



Recipient Working Status is Independently Associated with Outcomes in Heart Transplantation

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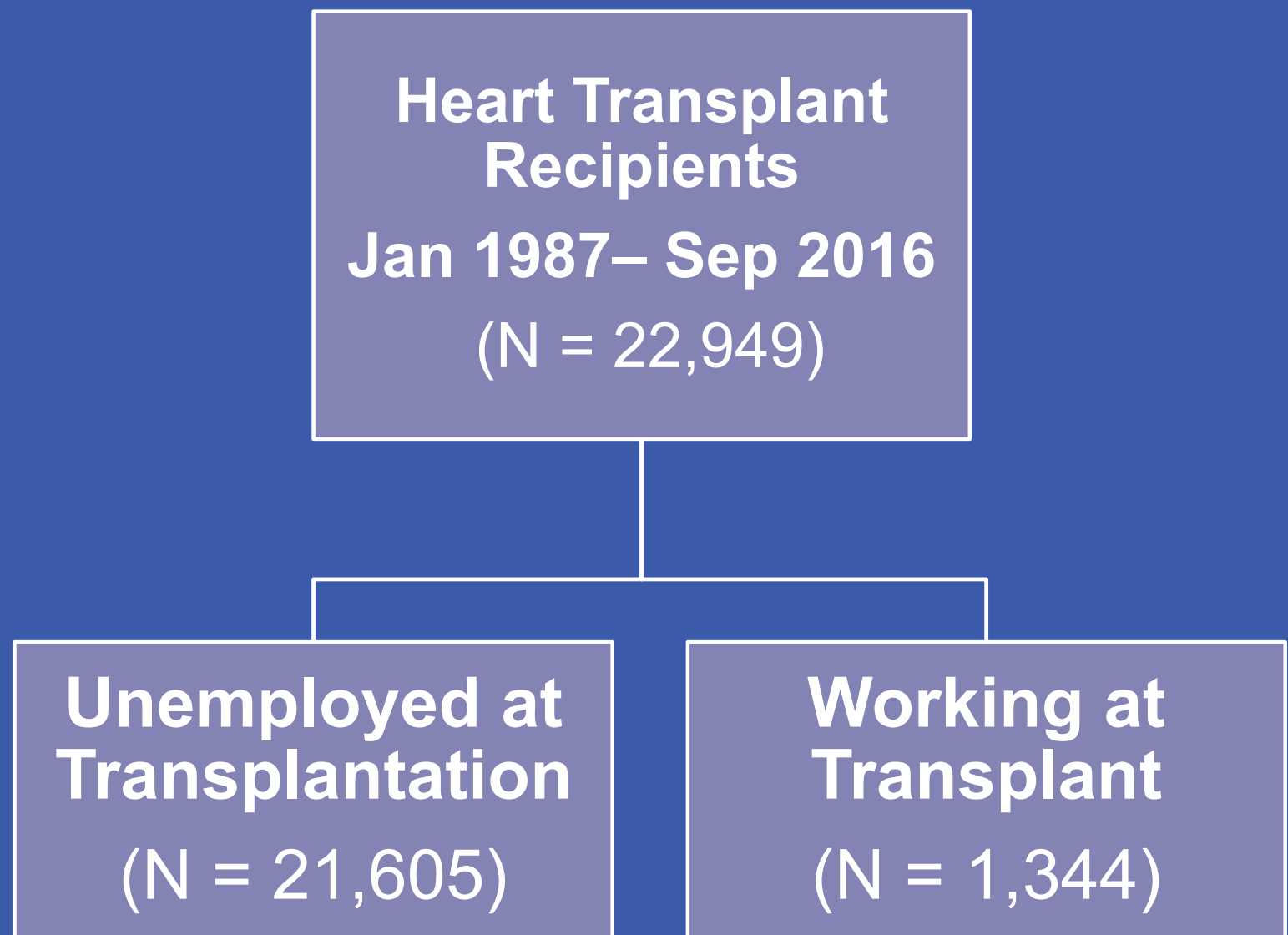


Background

- Surrogates of patient physical status and frailty assessments have demonstrated association with outcomes in surgical populations, including transplant patients.
- Recipient working status may provide a unique measure of physical and mental resilience among transplant patients.
- The purpose of this study was to examine the effect of recipient working status on outcomes after heart transplantation in a national cohort.

Methods

- Retrospective analysis of first-time, adult heart transplant recipients from the UNOS database was performed between Jan 1987 – Sept 2016.
- Kruskal-Wallis or χ^2 test was used to determine significance between working and non-employed patients.
- Survival analysis was performed via Kaplan-Meier method & censored at 10 years.
- Multivariable Cox models were adjusted for age, sex, race, ischemic time, waitlist time/status, preoperative life support, HLA mismatch.

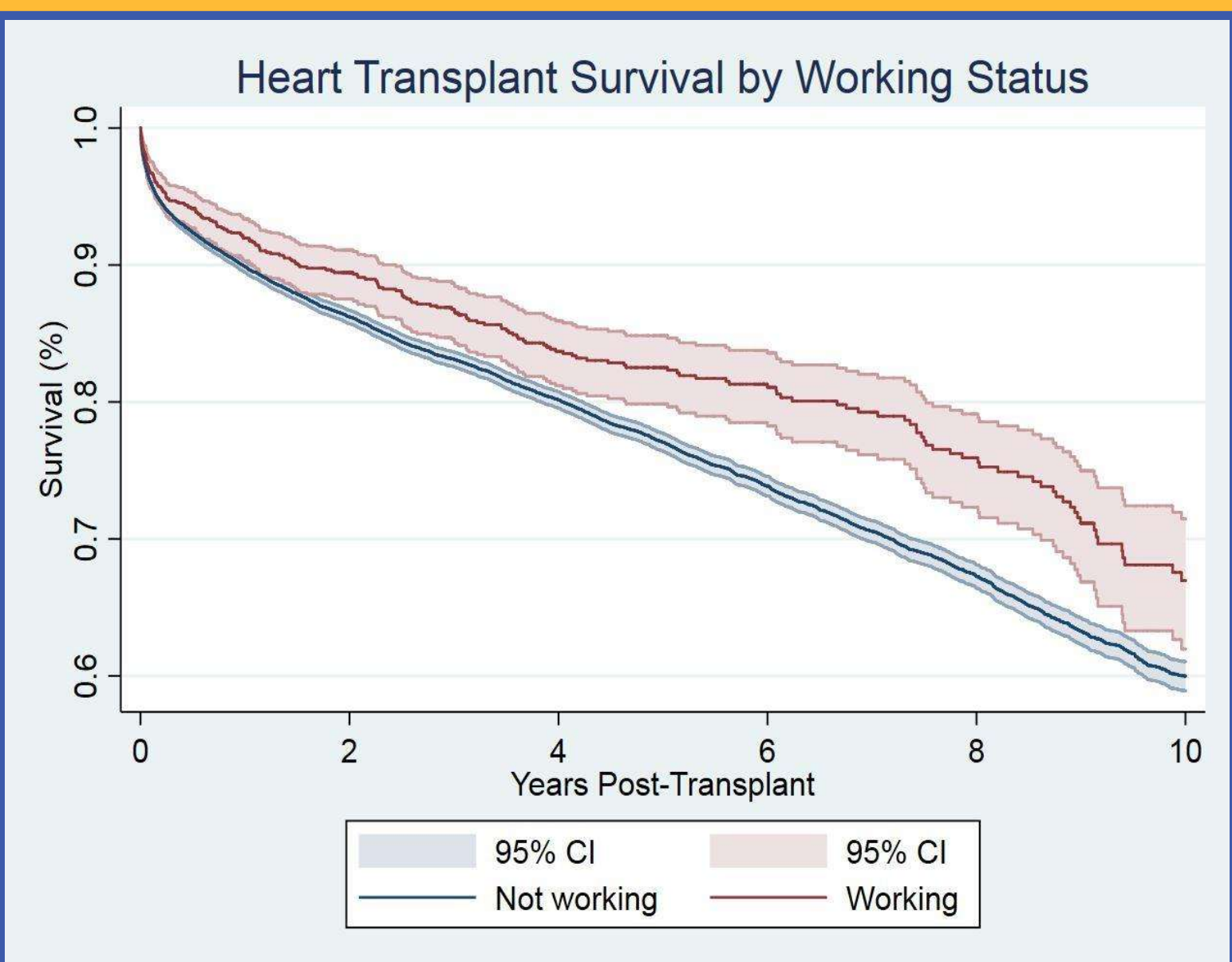


Results

Variables	Unemployed (N=21,605)	Employed (N=1,344)	p-value
Recipient Age (yrs)	53 ± 12	53 ± 11	0.004
Male Gender	74.9%	78.8%	0.001
Caucasian Race	68.2%	77.1%	<0.001
Diabetes Mellitus	27.0%	21.4%	<0.001
Previous Cardiac Surgery	60.2%	60.9%	0.594
Smoking History	48.3%	42.3%	<0.001
Cerebrovascular Disease	5.2%	4.4%	0.295
Serum Creatinine (mg/dL)	1.3 ± 0.6	1.2 ± 0.4	0.126
Systolic PAP (mmHg)	42 ± 14	39 ± 14	<0.001
Diastolic PAP (mmHg)	20 ± 9	18 ± 8	<0.001
Mean PAP (mmHg)	28 ± 10	26 ± 10	<0.001
Cardiac Output (L/min)	4.5 ± 1.5	4.5 ± 1.5	0.208
PCWP (mmHg)	19 ± 9	17 ± 9	<0.001
UNOS Status 1	91.1%	81.9%	<0.001
Preoperative Dialysis	2.8%	1.6%	0.007
Preoperative Life Support	76.3%	64.0%	<0.001
Mechanical Ventilation	1.9%	0.4%	<0.001
VAD	37.9%	40.4%	0.067
Waiting Time (days)	209 ± 355	253 ± 359	<0.001
Donor Age (yrs)	32 ± 12	32 ± 11	0.784
Ischemic Time (hrs)	3.2 ± 1.0	3.1 ± 1.0	0.005

Values presented as mean ± standard deviation or percent of population.

PAP = pulmonary artery pressure; PCWP = pulmonary capillary wedge pressure; VAD = ventricular assist device; UNOS = United Network for Organ Sharing.



Post-Transplant Survival Curves

5-year Survival ($p < 0.001$)

- Working: 67.0%
- Unemployed: 60.0%

Cox Regression:

- AOR: 0.83 [0.71-0.98], $p = 0.024$

Discussion

- Working patients were more likely to be male, Caucasian, and had less diabetes. Unemployed patients were generally sicker, with more preoperative life support, higher PA pressures, and more status 1 listing.
- 10-year survival rates were significantly greater in patients who were employed at the time of transplantation. This decreased hazard for mortality persisted when adjusting for preoperative morbidity and physical functional status.
- This suggests a possible role of working status in capturing mental & physical frailty information, independent of physical working status.
- Causes of death, and incidence of acute rejection were non-different between employed and unemployed patients.

Limitations:

- Retrospective design.
- Variation in treatment practices over time period and between centers could not be assessed.

Conclusions

Recipient working status at the time of heart transplant is associated with improved post-transplant survival. Reductions in mortality were present after adjustment for functional status, indicating an independent effect of working status.

Further studies examining measures of mental/physical resilience may be useful in providing prognostic information prior to transplant.

Disclosures

No authors for this presentation have relevant financial interests to disclose.

Variables	Unemployed (N=21,605)	Employed (N=1,344)	p-value
Post-Transplant Dialysis	9.8%	6.4%	<0.001
Stroke	2.5%	2.2%	0.587
Pacemaker Need	3.4%	3.9%	0.690
30-day Mortality	4.4%	3.4%	0.100
Causes of Death			0.140
Graft Failure	6.9%	9.2%	
Rejection	7.9%	5.2%	
Infection	14.0%	13.5%	
CV	16.9%	22.3%	
Malignancy	8.6%	8.7%	
Respiratory	3.4%	4.4%	
Other	42.3%	36.7%	
Acute Rejection at 1 year	21.7%	19.9%	0.200

Post-Transplant Outcomes/Complications