvis & Ms Rhiannon Helsen

Introduction and Circumstances of Death

R was a female infant who died during or shortly after her birth on 1 or 2 March 2012 at her family's home in Canungra, Queensland. R's mother, Ms A, had elected to deliver R at home and in a birthing pool. The birth was supervised by midwife M, a registered midwife who had been practicing home births for 19 years and had supervised the home births of Ms M's first two children in 2004 and 2006. R's father, Mr G, was also present at the birth.

R was full-term (41 weeks and three days) at the time of her birth. Her mother's pregnancy was complicated by gestational diabetes which was diet controlled. No other medical complications were identified during the pregnancy.

After approximately six hours of labour, which appeared to have progressed well and without any concerns being identified, R was born at approximately 11:45 pm. Midwife M placed R on her mother's chest for instant bonding, however at some point after this time she realised that R was limp and did not appear to be breathing. Around the same time, Ms M noticed that R appeared to have brown mucus-type fluid coming from her mouth.

Midwife M attempted to suction R's airway and began CPR, whilst Mr G called for an ambulance. Queensland Ambulance Service (QAS) officers attended the scene and continued resuscitation attempts whilst transporting R to the Gold Coast Hospital (GCH). Upon arrival hospital staff made further resuscitative attempts however these were not successful and R was pronounced deceased at 1:40 am on 2 March 2012.

GCH doctors believed the possible cause of R's death to be asphyxia due to meconium in the lungs. At autopsy, the forensic pathologist confirmed R's cause of death as meconium aspiration, noting that R's advanced gestational age (41 weeks and three days) was a risk factor associated with this condition.

Queensland Police Service (QPS) officers attended R's home at 3:37 am on 2 March 2012 however were unable to examine the scene in situ as it had been cleaned by family members.

The GCH doctor who attended to R advised QPS officers that she had concerns about the circumstances of R's death and the care provided by midwife M, including in relation to the suitability of a home birth, the apparent delay in identifying R was in distress and seeking emergency medical assistance, and the adequacy of resuscitation provided to R. The doctor also reported her concerns about midwife M's professional conduct to the Australian Health Practitioner Regulation Agency ('AHPRA').

Cause of Death

At autopsy, performed on 5 March 2012 and including both an external and internal examination, the forensic pathologist formed the opinion that R's death was due to meconium aspiration. Thick green meconium fluid was present within R's distal airways, stomach and intestines, and there was extensive meconium aspiration in her lungs. Gas was noted in the trachea and proximal parts of the main bronchi but abruptly terminated and no evidence of air was seen within the lungs or stomach.

The pathologist explained that meconium is passed from a foetus's bowel into the amniotic fluid when there is foetal distress. The meconium can then be inhaled and swallowed by the foetus, blocking the airways and the sacs in the lungs, and impairing or preventing respiration. Suctioning can only remove the meconium from the larger airways. Additionally, meconium inhibits surfactant which normally allows the sacs in the lungs to expand properly, and may also cause chemical pneumonitis (inflammation of the lungs).

The pathologist noted that R, who was born at 41 weeks and 3 days gestation, was in a higher risk category for meconium aspiration due to her advanced gestational age.

The post-mortem examination also showed that R was 'macrosomic', that is, larger than average size, but with no obvious congenital abnormalities or other significant conditions or injuries. The macrosomia may have been due to Ms M's gestational diabetes and elevated blood sugar levels during her pregnancy. There was also a history of high birth weights with Ms M's two previous pregnancies. High birth weights carry increased risks for neonatal morbidity and mortality at birth.

The doctor who attended to R when she was brought to the GCH emergency department, Dr Pita Birch, Neonatal Paediatrician, raised concerns with AHPRA regarding the adequacy of the care provided by midwife M at the time of R's birth.

Dr Birch also provided a written statement for the purpose of assisting the coronial investigation into R's death. Dr Birch provided an overview of the birth history. She noted a concern that midwife M changed her account of the time R was born (from 11:40 pm to 11:45 pm) and also whether there were any signs of life after birth. Dr Birch noted that midwife M initially told the QAS officers that there were 'no signs of life' and then changed that to 'output on delivery'. On initial questioning, midwife M stated that '*she was very surprised as things were going well and the baby had a heart rate at birth*'. She then stated that '*there was no heart rate and no signs of life after birth*'. Midwife M did not disclose to Dr Birch what monitoring was performed and how she determined the presence or absence of a heart rate after birth. Dr Birch noted that QAS were contacted at 11:47 pm and arrived at the property at 12:03 am.

Dr Birch was informed that upon QAS arrival at the scene, the room was very dark with only candlelight being used for lighting. At that time, midwife M was attempting resuscitation whilst the infant was on Ms M's chest. The QAS officers claimed that they felt resuscitation wasn't being provided effectively and so moved the infant to the ambulance in order to better provide resuscitation. During the resuscitation provided by QAS officers at the scene and on route to GCH, there was never any spontaneous respiration, cardiac output or any signs of life. There was electrical cardiac activity recorded without cardiac output.

Dr Birch assessed R immediately upon her arrival at GCH. She confirmed that there were no signs of life, no cardiac output palpable (without chest compressions), no heart sound audible, no spontaneous respirations, no tone, no movement, and that the infant was cold and profoundly cyanosed and pale.

In relation to the suitability for a home birth, Dr Birch noted that gestational diabetes in a mother is associated with increased morbidity and mortality for an infant, which can include a more difficult birth, higher risk of requiring a caesarean section and lower Apgar scores necessitating a greater need for resuscitation at birth. The main reason for this is the risk of the infant being large for gestational age. Considering the gestational diabetes, Dr Birch believed there should have been some attempts to determine the estimated weight of the infant prior to delivery so as to ascertain whether this was a situation suitable for a home birth. Dr Birch was of the opinion that given the mother's gestational diabetes and the subsequent birth weight of the child, this was not a suitable situation for a home birth.

Based upon the information relayed to Dr Birch by the QAS officers who attended the scene, Dr Birch was of the opinion that resuscitation provided was 'grossly inadequate'. Dr Birch noted that cardiopulmonary resuscitation cannot be effectively delivered on the abdomen or chest of the mother and requires a firm surface and appropriate equipment. Dr Birch also held concerns about resuscitation taking place in a darken room and how this would have affected midwife M's ability to properly assess the infant. Dr Birch also expressed concern about the delay taken in contacting emergency services. Initial

reports indicated that R was born at 23:40 pm with the ambulance being contact some seven minutes later. However, the time of birth was then changed to 23:45 pm. In Dr Birch's opinion, if R was born at 23:40 pm, a seven minute delay in seeking emergency care was 'completely unacceptable'. Dr Birch suggested that during that time there may have been a failure to recognise that R required resuscitation.

Dr Birch expressed concern about the inconsistency of information provided by midwife M. Not only was there inconsistency in the time of R's birth, but also the monitoring of the foetus prior to delivery and when meconium was detected in the liquor. More importantly, there was also inconsistency in the verbal reports from midwife M as to the presence or absence of a heart rate at birth which has an impact on whether R's birth would be seen as a still birth or neonatal birth. Dr Birch was so concerned about the adequacy of care provided by midwife M that she felt obligated under the mandatory reporting rule to report her conduct to AHPRA.

AHPRA investigation and report

Upon receiving Dr Birch's report, AHPRA determined that the concerns raised regarding midwife M's professional conduct warranted further investigation.

The investigation by AHPRA was conducted thoroughly and professionally, and included consideration of all of the available material including the expert opinion of Associate Professor Susan Rath, Nursing and Midwifery Director at the Metro South Hospital and Health Service.

AHPRA concluded that midwife M had failed to adequately manage and monitor R's birth, and failed to adequately prepare for and perform neonatal resuscitation on R following her birth. AHPRA concluded that midwife M failed to adequately assess the situation and prepare for the home birth of the baby given the unsafe birthing conditions at the rural residence (cramped conditions and inadequate lighting), which was aggravated by the fact that midwife M had full knowledge of the potentially unsafe conditions having supervised two prior home births at the same residence.

Midwife M was aware of Ms M's age, her two prior macrosomic babies and that advanced gestational age increased the risks of morbidity and mortality for the baby, including meconium aspiration. There is no record of midwife M considering these increased risks or having conducted a risk assessment with Ms M.

There is no indication to be found in either midwife M's records or other evidence obtained during the investigation to demonstrate that midwife M had ensured that Ms M was well informed of the potentially serious risks with a water birth. Midwife M should have been able to provide evidence that Ms M had provided an informed consent regarding a water birth, acknowledging the difficulties in administering lifesaving treatment and accepting the possible increased risk of adverse maternal and neonatal outcomes.

When considering the degree of heavy meconium staining and the findings at autopsy, it is more likely that Ms M's fore waters were not clear and had contained meconium. Midwife M did not recognise the presence of meconium at birth; likely due to the poor lighting of the birthing pool area. When considering the inconsistencies between the accounts provided by midwife M and that of the attending QAS officers, doubts are raised as to midwife M's credibility. It is more likely that the lighting to the birthing area, by use of candles, was not a consequence of a power failure and that midwife M had permitted the use of candles which provided insufficient light to the birthing area. The inadequate lighting had a significant impact on midwife M's ability to monitor the birth of the baby and recognise the likely early presence of meconium in the birthing pool. Adequate lighting would have enabled midwife M to recognise the presence of meconium in the birthing pool and to respond to the emergency situation sooner.

Midwife M performed ineffective neonatal Cardio Pulmonary Resuscitation (CPR) on the baby. Neither the environment nor equipment used nor midwife M's technique were in accordance with recognised practices in neonatal CPR. Apparently, midwife M had never participated in a formal neonatal resuscitation course and had no certification in this regard.

Overall, midwife M's professional conduct was found to be below the standard reasonably expected of a health practitioner of an equivalent level of training or exercise. AHPRA also found that, in her evidence and submissions during the investigation and show cause process, midwife M '*had not demonstrated insight or self-reflection*' with respect to the risk factors inherent during Ms M's pregnancy and labour or the conditions under which Ms M delivered her baby. AHPRA further noted that midwife M did not accept that her CPR procedure on R was inadequate.

After considering AHPRA's report, on 25 July 2013 the Board decided to issue a caution and impose conditions upon midwife M's midwifery registration.

The caution was worded as follows:

> *The Nursing and Midwifery Board of Australia (the Board) cautions you for unsatisfactory professional performance between 1 March 2012 and 2 March 2012 at 281 Lamington National Park Road, Canungra QLD, specifically for:*
>
> > *i. Inadequately managing and monitoring the birth of R, and*
> >
> > *ii. Inadequately preparing for, and performing neonatal resuscitation upon R following her birth.*
>
> *In cautioning you, the Board aims to ensure that your performance, at all times, maintains and builds the community's trust and confidence in the midwifery profession.*

The Board advised that its decision to caution midwife M '*addresses the fact that her practice of the profession constitutes a significant departure from accepted professional standards and seeks to advise her not to repeat the conduct*'. The Board noted that the caution would not be recorded on the public national register.

The conditions imposed on midwife M's registration required her to attend an education programme approved by the Board and addressing a number of professional practice areas for home births including risk assessment, contingency planning and neonatal CPR techniques. The conditions also required midwife M to practice under the direct supervision of a senior midwife when attending home births for a period of 12 months, with this supervisor to provide written reports to the Board addressing midwife M's performance at intervals of one, three, six, nine and 12 months and at any other time when the supervisor had or became aware of a concern regarding midwife M's health, conduct, competency or fitness to practice the profession.

On 4 August 2014, after receiving notice of the Board's caution and conditions, midwife M wrote to AHPRA to surrender both her nursing and midwifery registrations.

AHPRA's correspondence to the Office of the Southeast Coroner confirms that as at 1 September 2014, midwife M is no longer registered with the Board to practice as a nurse or midwife.

Coronial Findings

I make the following formal findings:-

(a) The deceased was R;

(b) R was born alive at approximately 11.45pm on 1st March, 2012 at 281 Lamington National Park Road Canungra;

(c) R died at Gold Coast Hospital Southport at approximately 1.40am on 2nd March, 2012;

(d) The cause of death was meconium aspiration.

The circumstances of R's death have been thoroughly and professionally investigated by AHPRA on behalf of the Board, for the purpose of determining whether R received appropriate midwifery care during and following her birth.

AHPRA's investigation, which was informed by the expert opinion of Associate Professor Susan Rath, Nursing and Midwifery Director, Metro South Hospital and Health Service, has resulted in a finding that the midwife who provided antenatal care and attended R's birth, midwife M, provided a level of care that fell significantly short of the standard reasonably expected of someone in her profession and with her experience. Midwife M has surrendered her registration.

Due to the inherent uncertainty involved in predicting outcomes following adverse health events, it is unclear whether R's death may have been prevented had she received a higher standard of health care during and immediately following her birth.

There are no other outstanding issues with regards to the circumstances of R's death, and the investigation has not otherwise identified any matters connected with R's death that might go towards preventing deaths from happening in similar circumstances in the future, as per sections 28(2)(a) and 46(1)(c) of the *Coroners Act 2003*.

James McDougall
Coroner
SOUTHPORT
23 March 2015