West Midlands Ambulance Service
University NHS Foundation Trust

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Mr Westerman
Assistant Coroner for Shropshire, Telford & Wrekin
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13 May 2026

Dear Mr Westerman

Re: Wayne Austin

Thank you for your email dated 10 April 2026 attaching your Regulation 28 Report.

On behalf of West Midlands Ambulance Service (WMAS), I am sorry that you have had to raise concerns following the inquest of Mr Austin. May I please take this opportunity to pass on my sincere condolences to the family of Mr Austin. I am deeply saddened by this case.

Please see our response to your concerns.

On review of the PFD, including Concern 3, it has been noted that there are some instances where drug dose units appear to be expressed using the abbreviation "mg". In clinical practice, this denotes milligrams, whereas Naloxone Hydrochloride doses in this context are administered in micrograms.

To promote clarity and avoid any potential misunderstanding, the response therefore refers to the dose of Naloxone Hydrochloride using the written term "micrograms" rather than abbreviations.

Additionally, Section 4 of the PFD refers to a "maximum of 20,000 mg" of Naloxone Hydrochloride. This does not align with current JRCALC guidance. National guidance for Naloxone Hydrochloride in cardiac arrest describes a maximum cumulative dose of 10,000 micrograms. The reference within the PFD therefore appears to represent an incorrect expression of both the unit and the dose.

Concern 1

Difficulties in locating the appropriate tab for cardiac arrest (where opioid toxicity is the likely cause) on the JRCALC app for Naloxone meant it was missed and not applied

Response

The Naloxone Hydrochloride guidance within the JRCALC PLUS App is authored by JRCALC and digitally formatted and published by Class Publishing. WMAS do not have the ability to customise the format, layout, or navigation structure of the JRCALC PLUS App. This includes the location of drugs, the tabs used to access them, and the presentation of reference tables. These design and structural elements are determined centrally by JRCALC and Class Publishing and are applied consistently across all subscribing ambulance services.

Within the application, Naloxone Hydrochloride is accessed via the "Meds" tab and then by selecting the "Naloxone Hydrochloride" monograph. Within this section, the administration guidance is available, including five quick reference dosage tables. One of these tables specifically relates to Cardiac Arrest and provides dosing guidance for situations where opioid toxicity is suspected to be the underlying cause of the arrest.

The difficulty described therefore reflects a usability and navigation challenge within a nationally provided clinical application. The relevant clinical information was available within the app at the time of the incident but was not accessed due to difficulty locating the appropriate section in a time-critical, high-pressure cardiac arrest resuscitation.

WMAS is aware that Class Publishing is developing an "emergency mode" feature within the JRCALC PLUS App. This functionality is intended to present only key and critical information to clinicians during true life-threatening emergencies and may help mitigate similar usability challenges in the future.

We believe that resolving this concern sits with JRCALC / Class Publishing as they are responsible for the format of the guidelines and the JRCLALC Plus App.

Concern 2

Inability of attending paramedics to comply with the guidelines for Respiratory arrest/depression due to other competing tasks and therefore certainly a complete inability to comply with the guidelines for cardiac arrest (where opioid toxicity is the likely cause) making them potentially unrealistic.

Response

The Naloxone Hydrochloride administration guideline within JRCALC for cardiac arrest, where opioid toxicity is considered the likely underlying cause, recommends an initial dose of 400 micrograms administered intravenously or intraosseously, followed by second and subsequent doses of 800 micrograms every minute to a maximum cumulative dose of 10,000 micrograms. This equates to the preparation and administration of up to 25 individual 400 microgram ampoules of the currently available Naloxone Hydrochloride presentation.

WMAS recognises that, in the context of an active cardiac arrest, achieving this dosing regimen is not realistically achievable. Cardiac arrest management requires the simultaneous delivery of multiple time-critical interventions, including high-quality CPR, airway management, ventilation, rhythm recognition, defibrillation where appropriate, vascular access, drug preparation and administration, and team leadership. Unless multiple additional clinicians are present with a designated role focused exclusively on the repeated preparation, checking, and administration of Naloxone Hydrochloride, compliance with this aspect of the guideline is not practicable during resuscitation.

As a result, while the guideline exists, full adherence in real-world cardiac arrest conditions is constrained by human factors, task saturation, and competing clinical priorities. This does not reflect a lack of knowledge or intention to follow guidance, but rather the realities of delivering resuscitation care to a critically unwell patient in cardiac arrest.

In addition, WMAS notes ongoing clinical uncertainty regarding the pharmacological effectiveness of Naloxone Hydrochloride once cardiac arrest has occurred. There is limited evidence in the literature demonstrating benefit from Naloxone Hydrochloride administration in established opioid-induced cardiac arrest, particularly once circulation has ceased. This further contributes to the challenge of prioritising repeated Naloxone Hydrochloride dosing alongside universally accepted resuscitation interventions. The WMAS Medical Director, in October 2025, provided an update at the WMAS Learning Review Group meeting, insofar as JRCALC were completing a further review of the Naloxone Hydrochloride guidance.

It is also acknowledged that whilst the JRCALC guidelines state that Naloxone Hydrochloride may be considered where opioid toxicity is strongly suspected, its administration should not delay other critical interventions. This caveat is particularly relevant in cardiac arrest, where the immediate focus must remain on high-quality resuscitation and restoration of circulation.

Overall, this issue reflects a disconnect between guideline intent and what is operationally achievable during cardiac arrest resuscitation, rather than an unreasonable failure to follow guidance. WMAS considers that, in this context, the guideline may not be fully realistic for frontline application and should be interpreted pragmatically, with patient-centred prioritisation of core life-saving interventions. The WMAS Medical Director has raised these points with JRCALC, and it is our understanding that the Naloxone Hydrochloride guidance will be reviewed.

We believe that resolving this concern sits with JRCALC / Class Publishing as they are responsible for the guidelines.

Concern 3

WMAS ambulances only carry a box of 10 Naloxone 400mg vials per ambulance which means that one ambulance attending a situation such as Wayne's would be insufficient to deal with the circumstances, as would two ambulances. It would mean that three ambulances are required to comply with cardiac arrest (where opioid toxicity is the likely cause).

Response

WMAS acknowledges that, based on the JRCALC cardiac arrest guidance, where opioid toxicity is considered the likely cause, the cumulative Naloxone Hydrochloride dose required would exceed the stock carried on a single ambulance, and a second ambulance. However, WMAS does not consider this to represent a realistic or operationally appropriate benchmark against which the WMAS Drug Load List should be assessed.

In established cardiac arrest, the efficacy of Naloxone Hydrochloride is inherently limited. Naloxone Hydrochloride exerts its effect through central antagonism of opioid receptors, primarily within the brainstem. In cardiac arrest, systemic circulation ceases, and drug distribution to central receptors is therefore severely impaired. Even with high-quality chest compressions, cerebral perfusion remains markedly reduced, limiting the likelihood that Naloxone Hydrochloride administered intravenously or intraosseously will reach its target receptors in meaningful concentrations.

As a result, the expected clinical benefit of Naloxone Hydrochloride dosing in cardiac arrest is low, and this has been reflected in the limited evidence base demonstrating benefit in opioid-induced cardiac arrest once circulation has ceased. This significantly weakens the rationale for carrying large quantities of Naloxone Hydrochloride specifically to meet theoretical maximum doses outlined in JRCALC guidance.

There are also practical considerations related to medicine supply resilience. Naloxone Hydrochloride has previously been subject to national supply constraints. Increasing carriage to 25 ampoules per ambulance, alongside maintaining sufficient reserve stock to support fleet-wide replenishment, would present a significant logistical and financial burden. When weighed against the limited and uncertain benefit of Naloxone Hydrochloride in cardiac arrest, this does not represent a proportionate risk-benefit or cost-benefit intervention.

WMAS has undertaken formal clinical review of this issue. An initial review of Naloxone Hydrochloride quantities was completed in May 2025 by the WMAS Consultant Paramedic for Emergency Care, followed by a further review in September 2025 by the senior clinical team. The latter specifically considering the cardiac arrest guidance where opioid overdose is suspected. The consensus from the latest review was that the current Naloxone Hydrochloride quantities carried on the WMAS Load List were appropriate.

This assessment was informed by several mitigating factors, including the routine dispatch of additional resources to cardiac arrest calls, the limited evidential value of Naloxone Hydrochloride in established cardiac arrest, and the operational impracticality of delivering repeated high-dose Naloxone Hydrochloride during active resuscitation. Fundamentally, it was concluded that the JRCALC cardiac arrest Naloxone Hydrochloride guidance is not practically deliverable or clinically effective. The current WMAS Load List of 10 Naloxone Hydrochloride ampoules on an ambulance is aligned to the management of respiratory

arrest or respiratory depression guidance; where the maximum dose is 4,000 micrograms which is 10 administrations of 400 micrograms Naloxone Hydrochloride every 3 minutes.

WMAS believe that the current JRCALC Naloxone Hydrochloride guideline requires amendment, either due to the practical challenges associated with compliance in the pre-hospital cardiac arrest setting and/or a lack of robust pharmacological evidence to support its effectiveness as currently described. The WMAS Medical Director has raised these points with JRCALC, and it is our understanding that the Naloxone Hydrochloride guidance is currently being reviewed. Given this, our intention is to await clarification from JRCALC on these changes.

I hope this response provides you with the appropriate level of assurance that as a Trust we have dealt with the concerns highlighted within your report and the extent to which we take patient safety very seriously.

May I once again please pass on my sincere condolences to the family of Mr Austin.

If you require any further assistance, please do not hesitate contact me.

Your sincerely,

Service Transformation & Patient Safety Director