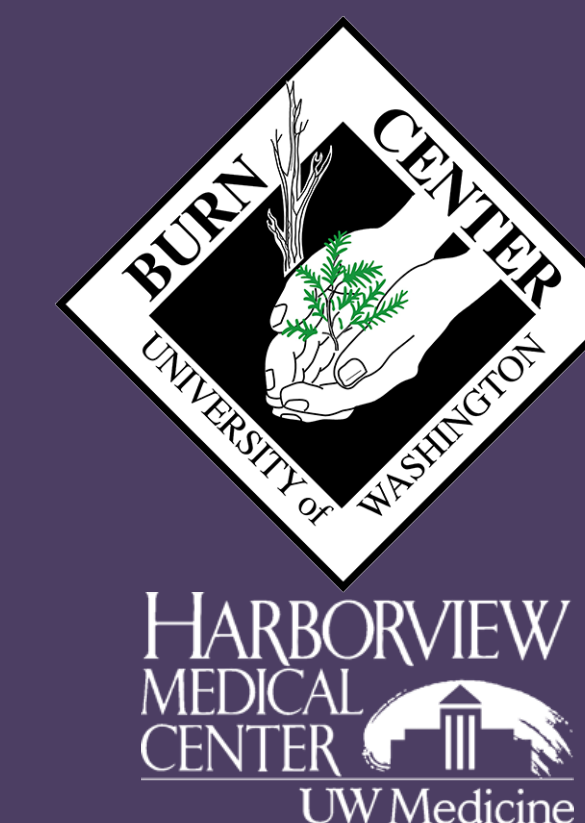




HOSPITAL LENGTH OF STAY FOR PATIENTS WITH SMALL AND MEDIUM BURNS IMPACTED BY DISTANCE TO BURN CENTER



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INTRODUCTION

Understanding contributors to patient length of stay is critical for burn center resource management and efficiency. In this study, we analyzed how distance from patient homes to a burn center impacts outcomes.

METHODS

Under IRB approval, we reviewed our trauma registry for burn patients admitted to a regional burn center from 2011 to 2018. Inclusion was limited to patients from Washington State. Patients were grouped by distance from the home zip code to the burn center (≤ 100 and >100 miles) according to what might involve ground or air transport. Chi-square and Mann-Whitney tests were used to determine differences between groups by race, burn size (TBSA), hospital length of stay (LOS), LOS/TBSA, mortality, and disposition to home. Burn size was categorized by TBSA into small (0-20%), medium (21-50%) and large (51-100%) burns.

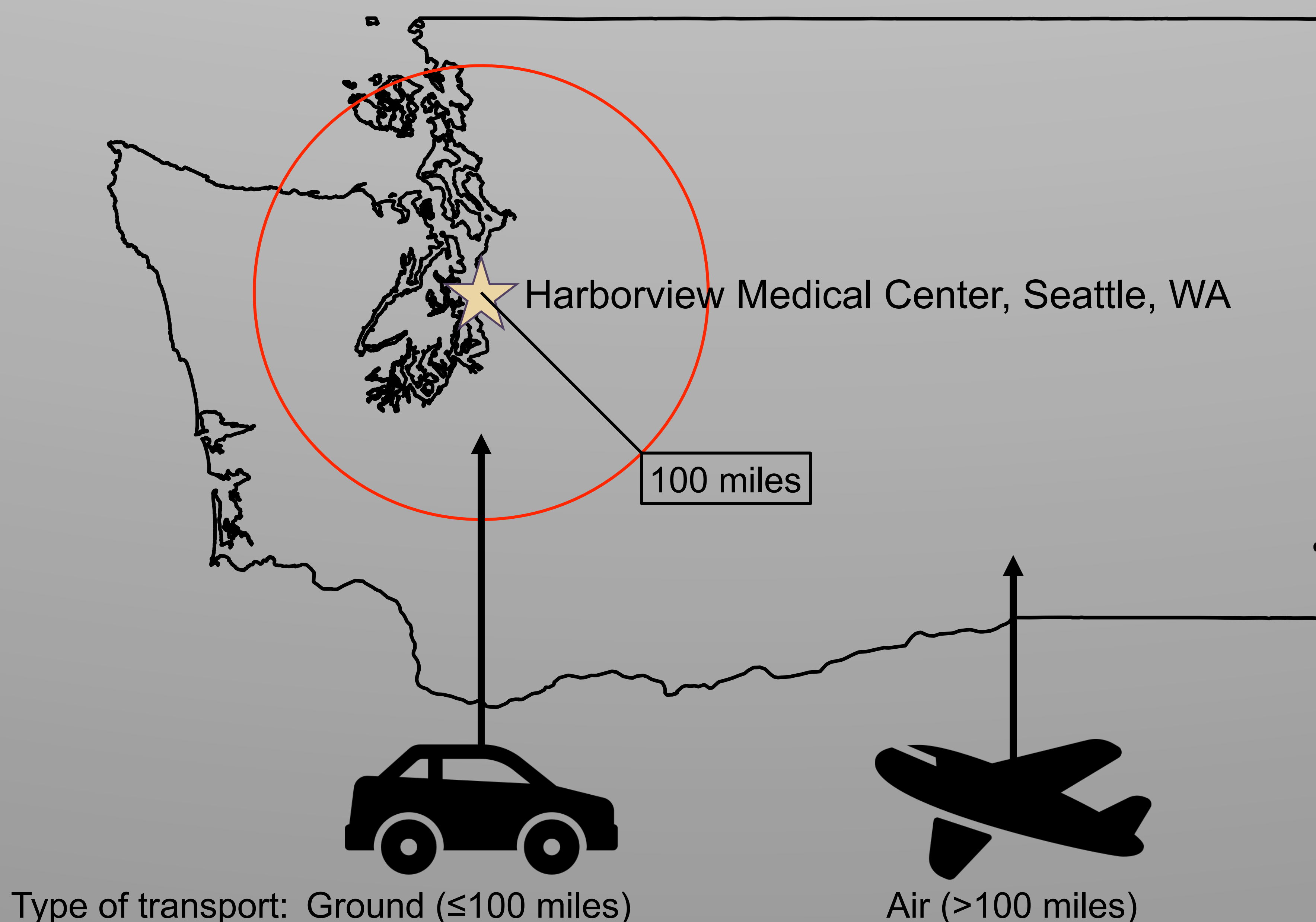
DISCLOSURES

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	Distance to burn center (miles)		p-value
	≤ 100	>100	
n	3843	707	
Race (%)			
White	2787 (73%)	520 (74%)	.573
Non-white	1056 (27%)	187 (26%)	
Burn size (median; IQR)	3.0 (1.0-6.6)	4.5 (2.0-10.4)	<.001
LOS/TBSA (median; IQR)	1.0 (0.4-2.0)	1.0 (0.4-2.1)	1.000
LOS (median; IQR)			
Small (0-20%)	2.0 (1.0-5.0)	3.8 (1.7-8.0)	<.001
Medium (21-50%)	26.0 (12.5-41.0)	28.3 (22.5-37.8)	.001
Large (51-100%)	8.0 (1.0-62.5)	64.7 (53.7-76.7)	.354
Deaths (%)	79 (2%)	11 (2%)	.380
DC home (%)	3422 (89%)	633 (90%)	.701

Patients who travel from farther away to receive care for small and medium-sized burns have longer hospital stays.



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RESULTS

Our study population was predominantly white (3307, 73%), non-Hispanic (4037, 89%) males (3075, 68%). Mean burn size was significantly higher in patients who traveled more than the >100 miles to the burn center (Table). Controlling for burn size, patients with small and medium burns that lived farther from the burn center had significantly longer hospital stays. There was no significant difference in LOS/TBSA length of stay for patients with large burns, mortality or disposition to home between the two distance groups.

CONCLUSION

At a burn center with a large catchment area, patients with burn size $<50\%$ TBSA who lived more than 100 miles from the burn center had significantly longer hospital stays than those who lived close to the burn center. Of note, burn size as an indication of care complexity may be misleading as burn body site (e.g. hand, face or feet) impacts recovery. Our data suggest that regional burn centers may delay discharge for patients who live far from burn expertise to ensure a smooth transition to home and highlight an opportunity to develop telehealth programs that facilitate earlier discharge and alternative follow-up plans.

APPLICABILITY OF RESEARCH TO PRACTICE

For a burn center that serves patients across a vast geographic region, this study might be useful in identifying opportunities to provide care for patients who live far from tertiary burn care.