REPORT TO PREVENT FUTURE DEATHS

	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** **1. The Clinical Director, Cwm Taf Board, Out of Hours service** **2. The National Institute for Health and Clinical excellence** **3. The Chief Executive Prince Charles Hospital, Merthyr Tydfil** **4. The Senior Manager for Investigations and Quality Improvement for Cwm Taf University Health Board**
1	**CORONER** I am Christopher John Woolley, Assistant Coroner, for the Coroner area of Cardiff and the Vale of Glamorgan
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 5th June 2013 I commenced an investigation into the death of Thomas George Smith aged 13. The investigation concluded at the end of the inquest on 30th June 2014. The medical cause of death was: 1A Pneumococcus meningitis. I returned a conclusion of Natural Causes.
4	**CIRCUMSTANCES OF THE DEATH** Thomas had been seen by the Out of Hours doctor at 13.09 hours on 27th May 2014 after a two to three day history of headache, neck pain and vomiting. The doctor had checked for signs of meningitis and made a diagnosis of "headache - ? cause". The out of hours doctor decided to admit him to hospital. Thomas was admitted to Prince Charles Hospital on 27th May 2013 at 14.00 hours. He was seen by a doctor there [redacted] at 14.30. After speaking to the consultant after intervention from the nursing staff he decided to perform hourly observations. He noted signs of raised intracranial pressure. Thomas remained conscious and alert. At 15.00 hours the neurological observations were within normal limits. At 16.00 hours his blood pressure had risen and he was pyrexial. The nursing staff were concerned about raised intracranial pressure and alerted [redacted]. He examined Thomas and thought there were two or three factors that would be consistent with meningitis but that he did not have other factors. At 16.20 he was seen by [redacted] who concluded that the illness was infective in origin. An IV cannula was inserted but no antibiotics were given. At 16.30 hours he was still pyrexial. The consultant Dr Afifi attempted to examine Thomas at 16.40 hours but decided to wait until blood tests were done. At 17.00 hours Thomas diastolic blood pressure had risen to 95. The nursing staff had continuing concerns. At 18.00 hours Thomas was still alert and talking. At 18.30 hours [redacted] examined Thomas and concluded that Thomas most likely had meningitis. He prescribed ceftriaxone. Up until this point no medication had been prescribed for Thomas, and no measures had been taken to reduce his intracranial pressure. At 18.35 hours Thomas became unresponsive and cyanosed. It is probable that he had suffered a brain herniation. The crash team was called at 18.40 hours but

	Thomas did not improve and died on the 29th May at 18.45 hours.
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 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. – **For the Clinical Director, Cwm Taf Board, Out of Hours service** (1) No criticism is made of the actions of the Out of Hours Doctor [redacted] . The inquest however revealed the importance of full and accurate handover between primary and secondary care providers. Such handovers should record full observations and details of any medication already given (for instance painkillers may mask fever). Can the clinical director confirm OOH doctors observe this practice. (2) The Coroner noted that it was only by chance that Thomas was seen more quickly than usual (because the case was "modified" and removed from the pool). Given the greater susceptibility of children to deteriorate in health the Coroner would like to see children's cases be given a greater "weighting" so that they can be seen more quickly than adult cases if these can safely be delayed. (3) The Coroner would ask that the OOH service notes the concern expressed below that Thomas should have been transferred to hospital by ambulance. **For the National Institute for Health and Clinical excellence** (1) The Coroner notes the guidance at page 61 of the June 2010 publication "Bacterial meningitis and meningococcal septicaemia" to the effect that "the available evidence does not allow any conclusion to be drawn about whether or not pre-hospital parenteral antibiotics affect mortality or morbidity". This is however contradicted by the evidence heard at inquest from eminent experts [redacted] who gave their empirical conclusions that the literature suggested that antibiotics should be given sooner rather than later in cases of meningitis. In the event of primary care doctors being involved in a remote location there might be a delay of some hours before transfer to secondary care. The Coroner also noted the Guidelines issued by the Scientific Advisory Committee of HPSC (Eire) which recommended that primary care providers administer antibiotics in cases of suspected meningitis (at page 17) "all GPs and advanced paramedics should have benzylpenicillin available when attending patients and should be ready to administer it without delay to patients with a systemic febrile illness and a petechial or purpuric rash". The Coroner would recommend that the existing guidance is revisited. **For The Chief Executive Prince Charles Hospital, Merthyr Tydfil** (1) The inquest revealed the importance of observing physiological trends in the patient's condition, rather than observing readings on a "snap shot" basis. The Coroner considers that comprehensive time series data would have provided clinicians with a sounder platform for assessing Thomas. Can the Chief Executive confirm that this will be the practice at PCH? (2) The inquest revealed a somewhat fragmented approach to patient care, with nursing staff concerns not being acted on promptly by doctors. One expert highlighted the importance of a "whole team approach" where information could be freely shared and acted upon by nursing staff professionals. The Coroner suggests that this should be the correct approach. The Coroner noted with concern that at PCH nursing colleagues are not involved in a team debrief. The Coroner considers that they always should be involved. (3) Similarly the expert commented that there appeared to be a reluctance on the paediatric ward to bring in other disciplines from the hospital where this might be

(4) It appeared at the inquest as if the clinicians had adopted an "exclusionary focus" to rule out meningitis rather than an "inclusionary focus" so as to be able to adopt a diagnosis of meningitis as a differential diagnosis. The Coroner considers that the inclusionary approach is appropriate where a patient presents with some of the signs of meningitis. It should be standard practice at PCH for raised Intracranial pressure to be treated without delay even if a diagnosis is awaited on the underlying condition.

(5) The expert raised the possibility of having a paediatric ITU. It is appreciated that PCH may not have the resources to have such a facility itself but the Coroner would like to see consideration given to this within the Board and between neighbouring Health Boards.

(6) There was a divergence of evidence at the hearing between [redacted] and [redacted] – with the former suggesting that at one point in the afternoon that he could not find [redacted] while [redacted] said he had been in his office all the time. While the resolution of this conflict was not necessary for the purposes of the inquest it does reveal a situation where (for whatever reason) a registrar was not able to obtain the advice of the consultant when he needed it. It appeared to the Coroner to be archaic for the Registrar to have to physically go looking for the Consultant on the ward – there must be modern telecommunication means to ensure that the consultant is always available for advice even if remotely.

For the Senior Manager for Investigations and Quality Improvement for Cwm Taf University Health Board

(1) The Senior Manager is asked to note and comment on all the items above which fall within the control of Cwm Taf Health Board. The Coroner notes and approves the work that has already taken place (as shown in the letter dated 25th June 2014) but considers that further work needs to be done as suggested by the actions above. The Coroner asks that the Senior Manager takes a leading role in coordinating the response within the Board.

(2) One of the experts recommended that a task force be commissioned within Cwm Taf to improve communication between primary and secondary care services. The Coroner agrees and recommends this. The Coroner has emphasised above the importance of the handover from primary carer to assist the secondary care provider (e.g. by highlighting red flag signals). Similarly the Coroner has recommended that other specialists be brought in where they have expertise not shared by paediatric colleagues and expects the Senior Manager to endorse this approach.

(3) In this case Thomas was transferred to hospital by his mother. Although he suffered no ill effects from this the experts agreed that such a transfer should have been undertaken by ambulance. The Coroner suggests this should be the standard approach.

(4) The expert recommends a "stress testing of ward management" through a clinical scenario simulation of emergencies within ward areas. This could also test how to improve communication during times of evolving emergencies. Given the difficulties in internal communication as revealed by this inquest the Coroner suggests this would be a valuable exercise.

ACTION SHOULD BE TAKEN

In my opinion action should be taken to prevent future deaths and I believe that (1) The Clinical Director, Cwm Taf Board, Out of Hours Service, (2) The National Institute for Health and Clinical Excellence, (3) Prince Charles Hospital, Merthyr Tydfil and (4) The Senior Manager for Investigations and Quality Improvement for Cwm Taf University Health Board 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 9th September 2014. 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] (Thomas' parents) I have also sent it to the following persons: Chief Medical Examiner for University Hospital of Wales 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	**9th July 2014** **C J Woolley** **Assistant Coroner, Cardiff and the Vale of Glamorgan**