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Adjustments to Transplant Program and OPO Evaluation Metrics

The Scientific Registry of Transplant Recipients (SRTR), under contract from the Health Resources and Services Administration (HRSA), is charged with evaluating the performance of the nation's transplant system through publication of semi-annual transplant program-specific reports (PSRs) and organ procurement organization (OPO)-specific reports (OSRs). These reports contain performance metrics covering various time periods. For OPOs, these metrics include deceased donor organ yield. For transplant programs, they include pre-transplant mortality rates (formerly called waitlist mortality rates), transplant rates, organ offer acceptance rates, patient mortality after listing, and 1-month, 90-day, 1-year, 1-year conditional on 90-day, and 3-year posttransplant outcomes including graft survival and patient survival.

In response to the current global pandemic, SRTR modified the evaluation metrics for transplant programs and OPOs for the reports released in January 2021, July 2021, January 2022, July 2022, January 2023, July 2023, January 2024, July 2024 and January 2025. These reports made adjustments to transplant program and OPO performance metrics so that data during the time around the declaration of a national public health emergency on March 13, 2020, were not included in the metrics.

Modifications for the July 2025 reporting cycle were considered at the Analytic Methods Subcommittee of the SRTR Review Committee (SRC) at its meeting on March 24, 2021, and the full SRC meetings April 27, 2021 and on January 11, 2022. Both the Analytic Methods Subcommittee and the full SRC recommended an ongoing carve out of the first quarter of the pandemic (March 13, 2020 through June 12, 2020) from adjusted performance metrics, as detailed below. These recommendations were reviewed by HRSA's Division of Transplantation, which oversees SRTR. HRSA approved these recommendations, which SRTR will implement for the July 2025 reporting cycle. These changes will remain in force beyond the July 2025 reporting cycle, unless otherwise amended:

Posttransplant Outcomes (including 1-month, 90-day, 1-year, 1-year conditional on 90-day, and 3-year graft and patient survival): Evaluation cohorts will exclude transplants performed between March 13, 2020 and June 12, 2020, inclusive of March 13 and June 12. Patients given transplants before March 13, 2020 will have follow-up censored on March 12, 2020. Patients given transplants after June 12, 2020 will resume normal follow-up. Follow-up will not resume for patients given transplants before March 13, 2020 who are alive with function on June 12, 2020; however, this may be reconsidered as SRTR continues to explore moving to a period-prevalent methodology:

1-month, 90-day, 1-year & 1-year conditional on 90-day Patient and Graft Survival Evaluations: Transplants 1/1/2022-6/30/2024, follow-up through 12/31/2024.

3-year Patient and Graft Survival Evaluations: Transplants 7/1/2019-3/12/2020, follow-up through 3/12/2020. Transplants 6/13/2020-12/31/2021; follow-up through 12/31/2024.

Pre-Transplant Mortality Rate (formerly called Waitlist Mortality Rate): These evaluations are based on normal reporting cohorts.

Days after listing (and before transplant) between 1/1/2023 and 12/31/2024.

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Transplant Rate: These evaluations are based on normal reporting cohorts.

Candidates on the waitlist 1/1/2023-12/31/2024.

Overall Rate of Mortality After Listing: These evaluations are based on normal reporting cohorts.

Evaluation period: 1/1/2023-12/31/2024.

Offer Acceptance Rate: These evaluations are based on normal reporting cohorts.

Offers received 1/1/2024-12/31/2024.

These decisions will apply to the evaluations released in the SRTR's semi-annual program-specific reports scheduled for release on July 8, 2025. These changes have been communicated to the leadership of the Organ Procurement and Transplantation Network's (OPTN) Membership and Professional Standards Committee (MSPC). These decisions will then be re-evaluated as more information becomes available in preparation for the release scheduled for January 2026.

As with the January 2025 reports, SRTR will continue to report descriptive data beyond March 12, 2020, e.g., waitlist counts, transplant counts, recipient characteristics, donor counts, donor characteristics, etc., but will alter data for performance evaluation metrics as described above.

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This report contains a wide range of useful information about the heart transplant program at University of Virginia Health Sciences Center. The report has three main sections:

A. Program Summary
B. Waiting List Information
C. Transplant Information

The Program Summary is a one-page summary highlighting characteristics of the program, including the number of candidates on the waiting list, the number of transplants performed at the program, the number of patients being cared for by the program, and patient outcomes, including outcomes while on the waiting list (the transplant rate and the death rate while on the waiting list) and outcomes after transplant (patient and graft survival probabilities). If the program performed transplants in both adults and children, survival probabilities for adults and children (pediatrics) are provided separately. For each of the outcomes measures presented, a comparison is provided showing what would be expected at this program if it were performing as similar programs around the country perform when treating similar patients. More details regarding these outcome measures are provided in Sections B and C of the report.

The Waiting List Information section contains more detailed information on how many candidates are on the waiting list at the program, the types of candidates on the waiting list, how long candidates typically have to wait for a transplant at this program, how frequently candidates successfully receive a transplant, and how often candidates on the waiting list die before receiving a transplant.

Table B1 shows the activity on this program's waiting list during two recent 1-year periods and provides comparisons to all programs within this program's OPTN region (see http://optn.transplant.hrsa.gov/members/regions.asp for information on OPTN regions) and the nation as a whole. Tables B2 and B3 describe the candidates on the waiting list at this program, with comparisons to candidates waiting in the same donor service area (OPO/DSA) the OPTN region, and the nation as a whole.

Table B4 shows how many candidates were removed from the waiting list because they received a transplant. The program's transplant rate is calculated as the number of candidates who received a transplant divided by the person-years observed at the program (person-years is a combination of how many candidates were on the waiting list along with how long each candidate was followed since some candidates are not on the waiting list for the entire year). The transplant rate and comparisons to what would be expected at this program are presented in Figures B1 and B2. Figure B1 shows the transplant rate compared to what was expected at this program. The expected transplant rate is an estimate of what we would expect at this program if it were performing transplants at rates similar to other programs in the US with similar candidates on their waiting lists. The expected rate is only an estimate, and is made with a certain level of uncertainty. This uncertainty is shown in Figure B2. Figure B2 displays the ratio of the observed to the expected transplant rate. A ratio of 1 indicates that the observed transplant rate was equal to the expected transplant rate, while a ratio less than 1 indicates the observed rate was lower than expected rate and a ratio greater than 1 indicates the observed rate was higher than the expected rate. However, the level of uncertainty must be considered when interpreting these numbers. The 95% interval is also shown on Figure B2. This interval provides a range within which the true ratio of observed to expected transplant rates is likely to be. If this

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confidence interval includes (crosses) 1.0, then we cannot say that this program's observed transplant rate is different from what would be expected. The observed deceased donor transplant rate at this program was 110.0 per 100 person-years. Transplant rates are also provided for adult and pediatric patients separately along with comparisons to adult and pediatric rates in the DSA, the OPTN region, and the nation. Please refer to the PSR Technical Methods documentation available at http://www.srtr.org for more detail regarding how expected rates are calculated.

The pre-transplant mortality rate (previously called the waiting list mortality rate) for candidates on the waiting list is presented in Table B5 and Figures B4-B6. These data are presented in the same way as the transplant rate data in the previous section. The intent of this table and figures is to describe risk of death once candidates are listed rather than while they are listed, but before they are transplanted. Therefore, time at risk and deaths after removal from the waiting list for reasons other than transplant, transfer to another transplant program, or recovery (no longer needing a transplant), and before any subsequent transplant, are included. As with transplant rates, mortality rates should be interpreted carefully taking into consideration the interval displayed in Figure B5. For a complete description of how observed and expected mortality rates are calculated, please refer to the technical documentation available at http://www.srtr.org.

Survival from listing is presented in Table B6 and Figures B7-B9. These data are presented in the same way as the pre-transplant mortality rate data in the previous section. The intent of this table and figures is to describe risk of death once candidates are listed rather than while they are listed, including after a transplant. As with transplant rates, mortality rates should be interpreted carefully taking into consideration the interval displayed in Figure B8. For a complete description of how observed and expected mortality rates are calculated, please refer to the technical documentation available at http://www.srtr.org.

Table B7 presents information on what happens to candidates on the waiting list by three different time points after listing: 6 months, 12 months, and 18 months. The table displays percentages of candidates who have died, been removed from the waiting list, been transplanted, or been transferred or lost-to-follow-up. Tables B8 and B9 provide more detail regarding how many candidates have received a deceased donor transplant by certain time points during the first 3 years after being put on the transplant waiting list. Each row of Tables B8 and B9 presents the percent of candidates who received a deceased donor transplant by each time point. Table B10 presents data on the time it took for different percentages of patients to be transplanted for candidates added to the list between 01/01/2019 and 06/30/2024. The time it took for 5% (the 5th percentile) of patients to receive a transplant at this program was 0.2 months. If "Not Observed" is displayed in the table, then too few candidates received transplants before 12/31/2024 to calculate a particular percentile of transplant times.

Table B11 contains a summary of the offer acceptance practices of the program. The offer acceptance ratio indicates whether the program is more or less likely to accept offers than the average program. If the offer acceptance ratio is greater than 1.0, then the program tends to accept more offers than average; if the offer acceptance ratio is less than 1.0, then the program tends to accept fewer offers than average. Figure B10 shows the distribution of program offer acceptance rates as well as the offer acceptance rate for this program. Figures B11 - B15 similarly show offer acceptance rates for subsets of offers.

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The Transplant Information section begins with descriptions of transplant recipients in Tables C1 and C2. Data on recipients of deceased donor transplants are presented (Tables C1D and C2D); if applicable, data on recipients of living donor transplants are presented separately (Tables C1L and C2L). Comparisons to the region and the nation as a whole are provided. A description of the deceased donors used at this program is provided in Table C3D, along with characteristics of living donors in Table C3L, if applicable. Finally, information on the transplant procedure for deceased and living donor transplants is presented in Tables C4D and C4L, respectively.

Starting with Table C5, transplant outcomes are presented along with comparisons to what would be expected at this program and what happened in the nation as a whole. Tables C5-C14 (tables C5-C10 for Pancreas) present information on graft survival (survival of the transplanted organ), with data presented separately for adult and pediatric recipients. Patients are followed from the time of transplant until either failure of the transplanted organ or death, whichever comes first. Please refer to the technical methods for more information on these calculations (http://www.srtr.org).

While Tables C5-C14 present data on graft survival, Tables C15-C20 (tables C11-C20 for Pancreas) present information on patient survival. For these tables, patients are followed from the time of transplant until death, regardless of whether the transplant is functioning or the patient required another transplant to survive.

Tables C21 and C22 summarize the multiorgan transplant outcomes at this program. The summary statistics in these tables are descriptive and are not risk-adjusted for different donor and candidate characteristics.

Additional information regarding the technical methods and the risk adjustment models used to estimate expected event rates is available on the SRTR website at http://www.srtr.org. We welcome and encourage feedback on these reports. Please feel free to share feedback with the SRTR at the following e-mail: srtr@srtr.org.

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A. Program Summary

Figure A1. Waiting list and transplant activity

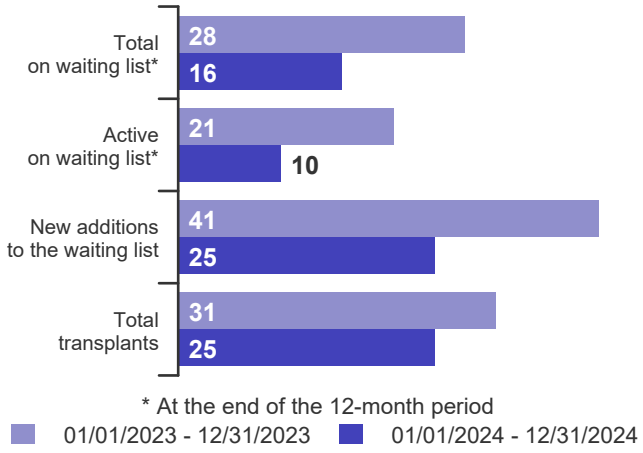


Table A1. Census of transplant recipients

Recipients	01/01/2023-12/31/2023	01/01/2024-12/31/2024
Transplanted at this center	31	25
Followed by this center*	245	263
...transplanted at this program	228	244
...transplanted elsewhere	17	19

* Recipients followed are transplant recipients for whom the center has submitted a post-transplant follow-up form for a transplant that took place before the 12-month interval for each column.

Figure A2. Transplant rates 01/01/2023 - 12/31/2024

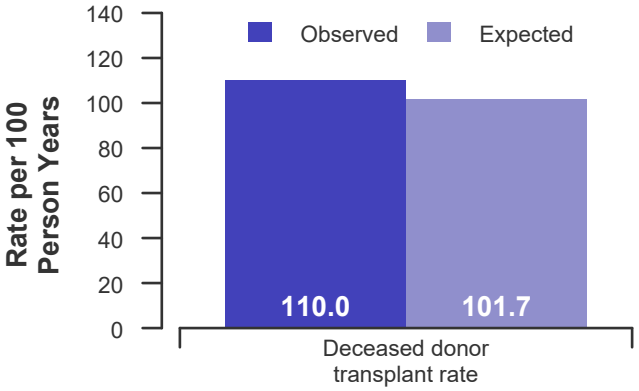


Figure A3. Pre-transplant mortality rates 01/01/2023 - 12/31/2024

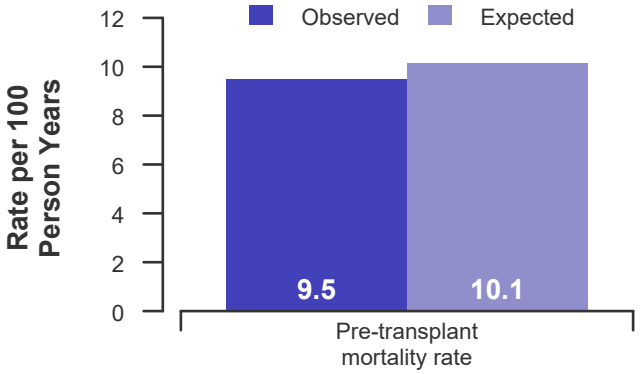


Figure A4. First-year adult graft and patient survival: 01/01/2022 - 06/30/2024

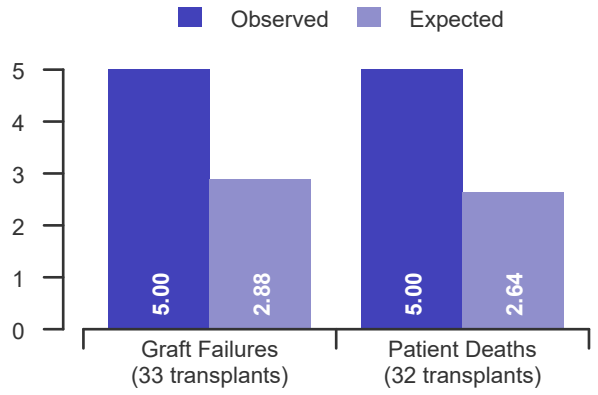
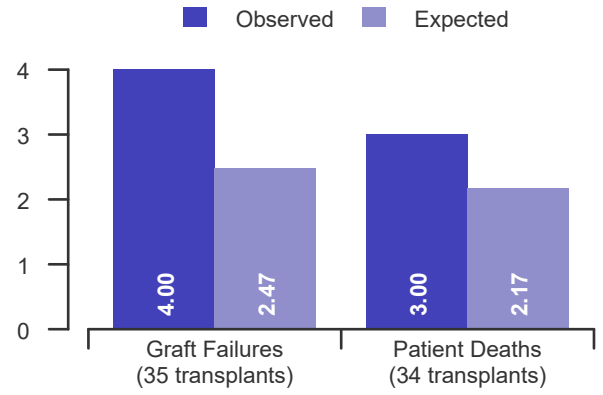


Figure A5. First-year pediatric graft and patient survival: 01/01/2022 - 06/30/2024



B. Waiting List Information

Table B1. Waiting list activity summary: 01/01/2023 - 12/31/2024

Waiting List Registrations	Counts for this center		Activity for 01/01/2024 to 12/31/2024 as percent of registrants on waiting list on 01/01/2024		
	01/01/2023-12/31/2023	01/01/2024-12/31/2024	This Center (%)	OPTN Region (%)	U.S. (%)
On waiting list at start	28	28	100.0	100.0	100.0
Additions					
New listings at this center	41	25	89.3	231.8	178.4
Removals					
Transferred to another center	0	1	3.6	3.3	3.5
Received living donor transplant*	0	0	0.0	0.0	0.0
Received deceased donor transplant*	31	25	89.3	178.8	136.6
Died	2	2	7.1	6.8	6.3
Transplanted at another center	0	1	3.6	2.8	1.3
Deteriorated	1	4	14.3	6.3	7.2
Recovered	0	1	3.6	7.3	5.9
Other reasons	7	3	10.7	11.4	9.8
On waiting list at end of period	28	16	57.1	115.2	107.8

* These patients were removed from waiting list with removal code indicating transplant; this may not equal the number of transplants performed at this center during the specified period.

B. Waiting List Information

Table B2. Demographic characteristics of waiting list candidates
Candidates registered on the waiting list between 01/01/2024 and 12/31/2024

Demographic Characteristic	New Waiting List Registrations 01/01/2024 to 12/31/2024 (%)			All Waiting List Registrations on 12/31/2024 (%)		
	This Center (N=25)	OPTN Region (N=918)	U.S. (N=5,972)	This Center (N=16)	OPTN Region (N=456)	U.S. (N=3,609)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Ethnicity/Race (%)*						
White	48.0	54.6	51.7	62.5	51.8	52.5
African-American	40.0	37.9	26.6	37.5	42.8	28.5
Hispanic/Latino	8.0	3.4	13.4	0.0	2.6	13.0
Asian	0.0	1.7	4.6	0.0	1.1	3.1
Other	0.0	1.5	1.3	0.0	1.5	1.6
Unknown	4.0	0.9	2.4	0.0	0.2	1.3
Age (%)						
<2 years	16.0	4.7	4.4	18.8	5.9	5.3
2-11 years	4.0	3.8	3.9	6.2	6.8	7.1
12-17 years	24.0	3.4	3.7	18.8	3.5	3.4
18-34 years	4.0	9.9	9.0	6.2	7.9	9.5
35-49 years	12.0	19.7	18.4	25.0	23.9	20.5
50-64 years	40.0	45.1	42.5	25.0	43.2	42.9
65-69 years	0.0	12.2	14.3	0.0	8.1	9.9
70+ years	0.0	1.2	3.9	0.0	0.7	1.3
Gender (%)						
Male	72.0	70.8	71.7	81.2	78.3	75.4
Female	28.0	29.2	28.3	18.8	21.7	24.6

* Race and ethnicity are reported together as a single data element, reflecting their data collection (either race or ethnicity is required, but not both). Patients formerly coded as white and Hispanic are coded as Hispanic. Race and ethnicity sum to 100%.

B. Waiting List Information

Table B3. Medical characteristics of waiting list candidates
Candidates registered on the waiting list between 01/01/2024 and 12/31/2024

Medical Characteristic	New Waiting List Registrations 01/01/2024 to 12/31/2024 (%)			All Waiting List Registrations on 12/31/2024 (%)		
	This Center (N=25)	OPTN Region (N=918)	U.S. (N=5,972)	This Center (N=16)	OPTN Region (N=456)	U.S. (N=3,609)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Blood Type (%)						
O	32.0	47.3	45.2	50.0	63.8	60.5
A	48.0	33.8	35.7	43.8	24.8	26.9
B	16.0	15.0	15.2	6.2	9.6	10.9
AB	4.0	3.9	3.9	0.0	1.8	1.7
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Previous Transplant (%)						
Yes	0.0	2.7	3.1	0.0	3.3	3.7
No	100.0	97.3	96.9	100.0	96.7	96.3
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Primary Disease (%)						
Cardiomyopathy	56.0	60.3	59.3	37.5	50.7	55.9
Coronary Artery Disease	16.0	24.9	24.3	31.2	27.0	23.9
Retransplant/Graft Failure	0.0	2.4	2.8	0.0	2.9	3.1
Valvular Heart Disease	0.0	0.7	1.1	0.0	0.7	0.8
Congenital Heart Disease	28.0	10.6	10.2	31.2	16.4	14.5
Other	0.0	1.1	2.3	0.0	2.4	1.7
Missing	0.0	0.0	0.0	0.0	0.0	0.0
Medical Urgency Status at Listing (%)						
Status 1A	32.0	8.1	7.7	18.8	6.6	6.5
Status 1B	8.0	2.2	2.3	18.8	5.3	5.3
Status 2	4.0	1.5	1.7	12.5	5.3	6.5
Adult Status 1	4.0	5.8	6.7	0.0	0.7	0.7
Adult Status 2	16.0	28.3	31.6	6.2	4.2	6.6
Adult Status 3	4.0	9.0	8.3	0.0	7.0	5.0
Adult Status 4	20.0	30.1	25.7	25.0	48.2	43.4
Adult Status 5	4.0	3.6	2.9	6.2	5.5	4.7
Adult Status 6	8.0	11.0	12.4	12.5	16.9	20.0
Temporarily Inactive	0.0	0.4	0.7	0.0	0.4	1.4

B. Waiting List Information

Table B4D. Deceased donor transplant rates: 01/01/2023 - 12/31/2024

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	28	97	356	3,353
Person Years**	50.9	196.8	744.4	6,860.9
Removals for Transplant	56	182	1,275	9,233
Adult (18+) Candidates				
Count on waiting list at start*	20	89	280	2,846
Person Years**	32.0	177.8	599.4	5,790.0
Removals for transpant	26	152	1,119	8,194
Pediatric (<18) Candidates				
Count on waiting list at start*	8	8	76	507
Person Years**	19.0	19.0	145.0	1,070.9
Removals for transplant	30	30	156	1,039

* Counts in this table may be lower than similar counts in other waiting list tables, such as Table B1. A small percentage (~1%) of patients are found to have died or been transplanted before being removed from the waiting list, so these patients are excluded if the event occurs prior to the start of the study period. Inactive time on the waiting list is included in the calculations for this table.

** Person years are calculated as days (converted to fractional years). The number of days from January 1 or from the date of first wait listing until death, transplant, removal from the waiting list or December 31.

Figure B1D. Observed and expected deceased donor transplant rates: 01/01/2023 - 12/31/2024

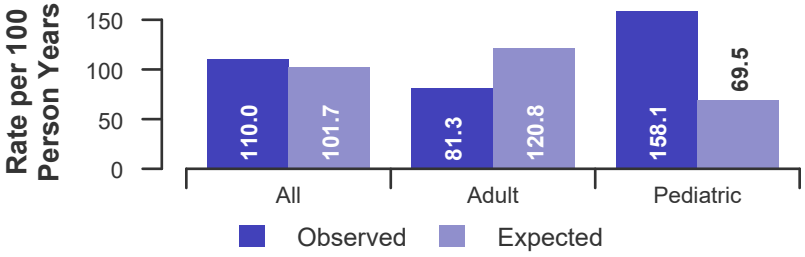


Figure B3D. Observed adult (18+) and pediatric (<18) deceased donor transplant rates: 01/01/2023 - 12/31/2024

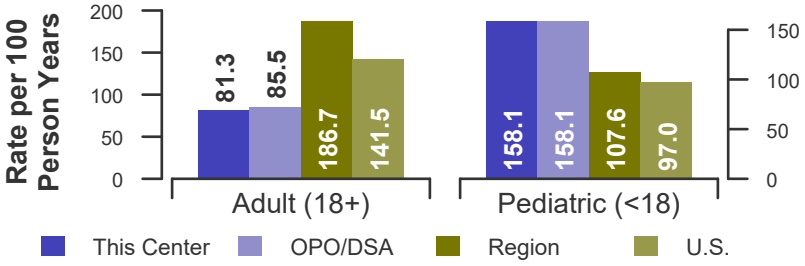
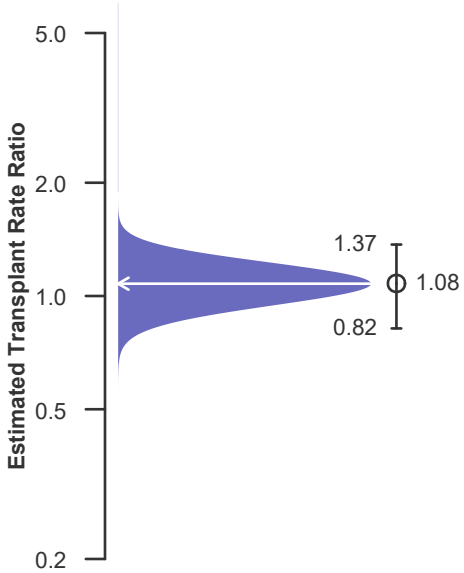


Figure B2D. Deceased donor transplant rate ratio estimate



B. Waiting List Information

Table B5. Pre-transplant mortality rates: 01/01/2023 - 12/31/2024

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	28	97	356	3,353
Person Years**	63.2	230.0	853.1	7,725.0
Number of deaths	6	19	84	642
Adult (18+) Candidates				
Count on waiting list at start*	20	89	280	2,846
Person Years**	43.7	210.4	691.6	6,568.3
Number of deaths	6	19	63	532
Pediatric (<18) Candidates				
Count on waiting list at start*	8	8	76	507
Person Years**	19.6	19.6	161.5	1,156.7
Number of deaths	0	0	21	110

* Counts in this table may be lower than similar counts in other waiting list tables, such as Table B1. A small percentage (~1%) of patients are found to have died or been transplanted before being removed from the waiting list, so these patients are excluded if the event occurs prior to the start of the study period. Inactive time on the waiting list is included in the calculations for this table.

** Person years are calculated as days (converted to fractional years). The number of days from January 1 or from the date of first wait listing until death, transplant, 60 days after recovery, transfer or December 31.

Figure B4. Observed and expected pre-transplant mortality rates: 01/01/2023 - 12/31/2024

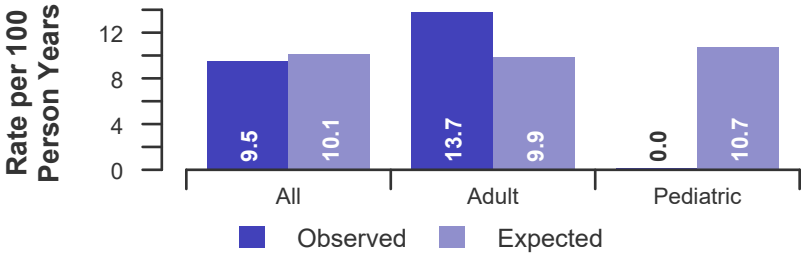


Figure B6. Observed adult (18+) and pediatric (<18) pre-transplant mortality rates: 01/01/2023 - 12/31/2024

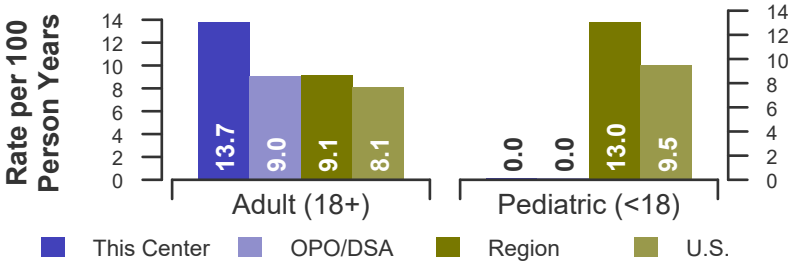
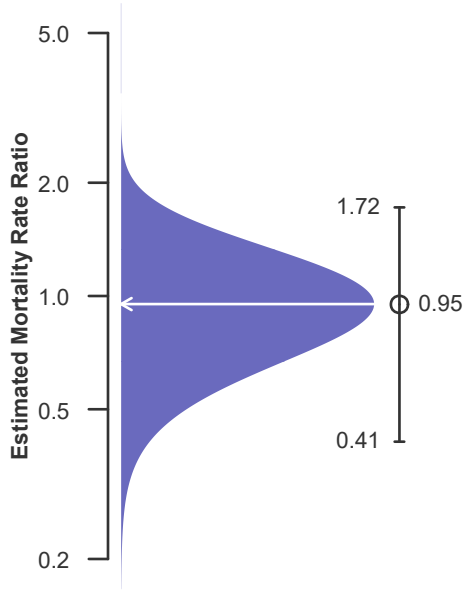


Figure B5. Pre-transplant mortality rate ratio estimate



B. Waiting List Information

Table B6. Rates of patient mortality after listing: 01/01/2023 - 12/31/2024

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Patients				
Count at risk during the evaluation period	206	709	4,666	31,465
Person-years*	277.5	986.8	6,220.5	42,154.0
Number of Deaths	20	59	393	2,183
Adult (18+) Patients				
Count at risk during the evaluation period	132	635	3,977	27,162
Person-years*	177.4	886.6	5,275.2	36,296.0
Number of Deaths	15	54	335	1,930
Pediatric (<18) Patients				
Count at risk during the evaluation period	74	74	689	4,303
Person-years*	100.2	100.2	945.4	5,858.0
Number of Deaths	5	5	58	253

* Person-years are calculated as days (converted to fractional years). The number of days from 01/01/2023, or from the date of first wait listing until death, reaching 5 years after listing or December 31, 2024.

** Patient mortality after listing describes the relative survival experience of patients after listing. It depends on many factors, some of which are outside of the control of the transplant program. For example, availability of organs may not be the same in every part of the country.

Figure B7. Observed and expected rates of patient mortality after listing: 01/01/2023 - 12/31/2024

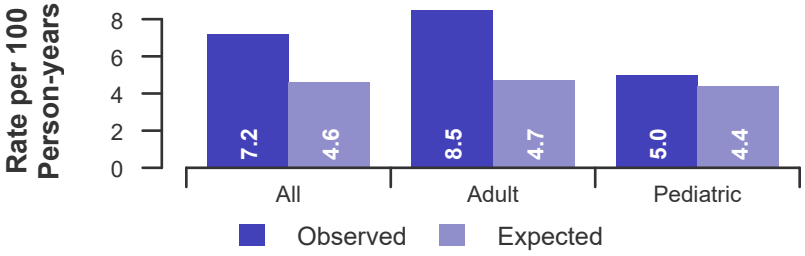


Figure B8. HR estimate of patient mortality after listing

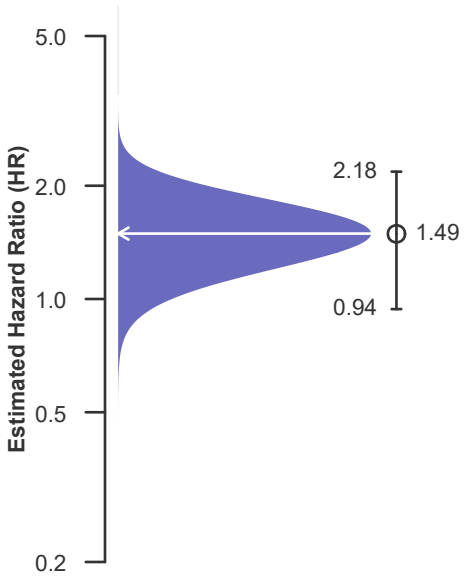
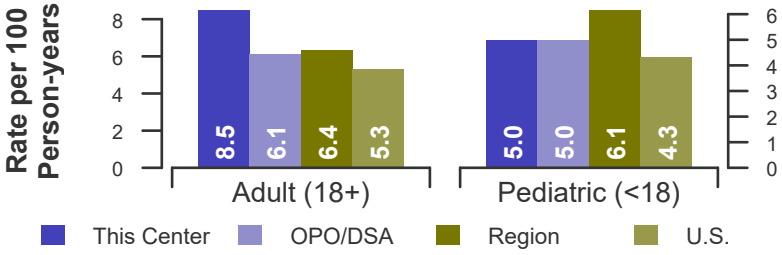


Figure B9. Observed adult (18+) and pediatric (<18) rates of patient mortality after listing: 01/01/2023 - 12/31/2024



B. Waiting List Information

Table B7. Waiting list candidate status after listing
Candidates registered on waiting list between 07/01/2022 and 06/30/2023

Waiting list status (survival status)	This Center (N=35) Months Since Listing			U.S. (N=5,535) Months Since Listing		
	6	12	18	6	12	18
Alive on waiting list (%)	22.9	14.3	11.4	25.7	15.6	11.4
Died on the waiting list without transplant (%)	5.7	8.6	8.6	2.3	2.6	2.8
Removed without transplant (%):						
Condition worsened (status unknown)	2.9	2.9	2.9	2.8	3.4	3.8
Condition improved (status unknown)	0.0	0.0	0.0	0.9	1.9	2.4
Refused transplant (status unknown)	2.9	2.9	2.9	0.2	0.3	0.3
Other	2.9	2.9	2.9	2.1	3.0	3.6
Transplant (living or deceased donor) (%):						
Functioning (alive)	54.3	57.1	40.0	61.4	64.0	41.5
Failed-Retransplanted (alive)	2.9	2.9	2.9	0.1	0.1	0.1
Failed-alive not retransplanted	0.0	0.0	0.0	0.1	0.0	0.0
Died	5.7	8.6	8.6	3.5	5.0	6.4
Status Yet Unknown*	0.0	0.0	20.0	0.3	3.3	26.8
Lost or Transferred (status unknown) (%)	0.0	0.0	0.0	0.4	0.6	0.8
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waiting list or after transplant	11.4	17.1	17.1	5.9	7.6	9.2
Total % known died or removed as unstable	14.3	20.0	20.0	8.7	11.0	13.0
Total % removed for transplant	62.9	68.6	71.4	65.4	72.5	74.9
Total % with known functioning transplant (alive)	54.3	57.1	40.0	61.4	64.0	41.5

* Follow-up form covering specified time period not yet completed, and possibly has not become due.

B. Waiting List Information

Table B8. Percent of candidates with deceased donor transplants: demographic characteristics
Candidates registered on the waiting list between 01/01/2019 and 12/31/2021

Characteristic	Percent transplanted at time periods since listing									
	This Center					United States				
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	107	32.7	62.6	63.6	66.4	14,453	34.8	66.4	71.7	73.8
Ethnicity/Race*										
White	66	34.8	59.1	59.1	59.1	8,362	35.5	67.7	73.0	75.0
African-American	29	24.1	62.1	65.5	75.9	3,654	33.2	63.3	68.7	70.7
Hispanic/Latino	7	42.9	85.7	85.7	85.7	1,667	32.2	65.9	71.7	74.1
Asian	2	0.0	50.0	50.0	50.0	583	43.2	71.9	75.8	77.7
Other	3	66.7	100.0	100.0	100.0	187	29.9	61.0	63.1	65.2
Unknown	0	--	--	--	--	0	--	--	--	--
Age										
<2 years	22	18.2	86.4	86.4	86.4	828	9.5	61.2	63.4	63.6
2-11 years	13	46.2	84.6	84.6	84.6	625	18.1	65.0	71.8	75.8
12-17 years	5	60.0	60.0	60.0	60.0	651	40.7	75.6	81.9	83.6
18-34 years	9	44.4	55.6	55.6	66.7	1,416	36.9	65.4	71.2	73.0
35-49 years	22	36.4	45.5	45.5	45.5	2,632	34.7	63.3	68.8	70.9
50-64 years	29	31.0	58.6	62.1	69.0	5,948	36.4	66.1	71.7	73.9
65-69 years	7	14.3	28.6	28.6	28.6	1,945	39.1	69.6	74.7	76.8
70+ years	0	--	--	--	--	408	51.5	78.9	80.4	80.6
Gender										
Male	79	34.2	62.0	63.3	65.8	10,240	35.2	65.6	71.1	73.3
Female	28	28.6	64.3	64.3	67.9	4,213	33.8	68.6	73.3	74.9

* Race and ethnicity are reported together as a single data element, reflecting their data collection (either race or ethnicity is required, but not both). Patients formerly coded as white and Hispanic are coded as Hispanic. Race and ethnicity sum to 100%.

B. Waiting List Information

Table B9. Percent of candidates with deceased donor transplants: medical characteristics
Candidates registered on the waiting list between 01/01/2019 and 12/31/2021

Characteristic	Percent transplanted at time periods since listing									
	This Center					United States				
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	107	32.7	62.6	63.6	66.4	14,453	34.8	66.4	71.7	73.8
Blood Type										
O	47	23.4	53.2	53.2	53.2	6,449	27.4	57.6	64.0	66.9
A	33	48.5	69.7	69.7	75.8	5,266	40.6	72.6	77.2	78.7
B	19	15.8	63.2	68.4	73.7	2,099	38.2	72.5	77.3	78.6
AB	8	62.5	87.5	87.5	87.5	639	49.5	84.7	86.7	87.2
Previous Transplant										
Yes	1	0.0	100.0	100.0	100.0	560	27.3	62.0	67.5	68.8
No	106	33.0	62.3	63.2	66.0	13,893	35.1	66.6	71.9	74.0
Primary Disease										
Cardiomyopathy	55	36.4	58.2	60.0	65.5	8,401	38.0	69.3	74.4	76.3
Coronary Artery Disease	23	30.4	52.2	52.2	52.2	3,448	36.2	64.7	69.7	72.0
Retransplant/Graft Failure	1	0.0	100.0	100.0	100.0	491	28.7	65.2	70.5	71.7
Valvular Heart Disease	0	--	--	--	--	139	35.3	56.8	61.2	62.6
Congenital Heart Disease	26	26.9	76.9	76.9	76.9	1,657	17.9	59.7	66.6	69.2
Other	2	50.0	100.0	100.0	100.0	317	30.0	53.0	58.0	58.4
Missing	0	--	--	--	--	0	--	--	--	--
Medical Urgency Status at Listing										
Status 1A	32	34.4	84.4	84.4	84.4	1,251	27.6	73.0	74.2	74.5
Status 1B	4	25.0	75.0	75.0	75.0	459	19.8	68.0	75.4	78.2
Status 2	4	25.0	75.0	75.0	75.0	347	4.9	45.5	60.5	66.3
Unknown	0	--	--	--	--	271	15.5	45.0	50.2	51.7

B. Waiting List Information

Table B10. Time to transplant for waiting list candidates*
Candidates registered on the waiting list between 01/01/2019 and 06/30/2024

	Months to Transplant**			
Percentile	**Center**	**OPO/DSA**	**Region**	**U.S.**
5th	0.2	0.1	0.1	0.1
10th	0.3	0.2	0.2	0.2
25th	0.6	0.4	0.4	0.5
50th (median time to transplant)	2.1	2.1	1.7	2.4
75th	Not Observed	Not Observed	14.3	23.9

* If cells contain "Not Observed" fewer than that percentile of patients had received a transplant. For example, the 50th percentile of time to transplant is the time when 50% of candidates have received transplants. If waiting times are long, then the 50th percentile may not be observed during the follow-up period for this table. Also, if more than 50% of candidates are removed from the list due to death or other reasons before receiving transplants, then the 50th percentile of time to transplant will not be observed.

** Censored on 12/31/2024. Calculated as the months after listing, during which the corresponding percent of all patients initially listed had received a transplant.

B. Waiting List Information

Table B11. Offer Acceptance Practices: 01/01/2024 - 12/31/2024

Offers Acceptance Characteristics	This Center	OPO/DSA	Region	U.S.
Overall				
Number of Offers	484	1,088	9,185	63,988
Number of Acceptances	23	63	620	4,003
Expected Acceptances	25.0	64.1	558.4	4,003.5
Offer Acceptance Ratio*	0.92	0.98	1.11	1.00
95% Credible Interval**	[0.60, 1.32]	--	--	--
PHS increased infectious risk				
Number of Offers	89	245	2,114	14,112
Number of Acceptances	2	6	120	783
Expected Acceptances	3.3	11.3	101.3	782.9
Offer Acceptance Ratio*	0.76	0.60	1.18	1.00
95% Credible Interval**	[0.21, 1.66]	--	--	--
Ejection fraction < 60				
Number of Offers	232	587	4,546	30,036
Number of Acceptances	13	33	304	1,848
Expected Acceptances	12.3	32.7	267.7	1,848.2
Offer Acceptance Ratio*	1.05	1.01	1.13	1.00
95% Credible Interval**	[0.59, 1.65]	--	--	--
Donor Age >= 40				
Number of Offers	288	623	5,030	34,442
Number of Acceptances	6	18	177	1,195
Expected Acceptances	8.6	22.0	160.0	1,195.1
Offer Acceptance Ratio*	0.75	0.83	1.11	1.00
95% Credible Interval**	[0.32, 1.36]	--	--	--
Hard-to-Place Hearts (Over 50 Offers)				
Number of Offers	156	398	3,174	22,017
Number of Acceptances	0	2	70	307
Expected Acceptances	2.3	6.7	43.7	312.3
Offer Acceptance Ratio*	0.47	0.46	1.58	0.98
95% Credible Interval**	[0.06, 1.31]	--	--	--
Donor more than 500 miles away				
Number of Offers	201	357	3,474	25,027
Number of Acceptances	5	11	177	1,057
Expected Acceptances	8.7	16.8	150.7	1,064.6
Offer Acceptance Ratio*	0.65	0.69	1.17	0.99
95% Credible Interval**	[0.26, 1.22]	--	--	--

* The offer acceptance ratio estimates the relative offer acceptance practice of University of Virginia Health Sciences Center compared to the national offer acceptance practice. A ratio above one indicates the program accepts more offers compared to national offer acceptance practices (e.g., an offer acceptance ratio of 1.25 indicates a center accepts 25% more offers than is expected based on national offer acceptance practices), while a ratio below one indicates the program accepts fewer offers compared to national offer acceptance practices (e.g., an offer acceptance ratio of 0.75 indicates a center accepts 25% fewer offers than is expected based on national offer acceptance practices).
** As an example, the 95% Credible Interval for the overall offer acceptance ratio, [0.60, 1.32], indicates the location of VAUV's true offer acceptance ratio with 95% probability. The best estimate is 8% less likely to accept an offer compared to nationalacceptance behavior, but VAUV's performance could plausibly range from 40% reduced acceptance up to 32% higher acceptance.

B. Waiting List Information

Figure B10. Offer acceptance: Overall

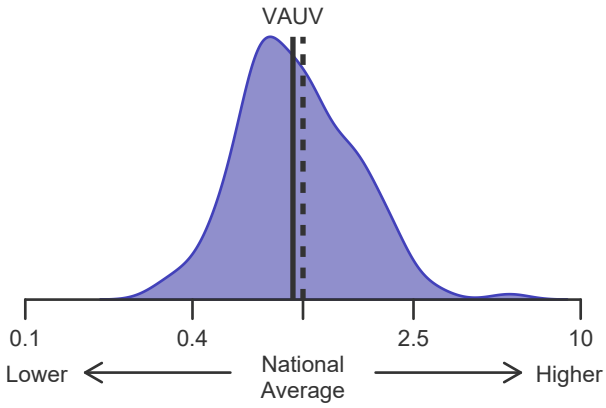


Figure B11. Offer acceptance: PHS increased infectious risk

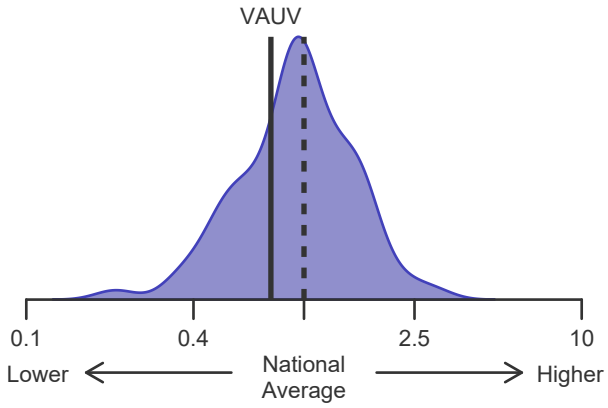


Figure B12. Offer acceptance: Ejection fraction < 60

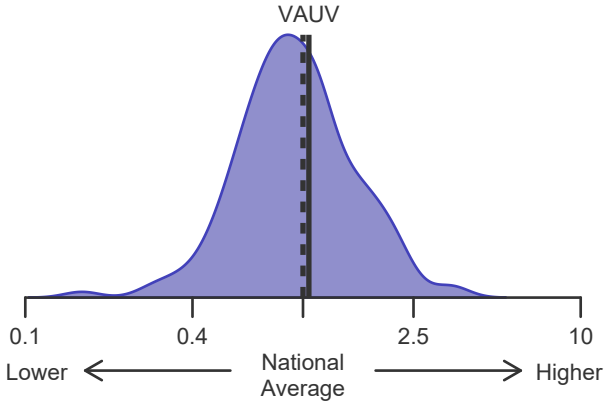


Figure B13. Offer acceptance: Donor age >= 40

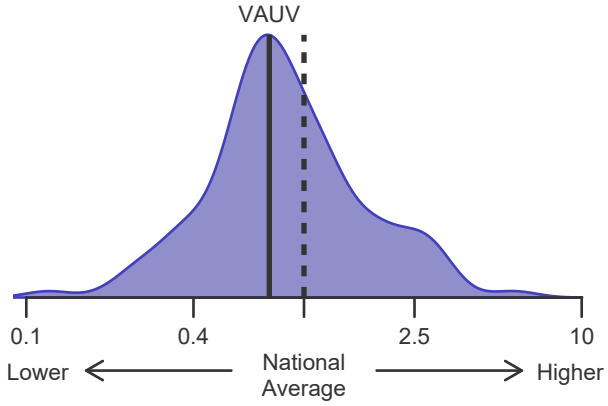


Figure B14. Offer acceptance: Offer number > 50

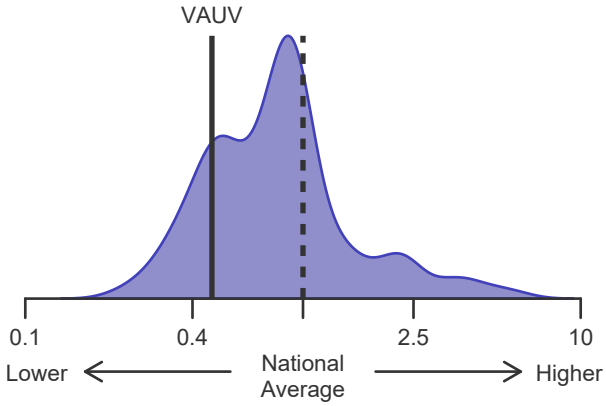
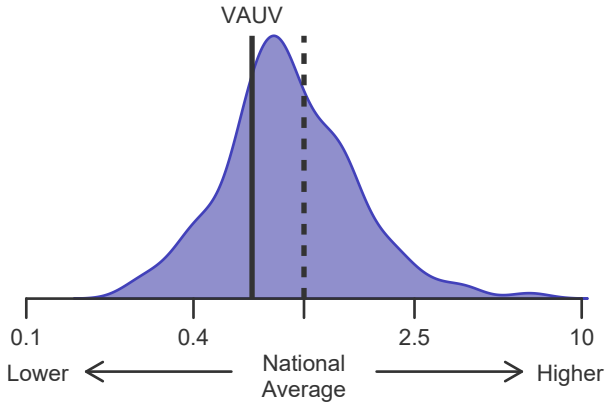


Figure B15. Offer acceptance: Donor more than 500 miles away



C. Transplant Information

Table C1D. Deceased donor transplant recipient demographic characteristics
Patients transplanted between 01/01/2024 and 12/31/2024

Characteristic	Percentage in each category		
	Center (N=25)	Region (N=708)	U.S. (N=4,572)
Ethnicity/Race (%)*			
White	56.0	56.2	53.2
African-American	36.0	37.1	25.9
Hispanic/Latino	8.0	3.5	13.3
Asian	0.0	1.4	4.2
Other	0.0	0.8	1.2
Unknown	0.0	0.8	2.2
Age (%)			
<2 years	16.0	4.0	3.1
2-11 years	4.0	3.7	3.6
12-17	28.0	3.7	3.9
18-34	4.0	9.2	9.4
35-49 years	8.0	20.1	17.7
50-64 years	36.0	45.8	42.4
65-69 years	4.0	12.3	15.0
70+ years	0.0	1.4	4.8
Gender (%)			
Male	80.0	70.6	71.8
Female	20.0	29.4	28.2

* Race and ethnicity are reported together as a single data element, reflecting their data collection (either race or ethnicity is required, but not both). Patients formerly coded as white and Hispanic are coded as Hispanic. Race and ethnicity sum to 100%.

C. Transplant Information

Table C2D. Deceased donor transplant recipient medical characteristics
Patients transplanted between 01/01/2024 and 12/31/2024

Characteristic	Percentage in each category		
	Center (N=25)	Region (N=708)	U.S. (N=4,572)
Blood Type (%)			
O	32.0	43.2	42.5
A	40.0	36.9	37.7
B	20.0	15.1	15.3
AB	8.0	4.8	4.5
Previous Transplant (%)			
Yes	0.0	2.5	3.2
No	100.0	97.5	96.8
Body Mass Index (%)			
0-20	28.0	15.0	15.9
21-25	24.0	22.0	28.0
26-30	24.0	32.3	30.3
31-35	8.0	23.2	19.2
36-40	12.0	5.9	4.4
41+	4.0	1.4	0.8
Unknown	0.0	0.1	1.4
Primary Disease (%)			
Cardiomyopathy	64.0	63.4	61.8
Coronary Artery Disease	8.0	24.7	25.0
Retransplant/Graft Failure	0.0	0.0	0.0
Valvular Heart Disease	0.0	0.6	1.2
Congenital Heart Disease	28.0	10.2	10.0
Other	0.0	1.0	1.8
Missing	0.0	0.1	0.2
Medical Urgency Status at Transplant (%)			
Status 1A	44.0	10.3	9.7
Status 1B	4.0	1.0	1.1
Status 2	0.0	0.0	0.2
Adult Status 1	8.0	13.0	14.6
Adult Status 2	36.0	45.3	49.3
Adult Status 3	4.0	11.2	9.1
Adult Status 4	4.0	12.4	10.5
Adult Status 5	0.0	1.3	0.9
Adult Status 6	0.0	5.5	4.5
Recipient Medical Condition at Transplant (%)			
Not Hospitalized	12.0	21.9	19.1
Hospitalized	20.0	24.9	18.9
ICU	68.0	53.2	61.9
Unknown	0.0	0.0	0.1
Recipient Circulatory Support Status at Transplant (%)			
No Support Mechanism	8.0	17.7	20.0
Devices*	72.0	64.7	65.3
Other Support Mechanism	20.0	17.7	14.6
Unknown	0.0	0.0	0.1

* Devices include ventricular assist devices (VAD), extracorporeal membrane oxygenation (ECMO), intraaortic balloon pump (IABP), and total artificial heart (TAH).

C. Transplant Information

Table C3D. Deceased donor characteristics
Transplants performed between 01/01/2024 and 12/31/2024

Donor Characteristic	Percentage in each category		
	Center (N=25)	Region (N=708)	U.S. (N=4,572)
Cause of Death (%)			
Deceased: Stroke	12.0	13.1	14.2
Deceased: MVA	20.0	16.7	18.0
Deceased: Other	68.0	70.2	67.8
Ethnicity/Race (%)*			
White	44.0	68.6	60.7
African-American	44.0	17.9	16.7
Hispanic/Latino	12.0	11.2	18.3
Asian	0.0	1.3	2.1
Other	0.0	0.4	1.6
Not Reported	0.0	0.6	0.6
Age (%)			
<2 years	12.0	2.8	2.1
2-11 years	8.0	3.7	3.4
12-17	4.0	6.8	6.3
18-34	32.0	42.8	43.6
35-49 years	36.0	38.7	37.8
50-64 years	8.0	5.2	6.7
65-69 years	0.0	0.0	0.0
70+ years	0.0	0.0	0.0
Gender (%)			
Male	76.0	66.8	68.8
Female	24.0	33.2	31.2
Blood Type (%)			
O	36.0	52.4	53.4
A	44.0	35.5	34.3
B	20.0	10.5	10.5
AB	0.0	1.7	1.8
Unknown	0.0	0.0	0.0

* Race and ethnicity are reported together as a single data element, reflecting their data collection (either race or ethnicity is required, but not both). Patients formerly coded as white and Hispanic are coded as Hispanic. Race and ethnicity sum to 100%.

C. Transplant Information

Table C4D. Deceased donor transplant characteristics
Transplants performed between 01/01/2024 and 12/31/2024

Transplant Characteristic	Percentage in each category		
	Center (N=25)	Region (N=708)	U.S. (N=4,572)
Total Ischemic Time (Minutes): Local (%)			
Deceased: 0-90 min	0.0	8.1	8.1
Deceased: 91-180 min	100.0	55.4	52.0
Deceased: 181-270 min	0.0	29.7	26.6
Deceased: 271-360 min	0.0	5.4	7.9
Deceased: 361+ min	0.0	1.4	4.3
Not Reported	0.0	0.0	1.1
Total Ischemic Time (Minutes): Shared (%)			
Deceased: 0-90 min	0.0	0.5	1.2
Deceased: 91-180 min	20.8	11.8	10.7
Deceased: 181-270 min	70.8	58.0	55.2
Deceased: 271-360 min	4.2	18.5	19.3
Deceased: 361+ min	4.2	10.9	12.8
Not Reported	0.0	0.3	0.8
Procedure Type (%)			
Single organ	96.0	90.8	90.2
Multi organ	4.0	9.2	9.8
Donor Location (%)			
Local Donation Service Area (DSA)	4.0	10.5	17.2
Another Donation Service Area (DSA)	96.0	89.5	82.8
Median Time in Hospital After Transplant	16.0 Days	17.0 Days	18.0 Days

C. Transplant Information

Table C5D. Adult (18+) 1-month survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	33	8,450
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	93.94% [86.14%-100.00%]	97.29% [96.94%-97.64%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	96.88%	--
Number of observed graft failures (including deaths) during the first month after transplant	2	229
Number of expected graft failures (including deaths) during the first month after transplant	1.02	--
Estimated hazard ratio*	1.33	--
95% credible interval for the hazard ratio**	[0.36, 2.91]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.36, 2.91], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 33% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 64% reduced risk up to 191% increased risk.

Figure C1D. Adult (18+) 1-month deceased donor graft failure HR estimate

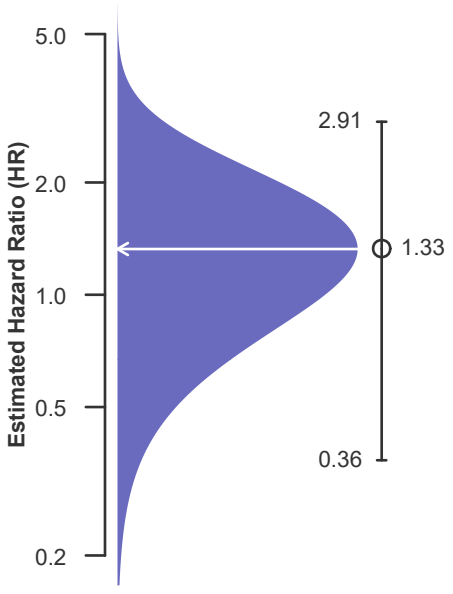
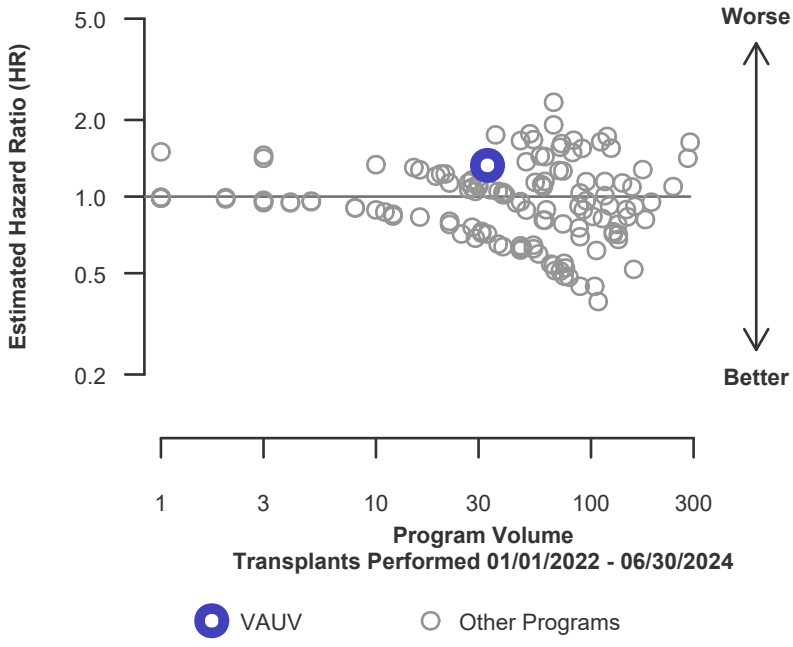


Figure C2D. Adult (18+) 1-month deceased donor graft failure HR program comparison



C. Transplant Information

Table C6D. Adult (18+) 90-Day survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	33	8,450
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	87.88% [77.42%-99.75%]	95.40% [94.95%-95.84%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	94.75%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	4	389
Number of expected graft failures (including deaths) during the first 90 days after transplant	1.73	--
Estimated hazard ratio*	1.61	--
95% credible interval for the hazard ratio**	[0.59, 3.13]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.59, 3.13], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 61% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 41% reduced risk up to 213% increased risk.

Figure C3D. Adult (18+) 90-Day deceased donor graft failure HR estimate

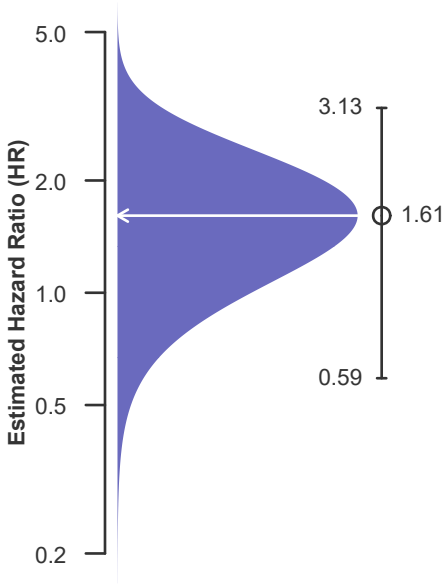
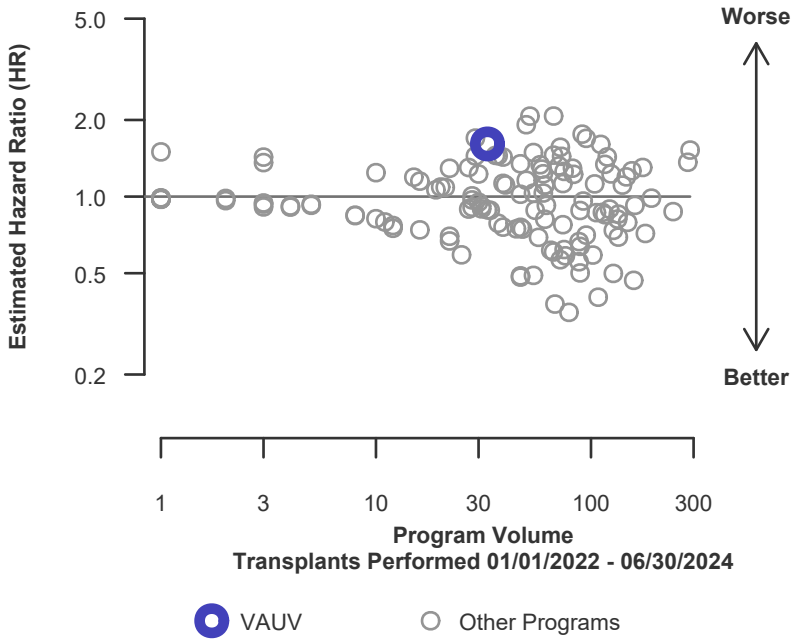


Figure C4D. Adult (18+) 90-Day deceased donor graft failure HR program comparison



C. Transplant Information

Table C7D. Adult (18+) 1-year survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	33	8,450
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	84.50% [72.86%-98.00%]	92.20% [91.61%-92.79%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	91.21%	--
Number of observed graft failures (including deaths) during the first year after transplant	5	633
Number of expected graft failures (including deaths) during the first year after transplant	2.88	--
Estimated hazard ratio*	1.43	--
95% credible interval for the hazard ratio**	[0.58, 2.67]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.58, 2.67], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 43% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 42% reduced risk up to 167% increased risk.

Figure C5D. Adult (18+) 1-year deceased donor graft failure HR estimate

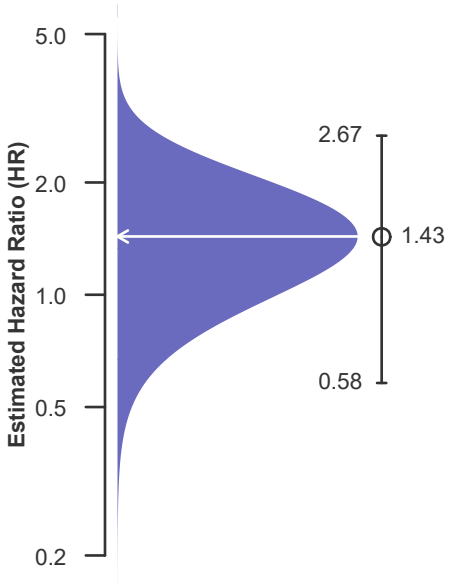
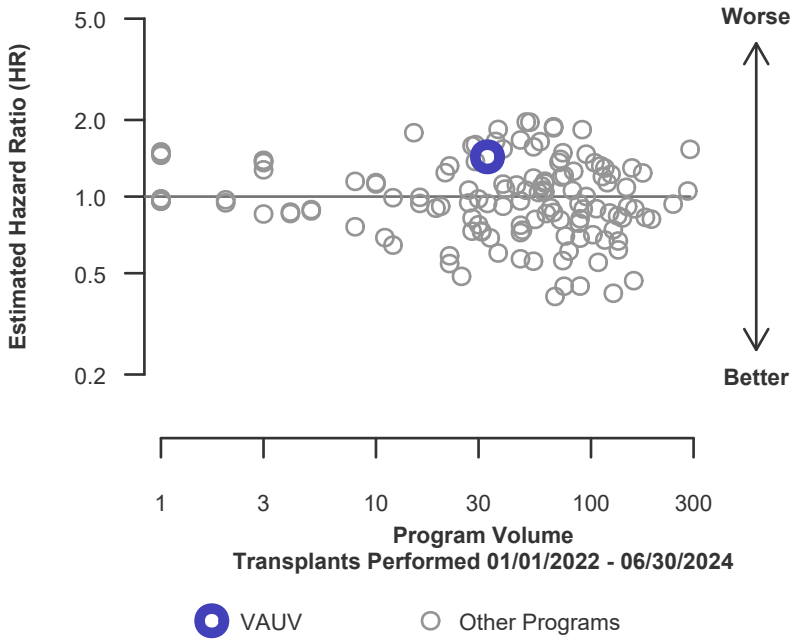


Figure C6D. Adult (18+) 1-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C8D. Adult (18+) 1-year Conditional survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	29	8,061
Estimated probability of surviving with a functioning graft at 1 year, among patients with a functioning graft at day 90 & [95% CI] (unadjusted for patient and donor characteristics)	96.15% [94.11%-98.24%]	96.65% [96.48%-96.81%]
Expected probability of surviving with a functioning graft at 1 year, among patients with a functioning graft at day 90 (adjusted for patient and donor characteristics)	96.26%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	1	244
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	1.16	--
Estimated hazard ratio*	0.95	--
95% credible interval for the hazard ratio**	[0.20, 2.29]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.20, 2.29], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 5% lower risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 80% reduced risk up to 129% increased risk.

Figure C7D. Adult (18+) 1-year Conditional deceased donor graft failure HR estimate

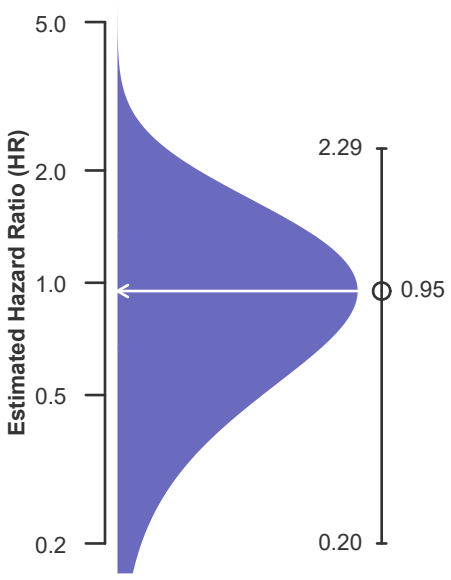
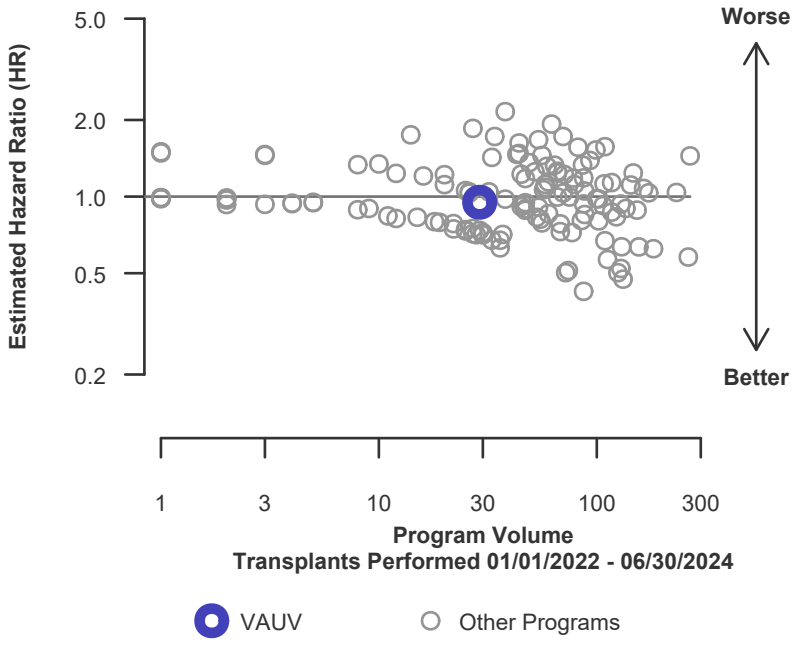


Figure C8D. Adult (18+) 1-year Conditional deceased donor graft failure HR program comparison



C. Transplant Information

Table C9D. Adult (18+) 3-year survival with a functioning deceased donor graft

Single organ transplants performed between 07/01/2019 and 03/12/2020, and 06/13/2020 and 12/31/2021
Deaths and retransplants are considered graft failures
Follow-up ends on 3/12/2020 for recipients transplanted prior to 3/13/2020

	VAUV	U.S.
Number of transplants evaluated	26	6,500
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	65.93% [48.03%-90.52%]	84.60% [83.61%-85.59%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	83.25%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	7	814
Number of expected graft failures (including deaths) during the first 3 years after transplant	2.92	--
Estimated hazard ratio*	1.83	--
95% credible interval for the hazard ratio**	[0.84, 3.20]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.84, 3.20], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 83% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 16% reduced risk up to 220% increased risk.

Figure C9D. Adult (18+) 3-year deceased donor graft failure HR estimate

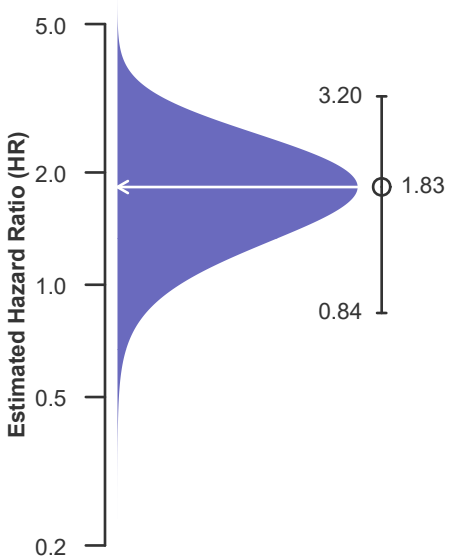
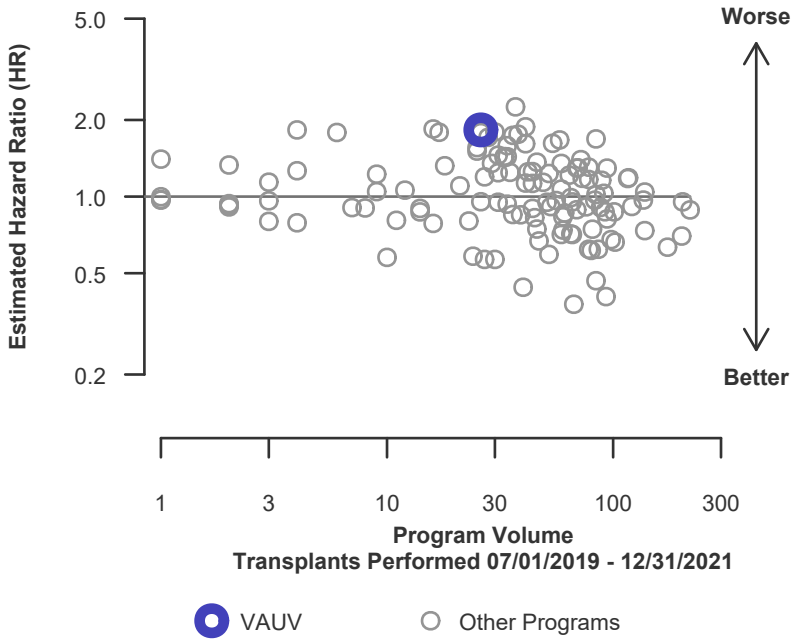


Figure C10D. Adult (18+) 3-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C10D. Pediatric (<18) 1-month survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	35	1,281
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	97.14% [91.78%-100.00%]	98.36% [97.67%-99.06%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	98.44%	--
Number of observed graft failures (including deaths) during the first month after transplant	1	21
Number of expected graft failures (including deaths) during the first month after transplant	0.55	--
Estimated hazard ratio*	1.17	--
95% credible interval for the hazard ratio**	[0.24, 2.83]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.24, 2.83], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 17% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 76% reduced risk up to 183% increased risk.

Figure C11D. Pediatric (<18) 1-month deceased donor graft failure HR estimate

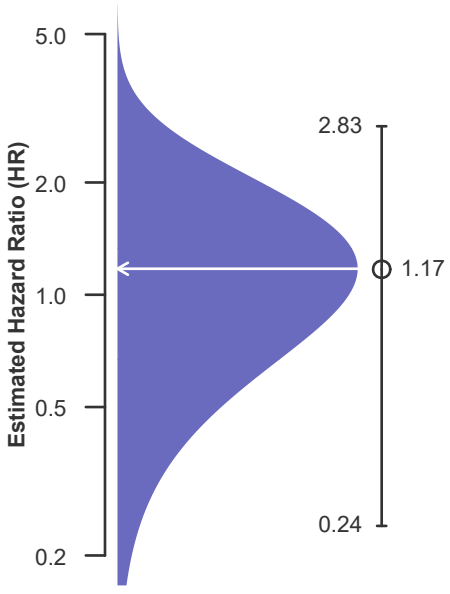
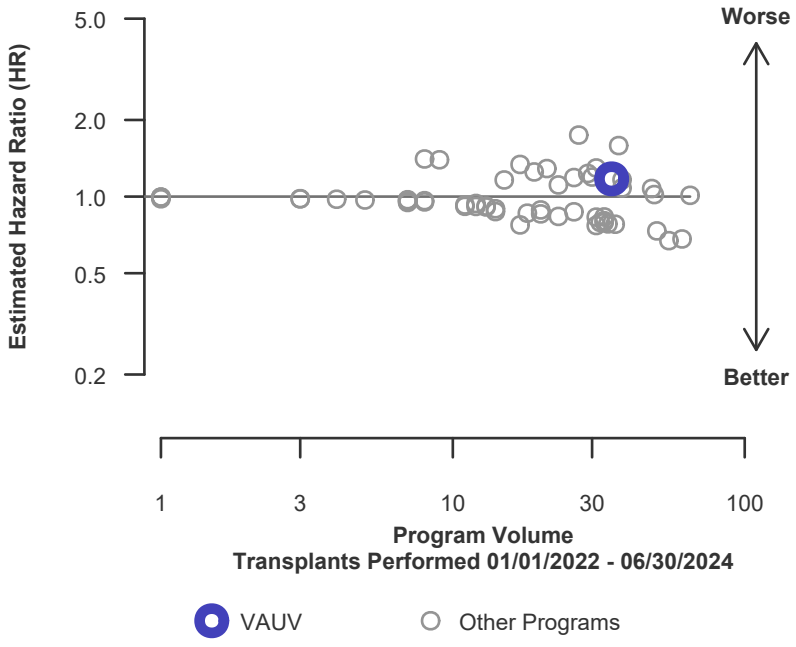


Figure C12D. Pediatric (<18) 1-month deceased donor graft failure HR program comparison



C. Transplant Information

Table C11D. Pediatric (<18) 90-Day survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	35	1,281
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	94.29% [86.90%-100.00%]	96.17% [95.13%-97.23%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	96.39%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	2	49
Number of expected graft failures (including deaths) during the first 90 days after transplant	1.31	--
Estimated hazard ratio*	1.21	--
95% credible interval for the hazard ratio**	[0.33, 2.65]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.33, 2.65], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 21% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 67% reduced risk up to 165% increased risk.

Figure C13D. Pediatric (<18) 90-Day deceased donor graft failure HR estimate

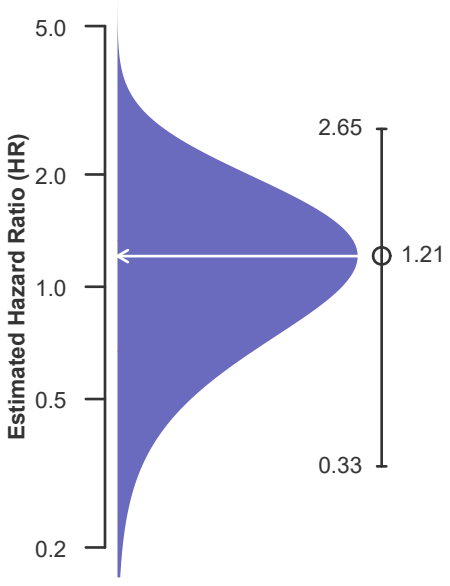
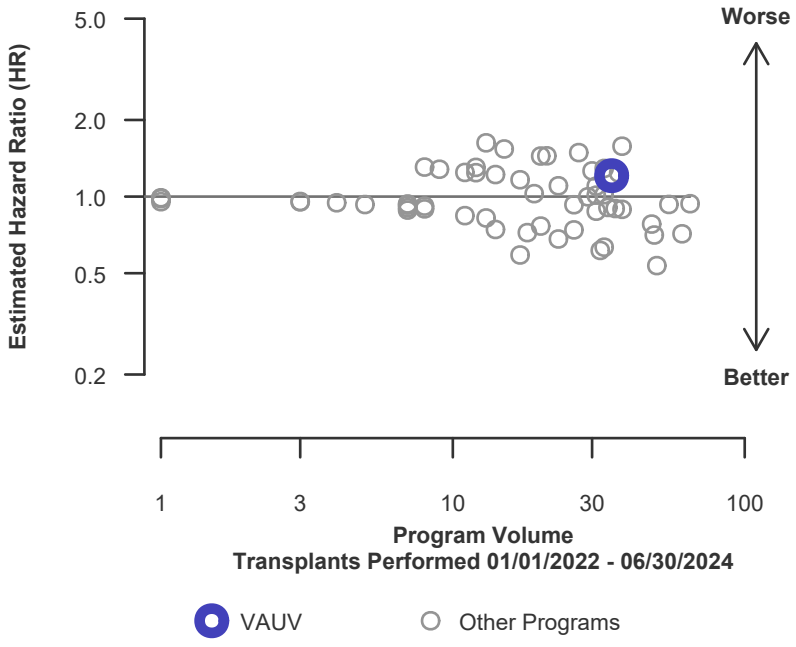


Figure C14D. Pediatric (<18) 90-Day deceased donor graft failure HR program comparison



C. Transplant Information

Table C12D. Pediatric (<18) 1-year survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	35	1,281
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	87.77% [77.13%-99.88%]	92.47% [90.98%-93.98%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	92.87%	--
Number of observed graft failures (including deaths) during the first year after transplant	4	91
Number of expected graft failures (including deaths) during the first year after transplant	2.47	--
Estimated hazard ratio*	1.34	--
95% credible interval for the hazard ratio**	[0.49, 2.61]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.49, 2.61], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 34% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 51% reduced risk up to 161% increased risk.

Figure C15D. Pediatric (<18) 1-year deceased donor graft failure HR estimate

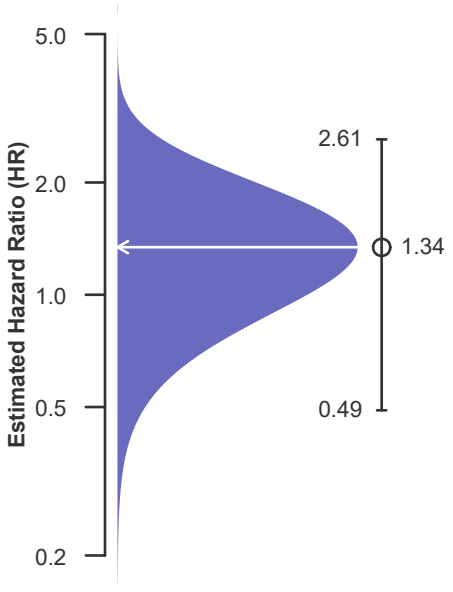
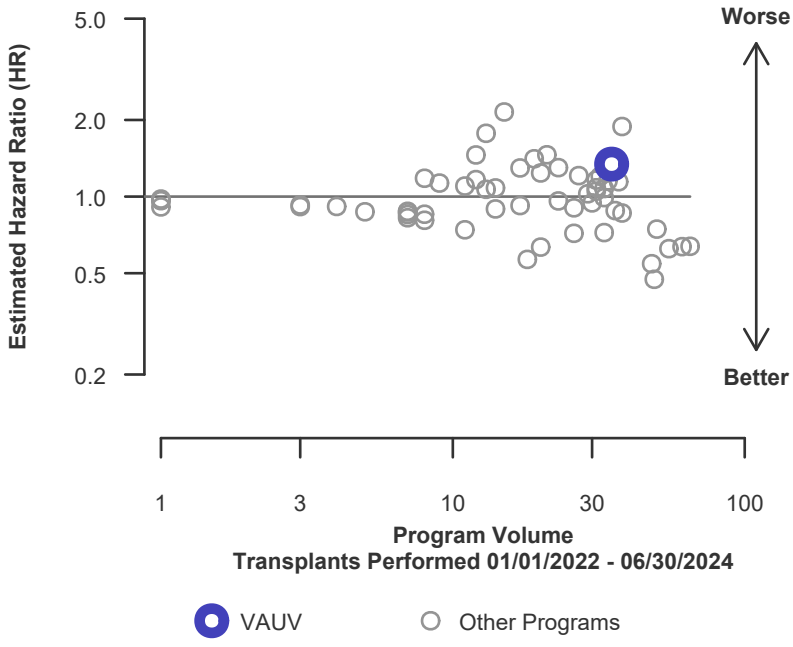


Figure C16D. Pediatric (<18) 1-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C13D. Pediatric (<18) 1-year Conditional survival with a functioning deceased donor graft

Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	VAUV	U.S.
Number of transplants evaluated	33	1,232
Estimated probability of surviving with a functioning graft at 1 year, among patients with a functioning graft at day 90 & [95% CI] (unadjusted for patient and donor characteristics)	93.09% [88.76%-99.88%]	96.15% [95.64%-96.66%]
Expected probability of surviving with a functioning graft at 1 year, among patients with a functioning graft at day 90 (adjusted for patient and donor characteristics)	96.35%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	2	42
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	1.16	--
Estimated hazard ratio*	1.27	--
95% credible interval for the hazard ratio**	[0.34, 2.77]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.34, 2.77], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 27% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 66% reduced risk up to 177% increased risk.

Figure C17D. Pediatric (<18) 1-year Conditional deceased donor graft failure HR estimate

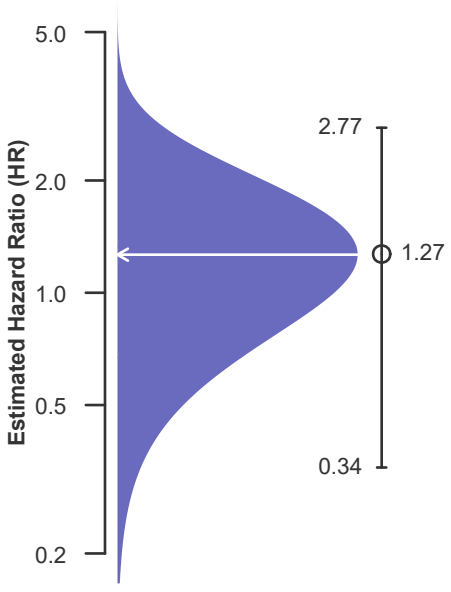
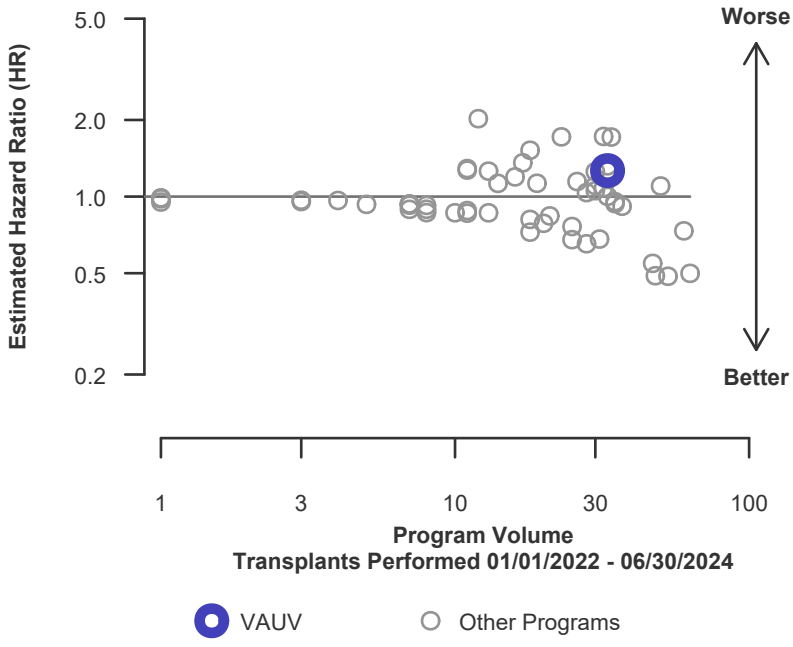


Figure C18D. Pediatric (<18) 1-year Conditional deceased donor graft failure HR program comparison



C. Transplant Information

Table C14D. Pediatric (<18) 3-year survival with a functioning deceased donor graft

Single organ transplants performed between 07/01/2019 and 03/12/2020, and 06/13/2020 and 12/31/2021
Deaths and retransplants are considered graft failures
Follow-up ends on 3/12/2020 for recipients transplanted prior to 3/13/2020

	VAUV	U.S.
Number of transplants evaluated	24	1,106
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	74.64% [55.77%-99.90%]	86.98% [84.77%-89.26%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	84.39%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	4	116
Number of expected graft failures (including deaths) during the first 3 years after transplant	2.72	--
Estimated hazard ratio*	1.27	--
95% credible interval for the hazard ratio**	[0.47, 2.47]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected graft failure rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.47, 2.47], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 27% higher risk of graft failure compared to an average program, but VAUV's performance could plausibly range from 53% reduced risk up to 147% increased risk.

Figure C19D. Pediatric (<18) 3-year deceased donor graft failure HR estimate

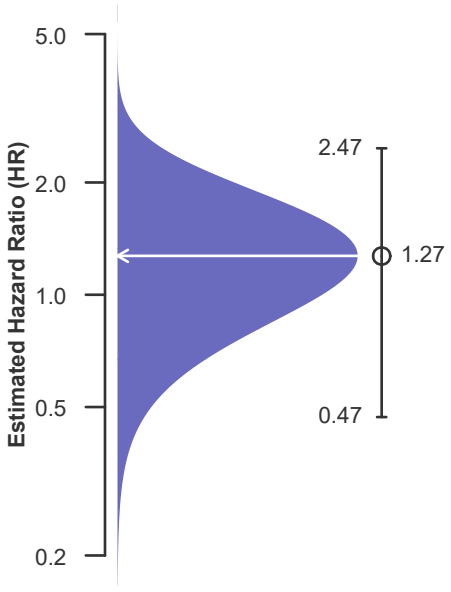
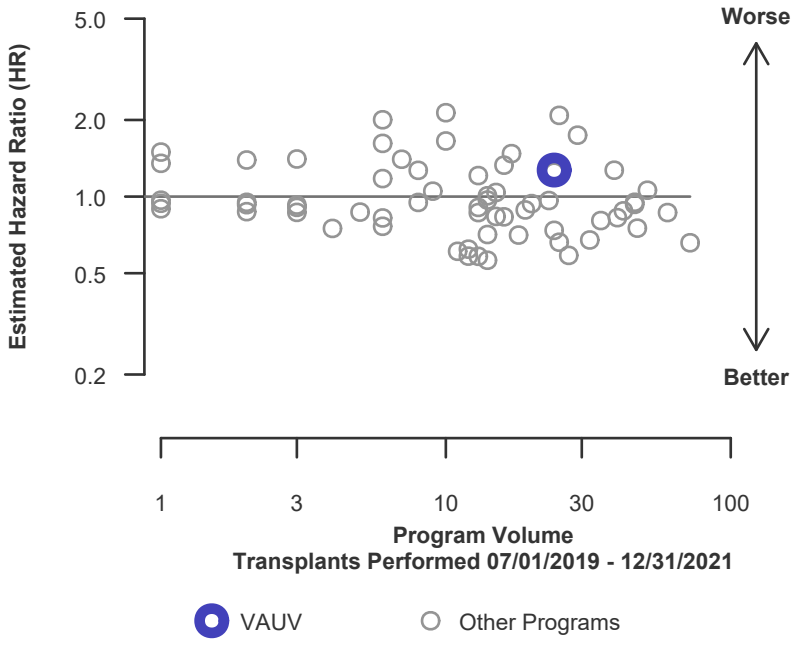


Figure C20D. Pediatric (<18) 3-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C15D. Adult (18+) 1-month patient survival (deceased donor graft recipients)

Single organ transplants performed between 01/01/2022 and 06/30/2024
Retransplants excluded

	VAUV	U.S.
Number of transplants evaluated	32	8,244
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	93.75% [85.73%-100.00%]	97.51% [97.18%-97.85%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	97.15%	--
Number of observed deaths during the first month after transplant	2	205
Number of expected deaths during the first month after transplant	0.89	--
Estimated hazard ratio*	1.38	--
95% credible interval for the hazard ratio**	[0.38, 3.03]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected patient death rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.38, 3.03], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 38% higher risk of patient death compared to an average program, but VAUV's performance could plausibly range from 62% reduced risk up to 203% increased risk.

Figure C21D. Adult (18+) 1-month patient death HR estimate (deceased donor grafts)

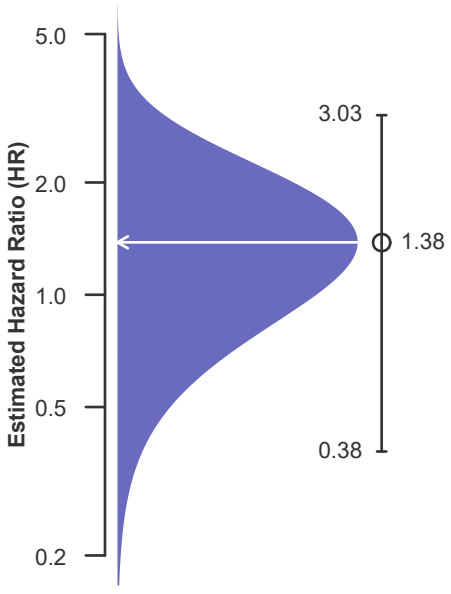
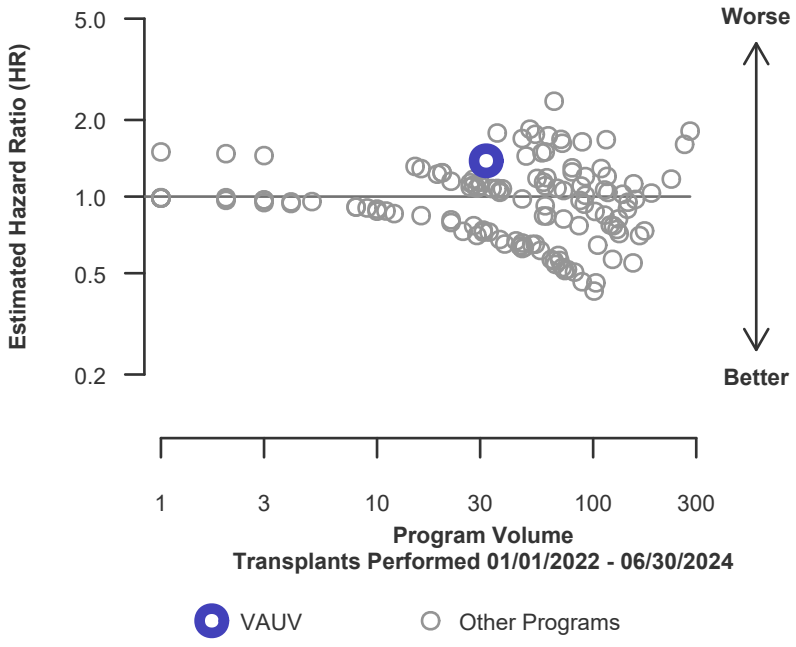


Figure C22D. Adult (18+) 1-month patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C16D. Adult (18+) 1-year patient survival (deceased donor graft recipients)

Single organ transplants performed between 01/01/2022 and 06/30/2024
Retransplants excluded

	VAUV	U.S.
Number of transplants evaluated	32	8,244
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	84.00% [72.05%-97.93%]	92.45% [91.87%-93.04%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	91.49%	--
Number of observed deaths during the first year after transplant	5	597
Number of expected deaths during the first year after transplant	2.64	--
Estimated hazard ratio*	1.51	--
95% credible interval for the hazard ratio**	[0.61, 2.82]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected patient death rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.61, 2.82], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 51% higher risk of patient death compared to an average program, but VAUV's performance could plausibly range from 39% reduced risk up to 182% increased risk.

Figure C23D. Adult (18+) 1-year patient death HR estimate (deceased donor grafts)

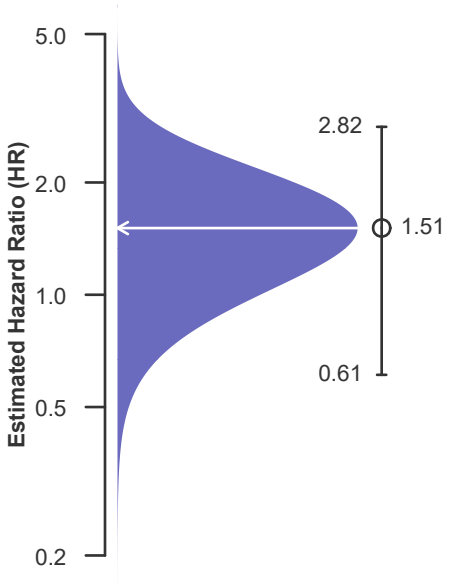
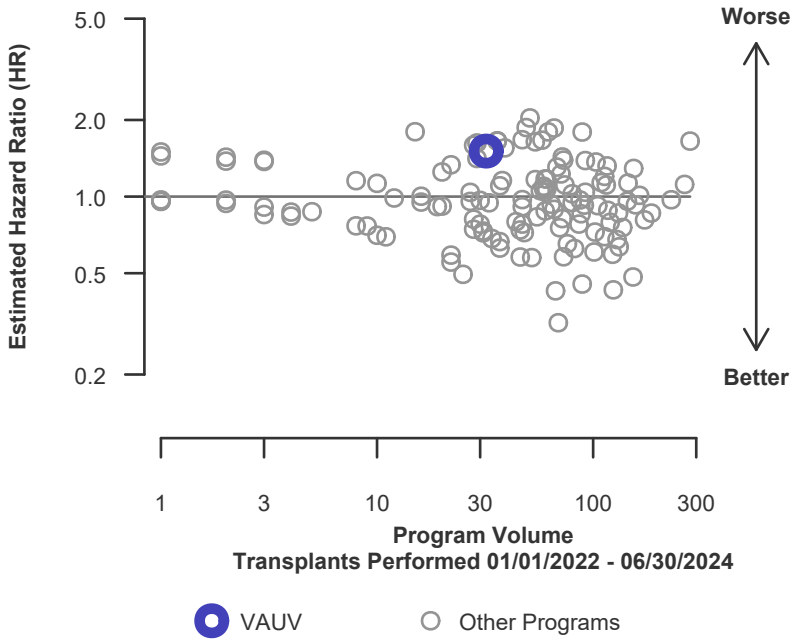


Figure C24D. Adult (18+) 1-year patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C17D. Adult (18+) 3-year patient survival (deceased donor graft recipients)

Single organ transplants performed between 07/01/2019 and 03/12/2020, and 06/13/2020 and 12/31/2021
Retransplants excluded
Follow-up ends on 3/12/2020 for recipients transplanted prior to 3/13/2020

	VAUV	U.S.
Number of transplants evaluated	26	6,355
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	65.93% [48.03%-90.52%]	85.27% [84.29%-86.26%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	83.35%	--
Number of observed deaths during the first 3 years after transplant	7	759
Number of expected deaths during the first 3 years after transplant	2.85	--
Estimated hazard ratio*	1.86	--
95% credible interval for the hazard ratio**	[0.85, 3.25]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected patient death rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.85, 3.25], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 86% higher risk of patient death compared to an average program, but VAUV's performance could plausibly range from 15% reduced risk up to 225% increased risk.

Figure C25D. Adult (18+) 3-year patient death HR estimate (deceased donor grafts)

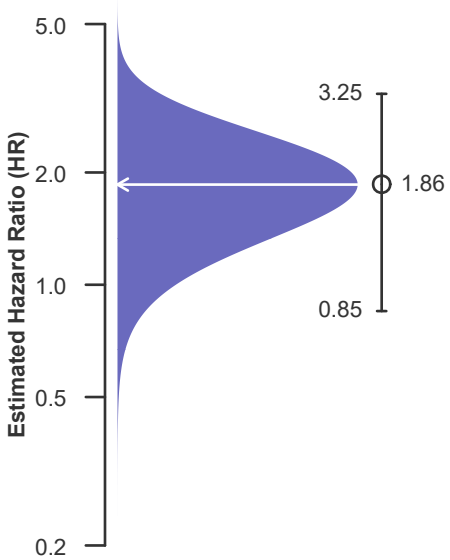
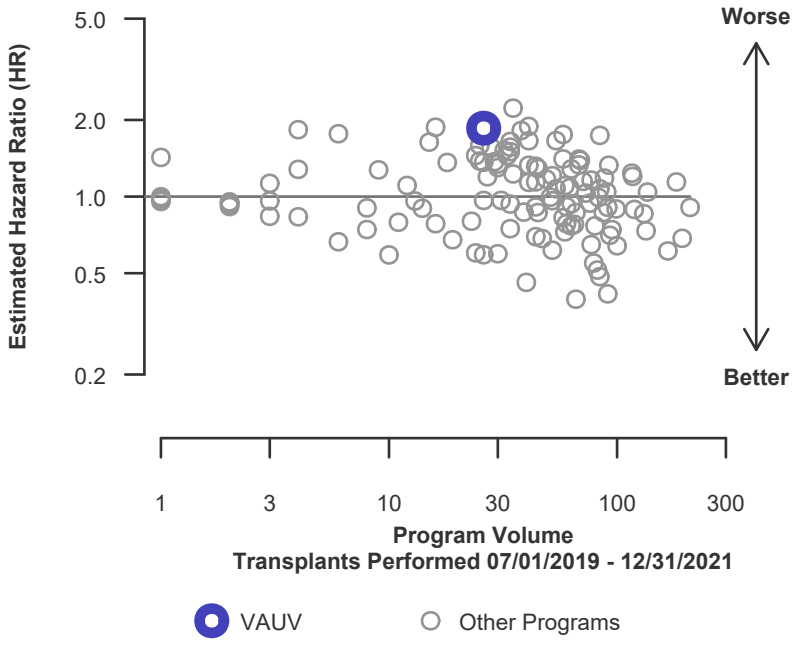


Figure C26D. Adult (18+) 3-year patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C18D. Pediatric (<18) 1-month patient survival (deceased donor graft recipients)

Single organ transplants performed between 01/01/2022 and 06/30/2024
Retransplants excluded

	VAUV	U.S.
Number of transplants evaluated	34	1,229
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	98.37% [97.67%-99.08%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.54%	--
Number of observed deaths during the first month after transplant	0	20
Number of expected deaths during the first month after transplant	0.51	--
Estimated hazard ratio*	0.80	--
95% credible interval for the hazard ratio**	[0.10, 2.22]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected patient death rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.10, 2.22], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 20% lower risk of patient death compared to an average program, but VAUV's performance could plausibly range from 90% reduced risk up to 122% increased risk.

Figure C27D. Pediatric (<18) 1-month patient death HR estimate (deceased donor grafts)

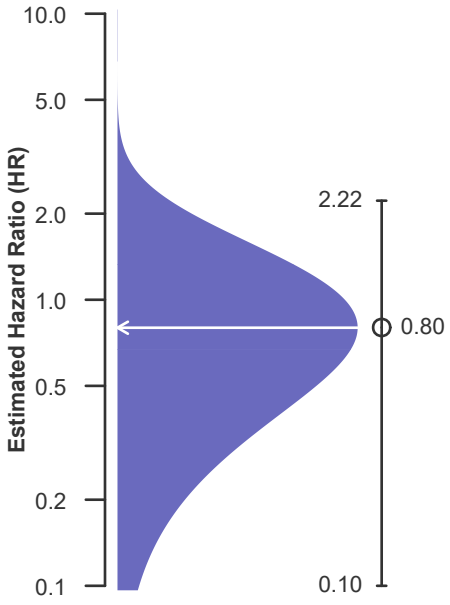
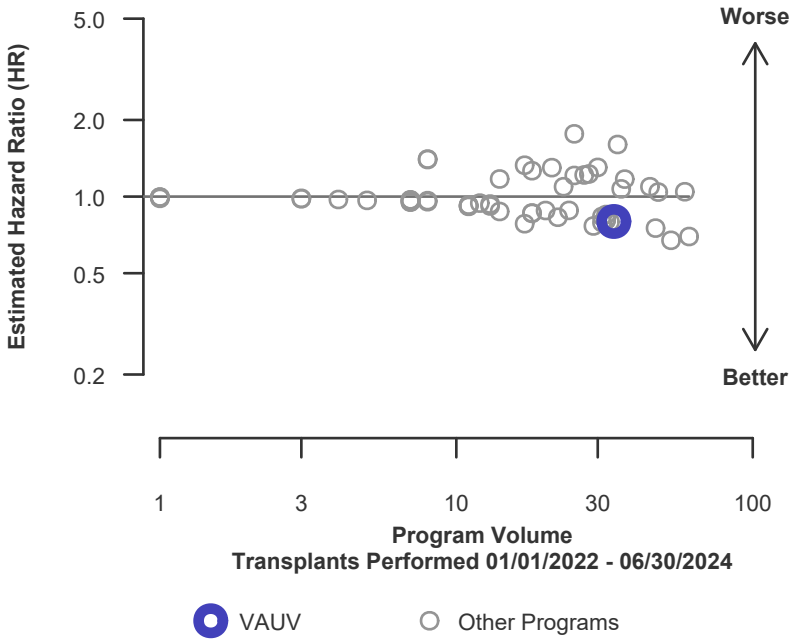


Figure C28D. Pediatric (<18) 1-month patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C19D. Pediatric (<18) 1-year patient survival (deceased donor graft recipients)

Single organ transplants performed between 01/01/2022 and 06/30/2024
Retransplants excluded

	VAUV	U.S.
Number of transplants evaluated	34	1,229
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	90.35% [80.45%-100.00%]	92.85% [91.37%-94.35%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	93.53%	--
Number of observed deaths during the first year after transplant	3	83
Number of expected deaths during the first year after transplant	2.17	--
Estimated hazard ratio*	1.20	--
95% credible interval for the hazard ratio**	[0.39, 2.46]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected patient death rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.39, 2.46], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 20% higher risk of patient death compared to an average program, but VAUV's performance could plausibly range from 61% reduced risk up to 146% increased risk.

Figure C29D. Pediatric (<18) 1-year patient death HR estimate (deceased donor grafts)

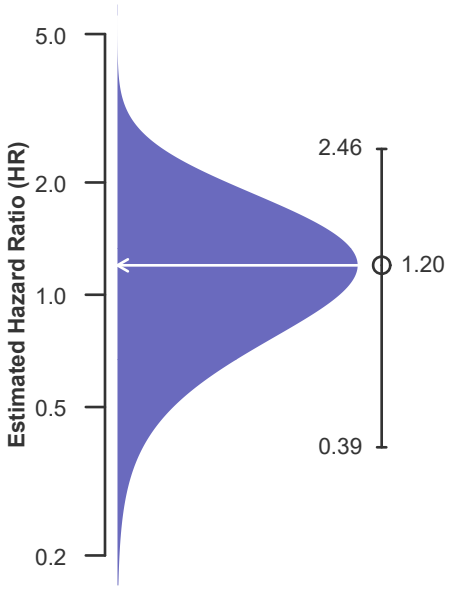
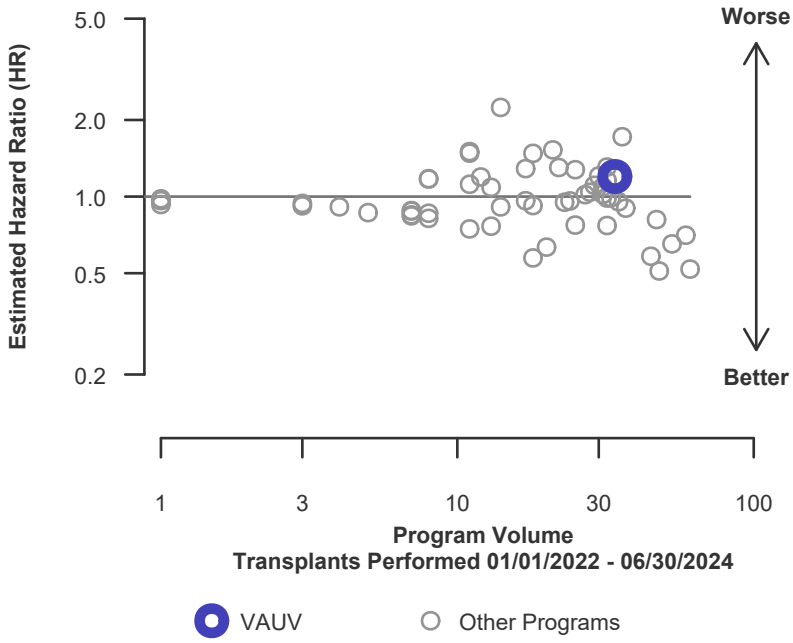


Figure C30D. Pediatric (<18) 1-year patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C20D. Pediatric (<18) 3-year patient survival (deceased donor graft recipients)

Single organ transplants performed between 07/01/2019 and 03/12/2020, and 06/13/2020 and 12/31/2021
Retransplants excluded
Follow-up ends on 3/12/2020 for recipients transplanted prior to 3/13/2020

	VAUV	U.S.
Number of transplants evaluated	24	1,057
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	74.64% [55.77%-99.90%]	87.00% [84.74%-89.33%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	84.18%	--
Number of observed deaths during the first 3 years after transplant	4	111
Number of expected deaths during the first 3 years after transplant	2.77	--
Estimated hazard ratio*	1.26	--
95% credible interval for the hazard ratio**	[0.46, 2.45]	--

* The hazard ratio provides an estimate of how University of Virginia Health Sciences Center's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would indicate 50% higher risk), and a ratio below 1 indicates lower than expected patient death rates (e.g., a hazard ratio of 0.75 would indicate 25% lower risk). If VAUV's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.46, 2.45], indicates the location of VAUV's true hazard ratio with 95% probability. The best estimate is 26% higher risk of patient death compared to an average program, but VAUV's performance could plausibly range from 54% reduced risk up to 145% increased risk.

Figure C31D. Pediatric (<18) 3-year patient death HR estimate (deceased donor grafts)

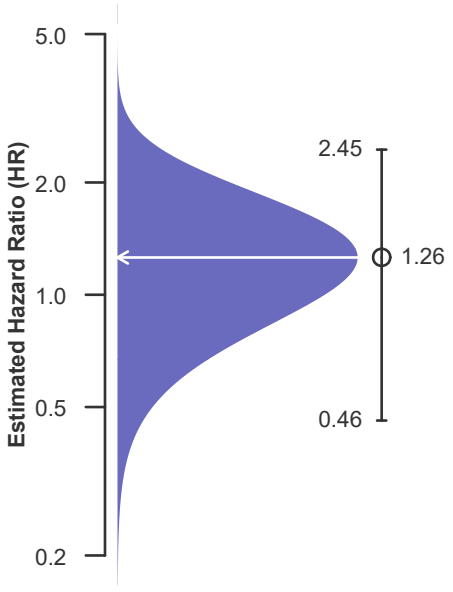
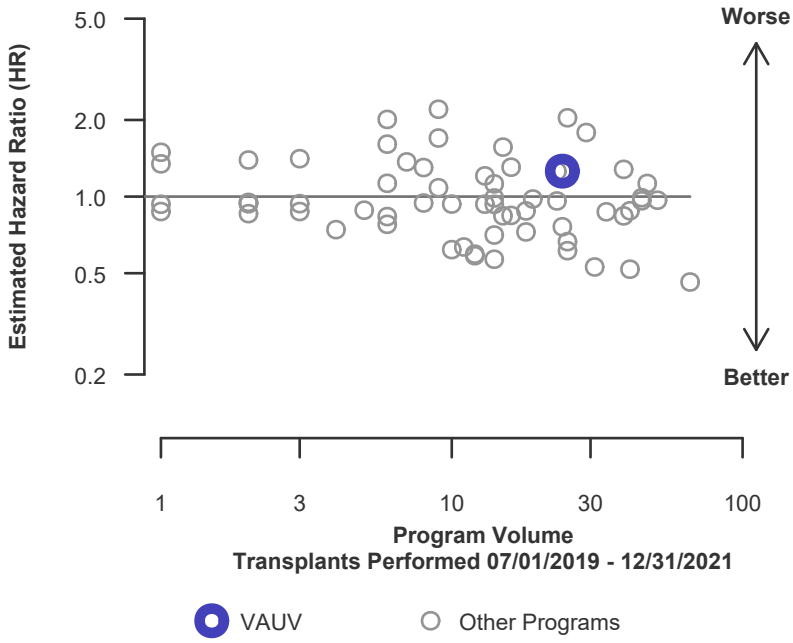


Figure C32D. Pediatric (<18) 3-year patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C21. Multi-organ transplant graft survival: 01/01/2022 - 06/30/2024

Adult (18+) Transplants

Transplant Type	Transplants Performed		First-Year Outcomes: Heart Graft Failures		Estimated Heart Graft Survival	
	VAUV-TX1	USA	VAUV-TX1	USA	VAUV-TX1	USA
Kidney-Heart	8	987	2	103	75.0%	89.6%
Liver-Heart	1	176	1	34	0.0%	80.7%

Pediatric (<18) Transplants

No pediatric (<18) multi-organ transplants were performed

Table C22. Multi-organ transplant patient survival: 01/01/2022 - 06/30/2024

Adult (18+) Transplants

Transplant Type	Transplants Performed		First-Year Outcomes: Patient Deaths		Estimated Patient Survival	
	VAUV-TX1	USA	VAUV-TX1	USA	VAUV-TX1	USA
Kidney-Heart	8	987	2	101	75.0%	89.8%
Liver-Heart	1	176	1	34	0.0%	80.7%

Pediatric (<18) Transplants

No pediatric (<18) multi-organ transplants were performed