



COVID-19 Guide

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 liver transplant program at Duke University Hospital. 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 transplant rate at this program was 426.3 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. Transplant rates are also presented excluding transplants from a living donor (Table B4D and Figures B1D-B3D). 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 0.1 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



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of offers.

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.

Table D1 shows the rates of follow-up for living donors.

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

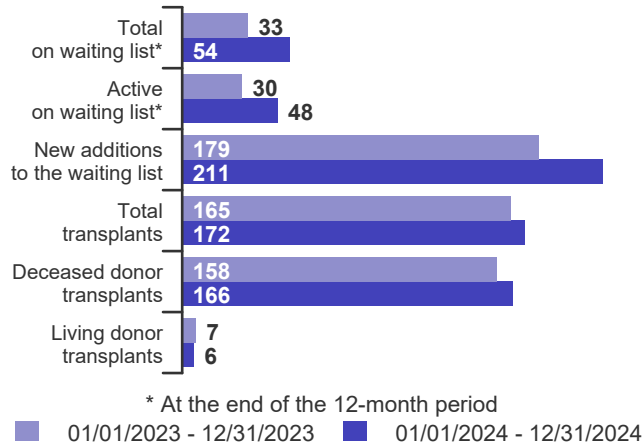


Table A1. Census of transplant recipients

Recipients	01/01/2023-12/31/2023	01/01/2024-12/31/2024
Transplanted at this center	165	172
Followed by this center*	1,040	1,097
...transplanted at this program	965	1,017
...transplanted elsewhere	75	80

* 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

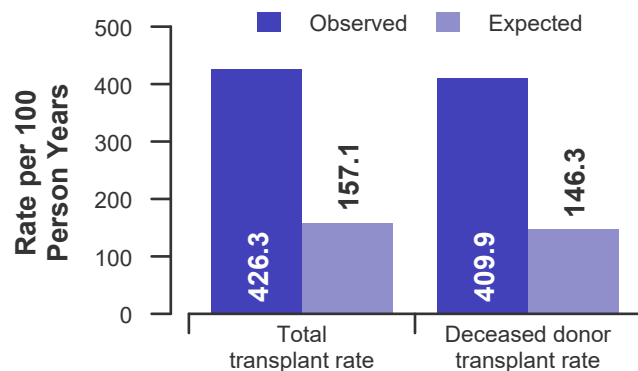


Figure A3. Pre-transplant mortality rates
01/01/2023 - 12/31/2024

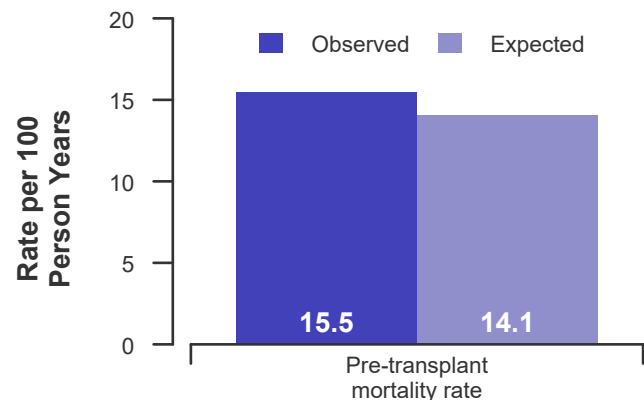


Figure A4. First-year adult graft and patient survival: 01/01/2022 - 06/30/2024

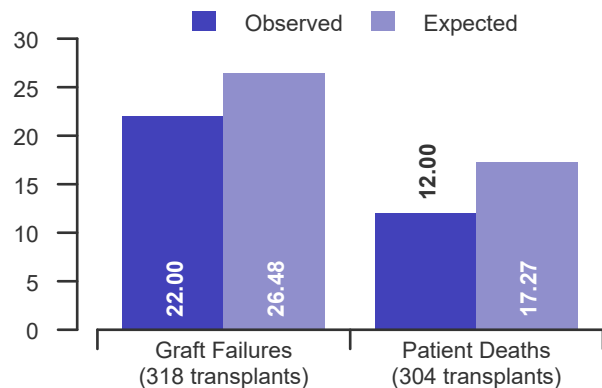
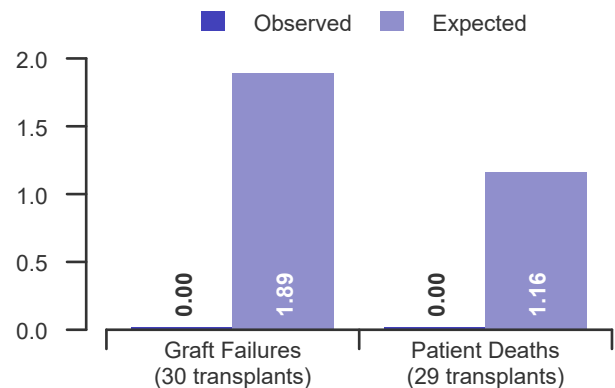


Figure A5. First-year pediatric graft and patient survival: 01/01/2022 - 06/30/2024





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	36	33	100.0	100.0	100.0
Additions					
New listings at this center	179	211	639.4	223.3	151.8
Removals					
Transferred to another center	0	0	0.0	0.4	1.6
Received living donor transplant*	7	6	18.2	7.1	6.0
Received deceased donor transplant*	158	166	503.0	161.6	107.0
Died	6	6	18.2	14.4	9.5
Transplanted at another center	2	0	0.0	3.9	2.4
Deteriorated	4	2	6.1	7.7	9.3
Recovered	2	6	18.2	10.4	11.4
Other reasons	3	4	12.1	9.2	10.6
On waiting list at end of period	33	54	163.6	108.7	94.1

* 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	OPTN Region	U.S.	This Center	OPTN Region	U.S.
	(N=211)	(N=1,722)	(N=15,399)	(N=54)	(N=838)	(N=9,551)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Ethnicity/Race (%)*						
White	81.5	80.3	64.3	85.2	79.7	62.8
African-American	10.0	10.3	6.8	9.3	11.5	7.1
Hispanic/Latino	4.3	5.5	19.7	3.7	5.3	21.7
Asian	2.4	1.5	4.1	1.9	1.4	5.1
Other	0.9	1.1	2.2	0.0	1.0	1.9
Unknown	0.9	1.2	3.0	0.0	1.2	1.5
Age (%)						
<2 years	2.8	2.7	2.0	0.0	2.0	1.5
2-11 years	1.9	2.1	1.6	1.9	2.0	1.5
12-17 years	0.9	1.1	1.3	1.9	1.9	1.4
18-34 years	5.7	5.5	7.1	9.3	5.3	6.8
35-49 years	15.2	21.7	23.6	16.7	20.5	21.1
50-64 years	51.2	46.9	43.2	48.1	49.6	46.7
65-69 years	17.1	14.3	15.3	13.0	14.4	15.8
70+ years	5.2	5.7	5.9	9.3	4.2	5.2
Gender (%)						
Male	58.3	59.5	58.0	59.3	60.3	58.6
Female	41.7	40.5	42.0	40.7	39.7	41.4

* 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=211)	OPTN Region (N=1,722)	U.S. (N=15,399)	This Center (N=54)	OPTN Region (N=838)	U.S. (N=9,551)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Blood Type (%)						
O	50.2	46.7	47.1	70.4	53.9	50.2
A	36.5	38.4	37.5	27.8	35.2	38.5
B	11.4	11.7	11.7	1.9	10.3	9.6
AB	1.9	3.1	3.6	0.0	0.6	1.6
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Previous Transplant (%)						
Yes	7.1	4.8	4.6	9.3	4.4	4.1
No	92.9	95.2	95.4	90.7	95.6	95.9
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Primary Disease (%)						
Acute Hepatic Necrosis	0.5	1.5	2.1	1.9	1.1	1.3
Non-Cholestatic Cirrhosis	27.5	28.3	23.9	14.8	34.1	36.4
Cholestatic Liver Disease/Cirrhosis	10.4	6.6	6.3	11.1	6.2	7.1
Biliary Atresia	2.4	2.1	2.0	1.9	2.1	2.0
Metabolic Diseases	0.9	2.5	2.1	0.0	1.3	1.4
Malignant Neoplasms	9.5	9.1	11.2	20.4	10.0	11.9
Other	48.8	49.9	52.3	50.0	44.9	39.8
Missing	0.0	0.1	0.2	0.0	0.2	0.2
Medical Urgency Status/MELD/PELD at Listing (%)*						
Status 1A	2.4	1.8	2.3	0.0	0.2	0.2
Status 1B	0.9	0.6	0.4	0.0	0.1	0.1
Status 2A	0.0	0.0	0.0	0.0	0.0	0.0
Status 2B	0.0	0.0	0.0	0.0	0.0	0.0
Status 3	0.0	0.0	0.0	0.0	0.0	0.1
MELD 6-10	10.4	8.7	11.6	18.5	14.8	22.3
MELD 11-14	18.0	11.0	12.0	38.9	21.2	21.5
MELD 15-20	22.3	25.1	21.7	20.4	36.0	29.8
MELD 21-30	26.5	26.7	24.6	13.0	18.6	15.0
MELD 31-40	10.0	13.9	13.5	0.0	0.6	1.1
PELD less than or equal to 10	0.9	1.4	1.5	0.0	1.8	2.1
PELD 11-14	0.5	0.5	0.3	0.0	0.7	0.2
PELD 15-20	0.5	0.7	0.4	0.0	0.4	0.2
PELD 21-30	0.9	0.8	0.3	1.9	1.0	0.2
PELD 31 or greater	0.0	0.2	0.1	0.0	0.0	0.0
Temporarily Inactive	2.8	4.8	6.7	7.4	4.4	7.0

* MELD/PELD score based on laboratory measures is shown for listings beginning 2/27/2002 unless patient is Status 1 or Temporarily Inactive. MELD/PELD scores based on exception rules are not used. Status 1 separated into 1A and 1B in August 2005.



B. Waiting List Information

Table B4. 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*	36	67	814	10,969
Person Years**	79.0	142.3	1,568.8	20,254.4
Removals for Transplant	337	421	2,286	22,116
Adult (18+) Candidates				
Count on waiting list at start*	33	64	785	10,531
Person Years**	74.1	137.3	1,507.4	19,430.9
Removals for transplant	309	393	2,148	20,987
Pediatric (<18) Candidates				
Count on waiting list at start*	3	3	29	438
Person Years**	5.0	5.0	61.4	823.5
Removals for transplant	28	28	138	1,129

* 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 B1. Observed and expected transplant rates: 01/01/2023 - 12/31/2024

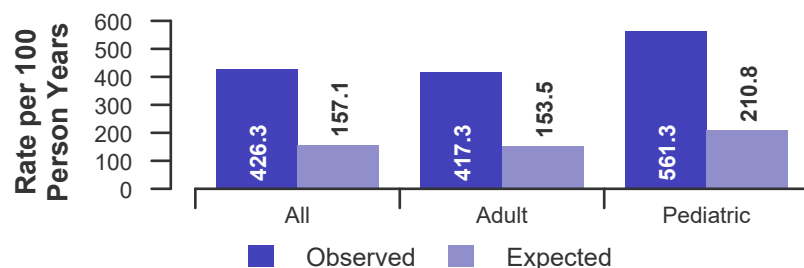


Figure B2. Transplant rate ratio estimate

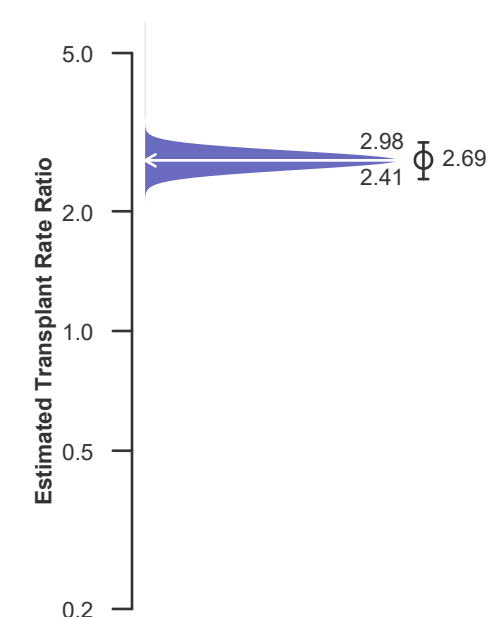
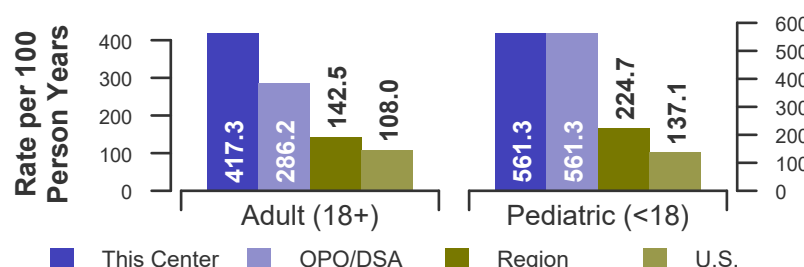


Figure B3. Observed adult (18+) and pediatric (<18) transplant rates: 01/01/2023 - 12/31/2024





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*	36	67	814	10,969
Person Years**	79.0	142.3	1,568.8	20,254.4
Removals for Transplant	324	397	2,177	20,854
Adult (18+) Candidates				
Count on waiting list at start*	33	64	785	10,531
Person Years**	74.1	137.3	1,507.4	19,430.9
Removals for transplant	303	376	2,058	19,915
Pediatric (<18) Candidates				
Count on waiting list at start*	3	3	29	438
Person Years**	5.0	5.0	61.4	823.5
Removals for transplant	21	21	119	939

* 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

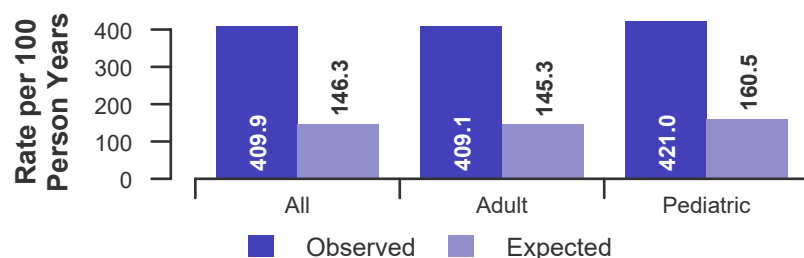


Figure B2D. Deceased donor transplant rate ratio estimate

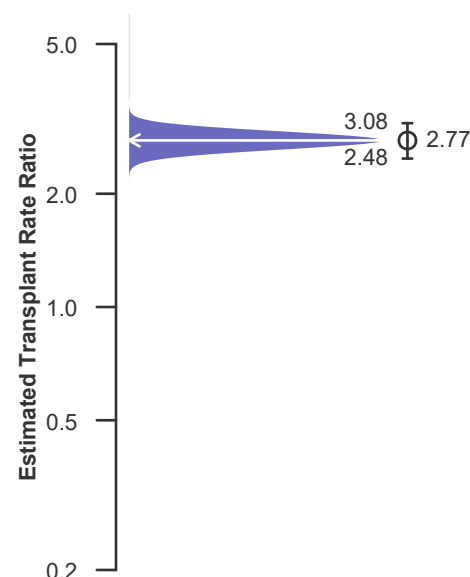
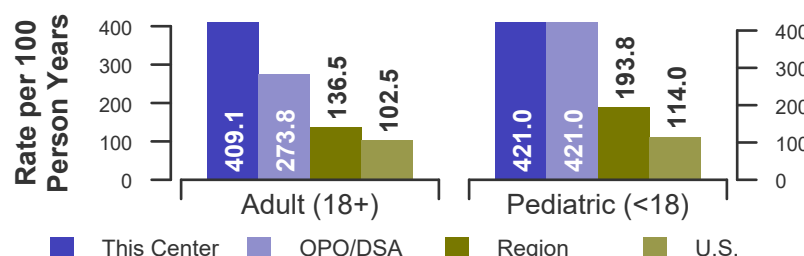


Figure B3D. Observed adult (18+) and pediatric (<18) deceased donor transplant rates: 01/01/2023 - 12/31/2024





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*	36	67	814	10,969
Person Years**	90.6	168.5	1,783.0	23,901.6
Number of deaths	14	29	289	3,036
Adult (18+) Candidates				
Count on waiting list at start*	33	64	785	10,531
Person Years**	84.4	162.4	1,717.4	22,993.9
Number of deaths	14	29	285	2,984
Pediatric (<18) Candidates				
Count on waiting list at start*	3	3	29	438
Person Years**	6.2	6.2	65.6	907.6
Number of deaths	0	0	4	52

* 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

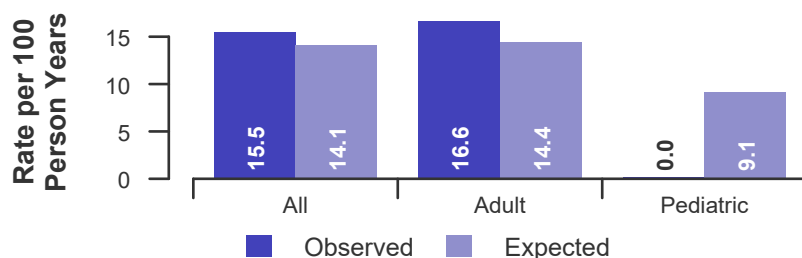


Figure B6. Observed adult (18+) and pediatric (<18) pre-transplant mortality rates: 01/01/2023 - 12/31/2024

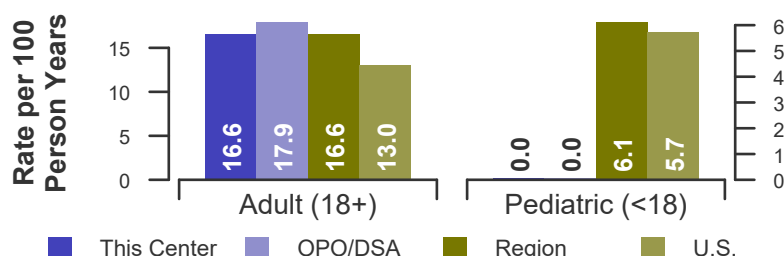
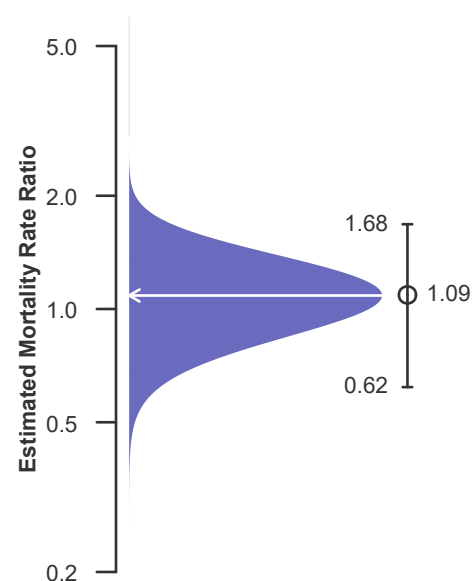


Figure B5. Pre-transplant mortality rate ratio estimate





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	944	1,263	8,633	82,628
Person-years*	1,240.0	1,636.5	11,414.0	110,663.0
Number of Deaths	50	77	733	6,422
Adult (18+) Patients				
Count at risk during the evaluation period	858	1,171	8,137	78,223
Person-years*	1,121.3	1,509.3	10,766.0	104,641.8
Number of Deaths	50	77	723	6,298
Pediatric (<18) Patients				
Count at risk during the evaluation period	86	92	496	4,405
Person-years*	118.7	127.2	648.0	6,021.2
Number of Deaths	0	0	10	124

* 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

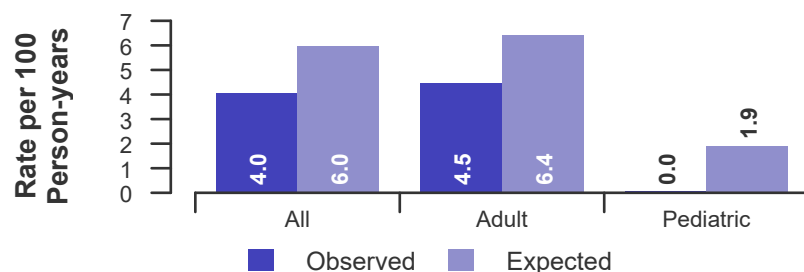


Figure B8. HR estimate of patient mortality after listing

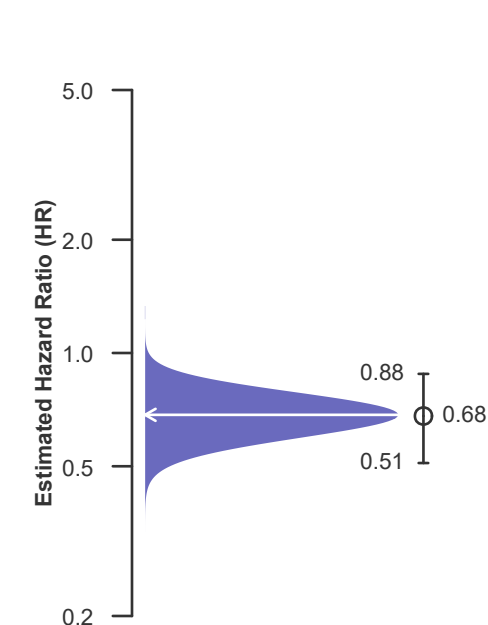
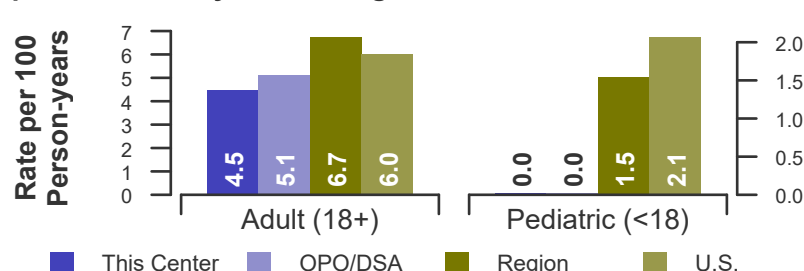


Figure B9. Observed adult (18+) and pediatric (<18) rates of patient mortality after listing: 01/01/2023 - 12/31/2024





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=165)			U.S. (N=13,953)		
	Months Since Listing			Months Since Listing		
	6	12	18	6	12	18
Alive on waiting list (%)	13.9	3.6	1.2	34.7	18.4	11.5
Died on the waiting list without transplant (%)	4.2	4.8	4.8	3.6	4.5	5.0
Removed without transplant (%):						
Condition worsened (status unknown)	1.2	1.2	1.2	3.3	4.7	5.4
Condition improved (status unknown)	1.2	1.8	1.8	1.5	2.6	3.7
Refused transplant (status unknown)	0.0	0.0	0.0	0.2	0.4	0.6
Other	1.8	1.8	1.8	1.6	3.1	3.9
Transplant (living donor from waiting list only) (%):						
Functioning (alive)	3.0	3.0	0.6	3.1	3.8	2.5
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.1	0.1	0.1
Failed-alive not retransplanted	0.0	0.0	0.0	0.0	0.0	0.0
Died	0.0	0.0	0.0	0.1	0.1	0.2
Status Yet Unknown**	0.0	0.0	2.4	0.0	0.2	1.6
Transplant (deceased donor) (%):						
Functioning (alive)	70.3	70.9	43.0	47.9	52.7	36.5
Failed-Retransplanted (alive)	0.0	0.0	1.2	0.3	0.5	0.7
Failed-alive not retransplanted	0.0	0.6	0.6	0.0	0.1	0.0
Died	2.4	3.6	3.6	1.9	3.1	3.9
Status Yet Unknown*	1.8	8.5	37.6	1.4	5.2	23.6
Lost or Transferred (status unknown) (%)	0.0	0.0	0.0	0.3	0.6	0.7
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waiting list or after transplant	6.7	8.5	8.5	5.6	7.7	9.1
Total % known died or removed as unstable	7.9	9.7	9.7	8.9	12.4	14.5
Total % removed for transplant	77.6	86.7	89.1	54.8	65.8	69.2
Total % with known functioning transplant (alive)	73.3	73.9	43.6	51.0	56.5	39.0

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



B. Waiting List Information

Table B7S1. Medical urgency status 1 candidate status after listing

Candidates registered on the waiting list between 07/01/2022 and 06/30/2023

Waiting list status (survival status)	This Center (N=2)			U.S. (N=424)		
	Months Since listing			Months Since listing		
	6	12	18	6	12	18
Alive on waiting list (%)	0.0	0.0	0.0	1.9	0.5	0.2
Died on the waiting list without transplant (%)	0.0	0.0	0.0	5.9	5.9	5.9
Removed without transplant (%):						
Condition worsened (status unknown)	0.0	0.0	0.0	5.9	5.9	5.9
Condition improved (status unknown)	0.0	0.0	0.0	19.8	21.0	21.2
Refused transplant (status unknown)	0.0	0.0	0.0	0.7	0.7	0.7
Other	0.0	0.0	0.0	0.9	0.9	0.9
Transplant (living donor from waiting list only) (%):						
Functioning (alive)	0.0	0.0	0.0	1.9	1.7	1.7
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.0	0.0	0.0
Failed-alive not retransplanted	0.0	0.0	0.0	0.0	0.0	0.0
Died	0.0	0.0	0.0	0.2	0.2	0.2
Status Yet Unknown**	0.0	0.0	0.0	0.0	0.2	0.2
Transplant (deceased donor) (%):						
Functioning (alive)	100.0	100.0	50.0	55.4	48.1	33.5
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.7	0.7	0.7
Failed-alive not retransplanted	0.0	0.0	0.0	0.5	0.0	0.0
Died	0.0	0.0	0.0	4.7	6.4	6.6
Status Yet Unknown*	0.0	0.0	50.0	0.9	7.3	21.7
Lost or Transferred (status unknown) (%)	0.0	0.0	0.0	0.5	0.5	0.5
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waiting list or after transplant	0.0	0.0	0.0	10.8	12.5	12.7
Total % known died or removed as unstable	0.0	0.0	0.0	16.7	18.4	18.6
Total % removed for transplant	100.0	100.0	100.0	64.4	64.6	64.6
Total % with known functioning transplant (alive)	100.0	100.0	50.0	57.3	49.8	35.1

* 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	N	Percent transplanted at time periods since listing					United States				
		This Center									
		30 day	1 year	2 years	3 years		30 day	1 year	2 years	3 years	
All	399	38.8	81.5	86.2	86.7	39,435	28.1	55.4	60.7	62.5	
Ethnicity/Race*											
White	314	38.2	81.8	86.6	86.9	27,120	28.6	56.2	61.1	62.8	
African-American	45	42.2	77.8	84.4	86.7	2,991	31.2	58.3	63.6	65.3	
Hispanic/Latino	18	33.3	88.9	88.9	88.9	6,915	25.1	51.6	57.9	59.8	
Asian	11	36.4	72.7	81.8	81.8	1,727	25.5	51.8	60.1	62.5	
Other	11	54.5	81.8	81.8	81.8	682	32.1	55.9	60.6	62.9	
Unknown	0	--	--	--	--	0	--	--	--	--	
Age											
<2 years	18	50.0	94.4	94.4	94.4	786	24.6	72.5	75.2	76.2	
2-11 years	7	57.1	85.7	85.7	85.7	583	28.1	68.3	72.9	75.0	
12-17 years	8	12.5	50.0	62.5	62.5	471	22.5	58.6	64.8	65.8	
18-34 years	22	54.5	90.9	90.9	90.9	2,551	39.8	59.5	63.3	64.6	
35-49 years	71	47.9	84.5	87.3	87.3	7,702	40.0	61.1	65.0	66.5	
50-64 years	185	40.5	82.2	88.6	89.2	18,714	26.3	54.1	59.8	61.8	
65-69 years	67	25.4	76.1	82.1	83.6	6,481	18.8	49.8	56.6	58.4	
70+ years	21	14.3	71.4	71.4	71.4	2,147	18.7	47.7	53.3	54.4	
Gender											
Male	249	37.8	81.9	85.1	85.5	24,429	28.2	56.4	61.9	63.6	
Female	150	40.7	80.7	88.0	88.7	15,006	28.0	53.6	58.8	60.6	

* 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 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	N	Percent transplanted at time periods since listing					United States				
		This Center									
		30 day	1 year	2 years	3 years		30 day	1 year	2 years	3 years	
All	399	38.8	81.5	86.2	86.7	39,435	28.1	55.4	60.7	62.5	
Blood Type											
O	176	35.8	80.7	86.4	86.4	18,455	26.9	53.1	58.6	60.5	
A	158	36.7	79.7	84.8	86.1	14,634	27.3	53.6	59.2	61.0	
B	49	46.9	83.7	85.7	85.7	4,801	31.1	63.1	67.9	69.4	
AB	16	68.8	100.0	100.0	100.0	1,545	41.4	75.2	77.7	78.4	
Previous Transplant											
Yes	19	47.4	68.4	73.7	73.7	1,878	33.5	56.7	60.9	62.2	
No	380	38.4	82.1	86.8	87.4	37,557	27.9	55.3	60.7	62.5	
Primary Disease											
Acute Hepatic Necrosis	20	90.0	90.0	95.0	95.0	2,013	58.7	67.5	68.7	69.2	
Non-Cholestatic Cirrhosis	232	42.2	84.1	88.4	88.8	26,232	29.8	55.3	59.9	61.6	
Cholestatic Liver Disease/Cirrhosis	34	41.2	67.6	82.4	82.4	2,575	23.1	53.2	61.1	63.3	
Biliary Atresia	11	54.5	100.0	100.0	100.0	660	15.5	67.0	71.4	73.0	
Metabolic Diseases	14	42.9	92.9	92.9	92.9	796	29.5	69.2	75.0	76.1	
Malignant Neoplasms	53	5.7	77.4	81.1	83.0	4,640	8.8	47.4	56.5	58.9	
Other	35	28.6	68.6	71.4	71.4	2,505	29.9	56.6	62.6	64.9	
Missing	0	--	--	--	--	14	21.4	21.4	28.6	28.6	
Medical Urgency Status/MELD/PELD at Listing*											
Status 1	0	--	--	--	--	0	--	--	--	--	
Status 1A	12	83.3	83.3	83.3	83.3	1,162	61.9	62.0	62.2	62.2	
Status 1B	1	0.0	100.0	100.0	100.0	145	56.6	86.9	86.9	86.9	
Status 2A	0	--	--	--	--	0	--	--	--	--	
Status 2B	0	--	--	--	--	0	--	--	--	--	
Status 3	0	--	--	--	--	0	--	--	--	--	
MELD 6-10	59	1.7	76.3	83.1	83.1	6,558	3.1	35.6	46.0	49.2	
MELD 11-14	31	6.5	61.3	71.0	71.0	4,792	3.8	34.7	44.5	47.7	
MELD 15-20	88	19.3	76.1	86.4	86.4	8,155	11.7	47.5	54.0	56.4	
MELD 21-30	124	47.6	85.5	87.1	88.7	9,476	36.8	67.0	69.8	70.7	
MELD 31-40	54	92.6	92.6	94.4	94.4	5,034	78.3	83.8	83.9	83.9	
PELD less than or equal to 10	9	44.4	88.9	88.9	88.9	577	11.8	70.5	76.9	79.7	
PELD 11-14	2	50.0	100.0	100.0	100.0	101	18.8	81.2	84.2	86.1	
PELD 15-20	4	25.0	100.0	100.0	100.0	147	19.0	77.6	78.9	79.6	
PELD 21-30	2	50.0	100.0	100.0	100.0	117	24.8	74.4	76.1	76.1	
PELD 31 or greater	2	100.0	100.0	100.0	100.0	51	49.0	68.6	68.6	68.6	
Temporarily Inactive	11	63.6	81.8	81.8	81.8	3,120	43.3	58.3	61.6	62.8	

* MELD/PELD score based on laboratory measures is shown for listings beginning 2/27/2002 unless patient is Status 1 or Temporarily Inactive. MELD/PELD scores based on exception rules are not used. Status 1 separated into 1A and 1B in August 2005.



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

Percentile	Center	Months to Transplant**		U.S.
		OPO/DSA	Region	
5th	0.1	0.1	0.1	0.1
10th	0.1	0.1	0.1	0.2
25th	0.3	0.4	0.4	0.6
50th (median time to transplant)	1.4	2.0	2.8	5.1
75th	6.1	8.4	19.1	Not Observed

* 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	2,726	3,550	32,855	293,114
Number of Acceptances	150	183	1,129	9,682
Expected Acceptances	101.5	151.1	1,143.7	9,681.1
Offer Acceptance Ratio*	1.47	1.21	0.99	1.00
95% Credible Interval**	[1.24, 1.71]	--	--	--
PHS increased infectious risk				
Number of Offers	449	608	4,862	42,477
Number of Acceptances	24	31	199	1,582
Expected Acceptances	17.0	28.4	194.7	1,581.6
Offer Acceptance Ratio*	1.37	1.09	1.02	1.00
95% Credible Interval**	[0.89, 1.94]	--	--	--
DCD donor				
Number of Offers	1,553	1,899	17,103	159,874
Number of Acceptances	67	81	353	2,778
Expected Acceptances	39.0	62.3	383.2	2,779.4
Offer Acceptance Ratio*	1.68	1.29	0.92	1.00
95% Credible Interval**	[1.31, 2.10]	--	--	--
HCV+ donor				
Number of Offers	103	132	1,035	8,439
Number of Acceptances	6	8	45	306
Expected Acceptances	3.2	4.9	41.0	307.2
Offer Acceptance Ratio*	1.54	1.45	1.09	1.00
95% Credible Interval**	[0.66, 2.78]	--	--	--
Hard-to-Place Livers (Over 50 Offers)				
Number of Offers	1,564	1,790	18,263	167,977
Number of Acceptances	26	26	108	1,176
Expected Acceptances	20.6	25.6	150.0	1,382.1
Offer Acceptance Ratio*	1.24	1.01	0.72	0.85
95% Credible Interval**	[0.82, 1.73]	--	--	--
Donor more than 500 miles away				
Number of Offers	635	706	6,055	76,452
Number of Acceptances	16	16	115	1,149
Expected Acceptances	10.6	12.9	124.0	1,071.0
Offer Acceptance Ratio*	1.43	1.21	0.93	1.07
95% Credible Interval**	[0.85, 2.16]	--	--	--

* The offer acceptance ratio estimates the relative offer acceptance practice of Duke University Hospital 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, [1.24, 1.71], indicates the location of NCDU's true offer acceptance ratio with 95% probability. The best estimate is 47% more likely to accept an offer compared to national acceptance behavior, but NCDU's performance could plausibly range from 24% higher acceptance up to 71% higher acceptance.



B. Waiting List Information

Figure B10. Offer acceptance: Overall

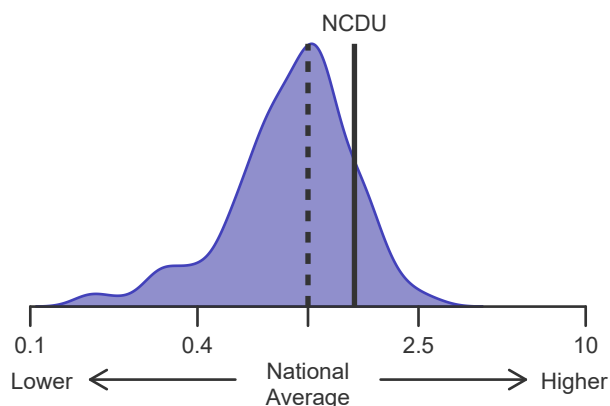


Figure B11. Offer acceptance: PHS increased infectious risk

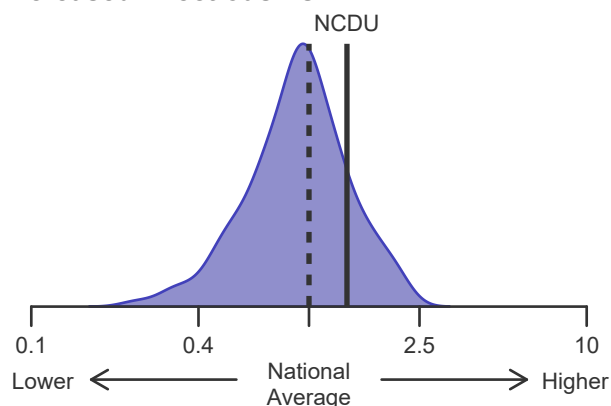


Figure B12. Offer acceptance: DCD Donor

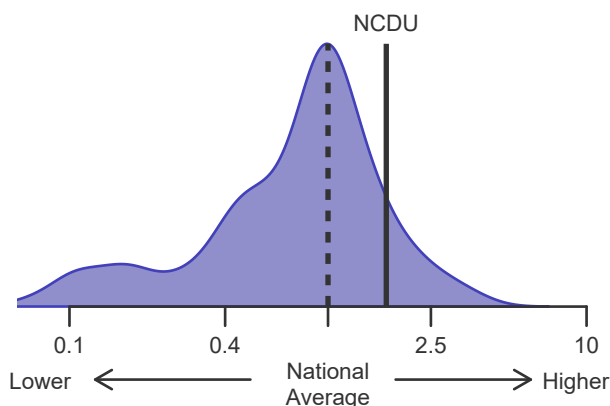


Figure B13. Offer acceptance: HCV+ Donor

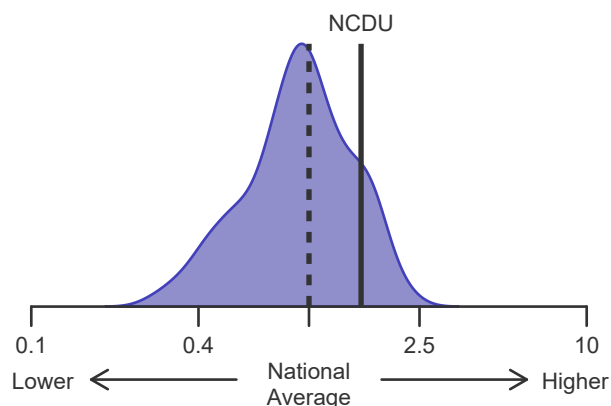


Figure B14. Offer acceptance: Offer number > 50

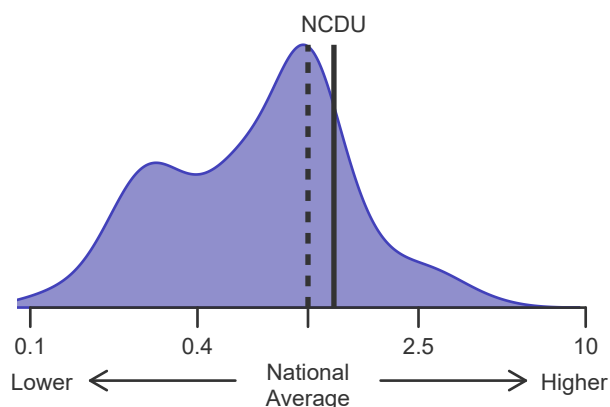
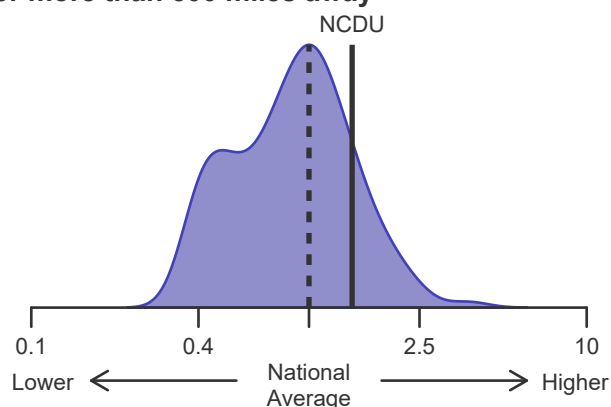


Figure B15. Offer acceptance: Donor more than 500 miles away





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=166)	Region (N=1,246)	U.S. (N=10,854)
Ethnicity/Race (%)*			
White	82.5	81.9	65.5
African-American	9.0	9.3	6.6
Hispanic/Latino	4.2	5.4	18.9
Asian	2.4	1.4	4.0
Other	0.6	1.1	2.4
Unknown	1.2	0.9	2.5
Age (%)			
<2 years	2.4	2.1	1.5
2-11 years	1.8	1.8	1.7
12-17	0.6	0.7	1.1
18-34	3.6	5.6	6.8
35-49 years	16.9	22.1	23.4
50-64 years	50.0	46.5	43.7
65-69 years	18.1	14.8	15.3
70+ years	6.6	6.3	6.5
Gender (%)			
Male	59.0	61.0	59.7
Female	41.0	39.0	40.3

* 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 C1L. Living donor transplant recipient demographic characteristics

Patients transplanted between 01/01/2024 and 12/31/2024

Characteristic	Percentage in each category		
	Center (N=6)	Region (N=55)	U.S. (N=604)
Ethnicity/Race (%)*			
White	66.7	89.1	71.2
African-American	16.7	5.5	5.5
Hispanic/Latino	16.7	5.5	17.2
Asian	0.0	0.0	3.1
Other	0.0	0.0	0.7
Unknown	0.0	0.0	2.3
Age (%)			
<2 years	50.0	9.1	11.6
2-11 years	16.7	7.3	5.5
12-17	0.0	0.0	1.3
18-34	0.0	10.9	8.3
35-49 years	0.0	20.0	20.9
50-64 years	16.7	25.5	33.8
65-69 years	16.7	21.8	13.7
70+ years	0.0	5.5	5.0
Gender (%)			
Male	50.0	60.0	43.0
Female	50.0	40.0	57.0

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

Characteristic	Percentage in each category		
	Center (N=166)	Region (N=1,246)	U.S. (N=10,854)
Blood Type (%)			
O	41.0	43.0	46.4
A	43.4	41.3	37.0
B	13.3	11.8	12.4
AB	2.4	3.9	4.2
Previous Transplant (%)			
Yes	4.8	3.9	4.3
No	95.2	96.1	95.7
Body Mass Index (%)			
0-20	9.6	8.4	10.2
21-25	22.3	22.2	25.4
26-30	29.5	31.6	30.2
31-35	19.9	20.7	19.1
36-40	12.7	10.7	9.0
41+	6.0	6.3	4.5
Unknown	0.0	0.1	1.5
Primary Disease (%)			
Acute Hepatic Necrosis	0.6	1.8	1.9
Non-Cholestatic Cirrhosis	34.3	30.2	23.8
Cholestatic Liver Disease/Cirrhosis	8.4	5.8	6.4
Biliary Atresia	1.2	1.6	1.6
Metabolic Diseases	1.2	2.7	2.3
Malignant Neoplasms	8.4	9.6	11.8
Other	45.2	48.2	52.0
Missing	0.6	0.1	0.1
Medical Urgency Statust/MELD/PELD at Transplant (%)*			
Status 1A	2.4	2.0	2.4
Status 1B	0.6	1.1	1.1
MELD 6-10	9.6	8.6	9.1
MELD 11-14	4.8	6.7	8.3
MELD 15-20	25.9	20.6	19.6
MELD 21-30	35.5	31.8	30.0
MELD 31-40	15.1	22.1	20.8
PELD less than or equal to 10	1.2	0.7	0.8
PELD 11-14	0.0	0.2	0.3
PELD 15-20	1.2	0.6	0.4
PELD 21-30	0.0	0.7	0.3
PELD 31 or greater	0.0	0.2	0.1
Temporarily Inactive	0.0	0.0	0.0
Recipient Medical Condition at Transplant (%)			
Not Hospitalized	64.5	64.4	59.6
Hospitalized	22.3	22.8	24.9
ICU	13.3	12.8	15.5
Unknown	0.0	0.0	0.0

* MELD/PELD score based on laboratory measures at the time of transplant is shown unless recipient is Status 1 or Temporarily Inactive. MELD/PELD scores based on exception rules are not used. Status 1 separated into 1A and 1B in August 2005



C. Transplant Information

Table C2L. Living donor transplant recipient medical characteristics
Patients transplanted between 01/01/2024 and 12/31/2024

Characteristic	Percentage in each category		
	Center (N=6)	Region (N=55)	U.S. (N=604)
Blood Type (%)			
O	50.0	47.3	44.4
A	33.3	41.8	43.4
B	16.7	10.9	9.9
AB	0.0	0.0	2.3
Previous Transplant (%)			
Yes	0.0	0.0	1.2
No	100.0	100.0	98.8
Body Mass Index (%)			
0-20	50.0	25.5	24.7
21-25	50.0	38.2	29.0
26-30	0.0	21.8	26.8
31-35	0.0	10.9	12.3
36-40	0.0	3.6	5.6
41+	0.0	0.0	1.3
Unknown	0.0	0.0	0.3
Primary Disease (%)			
Acute Hepatic Necrosis	0.0	0.0	0.5
Non-Cholestatic Cirrhosis	16.7	30.9	23.8
Cholestatic Liver Disease/Cirrhosis	0.0	16.4	18.2
Biliary Atresia	50.0	9.1	11.4
Metabolic Diseases	0.0	5.5	3.3
Malignant Neoplasms	0.0	0.0	11.1
Other	33.3	38.2	31.5
Missing	0.0	0.0	0.2
Medical Urgency Statust/MELD/PELD at Transplant (%)*			
Status 1A	0.0	0.0	0.5
Status 1B	0.0	1.8	1.8
MELD 6-10	0.0	10.9	19.7
MELD 11-14	0.0	16.4	18.9
MELD 15-20	33.3	30.9	25.2
MELD 21-30	0.0	21.8	15.1
MELD 31-40	0.0	0.0	0.8
PELD less than or equal to 10	33.3	5.5	6.3
PELD 11-14	16.7	5.5	2.5
PELD 15-20	0.0	1.8	2.6
PELD 21-30	0.0	0.0	2.0
PELD 31 or greater	16.7	1.8	1.2
Temporarily Inactive	0.0	3.6	3.5
Recipient Medical Condition at Transplant (%)			
Not Hospitalized	66.7	81.8	86.6
Hospitalized	33.3	16.4	9.1
ICU	0.0	1.8	4.3
Unknown	0.0	0.0	0.0

* MELD/PELD score based on laboratory measures at the time of transplant is shown unless recipient is Status 1 or Temporarily Inactive. MELD/PELD scores based on exception rules are not used. Status 1 separated into 1A and 1B in August 2005



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=166)	Region (N=1,246)	U.S. (N=10,854)
Cause of Death (%)			
Deceased: Stroke	27.1	27.3	27.6
Deceased: MVA	8.4	10.0	10.5
Deceased: Other	64.5	62.8	61.9
Ethnicity/Race (%)*			
White	65.7	68.9	62.7
African-American	21.7	21.7	17.6
Hispanic/Latino	9.6	7.0	14.8
Asian	1.2	1.8	2.9
Other	1.2	0.2	1.2
Not Reported	0.6	0.4	0.8
Age (%)			
<2 years	0.6	0.6	0.6
2-11 years	1.2	1.8	1.8
12-17	4.8	4.0	3.7
18-34	18.1	21.7	23.1
35-49 years	18.1	29.5	28.4
50-64 years	33.7	32.0	31.3
65-69 years	15.7	5.9	6.5
70+ years	7.8	4.6	4.6
Gender (%)			
Male	56.0	58.7	60.9
Female	44.0	41.3	39.1
Blood Type (%)			
O	44.6	47.4	50.4
A	42.8	40.2	36.7
B	12.0	10.4	10.6
AB	0.6	2.0	2.3
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 C3L. Living donor characteristics

Transplants performed between 01/01/2024 and 12/31/2024

Donor Characteristic	Percentage in each category		
	Center (N=6)	Region (N=55)	U.S. (N=604)
Ethnicity/Race (%)*			
White	100.0	90.9	75.8
African-American	0.0	5.5	3.6
Hispanic/Latino	0.0	3.6	13.9
Asian	0.0	0.0	2.6
Other	0.0	0.0	1.7
Not Reported	0.0	0.0	2.3
Age (%)			
0-11 years	0.0	0.0	0.5
12-17	0.0	0.0	0.0
18-34	33.3	38.2	38.1
35-49 years	66.7	49.1	46.0
50-64 years	0.0	12.7	15.2
65-69 years	0.0	0.0	0.2
70+ years	0.0	0.0	0.0
Gender (%)			
Male	50.0	29.1	43.0
Female	50.0	70.9	57.0
Blood Type (%)			
O	50.0	52.7	64.1
A	33.3	36.4	29.0
B	16.7	9.1	6.5
AB	0.0	1.8	0.5
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=166)	Region (N=1,246)	U.S. (N=10,854)
Cold Ischemic Time (Hours): Local (%)			
Deceased: 0-5 hr	5.3	35.2	42.4
Deceased: 6-10 hr	10.5	19.7	21.9
Deceased: 11-15 hr	40.4	15.6	13.1
Deceased: 16-20 hr	22.8	20.2	14.4
Deceased: 21+ hr	21.1	9.3	7.8
Not Reported	0.0	0.0	0.5
Cold Ischemic Time (Hours): Shared (%)			
Deceased: 0-5 hr	2.8	20.3	25.7
Deceased: 6-10 hr	13.8	36.7	34.2
Deceased: 11-15 hr	20.2	16.0	13.9
Deceased: 16-20 hr	30.3	16.0	15.2
Deceased: 21+ hr	33.0	10.5	10.2
Not Reported	0.0	0.5	0.8
Procedure Type (%)			
Single organ	91.0	92.2	91.4
Multi organ	9.0	7.8	8.6
Donor Location (%)			
Local Donation Service Area (DSA)	34.3	29.4	36.7
Another Donation Service Area (DSA)	65.7	70.6	63.3
Median Time in Hospital After Transplant	12.0 Days	9.0 Days	10.0 Days



C. Transplant Information

Table C4L. Living donor transplant characteristics
Transplants performed between 01/01/2024 and 12/31/2024

Transplant Characteristic	Percentage in each category		
	Center (N=6)	Region (N=55)	U.S. (N=604)
Relation with Donor (%)			
Related	66.7	50.9	48.3
Unrelated	33.3	49.1	51.5
Not Reported	0.0	0.0	0.2
Procedure Type (%)			
Single organ	100.0	100.0	100.0
Multi organ	0.0	0.0	0.0
Median Time in Hospital After Transplant	17.0 Days	13.0 Days	10.0 Days



C. Transplant Information

Table C5. Adult (18+) 1-month survival with a functioning graft
Single organ transplants performed between 01/01/2022 and 06/30/2024
Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	318	22,329
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	97.17% [95.36%-99.01%]	97.28% [97.07%-97.50%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	96.97%	--
Number of observed graft failures (including deaths) during the first month after transplant	9	607
Number of expected graft failures (including deaths) during the first month after transplant	9.75	--
Estimated hazard ratio*	0.94	--
95% credible interval for the hazard ratio**	[0.47, 1.57]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.47, 1.57], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 6% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 53% reduced risk up to 57% increased risk.

Figure C1. Adult (18+) 1-month graft failure HR estimate

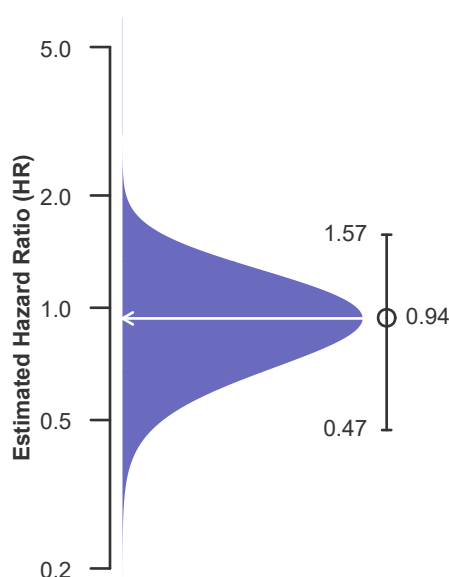
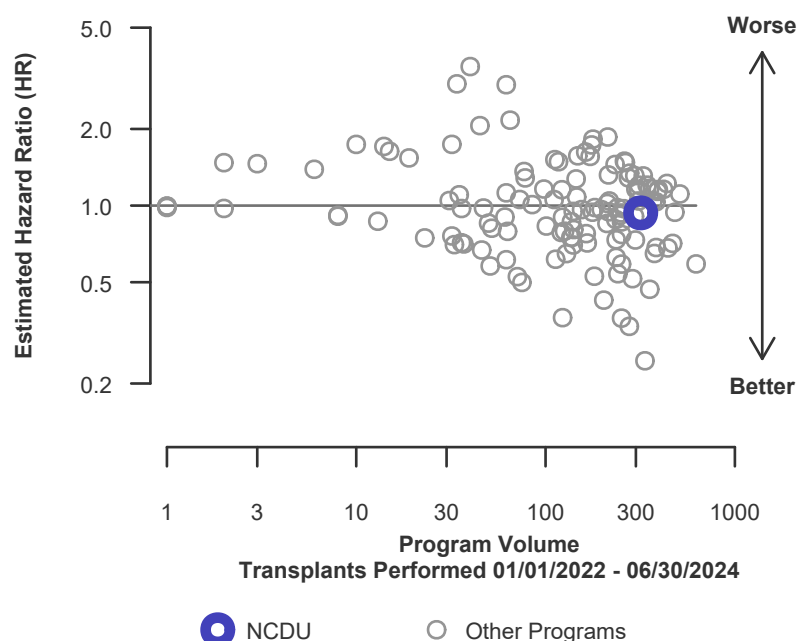


Figure C2. Adult (18+) 1-month graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	308	20,988
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	97.73% [96.08%-99.41%]	97.32% [97.10%-97.54%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	96.98%	--
Number of observed graft failures (including deaths) during the first month after transplant	7	562
Number of expected graft failures (including deaths) during the first month after transplant	9.42	--
Estimated hazard ratio*	0.79	--
95% credible interval for the hazard ratio**	[0.36, 1.38]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.36, 1.38], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 21% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 64% reduced risk up to 38% increased risk.

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

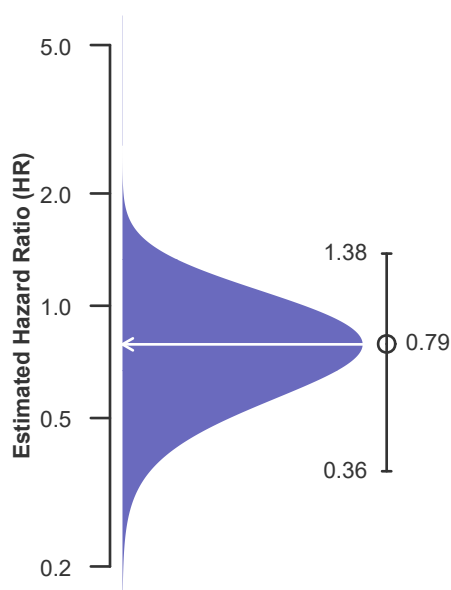
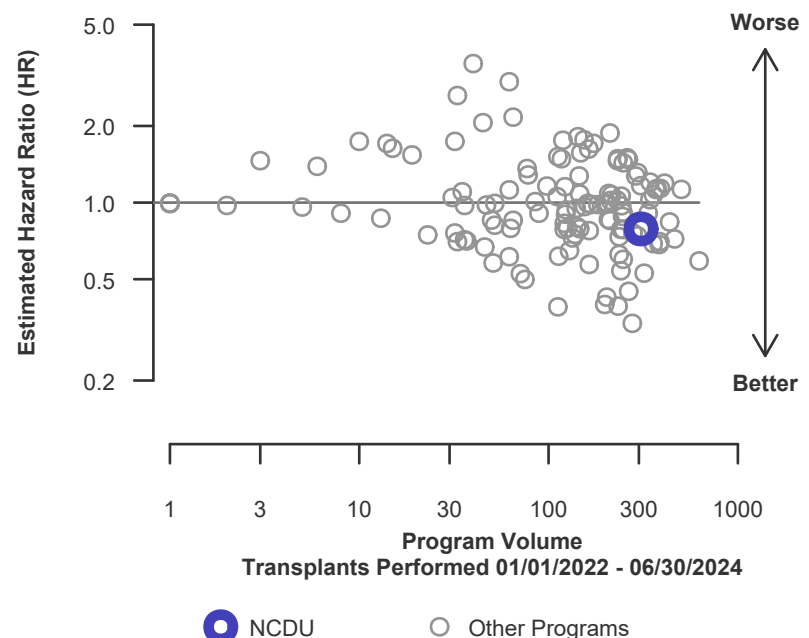


Figure C2D. Adult (18+) 1-month deceased donor graft failure HR program comparison





C. Transplant Information

Table C5L. Adult (18+) 1-month survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	10	1,341
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	80.00% [58.68%-100.00%]	96.64% [95.69%-97.61%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	96.65%	--
Number of observed graft failures (including deaths) during the first month after transplant	2	45
Number of expected graft failures (including deaths) during the first month after transplant	0.33	--
Estimated hazard ratio*	1.72	--
95% credible interval for the hazard ratio**	[0.47, 3.77]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.47, 3.77], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 72% higher risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 53% reduced risk up to 277% increased risk.

Figure C1L. Adult (18+) 1-month living donor graft failure HR estimate

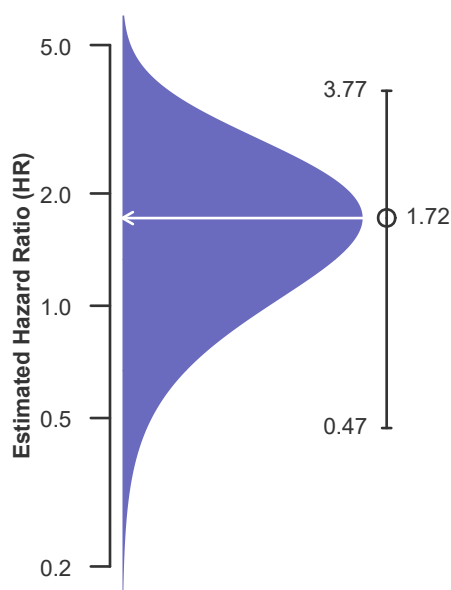
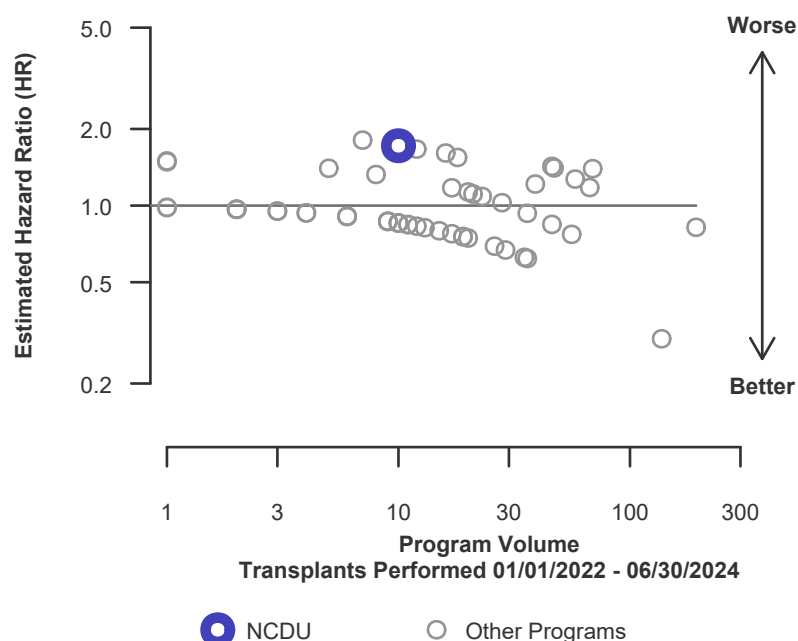


Figure C2L. Adult (18+) 1-month living donor graft failure HR program comparison





C. Transplant Information

Table C6. Adult (18+) 90-Day survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	318	22,329
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	96.23% [94.15%-98.34%]	95.53% [95.26%-95.81%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	94.94%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	12	997
Number of expected graft failures (including deaths) during the first 90 days after transplant	16.39	--
Estimated hazard ratio*	0.76	--
95% credible interval for the hazard ratio**	[0.42, 1.21]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.42, 1.21], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 24% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 58% reduced risk up to 21% increased risk.

Figure C3. Adult (18+) 90-Day graft failure HR estimate

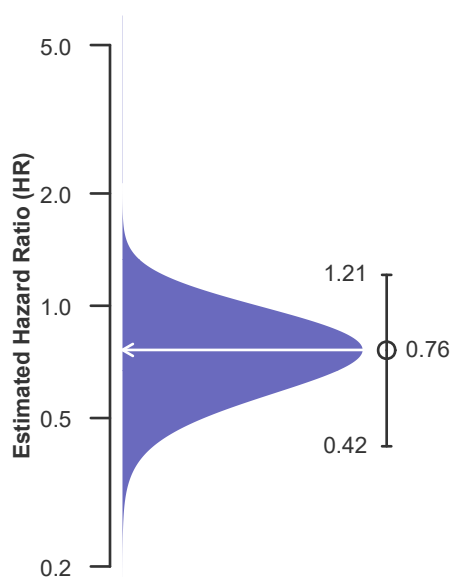
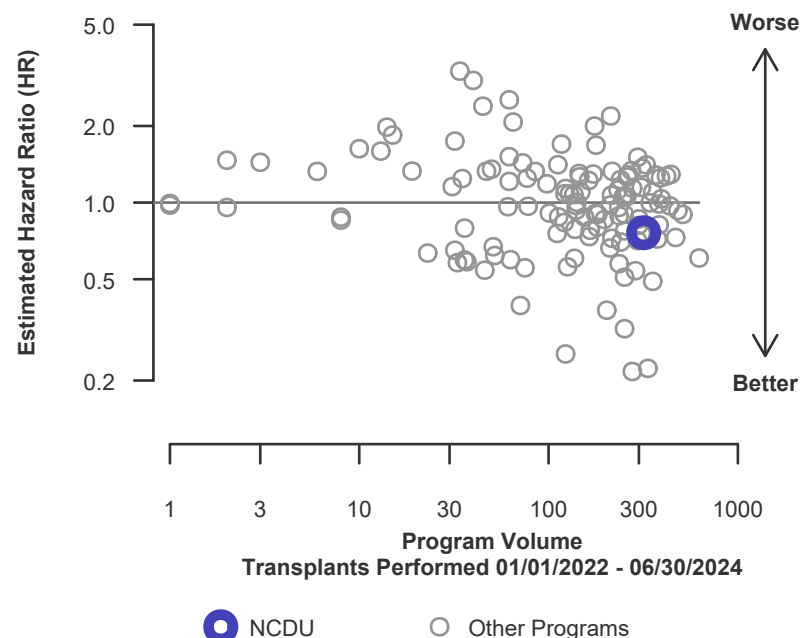


Figure C4. Adult (18+) 90-Day graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	308	20,988
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	96.75% [94.79%-98.75%]	95.55% [95.27%-95.82%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	94.93%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	10	935
Number of expected graft failures (including deaths) during the first 90 days after transplant	15.96	--
Estimated hazard ratio*	0.67	--
95% credible interval for the hazard ratio**	[0.35, 1.10]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.35, 1.10], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 33% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 65% reduced risk up to 10% increased risk.

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

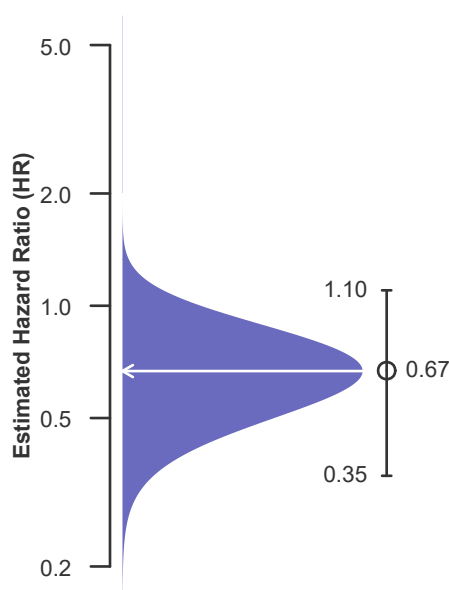
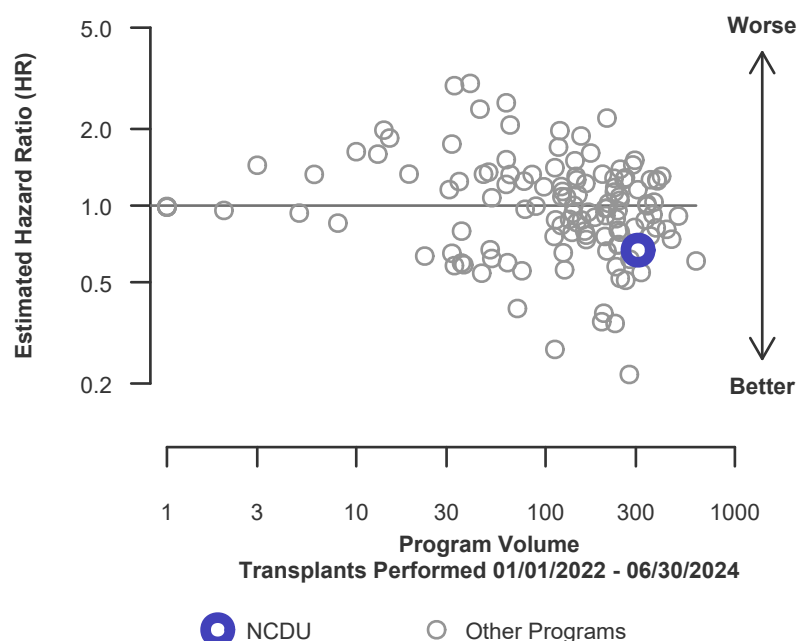


Figure C4D. Adult (18+) 90-Day deceased donor graft failure HR program comparison





C. Transplant Information

Table C6L. Adult (18+) 90-Day survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	10	1,341
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	80.00% [58.68%-100.00%]	95.38% [94.26%-96.51%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	95.38%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	2	62
Number of expected graft failures (including deaths) during the first 90 days after transplant	0.43	--
Estimated hazard ratio*	1.64	--
95% credible interval for the hazard ratio**	[0.45, 3.60]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.45, 3.60], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 64% higher risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 55% reduced risk up to 260% increased risk.

Figure C3L. Adult (18+) 90-Day living donor graft failure HR estimate

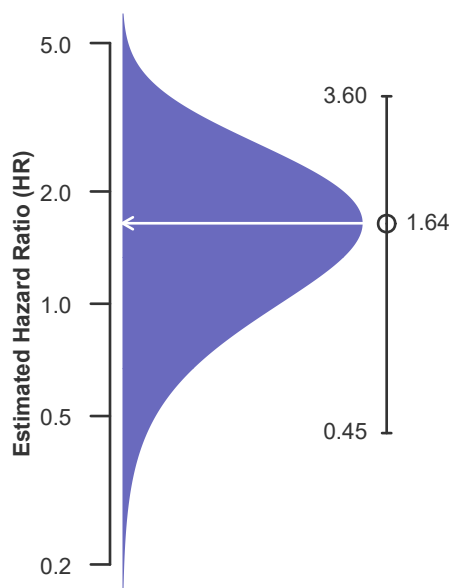
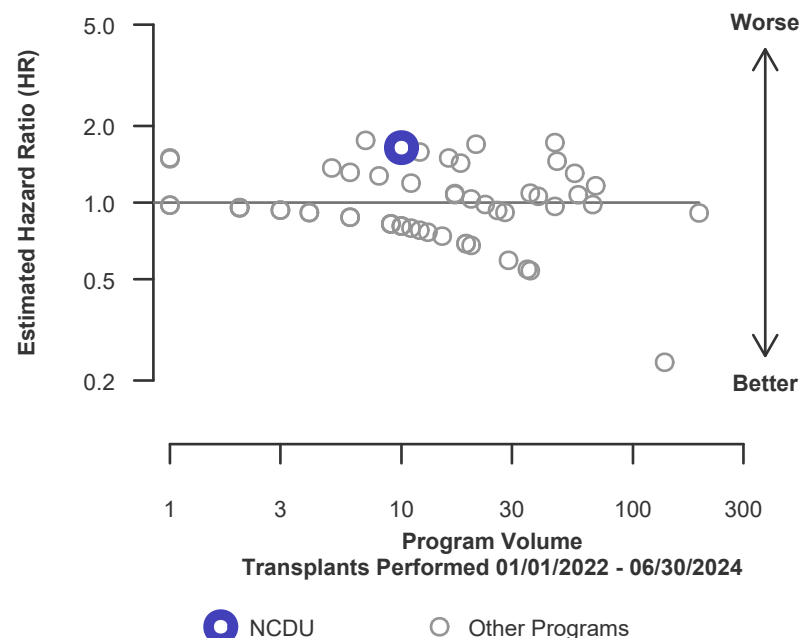


Figure C4L. Adult (18+) 90-Day living donor graft failure HR program comparison





C. Transplant Information

Table C7. Adult (18+) 1-year survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	318	22,329
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	92.20% [89.08%-95.43%]	92.41% [92.05%-92.77%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	91.38%	--
Number of observed graft failures (including deaths) during the first year after transplant	22	1,610
Number of expected graft failures (including deaths) during the first year after transplant	26.48	--
Estimated hazard ratio*	0.84	--
95% credible interval for the hazard ratio**	[0.54, 1.21]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.54, 1.21], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 16% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 46% reduced risk up to 21% increased risk.

Figure C5. Adult (18+) 1-year graft failure HR estimate

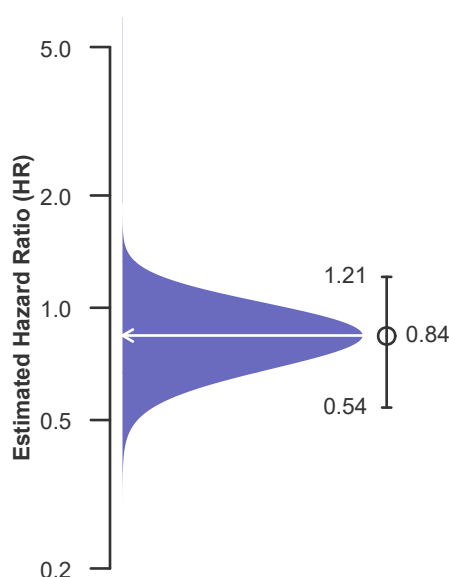
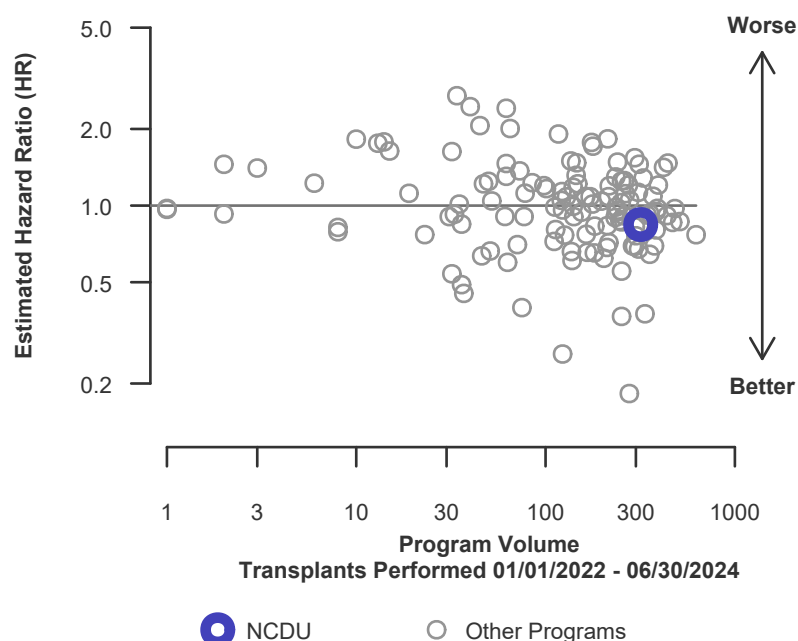


Figure C6. Adult (18+) 1-year graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	308	20,988
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	92.58% [89.46%-95.81%]	92.35% [91.98%-92.72%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	91.31%	--
Number of observed graft failures (including deaths) during the first year after transplant	20	1,523
Number of expected graft failures (including deaths) during the first year after transplant	25.89	--
Estimated hazard ratio*	0.79	--
95% credible interval for the hazard ratio**	[0.49, 1.15]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.49, 1.15], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 21% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 51% reduced risk up to 15% increased risk.

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

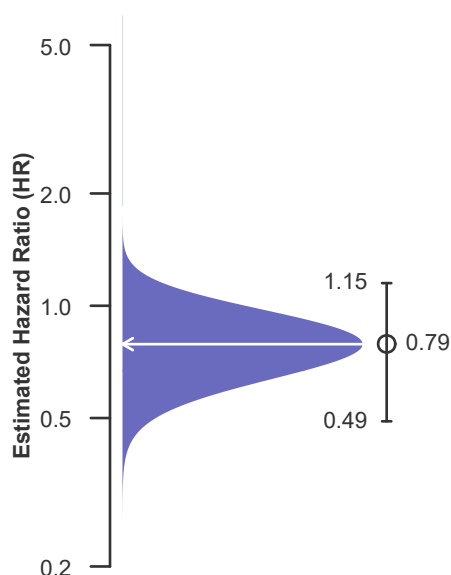
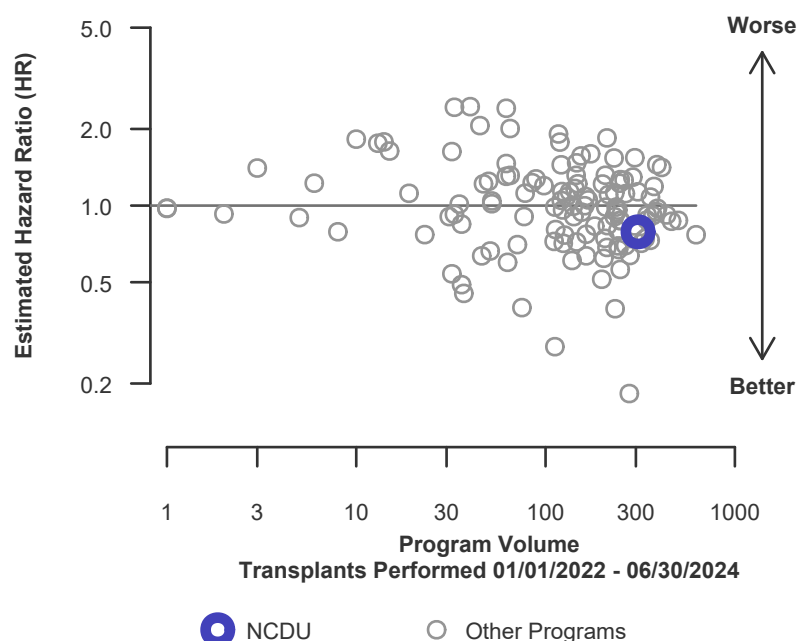


Figure C6D. Adult (18+) 1-year deceased donor graft failure HR program comparison





C. Transplant Information

Table C7L. Adult (18+) 1-year survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	10	1,341
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	80.00% [58.68%-100.00%]	93.33% [91.98%-94.70%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	93.33%	--
Number of observed graft failures (including deaths) during the first year after transplant	2	87
Number of expected graft failures (including deaths) during the first year after transplant	0.60	--
Estimated hazard ratio*	1.54	--
95% credible interval for the hazard ratio**	[0.42, 3.38]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.42, 3.38], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 54% higher risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 58% reduced risk up to 238% increased risk.

Figure C5L. Adult (18+) 1-year living donor graft failure HR estimate

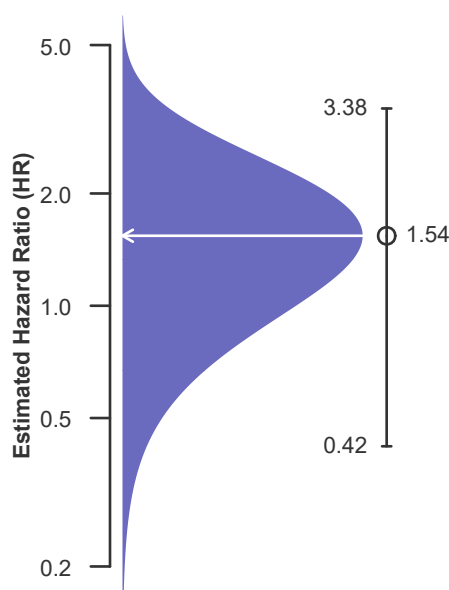
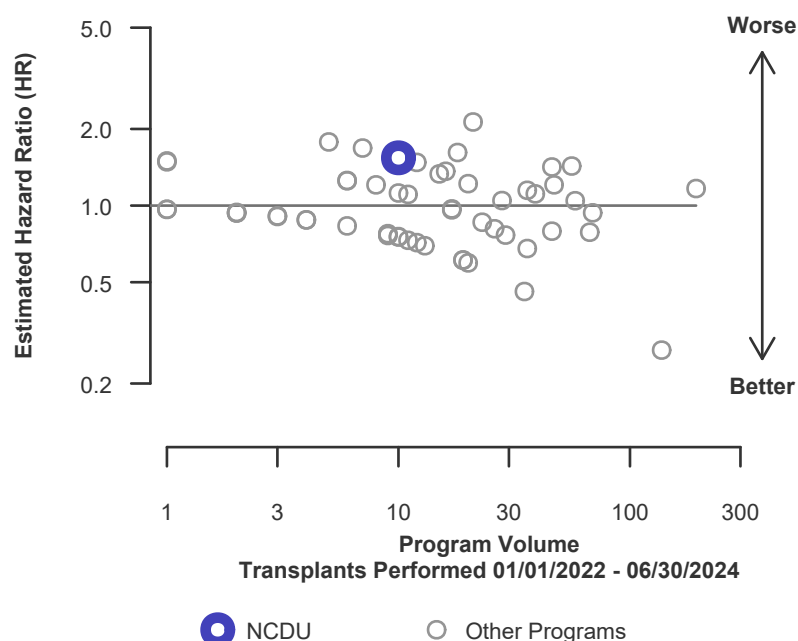


Figure C6L. Adult (18+) 1-year living donor graft failure HR program comparison





C. Transplant Information

Table C8. Adult (18+) 1-year Conditional survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	306	21,332
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)	95.81% [94.61%-97.04%]	96.73% [96.63%-96.83%]
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)	96.25%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	10	613
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	10.09	--
Estimated hazard ratio*	0.99	--
95% credible interval for the hazard ratio**	[0.51, 1.63]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.51, 1.63], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 1% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 49% reduced risk up to 63% increased risk.

Figure C7. Adult (18+) 1-year Conditional graft failure HR estimate

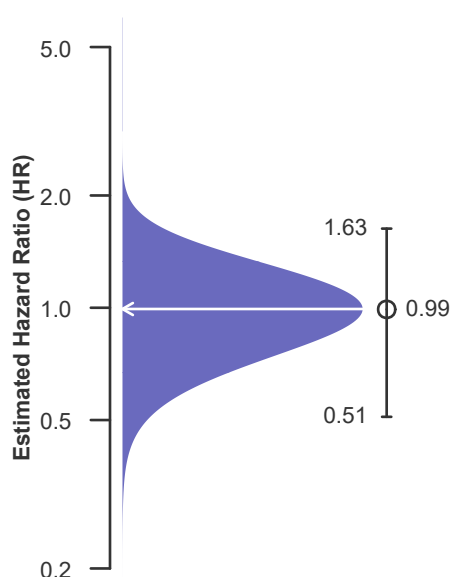
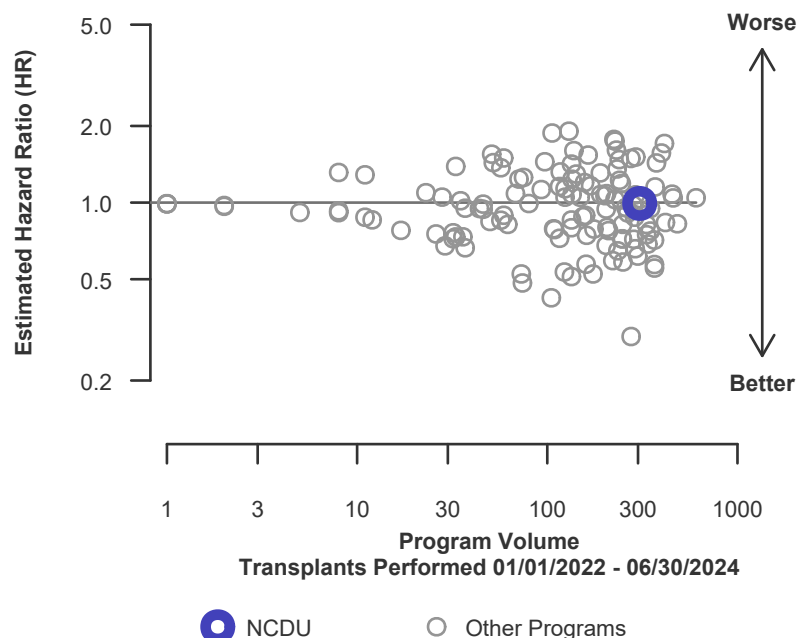


Figure C8. Adult (18+) 1-year Conditional graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	298	20,053
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)	95.68% [94.37%-97.02%]	96.65% [96.55%-96.76%]
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)	96.19%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	10	588
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	9.93	--
Estimated hazard ratio*	1.01	--
95% credible interval for the hazard ratio**	[0.52, 1.65]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.52, 1.65], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 1% higher risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 48% reduced risk up to 65% increased risk.

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

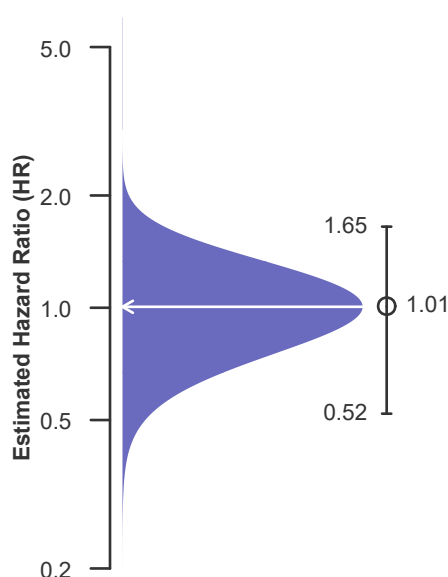
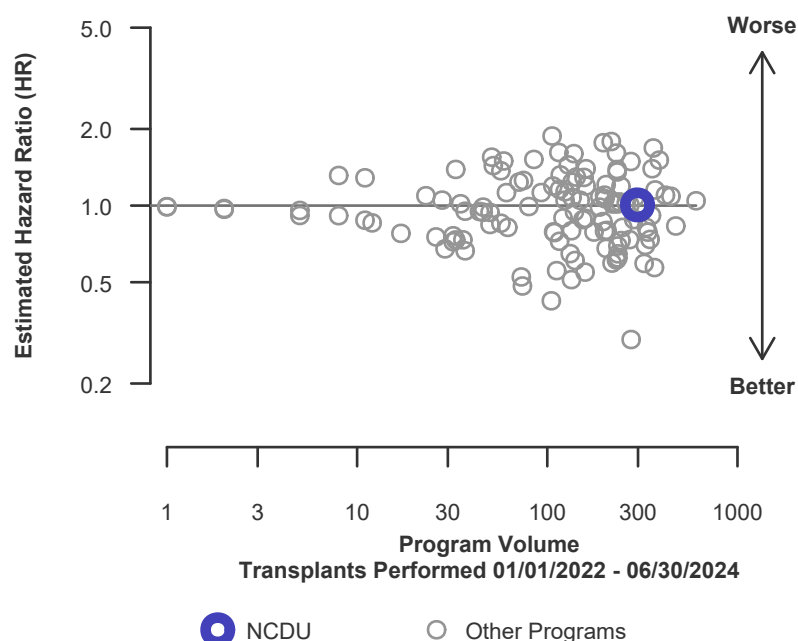


Figure C8D. Adult (18+) 1-year Conditional deceased donor graft failure HR program comparison





C. Transplant Information

Table C8L. Adult (18+) 1-year Conditional survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	8	1,279
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)	100.00% [100.00%-100.00%]	97.85% [97.58%-98.12%]
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)	97.85%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	0	25
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	0.16	--
Estimated hazard ratio*	0.92	--
95% credible interval for the hazard ratio**	[0.11, 2.58]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.11, 2.58], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 8% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 89% reduced risk up to 158% increased risk.

Figure C7L. Adult (18+) 1-year Conditional living donor graft failure HR estimate

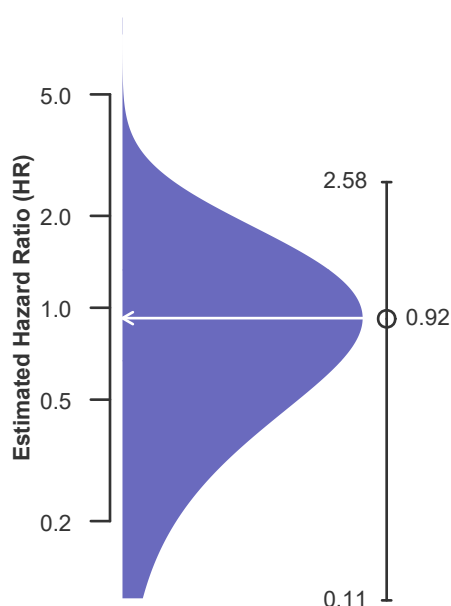
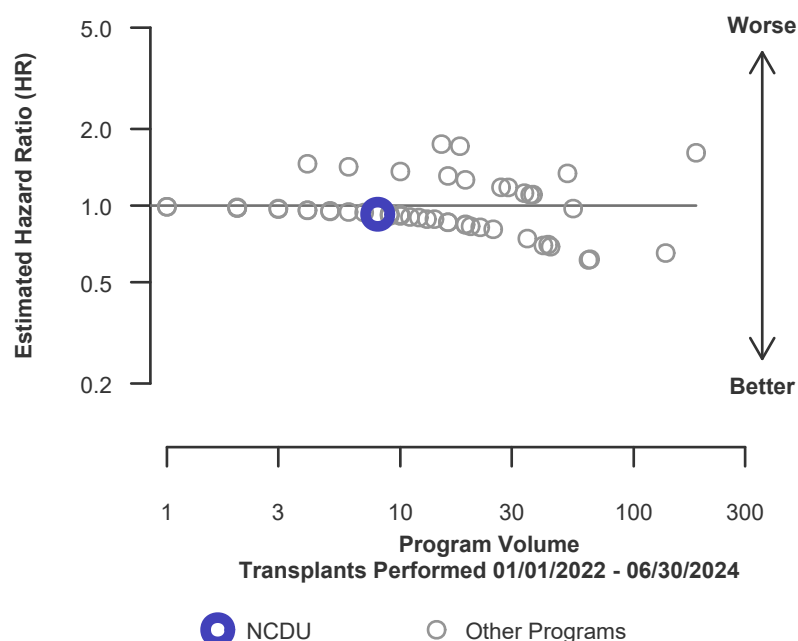


Figure C8L. Adult (18+) 1-year Conditional living donor graft failure HR program comparison





C. Transplant Information

Table C9. Adult (18+) 3-year survival with a functioning 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

	NCDU	U.S.
Number of transplants evaluated	219	17,460
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	89.71% [85.09%-94.57%]	85.93% [85.35%-86.52%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	85.95%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	17	1,977
Number of expected graft failures (including deaths) during the first 3 years after transplant	24.72	--
Estimated hazard ratio*	0.71	--
95% credible interval for the hazard ratio**	[0.43, 1.06]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.43, 1.06], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 29% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 57% reduced risk up to 6% increased risk.

Figure C9. Adult (18+) 3-year graft failure HR estimate

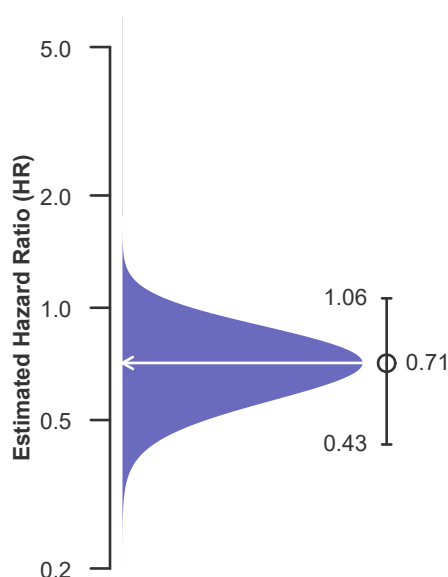
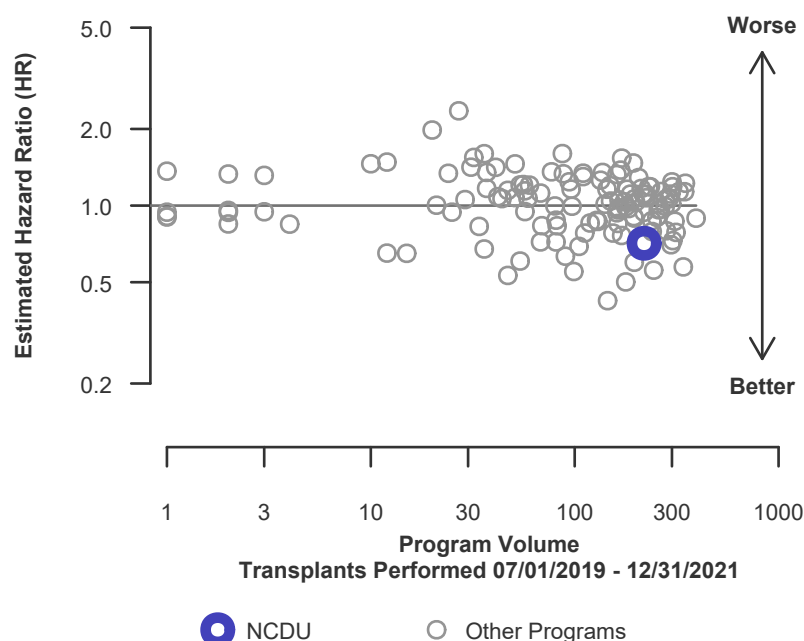


Figure C10. Adult (18+) 3-year graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	210	16,390
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	90.40% [85.80%-95.25%]	85.77% [85.16%-86.38%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	85.84%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	15	1,876
Number of expected graft failures (including deaths) during the first 3 years after transplant	23.82	--
Estimated hazard ratio*	0.66	--
95% credible interval for the hazard ratio**	[0.38, 1.01]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.38, 1.01], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 34% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 62% reduced risk up to 1% increased risk.

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

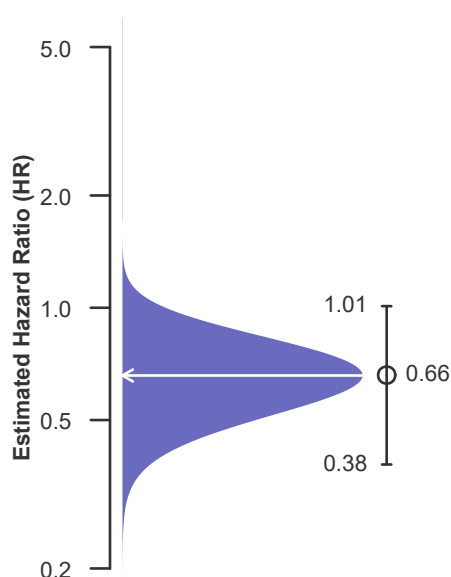
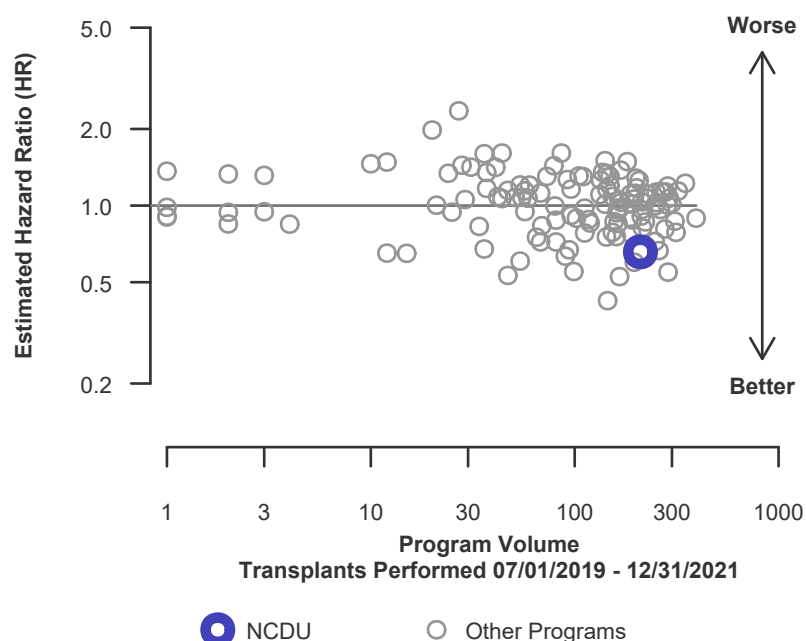


Figure C10D. Adult (18+) 3-year deceased donor graft failure HR program comparison





C. Transplant Information

Table C9L. Adult (18+) 3-year survival with a functioning living 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

	NCDU	U.S.
Number of transplants evaluated	9	1,070
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	76.19% [52.08%-100.00%]	88.42% [86.29%-90.60%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	88.43%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	2	101
Number of expected graft failures (including deaths) during the first 3 years 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 Duke University Hospital'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 NCDU's graft failure 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 NCDU's true hazard ratio with 95% probability. The best estimate is 38% higher risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 62% reduced risk up to 203% increased risk.

Figure C9L. Adult (18+) 3-year living donor graft failure HR estimate

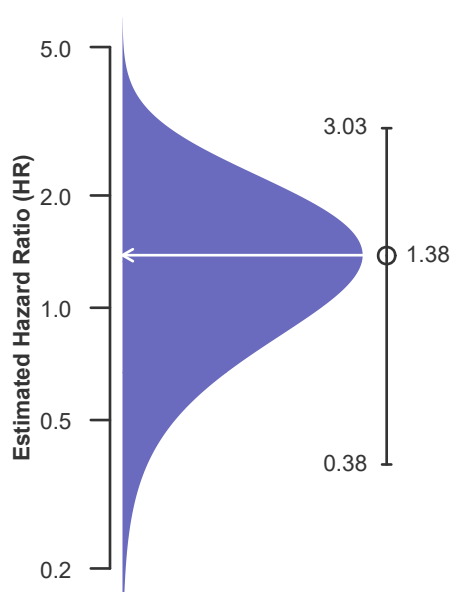
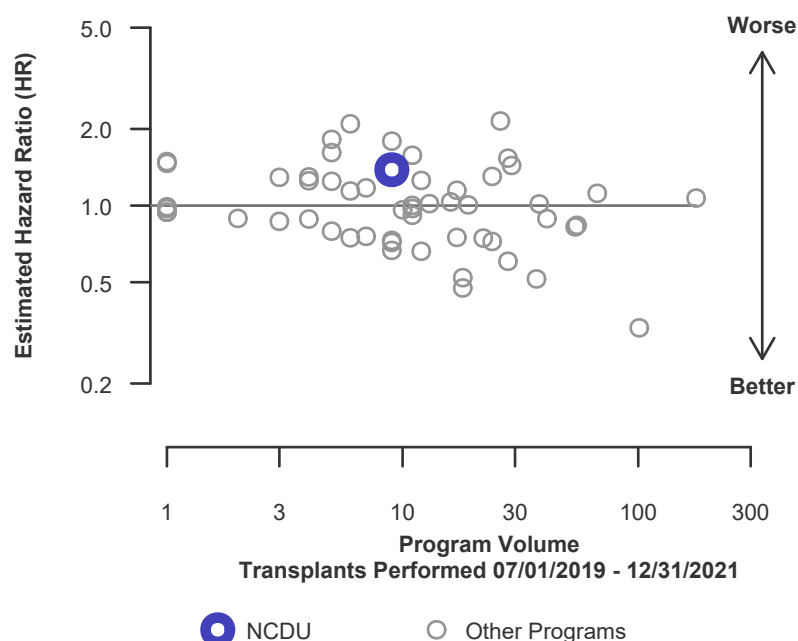


Figure C10L. Adult (18+) 3-year living donor graft failure HR program comparison





C. Transplant Information

Table C10. Pediatric (<18) 1-month survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	30	1,303
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	96.62% [95.65%-97.61%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	97.41%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	44
Number of expected graft failures (including deaths) during the first month after transplant	0.79	--
Estimated hazard ratio*	0.72	--
95% credible interval for the hazard ratio**	[0.09, 2.00]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.09, 2.00], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 28% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 91% reduced risk up to 100% increased risk.

Figure C11. Pediatric (<18) 1-month graft failure HR estimate

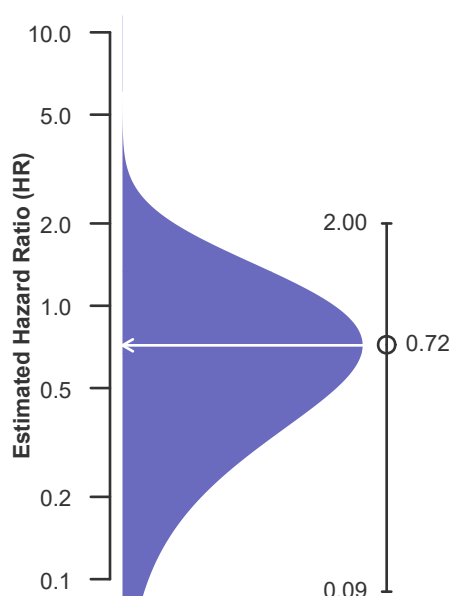
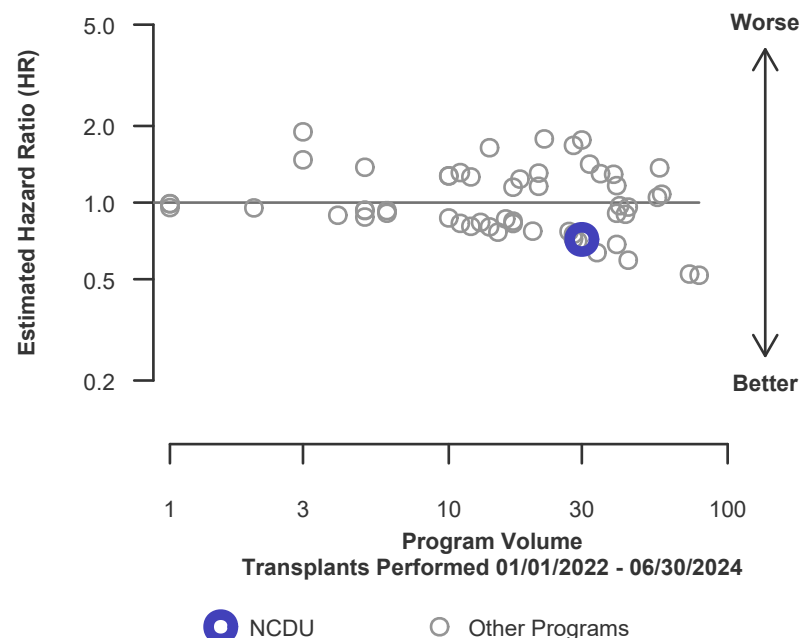


Figure C12. Pediatric (<18) 1-month graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	24	1,069
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	96.35% [95.23%-97.48%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	97.29%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	39
Number of expected graft failures (including deaths) during the first month after transplant	0.66	--
Estimated hazard ratio*	0.75	--
95% credible interval for the hazard ratio**	[0.09, 2.09]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.09, 2.09], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 25% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 91% reduced risk up to 109% increased risk.

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

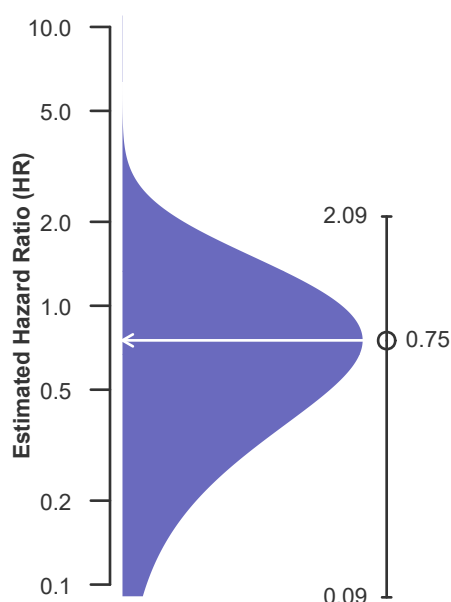
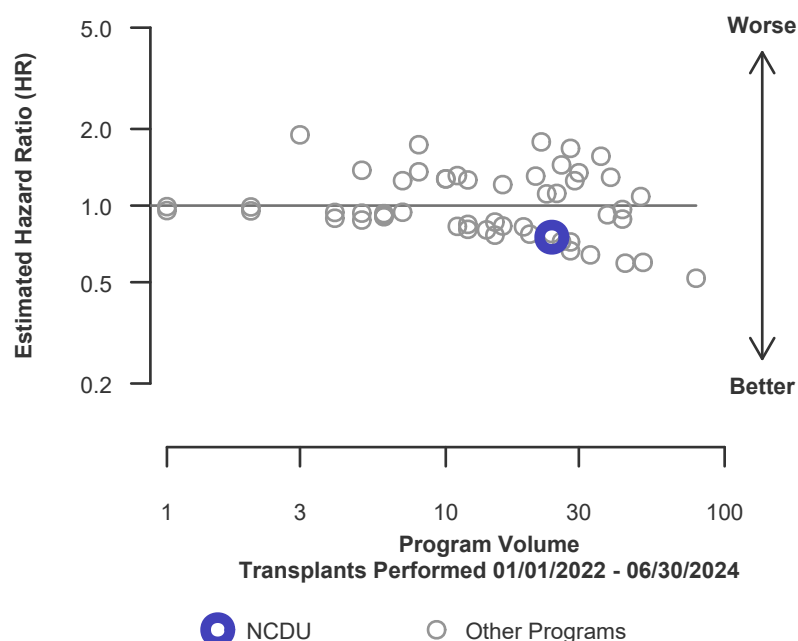


Figure C12D. Pediatric (<18) 1-month deceased donor graft failure HR program comparison





C. Transplant Information

Table C10L. Pediatric (<18) 1-month survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	6	234
Estimated probability of surviving with a functioning graft at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	97.86% [96.03%-99.73%]
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	97.87%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	5
Number of expected graft failures (including deaths) during the first month after transplant	0.13	--
Estimated hazard ratio*	0.94	--
95% credible interval for the hazard ratio**	[0.11, 2.62]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.11, 2.62], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 6% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 89% reduced risk up to 162% increased risk.

Figure C11L. Pediatric (<18) 1-month living donor graft failure HR estimate

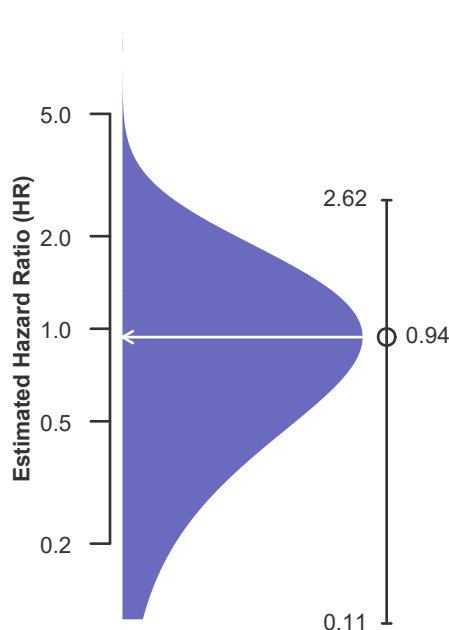
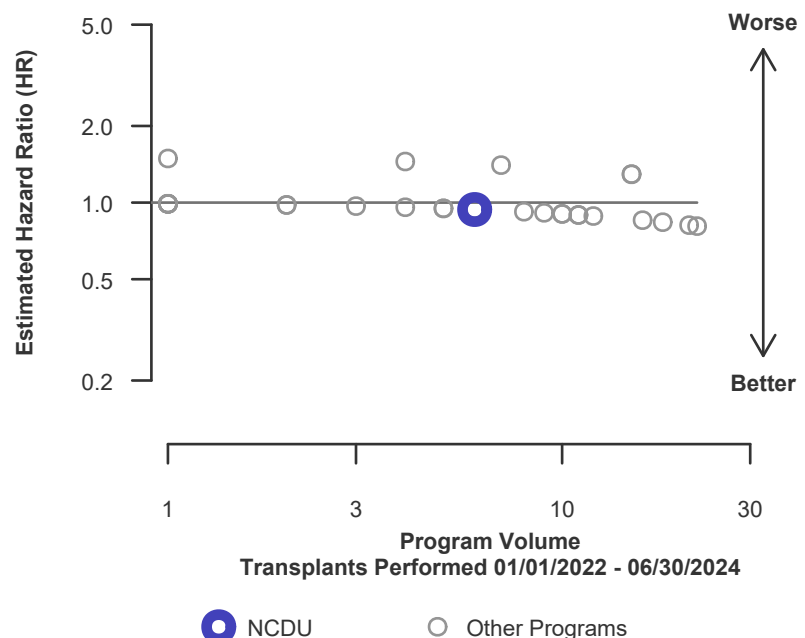


Figure C12L. Pediatric (<18) 1-month living donor graft failure HR program comparison





C. Transplant Information

Table C11. Pediatric (<18) 90-Day survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	30	1,303
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	94.93% [93.75%-96.13%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	95.81%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	0	66
Number of expected graft failures (including deaths) during the first 90 days after transplant	1.29	--
Estimated hazard ratio*	0.61	--
95% credible interval for the hazard ratio**	[0.07, 1.69]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.07, 1.69], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 39% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 93% reduced risk up to 69% increased risk.

Figure C13. Pediatric (<18) 90-Day graft failure HR estimate

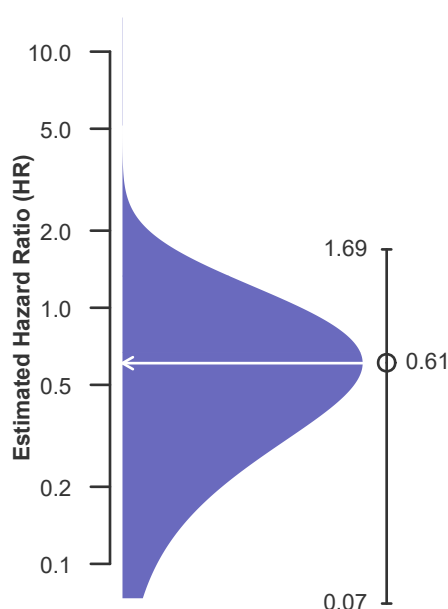
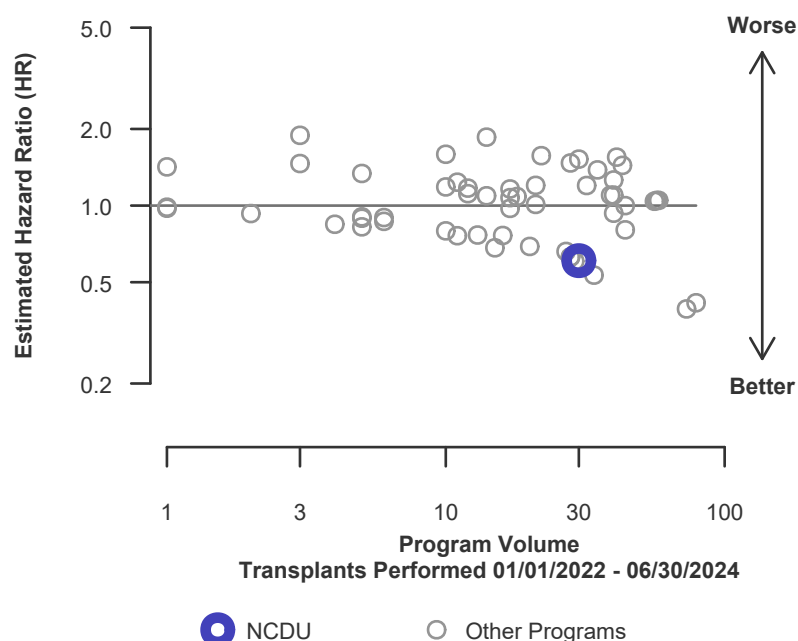


Figure C14. Pediatric (<18) 90-Day graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	24	1,069
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	94.86% [93.54%-96.19%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	95.93%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	0	55
Number of expected graft failures (including deaths) during the first 90 days after transplant	1.00	--
Estimated hazard ratio*	0.67	--
95% credible interval for the hazard ratio**	[0.08, 1.86]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.08, 1.86], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 33% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 92% reduced risk up to 86% increased risk.

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

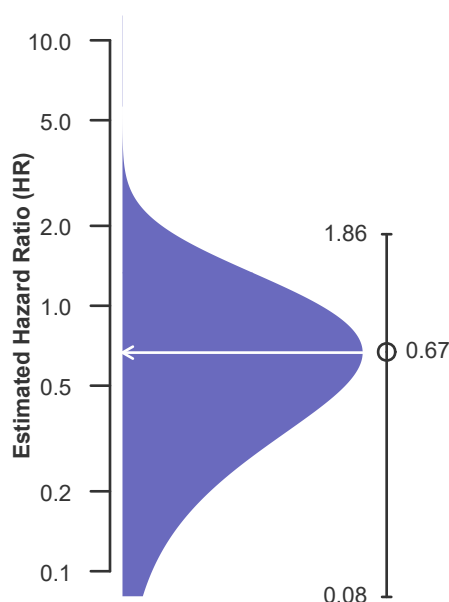
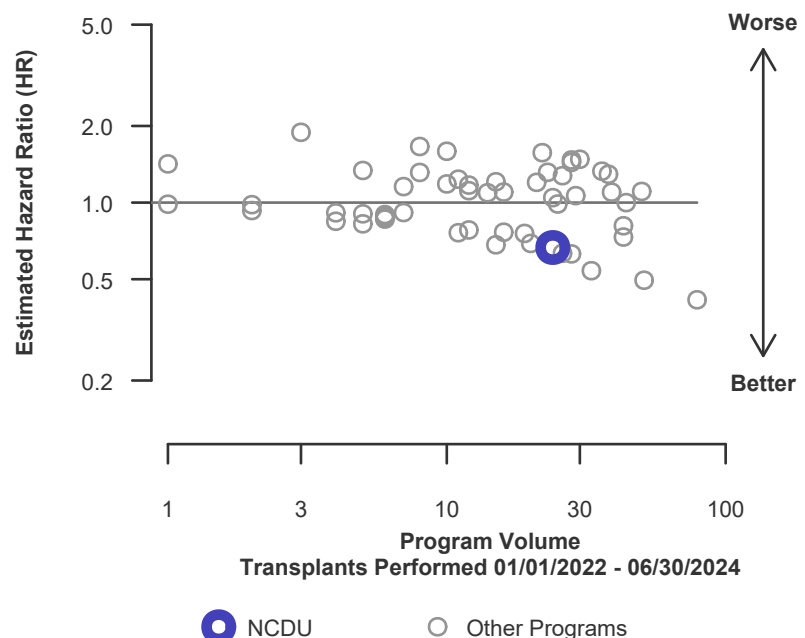


Figure C14D. Pediatric (<18) 90-Day deceased donor graft failure HR program comparison





C. Transplant Information

Table C11L. Pediatric (<18) 90-Day survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	6	234
Estimated probability of surviving with a functioning graft at 90 days & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	95.30% [92.63%-98.05%]
Expected probability of surviving with a functioning graft at 90 days (adjusted for patient and donor characteristics)	95.31%	--
Number of observed graft failures (including deaths) during the first 90 days after transplant	0	11
Number of expected graft failures (including deaths) during the first 90 days after transplant	0.29	--
Estimated hazard ratio*	0.87	--
95% credible interval for the hazard ratio**	[0.11, 2.43]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.11, 2.43], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 13% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 89% reduced risk up to 143% increased risk.

Figure C13L. Pediatric (<18) 90-Day living donor graft failure HR estimate

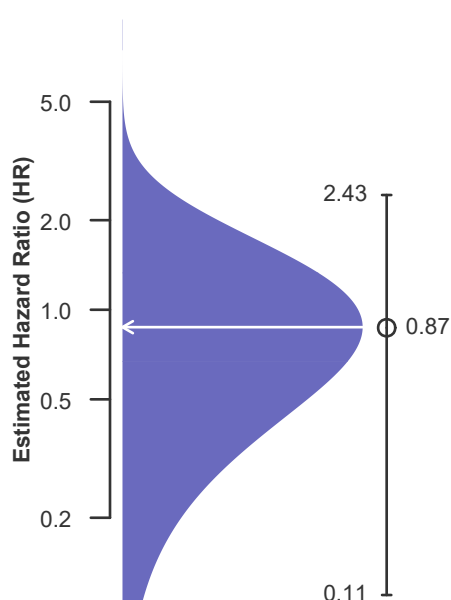
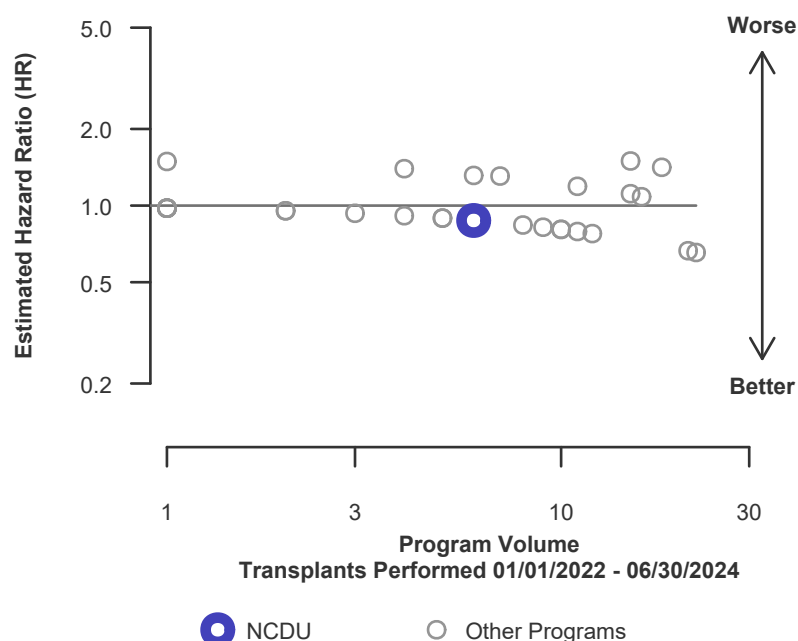


Figure C14L. Pediatric (<18) 90-Day living donor graft failure HR program comparison





C. Transplant Information

Table C12. Pediatric (<18) 1-year survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	30	1,303
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	93.06% [91.67%-94.48%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	93.80%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	88
Number of expected graft failures (including deaths) during the first year after transplant	1.89	--
Estimated hazard ratio*	0.51	--
95% credible interval for the hazard ratio**	[0.06, 1.43]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.06, 1.43], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 49% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 94% reduced risk up to 43% increased risk.

Figure C15. Pediatric (<18) 1-year graft failure HR estimate

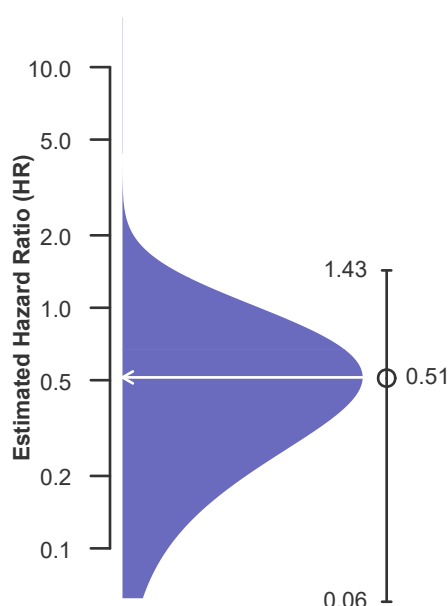
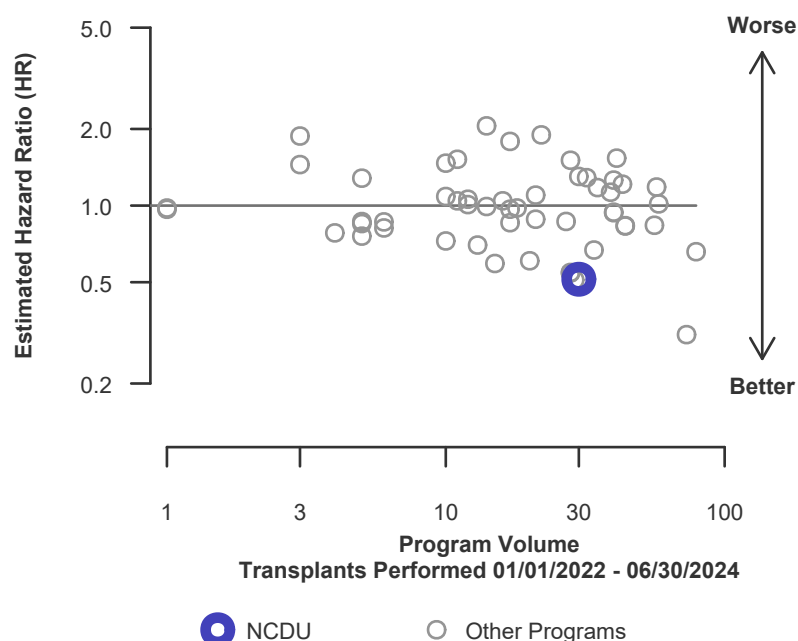


Figure C16. Pediatric (<18) 1-year graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	24	1,069
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	92.98% [91.44%-94.56%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	93.89%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	73
Number of expected graft failures (including deaths) during the first year after transplant	1.50	--
Estimated hazard ratio*	0.57	--
95% credible interval for the hazard ratio**	[0.07, 1.59]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.07, 1.59], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 43% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 93% reduced risk up to 59% increased risk.

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

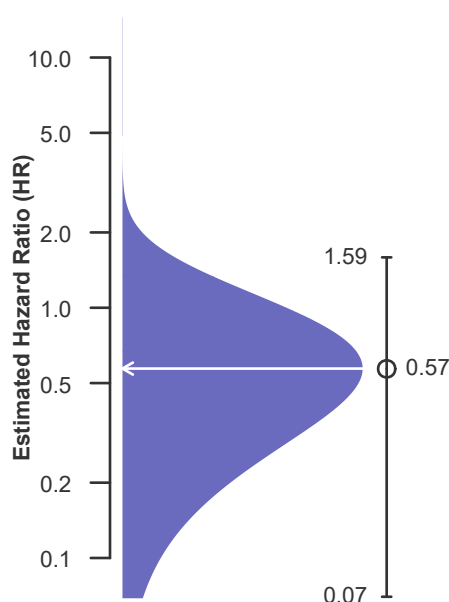
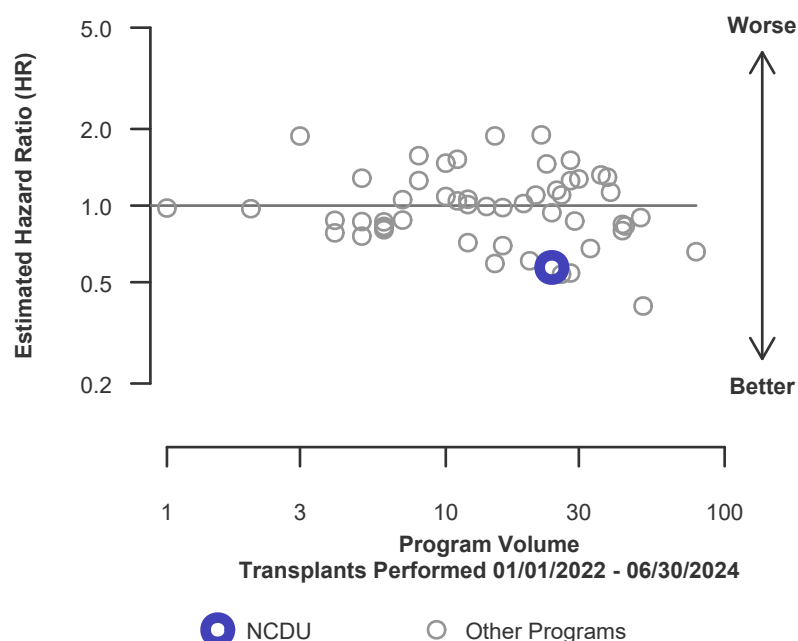


Figure C16D. Pediatric (<18) 1-year deceased donor graft failure HR program comparison





C. Transplant Information

Table C12L. Pediatric (<18) 1-year survival with a functioning living donor graft

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

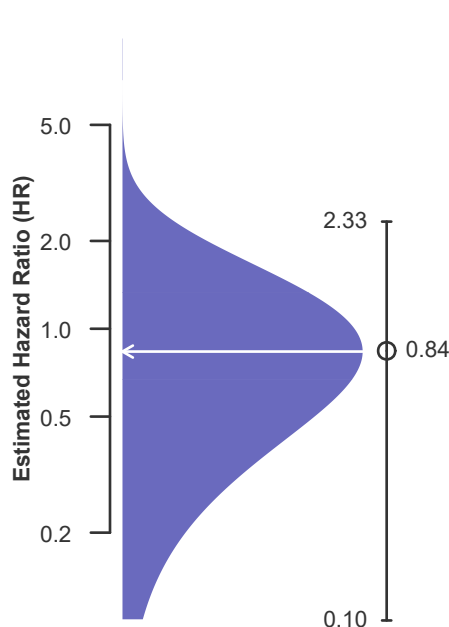
Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	6	234
Estimated probability of surviving with a functioning graft at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	93.43% [90.25%-96.72%]
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	93.44%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	15
Number of expected graft failures (including deaths) during the first year after transplant	0.39	--
Estimated hazard ratio*	0.84	--
95% credible interval for the hazard ratio**	[0.10, 2.33]	--

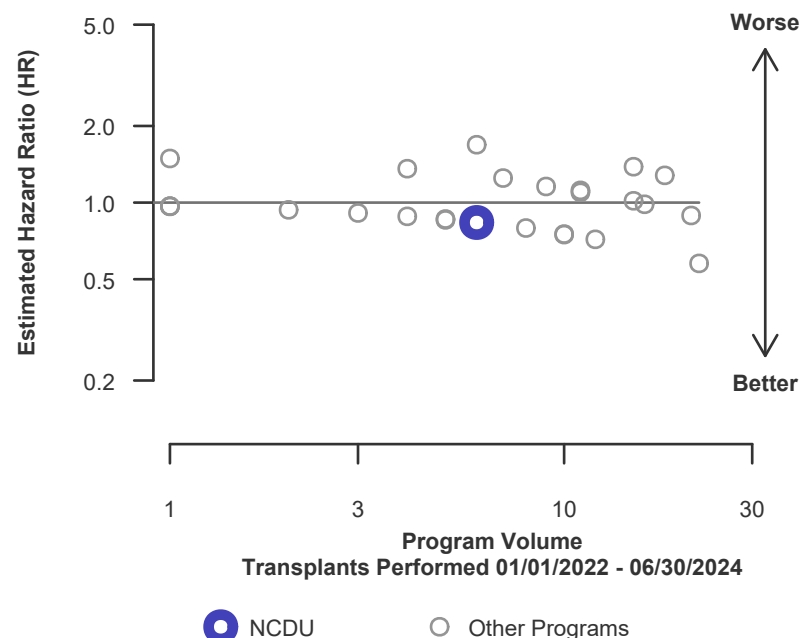
* The hazard ratio provides an estimate of how Duke University Hospital's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher 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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.10, 2.33], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 16% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 90% reduced risk up to 133% increased risk.

**Figure C15L. Pediatric (<18)
1-year living donor graft failure
HR estimate**



**Figure C16L. Pediatric (<18) 1-year living donor graft failure
HR program comparison**





C. Transplant Information

Table C13. Pediatric (<18) 1-year Conditional survival with a functioning graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	30	1,237
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)	100.00% [100.00%-100.00%]	98.03% [97.78%-98.28%]
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)	97.91%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	0	22
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	0.60	--
Estimated hazard ratio*	0.77	--
95% credible interval for the hazard ratio**	[0.09, 2.14]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.09, 2.14], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 23% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 91% reduced risk up to 114% increased risk.

Figure C17. Pediatric (<18) 1-year Conditional graft failure HR estimate

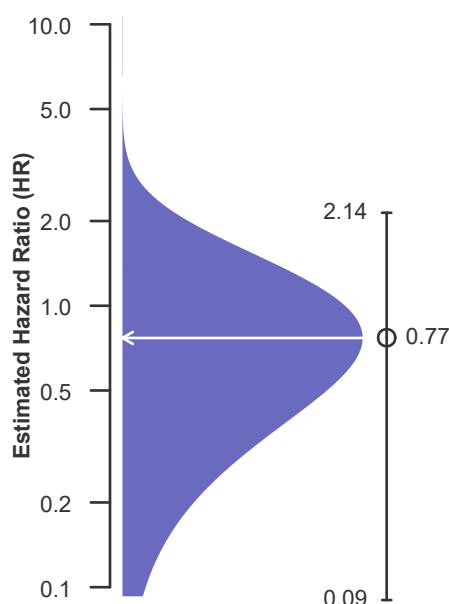
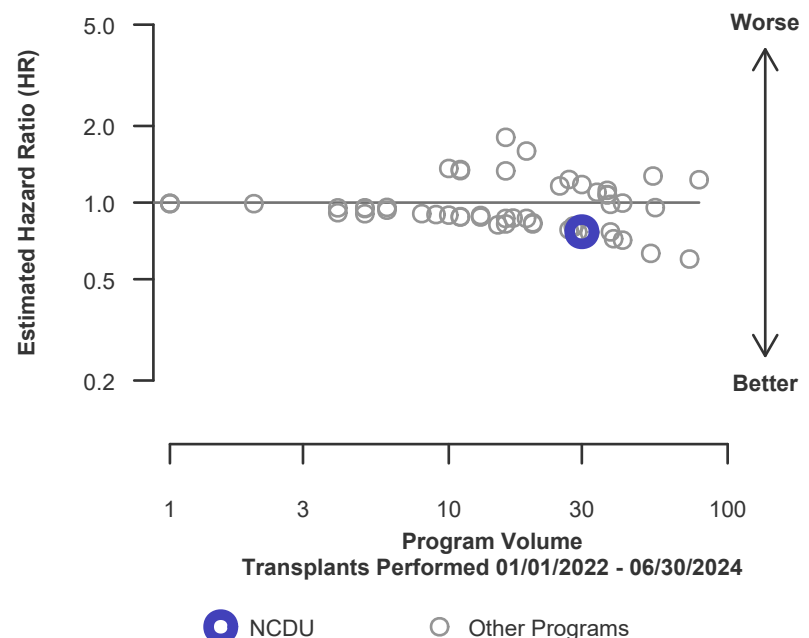


Figure C18. Pediatric (<18) 1-year Conditional graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	24	1,014
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)	100.00% [100.00%-100.00%]	98.03% [97.75%-98.30%]
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)	97.88%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	0	18
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	0.50	--
Estimated hazard ratio*	0.80	--
95% credible interval for the hazard ratio**	[0.10, 2.23]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.10, 2.23], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 20% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 90% reduced risk up to 123% increased risk.

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

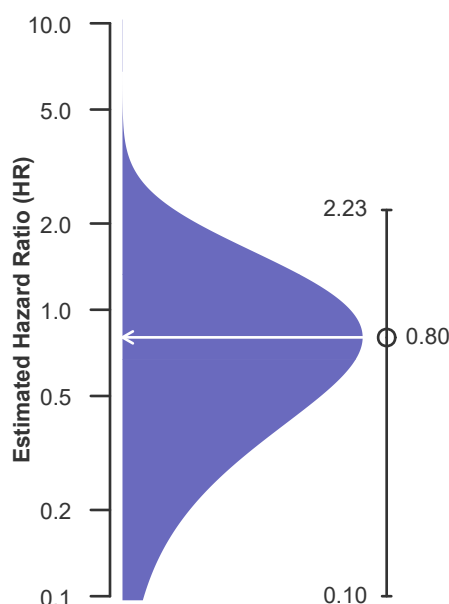
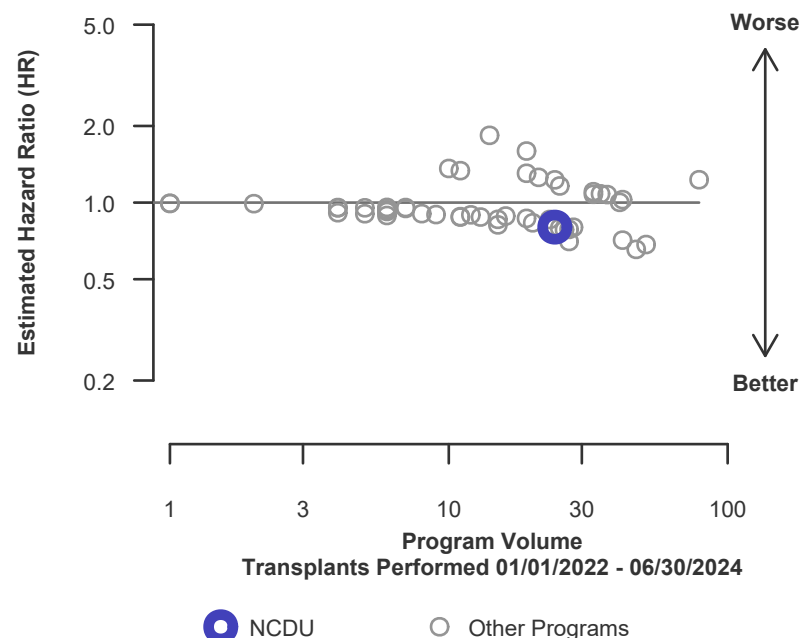


Figure C18D. Pediatric (<18) 1-year Conditional deceased donor graft failure HR program comparison





C. Transplant Information

Table C13L. Pediatric (<18) 1-year Conditional survival with a functioning living donor graft

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

Deaths and retransplants are considered graft failures

	NCDU	U.S.
Number of transplants evaluated	6	223
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)	100.00% [100.00%-100.00%]	98.04% [97.44%-98.64%]
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)	98.04%	--
Number of observed graft failures (including deaths) from day 91 through day 365 after transplant	0	4
Number of expected graft failures (including deaths) from day 91 through day 365 after transplant	0.11	--
Estimated hazard ratio*	0.95	--
95% credible interval for the hazard ratio**	[0.12, 2.65]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.12, 2.65], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 5% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 88% reduced risk up to 165% increased risk.

Figure C17L. Pediatric (<18) 1-year Conditional living donor graft failure HR estimate

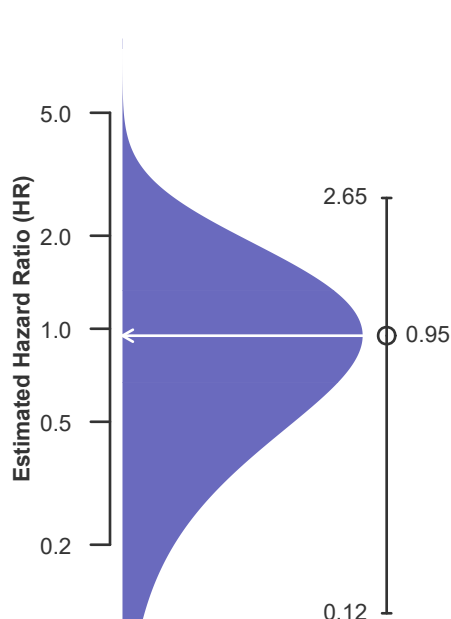
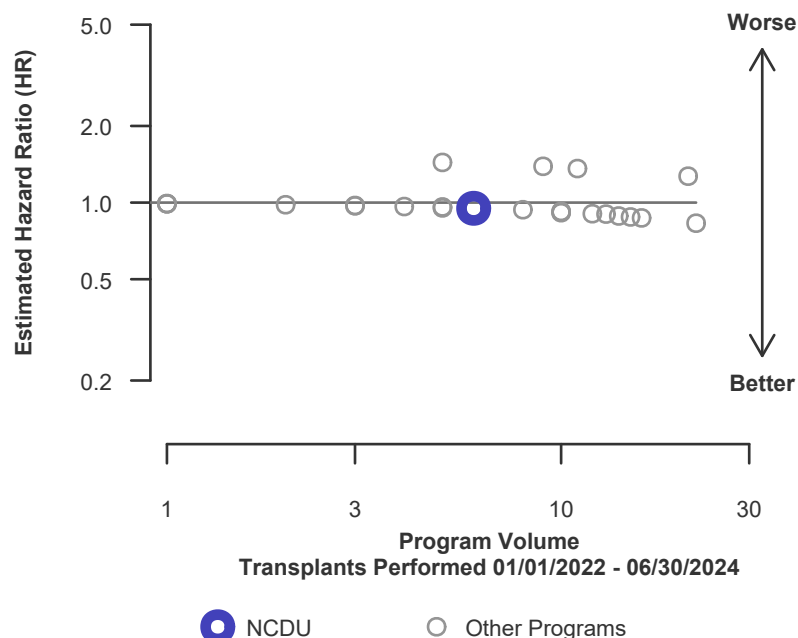


Figure C18L. Pediatric (<18) 1-year Conditional living donor graft failure HR program comparison





C. Transplant Information

Table C14. Pediatric (<18) 3-year survival with a functioning 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

	NCDU	U.S.
Number of transplants evaluated	27	1,110
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	91.83% [81.58%-100.00%]	90.01% [88.07%-92.00%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	90.05%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	2	93
Number of expected graft failures (including deaths) during the first 3 years after transplant	2.13	--
Estimated hazard ratio*	0.97	--
95% credible interval for the hazard ratio**	[0.26, 2.13]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.26, 2.13], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 3% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 74% reduced risk up to 113% increased risk.

Figure C19. Pediatric (<18) 3-year graft failure HR estimate

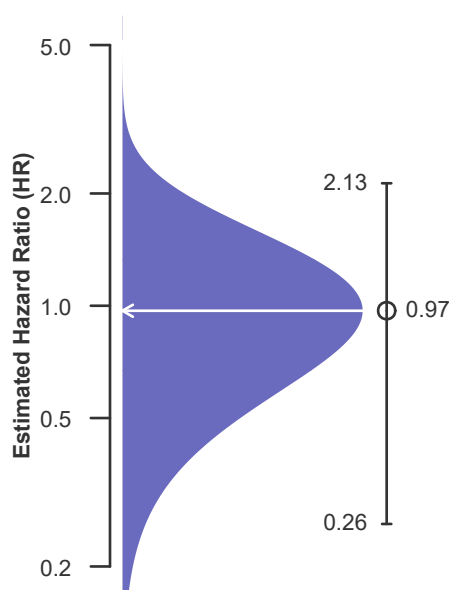
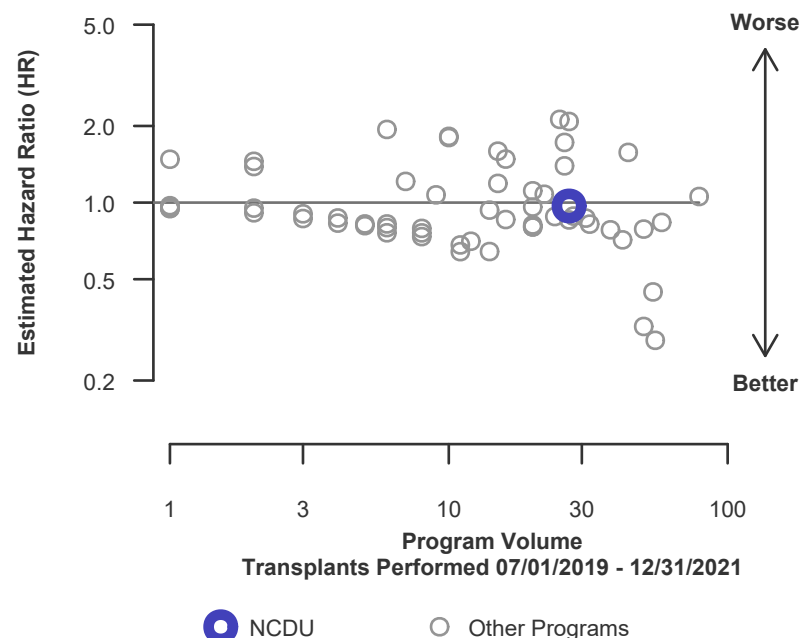


Figure C20. Pediatric (<18) 3-year graft failure HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	22	929
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	90.23% [78.22%-100.00%]	89.71% [87.58%-91.90%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	89.68%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	2	81
Number of expected graft failures (including deaths) during the first 3 years after transplant	1.80	--
Estimated hazard ratio*	1.05	--
95% credible interval for the hazard ratio**	[0.29, 2.31]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.29, 2.31], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 5% higher risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 71% reduced risk up to 131% increased risk.

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

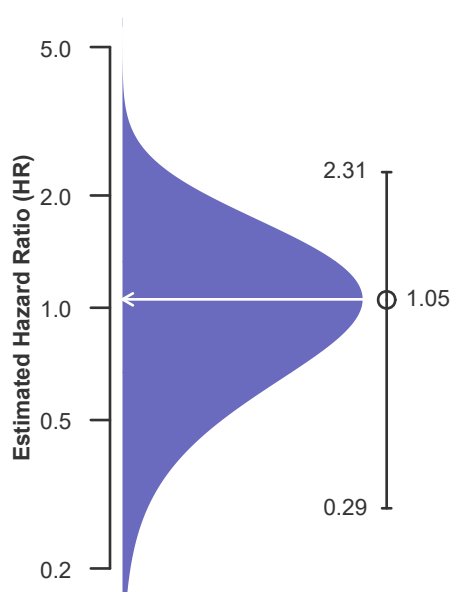
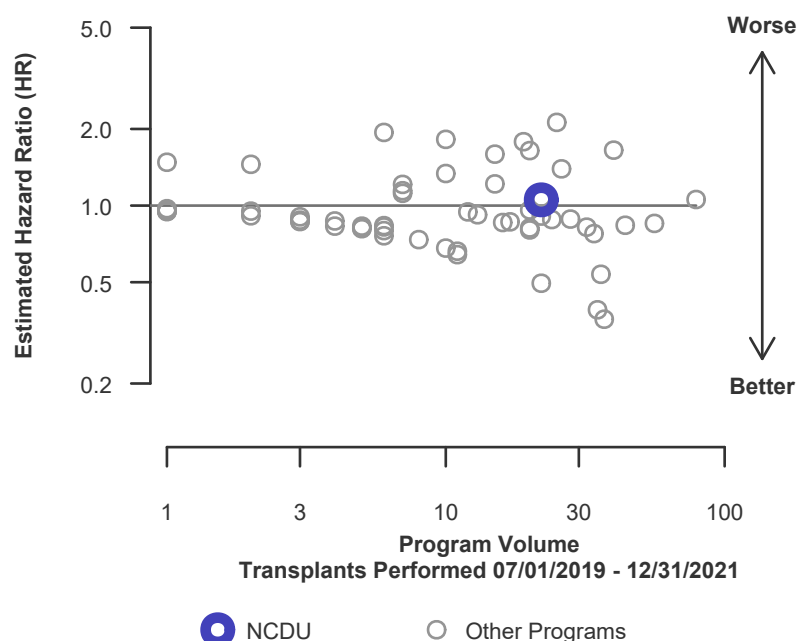


Figure C20D. Pediatric (<18) 3-year deceased donor graft failure HR program comparison





C. Transplant Information

Table C14L. Pediatric (<18) 3-year survival with a functioning living 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

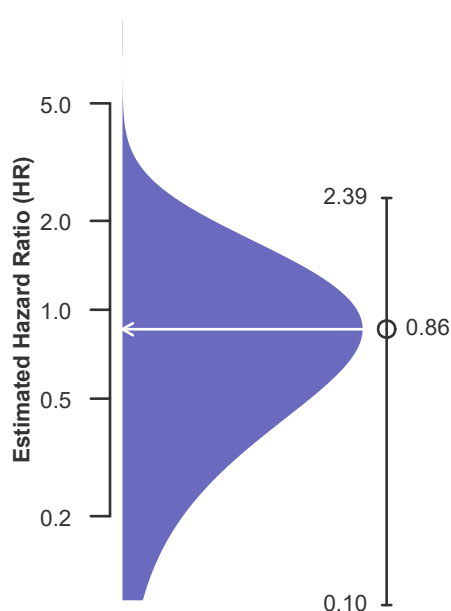
Follow-up ends on 3/12/2020 for recipients transplanted prior to 3/13/2020

	NCDU	U.S.
Number of transplants evaluated	5	181
Estimated probability of surviving with a functioning graft at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	91.61% [87.06%-96.39%]
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	91.64%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	0	12
Number of expected graft failures (including deaths) during the first 3 years after transplant	0.33	--
Estimated hazard ratio*	0.86	--
95% credible interval for the hazard ratio**	[0.10, 2.39]	--

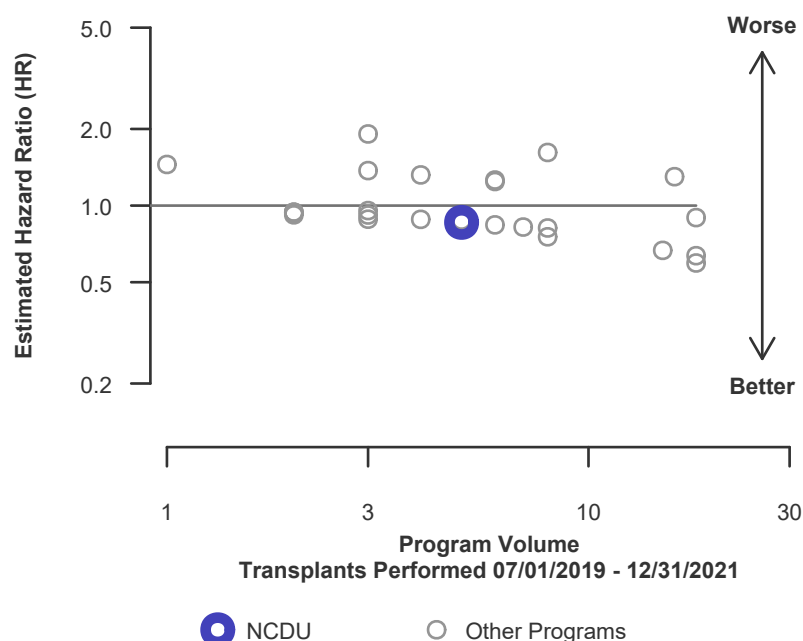
* The hazard ratio provides an estimate of how Duke University Hospital's results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would indicate 50% higher 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 NCDU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.10, 2.39], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 14% lower risk of graft failure compared to an average program, but NCDU's performance could plausibly range from 90% reduced risk up to 139% increased risk.

**Figure C19L. Pediatric (<18)
3-year living donor graft failure
HR estimate**



**Figure C20L. Pediatric (<18) 3-year living donor graft failure
HR program comparison**





C. Transplant Information

Table C15. Adult (18+) 1-month patient survival

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	304	21,592
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	98.68% [97.41%-99.97%]	98.41% [98.24%-98.57%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.33%	--
Number of observed deaths during the first month after transplant	4	344
Number of expected deaths during the first month after transplant	5.11	--
Estimated hazard ratio*	0.84	--
95% credible interval for the hazard ratio**	[0.31, 1.64]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.31, 1.64], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 16% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 69% reduced risk up to 64% increased risk.

Figure C21. Adult (18+) 1-month patient death HR estimate

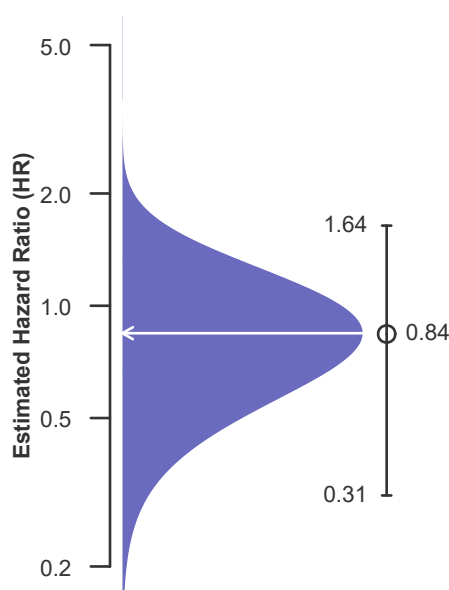
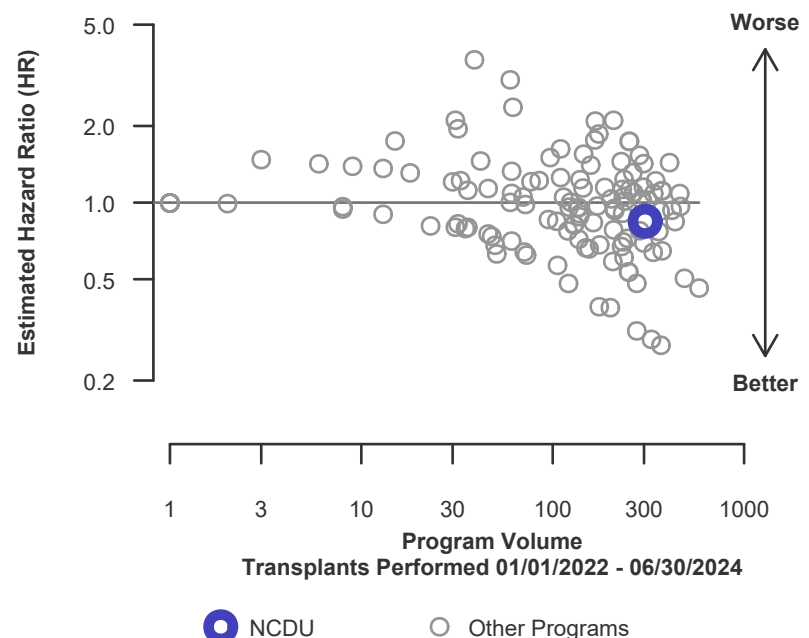


Figure C22. Adult (18+) 1-month patient death HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	294	20,267
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	98.64% [97.32%-99.97%]	98.37% [98.20%-98.55%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.31%	--
Number of observed deaths during the first month after transplant	4	330
Number of expected deaths during the first month after transplant	5.00	--
Estimated hazard ratio*	0.86	--
95% credible interval for the hazard ratio**	[0.31, 1.67]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.31, 1.67], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 14% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 69% reduced risk up to 67% increased risk.

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

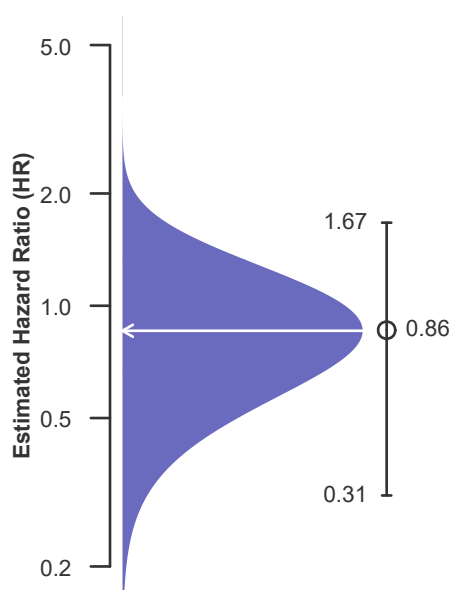
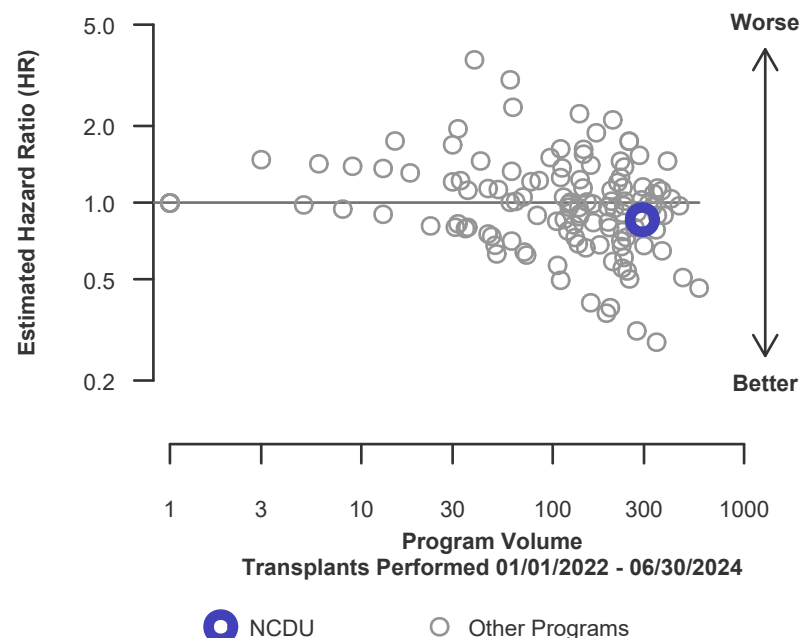


Figure C22D. Adult (18+) 1-month patient death HR program comparison (deceased donor grafts)





C. Transplant Information

Table C15L. Adult (18+) 1-month patient survival (living donor graft recipients)

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	10	1,325
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	98.94% [98.39%-99.50%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.94%	--
Number of observed deaths during the first month after transplant	0	14
Number of expected deaths during the first month after transplant	0.11	--
Estimated hazard ratio*	0.95	--
95% credible interval for the hazard ratio**	[0.11, 2.65]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.11, 2.65], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 5% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 89% reduced risk up to 165% increased risk.

Figure C21L. Adult (18+) 1-month patient death HR estimate (living donor grafts)

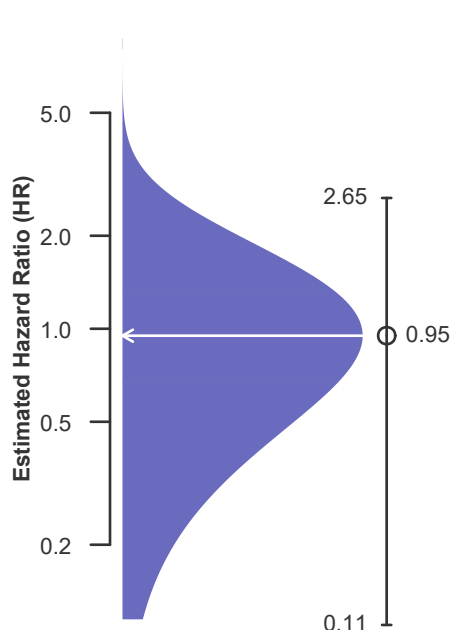
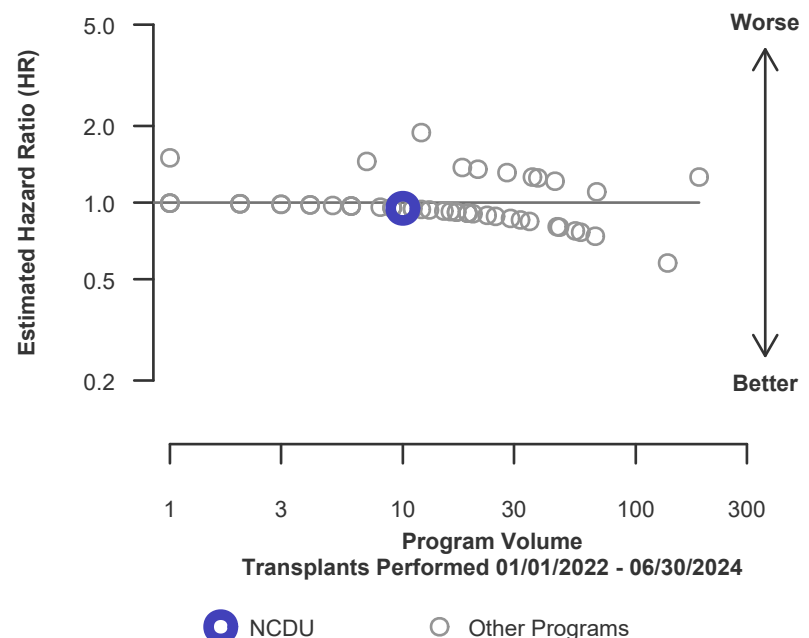


Figure C22L. Adult (18+) 1-month patient death HR program comparison (living donor grafts)





C. Transplant Information

Table C16. Adult (18+) 1-year patient survival

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	304	21,592
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	95.47% [92.96%-98.04%]	94.34% [94.02%-94.66%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	94.01%	--
Number of observed deaths during the first year after transplant	12	1,149
Number of expected deaths during the first year after transplant	17.27	--
Estimated hazard ratio*	0.73	--
95% credible interval for the hazard ratio**	[0.40, 1.15]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.40, 1.15], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 27% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 60% reduced risk up to 15% increased risk.

Figure C23. Adult (18+) 1-year patient death HR estimate

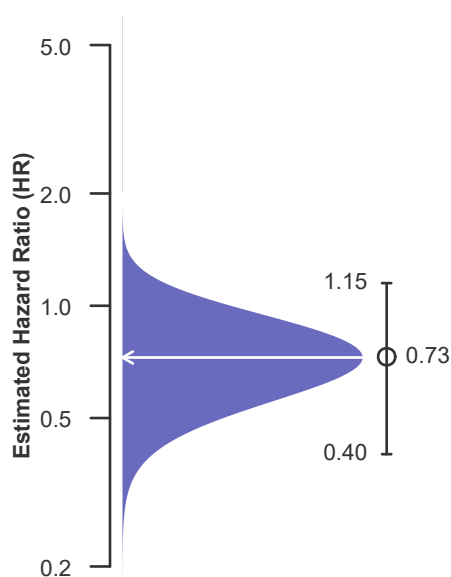
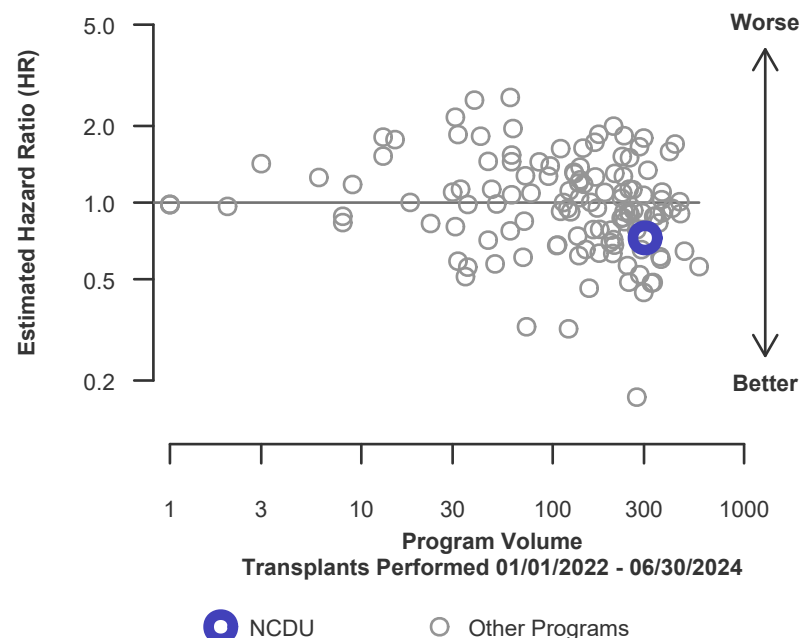


Figure C24. Adult (18+) 1-year patient death HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	294	20,267
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	95.76% [93.31%-98.28%]	94.22% [93.88%-94.55%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	93.93%	--
Number of observed deaths during the first year after transplant	11	1,102
Number of expected deaths during the first year after transplant	16.90	--
Estimated hazard ratio*	0.69	--
95% credible interval for the hazard ratio**	[0.37, 1.11]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.37, 1.11], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 31% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 63% reduced risk up to 11% increased risk.

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

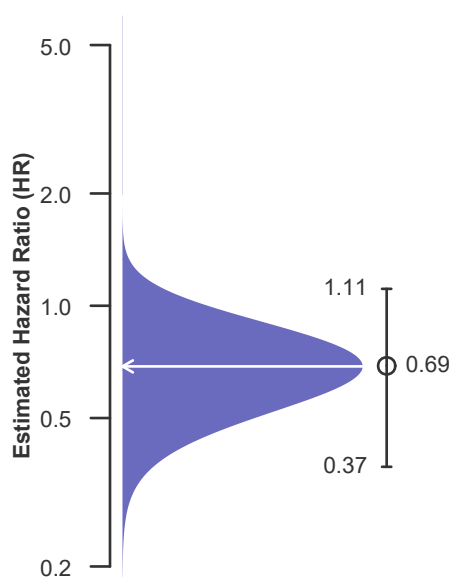
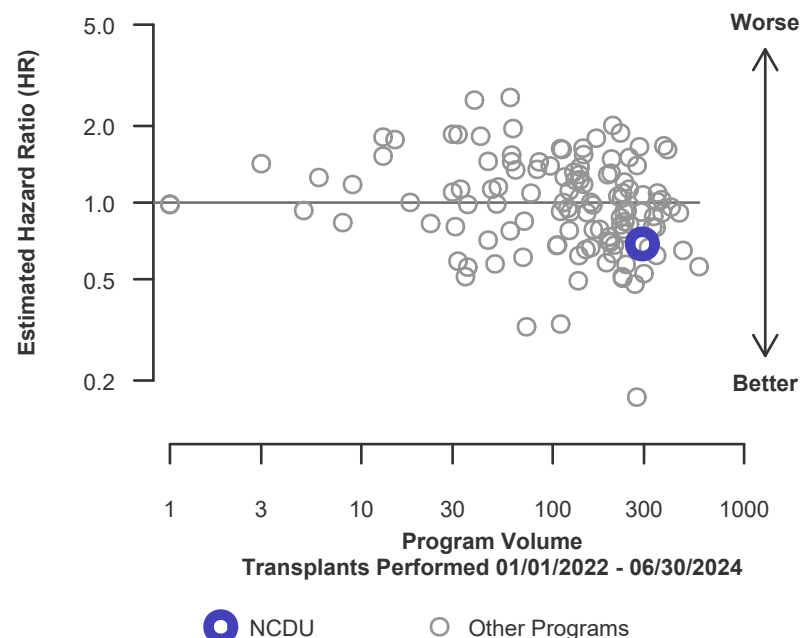


Figure C24D. Adult (18+) 1-year patient death HR program comparison (deceased donor grafts)





C. Transplant Information

Table C16L. Adult (18+) 1-year patient survival (living donor graft recipients)

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	10	1,325
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	88.89% [70.56%-100.00%]	96.24% [95.19%-97.31%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	96.25%	--
Number of observed deaths during the first year after transplant	1	47
Number of expected deaths during the first year after transplant	0.37	--
Estimated hazard ratio*	1.27	--
95% credible interval for the hazard ratio**	[0.26, 3.05]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.26, 3.05], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 27% higher risk of patient death compared to an average program, but NCDU's performance could plausibly range from 74% reduced risk up to 205% increased risk.

Figure C23L. Adult (18+) 1-year patient death HR estimate (living donor grafts)

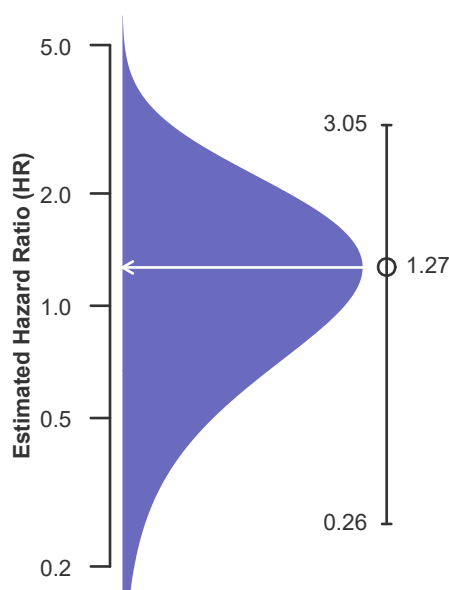
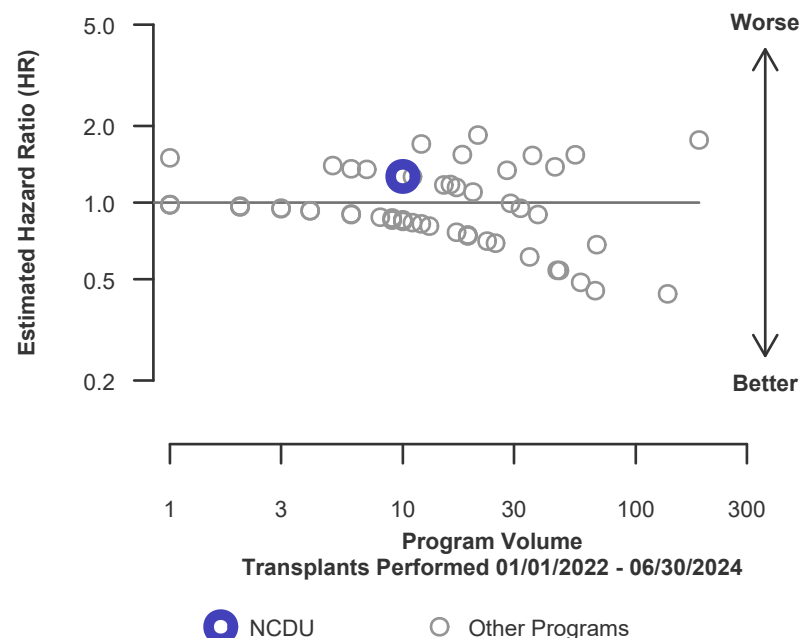


Figure C24L. Adult (18+) 1-year patient death HR program comparison (living donor grafts)





C. Transplant Information

Table C17. Adult (18+) 3-year patient survival

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

	NCDU	U.S.
Number of transplants evaluated	211	16,849
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	90.79% [86.24%-95.58%]	88.16% [87.61%-88.72%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	88.23%	--
Number of observed deaths during the first 3 years after transplant	14	1,569
Number of expected deaths during the first 3 years after transplant	19.49	--
Estimated hazard ratio*	0.74	--
95% credible interval for the hazard ratio**	[0.43, 1.15]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.43, 1.15], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 26% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 57% reduced risk up to 15% increased risk.

Figure C25. Adult (18+) 3-year patient death HR estimate

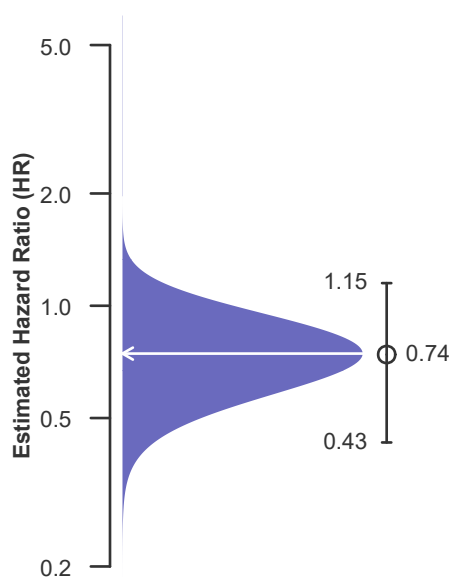
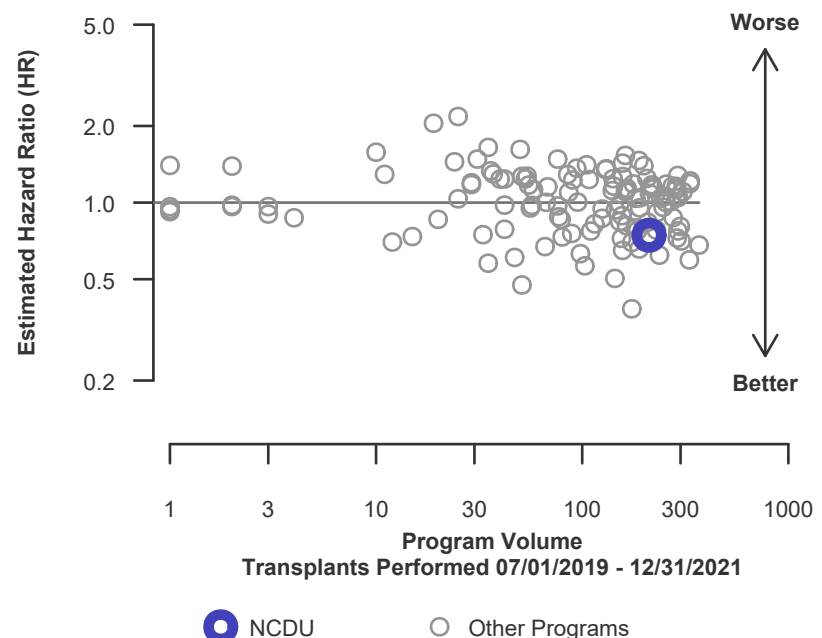


Figure C26. Adult (18+) 3-year patient death HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	202	15,790
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	91.01% [86.39%-95.88%]	87.96% [87.38%-88.55%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	88.04%	--
Number of observed deaths during the first 3 years after transplant	13	1,495
Number of expected deaths during the first 3 years after transplant	18.80	--
Estimated hazard ratio*	0.72	--
95% credible interval for the hazard ratio**	[0.40, 1.13]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.40, 1.13], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 28% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 60% reduced risk up to 13% increased risk.

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

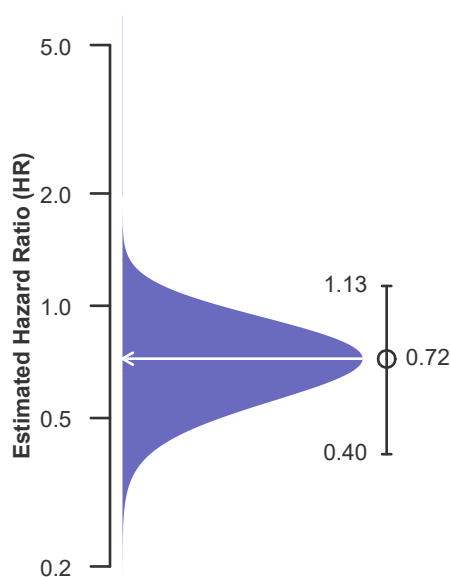
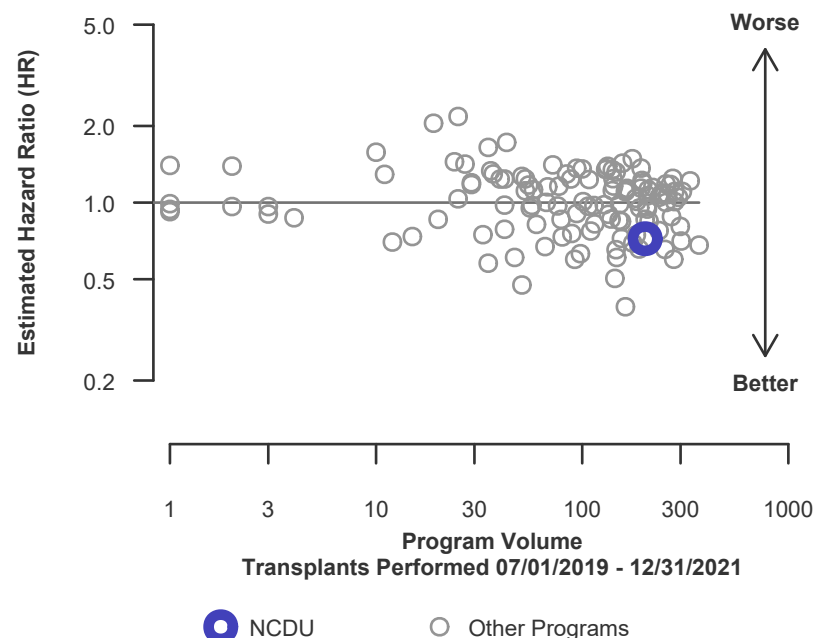


Figure C26D. Adult (18+) 3-year patient death HR program comparison (deceased donor grafts)





C. Transplant Information

Table C17L. Adult (18+) 3-year patient survival (living 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

	NCDU	U.S.
Number of transplants evaluated	9	1,059
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	87.50% [67.34%-100.00%]	91.11% [89.18%-93.09%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	92.48%	--
Number of observed deaths during the first 3 years after transplant	1	74
Number of expected deaths during the first 3 years after transplant	0.70	--
Estimated hazard ratio*	1.11	--
95% credible interval for the hazard ratio**	[0.23, 2.68]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.23, 2.68], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 11% higher risk of patient death compared to an average program, but NCDU's performance could plausibly range from 77% reduced risk up to 168% increased risk.

Figure C25L. Adult (18+) 3-year patient death HR estimate (living donor grafts)

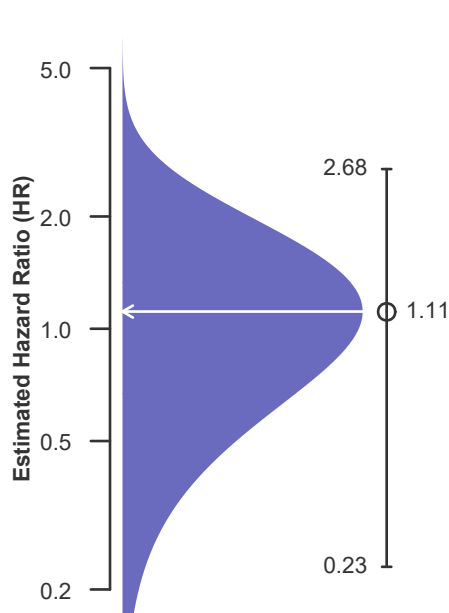
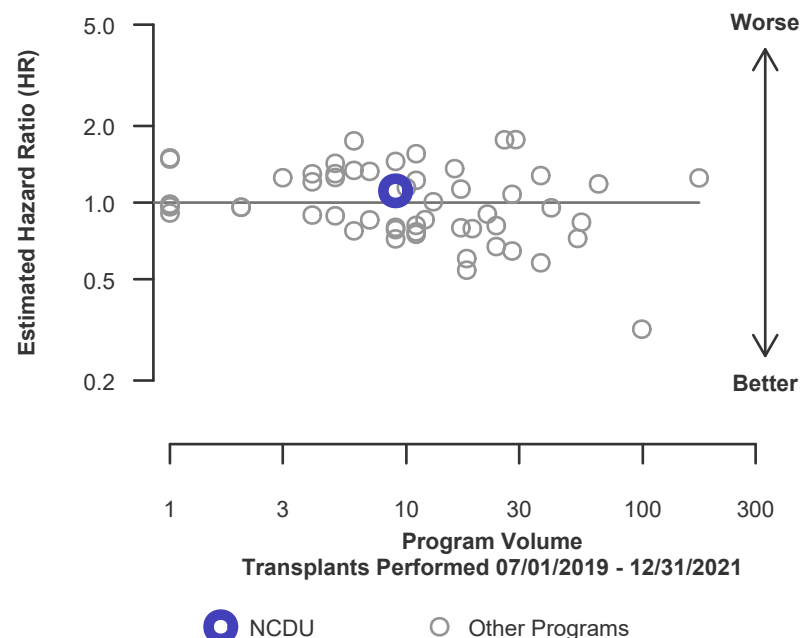


Figure C26L. Adult (18+) 3-year patient death HR program comparison (living donor grafts)





C. Transplant Information

Table C18. Pediatric (<18) 1-month patient survival

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	29	1,235
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	98.22% [97.48%-98.96%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.71%	--
Number of observed deaths during the first month after transplant	0	22
Number of expected deaths during the first month after transplant	0.38	--
Estimated hazard ratio*	0.84	--
95% credible interval for the hazard ratio**	[0.10, 2.35]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.10, 2.35], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 16% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 90% reduced risk up to 135% increased risk.

Figure C27. Pediatric (<18) 1-month patient death HR estimate

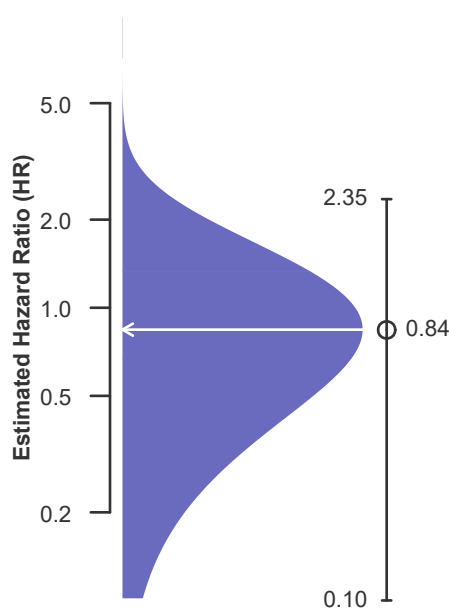
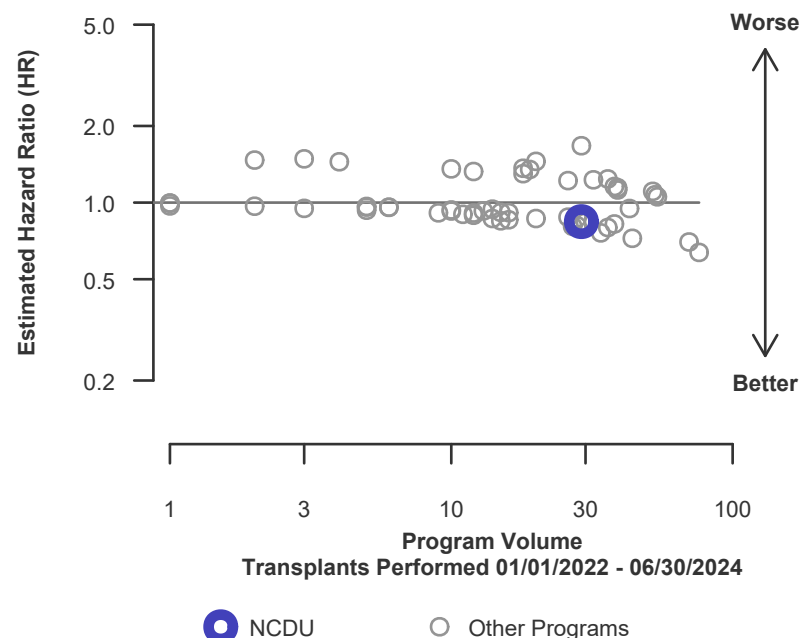


Figure C28. Pediatric (<18) 1-month patient death HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	23	1,003
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	98.01% [97.14%-98.87%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.60%	--
Number of observed deaths during the first month after transplant	0	20
Number of expected deaths during the first month after transplant	0.32	--
Estimated hazard ratio*	0.86	--
95% credible interval for the hazard ratio**	[0.10, 2.40]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.10, 2.40], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 14% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 90% reduced risk up to 140% increased risk.

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

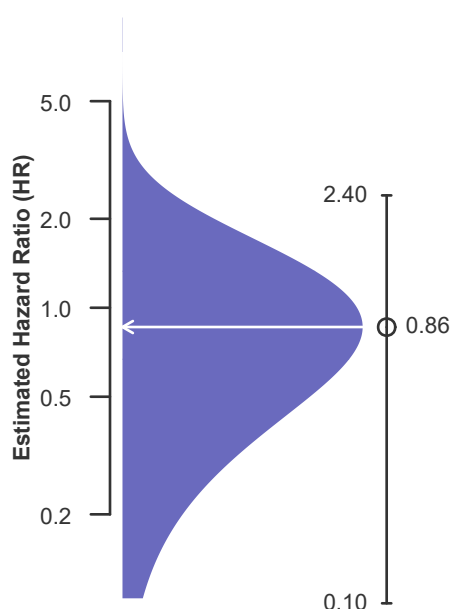
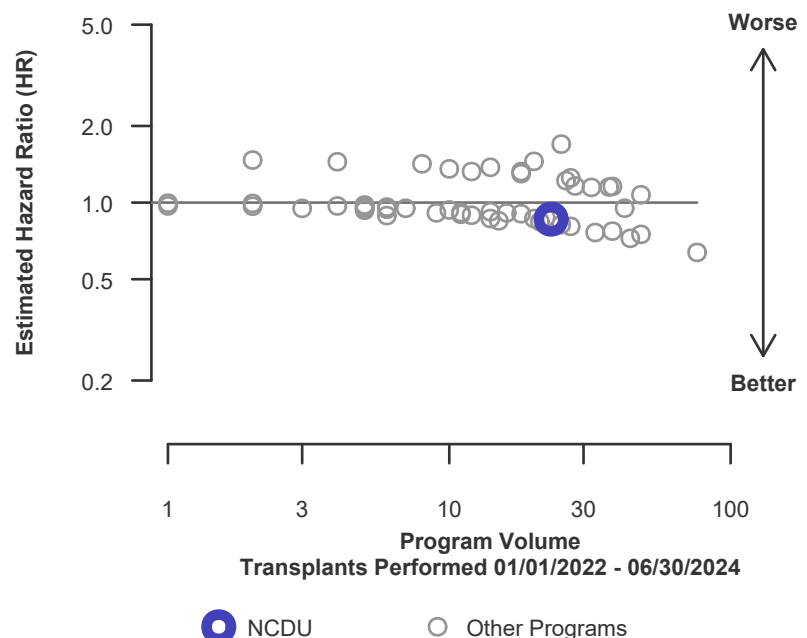


Figure C28D. Pediatric (<18) 1-month patient death HR program comparison (deceased donor grafts)





C. Transplant Information

Table C18L. Pediatric (<18) 1-month patient survival (living donor graft recipients)

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	6	232
Estimated probability of surviving at 1 month & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	99.14% [97.96%-100.00%]
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	99.14%	--
Number of observed deaths during the first month after transplant	0	2
Number of expected deaths during the first month after transplant	0.05	--
Estimated hazard ratio*	0.97	--
95% credible interval for the hazard ratio**	[0.12, 2.72]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.12, 2.72], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 3% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 88% reduced risk up to 172% increased risk.

Figure C27L. Pediatric (<18) 1-month patient death HR estimate (living donor grafts)

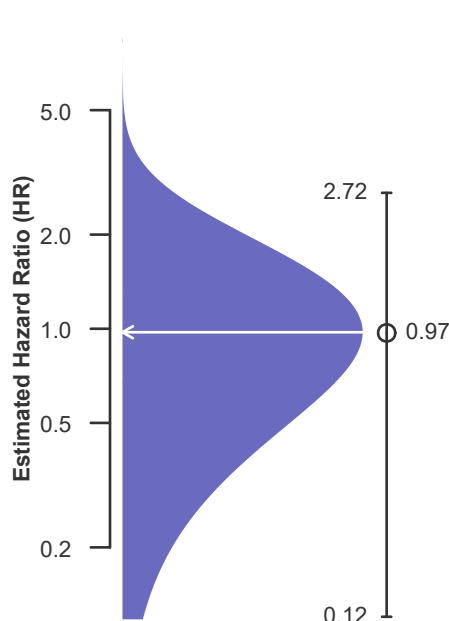
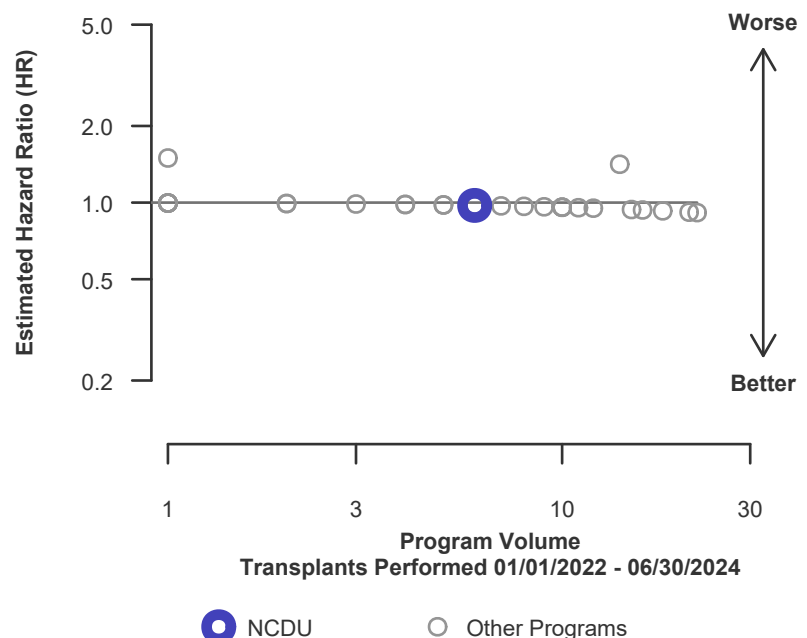


Figure C28L. Pediatric (<18) 1-month patient death HR program comparison (living donor grafts)





C. Transplant Information

Table C19. Pediatric (<18) 1-year patient survival

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	29	1,235
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	95.32% [94.12%-96.53%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	95.92%	--
Number of observed deaths during the first year after transplant	0	56
Number of expected deaths during the first year after transplant	1.16	--
Estimated hazard ratio*	0.63	--
95% credible interval for the hazard ratio**	[0.08, 1.76]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.08, 1.76], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 37% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 92% reduced risk up to 76% increased risk.

Figure C29. Pediatric (<18) 1-year patient death HR estimate

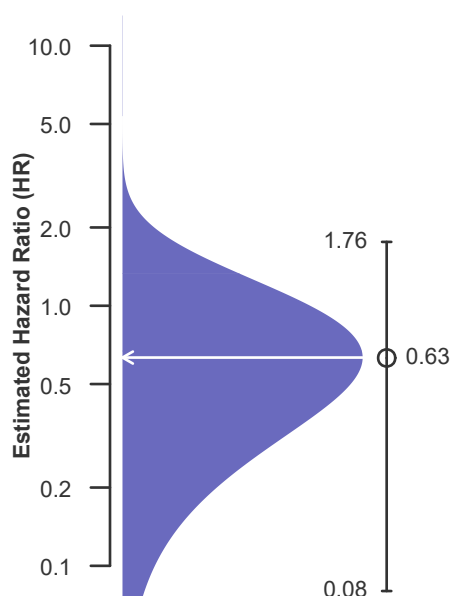
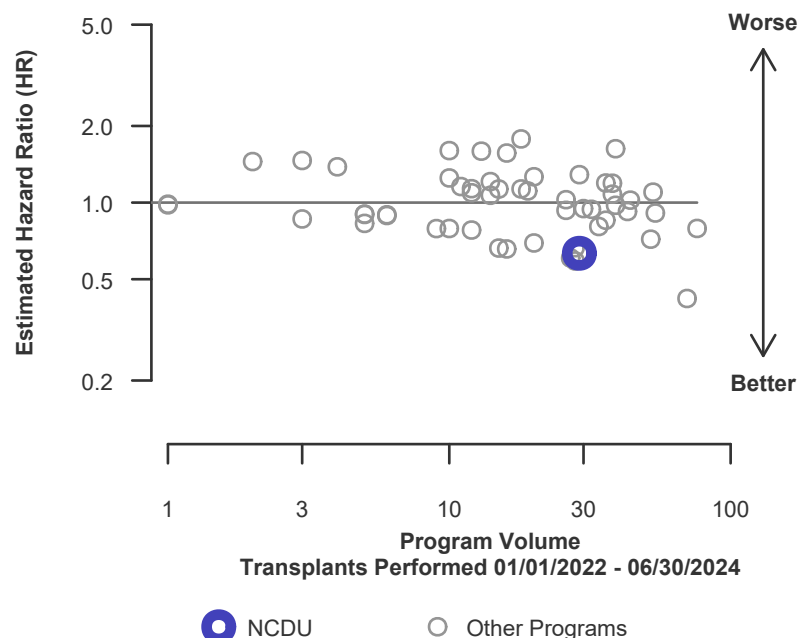


Figure C30. Pediatric (<18) 1-year patient death HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	23	1,003
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	95.17% [93.83%-96.53%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	95.91%	--
Number of observed deaths during the first year after transplant	0	47
Number of expected deaths during the first year after transplant	0.93	--
Estimated hazard ratio*	0.68	--
95% credible interval for the hazard ratio**	[0.08, 1.90]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.08, 1.90], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 32% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 92% reduced risk up to 90% increased risk.

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

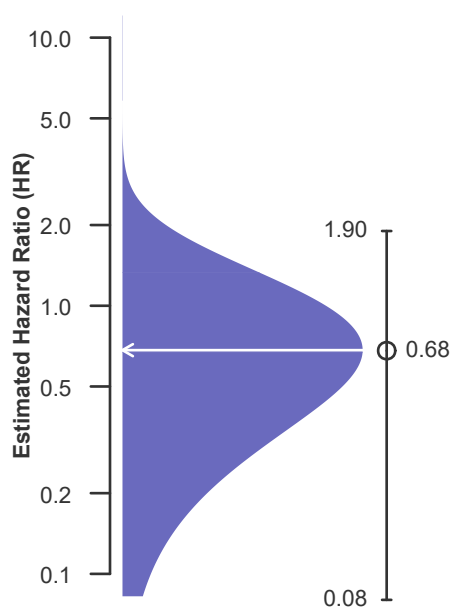
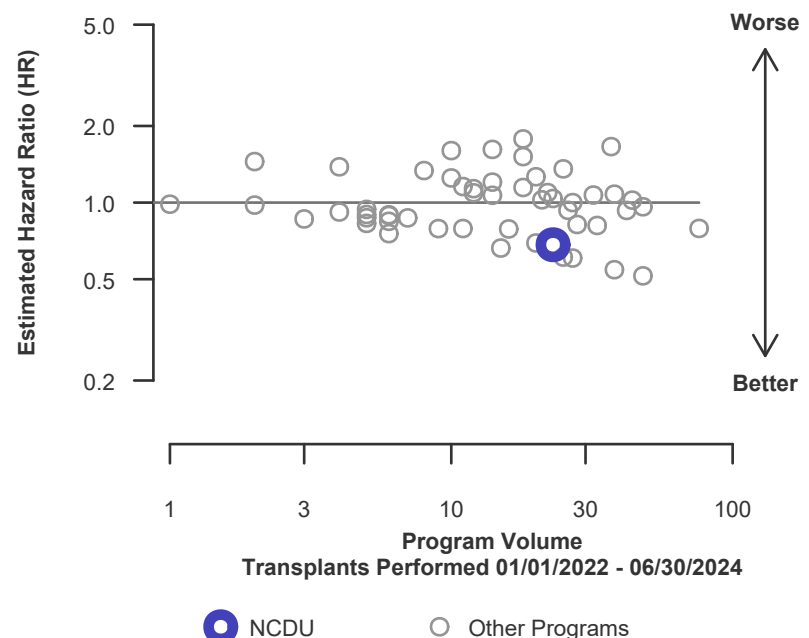


Figure C30D. Pediatric (<18) 1-year patient death HR program comparison (deceased donor grafts)





C. Transplant Information

Table C19L. Pediatric (<18) 1-year patient survival (living donor graft recipients)

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

Retransplants excluded

	NCDU	U.S.
Number of transplants evaluated	6	232
Estimated probability of surviving at 1 year & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	95.95% [93.38%-98.60%]
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	95.96%	--
Number of observed deaths during the first year after transplant	0	9
Number of expected deaths during the first year after transplant	0.23	--
Estimated hazard ratio*	0.89	--
95% credible interval for the hazard ratio**	[0.11, 2.49]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.11, 2.49], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 11% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 89% reduced risk up to 149% increased risk.

Figure C29L. Pediatric (<18) 1-year patient death HR estimate (living donor grafts)

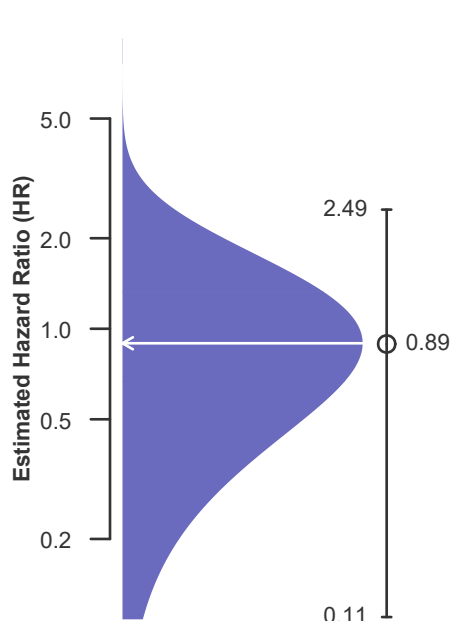
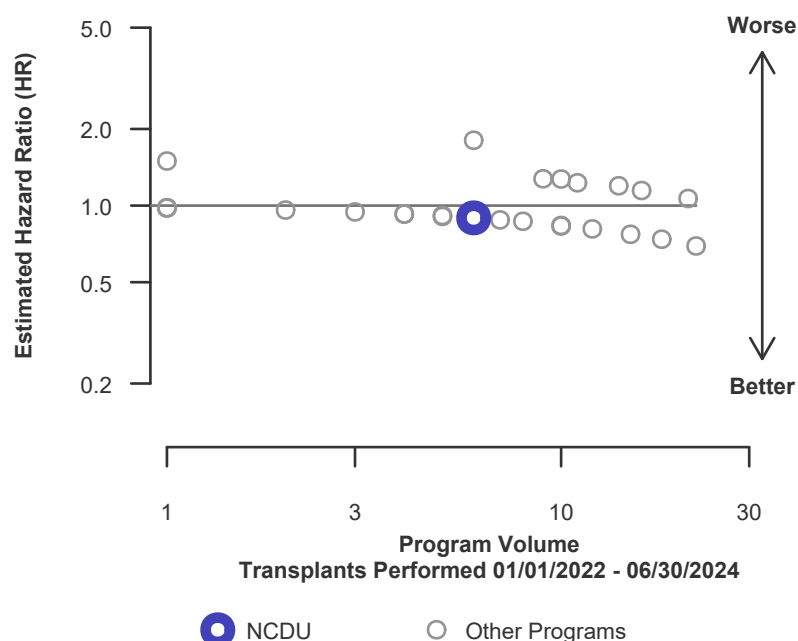


Figure C30L. Pediatric (<18) 1-year patient death HR program comparison (living donor grafts)





C. Transplant Information

Table C20. Pediatric (<18) 3-year patient survival

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

	NCDU	U.S.
Number of transplants evaluated	27	1,045
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	91.83% [81.58%-100.00%]	93.56% [91.91%-95.25%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	93.58%	--
Number of observed deaths during the first 3 years after transplant	2	55
Number of expected deaths during the first 3 years after transplant	1.28	--
Estimated hazard ratio*	1.22	--
95% credible interval for the hazard ratio**	[0.33, 2.67]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.33, 2.67], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 22% higher risk of patient death compared to an average program, but NCDU's performance could plausibly range from 67% reduced risk up to 167% increased risk.

Figure C31. Pediatric (<18) 3-year patient death HR estimate

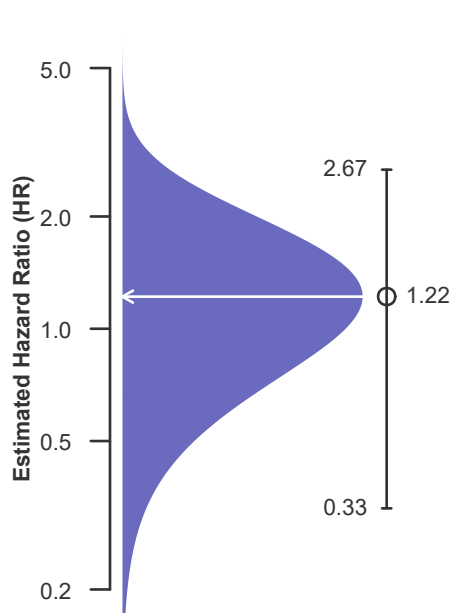
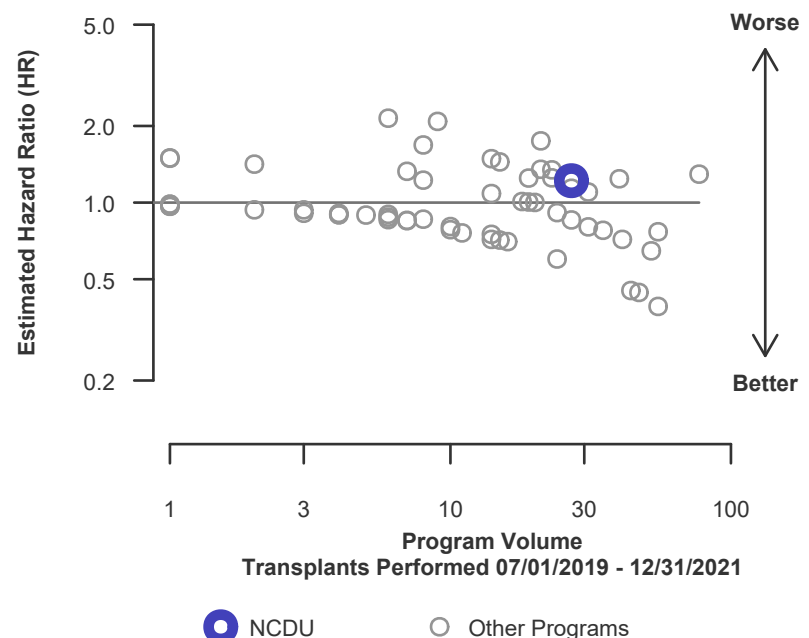


Figure C32. Pediatric (<18) 3-year patient death HR program comparison





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

	NCDU	U.S.
Number of transplants evaluated	22	866
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	90.23% [78.22%-100.00%]	93.46% [91.65%-95.31%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	93.47%	--
Number of observed deaths during the first 3 years after transplant	2	47
Number of expected deaths during the first 3 years after transplant	1.06	--
Estimated hazard ratio*	1.31	--
95% credible interval for the hazard ratio**	[0.36, 2.87]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.36, 2.87], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 31% higher risk of patient death compared to an average program, but NCDU's performance could plausibly range from 64% reduced risk up to 187% increased risk.

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

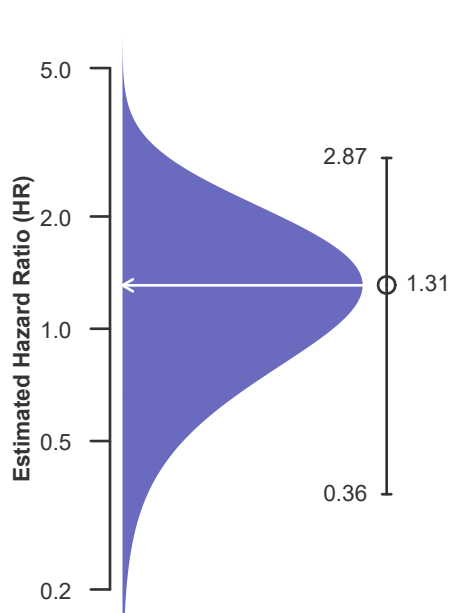
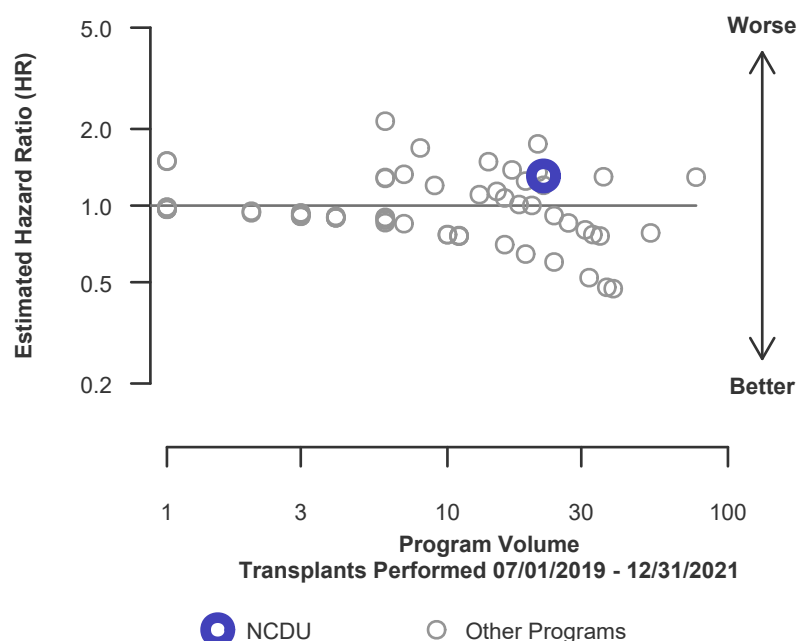


Figure C32D. Pediatric (<18) 3-year patient death HR program comparison (deceased donor grafts)





C. Transplant Information

Table C20L. Pediatric (<18) 3-year patient survival (living 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

	NCDU	U.S.
Number of transplants evaluated	5	179
Estimated probability of surviving at 3 years & [95% CI] (unadjusted for patient and donor characteristics)	100.00% [100.00%-100.00%]	94.05% [90.04%-98.23%]
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	94.07%	--
Number of observed deaths during the first 3 years after transplant	0	8
Number of expected deaths during the first 3 years after transplant	0.22	--
Estimated hazard ratio*	0.90	--
95% credible interval for the hazard ratio**	[0.11, 2.51]	--

* The hazard ratio provides an estimate of how Duke University Hospital'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 NCDU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

** The 95% credible interval, [0.11, 2.51], indicates the location of NCDU's true hazard ratio with 95% probability. The best estimate is 10% lower risk of patient death compared to an average program, but NCDU's performance could plausibly range from 89% reduced risk up to 151% increased risk.

Figure C31L. Pediatric (<18) 3-year patient death HR estimate (living donor grafts)

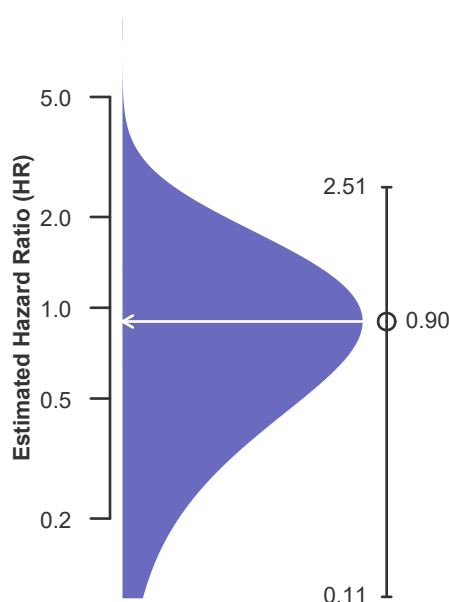
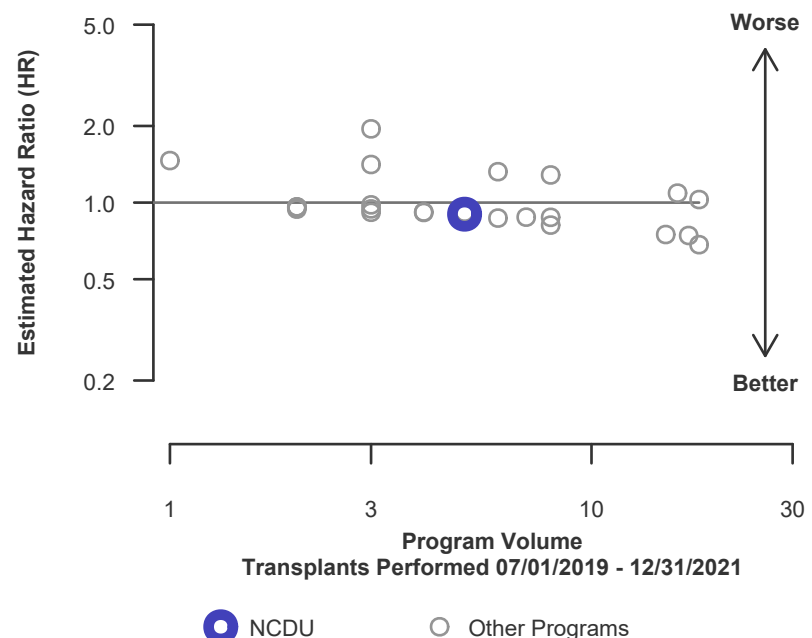


Figure C32L. Pediatric (<18) 3-year patient death HR program comparison (living donor grafts)





C. Transplant Information

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

Adult (18+) Transplants

Transplant Type	First-Year Outcomes					
	Transplants Performed		Liver Graft Failures		Estimated Liver Graft Survival	
	NCDU-TX1	USA	NCDU-TX1	USA	NCDU-TX1	USA
Kidney-Liver	29	1,954	2	187	93.1%	90.4%
Liver-Heart	5	176	0	34	100.0%	80.7%

Pediatric (<18) Transplants

Transplant Type	First-Year Outcomes					
	Transplants Performed		Liver Graft Failures		Estimated Liver Graft Survival	
	NCDU-TX1	USA	NCDU-TX1	USA	NCDU-TX1	USA
Pancreas-Liver-Intestine	1	38	0	9	100.0%	76.3%

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

Adult (18+) Transplants

Transplant Type	First-Year Outcomes					
	Transplants Performed		Patient Deaths		Estimated Patient Survival	
	NCDU-TX1	USA	NCDU-TX1	USA	NCDU-TX1	USA
Kidney-Liver	29	1,954	0	176	100.0%	91.0%
Liver-Heart	5	176	0	34	100.0%	80.7%

Pediatric (<18) Transplants

Transplant Type	First-Year Outcomes					
	Transplants Performed		Patient Deaths		Estimated Patient Survival	
	NCDU-TX1	USA	NCDU-TX1	USA	NCDU-TX1	USA
Pancreas-Liver-Intestine	1	38	0	8	100.0%	78.9%



D. Living Donor Information

Table D1. Living donor summary: 01/01/2022 - 12/31/2024

Living Donor Follow-Up	This Center			United States		
	01/2022- 12/2022	01/2023- 12/2023	01/2024- 06/2024	01/2022- 12/2022	01/2023- 12/2023	01/2024- 06/2024
Number of Living Donors	6	7	3	595	652	314
6-Month Follow-Up						
Donors due for follow-up	6	7	3	595	652	268
Timely clinical data	6 100.0%	7 100.0%	3 100.0%	487 81.8%	550 84.4%	225 84.0%
Timely lab data	6 100.0%	7 100.0%	3 100.0%	499 83.9%	562 86.2%	224 83.6%
12-Month Follow-Up						
Donors due for follow-up	6	7		595	601	
Timely clinical data	6 100.0%	7 100.0%		484 81.3%	484 80.5%	
Timely lab data	6 100.0%	7 100.0%		479 80.5%	490 81.5%	
24-Month Follow-Up						
Donors due for follow-up	6			557		
Timely clinical data	6 100.0%			398 71.5%		
Timely lab data	6 100.0%			403 72.4%		

Follow-up forms due during the COVID-19 amnesty period from 3/13/2020-3/31/2021 are not included in timely clinical and lab data calculations