REPORT TO PREVENT FUTURE DEATHS
Pursuant to paragraph 7 of Schedule 5 of the Coroners and Justice Act 2009 and Regulations 28 and 29 of the Coroners (Investigation) Regulations 2013

	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** **1.** The Secretary of State for Health and Social Care
1	**CORONER** I am KEITH MORTON KC, an Assistant Coroner for the coroner area of Cambridgeshire and Peterborough
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 28 February 2020 I commenced an investigation into the death of Karen Lesley Starling, who died on 7 February 2020 aged 54. The investigation concluded at the end of the inquest on 11 November 2022. On 31 December 2020 I commenced an investigation into the death of Anne Edith Martinez, who died on 17 December 2020 aged 65. The investigation concluded at the end of the inquest on 11 November 2022. Both deceased underwent successful lung transplant procedures at the new Royal Papworth Hospital. Both deceased subsequently contracted a hospital acquired infection, namely Mycobacteria Abscessus (M abscessus) in consequence of which they died. My Narrative Conclusion is summarised, so far as relevant to this report, in the circumstances of the deaths below.
4	**CIRCUMSTANCES OF THE DEATHS** 1. These inquests were heard concurrently because there was an issue common to both, namely the presence of M abscessus in the water at the Royal Papworth Hospital ("the hospital"), which caused both deceased to become infected with M abscessus. 2. The hospital opened to patients on 1 May 2019. Mrs Starling and Mrs Martinez underwent lung transplant procedures on 25 May 2019 and 5 July 2019 respectively. They were among the first patients to be treated at the new hospital. 3. Neither Mrs Starling nor Mrs Martinez would have died at the time or in the circumstances they did but for their exposure to M abscessus while patients at the hospital. 4. M abscessus is an environmental non-tuberculous mycobacterium (NTM). It can sometimes be found in soil, dust and water, including municipal water supplies. It is usually harmless for healthy people but may cause opportunistic infection in vulnerable individuals. Lung transplant patients and lung defence patients such as Mrs Starling and Mrs Martinez were at particular risk of infection from mycobacteria, including M abscessus.

	5. The guidance available to those responsible for the design, construction and operation of hospitals, including hospital water systems was Health Technical Memorandum ("HTM") 04-01 published by the Department of Health. That guidance was directed at the identification and control of legionella and pseudomonas. It gave no relevant guidance in relation to mycobacteria and none in relation to M abscessus. HTM 04-01 did not require routine testing for mycobacteria, including M abscessus, or provide guidance on acceptable levels (if any) in the water systems. Therefore, compliance with the guidance does not identify or guard against the risk from M Abscessus.
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: 1. It is recognised that M abscessus poses a risk of death to those who are immunosuppressed. That will be so for many patients at specialist hospitals such as Royal Papworth and more generally for hospital patients. To date, 34 patients at Royal Papworth have contracted M abscessus from the hospital's water. Cases continue to be reported, albeit at a declining rate; 2. There is an incomplete understanding of how M abscessus may enter and/or colonise a hospital water system; 3. Health Technical Memorandum 04-01 Safe Water in Healthcare Premises was published by the Department of Health in 2016. It is concerned with the design, installation, commissioning and operation of hospital water systems. This guidance requires urgent review and amendment, whether by way of an Addendum or otherwise because: a. It is a key document for hospital estate managers and Water Safety Groups; b. It purports to provide comprehensive guidance on waterborne bacteria; c. However, it provides no relevant guidance in relation to mycobacteria and none in relation to M abscessus. It provides no guidance on the identification and control of M abscessus. It does not require routine testing for mycobacteria, including M abscessus or provide guidance on acceptable levels (if any). Compliance with the guidance does not identify or guard against the risk from M Abscessus; d. It provides no guidance on any additional measures that may be required in respect of "augmented care" patients, including those who are immunosuppressed; e. It is not in any event consistent with British Standard BS 8580-2:2022 on Water Safety. 4. There is evidence that the risk from M abscessus is especially acute for new hospitals. Consideration needs to be given to whether special or additional measures are required in respect of the design, installation, commissioning and operation of hospital water system in new hospitals.

6	**ACTION SHOULD BE TAKEN** In my opinion action should be taken to prevent future deaths and I believe you and your Department of State 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 2 January 2023. 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. The Family of Mrs Starling 2. The Family of Mrs Martinez 3. The Royal Papworth NHS Trust 4. NPH Healthcare Limited Royal Papworth 5. Skanska Construction UK Limited 6. OCS Group UK Limited I have also sent it to the Chief Executive Officers of Cambridge University Hospitals and Cambridgeshire and Peterborough NHS Foundation Trust who are responsible for the new Cambridge Children's Hospital and who may find it useful or of interest. I am also under a duty to send a copy of your response to the Chief Coroner and all interested persons who in my opinion should receive it. I may also send a copy of your response to any other person who I believe may find it useful or of interest. 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.
9	 **Keith Morton KC** **Assistant Coroner for Cambridgeshire and Peterborough** **14th day of November 2022**