



# Evaluation of Air Ambulance Transport at St. Croix Regional Medical Center



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## Introduction

- The timely transfer of critically ill patients between hospitals may decrease mortality (1). Interfacility Helicopter Emergency Medical Services (HEMS) are used to decrease transfer times but are expensive.
- The decision for HEMS interfacility transfer is at provider discretion
- Based on observation, some providers at St Croix Regional Medical Center (SCRMC) think there is significant over triage and over utilization of HEMS given the relatively short distance between SCRMC and the closest tertiary care center.
- Over utilization leads to increased cost for the healthcare system and patient as well as increased risk to HEMS crews.
- We examined HEMS transfers from to Regions Hospital to SCRMC determine:
  - What conditions did SCMC physicians transfer most by HEMS?
  - Did HEMS patients get timely intervention upon arriving at tertiary facility?
  - Average time from call for transport for HEMS vs ground transport

## Intervention

Use data obtained for future provider education regarding appropriateness of transfer by review of cases and relevant data including:

- Diagnosis associated with HEMS transfer
- Number of patients receiving timely intervention
- Number of patients discharged within 24 hours of transfer

## Aim

By July 2019, reduce the number of HEMS transports without timely intervention by 10%

An evaluation of benefit, cost, and roll for air ambulance transfer from SCRMC to Regions will inform this aim

## Methods

- A retrospective chart review was completed of all HEMS transports from SCRMC ED to Regions Hospital from July 1, 2016 to June 30, 2017 (N=34).
- The characteristics and diagnosis of patients transported by HEMS were examined
- Timely intervention was defined as intervention within 3 hours of arrival to Regions.
- Time of transport were provided by Lakes Region EMS, the primary ground transport EMS service, and LifeLink, the primary HEMS agency.

## Results

- 40% of HEMS transports received interventions and 60% of interventions were completed within the first three hours of arrival.**
- Patients with a diagnosis of ruptured AAA, incarcerated hernias, arrhythmias, and STEMIs were the most likely to receive emergent intervention.**
- 11% of patients transferred were discharged or expired within 24 hours of arrival**
- The average time from call for transfer to arrival for ground transport was 84 minutes compared to 64 minutes for HEMS.

## Discussion

Given there is only a 20 minute difference on average between modes of transport, ground transport should be considered in situations when a patient is unlikely to get an emergent intervention at the receiving facility.

Multiple factors impact the decision on modes of transfer including weather, ground transport availability, and physician judgement

## Future Directions

We plan for physician and staff education to aid in decision making regarding patient transport, and we will gather data on whether this impacts the number of patients receiving HEMS

## Limitations

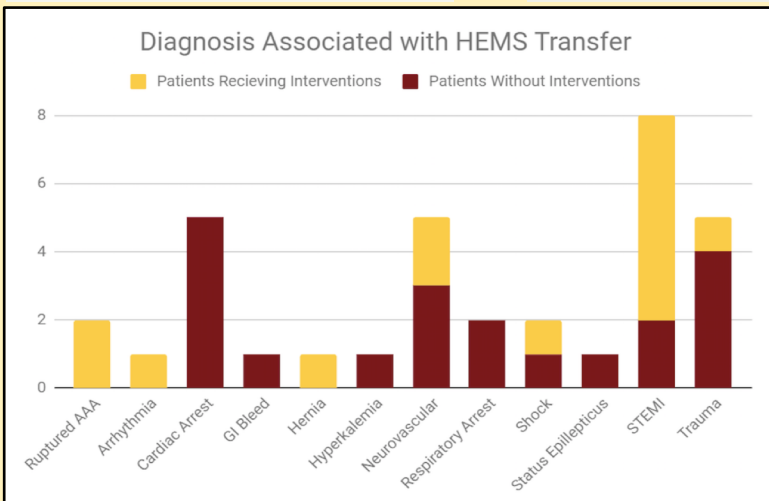
- Sample size insufficient for statistical significance
- Retrospective chart review does not capture complete provider decision making process for HEMS
- Time of day was not evaluated and may have impacted physician decision for HEMS transfer

## References

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SCMC to Regions:  
48.1 miles  
by ground

64.4 minutes

84 minutes