



# RAID

# ANNUAL REPORT

AUGUST 2020-2021





## INTRODUCTION

The EAAA Research Audit Innovation and Development (RAID) group was established in July 2020 to focus EAAA research and development activity under a single group, increase R&D output and ensure the charity's Research and Development 5 year strategy was realised. The first meeting of RAID was held in August 2020 with ongoing monthly meetings throughout the year. The first year of RAID has been very busy, with much activity as described below. The achievements of the RAID group would not have been possible without the appointment of Kate Lachowycz as the EAAA R&D lead, who has been instrumental in converting the discussions at RAID into practical R&D output in support of all charity operations. Looking to 2021 RAID are planning our first interventional study, a national Pre-Hospital emergency Medicine (PHEM), R&D conference and continuing to increase our output of evidence to support the work of EAAA on behalf of the people of the East of England.

A handwritten signature in black ink, appearing to read 'Robert M. G.', is positioned to the left of the text.

FRCEM FIMC MA

Chair RAID

East Anglian Air Ambulance

## RAID OBJECTIVES 2020-2021

The Objectives of RAID 2020-2021 are:

1. To increase the published evidence base for PHEM
2. To initiate interventional research studies looking at PHEM interventions which decrease mortality
3. To increase the published evidence base for aftercare of patients and their families
4. To develop a national reputation and professorial research unit delivering PHEM R&D
5. To ensure all EAAA R&D aligns with the charities core values (RAISE)



# PERFORMANCE AGAINST OUR OBJECTIVES

## 1. To increase the published evidence base for PHEM

This year RAID have significantly increased the amount of peer reviewed journal publications produced. These have been given 'open source' funding, support by EAAA, to reach as wide an audience as possible within the national PHEM community.

- Published research list 2020-2021:

RAID have published two peer review papers in medical journals this year looking at End Tidal CO<sub>2</sub> in intubated patients. RAID have one paper on HEMS attendance to self harm patients, during the first COVID-19 lockdown, submitted awaiting final approval for publication.

- In development/data scrutiny phase:

DSTL/MOD - National Wearable Tech Study

RAID have partnered with the Ministry of Defence and Defence Science and Technology Laboratory (DSTL) to participate as one of only five national trial sites for a study attempting to predict illness using technology. This externally funded study will involve EAAA volunteers wearing novel technology and undergoing some testing in the hope of being able to predict illness, prior to symptoms in patients who become unwell, using wearable tech.

RSI data set

EAAA, in partnership with EHAAT and Magpas, have developed a regional dataset containing approximately 1100 rapid sequence intubations undertaken over 5 years of HEMS missions. All the associated data fields are present, from time of day through to drug dosages and clinical observation up to 10 minutes after intubation. This large dataset is a unique national resource and will allow all three charities to produce many research publications to inform best practice. Watch this space.



## Tasking data set

In partnership with EEAAT, EAAA have developed a large 5 year data set containing all of the ambulance service data for jobs our HEMS teams deploy on. This data set should provide a valuable resource to allow scrutiny over the best way to deploy regional HEMS teams to the right patients at the right times. Again, watch this space.

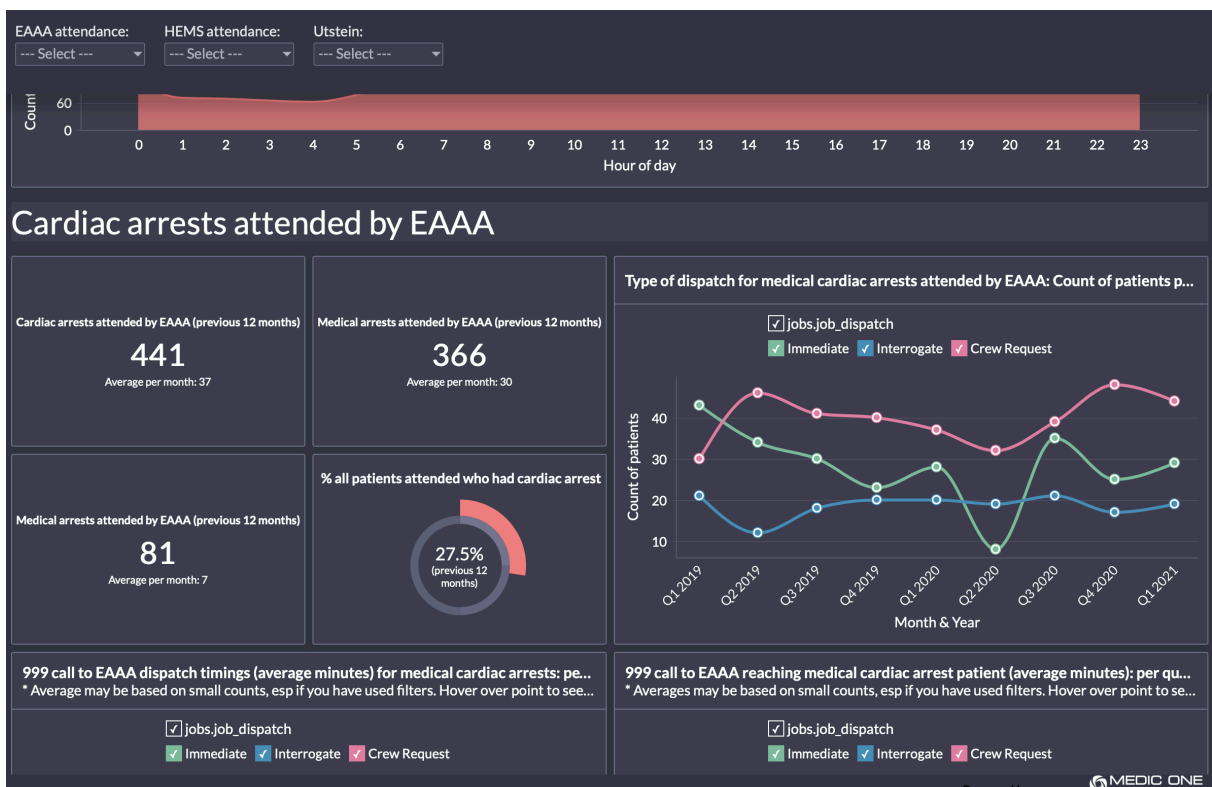
## Benefit of HEMS

Currently RAID are undertaking a service improvement project to understand the benefit of HEMS attendance for patients. This is a clinician completed questionnaire, after each tasking, in terms of a subjective view of benefit to the patient from EAAA attendance.

- Audit/Quality improvement dashboards:

RAID have produced and published a series of dashboards to show our performance against key performance indicators in critical patient safety interventions. These dashboards are available for EAAA staff to scrutinise and identify areas of practise that are good, or that require scrutiny. The three dashboards produced relate to out of hospital cardiac arrest, Airway interventions and the care of head injuries (under development)

## OOHCA:



## Airway interventions:

### Airways dashboard



## Airways dashboard

This dashboard shows a range of key indicators about intubations.

The charts of monthly indicators show the previous two years up to the last month. They automatically update on the 1st of each new month.

The charts of quarterly indicators show the previous eight quarters based on calendar years. They update on the 1st of each new quarter.

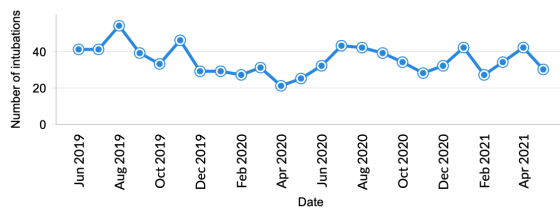
## Summary

### Number of intubations per month

All intubations. Choose filter to view RSI (=1) or non drug assisted intubation (=0)

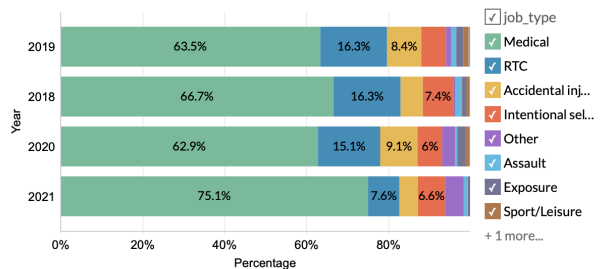
RSI (1 = yes):

All



### Intubations by Job type (yearly summary)

EAAA financial year: July - June. Current year (2021) is year to date.



Powered by

Head Injuries: - Under development

## 2. To initiate interventional research studies looking at interventions which decrease mortality

The RAID group have partnered with Barts NHS trust to develop a feasibility trial of Emergency REBOA in Cardiac Arrest (*ERICA*). This trial is in the development phase and if successfully initiated will become the first UK use of Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) in Cardiac Arrest outside of hospital. The trial's objective is to provide evidence in support of a step change in the way UK pre-hospital services undertake out of hospital cardiac arrest for specific groups of patients. This trial is expected to start and finish in the next RAID reporting year. This trail requires



significant funding and applications are currently being explored by the EAAA fundraising team.

### **3. To increase the published evidence base for aftercare of patients and their families**

One of EAAA key R&D themes is aftercare and the support delivered to patients and families. There is little evidence base for this type of support and aftercare in medical literature.

- EAAA/EHAAT NIHR funded Head Injury Trial:

This year RAID have partnered with the Essex and Herts Air Ambulance (EHAAT) R&D team and Anglia Ruskin University to apply for NIHR funding for a trial looking at PHEM interventions in recovering Head injury patients. This funding was unsuccessful but alternatives are now being considered to deliver the trial by other routes.

- Patient Outcome Data:

Quality improvement in aftercare relies heavily on patient outcomes being available to the EAAA aftercare team. Getting patient outcome data to support aftercare and quality improvement is challenging for a non NHS provider such as EAAA. To better understand what happens to our patients RAID have supported initiatives with partner institutions to receive better outcome data. During this year RAID have initiated projects with NHS digital to:

- A. Receive NHS HES outcome data for all of our patients.
- B. Get roadside access via iPad to patient's Summary Care Record

These two projects, if successful, will revolutionise what we know about our patients, the success of the interventions we deliver and help our aftercare team better understand and support patient's and their families.

We have also reviewed our Trauma Audit Research Network (TARN) data up to 2019 which shows approximately 2 per hundred of trauma patients attended by EAAA unexpectedly survive their injuries.



#### **4. To develop a national reputation and professorial research unit delivering PHEM R&D**

The most prolific activity of RAID in this year has been in increasing our footprint, governance, staffing and administration. After the appointment of Kate Lachowycz as EAAA R&D lead, and the initiation of the RAID group, EAAA have:

- A. Developed a solid governance framework and reporting structure within EAAA, reporting to the Clinical Governance Steering Group.
- B. Appointed an R&D Senior Fellow with the Norfolk and Norwich University Hospital who is funded externally to provide 8 hours of R&D support to RAID every week.
- C. Employed and funded one WTE academic R&D fellow in support of RAID
- D. Secured a funded UEA Data scientist to assist in better refining our data capture and understanding of beat to beat patient observations in support of R&D
- E. Initiated R&D partnerships with EHAAT, UEA health partnership and EEAST in support of regional PHEM R&D with regular stakeholder meetings
- F. Planned to deliver a national, free PHEM conference in November 2021 focussed national PHEM data capture and improving patient outcomes

#### **5. To ensure all EAAA R&D aligns with the charities core values (RAISE)**

The highest priority of RAID is to align all EAAA R&D output with EAAA's core values. The RAID group's function is to support and deliver better care for all EAAA patients and their families through our activity. Reporting to the Clinical Governance Steering group, Clinical Governance Days, the EAAA trustees and the Patient Outcomes Group RAID have ensured all activity is scrutinised, understood and aligned with the executive team's vision for the charity. The activity of RAID during our first year has truly set EAAA on a course of evolution that should have a profound benefit for our patients.

List of EAAA RAID Group Members/attendees (this list does not include all EAAA and guest visitors who have attended over the last 12 months):

Kate Lachowycz (EAAA R&D Lead)



Dr Rob Major (RAID Chair)

Dr Ed Barnard

Dr Paul Rees

Dr Jon Barratt

Dr James Price

Dr Toby Edmonds

Dr Nat Lonsdale/Dr Jo Stevens (PHOTON representatives)

Andy Downes (EAAA Ops representative)

Stuart Wyle (fundraising representative)

Nikki Blake (MARCOMMS representative)

Rob Riches (EEAST representative)

Sam Sweeney (EAAA CCP)

Neil Flowers (EAA CCP)

Sue Gee (EAAA aftercare representative)

Angela Croucher (EEAST Paramedic)