Impact of the Revised Lung Allocation Score on Heart-Lung Candidates

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The 13th Joint Annual Congress of the American Society of Transplant Surgeons and The American Society of Transplantation

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I have no financial relationships to disclose within the past 12 months relevant to my presentation.

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Background

- Lung Allocation Score (LAS) has been used since May, 2005 to rank lung (LU) candidates for transplant allocation.

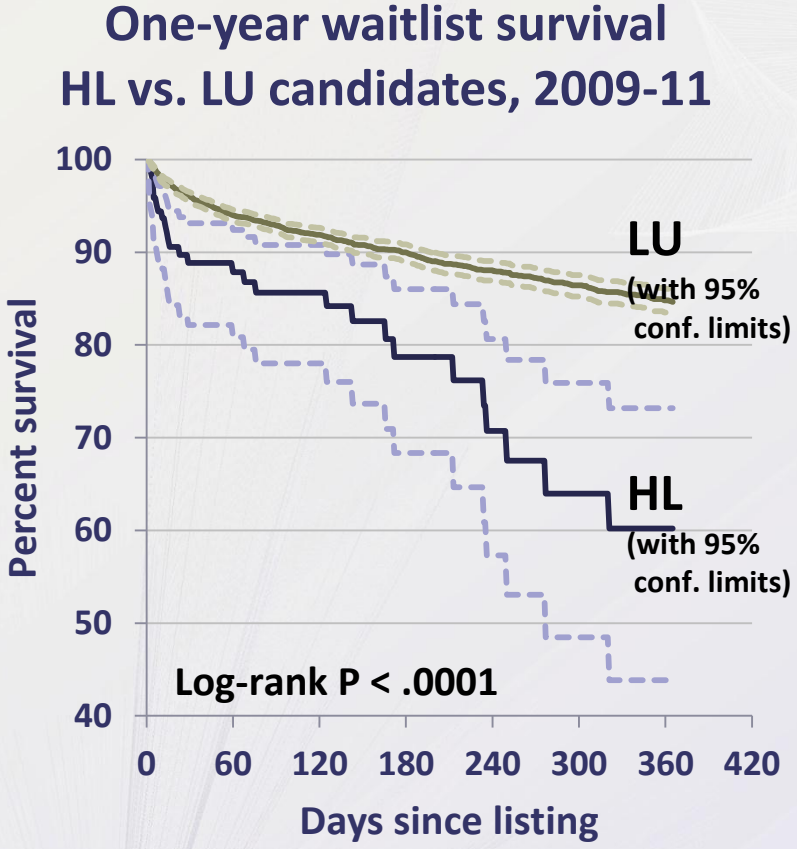
- LAS
  - Composite score based on predictors of 1-year waitlist and post-transplant mortality.
  - Prioritizes allocation to most urgent candidates while decreasing priority for patients expected to have very poor post-transplant outcomes.

- Revision of LAS (LAS-R)
  - Has been approved and awaits implementation
  - Uses updated patient cohorts
  - Includes new variables that target groups under-served by LAS

- Heart-lung (HL) candidates are excluded from models used to develop LAS and LAS-R, yet allocation to HL candidates is based in part on these scores.

Background: HL vs. LU waitlist experience

- HL candidates have poorer waitlist survival and longer waits than LU candidates.
- One-year waitlist survival
  - HL: 60% (44-73%)
  - LU: 85% (83-86%)
- 56% of HL and 64% of LU candidates were transplanted within 1 year of listing.
- 63% of HL candidates have primary diagnosis of pulmonary hypertension.

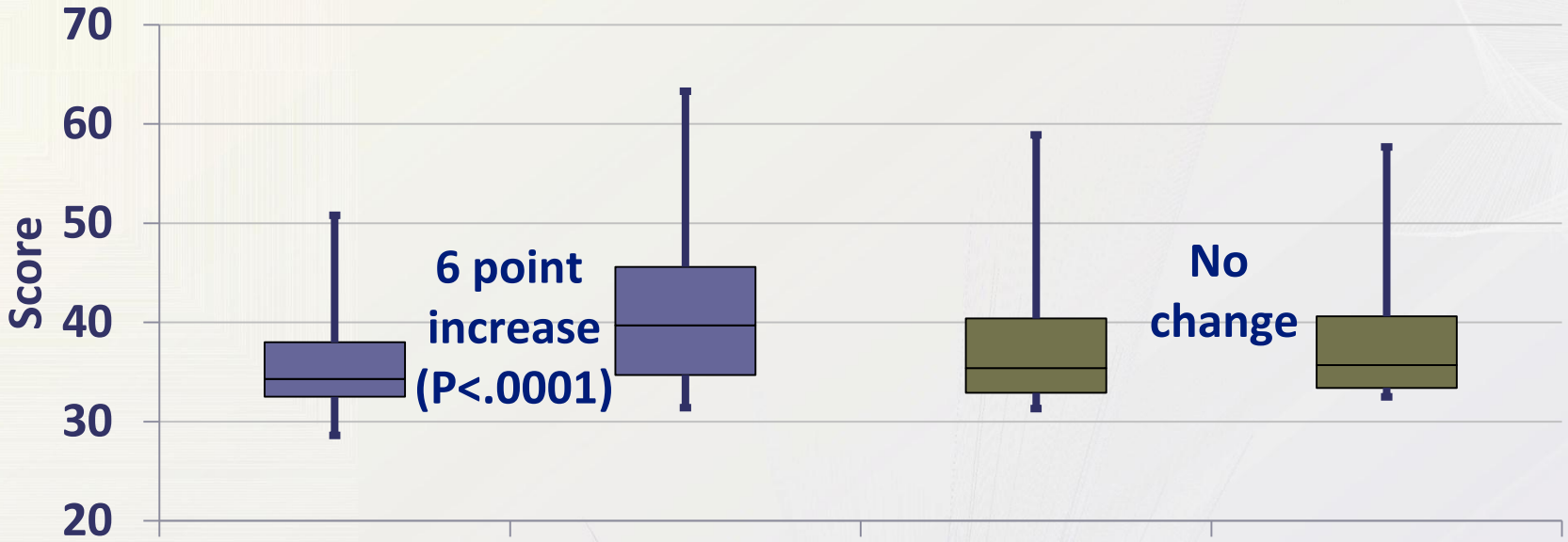


Methods: Comparing LAS vs. LAS-R

- Using SRTR standard analysis files, we computed LAS and LAS-R (scores and rankings) for 34 HL candidates vs. 2,920 LU candidates listed in 2011.

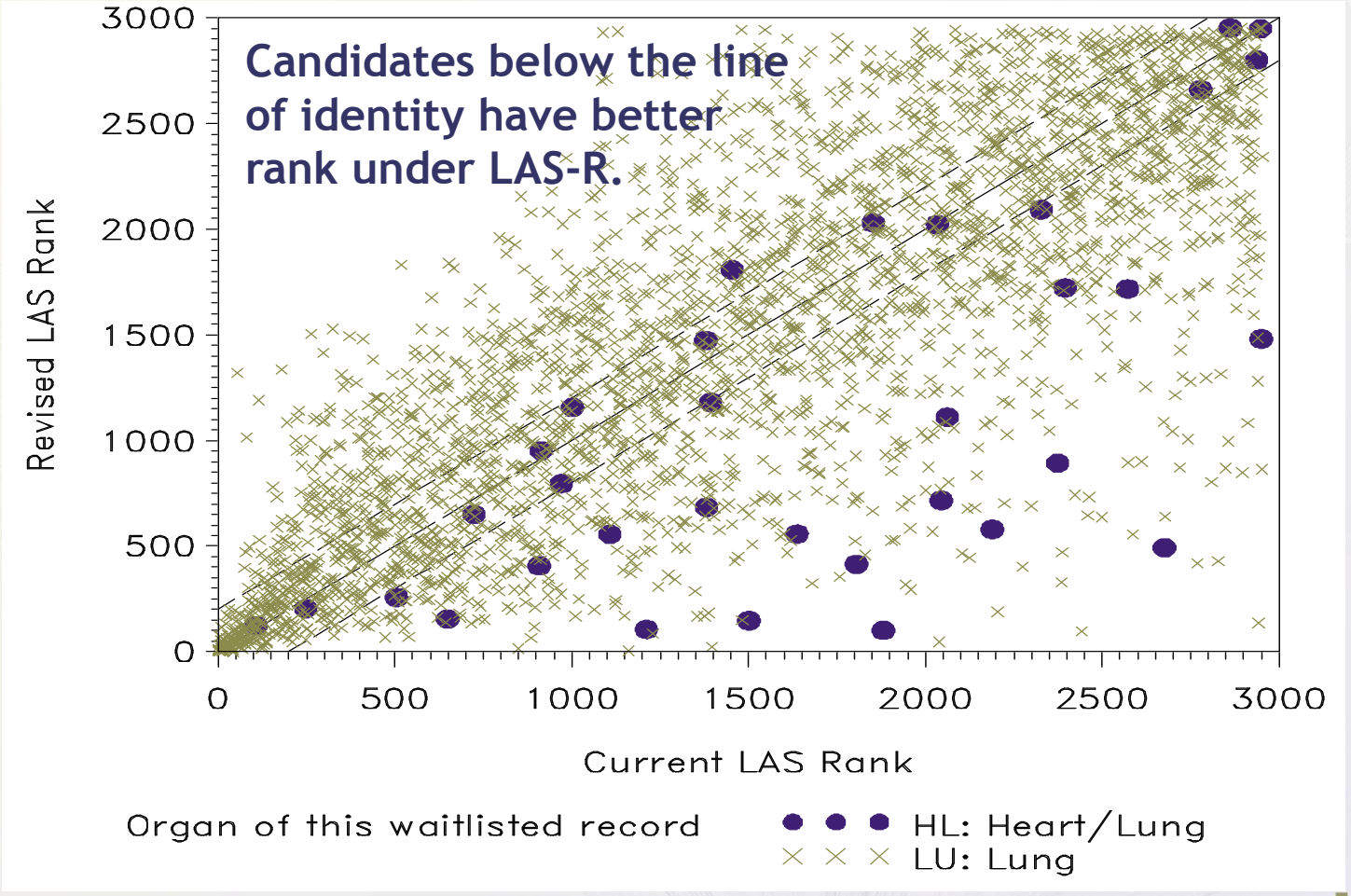
- We examine changes in scores and rankings primarily among HL candidates.

What is the effect of LAS-R on HL candidates?



	HL LAS	HL LAS-R	LU LAS	LU LAS-R
Mean	36	42	39	39
Median	34	40	35	36
Min	30	28	28	30
Max	63	65	95	93

Does LAS-R improve relative allocation ranking of HL candidates?



Rank improved for 79% of HL candidates under LAS-R

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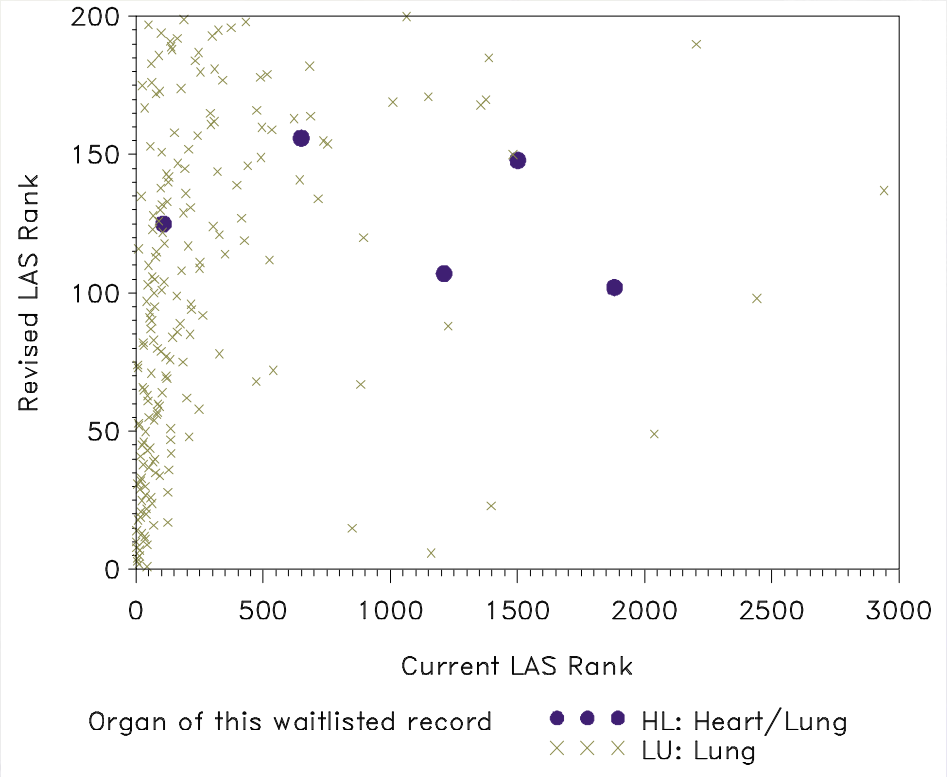
Does LAS-R improve relative allocation ranking of HL candidates?

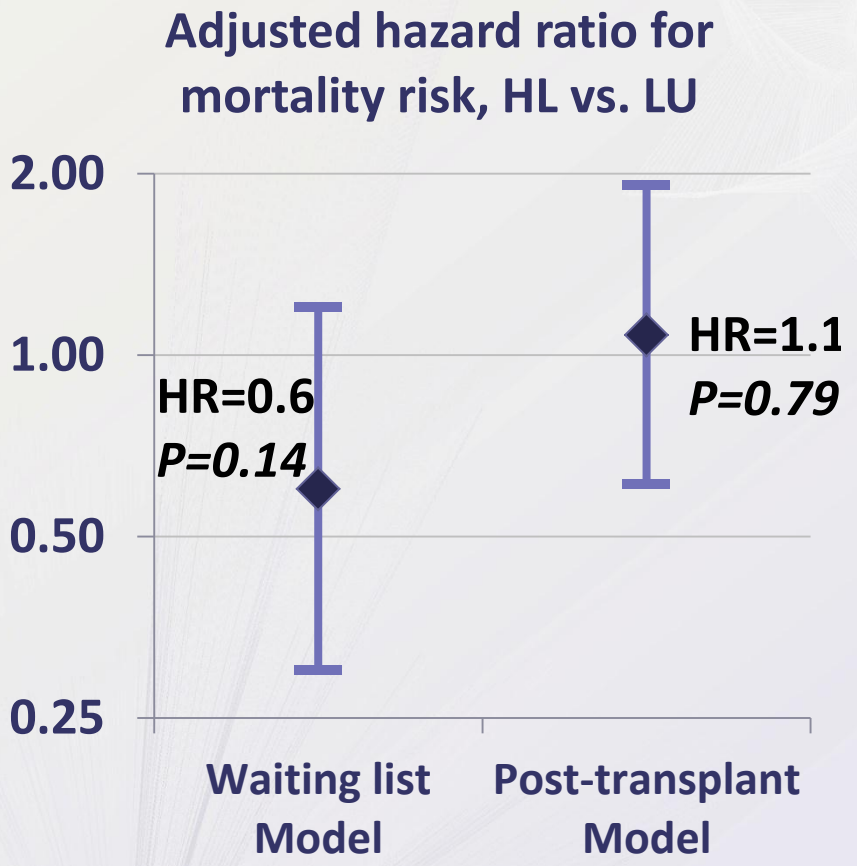
Among those HL candidates with improved LAS-R ranking:

- None ended up in the top 100 ranked candidates.
- 15% (5/34) were in the top 200 ranked candidates.



What happens if we add HL indicator to the LAS-R models?

- We re-fit LAS-R models, including HL candidates and a variable indicating HL.
- Otherwise, population & models identical to LAS-R cohorts.
- HL candidacy had no significant effect; its inclusion did not change the effects of other model covariates.



Summary

- LAS-R will likely improve a HL candidate's allocation ranking on the waiting list.
- Despite LAS-R increases, current "lungs follow heart" allocation policy usually prioritizes HL candidates based on heart urgency status.
- When LAS-R is implemented, we can assess its true impact on HL candidates.

Acknowledgements

- SRTR
  - Co-authors Brooke Heubner, Drs. Hertz, Israni, and Valapour
  - Jon Snyder, PhD
  - Bert Kasiske, MD

- HRSA
  - Monica Lin, PhD

Conclusions