	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** **(1) NORTHAMPTON GENERAL HOSPITAL NHS TRUST** **(2) NHS NORTHAMPTONSHIRE INTEGRATED CARE BOARD** **(3) NHS ENGLAND**
1	**CORONER** I am Jonathan Dixey, assistant coroner, for the coroner area of Northamptonshire.
2	**CORONER'S LEGAL POWERS** I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and Regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.
3	**INVESTIGATION and INQUEST** On 14th December 2022 an investigation was commenced into the death of Iona Grace Buckingham, aged 9 months. The investigation concluded at the end of the inquest on 10th January 2024. The conclusion of the inquest was a narrative conclusion: Iona Buckingham died as a result of bronchopneumonia with empyema due to invasive Group A streptococcal infection. On 29 November 2022 there was a missed opportunity to administer clindamycin, an antibiotic, which possibly contributed to Iona's death. On 3 December 2022 there was a further missed opportunity to (i) undertake an x-ray; (ii) administer clindamycin; and (iii) arrange for transfer to a tertiary centre for the purpose of undertaking a chest drain. These matters probably contributed to Iona's death. Iona died during an accidental extubation on 4 December 2022. The medical cause of death was: 1a Bronchopneumonia with empyema due to invasive Group A streptococcal infection
4	**CIRCUMSTANCES OF THE DEATH** On 28 November 2022 Iona Buckingham was admitted to the Northampton General Hospital for oxygen therapy and feeding support in view of a diagnosis of bronchiolitis. A chest x-ray was performed on 29 November 2022 which showed right upper lobe pneumonia and some pleural effusion. Iona was escalated from high-flow nasal cannula oxygen to continuous positive airway pressure ("CPAP"). Iona continued to receive antibiotics and her condition appeared to improve. On 30 November 2022 she was stepped down from high-dependency care. At or around 14.00 on 3 December 2022 Iona was reviewed. She was observed to be in distress and was struggling to breathe. Iona was upgraded to a higher level of respiratory support. She was to be reviewed later for a possible need to return to CPAP. At or around 10.00 on 4 December 2022 a chest x-ray was performed. The x-ray showed a "whiteout" to the right lung and pleural effusion. Iona was moved to the High Dependency Unit where she returned to CPAP. Attempts were made to insert an endotracheal tube ("ETT"). A further x-ray showed that the ETT was not properly located and therefore a decision was made to re-site it. In

	doing so, the ETT became dislodged. Iona went into cardiac arrest. Despite attempts to resuscitate her, Iona died at 18.37 on 4 December 2022.
5	**CORONER'S CONCERNS** During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths could occur unless action is taken. In the circumstances it is my statutory duty to report to you. The **MATTERS OF CONCERN** are as follows. – Following Iona's death, the Northampton General Hospital NHS Trust conducted a Serious Incident Investigation. One of the recommendations made by the investigation panel was: "Children with pneumonia who are not improving after forty-eight hours of treatment or deteriorate at a later point should be suspected of having a pleural effusion and should get an immediate x-ray and chest ultrasound" That recommendation reflected advice provided on 29th November 2022 (the day after Iona's admission to Northampton General Hospital) by the East Midlands Paediatric Critical Care Network: "We would like to inform you of a high number of cases of highly aggressive sepsis, linked to empyema, and positive culture for Group A Streptococcus in the region. This has caused significant morbidity and mortality. We advise early referral, aggressive management, high dose intravenous antibiotics, and early drainage of empyemas. Please have a low threshold for investigating any child with a secondary respiratory deterioration, especially with new onset of fever. Chest X-Ray and ultrasound will be beneficial." At the inquest into Iona's death, I heard evidence from the Trust's Clinical Director of the Child Health Directorate who is also a Consultant Paediatrician. On the basis of the evidence I heard from the Clinical Director, I am satisfied that the Trust has taken action in respect of the recommendations made and more broadly have reflected upon the circumstances of Iona's death. However, in respect of the recommendation set out above, I am concerned that there remains a risk that future deaths could occur unless further action is taken. The recommendation made by the investigation panel was that children with pneumonia who are not improving after forty-eight hours of treatment or deteriorate at a later point should get "an immediate x-ray and chest ultrasound". However, the evidence I heard suggests this is not possible. I heard from the Clinical Director that as a district general hospital, Northampton General Hospital does not have access to a paediatric radiologist outside of 9am-5pm on Mondays and Fridays when such a specialist is either on duty or on-call. I heard evidence that in Iona's case, a Consultant in ITU and Anaesthesia was able to perform an ultrasound scan at around 2pm on 4th December 2022 however this is not a facility that would routinely be available to the Trust and was not, in any event, part of that clinician's core duties. I am concerned that a very unwell child who may require a chest ultrasound may not receive one 'immediately' and in fact may have to wait for a considerable period of time. For example, if the need arose over a weekend, that child may not receive an ultrasound scan for up to 48 hours.

	I understand a reason why Northampton General Hospital does not have access to a paediatric radiologist outside of 9am-5pm on Mondays and Fridays may be due to the funding that is available. I am therefore sending this letter to the NHS Northamptonshire Integrated Care Board and to NHS England.
6	**ACTION SHOULD BE TAKEN** In my opinion action should be taken to prevent future deaths and I believe you have the power to take such action.
7	**YOUR RESPONSE** You are under a duty to respond to this report within 56 days of the date of this report, namely by 8th March 2024. I, the coroner, may extend the period. Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.
8	**COPIES and PUBLICATION** I have sent a copy of my report to the Chief Coroner and to the following Interested Persons: 1. [redacted]. 2. Children's Medical Emergency Transport, care of the Leicester Royal Infirmary, University Hospitals of Leicester NHS Trust. I am also under a duty to send the Chief Coroner a copy of your response. The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.
9	**12th January 2024** **JONATHAN DIXEY**