



SCIENTIFIC
REGISTRY OF
TRANSPLANT
RECIPIENTS

Waitlist and posttransplant outcomes of candidates with IABP or ECMO: Comparison of old and new heart allocation policies

Colvin M, Ahn Y, Hall S, Skeans M, Walsh M, Israni A

Disclosures

Monica Colvin, MD, MS

Professor of Medicine

Advanced Heart Failure, Transplant, and MCS

Associate Director, Heart Transplant

University of Michigan/Michigan Medicine, Ann Arbor, MI

US

Senior Lead for Heart, SRTR

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

My presentation does not include discussion of off-label or investigational use.

I do not intend to reference unlabeled/unapproved uses of drugs or products in my presentation.

This work was supported wholly or in part by HRSA contract 75R60220C00011. The content is the responsibility of the authors alone and does not necessarily reflect the views or policies of the Department of HHS, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.



SCIENTIFIC REGISTRY OF
TRANSPLANT RECIPIENTS

Introduction

- New heart allocation policy prioritizes candidates on short-term circulatory support as status 1 or 2 to promote transplants for the sickest candidates
- During the year before the new policy, the proportion of newly listed patients with IABP or ECMO was 7.9%, rising to 15.6% after the new policy. The proportion of transplant recipients with IABP or ECMO increased from 9.6% before the new policy to 33% after.
- In this analysis, we compared the outcomes of heart transplant candidates and recipients with IABP or ECMO before and after the new policy.



Methods

Waitlist

Cohort:

Group 1: 375 newly listed adult heart candidates on IABP or ECMO from 8/3/2016 to 10/17/2017 were followed for a year

Group 2: 756 newly listed adult heart candidates on IABP or ECMO 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: 331 adult heart recipients on IABP or ECMO on the waitlist received transplants during 8/3/2016-10/17/2017 and were followed for a year

Group 2: 1210 adult heart recipients on IABP or ECMO 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	16.0	14.6
	35-49	17.1	22.1
	50-64	49.1	44.2
	65+	17.9	19.2
Sex	Male	72.8	72.9
	Female	27.2	27.1
Race	White	61.9	58.7
	Black/African American	25.1	25.1
	Hispanic	8.8	10.2
	Asian/Pacific Islander	4.0	5.2
	Other/unknown	0.3	0.8

Results: Waitlist Outcomes

Table 1. One-year outcomes for newly listed adults waiting for heart transplant who were on IABP or ECMO (SCSD), by urgency status

	Group 1: 8/3/2017-10/17/2018					Group 2: 10/18/2018-12/31/2019							
	Total	Status 1A	Status 1B	Status 2	Inactive	Total	Status 1	Status 2	Status 3	Status 4	Status 5	Status 6	Inactive
Total	375	290	26	32	27	756	152	495	22	27	7	36	17
Still Waiting	52	28	9	10	5	36	1	21	0	3	0	9	2
Died	47	41	1	4	1	32	12	11	0	2	3	0	4
Transplanted	215	179	14	6	16	626	119	430	21	22	2	24	8
Removed*	61	42	2	12	5	62	20	33	1	0	2	3	3

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

Followup date: 1 year after transplant.



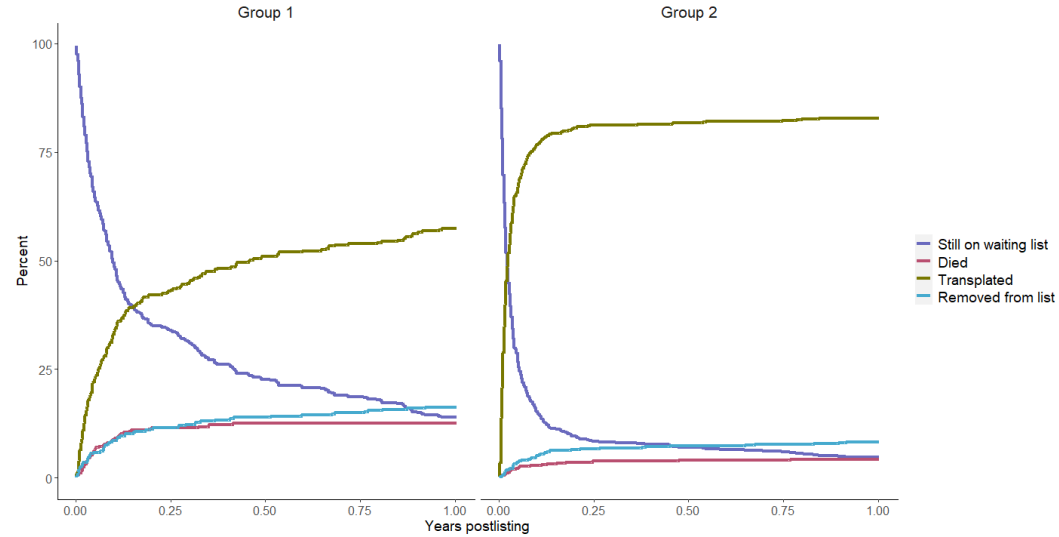
Results: Waitlist Outcomes

Table 2. One-year outcomes for newly listed adults waiting for heart transplant who were on IABP or ECMO (SCSD)

	Group 1		Group 2	
	Count	Percent	Count	Percent
Total candidates	375	100.00	756	100.00
Still Waiting	52	13.9	36	4.8
Died	47	12.5	32	4.2
Transplanted	215	57.3	626	82.8
Removed*	61	16.3	62	8.2

Removed*: candidates who have a removal code other than transplant or death by their followup date.
p-value: 0.78

One-year outcomes for newly listed adults candidates waiting for heart transplant who were on IABP or ECMO



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

Results: Posttransplant Survival

Table 3. Outcomes at 30 days, 6 months, and 1 year post-transplant

	Policy Implementation				p-values
	Group 1		Group 2		
	Count	Percent	Count	Percent	
Total SCSD recipients	331	100.0	1210	100.0	
Alive at 30 days	321	97.0	1165	96.3	0.5
Died within 30 days	10	3.0	45	3.7	
Alive at 6 months	302	91.2	1121	92.6	0.4
Died within 6 months	29	8.8	89	7.4	
Alive at 1 year	297	89.7	1095	90.5	0.7
Died within 1 year	34	10.3	115	9.5	

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

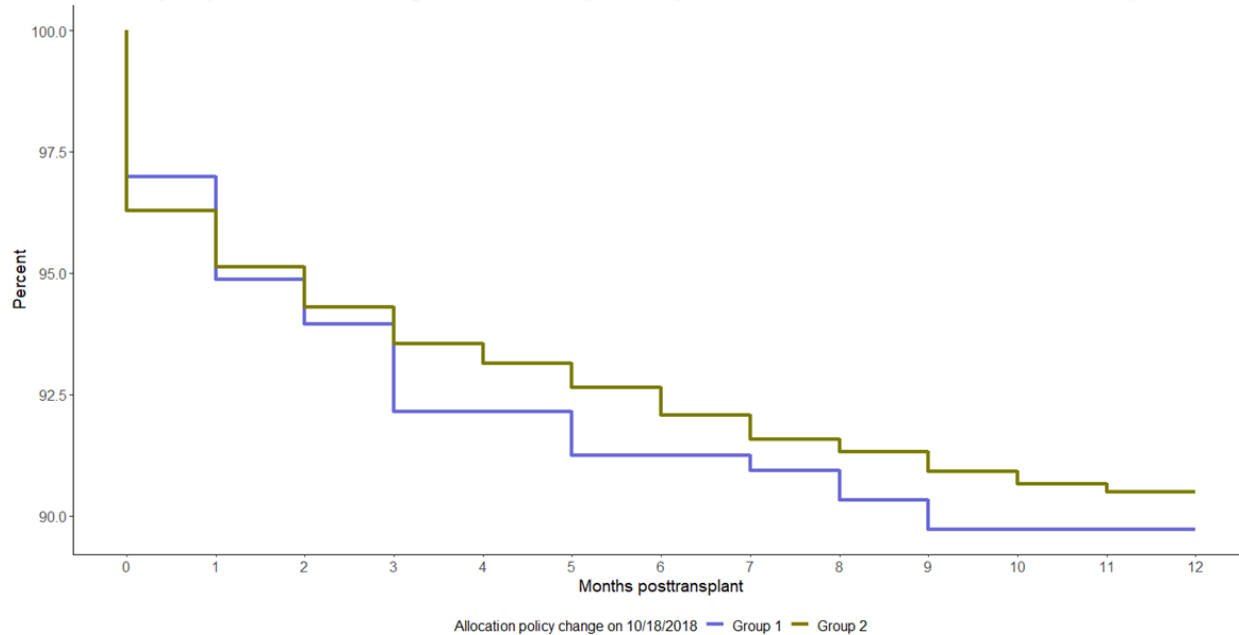
6 months data is from the date of transplant to 6 months.

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

p-values are from unadjusted Kaplan-Meier analyses.

Results: Posttransplant Survival

1 year patient survival among adult heart transplant recipients who were on IABP or ECMO 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

- After implementation of the new policy, the number of heart transplant candidates and recipients with SCSD increased dramatically
- Under the new policy, there was a substantial reduction in the proportion of candidates with SCSD removed for death or causes other than transplant and fewer still awaiting transplant
- Posttransplant survival of recipients with SCSD was not significantly different pre- and post-policy
- Improved waitlist outcomes of candidates with SCSD may warrant evolution of strategies for treating transplant candidates
- Careful application of SCSD is required to avoid inappropriate use of higher-urgency categories and disadvantaging patients without SCSD



Transplantation

Director Jon Snyder, PhD, MS

Investigators Bertram Kasiske, MD FACP
Ajay Israni, MD, MS
Allyson Hart, MD, MS

Program Manager Caitlyn Nystedt, MPH, PMP

Sr. Administrative Assistant Pamela Giles

Medical Editor Mary Van Beusekom, MS, ELS

Marketing & Comms. Mona Shater, MA
Amy Ketterer
Tonya Eberhart

Project Managers Katherine Audette, MS
Michael Conboy,
Bryn Thompson, MPH

Project Coordinator Chris Folken

Sr. Manager, Biostatistics David Zaun, MS

Manager, Biostatistics Melissa Skeans, MS

Principal Biostatisticians Nicholas Salkowski, PhD
Andrew Wey, PhD

Sr. Biostatistician Donnie Musgrove, PhD

Biostatisticians David Schladt, MS
Tim Weaver, MS
Yoon Son Ahn, MS
Jon Miller, PhD, MPH

IT, Web, Database, Simulation Ryan Follmer
Carl Fils-Aime
Mark Fredrickson
Patrick Johnson
Joshua Pyke, PhD
Eugene Shteyn, MS
Matthew Tabaka
Greta Knefelkamp



SCIENTIFIC REGISTRY OF
TRANSPLANT RECIPIENTS



SCIENTIFIC
REGISTRY OF
TRANSPLANT
RECIPIENTS

Contact us: SRTR@SRTR.org

Follow us:



[@SRTRNews](https://twitter.com/SRTRNews)



[Scientific Registry of Transplant Recipients](https://www.linkedin.com/company/scientific-registry-of-transplant-recipients)



[SRTR](https://www.youtube.com/SRTR)