	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** [redacted] **via UK Head Office - Philips Electronics UK Limited Ascent, 1 Aerospace Blvd, Farnborough GU14 6XW**
1	**CORONER** I am Mr Adam Hodson, Assistant Coroner for Birmingham and Solihull
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 1 April 2021 I commenced an investigation into the death of Ann GERAGHTY. The investigation concluded at the end of the inquest . The conclusion of the inquest was: Death was a consequence of natural causes.
4	**CIRCUMSTANCES OF THE DEATH** The deceased was admitted to Good Hope Hospital on 26 February 2021 where she was treated for heart failure. She was commenced on continual cardiac monitoring from 6th to 8th March, where two periods of ventricular standstill were recorded but were missed due to a combination of policy, staffing, workplace and equipment issues. She suffered a cardiac arrest on 8 March 2021 and was treated on ICU for 22 days in total. Despite treatment, she deteriorated rapidly on her final day, and she died at 13:40, 30 March 2021. Had the periods of ventricular standstill been detected, she would have been admitted to CCU for monitoring, but her subsequent cardiac arrests could not have been prevented. Based on information from the deceased's treating clinicians the medical cause of death was determined to be: 1a Multiorgan failure 1b Congestive cardiac failure 1c Dilated cardiomyopathy II
5	**<u>CORONER'S CONCERNS</u>** During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths will 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. At inquest, the evidence was that all five hospitals within the University Hospitals Birmingham NHS Foundation Trust ("the Trust") utilise a Phillips central monitoring station (model number M3151), and there use is widespread throughout the hospitals. 2. The deceased was commenced on continual cardiac telemetry monitoring on this

	machine from the period 6th to 8th March. Following the deceased's cardiac arrest on 8 March 2021, a retrospective review of the telemetry monitoring was carried out and two periods of ventricular standstill were noted - one at 12:43, 6 March 2021 where the telemetry recorded a period of 4 seconds ventricular standstill; and one at 13:09 on 8 March 2021 where the telemetry recorded a period of 10 seconds ventricular standstill. 3. Medical engineers were asked to analyse the telemetry and noted that on 8 March the monitor's alarm had triggered and that it was a self-terminating alarm as the heart rhythm had corrected itself. There was no evidence that staff muted the alarm or that there was any fault with the equipment. Thus, this self-correcting function is an intended function of the monitor. 4. Following the Trust's internal investigations, it was recommended that discussion with the manufacturers of the cardiac monitoring equipment take place to establish whether the alarms can be configured in such a way that the alarm does not self-terminate when certain abnormal heart rhythms correct themselves. The evidence was that this discussion took place on 31 July 2021, but that there has been no progress since that time, with the responsibility now lying with the manufacturer (i.e. yourselves) to develop a software update or alternative system to ensure that the issue of self-terminating alarms is remedied. 5. At inquest, it could not be determined whether Phillips central monitoring stations (model number M3151) are utilised by other Trusts nationally, but given that Philips is one of the largest providers of cardiac monitoring equipment to the NHS, it is presumed that this monitoring station is deployed in other Trusts nationally. 6. I therefore have concerns that, unless immediate consideration is given to this issue by the manufacture (i.e. yourselves), there is a risk of future deaths occurring - both within the Trust and nationally within other Trusts - and will continue to exist in the future until such time as this is addressed.
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 22 October 2021. 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 i) [redacted] (family) ii) University Hospitals Birmingham NHS Foundation Trust I have also sent it to NHS England who may find it useful or of interest. 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	**27 August 2021** Signature:  **Adam Hodson** **Assistant Coroner for Birmingham and Solihull**