

# EMRTS Out of Hospital Cardiac Arrest Recording: How Does It Compare to Utstein and Other International Registries?

Jared Charlton-Webb<sup>1\*</sup>, Dr David Rawlinson<sup>2</sup>

<sup>1</sup>Swansea University Medical School

<sup>2</sup>Consultant, Emergency Medical Retrieval and Transfer Service (EMRTS Wales)

\*Corresponding author

The Emergency Medical Retrieval and Transfer Service in Wales (EMRTS Wales) offers Consultant and Critical-Care Practitioner led care throughout Wales. Launched in 2015 the service has grown to include four aircraft and multiple rapid response cars to serve the Welsh population. As of 2021 they have started undertaking air operations at night. The main roles for EMRTS is in direct emergency response to critically unwell medical and trauma patients, and in inter-hospital transfers for unwell patients of all ages.

The Utstein criteria are guidelines for reporting cardiac arrests, first proposed in 1991 with the name deriving from Utstein Abbey in Norway where a conference was held in 1990. The criteria were developed to allow for uniform comparison between different registries. The criteria were revised in 2015.

EMRTS incident reporting database was reviewed to compare the data fields to the Utstein criteria, to see whether the service met international guidelines. Additionally, the EMRTS database was compared to 13 international cardiac arrest registries. Lastly, the EMRTS database was reviewed to see whether termination of resuscitation (ToR) decision reporting could be improved.

On review of the EMRTS data fields, there is room for improvement to meet the Utstein criteria. It was noted that information about bystander CPR and AED use wasn't recorded, information regarding the number of defibrillations wasn't recorded, and post event outcome wasn't recorded in detail (e.g. cause of death, patient reported outcome measures, quality of life measurements). Additionally, there is a need to have more specific data fields for ToR decisions.

In comparison to the international registries, no registry fully met the criteria, with only one coming close. A lot of registries did not report outcome of the patient, nor the investigations undertaken during resuscitation, or information about the patient's comorbidities.

From here further discussion about the EMRTS database will be undertaken to see what can be altered or added to help meet the criteria, additionally sections on ToR decisions will be added. The database will be reviewed a year after change to see progress.

