

BACKGROUND

• Though medication adherence is essential for graft survival, little is known about the impact of nonadherence on heart transplant survival.

OBJECTIVE

• The objective of this study was to examine the association between graft survival and adherence in heart transplant recipients.

METHODS

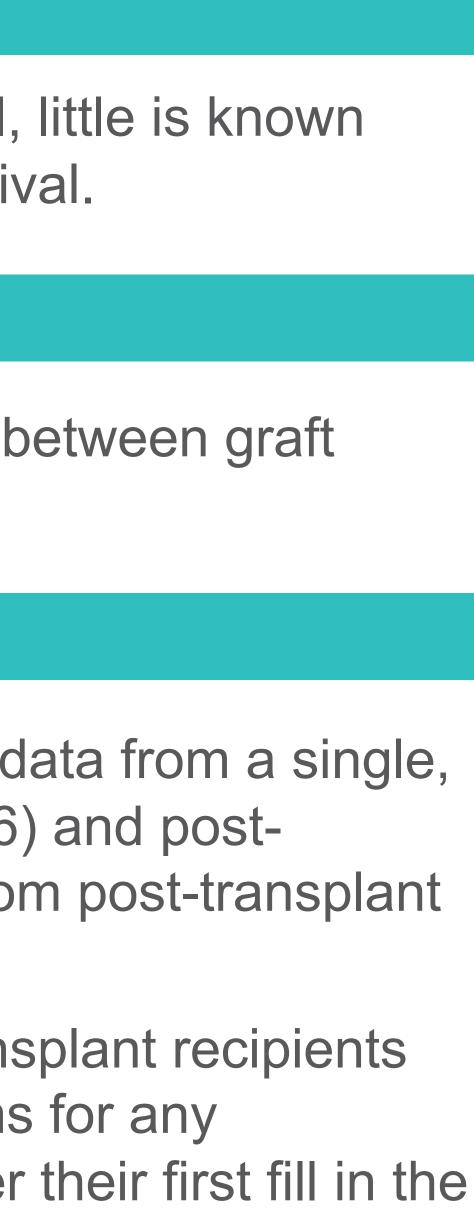
- This retrospective, observational cohort study used claims data from a single, large national pharmacy chain (claims data from 2013-2016) and posttransplant follow-up data from the OPTN database (data from post-transplant to 2016).
- The sample included adult, deceased-donor heart-only transplant recipients (most recent if more than one) who had ≥ 2 pharmacy claims for any immunosuppressant \geq 150 days apart in the 12-months after their first fill in the study period (2013-2016).
- Proportion of days covered (PDC) by any immunosuppressant for 12-months after first fill was calculated as a measure of adherence (defined as PDC≥80%). Graft survival was defined as having a surviving graft at the end of the study period.
- Logistic regression was used to estimate the association between adherence and graft survival, controlling for covariates (age at transplant, time since transplant, gender, race/ethnicity, copay amount, number of prescriptions for chronic conditions, pharmacy insurance plan, brand medication usage, digital fills, filling at a transplant specialized pharmacy, and receiving financial assistance).

RESULTS

- Of the 3,435 heart transplant recipients who were eligible for the study, 75% were adherent and 81% had a surviving graft (range: 6 to 10,012 days posttransplant; median: 1,409 days).
- Approximately 77% of those patients whose grafts survived and 65% of those whose grafts failed were adherent (Figure 1).
- After adjusting for covariates, the odds of having a surviving graft were almost double for adherent patients than for non-adherent patients (OR=1.94, 95% CI [1.58, 2.37]; *p*<.001; **Figure 2**).

Medication adherence and graft survival among heart transplant recipients

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RESULTS Continued

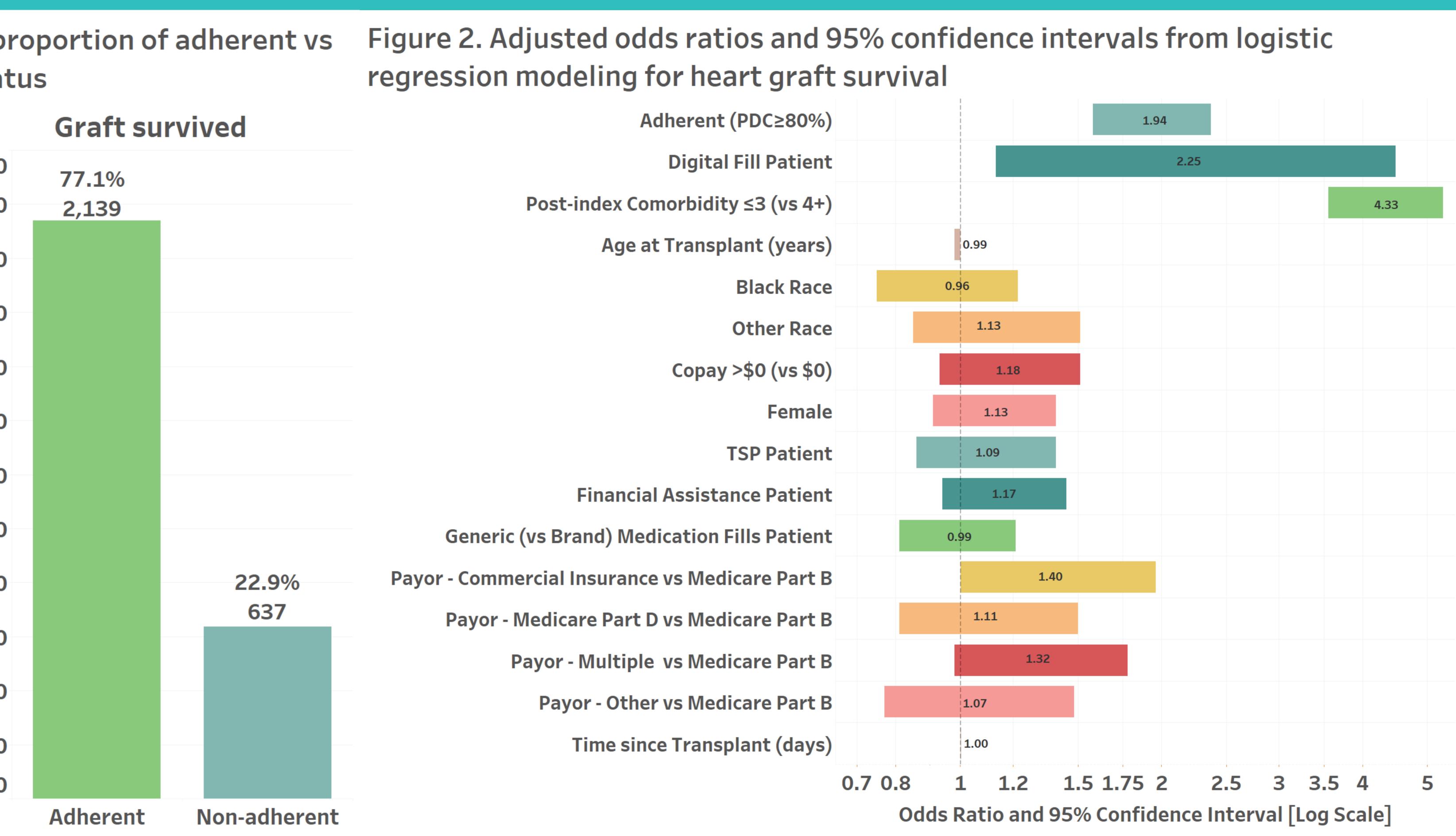
Figure 1: Unadjusted number and proportion of adherent vs non-adherent patients by graft status

Graft failed			
500	65.1% 429		2,400 2,200
400			2,000
300			1,600
500		34.9% 230	1,400 1,200
200			1,000 800
100			600
			400 200
0	Adherent	Non-adherent	C

- immunosuppressants digitally (OR=2.25, [1.13, 4.48]; p < .001; Figure 2).
- adherent patients.

CONCLUSION

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• Other notable factors associated with graft survival included having three or fewer post-index prescriptions for chronic conditions (OR=4.33, [3.55, 5.27]; p < .001) and filling • A sensitivity analysis using a PDC > 90% as the definition for adherence showed that the odds of having a surviving graft were 2.01 (95% CI [1.67, 2.43] times more likely for

• This analysis suggests that adherent patients had greater odds of having a surviving graft than those who were not adherent to immunosuppressants. • Future studies should aim to show which patient behaviors contribute to medication adherence and what PDC threshold should be used for transplant research.