# LEFT BEHIND? UNHOUSED PATIENTS AND EMS TRANSPORTATION

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## INTRODUCTION

California has the highest number of unhoused residents, and EMS clinicians report increasing contact with this population. Previous research has shown that non-transported patients are at higher risk for negative outcomes, yet no studies to date have specifically evaluated frequency of EMS transport in the unhoused which may have implications for care equity.

## **OBJECTIVES**

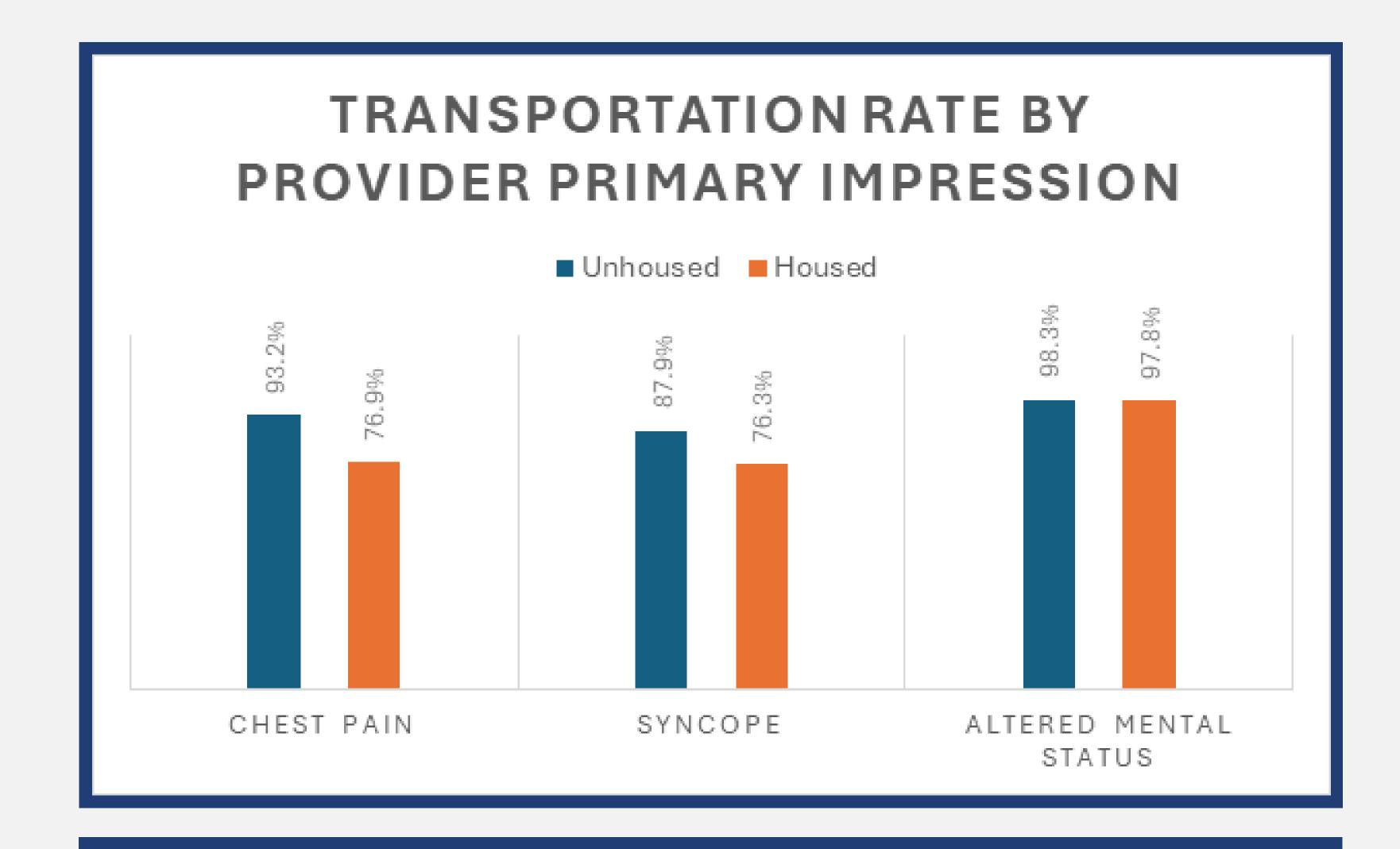
Analyze the frequency of EMS transports in unhoused patients with high-risk conditions compared to their housed counterparts.

# METHODS

- The California statewide EMS ImageTrend dataset was used
- The frequency of EMS transport for housed and unhoused patients in 2023 was analyzed.
- 9-1-1 BLS and ALS encounters for patients ≥18 years old where housing status was documented were included.
- Patients dead on arrival, transported by law enforcement or another provider, or lift assists were excluded.
- Housed and unhoused patients were compared using chi-squared analysis for frequency of transport in high-risk encounters of chest pain, syncope, and altered mental status.
- Frequency of transport for sex, race, season, and social deprivation index (SDI) index was also compared.

Thank you to the California EMS Authority for allowing us to use your data for this research.

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	Unhoused Patients		All Housed Patients		P-value Transpo rted
	Transported	All	Transported	All	
N	48,898 (90.7%)	53,911	334,134 (81.5%)	410,148	<0.01*
Median Age [IQR]	44[34,58]	44 [34,57]	63[44,77]	62[41,76]	
Provider Primary Impression					
Chest pain (R07)	1,120 (93.2%)	1,202	7,947 (76.9%)	10,330	0.23
Syncope (R55)	378 (87.9%)	430	12,791 (76.3%)	16,759	<0.01*
Altered mental status (R41.82)	3,088 (98.3%)	3,142	18,942 (97.8%)	19,369	<0.01*
Sex					
Female	13,732 (89.8%)	15,287	170,096 (81.5%)	208,818	<0.01*
Male	35,050 (91.2%)	38,427	163,385 (82.5%)	197,987	<0.01*
Missing	116 (58.9%)	197	653 (19.5%)	3,343	<0.01*
Race					
White	10,462 (91.4%)	11,447	109,612 (85.5%)	128,180	<0.01*
Hispanic/Latino	7,491 (90.7%)	8,259	67,948 (79.2%)	85,744	<0.01*
Black/African American	5,802 (92.4%)	6,279	30,251 (82.3%)	36,765	<0.01*
Asian	514 (88.9%)	578	16,464 (81.4%)	20,218	<0.01*
American Indian or Alaska Native	88 (91.7%)	96	1,380 (77.4%)	1,784	<0.01*
Native Hawaiian or Other Pacific Islander	69 (88.5%)	78	1,207 (81.4%)	1,482	<0.01*
Other/Unknown/Multiple Races	24,472(90.1%)	27,174	107,272 (78.9%)	135,975	<0.01*
Season					
Jan-March	11,395 (91.3%)	12,477	68,968 (81.2%)	84,928	<0.01*
April-June	10,740 (90.2%)	11,912	67,149 (81.2%)	82,654	<0.01*
July-Sep	11,719 (89.2%)	13,133	73,671 (81.2%)	90,781	<0.01*
Oct-Dec	15,044 (91.8%)	16,389	124,346 (81.9%)	151,785	<0.01*
Social Deprivation Index by Zip Cod	le				
<25	2,888 (88.9%)	3,247	35,962 (83.2%)	43,246	<0.01*
25-49	8,607 (90.7%)	9,488	67,257 (81.2%)	82,082	<0.01*
50-74	10,219 (91.1%)	11,219	84,396 (83.3%)	101,301	<0.01*
≥75	26,878 (90.8%)	29,611	145,053 (79.8%)	181,733	<0.01*
Missing	306 (93.9%)	326	1,466 (82.1%)	1,786	<0.01*

## RESULTS

- Of 464,059 encounters, 53,911(11.6%) patients were unhoused.
- Demographics
  - Unhoused transported patients had a median age of 44 [34,58], were 71.7% male, 78.6% non-white race/unknown, and 55.0% located in the highest SDI (most deprived) areas.
  - Housed transported patients had a median age of 62 [41,76], were 48.9% male, 61.6% non-white race/unknown, and 43.4% located in the highest SDI (most deprived) areas.
- Of the unhoused, 90.7% were transported compared to 81.5% for housed patients (p<0.01)
- For chest pain, 93.2% unhoused (n=1,202) and 76.9% housed (n=10,330) were transported (p=0.23)
- For syncope, 87.9% unhoused (n= 430) and 76.3% housed (n=16,759) were transported (p<0.01)
- For altered mental status, 98.3% unhoused (n=3,142) and 97.8% housed (n=19,369) were transported (p<0.01)

#### LIMITATIONS

The documentation of unhoused status may have only been documented in the patient narrative which was not searched.

## CONCLUSION

Unhoused patients are transported at higher frequency than their housed counterparts. Potential reasons for this finding may include disparate access to healthcare and/or transportation to healthcare facilities by other means. This study cannot speak to the equity of care provided by EMS clinicians, but it demonstrates that a patient's unhoused status is not a deterrent for transport for further care.