Lost in Translation: An Examination of EMS Refusals, Hypoglycemia Patients, and Language Barriers

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Introduction

- 26+ million U.S. residents have Limited English Proficiency (LEP), creating significant language barriers (LB) in healthcare.
- In hospitals, patients with LEP face disparate care, lower satisfaction, and poorer outcomes due to miscommunication.
- In EMS, LB may drive unnecessary transports when patients could safely remain at home.
- Hypoglycemia is a frequent, often treatable-on-scene emergency, not requiring transport to the hospital.
- Unnecessary transports increase patient costs and strain both EMS and hospital systems.
- The impact of LB on the EMS transport rate for hypoglycemic patients remains unknown.

Methods

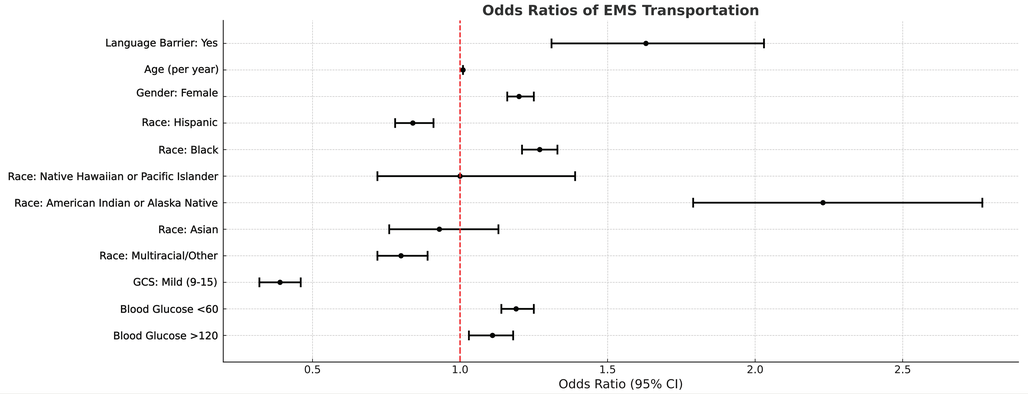
- **Data:** 2024 ImageTrend Collaborate
- **Inclusion:** 911 calls that received an ALS response for adult patients with hypoglycemia
- **Exclusions:** Unresponsive patients (GCS = 3 or AVPU “Unresponsive”)
- **Outcome:** Patient transport (yes/no)
- **Predictor:** Documented language barrier (yes/no)
- **Analysis:** (1) Descriptive characteristics and (2) Multivariable logistic regression models adjusting for age, gender, race/ethnicity, GCS, blood glucose, and SDI

Sample Characteristics by EMS Transport Status

	No Transport	Transport
Total (N)	50.1%	49.9%
Language Barrier Documented	61.0%	39%
Age (Median, IQR)	66(53-76)	62(48-73)
Gender		
Female	52.8%	47.2%
Male	48.0%	47.2%
Unknown	27.4%	72.6%
Race and Ethnicity		
Hispanic	46.3%	53.7%
Black	55.0%	45.0%
White	50.0%	50.0%
Native Hawaiian or Pacific Islander	54.3%	45.7%
American Indian or Alaska Native	68.2%	31.8%
Asian	51.1%	48.9%
Multiracial/Other	44.9%	55.1%
Unknown	39.9%	60.1%
Treatment		
Glasgow Coma Scale		
GCS 4-8	72.6%	27.4%
GCS 9-15	50.3%	49.7%
Unknown	40.1%	59.9%
Blood Glucose		
CBG <60	51.3%	48.7%
CBG 60-120	46.1%	53.9%
CBG >120	48.5%	51.5%
Unknown	54.1%	45.9%
Social Deprivation Index		
SDI (1)	47.8%	52.2%
SDI (2)	49.9%	50.1%
SDI (3)	50.9%	49.1%
SDI (4)	51.1%	48.9%
Missing	49.4%	50.6%

Results

- We identified 51,289 EMS charts with a primary impression of hypoglycemia
- Of these, 25,685 (50%) were transported and 459 (0.9%) had a documented LB.
- Hypoglycemia patients without an LB were transported 50% of the time, while those with an LB were transported 61% of the time.
- Compared to patients without an LB, the adjusted odds ratio (95% confidence interval) for transport was 1.63 (1.31 - 2.03) times greater for patients with an LB.



Conclusion

- Patients with LB were more likely to be transported for hypoglycemia compared to clinically similar peers without LB.
- Many transports may be unwarranted, adding patient costs and burdening hospitals.
- Future research should examine factors influencing transport of patients with LEP.