### Improved Survival Benefit Amongst Highest Priority Candidates

#### Undergoing Heart Transplant

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#### Methods and Model

2. Create two seasonally matched, mutually exclusive pre- and post-policy cohorts of all adult heart transplant candidates and recipients listed in the United States with follow-up up to two-years post-transplant.

3. Fit a Cox proportional hazards (CPH) model, treating transplant and status as time-dependent covariates:

\[ h(t) = h_0(t) \times \exp(\beta \times \text{transplant} \times \text{status}) \]

4. Use coefficients of CPH to estimate hazard ratio of transplant relative to waitlist for a given status:

\[ HR(\text{transplant} | \text{waitlist}) = \exp(\beta) \]

#### Results

- **Result 1:** Status 1 candidates experience higher survival benefit from transplant than their Status 1A predecessors (Fig. 4A).

- **Result 2:** Status 2 candidates have lower survival benefit than Status 1A candidates. However, this is expected if Status 3 is a concentration of the healthcare patients from Status 1A (Fig. 5).

- **Result 3:** Status 3 candidates have lower survival benefit than Status 1A candidates. This is expected if Status 3 is a concentration of the healthcare patients from Status 1A (Fig. 5).

#### Conclusion

- The new policy is more efficient at allocating higher acuity patients to the highest priority statuses.
- Overall survival has increased in the post-policy period.
- Therefore, we conclude that the policy has been successful in its main objective without compromising overall survival.
- Future directions include introducing transplant center fixed-effects to capture variability in how centers list and treat patients.

#### Acknowledgements

This project would not be possible without Mentorship from William Parker, MD, PhD; Insight from Kevin Chung, Nikhil LaRocca, MD, Nikhil LaRocca, MD, Kenley Palmer, PhD, Julia Ran, and Sharon Zeng; and Funding from the University of Chicago Pritzker School of Medicine.