

# Rabies Post-exposure Prophylaxis Vaccination Program: Can Community Pharmacy Address a Medication Access Gap?

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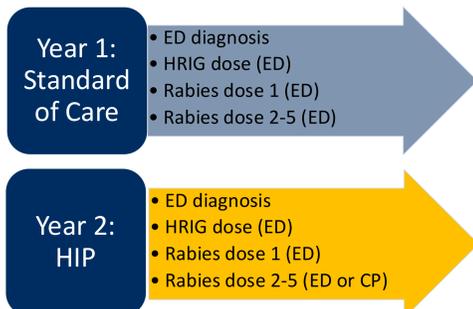
## Background

- The CDC recommends one dose of rabies immune globulin (HRIG) and a four-dose rabies vaccine series on days 0, 3, 7, and 14 for **Rabies Post-exposure Prophylaxis (rPEP)**. Immunocompromised individuals may require a fifth dose.<sup>1</sup>
- This regimen significantly reduces rabies mortality in the US as compared to globally.<sup>2-3</sup>
- However, rPEP vaccine series completion is low due to cost, access, and misinformation.<sup>4-5</sup>
- rPEP is typically administered in emergency departments (ED), requiring follow-up visits.
- Tennessee pharmacists can order and administer adult vaccines, potentially improving rabies vaccine completion rates.

## Objective

- To determine if community pharmacy rPEP administration improves vaccine completion rates after a hospital improvement project.

## Methods



- Study Design:** Quasi-experimental
- Setting:** 16 health system EDs, 6 outpatient community pharmacies.
- Service Description:** Hospital improvement project (HIP) focused on provider education in the ED and development of a community pharmacy network designed to expand vaccine access for rPEP eligible patients.
- Participants:** Individuals who received rPEP therapy at a participating health system ED in East Tennessee and Southwest Virginia between May 2022-April 2024.
- Hypothesis:** Expanded vaccine access in CPs (Year 2) will result in improved rPEP completion rates as compared to ED-only access.

## Methods



Implementation

- HIP launched in May 2023 in ED units systemwide at Ballad Health.
- Community pharmacy (CP) referral network developed to expand vaccine access.
- ED prescribers, pharmacists, staff, and community pharmacists received training on program goal, revised EPIC order sets, and awareness of a newly developed CP referral network



Tools

- ED prescribers/pharmacist tools:** Gap closure information, revised EHR (EPIC) order set emphasizing CDC guidelines, and availability of CP network.
- ED nurse/patient navigator tools:** Education materials and instructions.
- Community pharmacist tools:** rPEP best practices, patient education, and instructions for completing follow-up visits with outpatient pharmacies.



Data

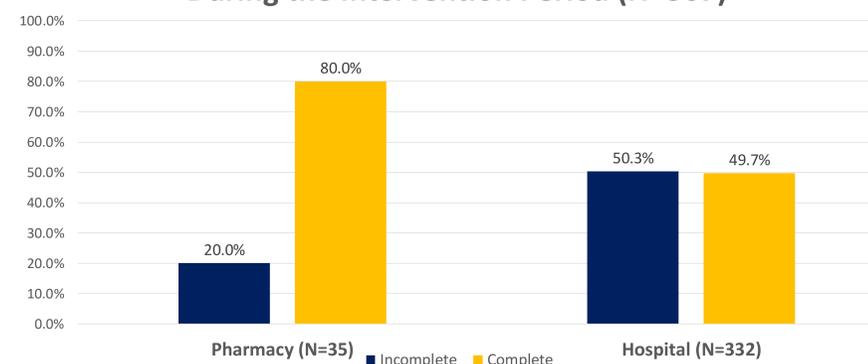
- Collected: patient name, DOB, zip code, ethnicity, type of rabies exposure, HRIG administration date, rabies vaccine administration date (all doses), location of service, and type of insurance coverage.
- Data Source: Health system EHR chart review and pharmacy-reported vaccine administration records.

## Results

### Demographics: Year 2 (n=367)

Age (average)	40.5 years
Female	190 (51.8%)
White	344 (93.7%)
Domestic Exposure (e.g., dog, cat)	242 (66%)
Non-Domestic Exposure (e.g., bat, racoon, feral cat)	75 (20.4%)
Insurance coverage	325 (88.6%)

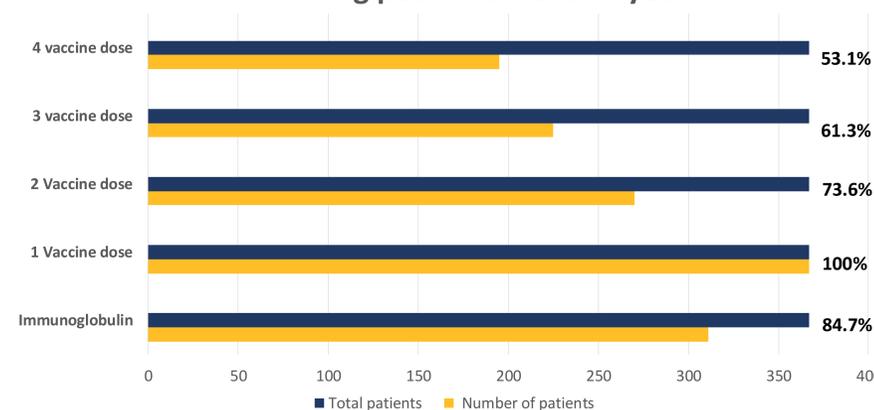
### Completion Percentage by Administration Site During the Intervention Period (N=367)



### Vaccine Access in Tennessee

Location	Number of Counties	Percentage
Counties with ED Source	48	50.5%
Counties without ED Source	47	49.5%
Counties with Community Pharmacy	95	100%
Counties without Community Pharmacy	0	0%

### Percentage of patients who received vaccinations during post-intervention year



## References

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## Discussion

- Pharmacist scope of practice expansion allows public health collaborations like this hospital improvement project to flourish.
- Established relationship between health system and outpatient health system pharmacies fostered successful implementation.
- Network pharmacies should be geographically aligned with ED access to address health care gap.
- Medical and pharmacy insurance coverage is an important access variable.

## Conclusion

- The intervention was associated with a significant increase in completion rates (RR=1.6; 95% CI 1.3-2.0; p<0.001).
- HIP resulted in an overall higher series completion rate (49.6 vs 52.8%) system-wide.
- CP can be an effective and convenient resource for patients requiring rPEP.
- Additional ED education and interventions may be necessary to reach 4-dose completion goals.

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