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# Waitlist and posttransplant outcomes of candidates with LVAD: Comparison of old and new heart allocation policies

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# Disclosures

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# Introduction

The new heart allocation policy took effect in October 2018. The new risk stratification scheme prioritizes patients with short-term devices, raising concern that candidates with durable left ventricular assist devices (LVADs) may be disadvantaged and posttransplant outcomes compromised. We compared trends in LVAD use and outcomes under the old and new policies.



# Methods

## Waitlist

### Cohort:

- Group 1: 1454 newly listed adult heart candidates with LVAD from 8/3/2016 to 10/17/2017 were followed for a year
- Group 2: 1341 newly listed adult heart candidates with LVAD from 10/18/2018 to 12/31/2019 were followed for a year

**Analysis:** Unadjusted cumulative incidence for 1-year waitlist outcomes

## Posttransplant

### Cohort:

- Group 1: 1601 adult heart recipients on LVAD on the waitlist received transplants during 8/3/2016-10/17/2017 and were followed for a year
- Group 2: 1197 adult heart recipients on LVAD on the waitlist received transplants during 10/18/2018-12/31/2019 and were followed for a year

**Analysis:** Unadjusted Kaplan-Meier survival curves for 30 days, 6 months, and 1 year

# Results: Demographics

		Group 1	Group 2
Age (years)	18-34	9.4	10.1
	35-49	21.8	24.8
	50-64	50.4	50.5
	65+	18.4	14.6
Sex	Male	80.3	78.7
	Female	19.7	21.3
Race	White	61.5	58.2
	Black/African American	26.9	30.0
	Hispanic	7.8	8.1
	Asian/Pacific Islander	3.1	3.1
	Other/unknown	0.8	0.5
Wait time (days)	0-<30	17.3	22.0
	30-<60	17.4	13.3
	60-<180	14.9	12.1
	180-<270	11.2	7.6
	270-<365	9.4	8.1
	365+	29.8	37.0

# Results: Waitlist Outcomes by Status

	Group 1				Group 2						
	Status 1A	Status 1B	Status 2	Inactive	Status 1	Status 2	Status 3	Status 4	Status 5	Status 6	Inactive
Still Waiting	46	326	33	26	0	6	51	403	1	21	13
Died	25	20	5	6	2	6	4	12	0	1	2
Transplanted	308	469	15	22	32	108	188	352	0	5	11
Removed*	46	83	11	13	1	6	28	76	0	7	5
Total	425	898	64	67	35	126	271	843	1	34	31

# Results: Waitlist Outcomes

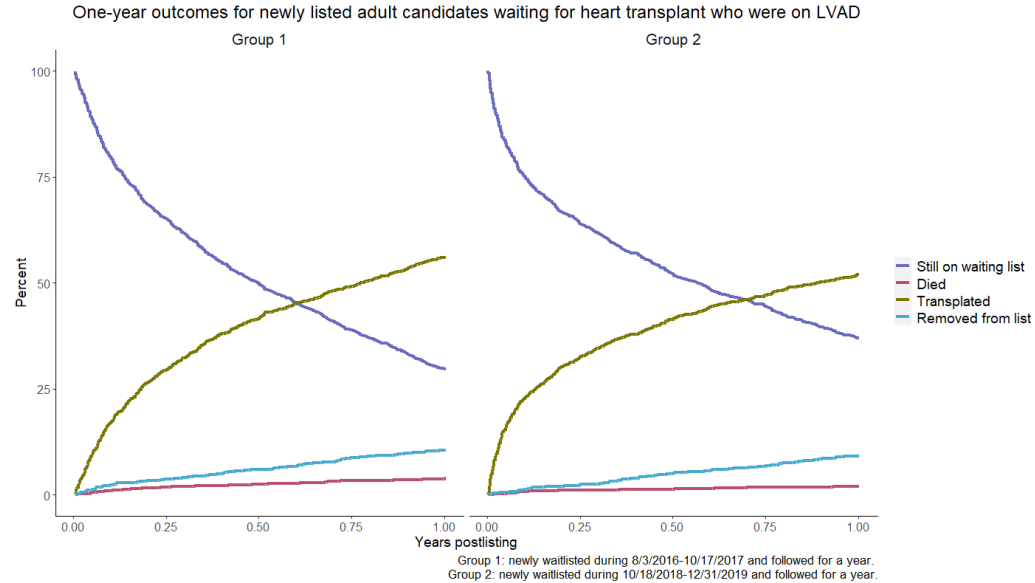
Table 1. One-year outcomes for newly listed adult candidates waiting for heart transplant who were on LVAD

	Group 1		Group 2	
	Count	Percent	Count	Percent
Total LVAD candidates	1454	100.00	1341	100.00
Still Waiting	431	29.6	495	36.9
Died	56	3.9	27	2.0
Transplanted	814	56.0	696	51.9
Removed*	153	10.5	123	9.2

Removed\*: candidates who have a removal code other than transplant or death by their followup date.

Followup date: 1 year after transplant.

p-value: 0.75



# Results: Posttransplant Survival

Table 2. Outcomes at 30 days, 6 months, and 1 year post-transplant

	Policy Implementation				p-values
	Group 1		Group 2		
	Count	Percent	Count	Percent	
Total LVAD recipients	1601	100.0	1197	100.0	
Alive at 30 days	1537	96.0	1147	95.8	0.8
Died within 30 days	64	4.0	50	4.2	
Alive at 6 months	1495	93.4	1098	91.7	0.1
Died within 6 months	106	6.6	99	8.3	
Alive at 1 year	1462	91.3	1076	89.9	0.2
Died within 1 year	139	8.7	121	10.1	

30 days data is from the date of transplant to 30 days.

6 months data is from the date of transplant to 6 months.

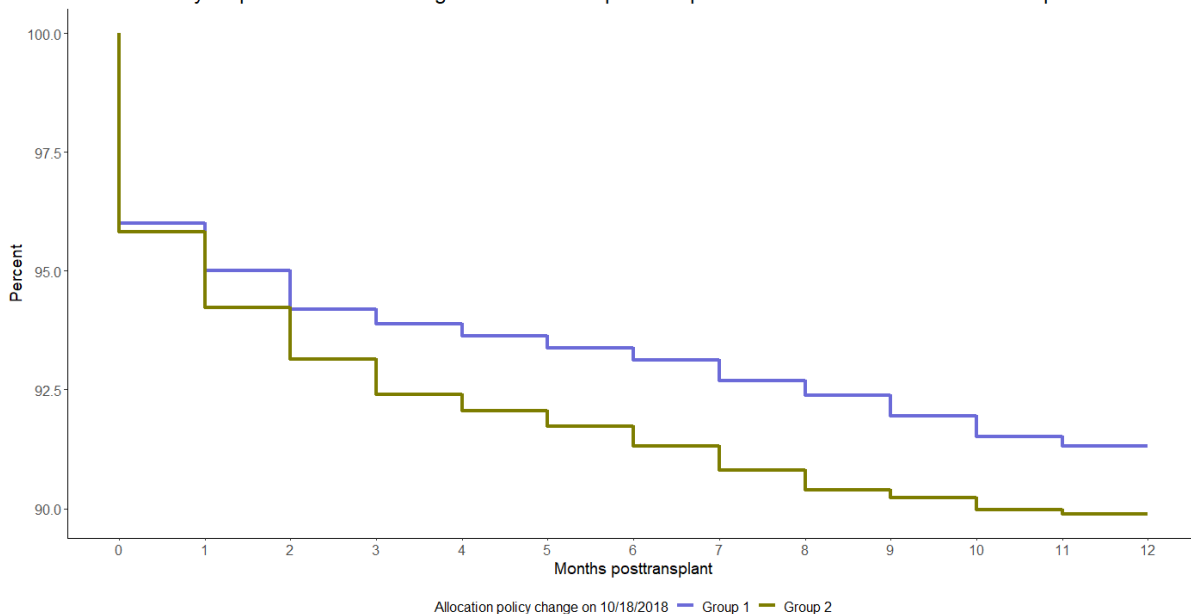
1 year data is from the date of transplant to 1 year.

p-values are from unadjusted Kaplan-Meier analyses.



# Results: Post-transplant Survival

1 year patient survival among adult heart transplant recipients who were on LVAD before transplant



Group 1: received a transplant during 8/3/2016-10/17/2017 and followed for a year.  
Group 2: received a transplant during 10/18/2018-12/31/2019 and followed for a year.



# Discussion

- Since implementation of the new policy, the proportion of heart transplant candidates with LVAD who received transplants has decreased 25%
- The proportion of candidates still awaiting transplant also increased under the new policy
- Most LVAD patients listed as status 4, of which 42% received transplants
- Although waitlist mortality has declined in LVAD patients since the new policy, posttransplant mortality has increased slightly, possibly due to sicker LVAD patients
- Although not statistically significant, this trend bears monitoring given the shift toward short-term devices



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