

Comparing Resource Use and Outcomes between Patients with Ventricular Assist Devices and Orthotopic Heart Transplant in the United States from 2006-2017

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ISHLT Annual Meeting 2020

Background

- Heart Failure: 5.7 million Americans and increasing
 - 5-10% have end stage HF refractory to OMT → life expectancy <2 yrs
- Limited availability of donor hearts
- Rapid growth in ambulatory VAD population (DT and BTT)
- Paucity of Data on ED Resource Utilization

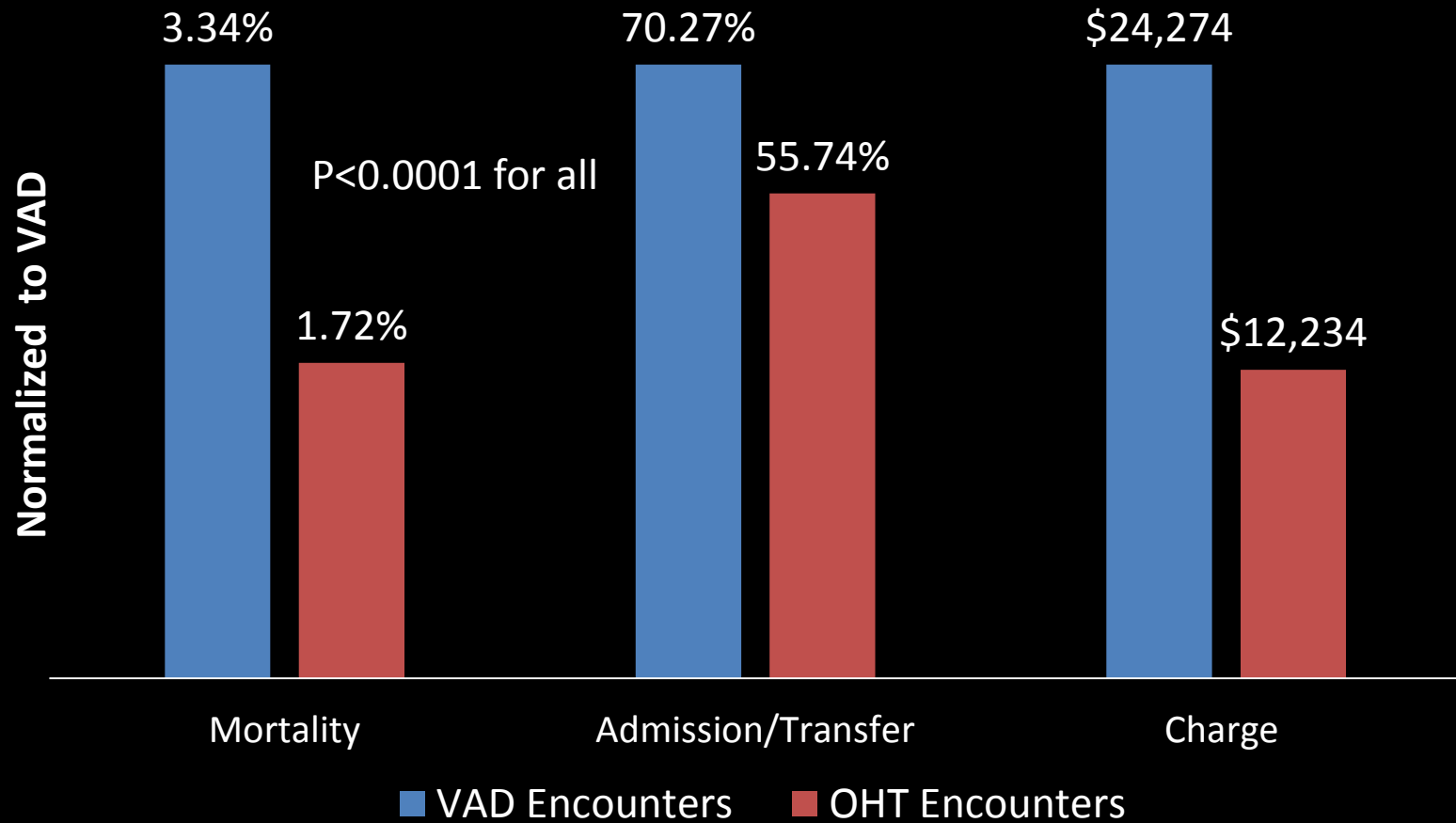
Study Aims

- Describe clinical and demographic characteristics of VAD and OHT ED patients
- Compare:
 - Mortality
 - Admission
 - Charge
- Evaluate changes over time

Methods

- Nationwide Emergency Department Sample (NEDS)
 - Healthcare Cost and Utilization Project (HCUP)
 - Administrative Claims Database
- Period: 2006 to 2016
- Patient encounters: identified using ICD9 and ICD10 codes

A False Equivalency

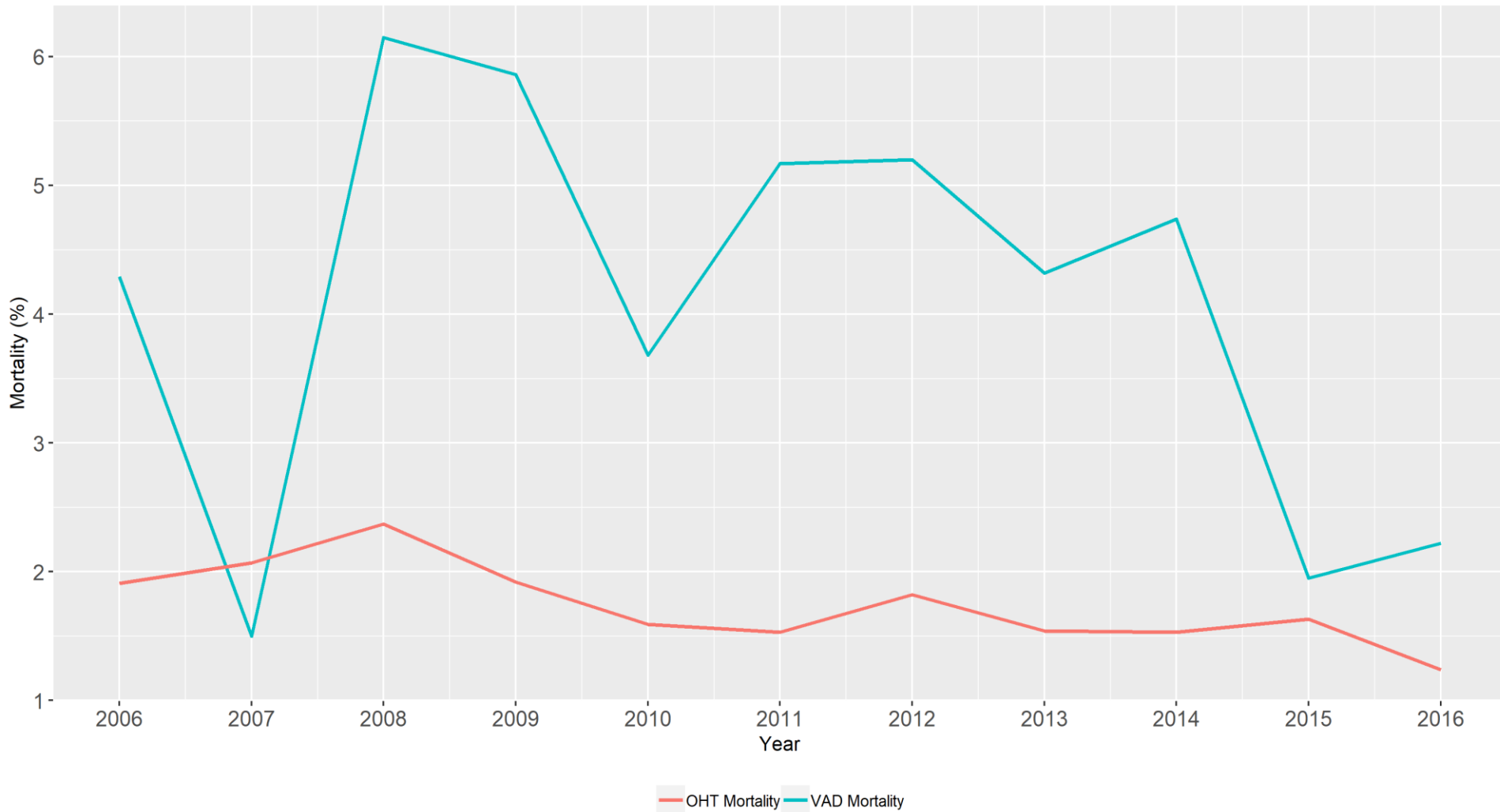


A False Equivalency

Characteristic			
Male	26,640 (73.11%)	124,621 (69.70%)	0.0002
Patient Age			<0.0001
18 – 44 years	5,679 (15.58%)	40,299 (22.54%)	
45 – 64 years	15,940 (43.75%)	69, 530 (38.88%)	
≥ 65 years	14,819 (40.67%)	68,987 (38.58%)	
Chronic Conditions			
Dialysis-dependent	736 (2.02%)	9,219 (5.16%)	<0.0001
Depression	3,881 (10.65%)	13,231 (7.40%)	<0.0001
COPD	2,616 (7.18%)	4,706 (2.63%)	<0.0001
Primary Diagnosis			
Stroke	2,168 (5.95%)	3402 (1.90%)	<0.0001
Bleeding	6,587 (18.08%)	6821 (3.81%)	<0.0001
Infection	4,773 (13.10%)	42430 (23.73%)	<0.0001
GI	2,137 (5.87%)	20346 (11.38%)	<0.0001

A False Equivalency?

Mortality Over Time (VAD vs. OHT)



VAD Mortality p for trend < 0.0001
OHT Mortality p for trend = 0.048

VAD vs OHT Summary

- Patients with VADS
 - Higher **mortality**
 - Higher **resource utilization**
 - Older
 - Present with **bleeding, stroke** rather than infection, GI
- Despite these differences, **mortality is converging with OHT**