



WORCESTERSHIRE CORONER AREA

PREVENTION OF FUTURE DEATHS REPORT DAVID ERNEST MASON

HM ASSISTANT CORONER
NICHOLAS H LANE

	<p>REGULATION 28 REPORT TO PREVENT FUTURE DEATHS</p> <p>THIS REPORT IS BEING SENT TO:</p> <ol style="list-style-type: none">1) Chief Executive, Worcestershire Acute Hospitals NHS Trust (WAHT)2) Chief Executive, West Midlands Ambulance Service University NHS Foundation Trust (WMAS)3) Executive Officer, Association of Ambulance Chief Executives (AACE)4) Chief Executive, National Institute for Health and Care Excellence (NICE)5) Chair, Clinical Committee, Society for Endocrinology6) Chief Executive, NHS England
1	<p>CORONER</p> <p>I am Nicholas H Lane, HM Assistant Coroner for Worcestershire</p>
2	<p>CORONER'S LEGAL POWERS</p> <p>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.</p> <p>http://www.legislation.gov.uk/ukpga/2009/25/schedule/5/paragraph/7 http://www.legislation.gov.uk/uksi/2013/1629/part/7/made</p>
3	<p>INVESTIGATION and INQUEST</p> <p>On 13 March 2022 an investigation was commenced into the death of David Ernest Mason. The investigation concluded at the end of the inquest hearing on 12 April 2023 at Stourport Coroner's Court, in the Worcestershire Coroner Area. The conclusion (a 'narrative' conclusion in Box 4 of the Record of Inquest) was determined as follows:</p> <p><i>'David Mason died as a result of an acute adrenal crisis, caused by Addison's disease and precipitated by the trauma of a fall and fractured hip. Insufficient administration of steroid medication by medical professionals was a contributory factor in David's death.'</i></p>
4	<p>CIRCUMSTANCES OF THE DEATH</p> <p>David Mason was an 82-year-old gentleman with significant medical co-morbidities, including a known diagnosis of Addison's disease. By March 2022, Mr Mason was becoming more frail and, owing to mobility issues, was suffering from recurrent falls. Mr Mason fell in his bedroom on the evening of 5 March 2022. An ambulance was called but it took a number of hours until paramedics arrived and transported Mr Mason to hospital. Once there, Mr Mason was diagnosed with a fractured hip, as a result of the trauma suffered when he fell.</p> <p>Mr Mason did not present as acutely medically unwell (as opposed to him having an obvious requirement for trauma assessment, followed by surgery) at any time after the fall or whilst in hospital and no clinician involved in his care appreciated that, without additional steroid medication, he was at high risk of developing an acute adrenal crisis, owing to his primary adrenal insufficiency (Addison's disease) and the trauma and physiological stress that he had suffered following the fall. In the early hours of 7 March 2022,</p>

	<p>whilst in a bed on a surgical trauma ward, Mr Mason was found breathing abnormally and was obviously acutely unwell. Mr Mason went into cardiac arrest shortly after and died. Mr Mason had suffered an acute adrenal crisis, which was the cause of his sudden and unexpected deterioration and death.</p> <p>Following medical evidence heard at the inquest, the cause of death was determined as:</p> <p><i>1a – acute adrenal crisis (on a background of a known diagnosis of Addison’s disease)</i> <i>1b – fractured neck of femur following a fall</i> <i>2 – frailty</i></p> <p>Box 3 of the Record of Inquest (which answered how, when and where Mr Mason came by his death) was determined as:</p> <p><i>‘David Mason had been unwell for a number of years, including suffering from primary steroid insufficiency (Addison’s Disease), a condition which required the administration of replacement steroid medication. Owing to significant frailty, David had fallen over at home in the evening of 5 March 2022, suffering a fractured hip (diagnosed in hospital on 6 May 2022, following x-ray). An ambulance was not available for a number of hours owing to demand and resource factors, however paramedics attended on David at home and conveyed him to hospital early in the morning on 6 March 2022. No required additional steroid replacement therapy was administered to David by paramedics. In hospital, no required additional steroid replacement therapy was administered to David by clinicians over a period of approximately 19 hours, which led to David’s sudden deterioration and death in the early hours of 7 March 2022 at the Worcestershire Royal Hospital.’</i></p>
5	<p><u>CORONER’S CONCERNS</u></p> <p>During the course of the investigation and 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.</p> <p>The MATTERS OF CONCERN are as follows (numbered separately in respect of each organisation, who are required to respond to each of the numbered paragraphs relating to them):</p> <p><u>Worcestershire Acute Hospitals NHS Trust (WAHT)</u></p> <ol style="list-style-type: none"> 1) Evidence heard at the inquest demonstrated that no clinician involved in providing care to Mr Mason (in both the emergency department and the surgical trauma department) appreciated that, as someone who had Addison’s disease and who had suffered the trauma of a fall, long lie and a fractured hip, Mr Mason required additional replacement steroid therapy, to prevent the development of an acute adrenal crisis. 2) The relevant internal Trust guideline disclosed by WAHT (‘Guideline for the management of adrenal insufficiency in adults’) very much focuses on presentations of acute adrenal crisis and procedure-based/perioperative situations, and (save for a small section containing ‘sick day’ rules, which are on the same page as advice to patients and families for long-term condition management) does not emphasise that replacement steroid therapy must be given to patients with adrenal insufficiency who have suffered trauma or physiological stress. 3) Evidence heard at the inquest (relating to the trauma/surgical department at WAHT) suggested that it is likely that many clinicians (including at consultant level) do not have a well-developed understanding of adrenal insufficiency and the crucial importance of administering replacement steroid therapy to patients who, although not presenting as acutely unwell, are at risk of suffering an adrenal crisis. 4) Evidence heard at the inquest confirmed that no prompts exist on emergency department/clerking documentation at WAHT for clinicians to check whether a patient suffers from adrenal insufficiency. Although the inquest was informed that changes have been made in

this regard by WAHT to some peri-operative patient documentation, the National Patient Safety Alert (NatPSA/2020/005/NHSPS) requires acute trusts to review admission/assessment/clerking documentation to ensure such prompts are included.

West Midlands Ambulance Service University NHS Foundation Trust (WMAS)

- 1) Evidence heard at the inquest demonstrated that no clinician involved in providing pre-hospital care to Mr Mason appreciated that, as someone who had Addison's disease and who had suffered the trauma of a fall, long lie and a fractured hip, Mr Mason required additional replacement steroid therapy, to prevent the development of an acute adrenal crisis.
- 2) Evidence heard at the inquest demonstrated that when information is given to an EOC (emergency operations centre) call-handler at WMAS that a patient has a diagnosis of Addison's disease and has suffered trauma, the call-handler question pathway (which, the inquest heard, is based on a computer-programmed logarithm (designed by NHS Digital, now part of NHS England)) does not go on to consider the risk of adrenal insufficiency and the requirement for replacement steroid therapy to commence immediately. This appears to be potentially relevant both in respect of whether time-critical steroid treatment may be required (and thus for a holistic consideration of call categorisation) and safety-netting advice that should be given (for additional doses of steroid medication to be taken by the patient, prior to any ambulance arrival). Safety-netting advice takes on even greater significance in the current climate, where healthcare demand and pressures on capacity are often causing severe delays in ambulance attendance. Evidence heard at the inquest confirmed that the position is different if information is given that the patient is medically unwell, particularly if concerns of a cardiac nature are present or adrenal insufficiency may be the direct cause of current illness, with the call-handler question pathway then going on to consider the risk of adrenal insufficiency. Currently there is a cohort of patients (which included Mr Mason) whose risk of developing an adrenal crisis is not being considered by call-handlers at WMAS.
- 3) The Serious Incident investigation report disclosed by WMAS did not make any recommendations in respect of improving clinicians' knowledge of adrenal insufficiency and the importance of considering administering replacement steroid therapy.
- 4) Evidence heard at the inquest confirmed that the investigation lead at WMAS had not been shown the inquest disclosure bundle, which had been disclosed to the legal department at WMAS a number of months prior to the inquest. This bundle contained relevant evidence from a different internal investigation (by WAHT), suggesting that the likely cause of Mr Mason's deterioration and death was an acute adrenal crisis and not, as had been considered when a coronial referral had initially been made, hyperkalaemia and rhabdomyolysis (following a fall and long lie). This lack of internal co-ordination within WMAS prevented full internal investigation and learning in respect of the care given to Mr Mason by WMAS. The legal department of WMAS did not attend the inquest (it was their right not to) nor were WMAS legally represented by an external solicitor or barrister (it was their right not to be). Greater engagement and participation in the coronial investigation and inquest process would improve the Trust's ability to learn from patient-safety incidents and enable the legal, governance and safety departments to better co-ordinate such investigations.

Association of Ambulance Chief Executives (AAACE)

- 1) The relevant JRCALC (Joint Royal Colleges Ambulance Liaison Committee) guideline for steroid dependent patients (which was disclosed by WMAS as part of inquest proceedings) places very little emphasis on the importance of administering steroid replacement therapy to patients who, although not presenting as acutely unwell, are at risk of developing an acute adrenal crisis, owing to them suffering from trauma or physiological stress. The relevant section (contained in bullet point 2 of the 'administer hydrocortisone' box) is itself a sub-section of an 'emergencies in adults and children' box and therefore is not able to be easily differentiated from treatment required for patients who are already established as being in an emergency situation. Further, it is stated that

patients who are 'unwell' require hydrocortisone to prevent an adrenal crisis – it is not sufficiently clear that patients who may have suffered trauma or physiological stress also require steroid treatment, to prevent an adrenal crisis. To lend weight to this latter concern, evidence heard at the inquest suggested that the clinicians involved in treating Mr Mason considered 'unwell' in this context to mean obviously medically unwell, such as having signs of infection or sepsis, or gastrointestinal symptoms, such as diarrhoea. There was no evidence of any understanding that this definition encompasses patients who have suffered trauma or physiological stress.

- 2) Evidence heard at the inquest demonstrated that when information is given to an EOC (emergency operations centre) call-handler at WMAS that a patient has a diagnosis of Addison's disease and has suffered trauma, the call-handler question pathway (which, the inquest heard, is based on a computer-programmed logarithm (designed by NHS Digital, now part of NHS England)) does not go on to consider the risk of adrenal insufficiency and the requirement for replacement steroid therapy to commence immediately. This appears to be potentially relevant both in respect of whether time-critical medical treatment may be required (and thus for a holistic consideration of call categorisation) and safety-netting advice that should be given (for additional doses of steroid medication to be taken by the patient, prior to any ambulance arrival). Safety-netting advice takes on even greater significance in the current climate, where healthcare demand and pressures on capacity are often causing severe delays in ambulance attendance. Evidence heard at the inquest confirmed that the position is different if information is given that the patient is medically unwell, particularly if concerns of a cardiac nature are present or adrenal insufficiency may be the direct cause of current illness, with the call-handler question pathway then going on to consider the risk of adrenal insufficiency. The pathway and programmed-logarithm should be looked at, as currently there is a cohort of patients (which included Mr Mason) whose risk of developing an adrenal crisis is not able to be considered by ambulance service control centres.

National Institute for Health and Care Excellence (NICE)

- 1) The relevant treatment guideline disclosed by WAHT ('Guideline for the management of adrenal insufficiency in adults') very much focuses on presentations of acute adrenal crisis and procedure-based/perioperative situations, and (save for a small section containing 'sick day' rules) does not emphasise that replacement steroid therapy must be given to patients with adrenal insufficiency who have suffered trauma or physiological stress. Evidence heard at the inquest suggested that this internal Trust guideline (and, one assumes, other such guidelines in other acute trusts in the country) is based upon various pieces of national guidance. It is my understanding that a new guideline in respect of managing the treatment of adrenal insufficiency is currently being developed by NICE. Consideration of these matters should be included as part of guideline development.

Society for Endocrinology (Clinical Committee)

- 1) The relevant treatment guideline disclosed by WAHT ('Guideline for the management of adrenal insufficiency in adults') very much focuses on presentations of acute adrenal crisis and procedure-based/perioperative situations, and (save for a small section containing 'sick day' rules) does not emphasise that replacement steroid therapy must be given to patients with adrenal insufficiency who have suffered trauma or physiological stress. Evidence heard at the inquest suggested that this internal Trust guideline (and, one assumes, other such guidelines in other acute trusts in the country) is based upon various pieces of national guidance. The clinical committee of the Society for Endocrinology has previously been involved in providing guidance in respect of managing patients with adrenal insufficiency. The Society's input going forward is important in respect of considering any future NICE or JRCALC guidelines regarding the management of adrenal insufficiency.
- 2) The relevant JRCALC (Joint Royal Colleges Ambulance Liaison Committee) guideline for steroid dependent patients (which was disclosed by WMAS as part of inquest proceedings) place very little emphasis on the importance of administering steroid replacement therapy to patients who,

although not presenting as acutely unwell, are at risk of developing an acute adrenal crisis owing to them suffering from trauma or physiological stress. The relevant section (contained in bullet point 2 of the ‘administer hydrocortisone’ box) is itself a sub-section of an ‘emergencies in adults and children’ box and therefore is not able to be easily differentiated from treatment required for patients who are already established as being in an emergency situation. Further, it is stated that patients who are ‘unwell’ require hydrocortisone to prevent an adrenal crisis – it is not sufficiently clear that patients who may have suffered trauma or physiological stress also require steroid treatment, to prevent an adrenal crisis. To lend weight to this latter concern, evidence heard at the inquest suggested that some of the clinicians involved in treating Mr Mason considered ‘unwell’ in this context to mean obviously medically unwell, such as having signs of infection or sepsis, or gastro-intestinal symptoms, such as diarrhoea. There was no evidence of any understanding that this definition encompasses patients who have suffered trauma or physiological stress. The Society’s input going forward is important in respect of considering any future NICE or JRCALC guidelines regarding the management of adrenal insufficiency.

NHS England

- 1) Evidence heard at the inquest demonstrated that when information is given to an EOC (emergency operations centre) call-handler at WMAS that a patient has a diagnosis of Addison’s disease and has suffered trauma, the call-handler question pathway (which, the inquest heard, is based on a computer-programmed logarithm (designed by NHS Digital, now part of NHS England)) does not go on to consider the risk of adrenal insufficiency and the requirement for replacement steroid therapy to commence immediately. This appears to be potentially relevant both in respect of whether time-critical medical treatment may be required (and thus for a holistic consideration of call categorisation) and safety-netting advice that should be given (for additional doses of steroid medication to be taken by the patient, prior to any ambulance arrival). Safety-netting advice takes on even greater significance in the current climate, where healthcare demand and pressures on capacity are often causing severe delays in ambulance attendance. Evidence heard at the inquest confirmed that the position is different if information is given that the patient is medically unwell, particularly if concerns of a cardiac nature are present or adrenal insufficiency may be the direct cause of current illness, with the call-handler question pathway then going on to consider the risk of adrenal insufficiency. The pathway and programmed-logarithm should be looked at, as currently it appears that there is a cohort of patients (which included Mr Mason) whose risk of developing an adrenal crisis is not able to be considered by ambulance service control centres.

- 2) Evidence heard at the inquest confirmed that no prompts exist on emergency department/clerking documentation at WAHT for clinicians to check whether a patient suffers from adrenal insufficiency. Although the inquest was informed that changes have been made in this regard by WAHT to some peri-operative patient documentation, the National Patient Safety Alert (NatPSA/2020/005/NHSPS) requires acute trusts to review admission/assessment/clerking documentation to ensure such prompts are included. It is not clear what follow-up action is taken by NHS England in relation to monitoring of compliance by NHS Trusts following National Patient Safety Alerts being issued.

6	<p>ACTION SHOULD BE TAKEN</p> <p>In my opinion action should be taken to prevent future deaths and I believe your organisations have the power to take such action.</p>
7	<p>YOUR RESPONSE</p> <p>Your organisation is under a duty to respond to this report within 56 days of the date of this report, namely by 14 June 2023. I, the coroner, may extend the period.</p> <p>If any request is to be made for this period to be extended, please ensure this is made in writing at least 7 days prior to the above required response date.</p>

	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.
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8	<p>COPIES and PUBLICATION</p> <p>I have sent a copy of my report to the family of David Mason and the Chief Coroner.</p> <p>I am also under a duty to send the Chief Coroner a copy of your response.</p> <p>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.</p>
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9	<p>Date: 19 April 2023</p> <p>Signature: </p> <p>Nicholas H Lane HM Assistant Coroner for Worcestershire</p>
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