

Integration of Pharmacists into the Severe Trauma and Resuscitation (STaR) team within the Emergency Department

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Background

Patient resuscitation is one of the most critical aspects of emergency care. The role of the Emergency Medicine Pharmacist (EMP) in the Severe Trauma and Resuscitation (STaR) team within the Emergency Department (ED) has long been established in the United States, however, this role is less well established within the Australian context¹⁻⁶.

EMP involvement in acute trauma and resuscitation responses has been shown to¹⁻⁶:

1. Improve time to medication administration
2. Reduce medication errors
3. Improve patient outcomes
4. Ensure medication guidelines are followed

This can be achieved by EMPs performing a variety of roles and responsibilities in resuscitation, which are well documented in the literature¹⁻⁶.

Aims

To audit the roles and responsibilities performed by the EMP during attendance at acute trauma and resuscitation events when integrated into the STaR team within the ED.

Methods

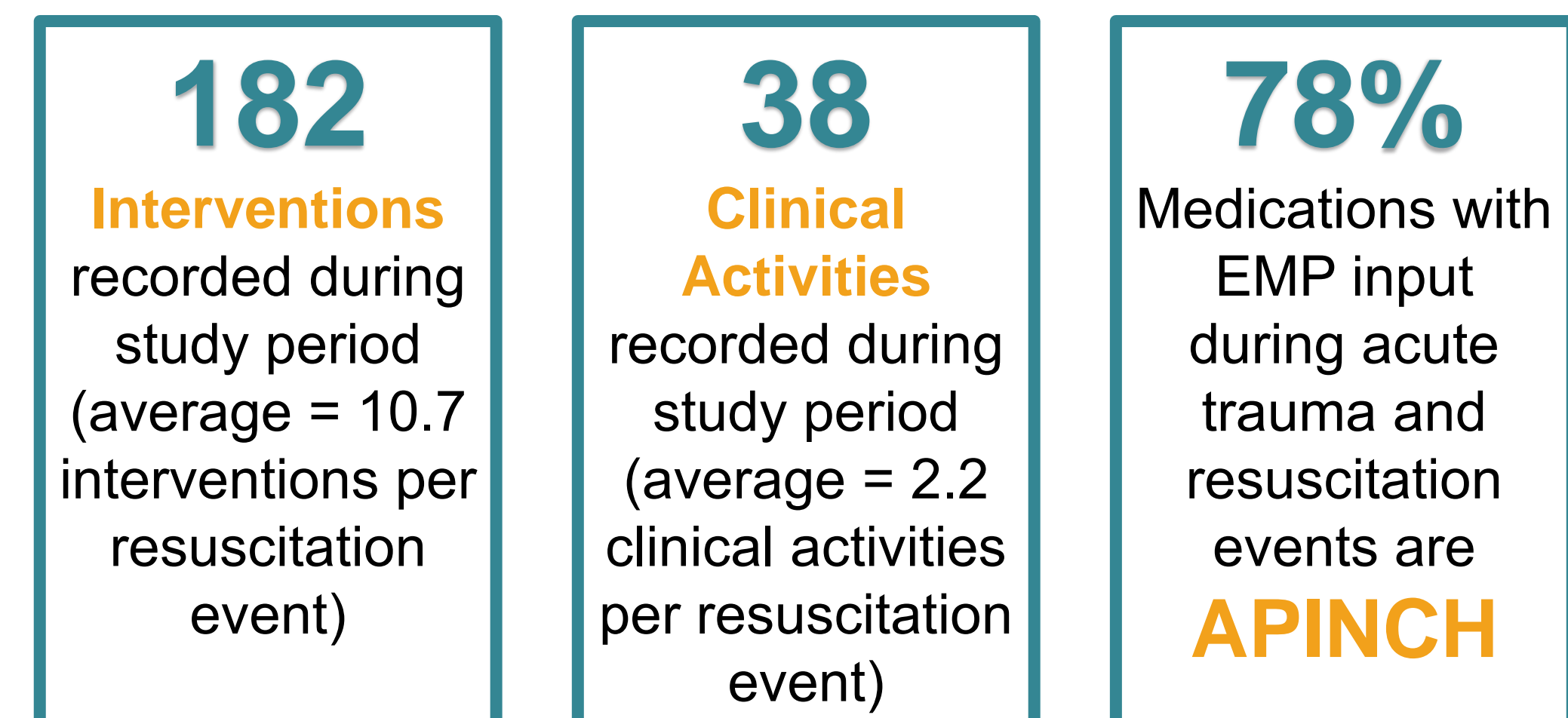
Two trained EMPs, one senior and one advanced, were integrated within the STaR team, and when present, attended acute trauma and resuscitation events. This audit took place in a large, regional ED / ED Short Stay Unit.

Following participation in the resuscitation event, the EMP documented time spent in the resuscitation, medication classes involved, and any interventions and clinical activities undertaken. Documentation occurred after the EMP attended each resuscitation even during the 6-week study period.

The roles and responsibilities were split into clinical activities which could occur once per the patient (e.g. rapid medication history, clinical consultation) and interventions which could occur multiple times per patient (e.g. calculating medication doses, preparing medications for immediate administration).

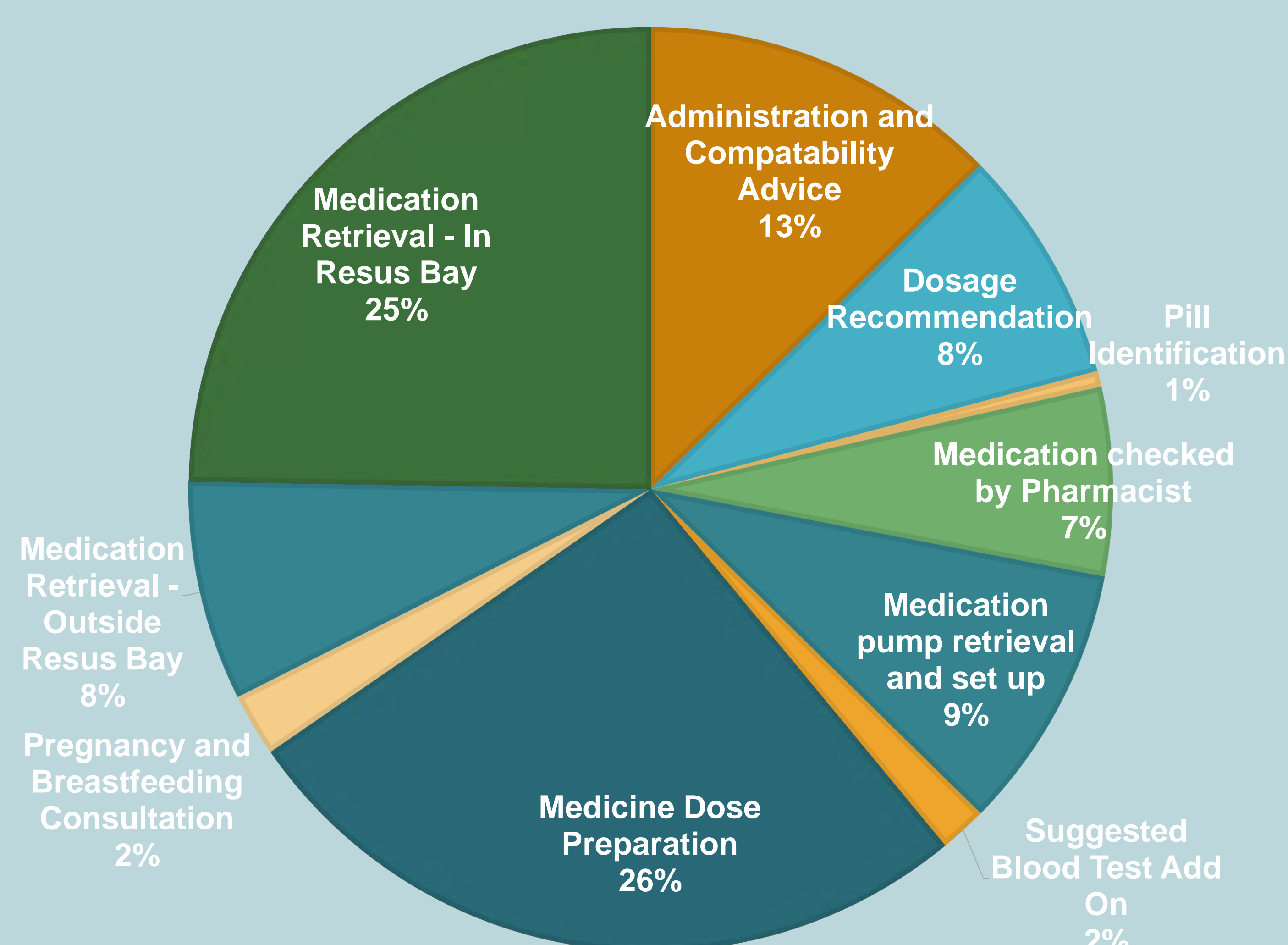
Results

- An average of 33 minutes was spent by the EMP in each acute trauma and resuscitation event
- 17 resuscitation events were attended during the study period



Results Continued

FIGURE 1: EMP INTERVENTIONS



76%
Patients received clinical consultation by EMP

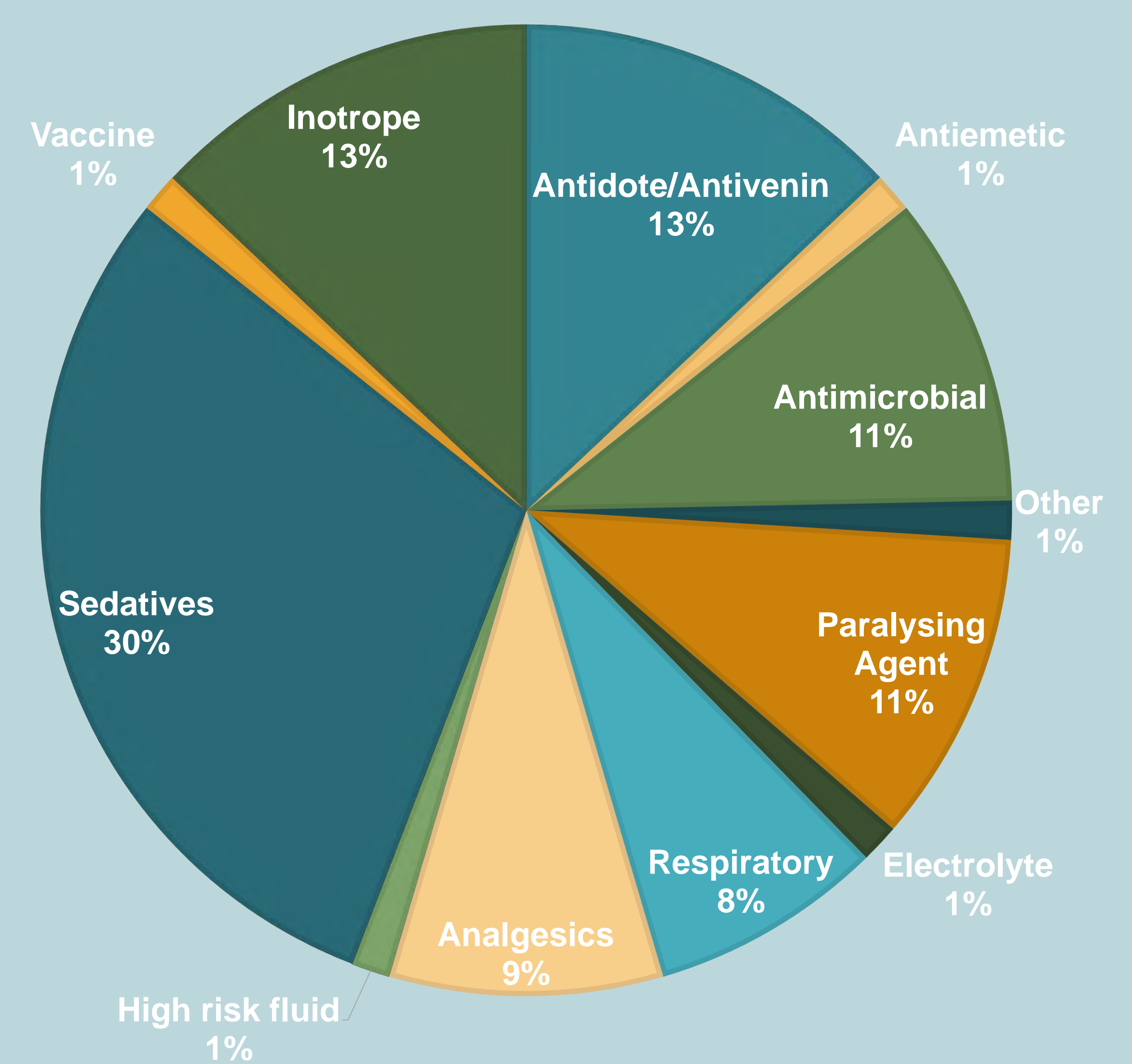
69%
Patients had medication documentation performed by EMP

53%
Patients had rapid medication history performed by EMP

35%
Had Medication Policy / Procedure Retrieved by EMP

FIGURE 2: EMP CLINICAL ACTIVITIES

FIGURE 3: MEDICATION CLASSES WITH EMP INPUT DURING ACUTE TRAUMA AND RESUSCITATION EVENTS



Discussion

The results of this audit highlight the breadth of EMP involvement within the STaR team.

Interventions often involved high-risk medicines, with 78% being APINCH medicines. The most common interventions undertaken by EMPs include the rapid retrieval of medications (both those which were readily available in the resuscitation setting and those which were required to be sourced from elsewhere) and preparation of these medicines, which may also impact time to dose and streamline team efficiency. Furthermore, EMPs frequently provided compatibility advice and dosage recommendations, which is of critical importance in the resuscitation setting when intravenous access can be limited.

EMPs within the STaR team require advanced knowledge of the specific pharmacology of medications commonly used in the resuscitation setting as well as the particulars of treating life-threatening injuries in the ED setting. These highly skilled clinicians can rapidly anticipate the medication needs of the patient based on their clinical picture, increasing the efficiency of the resus event.

EMPs have been integrated into the acute resuscitation team in the study hospital since 2011, however this is not yet considered standard practice within Australia. The results of this ongoing audit provide insight into the role of an EMP within this setting in an Australian context, and the associated potential impacts on patient care.

Future Directions

- To assess the impact of the addition of multiple senior pharmacists to the ED team as part of the CoMRADE model of care on participation in STaR calls.
- Comparing time to medication administration, rates of medication errors and adherence to medication guidelines between STaR calls involving the EMP and STaR calls where the EMP was not available

References

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