

Center Code: TNVU SRTR Program-Specific Report Transplant Program (Organ): Lung Feedback?: SRTR@SRTR.org Release Date: July 6, 2021 (Corrected July 16, 2021) 1.877.970.SRTR (7787) Based on Data Available: April 30, 2021 http://www.srtr.org

#### **Correction Notice**

The lung risk-adjustment models for patient mortality after listing were updated on July 16, 2021, following initial release on July 6, 2021. Previously, the models included candidate pCO2 captured on the transplant candidate registration (TCR) form. This variable was removed in 2015 from the TCR form, but was kept in the risk-adjustment models resulting in a significant amount of missing values. As a result, the expected number of events for most lung patients was unrealistically low due to the least beneficial value adjustment for missing data.

Now, the lung risk-adjustment models no longer include the pCO2 variable captured on the TCR form, resulting in a better evaluation of patient mortality after listing for lung transplant candidates. This correction affects Figures B7 and B8.



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#### 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 eligible death conversion rates and 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, 1-year, 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. The reports released in January 2021 made adjustments to transplant program and OPO performance metrics so that data beyond the declaration of a national public health emergency on March 13, 2020, were not included in the metrics.

The SRTR Review Committee (SRC) reviewed the metrics at its meetings on January 20, 2021, and February 9, 2021, with the goal of determining whether continued adjustments are necessary, or if the SRTR should resume regular reporting of transplant program and OPO performance metrics. The committee reviewed data on how the pandemic has affected the nation's transplant system, and the extent to which the effects varied geographically and temporally. The committee made the following recommendations to SRTR. These recommendations were reviewed by the Health Resources and Services Administration's (HRSA's) Division of Transplantation, which oversees the SRTR. HRSA approved of these recommendations which the SRTR will implement for the July 2021 reporting cycle:

Posttransplant Outcomes (including 1-month, 1-year, and 3-year graft and patient survival): Evaluations cohorts will continue to exclude transplants and follow-up time beyond March 12, 2020.

1-month & 1-year Patient and Graft Survival Evaluations: Transplants 1/1/2018-3/12/2020; follow-up through 3/12/2020.

3-year Patient and Graft Survival Evaluations: Transplants 1/1/2015-12/31/2017; follow-up through 3/12/2020.

Pre-Transplant Mortality Rate (formerly called Waitlist Mortality Rate): Evaluation cohorts will be modified on an organ-specific basis:

Kidney and Lung: Candidates on the waitlist 1/1/2019-3/12/2020.

Liver, Heart, Pancreas, and Intestine: Candidates on the waitlist 1/1/2019-12/31/2020.

Transplant Rate: The first quarter following declaration of a national emergency will be excluded from the transplant rate evaluations for all organ types.

Candidates on the waitlist 1/1/2019-3/12/2020 and 6/13/2020-12/31/2020.



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Overall Rate of Mortality After Listing: Patient follow-up will continue to be truncated on 3/12/2020:

Evaluation period: 1/1/2019-3/12/2020.

Offer Acceptance Rate: These evaluations will return to normal reporting cohorts.

Offers received 1/1/2020-12/31/2020.

These decisions will apply to the evaluations released in the SRTR's semi-annual program-specific reports scheduled for release on July 6, 2021. These changes have been communicated to the leadership of the Organ Procurement and Transplantation Network's 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 2022.

As with the January 2021 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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#### **User Guide**

This report contains a wide range of useful information about the lung transplant program at Vanderbilt University Medical Center (TNVU). The report has three main sections:

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

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

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

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

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



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confidence interval includes (crosses) 1.0, then we cannot say that this program's observed transplant rate is different from what would be expected. The observed deceased donor transplant rate at this program was 783.3 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. 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 01/01/2015 and 06/30/2020. 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 12/31/2020 to calculate a particular percentile of transplant times.

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



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

Starting with Table C5, transplant outcomes are presented along with comparisons to what would be expected at this program and what happened in the nation as a whole. Tables C5-C10 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-C10 present data on graft survival, Tables C11-C16 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 C17 and C18 summarize the multiorgan transplant outcomes at this program. The summary statistics in these tables are descriptive and are not risk-adjusted for different donor and candidate characteristics.

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



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# **A. Program Summary**

Figure A1. Waiting list and transplant activity

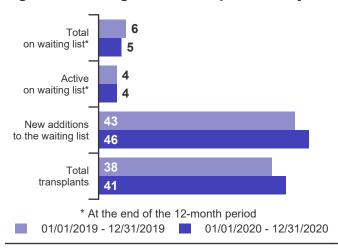


Table A1. Census of transplant recipients

Recipients	01/01/2019- 12/31/2019	01/01/2020- 12/31/2020
Transplanted at this center	38	41
Followed by this center*	214	141
transplanted at this program	n 194	133
transplanted elsewhere	20	8

<sup>\*</sup> 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 01/01/2019 - 03/12/2020, 06/13/2020 - 12/31/2020

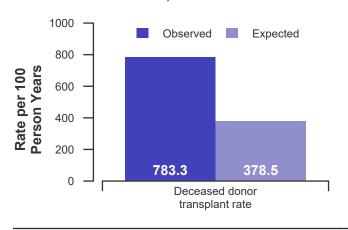


Figure A3. Pre-transplant mortality rates 01/01/2019 - 03/12/2020

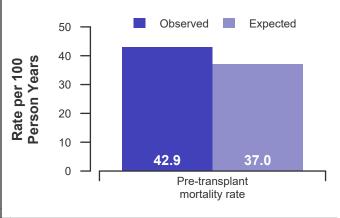


Figure A4. First-year adult graft and patient survival: 01/01/2018 - 03/12/2020

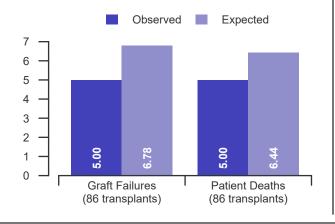


Figure A5. First-year pediatric graft and patient survival: 01/01/2018 - 03/12/2020

This center did not perform any transplants relevant to this figure during 01/01/2018-03/12/2020



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Table B1. Waiting list activity summary: 01/01/2019 - 12/31/2020

		nts for center	Activity for 01/01/2020 to 12/31/2020 as percent of registrants on waiting lis			
Waiting List Registrations	01/01/2019- 12/31/2019	01/01/2020- 12/31/2020	This Center (%)	OPTN Region (%)	U.S. (%)	
On waiting list at start Additions	3	6	100.0	100.0	100.0	
New listings at this center	43	46	766.7	354.7	190.0	
Removals						
Transferred to another center	0	0	0.0	4.0	1.4	
Received living donor transplant*	0	0	0.0	0.0	0.0	
Received deceased donor transplant*	38	41	683.3	346.7	180.3	
Died	1	2	33.3	8.0	10.6	
Transplanted at another center	0	0	0.0	0.0	2.3	
Deteriorated	1	2	33.3	10.7	9.2	
Recovered	0	0	0.0	6.7	4.6	
Other reasons	0	2	33.3	9.3	11.4	
On waiting list at end of period	6	5	83.3	69.3	70.1	

<sup>\*</sup> 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.



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Table B2. Demographic characteristics of waiting list candidates
Candidates registered on the waiting list between 01/01/2020 and 12/31/2020

Domographia Characteristic		ting List Regis		All Waiting List Registrations on 12/31/2020 (%)			
Demographic Characteristic	This Center (N=46)	OPTN Region (N=266)	U.S. (N=2,675)	This Center (N=5)	OPTN Region (N=52)	U.S. (N=987)	
All (%)	100.0	100.0	100.0	100.0	100.0	100.0	
Ethnicity/Race (%)*							
White	84.8	85.3	73.2	40.0	82.7	65.7	
African-American	13.0	12.8	10.2	60.0	15.4	13.8	
Hispanic/Latino	2.2	1.1	12.6	0.0	1.9	15.8	
Asian	0.0	0.4	3.3	0.0	0.0	3.7	
Other	0.0	0.4	8.0	0.0	0.0	1.0	
Unknown	0.0	0.0	0.0	0.0	0.0	0.0	
Age (%)							
<2 years	0.0	0.0	0.6	0.0	0.0	8.0	
2-11 years	0.0	0.0	0.3	0.0	0.0	0.6	
12-17 years	0.0	8.0	0.9	0.0	0.0	0.4	
18-34 years	4.3	7.1	6.5	0.0	11.5	9.1	
35-49 years	10.9	12.0	10.4	20.0	9.6	13.6	
50-64 years	63.0	39.8	45.5	60.0	50.0	48.0	
65-69 years	15.2	24.1	23.9	0.0	19.2	20.3	
70+ years	6.5	16.2	12.0	20.0	9.6	7.2	
Gender (%)							
Male	60.9	62.8	59.7	20.0	51.9	41.4	
Female	39.1	37.2	40.3	80.0	48.1	58.6	

<sup>\*</sup> 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%.



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Table B3. Medical characteristics of waiting list candidates Candidates registered on the waiting list between 01/01/2020 and 12/31/2020

Medical Characteristic		ting List Regis 020 to 12/31/20		All Waiting List Registrations on 12/31/2020 (%)			
medical Characteristic	This Center (N=46)	OPTN Region (N=266)	U.S. (N=2,675)	This Center (N=5)	OPTN Region (N=52)	U.S. (N=987)	
All (%)	100.0	100.0	100.0	100.0	100.0	100.0	
Blood Type (%)							
0	41.3	42.5	47.0	40.0	63.5	59.5	
A	43.5	40.6	37.8	40.0	21.2	29.2	
В	8.7	11.3	11.5	20.0	15.4	9.3	
AB	6.5	5.6	3.7	0.0	0.0	2.0	
Unknown	0.0	0.0	0.0	0.0	0.0	0.0	
Previous Transplant (%)							
Yes	4.3	5.6	5.0	0.0	1.9	3.6	
No	95.7	94.4	95.0	100.0	98.1	96.4	
Unknown	0.0	0.0	0.0	0.0	0.0	0.0	
Primary Disease (%)							
Idiopathic Pulmonary Arterial Hypertension	2.2	3.4	8.0	0.0	3.8	10.1	
Cystic Fibrosis	4.3	3.8	2.7	0.0	11.5	5.4	
Idiopathic Pulmonary Fibrosis	71.7	74.4	67.0	60.0	59.6	48.0	
Emphysema/COPD	13.0	15.0	19.6	20.0	21.2	31.4	
Other	8.7	3.4	2.8	20.0	3.8	5.1	
Missing	0.0	0.0	0.0	0.0	0.0	0.0	

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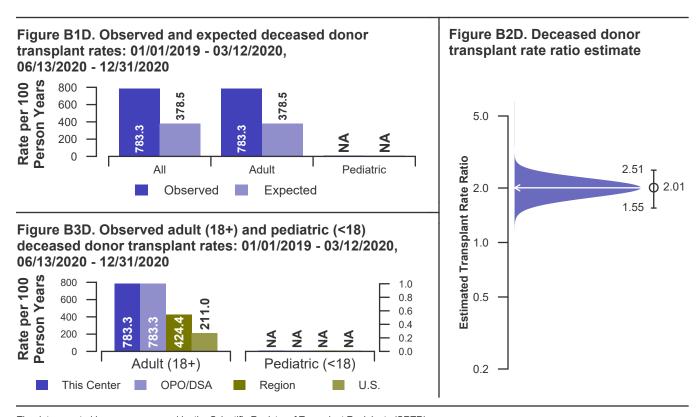
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Table B4D. Deceased donor transplant rates: 01/01/2019 - 03/12/2020, 06/13/2020 - 12/31/2020

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	3	3	59	1,445
Person Years**	8.3	8.3	111.1	2,280.2
Removals for Transplant	65	65	473	4,795
Adult (18+) Candidates				
Count on waiting list at start*	3	3	58	1,407
Person Years**	8.3	8.3	110.5	2,231.4
Removals for transpant	65	65	469	4,708
Pediatric (<18) Candidates				
Count on waiting list at start*				
Person Years**				
Removals for transplant				

<sup>\*</sup> 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.

<sup>\*\*</sup> 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.



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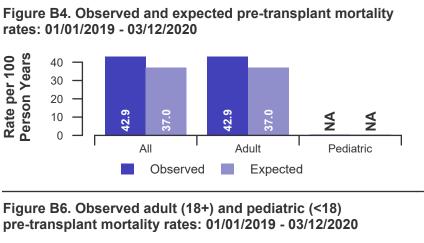
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Table B5. Pre-transplant mortality rates: 01/01/2019 - 03/12/2020

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	3	3	59	1,445
Person Years**	7.0	7.0	80.5	1,882.1
Number of deaths	3	3	14	285
Adult (18+) Candidates				
Count on waiting list at start*	3	3	58	1,407
Person Years**	7.0	7.0	80.0	1,839.5
Number of deaths	3	3	13	273
Pediatric (<18) Candidates				
Count on waiting list at start*				
Person Years**				
Number of deaths				

<sup>\*</sup> 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.

<sup>\*\*</sup> 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 March 12, 2020.



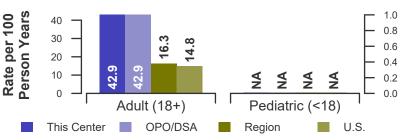


Figure B5. Pre-transplant mortality rate ratio estimate

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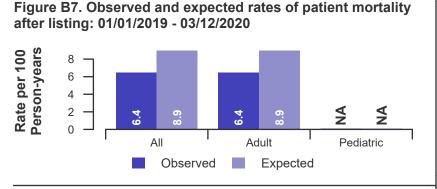
# **B.** Waiting List Information

Table B6. Rates of patient mortality after listing: 01/01/2019 - 03/12/2020

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Patients				
Count at risk during the evaluation period	171	171	1,237	14,137
Person-years*	155.5	155.5	1,099.3	12,881.5
Number of Deaths	10	10	108	1,365
Adult (18+) Patients				
Count at risk during the evaluation period	171	171	1,228	13,862
Person-years*	155.5	155.5	1,090.5	12,636.9
Number of Deaths	10	10	106	1,331
Pediatric (<18) Patients				
Count at risk during the evaluation period	0	0	9	275
Person-years*	0.0	0.0	8.8	244.6
Number of Deaths	0	0	2	34

<sup>\*</sup> Person-years are calculated as days (converted to fractional years). The number of days from 01/01/2019, or from the date of first wait listing until death, reaching 5 years after listing or March 12, 2020.

Correction: Figures B7 and B8 have been corrected. See the Correction Notice on for a detailed explanation of the changes.



patient mortality after listing: 01/01/2019 - 03/12/2020 25 Person-years Rate per 100 10 20 8 15 6 10 4 5 2 0 Adult (18+) Pediatric (<18) OPO/DSA This Center Region

Figure B9. Observed adult (18+) and pediatric (<18) rates of

Figure B8. HR estimate of patient

<sup>\*\*</sup> 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.



Center Code: TNVU Transplant Program (Organ): Lung

Feedback?: SRTR@SRTR.org Release Date: July 6, 2021 (Corrected July 16, 2021) Based on Data Available: April 30, 2021

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Table B7. Waiting list candidate status after listing Candidates registered on waiting list between 07/01/2018 and 06/30/2019

Waiting list status (survival status)		Center (N ns Since L	•	U.S. (N=3,153) Months Since Listing			
	6	12	18	6	12	18	
Alive on waiting list (%)	4.5	0.0	0.0	24.0	12.0	6.4	
Died on the waiting list without transplant (%)	0.0	0.0	0.0	3.7	4.3	4.6	
Removed without transplant (%):							
Condition worsened (status unknown)	2.3	4.5	4.5	3.4	4.1	4.4	
Condition improved (status unknown)	0.0	0.0	0.0	0.3	0.6	1.3	
Refused transplant (status unknown)	0.0	0.0	0.0	0.3	0.3	0.3	
Other	2.3	2.3	2.3	1.6	2.5	3.0	
Transplant (living or deceased donor) (%):							
Functioning (alive)	86.4	81.8	6.8	62.0	64.4	45.7	
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.1	0.1	0.2	
Failed-alive not retransplanted	0.0	0.0	0.0	0.1	0.0	0.1	
Died	4.5	6.8	9.1	3.9	7.0	10.0	
Status Yet Unknown*	0.0	4.5	77.3	0.6	4.4	23.6	
Lost or Transferred (status unknown) (%)	0.0	0.0	0.0	0.2	0.4	0.4	
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0	
Total % known died on waiting list or after transplant	4.5	6.8	9.1	7.6	11.4	14.6	
Total % known died or removed as unstable	6.8	11.4	13.6	11.0	15.4	19.0	
Total % removed for transplant	90.9	93.2	93.2	66.6	75.8	79.5	
Total % with known functioning transplant (alive)	86.4	81.8	6.8	62.0	64.4	45.7	

<sup>\*</sup> Follow-up form covering specified time period not yet completed, and possibly has not become due.



Center Code: TNVU Transplant Program (Organ): Lung

Release Date: July 6, 2021 (Corrected July 16, 2021)

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Table B8. Percent of candidates with deceased donor transplants: demographic characteristics Candidates registered on the waiting list between 01/01/2015 and 12/31/2017

		P	ercent t	ranspla	nted at t	ime pe	riods sir	nce listi	ng	
Characteristic		TI	nis Cent	ter			Un	ited Sta	ates	
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	79	27.8	86.1	87.3	88.6	8,456	29.8	72.2	77.4	79.1
Ethnicity/Race*										
White	73	27.4	86.3	87.7	89.0	6,620	30.2	73.7	78.8	80.5
African-American	5	20.0	80.0	80.0	80.0	842	27.0	69.1	74.6	76.2
Hispanic/Latino	1	100.0	100.0	100.0	100.0	713	31.4	66.5	72.1	73.6
Asian	0					227	25.1	60.4	67.0	68.3
Other	0					54	22.2	59.3	64.8	70.4
Unknown	0					0				
Age										
<2 years	0					27	7.4	51.9	55.6	55.6
2-11 years	0					51	3.9	54.9	62.7	64.7
12-17 years	0					118	25.4	64.4	69.5	69.5
18-34 years	11	9.1	72.7	72.7	72.7	833	31.9	71.7	77.2	78.5
35-49 years	13	38.5	92.3	92.3	92.3	1,021	26.9	66.8	72.5	74.1
50-64 years	43	25.6	86.0	88.4	90.7	3,942	28.2	71.8	77.7	79.9
65-69 years	12	41.7	91.7	91.7	91.7	1,775	32.0	74.4	79.0	80.2
70+ years	0					689	38.5	80.3	82.6	83.0
Gender										
Male	43	37.2	90.7	90.7	90.7	4,742	36.1	78.6	82.4	83.3
Female	36	16.7	80.6	83.3	86.1	3,714	21.8	63.9	71.1	73.7

<sup>\*</sup> 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%.



Center Code: TNVU Transplant Program (Organ): Lung

Feedback?: SRTR@SRTR.org Release Date: July 6, 2021 (Corrected July 16, 2021)

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Percent transplanted at time periods since listing

SRTR Program-Specific Report

Table B9. Percent of candidates with deceased donor transplants: medical characteristics Candidates registered on the waiting list between 01/01/2015 and 12/31/2017

Characteristic			nis Cen		iileu al i	ime pei	lious siii Un	ited Sta	•	
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	79	27.8	86.1	87.3	88.6	8,456	29.8	72.2	77.4	79.1
Blood Type										
0	35	14.3	85.7	88.6	91.4	3,891	28.5	69.0	75.0	76.8
A	31	45.2	90.3	90.3	90.3	3,267	31.4	75.8	80.1	81.7
В	7	28.6	71.4	71.4	71.4	992	27.9	70.7	76.9	78.5
AB	6	16.7	83.3	83.3	83.3	306	36.6	78.8	81.7	82.4
Previous Transplant										
Yes	0					324	32.7	67.9	68.8	69.4
No	79	27.8	86.1	87.3	88.6	8,132	29.7	72.3	77.8	79.5
Primary Disease										
Congenital Disease	0					0				
Retransplant/Graft Failure	0					0				
Idiopathic Pulmonary Arterial Hypertension	4	25.0	75.0	75.0	75.0	445	19.6	53.3	57.8	60.0
Cystic Fibrosis	13	15.4	84.6	84.6	84.6	914	29.8	74.4	80.7	81.8
Idiopathic Pulmonary Fibrosis	41	31.7	87.8	87.8	90.2	4,801	35.0	75.0	78.5	79.5
Alpha-1-Antitrypsin Deficiency	0					0				
Emphysema/COPD	21	28.6	85.7	90.5	90.5	2,051	20.6	69.6	78.4	81.9
Other	0					245	24.5	64.1	70.2	71.8
Missing	0					0				



Center Code: TNVU Transplant Program (Organ): Lung

Release Date: July 6, 2021 (Corrected July 16, 2021) Based on Data Available: April 30, 2021

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# **B.** Waiting List Information

Table B10. Time to transplant for waiting list candidates\*

Candidates registered on the waiting list between 01/01/2015 and 06/30/2020

	Months to Transplant**							
Percentile	Center	OPO/DSA	Region	U.S.				
5th	0.1	0.1	0.1	0.2				
10th	0.2	0.2	0.2	0.2				
25th	0.5	0.5	0.3	0.7				
50th (median time to transplant)	1.3	1.3	1.0	2.6				
75th	4.0	4.0	3.4	12.0				

<sup>\*</sup> 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.

<sup>\*\*</sup> Censored on 12/31/2020. Calculated as the months after listing, during which the corresponding percent of all patients initially listed had received a transplant.



Center Code: TNVU Transplant Program (Organ): Lung

Release Date: July 6, 2021 (Corrected July 16, 2021)

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Table B11. Offer Acceptance Practices: 01/01/2020 - 12/31/2020

Offers Acceptance Characteristics	This Center	OPO/DSA	Region	U.S.
Overall				
Number of Offers	526	526	4,925	45,155
Number of Acceptances	41	41	258	2,507
Expected Acceptances	35.3	35.3	289.7	2,506.3
Offer Acceptance Ratio*	1.15	1.15	0.89	1.00
95% Credible Interval**	[0.83, 1.52]			
PHS increased infectious risk	. , .			
Number of Offers	163	163	1,414	13,299
Number of Acceptances	10	10	86	712
Expected Acceptances	11.2	11.2	86.6	715.4
Offer Acceptance Ratio*	0.91	0.91	0.99	1.00
95% Credible Interval**	[0.47, 1.50]			
Donor was current smoker				
Number of Offers	75	75	713	5,300
Number of Acceptances	4	4	18	170
Expected Acceptances	3.1	3.1	24.9	171.1
Offer Acceptance Ratio*	1.17	1.17	0.74	0.99
95% Credible Interval**	[0.43, 2.27]			
Donor age >= 55				
Number of Offers	54	54	639	5,849
Number of Acceptances	0	0	17	268
Expected Acceptances	2.5	2.5	27.6	272.2
Offer Acceptance Ratio*	0.44	0.44	0.64	0.98
95% Credible Interval**	[0.05, 1.24]			
Hard-to-Place Lungs (Over 50 Offers)				
Number of Offers	46	46	1,022	11,874
Number of Acceptances	1	1	24	260
Expected Acceptances	1.1	1.1	23.8	263.3
Offer Acceptance Ratio*	0.97	0.97	1.01	0.99
95% Credible Interval**	[0.20, 2.34]			
Donor more than 500 miles away				
Number of Offers	100	100	1,145	10,389
Number of Acceptances	6	6	39	445
Expected Acceptances	4.5	4.5	49.0	413.9
Offer Acceptance Ratio*	1.22	1.22	0.80	1.07
95% Credible Interval**	[0.53, 2.21]			

<sup>\*</sup> The offer acceptance ratio estimates the relative offer acceptance practice of Vanderbilt University Medical Center (TNVU) compared to the national offer acceptance practice. A ratio above one indicates the program is more likely to accept an offer compared to national offer acceptance practices (e.g., an offer acceptance ratio of 1.25 indicates a 25% more likely to accept an offer), while a ratio below one indicates the program is less likely to accept an offer compared to national offer acceptance practices (e.g., an offer acceptance ratio of 0.75 indicates a 25% less likely to accept an offer).

<sup>\*\*</sup> As an example, the 95% Credible Interval for the overall offer acceptance ratio, [0.83, 1.52], indicates the location of TNVU's true offer acceptance ratio with 95% probability. The best estimate is 15% more likely to accept an offer compared to national acceptance behavior, but TNVU's performance could plausibly range from 17% reduced acceptance up to 52% higher acceptance.



#### **Vanderbilt University Medical Center**

Center Code: TNVU SRTR Program-Specific Report Transplant Program (Organ): Lung Feedback?: SRTR@SRTR.org Release Date: July 6, 2021 (Corrected July 16, 2021) 1.877.970.SRTR (7787)

Based on Data Available: April 30, 2021

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# **B.** Waiting List Information

Figure B10. Offer acceptance: Overall

**TNVU** 0.1 0.4 2.5 10 National Lower ← Higher Average

Figure B11. Offer acceptance: PHS increased infectious risk

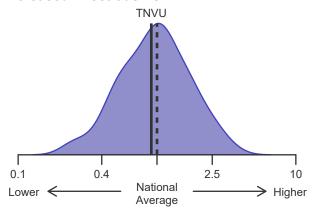


Figure B12. Offer acceptance: Donor was current smoker

Lower €

TNVU 0.1 2.5 10 0.4 National

Average

Figure B13. Offer acceptance: Donor age >= 55

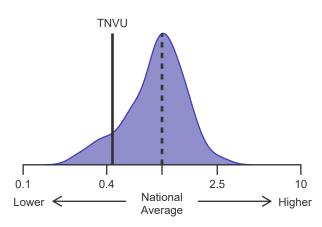
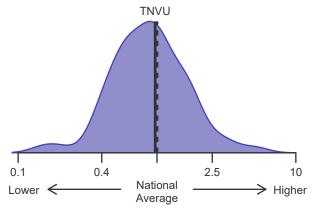
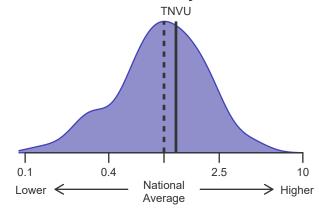


Figure B14. Offer acceptance: Offer number > 50 Figure B15. Offer acceptance: Donor more than 500 miles away

Higher







Center Code: TNVU Transplant Program (Organ): Lung

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# C. Transplant Information

# Table C1D. Deceased donor transplant recipient demographic characteristics Patients transplanted between 01/01/2020 and 12/31/2020

	Perce	Percentage in each category		
Characteristic	Center (N=41)	Region (N=260)	U.S. (N=2,539)	
Ethnicity/Race (%)*				
White	92.7	83.8	75.1	
African-American	4.9	12.3	10.1	
Hispanic/Latino	2.4	1.5	10.9	
Asian	0.0	8.0	3.0	
Other	0.0	1.5	0.9	
Unknown	0.0	0.0	0.0	
Age (%)				
<2 years	0.0	0.0	0.4	
2-11 years	0.0	0.0	0.2	
12-17	0.0	0.8	0.7	
18-34	4.9	6.9	5.3	
35-49 years	4.9	10.8	9.6	
50-64 years	63.4	37.3	45.2	
65-69 years	22.0	26.2	25.1	
70+ years	4.9	18.1	13.5	
Gender (%)				
Male	58.5	61.2	58.7	
Female	41.5	38.8	41.3	

<sup>\*</sup> 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%.



Center Code: TNVU
Transplant Program (Organ): Lung

Release Date: July 6, 2021 (Corrected July 16, 2021) Based on Data Available: April 30, 2021

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## **C. Transplant Information**

# Table C2D. Deceased donor transplant recipient medical characteristics Patients transplanted between 01/01/2020 and 12/31/2020

	Percentage in each category		
Characteristic	Center (N=41)	Region (N=260)	U.S. (N=2,539)
Blood Type (%)			
0	39.0	40.8	45.9
A	43.9	42.3	39.4
В	9.8	10.8	10.9
AB	7.3	6.2	3.8
Previous Transplant (%)			
Yes	4.9	5.8	4.1
No	95.1	94.2	95.9
Body Mass Index (%)			
0-20	12.2	16.2	16.3
21-25	31.7	34.6	31.0
26-30	41.5	38.5	39.1
31-35	12.2	9.6	12.9
36-40	0.0	0.0	0.5
41+	2.4	0.8	0.2
Unknown	0.0	0.4	0.0
Primary Disease (%)			
Idiopathic Pulmonary Arterial Hypertension	2.4	3.1	6.9
Cystic Fibrosis	4.9	6.2	4.2
Idiopathic Pulmonary Fibrosis	65.9	67.7	61.1
Emphysema/COPD	19.5	18.5	24.5
Other	7.3	4.6	3.2
Missing	0.0	0.0	0.1
Recipient Medical Condition at Transplant (%)			
Not Hospitalized	82.9	82.7	77.3
Hospitalized	2.4	6.2	9.0
ICU	14.6	11.2	13.7
Unknown	0.0	0.0	0.0



Center Code: TNVU Transplant Program (Organ): Lung

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## **C. Transplant Information**

#### Table C3D. Deceased donor characteristics Transplants performed between 01/01/2020 and 12/31/2020

	Percentage in each category		
Donor Characteristic	Center (N=41)	Region (N=260)	U.S. (N=2,539)
Cause of Death (%)			
Deceased: Stroke	17.1	23.1	25.1
Deceased: MVA	22.0	11.5	13.5
Deceased: Other	61.0	65.4	61.4
Ethnicity/Race (%)*			
White	65.9	65.4	58.4
African-American	31.7	22.7	18.9
Hispanic/Latino	2.4	9.2	18.2
Asian	0.0	1.5	3.4
Other	0.0	1.2	1.0
Not Reported	0.0	0.0	0.0
Age (%)			
<2 years	0.0	0.0	0.3
2-11 years	0.0	0.4	0.6
12-17	7.3	7.7	5.9
18-34	56.1	50.0	46.1
35-49 years	34.1	29.6	28.7
50-64 years	2.4	10.4	17.3
65-69 years	0.0	1.9	1.0
70+ years	0.0	0.0	0.2
Gender (%)			
Male	68.3	64.2	61.1
Female	31.7	35.8	38.9
Blood Type (%)			
0	53.7	51.9	51.9
A	39.0	36.2	36.0
В	7.3	10.0	10.6
AB	0.0	1.9	1.5
Unknown	0.0	0.0	0.0

<sup>\*</sup> 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%.



#### **Vanderbilt University Medical Center**

Center Code: TNVU Transplant Program (Organ): Lung

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## **C. Transplant Information**

#### Table C4D. Deceased donor transplant characteristics Transplants performed between 01/01/2020 and 12/31/2020

	Percentage in each category		
Transplant Characteristic	Center (N=41)	Region (N=260)	U.S. (N=2,539)
Total Ischemic Time (Minutes): Local (%)			
Deceased: 0-90 min	0.0	0.0	0.3
Deceased: 91-180 min	33.3	6.4	8.7
Deceased: 181-270 min	22.2	19.1	40.0
Deceased: 271-360 min	22.2	23.4	32.0
Deceased: 361+ min	11.1	48.9	18.3
Not Reported	11.1	2.1	8.0
Total Ischemic Time (Minutes): Shared (%)			
Deceased: 0-90 min	3.1	0.5	0.5
Deceased: 91-180 min	0.0	0.0	1.3
Deceased: 181-270 min	12.5	5.6	13.9
Deceased: 271-360 min	31.2	21.6	37.5
Deceased: 361+ min	46.9	71.4	46.1
Not Reported	6.2	0.9	0.7
Procedure Type (%)			
Single organ	100.0	99.6	98.7
Multi organ	0.0	0.4	1.3
Donor Location (%)			
Local Donation Service Area (DSA)	22.0	18.1	28.5
Another Donation Service Area (DSA)	78.0	81.9	71.5
Median Time in Hospital After Transplant*	13.5 Days	20.0 Days	19.0 Days

<sup>\*</sup> Multi organ transplants are excluded from this statistic.

#### SCIENTIFIC Vanderbilt University Medical Center

Center Code: TNVU Transplant Program (Organ): Lung

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# C. Transplant Information

Table C5D. Adult (18+) 1-month survival with a functioning deceased donor graft Single organ transplants performed between 01/01/2018 and 03/12/2020

Deaths and retransplants are considered graft failures	TNVU	U.S.
Number of transplants evaluated	86	5,674
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	96.37%	97.38%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	97.76%	
Number of observed graft failures (including deaths) during the first month after transplant	3	146
Number of expected graft failures (including deaths) during the first month after transplant	1.90	
Estimated hazard ratio*	1.28	
95% credible interval for the hazard ratio**	[0.42, 2.63]	

<sup>\*</sup> The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'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 TNVU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

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

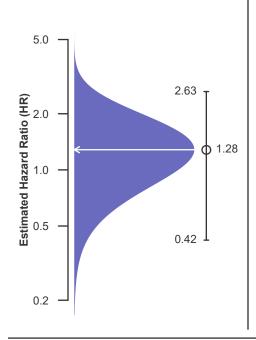
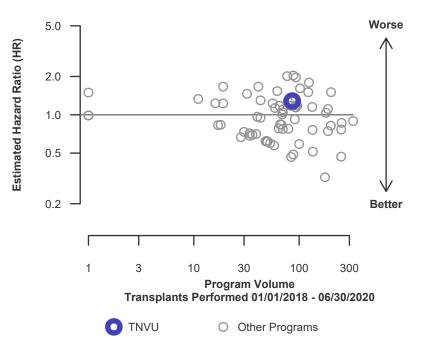


Figure C2D. Adult (18+) 1-month deceased donor graft failure HR program comparison



<sup>\*\*</sup> The 95% credible interval, [0.42, 2.63], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 28% higher risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 58% reduced risk up to 163% increased risk.

#### SCIENTIFIC Vanderbilt University Medical Center

Center Code: TNVU Transplant Program (Organ): Lung

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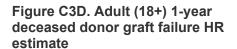
# C. Transplant Information

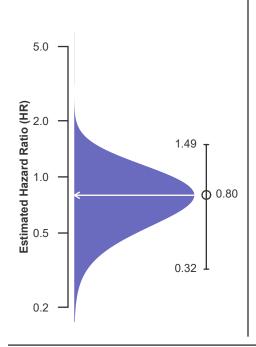
Table C6D. Adult (18+) 1-year survival with a functioning deceased donor graft Single organ transplants performed between 01/01/2018 and 03/12/2020

Deaths and retransplants are considered graft failures	TNVU	U.S.
Number of transplants evaluated	86	5,674
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	93.73%	89.07%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	90.44%	
Number of observed graft failures (including deaths) during the first year after transplant	5	506
Number of expected graft failures (including deaths) during the first year after transplant	6.78	
Estimated hazard ratio*	0.80	
95% credible interval for the hazard ratio**	[0.32, 1.49]	

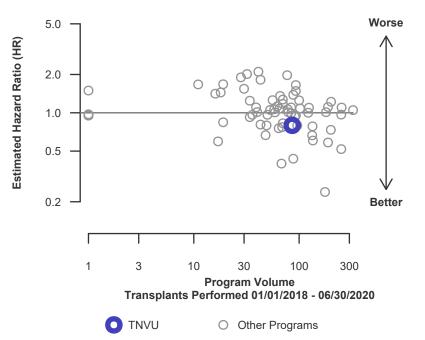
<sup>\*</sup> The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 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 TNVU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

<sup>\*\*</sup> The 95% credible interval, [0.32, 1.49], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 20% lower risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 68% reduced risk up to 49% increased risk.





#### Figure C4D. Adult (18+) 1-year deceased donor graft failure HR program comparison



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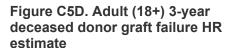
# C. Transplant Information

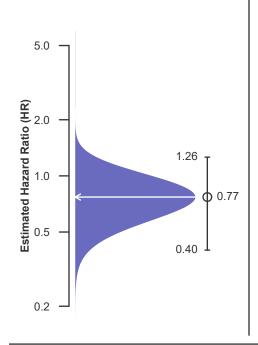
Table C7D. Adult (18+) 3-year survival with a functioning deceased donor graft Single organ transplants performed between 07/01/2015 and 12/31/2017

Deaths and retransplants are considered graft failures	TNVU	U.S.
Number of transplants evaluated	59	5,700
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	82.60%	73.63%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	75.99%	
Number of observed graft failures (including deaths) during the first 3 years after transplant	10	1,433
Number of expected graft failures (including deaths) during the first 3 years after transplant	13.58	
Estimated hazard ratio*	0.77	
95% credible interval for the hazard ratio**	[0.40, 1.26]	

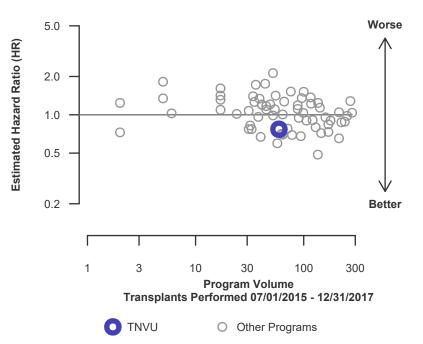
<sup>\*</sup> The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 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 TNVU's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

<sup>\*\*</sup> The 95% credible interval, [0.40, 1.26], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 23% lower risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 60% reduced risk up to 26% increased risk.





#### Figure C6D. Adult (18+) 3-year deceased donor graft failure HR program comparison





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# **C. Transplant Information**

Table C8D. Pediatric (<18) 1-month survival with a functioning deceased donor graft Single organ transplants performed between 01/01/2018 and 03/12/2020 Deaths and retransplants are considered graft failures

This center did not perform any transplants relevant to this table during 01/01/2018-03/12/2020

Figure C7D. Pediatric (<18)
1-month deceased donor graft failure HR estimate

Figure C8D. Pediatric (<18) 1-month deceased donor graft failure HR program comparison

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020



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## C. Transplant Information

Table C9D. Pediatric (<18) 1-year survival with a functioning deceased donor graft Single organ transplants performed between 01/01/2018 and 03/12/2020 Deaths and retransplants are considered graft failures

This center did not perform any transplants relevant to this table during 01/01/2018-03/12/2020

Figure C9D. Pediatric (<18) 1-year deceased donor graft failure HR estimate Figure C10D. Pediatric (<18) 1-year deceased donor graft failure HR program comparison

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020



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## C. Transplant Information

Table C10D. Pediatric (<18) 3-year survival with a functioning deceased donor graft Single organ transplants performed between 07/01/2015 and 12/31/2017 Deaths and retransplants are considered graft failures

This center did not perform any transplants relevant to this table during 07/01/2015-12/31/2017

Figure C11D. Pediatric (<18) 3-year deceased donor graft failure HR estimate

Figure C12D. Pediatric (<18) 3-year deceased donor graft failure HR program comparison

This center did not perform any transplants relevant to this figure during 07/01/2015-12/31/2017

This center did not perform any transplants relevant to this figure during 07/01/2015-12/31/2017

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# C. Transplant Information

Table C11D. Adult (18+) 1-month patient survival (deceased donor graft recipients) Single organ transplants performed between 01/01/2018 and 03/12/2020 Retransplants excluded

Retransplants excluded	TNVU	U.S.
Number of transplants evaluated	86	5,508
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	96.47%	97.71%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	98.05%	
Number of observed deaths during the first month after transplant	3	124
Number of expected deaths during the first month after transplant	1.67	
Estimated hazard ratio*	1.36	
95% credible interval for the hazard ratio**	[0.44, 2.79]	

<sup>\*</sup> The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'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 TNVU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

Figure C13D. Adult (18+) 1-month patient death HR estimate (deceased donor grafts)

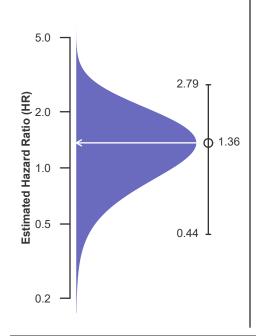
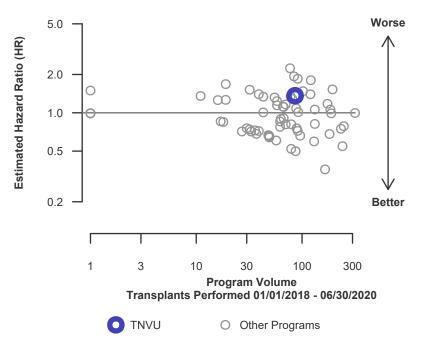


Figure C14D. Adult (18+) 1-month patient death HR program comparison (deceased donor grafts)



<sup>\*\*</sup> The 95% credible interval, [0.44, 2.79], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 36% higher risk of patient death compared to an average program, but TNVU's performance could plausibly range from 56% reduced risk up to 179% increased risk.

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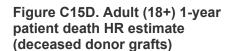
# C. Transplant Information

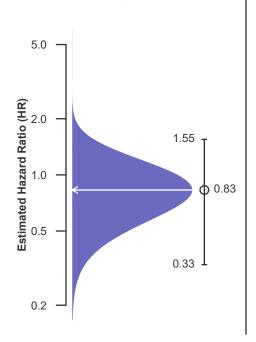
Table C12D. Adult (18+) 1-year patient survival (deceased donor graft recipients) Single organ transplants performed between 01/01/2018 and 03/12/2020 Retransplants excluded

Retransplants excluded	TNVU	U.S.
Number of transplants evaluated	86	5,508
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	93.83%	89.68%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	91.05%	
Number of observed deaths during the first year after transplant	5	463
Number of expected deaths during the first year after transplant	6.44	
Estimated hazard ratio*	0.83	
95% credible interval for the hazard ratio**	[0.33, 1.55]	

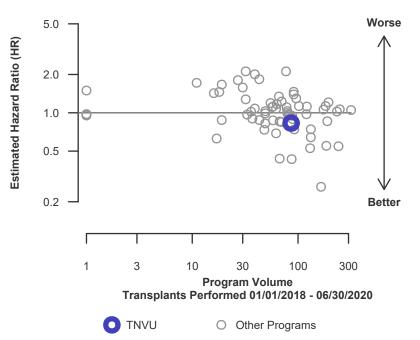
<sup>\*</sup> The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 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 TNVU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

<sup>\*\*</sup> The 95% credible interval, [0.33, 1.55], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 17% lower risk of patient death compared to an average program, but TNVU's performance could plausibly range from 67% reduced risk up to 55% increased risk.





# Figure C16D. Adult (18+) 1-year patient death HR program comparison (deceased donor grafts)



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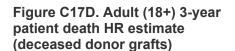
## C. Transplant Information

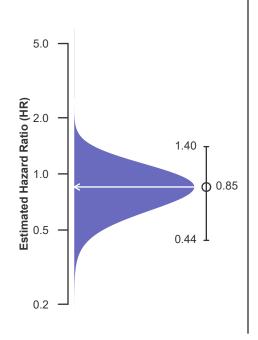
Table C13D. Adult (18+) 3-year patient survival (deceased donor graft recipients) Single organ transplants performed between 07/01/2015 and 12/31/2017 Retransplants excluded

Retransplants excluded	TNVU	U.S.
Number of transplants evaluated	59	5,524
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	82.90%	75.21%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	78.79%	
Number of observed deaths during the first 3 years after transplant	10	1,321
Number of expected deaths during the first 3 years after transplant	12.11	
Estimated hazard ratio*	0.85	
95% credible interval for the hazard ratio**	[0.44, 1.40]	

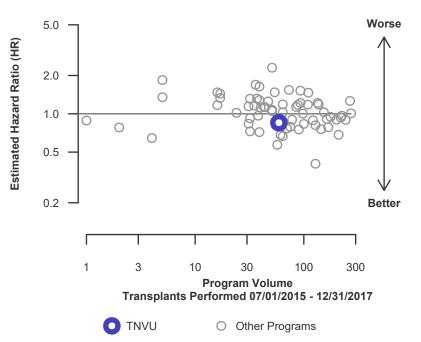
<sup>\*</sup> The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 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 TNVU's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.

<sup>\*\*</sup> The 95% credible interval, [0.44, 1.40], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 15% lower risk of patient death compared to an average program, but TNVU's performance could plausibly range from 56% reduced risk up to 40% increased risk.





# Figure C18D. Adult (18+) 3-year patient death HR program comparison (deceased donor grafts)





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# **C. Transplant Information**

Table C14D. Pediatric (<18) 1-month patient survival (deceased donor graft recipients) Single organ transplants performed between 01/01/2018 and 03/12/2020 Retransplants excluded

This center did not perform any transplants relevant to this table during 01/01/2018-03/12/2020

Figure C19D. Pediatric (<18)
1-month patient death HR
estimate (deceased donor grafts)

Figure C20D. Pediatric (<18) 1-month patient death HR program comparison (deceased donor grafts)

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020



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## C. Transplant Information

Table C15D. Pediatric (<18) 1-year patient survival (deceased donor graft recipients) Single organ transplants performed between 01/01/2018 and 03/12/2020 Retransplants excluded

This center did not perform any transplants relevant to this table during 01/01/2018-03/12/2020

Figure C21D. Pediatric (<18)
1-year patient death HR estimate (deceased donor grafts)

Figure C22D. Pediatric (<18) 1-year patient death HR program comparison (deceased donor grafts)

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020

This center did not perform any transplants relevant to this figure during 01/01/2018-06/30/2020



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# C. Transplant Information

Table C16D. Pediatric (<18) 3-year patient survival (deceased donor graft recipients) Single organ transplants performed between 07/01/2015 and 12/31/2017 Retransplants excluded

This center did not perform any transplants relevant to this table during 07/01/2015-12/31/2017

Figure C23D. Pediatric (<18)
3-year patient death HR estimate (deceased donor grafts)

Figure C24D. Pediatric (<18) 3-year patient death HR program comparison (deceased donor grafts)

This center did not perform any transplants relevant to this figure during 07/01/2015-12/31/2017

This center did not perform any transplants relevant to this figure during 07/01/2015-12/31/2017



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# **C. Transplant Information**

Table C17. Multi-organ transplant graft survival: 01/01/2018 - 06/30/2020 Adult (18+) Transplants

No adult (18+) multi-organ transplants were performed

Pediatric (<18) Transplants

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

Table C18. Multi-organ transplant patient survival: 01/01/2018 - 06/30/2020 Adult (18+) Transplants

No adult (18+) multi-organ transplants were performed

Pediatric (<18) Transplants

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