

# Are Centers Really Equal? The Regulatory Impact on Donor Lung Acceptance

Gundeep Dhillon, MD, MPH  
Associate Professor of Medicine  
Stanford University



**CUTTING EDGE** OF TRANSPLANTATION



**TRANSPLANT SUMMIT 2020**  
**BALANCING** EQUITY AND UTILITY IN THE FACE OF AN ORGAN SHORTAGE

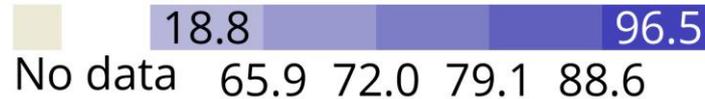
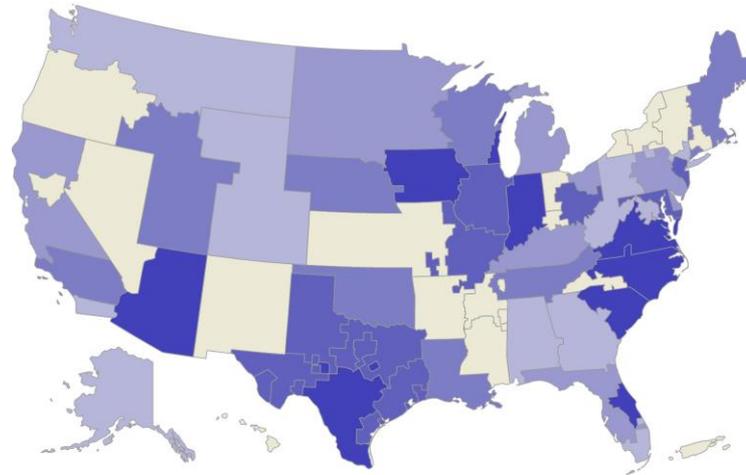
# Disclosure

I have no pertinent disclosures.

# Learning Objectives

- Variation in lung transplant rates
- Potential causes of observed variation in transplant rates
- Regulatory Impact
- Impact of transplant rates on mortality

# Percentage transplanted within one-year



OPTN/SRTR 2018 Annual Data Report: Lung

American Journal of Transplantation, Volume: 20, Issue: s1, Pages: 427-508, First published: 02 January 2020, DOI: (10.1111/ajt.15677)

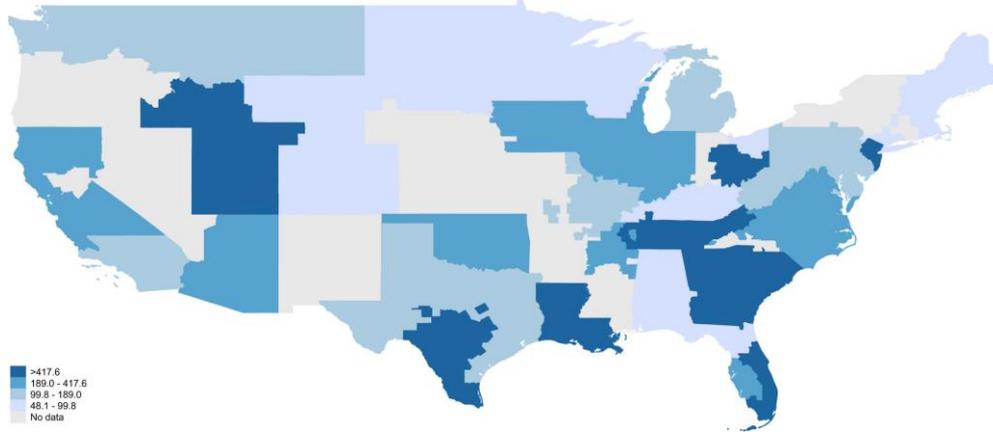


# Potential Causes of Disparate Rates

- Donor Lung Supply
  - Donation Rates
  - Population Density
  - OPO
- Candidate characteristics
- Transplant Program Behavior

# Donor Availability

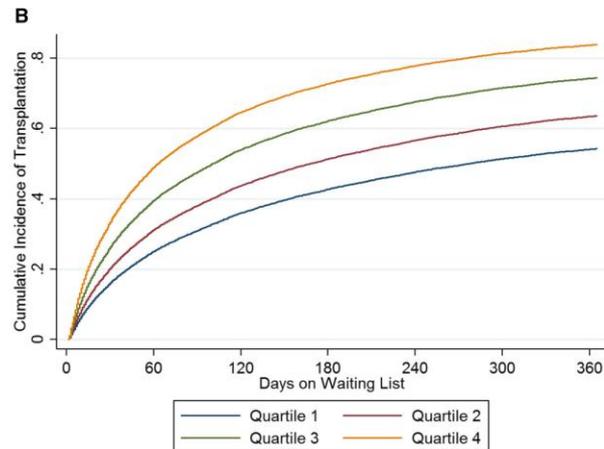
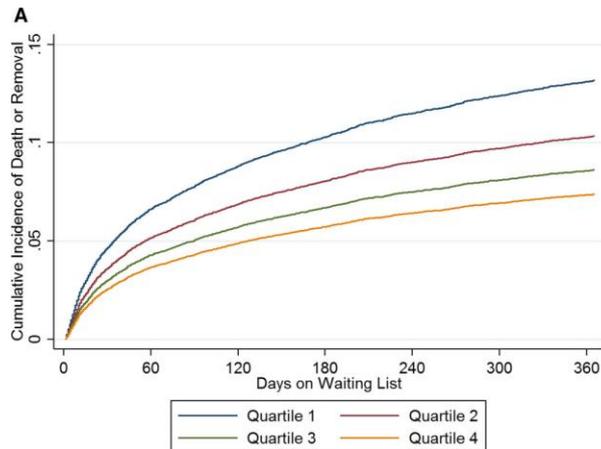
## Geographic disparities in donor lung supply and lung transplant waitlist outcomes: A cohort study



- Average local lung availability by DSA
- Lung availability = Number of transplanted lungs in 1 year post listing / Number on waitlist at the time of listing

Benvenuto LJ et al. AJT 2018

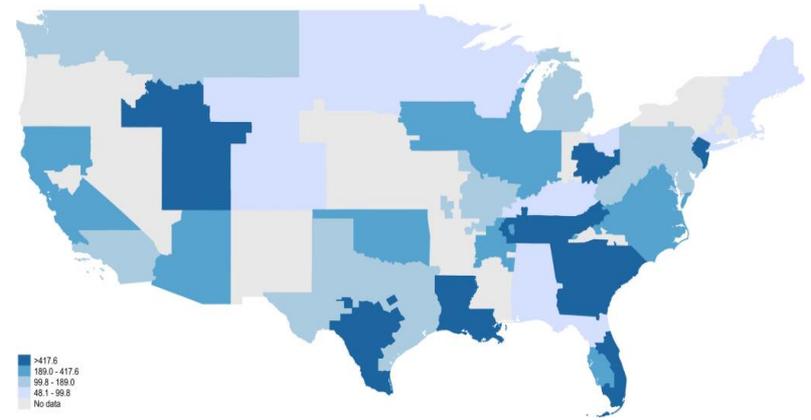
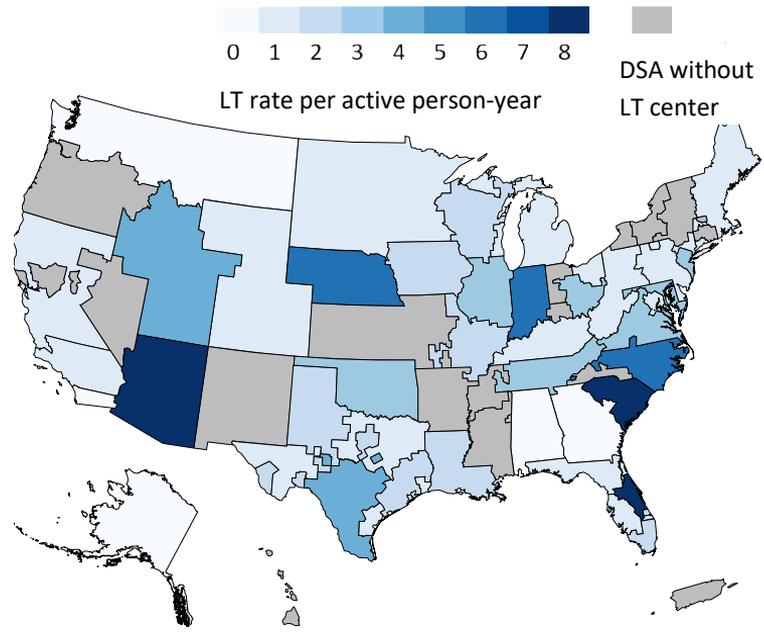
# Geographic disparities in donor lung supply and lung transplant waitlist outcomes: A cohort study



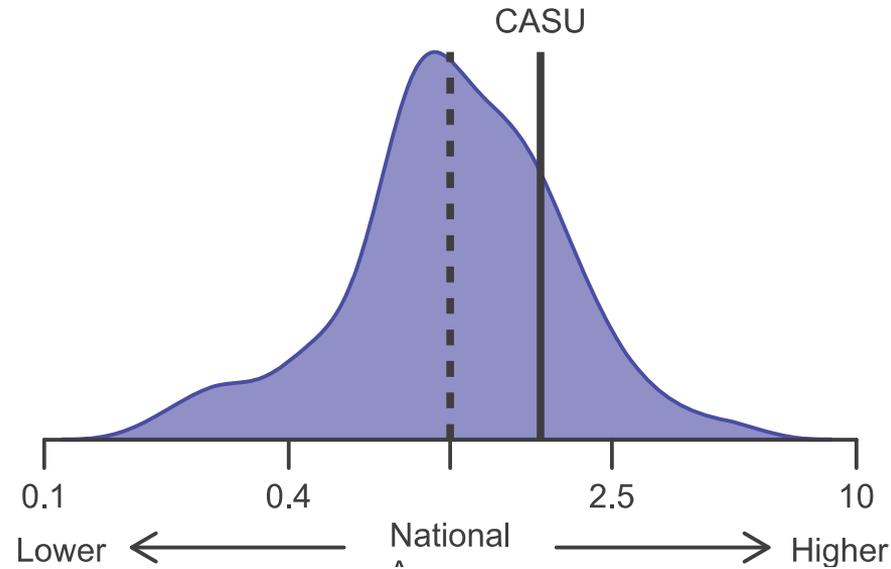
Quartile 1 = the waitlist patients in lowest lung availability DSAs, had the highest incidence of waitlist death & lowest transplant rates

Benvenuto LJ et al. AJT 2018

# Lung Transplant Rates vs Donor Availability



# Transplant Program Adjusted Acceptance Ratios



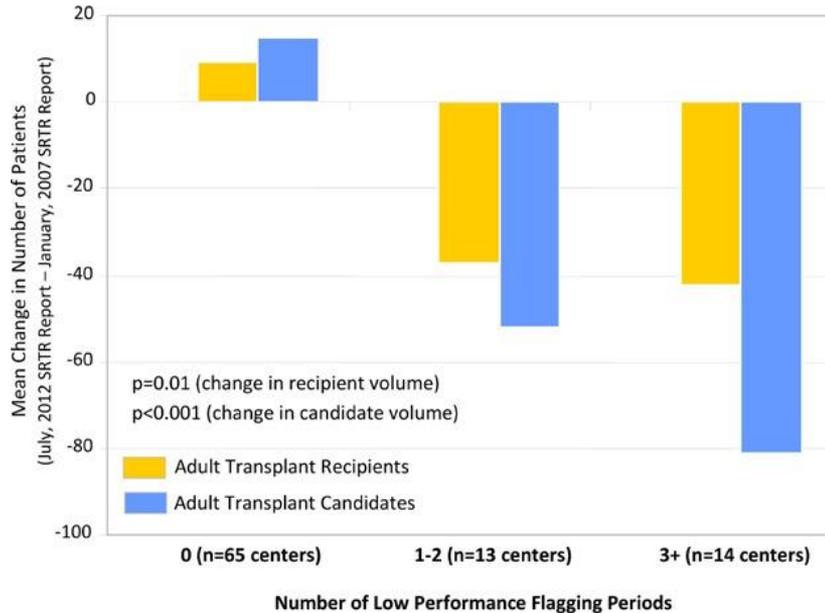
# Regulatory Impact on Organ Acceptance

# Significant alterations in reported clinical practice associated with increased oversight of organ transplant center performance.

- Survey at UNOS Transplant Management Forum 2009
- 55% had low performance
- Increased selection criteria for recipients (81 vs 38%) & donors (84 vs 52%)

Schold JD et al. Prog Transplant 2010

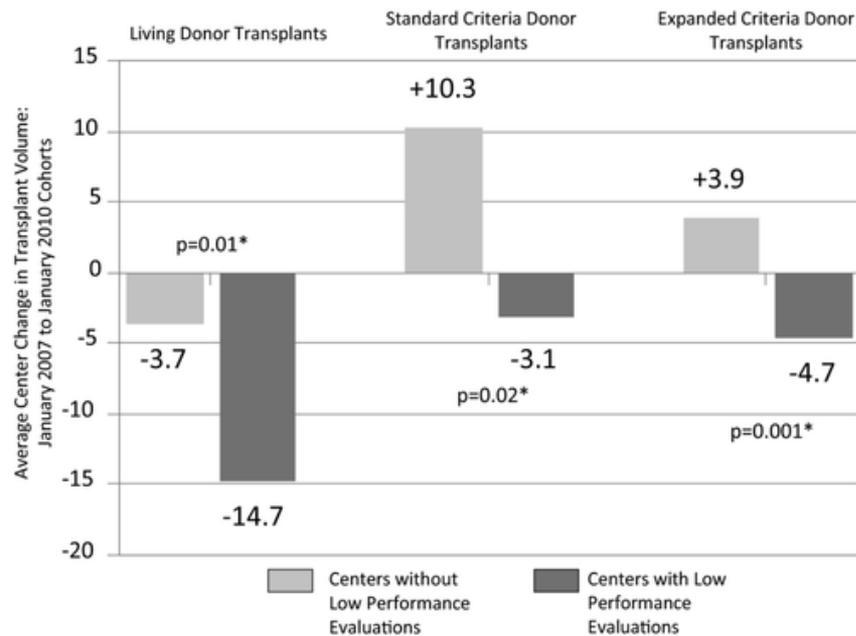
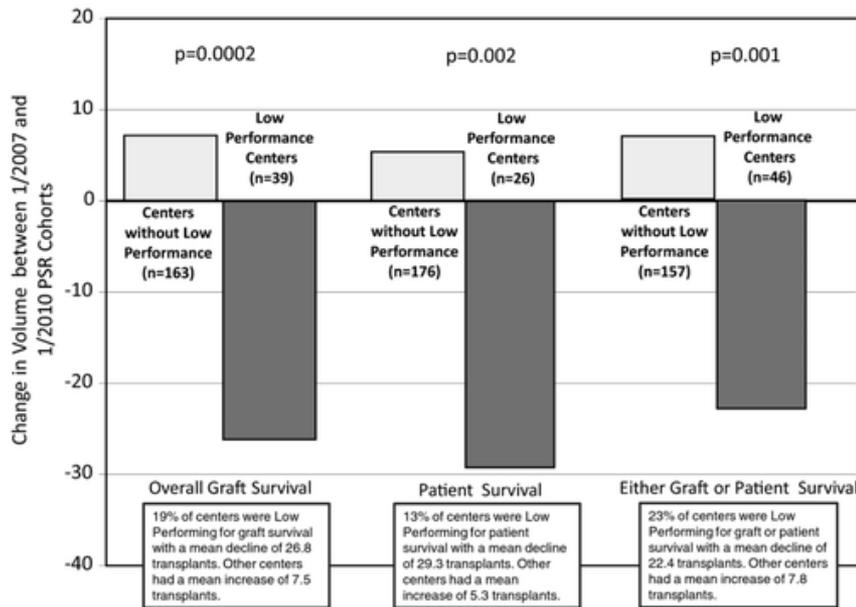
# Association Between Liver Transplant Center Performance Evaluations and Transplant Volume



- Decrease in donor age
- Decrease in Ischemia time

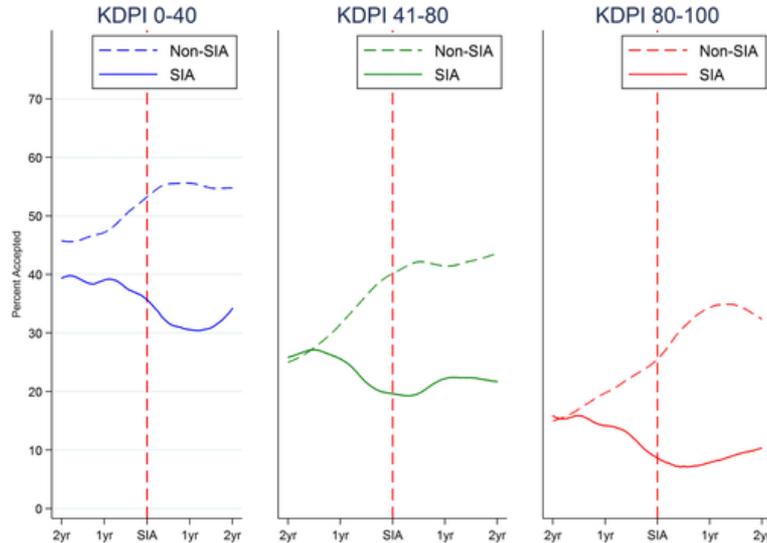
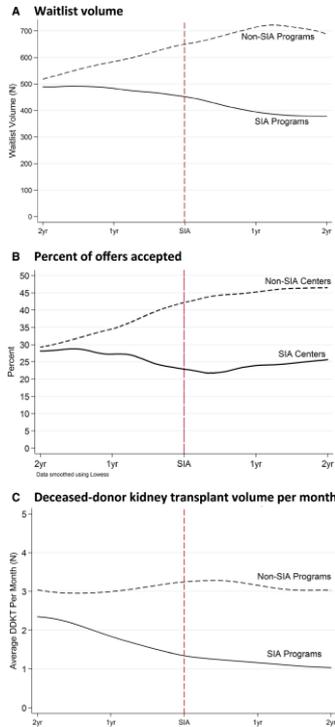
AJT, Volume: 14, Issue: 9, Pages: 2097

# The association of center performance evaluations and kidney transplant volume in the United States



Schold et al. AJT 2013

# Kidney offer acceptance at programs undergoing a Systems Improvement Agreement



- 6 %-point reduction in organ acceptance
- 12.3 %-point for KDPI 0-40

AJTVolume: 18, Issue: 9, Pages: 2182-2188,

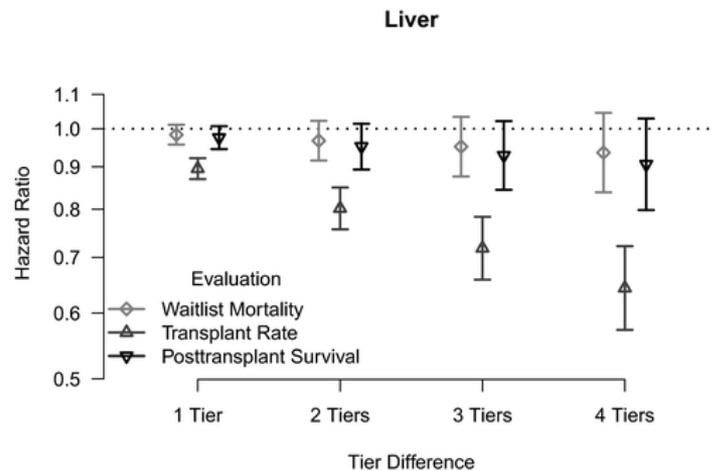
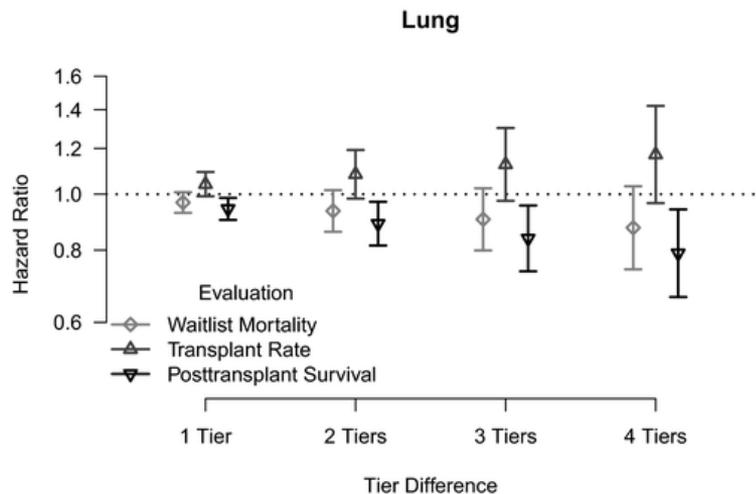
# Lung Transplant Rates and Candidate Mortality

# Association of pretransplant and posttransplant program ratings with candidate mortality after listing

- Cohort : Adults July 2011 – June 2014
- Five tier ranking for:
  - Waitlist Mortality
  - Transplant Rates
  - One-year post transplant graft survival
- Outcome: Candidate mortality after listing

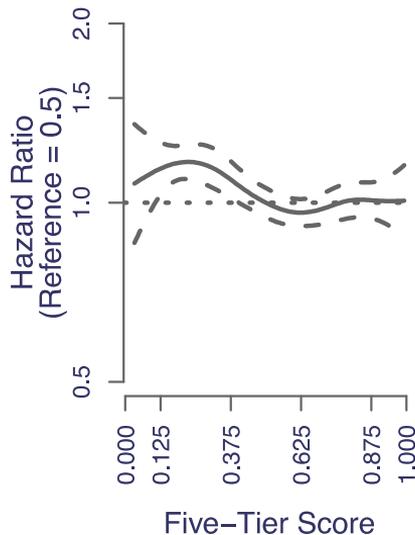
Wey et al. AJT 2018

# Association of pretransplant and posttransplant program ratings with candidate mortality after listing

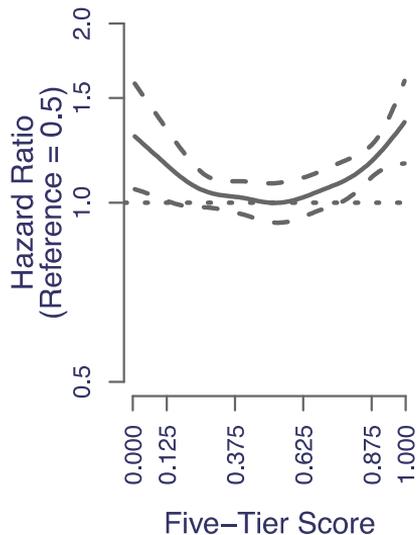


# Association of pretransplant and posttransplant program ratings with candidate mortality after listing

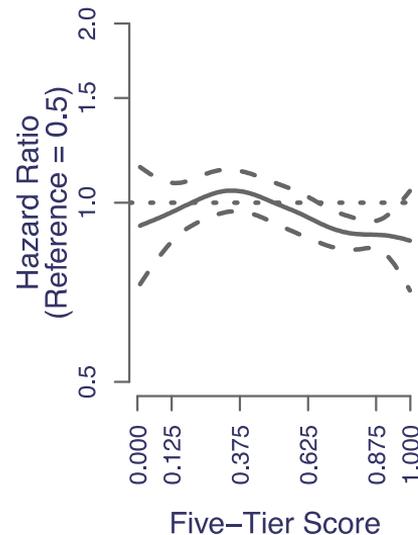
Figure S3 Waitlist Mortality



Transplant Rate



Posttransplant Graft Survival



# Conclusions

- Lung transplant rates vary significantly across DSAs & programs
  - Donor availability
  - Program behavior
- Program evaluations impact donor acceptance rates & likely access
- ? Optimal transplant rates for lung transplant