

# Healthcare Utilization and Medical Outcomes in the First Three Years Post-Transfer Among Young Adult Solid Organ Transplant Recipients



Kelly E. Rea, MS, Grace K. Cushman, MS, Lauren F. Quast, MS, Roshan George, MD, Arpita Basu, MD, Ryan Ford, MD, Wendy Book, MD, & Ron L. Blount, PhD

## INTRO

- Young adult (YA) solid organ transplant recipients experience negative medical outcomes during transition to adult healthcare.
- Traditionally, transition success is considered attendance at first adult appointment within a specific time; however, given transition continues into adult care, this is not comprehensive.
- The current study compared outcomes between two transition success criteria:
  - First adult appointment attendance within 12 months
  - Retention in adult healthcare over 3 years

## METHODS

- 49 YA heart, kidney, and liver transplant recipients transferred 2014 - 2020
- Medical chart review examined post-transfer healthcare utilization and medical outcomes.
- Independent samples t-tests, Chi Square analyses, and Mann-Whitney U-tests examined group differences in medical outcomes based on success criteria.
- Linear growth curve modeling examined appointment attendance trajectory.

## Retention in adult healthcare was significantly related to more improved clinical outcomes, as compared to initial engagement

	Initial engagement (attended first appt within 1 year)			Retention (average # of appts in first three years $\geq$ 1)		
	Yes <i>n</i> = 37	No <i>n</i> = 12	t/U/ $\chi^2$	Yes <i>n</i> = 36	No <i>n</i> = 13	t/U/ $\chi^2$
Number of ED visits	.76(1.12)	1.67(2.15)	NS	.67(.99)	1.85(2.15)	NS
Number of hospitalizations	.49(.93)	.92(1.24)	NS	.36(.68)	1.23(1.48)	154.50*
Duration of hospitalizations	2.16(5.23)	3.92(7.49)	NS	1.08(3.16)	6.77(8.99)	147.50*
Rejection episodes	2(5%)	4(33%)	10.29**	3(8%)	3(25%)	5.60*
Transplant re-evaluations	3(8%)	5(42%)	9.13**	2(5%)	6(50%)	15.68***
Patients taking Tacrolimus	<i>n</i> = 25	<i>n</i> = 5		<i>n</i> = 27	<i>n</i> = 3	
MLVI	2.40(1.63)	3.92(2.46)	NS	2.34(1.56)	5.43(2.07)	3.17*
Adherent by MLVI cutoff	15/25 (60%)	1/5 (20%)	NS	16/27 (59%)	0/3 (0%)	NS

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Independent samples t-tests, Fisher's Exact tests, and Mann Whitney U tests utilized. Shaded rows are significant

## The current sample demonstrated significant declines in appointment attendance per year over three years



Kelly Rea: ker25678@uga.edu | @kellyrea

## RESULTS

Sample Demographics	M(SD), n(%)	
Age at transfer (years)	20.62 (0.52)	
Time since Transplant (years)	10.47 (5.92)	
Gender (male)	27 (55%)	
Race	White	26 (53%)
	Black	17 (35%)
	Asian	3 (6%)
	More than one race	3 (6%)
Ethnicity	Hispanic	4 (8%)
	Non-Hispanic	45 (92%)
Insurance in adult care	Private	23 (47%)
	Public	15 (31%)
	Multiple types	4 (8%)
	Uninsured	7 (14%)

- Acceptable model fit
- Significant variation in mean first year appointment attendance, differences among AYA transplant recipients in their initial level of appointment attendance.
- Slope was significant (-0.32,  $p < .01$ ), demonstrating a significant decline in appointment attendance across 3 years, with significant variation, indicating rate of change for some patients was significantly steeper or flatter.
- Differences in slope or initial attendance not significantly related to age at transfer or time since transplant

## DISCUSSION

- Significant declines in attendance were after initiating adult care, underscoring support for AYAs after transfer.
- Need to examine transition success longitudinally to address changes in healthcare utilization & medical outcomes.
- Attention to interventions and administrative support aimed at maintaining or increasing attendance and identifying risk factors and intervention for unsuccessful transition is warranted.