Characterization of Unnecessary Emergency Department Encounters for Rabies Postexposure Prophylaxis Vaccination

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Background

- Following animal exposure, patients may seek initial healthcare in an emergency department (ED) for wound cleaning, rabies immune globulin (IG), and the initial dose of rabies vaccine series of 3-5 doses[1]
- Subsequent doses of rabies vaccine can be administered in the community (primary care, community pharmacies, and infectious disease clinics) and do not require emergency services
- The Centers for Disease Control and Prevention estimates that 30,000 to 60,000 patients are initiated on rabies postexposure prophylaxis (PEP) each year in the United States, of which 416 are in Texas in 2018[2,3]
- It is possible that up to 100 patients in Texas and 14,400 patients in the United States inappropriately return to EDs each year to receive rabies vaccine, and these ED encounters may be placing a financial strain on patients and the US healthcare system

Objectives

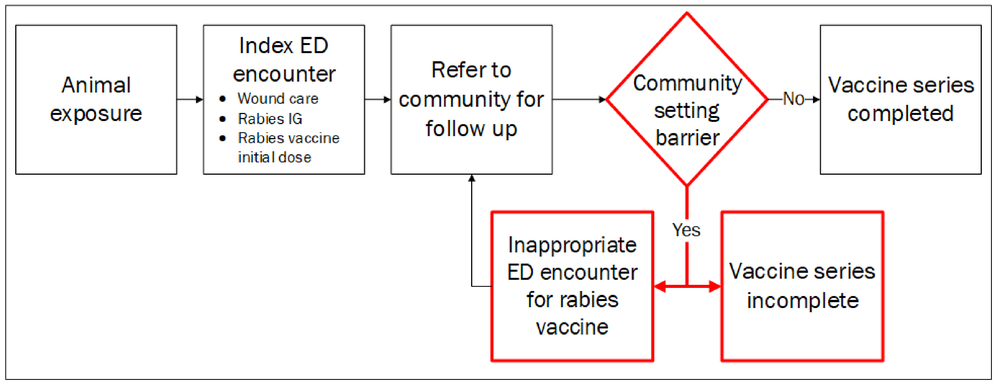
- To estimate the prevalence of unnecessary ED encounters for rabies vaccination

Methods

- Retrospective, descriptive study at Houston Methodist system of 15 EDs from January 2015 to June 2018
- A random sample of 36 (10%) of 361 rabies PEP ED encounters from a previously study were included[4]
- Each ED encounter was characterized as index (first healthcare received following animal exposure) or non-index encounters
- Non-index encounters were further classified as necessary (rabies IG or other emergent conditions) or unnecessary (rabies vaccination only)
- The primary endpoint was the proportion of unnecessary ED encounters
- Reasons for unnecessary ED encounters were collected and evaluated

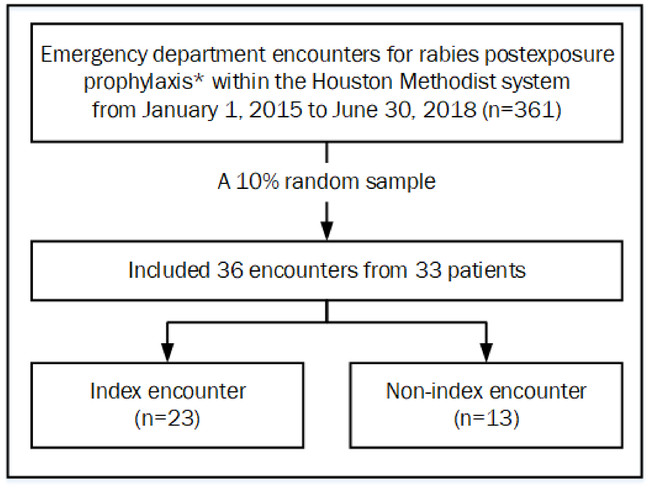
Results

Figure 1. Rabies postexposure prophylaxis chain of care



A reasonable chain of care for patients who present to the ED for the initial treatment (index ED encounter) following an animal exposure that qualifies for rabies PEP. Boxes in red display the impact of barriers to vaccine access in the community setting.

Figure 2. ED encounters inclusion flow chart



*ED encounters with rabies IG or rabies vaccine administration were included

Figure 3. Non-index encounters

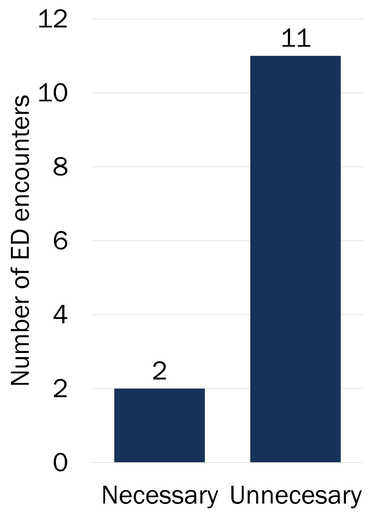


Table 1. Reasons for unnecessary ED encounters

Reason	Number of ED encounters
Unnecessary ED encounters, n (%; 95% CI)	11 of 36 (31%; 16% to 48%)
Instructions to return to the ED at previous ED discharge, n	6 of 11 (55%)
Lack of follow-up instructions at previous ED discharge, n	4 of 11 (36%)
Unclear documentation, n	1 of 11 (9%)

Discussion

- Receiving subsequent doses of rabies vaccine in community setting is optimal
- However, 11 of 36 ED encounters occurred due to rabies vaccine administration only
- These unnecessary ED encounters occurred due to lack of appropriate follow-up instructions during the index ED visit
- To reduce unnecessary ED encounters, it is imperative to provide patients with a clear follow-up plan with a vaccination schedule and a list of referral sites where rabies vaccine can be administered

Conclusion

- Approximately 31% of ED encounters for rabies PEP are solely for delivery of subsequent rabies vaccine, which may unnecessarily strain ED resources and burden healthcare finances
- Future research is needed to enhance ED discharge instructions and characterize patient-perceived barriers to rabies vaccine access in the community

References

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Disclosures

This research was supported by a grant from Grifols Shared Services North America, Inc., that manufactures and sells human rabies immune globulin in the United States, under the direction of principal investigator, Joshua Swan, PharmD, MPH. The grant was used to support fellowship training for Dr. Iso, Dr. Tran, Dr. Yuan, and Dr. Rizk. The funding agency was not involved in study design, data collection, data analysis, data interpretation, or preparation of this poster.