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## User Guide

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Due to the pandemic's effect on the transplant system, adjustments have been made for this data reporting cycle and potentially future reporting cycles as well. For transplant programs, this means that SRTR will not include patient follow-up starting from March 12, 2020, the day prior to the emergency declaration, i.e., waitlist survival, transplant rate, and outcomes will not be assessed after that date.

This report contains a wide range of useful information about the heart 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



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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 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 206.8 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 death rate (also known as the 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 waiting list 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 07/01/2014 and 12/31/2019. 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 06/30/2020 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



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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.

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](mailto:srtr@srtr.org).



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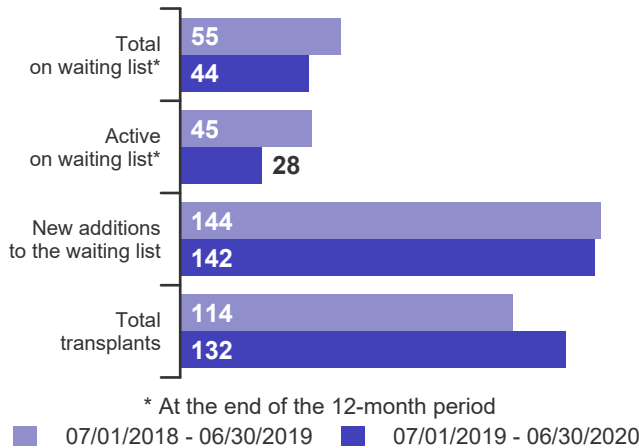
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## A. Program Summary

**Figure A1. Waiting list and transplant activity**

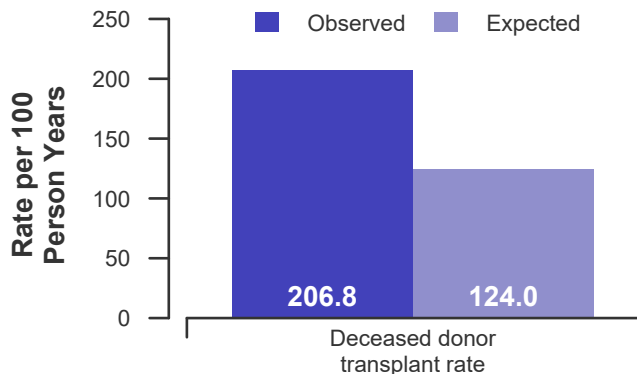


**Table A1. Census of transplant recipients**

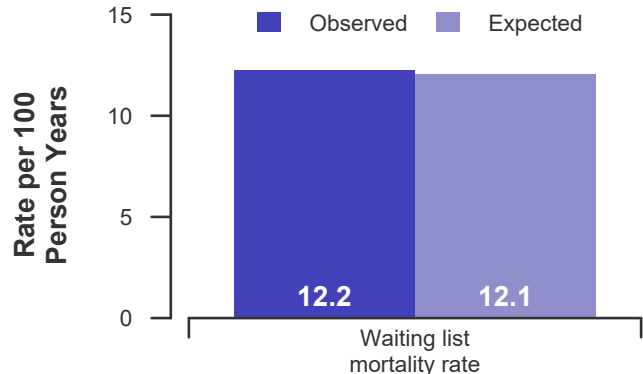
Recipients	07/01/2018-06/30/2019	07/01/2019-06/30/2020
Transplanted at this center	114	132
Followed by this center*	597	588
...transplanted at this program	551	545
...transplanted elsewhere	46	43

\* 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.

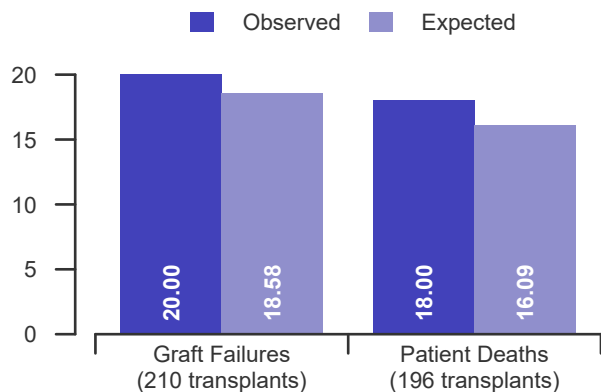
**Figure A2. Transplant rates  
07/01/2018 - 03/12/2020**



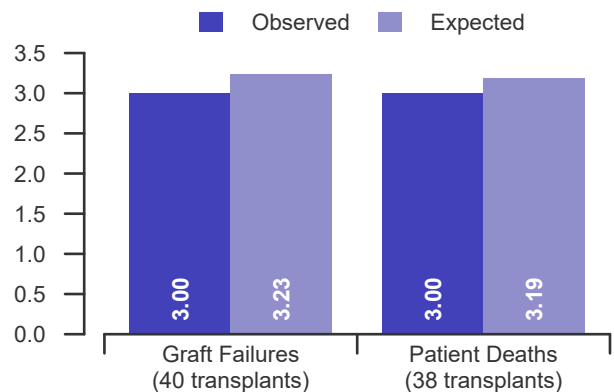
**Figure A3. Waiting list mortality rates  
07/01/2018 - 03/12/2020**



**Figure A4. First-year adult graft and patient survival: 07/01/2017 - 12/31/2019**



**Figure A5. First-year pediatric graft and patient survival: 07/01/2017 - 12/31/2019**





## B. Waiting List Information

**Table B1. Waiting list activity summary: 07/01/2018 - 06/30/2020**

Waiting List Registrations	Counts for this center		Activity for 07/01/2019 to 06/30/2020 as percent of registrants on waiting list on 07/01/2019		
	07/01/2018-06/30/2019	07/01/2019-06/30/2020	This Center (%)	OPTN Region (%)	U.S. (%)
<b>On waiting list at start</b>	46	55	100.0	100.0	100.0
<b>Additions</b>					
New listings at this center	144	142	258.2	146.9	115.7
<b>Removals</b>					
Transferred to another center	0	1	1.8	7.1	2.5
Received living donor transplant*	0	0	0.0	0.0	0.0
Received deceased donor transplant*	114	132	240.0	120.0	92.5
Died	1	6	10.9	6.2	6.6
Transplanted at another center	1	0	0.0	1.1	1.0
Deteriorated	10	8	14.5	8.4	7.4
Recovered	3	3	5.5	3.4	4.6
Other reasons	6	3	5.5	9.8	8.6
<b>On waiting list at end of period</b>	55	44	80.0	90.9	92.6

\* 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 07/01/2019 and 06/30/2020

Demographic Characteristic	New Waiting List Registrations 07/01/2019 to 06/30/2020 (%)			All Waiting List Registrations on 06/30/2020 (%)		
	This Center (N=142)	OPTN Region (N=645)	U.S. (N=4,403)	This Center (N=44)	OPTN Region (N=399)	U.S. (N=3,521)
<b>All (%)</b>	100.0	100.0	100.0	100.0	100.0	100.0
<b>Ethnicity/Race (%)*</b>						
White	65.5	57.1	57.6	52.3	50.9	57.3
African-American	31.7	39.4	26.4	40.9	46.1	28.6
Hispanic/Latino	1.4	2.0	10.9	4.5	2.0	10.3
Asian	1.4	1.2	4.1	2.3	1.0	2.6
Other	0.0	0.3	1.1	0.0	0.0	1.2
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Age (%)</b>						
<2 years	12.7	5.6	6.4	6.8	3.8	4.6
2-11 years	3.5	4.2	4.3	11.4	5.8	4.2
12-17 years	2.1	3.6	4.2	0.0	3.5	3.6
18-34 years	8.5	10.5	9.4	11.4	8.3	10.7
35-49 years	19.0	22.0	18.8	25.0	26.1	22.4
50-64 years	35.9	40.5	40.9	34.1	44.9	44.1
65-69 years	14.8	12.7	13.5	9.1	7.5	9.3
70+ years	3.5	0.9	2.5	2.3	0.3	1.1
<b>Gender (%)</b>						
Male	66.2	69.6	70.9	75.0	77.2	75.1
Female	33.8	30.4	29.1	25.0	22.8	24.9

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



## B. Waiting List Information

**Table B3. Medical characteristics of waiting list candidates**  
Candidates registered on the waiting list between 07/01/2019 and 06/30/2020

Medical Characteristic	New Waiting List Registrations 07/01/2019 to 06/30/2020 (%)			All Waiting List Registrations on 06/30/2020 (%)		
	This Center (N=142)	OPTN Region (N=645)	U.S. (N=4,403)	This Center (N=44)	OPTN Region (N=399)	U.S. (N=3,521)
<b>All (%)</b>	100.0	100.0	100.0	100.0	100.0	100.0
<b>Blood Type (%)</b>						
O	52.8	45.6	43.3	72.7	64.4	59.9
A	28.9	33.6	37.1	13.6	22.3	28.3
B	15.5	16.0	14.6	13.6	11.3	10.1
AB	2.8	4.8	5.0	0.0	2.0	1.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Previous Transplant (%)</b>						
Yes	4.2	3.3	3.3	15.9	3.5	3.4
No	95.8	96.7	96.7	84.1	96.5	96.6
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Primary Disease (%)</b>						
Cardiomyopathy	47.9	60.6	59.5	50.0	59.4	57.8
Coronary Artery Disease	27.5	24.8	23.4	25.0	26.3	25.4
Retransplant/Graft Failure	4.2	2.6	2.8	9.1	2.0	2.7
Valvular Heart Disease	0.7	0.2	1.0	0.0	0.0	0.9
Congenital Heart Disease	19.7	10.9	11.3	15.9	10.8	11.3
Other	0.0	0.9	2.0	0.0	1.5	1.9
Missing	0.0	0.0	0.0	0.0	0.0	0.0
<b>Medical Urgency Status at Listing (%)</b>						
Status 1A	14.1	9.0	8.6	4.5	5.5	7.4
Status 1B	4.2	2.9	3.5	15.9	21.8	17.0
Status 2	0.0	0.9	2.4	18.2	11.8	19.9
Adult Status 1	3.5	3.7	4.0	0.0	0.8	0.3
Adult Status 2	17.6	18.0	19.2	2.3	3.3	2.8
Adult Status 3	9.9	9.8	10.4	2.3	3.8	4.2
Adult Status 4	35.2	36.1	31.0	34.1	32.6	27.3
Adult Status 5	4.9	1.9	2.7	11.4	2.8	2.0
Adult Status 6	9.9	16.7	16.1	11.4	15.8	15.8
Temporarily Inactive	0.7	0.9	2.0	0.0	2.0	3.2





## B. Waiting List Information

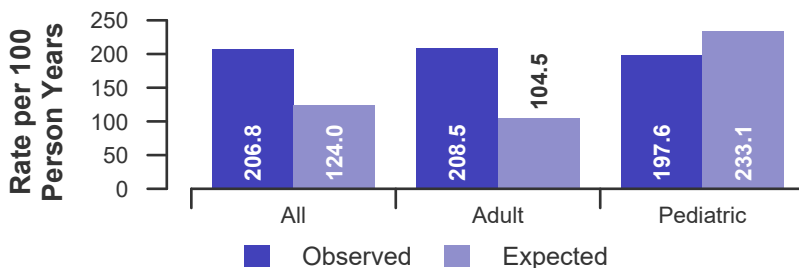
**Table B4D. Deceased donor transplant rates: 07/01/2018 - 03/12/2020**

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
<b>All Candidates</b>				
Count on waiting list at start*	46	55	415	4,006
Person Years**	97.2	106.8	739.6	6,510.7
Removals for Transplant	201	238	828	6,017
<b>Adult (18+) Candidates</b>				
Count on waiting list at start*	42	51	369	3,584
Person Years**	82.5	92.1	655.8	5,820.7
Removals for transplant	172	209	709	5,163
<b>Pediatric (&lt;18) Candidates</b>				
Count on waiting list at start*	4	4	46	422
Person Years**	14.7	14.7	83.7	690.0
Removals for transplant	29	29	119	854

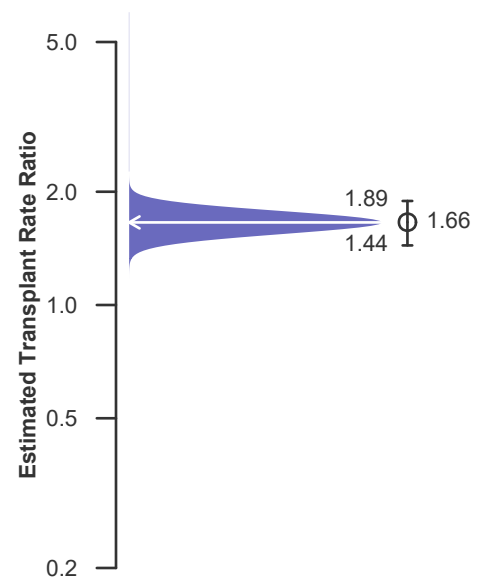
\* Counts in this table may be lower than similar counts in other waiting list tables, such as Table B1. A small percentage (~1%) of patients are found to have died or been transplanted before being removed from the waiting list, so these patients are excluded if the event occurs prior to the start of 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 July 1 or from the date of first wait listing until death, transplant, removal from the waiting list or March 12, 2020.

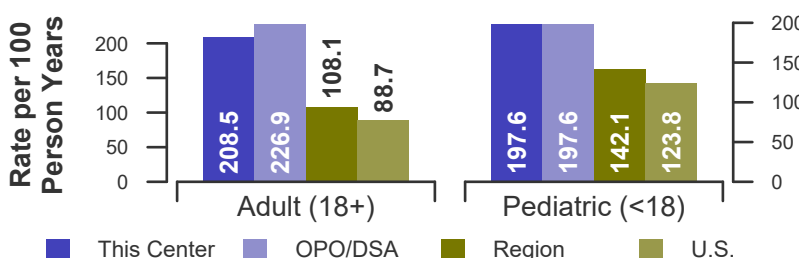
**Figure B1D. Observed and expected deceased donor transplant rates: 07/01/2018 - 03/12/2020**



**Figure B2D. Deceased donor transplant rate ratio estimate**



**Figure B3D. Observed adult (18+) and pediatric (<18) deceased donor transplant rates: 07/01/2018 - 03/12/2020**





## B. Waiting List Information

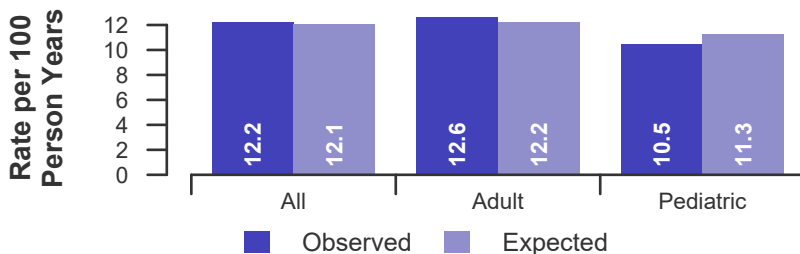
**Table B5. Waiting list mortality rates: 07/01/2018 - 03/12/2020**

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
<b>All Candidates</b>				
Count on waiting list at start*	46	55	415	4,006
Person Years**	114.5	127.8	822.5	7,365.6
Number of deaths	14	15	91	676
<b>Adult (18+) Candidates</b>				
Count on waiting list at start*	42	51	369	3,584
Person Years**	95.4	108.7	730.6	6,604.0
Number of deaths	12	13	77	565
<b>Pediatric (&lt;18) Candidates</b>				
Count on waiting list at start*	4	4	46	422
Person Years**	19.1	19.1	91.9	761.7
Number of deaths	2	2	14	111

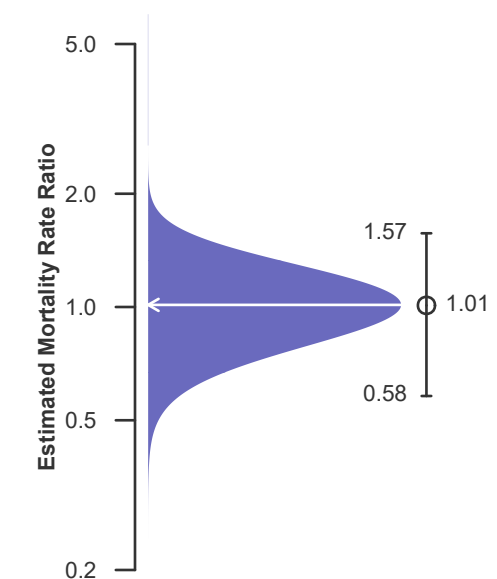
\* Counts in this table may be lower than similar counts in other waiting list tables, such as Table B1. A small percentage (~1%) of patients are found to have died or been transplanted before being removed from the waiting list, so these patients are excluded if the event occurs prior to the start of 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 July 1 or from the date of first wait listing until death, transplant, 60 days after recovery, transfer or March 12, 2020.

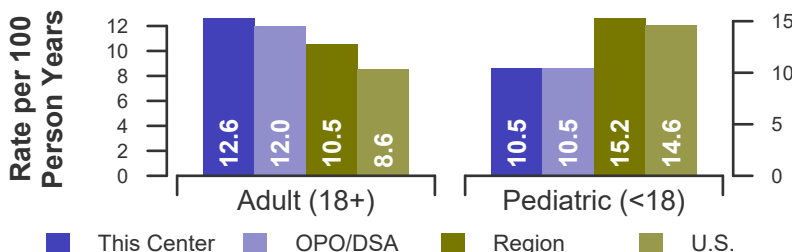
**Figure B4. Observed and expected waiting list mortality rates: 07/01/2018 - 03/12/2020**



**Figure B5. Waiting list mortality rate ratio estimate**



**Figure B6. Observed adult (18+) and pediatric (<18) waiting list mortality rates: 07/01/2018 - 03/12/2020**





## B. Waiting List Information

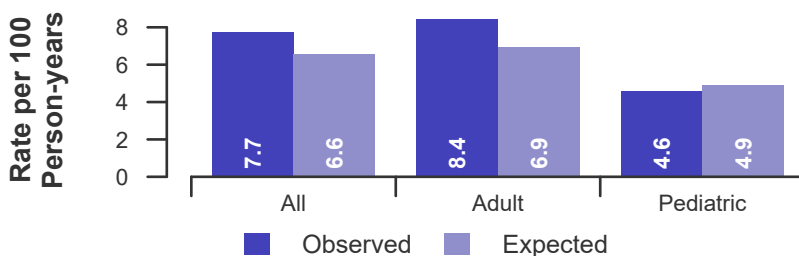
**Table B6. Rates of patient mortality after listing: 07/01/2018 - 03/12/2020**

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
<b>All Patients</b>				
Count at risk during the evaluation period	636	743	3,091	25,361
Person-years*	725.4	865.7	3,670.8	30,874.9
Number of Deaths	56	61	261	1,810
<b>Adult (18+) Patients</b>				
Count at risk during the evaluation period	522	629	2,651	21,649
Person-years*	594.8	735.1	3,137.5	26,386.5
Number of Deaths	50	55	232	1,580
<b>Pediatric (&lt;18) Patients</b>				
Count at risk during the evaluation period	114	114	440	3,712
Person-years*	130.7	130.7	533.3	4,488.4
Number of Deaths	6	6	29	230

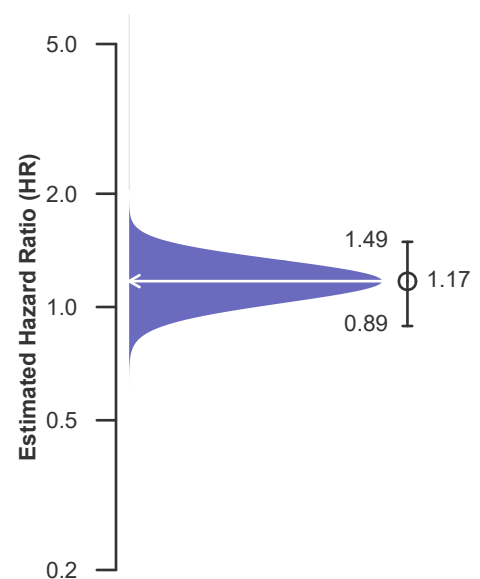
\* Person-years are calculated as days (converted to fractional years). The number of days from 07/01/2018, or from the date of first wait listing until death, reaching 5 years after listing or March 12, 2020.

\*\* 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.

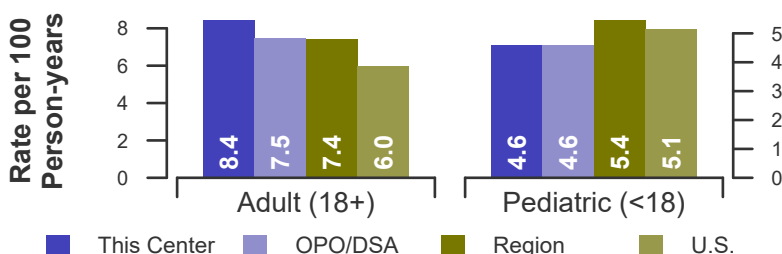
**Figure B7. Observed and expected rates of patient mortality after listing: 07/01/2018 - 03/12/2020**



**Figure B8. HR estimate of patient mortality after listing**



**Figure B9. Observed adult (18+) and pediatric (<18) rates of patient mortality after listing: 07/01/2018 - 03/12/2020**





## B. Waiting List Information

**Table B7. Waiting list candidate status after listing**  
Candidates registered on waiting list between 01/01/2018 and 12/31/2018

Waiting list status (survival status)	This Center (N=135)			U.S. (N=4,712)		
	Months Since Listing			Months Since Listing		
	6	12	18	6	12	18
<b>Alive on waiting list (%)</b>	25.9	15.6	8.1	40.3	26.5	19.2
<b>Died on the waiting list without transplant (%)</b>	2.2	2.2	2.2	3.8	4.5	4.9
<b>Removed without transplant (%):</b>						
Condition worsened (status unknown)	4.4	5.2	5.9	3.2	4.1	4.8
Condition improved (status unknown)	1.5	1.5	1.5	0.9	2.0	2.6
Refused transplant (status unknown)	1.5	1.5	1.5	0.1	0.3	0.3
Other	0.0	1.5	2.2	1.5	2.9	4.0
<b>Transplant (living or deceased donor) (%):</b>						
Functioning (alive)	58.5	59.3	31.9	46.1	51.0	31.7
Failed-Retransplanted (alive)	0.7	0.7	0.7	0.1	0.2	0.2
Failed-alive not retransplanted	0.0	0.0	0.0	0.0	0.0	0.0
Died	5.2	6.7	9.6	2.7	4.0	5.2
Status Yet Unknown*	0.0	5.9	35.6	0.4	3.4	25.9
<b>Lost or Transferred (status unknown) (%)</b>	0.0	0.0	0.7	0.6	1.1	1.3
<b>TOTAL (%)</b>	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waiting list or after transplant	7.4	8.9	11.9	6.6	8.5	10.1
Total % known died or removed as unstable	11.9	14.1	17.8	9.7	12.6	14.8
Total % removed for transplant	64.4	72.6	77.8	49.5	58.6	63.0
Total % with known functioning transplant (alive)	58.5	59.3	31.9	46.1	51.0	31.7

\* 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 07/01/2014 and 06/30/2017

Characteristic	N	Percent transplanted at time periods since listing								
		This Center				United States				
		30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
<b>All</b>	280	15.0	55.0	66.4	69.3	13,465	16.1	54.0	62.5	65.2
<b>Ethnicity/Race*</b>										
White	197	14.7	56.9	66.5	70.1	8,260	16.2	53.7	62.4	65.2
African-American	73	16.4	49.3	63.0	64.4	3,128	14.4	50.7	59.9	62.4
Hispanic/Latino	7	0.0	57.1	85.7	85.7	1,410	16.4	58.9	66.3	68.9
Asian	3	33.3	66.7	100.0	100.0	530	23.0	62.1	69.6	72.1
Other	0	--	--	--	--	137	19.0	60.6	65.0	65.0
Unknown	0	--	--	--	--	0	--	--	--	--
<b>Age</b>										
<2 years	29	13.8	72.4	72.4	72.4	812	19.0	60.7	61.9	62.2
2-11 years	12	8.3	50.0	58.3	58.3	602	14.1	62.6	69.9	72.4
12-17 years	16	12.5	87.5	87.5	93.8	533	25.0	72.8	80.3	81.6
18-34 years	21	23.8	57.1	76.2	76.2	1,257	16.2	50.2	58.3	61.8
35-49 years	53	15.1	47.2	71.7	73.6	2,527	12.2	47.8	58.9	62.1
50-64 years	122	12.3	46.7	58.2	63.1	5,717	15.5	53.1	62.5	65.6
65-69 years	24	20.8	66.7	66.7	66.7	1,717	17.5	54.5	62.5	64.5
70+ years	3	66.7	100.0	100.0	100.0	300	31.3	64.7	66.0	66.7
<b>Gender</b>										
Male	203	10.8	49.3	63.1	66.5	9,601	14.8	52.7	62.1	65.0
Female	77	26.0	70.1	75.3	76.6	3,864	19.4	57.0	63.6	65.9

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



## B. Waiting List Information

**Table B9. Percent of candidates with deceased donor transplants: medical characteristics**  
Candidates registered on the waiting list between 07/01/2014 and 06/30/2017

Characteristic	N	Percent transplanted at time periods since listing								
		This Center				United States				
		30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
<b>All</b>	280	15.0	55.0	66.4	69.3	13,465	16.1	54.0	62.5	65.2
<b>Blood Type</b>										
O	135	9.6	48.1	60.7	64.4	5,951	10.1	44.9	54.9	58.2
A	100	16.0	57.0	70.0	73.0	4,947	19.5	60.0	67.5	69.9
B	31	29.0	71.0	77.4	77.4	1,918	19.7	60.2	68.2	70.4
AB	14	28.6	71.4	71.4	71.4	648	34.3	73.0	77.8	78.9
<b>Previous Transplant</b>										
Yes	9	11.1	33.3	44.4	55.6	572	11.9	43.5	49.0	51.9
No	271	15.1	55.7	67.2	69.7	12,893	16.3	54.4	63.1	65.8
<b>Primary Disease</b>										
Cardiomyopathy	156	16.0	56.4	71.8	73.1	7,633	16.9	55.9	65.2	67.9
Coronary Artery Disease	75	16.0	42.7	49.3	56.0	3,670	15.2	51.5	60.1	63.3
Retransplant/Graft Failure	7	14.3	42.9	42.9	57.1	486	11.1	43.2	48.8	51.9
Valvular Heart Disease	1	0.0	100.0	100.0	100.0	138	18.1	59.4	64.5	66.7
Congenital Heart Disease	40	7.5	72.5	80.0	80.0	1,344	14.8	53.9	60.1	61.8
Other	1	100.0	100.0	100.0	100.0	194	20.6	46.4	53.1	54.1
Missing	0	--	--	--	--	0	--	--	--	--
<b>Medical Urgency Status at Listing</b>										
Old Status 1	0	--	--	--	--	0	--	--	--	--
Status 1A	77	28.6	64.9	64.9	64.9	4,226	30.7	68.6	72.1	73.1
Status 1B	112	14.3	53.6	70.5	73.2	5,351	12.9	55.1	65.4	68.3
Status 2	79	3.8	49.4	60.8	65.8	3,437	4.3	36.0	48.1	52.5
Unknown	12	8.3	41.7	75.0	83.3	451	6.7	39.7	48.6	51.9



## B. Waiting List Information

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

Candidates registered on the waiting list between 07/01/2014 and 12/31/2019

Percentile	Center	Months to Transplant**		U.S.
		OPO/DSA	Region	
5th	0.1	0.1	0.2	0.2
10th	0.2	0.2	0.4	0.4
25th	0.7	0.7	1.2	1.4
50th (median time to transplant)	5.0	4.2	6.1	6.9
75th	22.9	20.8	Not Observed	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 06/30/2020. 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: 07/01/2019 - 03/12/2020**

Offers Acceptance Characteristics	This Center	OPO/DSA	Region	U.S.
<b>Overall</b>				
Number of Offers	572	630	4,554	35,218
Number of Acceptances	72	84	329	2,275
Expected Acceptances	39.2	42.3	270.8	2,272.6
Offer Acceptance Ratio*	1.80	1.94	1.21	1.00
95% Credible Interval**	[1.41, 2.23]	--	--	--
<b>PHS increased infectious risk</b>				
Number of Offers	205	226	1,664	12,275
Number of Acceptances	31	34	123	732
Expected Acceptances	10.0	11.3	92.9	730.1
Offer Acceptance Ratio*	2.74	2.70	1.32	1.00
95% Credible Interval**	[1.89, 3.75]	--	--	--
<b>Ejection fraction &lt; 60</b>				
Number of Offers	193	213	1,742	12,822
Number of Acceptances	26	30	108	643
Expected Acceptances	9.1	10.1	80.0	652.4
Offer Acceptance Ratio*	2.53	2.64	1.34	0.99
95% Credible Interval**	[1.68, 3.55]	--	--	--
<b>Donor Age &gt;= 40</b>				
Number of Offers	212	237	1,730	13,975
Number of Acceptances	15	18	66	484
Expected Acceptances	5.8	6.3	50.2	492.7
Offer Acceptance Ratio*	2.19	2.40	1.30	0.98
95% Credible Interval**	[1.28, 3.35]	--	--	--
<b>Hard-to-Place Hearts (Over 50 Offers)</b>				
Number of Offers	159	173	1,399	10,412
Number of Acceptances	10	11	30	147
Expected Acceptances	1.3	1.3	16.6	151.1
Offer Acceptance Ratio*	3.66	3.90	1.72	0.97
95% Credible Interval**	[1.89, 6.00]	--	--	--
<b>Donor more than 500 miles away</b>				
Number of Offers	185	203	1,283	11,573
Number of Acceptances	22	25	81	468
Expected Acceptances	8.0	8.6	55.9	485.7
Offer Acceptance Ratio*	2.39	2.56	1.43	0.96
95% Credible Interval**	[1.53, 3.44]	--	--	--

\* 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).

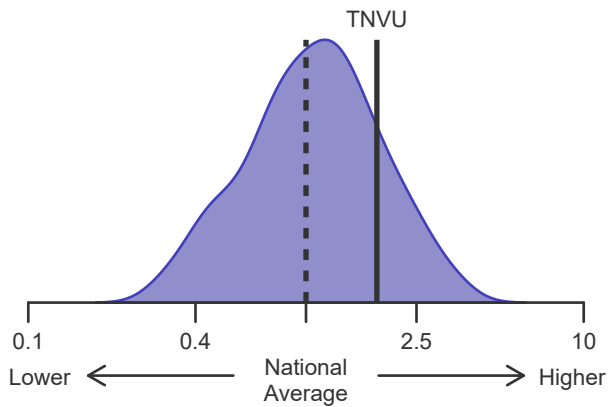
\*\* As an example, the 95% Credible Interval for the overall offer acceptance ratio, [1.41, 2.23], indicates the location of TNVU's true offer acceptance ratio with 95% probability. The best estimate is 80% more likely to accept an offer compared to national acceptance behavior, but TNVU's performance could plausibly range from 41% higher acceptance up to 123% higher acceptance.



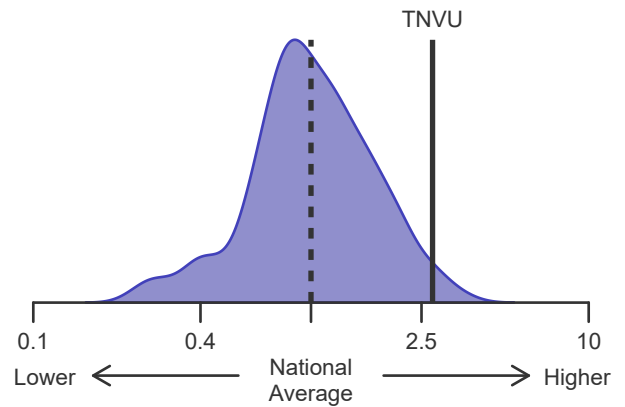


## B. Waiting List Information

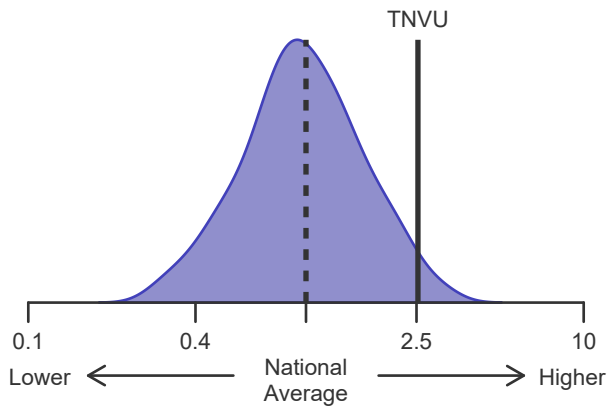
**Figure B10. Offer acceptance: Overall**



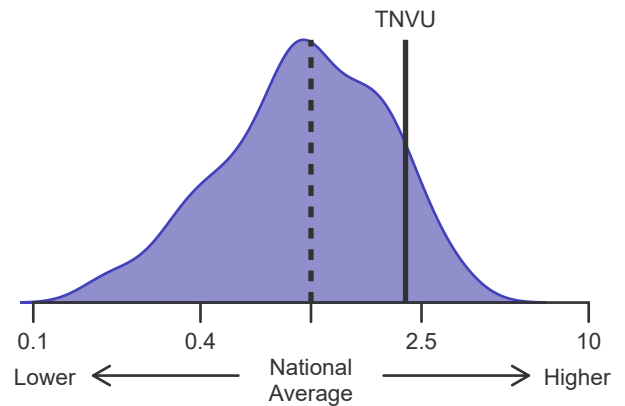
**Figure B11. Offer acceptance: PHS increased infectious risk**



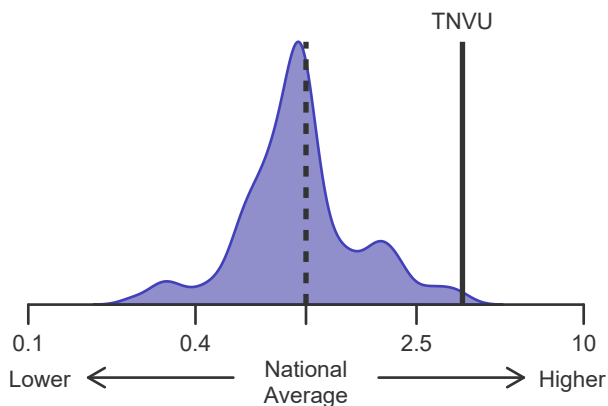
**Figure B12. Offer acceptance: Ejection fraction < 60**



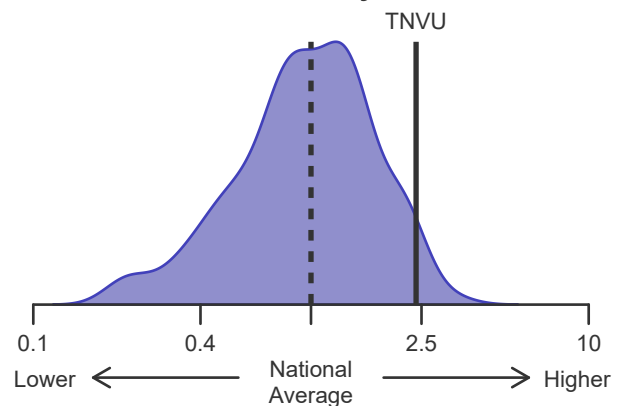
**Figure B13. Offer acceptance: Donor age >= 40**



**Figure B14. Offer acceptance: Offer number > 50**



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





## C. Transplant Information

**Table C1D. Deceased donor transplant recipient demographic characteristics**  
Patients transplanted between 07/01/2019 and 06/30/2020

Characteristic	Percentage in each category		
	Center (N=132)	Region (N=527)	U.S. (N=3,519)
<b>Ethnicity/Race (%)*</b>			
White	68.2	60.7	60.1
African-American	30.3	35.7	24.3
Hispanic/Latino	1.5	2.5	10.9
Asian	0.0	0.8	3.9
Other	0.0	0.4	0.9
Unknown	0.0	0.0	0.0
<b>Age (%)</b>			
<2 years	8.3	4.4	4.5
2-11 years	5.3	4.9	4.6
12-17	2.3	3.8	4.2
18-34	8.3	11.8	9.7
35-49 years	17.4	20.9	18.5
50-64 years	40.9	39.8	41.2
65-69 years	14.4	13.3	14.2
70+ years	3.0	1.1	3.2
<b>Gender (%)</b>			
Male	63.6	67.6	70.8
Female	36.4	32.4	29.2

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



## C. Transplant Information

**Table C2D. Deceased donor transplant recipient medical characteristics**  
 Patients transplanted between 07/01/2019 and 06/30/2020

Characteristic	Percentage in each category		
	Center (N=132)	Region (N=527)	U.S. (N=3,519)
<b>Blood Type (%)</b>			
O	50.0	42.9	39.9
A	31.8	35.7	39.2
B	14.4	17.3	15.8
AB	3.8	4.2	5.1
<b>Previous Transplant (%)</b>			
Yes	4.5	3.4	3.3
No	95.5	96.6	96.7
<b>Body Mass Index (%)</b>			
0-20	16.7	15.6	17.1
21-25	19.7	20.1	27.3
26-30	33.3	33.8	30.4
31-35	20.5	22.8	19.1
36-40	8.3	7.2	5.0
41+	1.5	0.6	0.5
Unknown	0.0	0.0	0.7
<b>Primary Disease (%)</b>			
Cardiomyopathy	50.8	61.7	62.5
Coronary Artery Disease	31.8	26.6	24.8
Retransplant/Graft Failure	0.0	0.0	0.0
Valvular Heart Disease	0.0	0.0	1.1
Congenital Heart Disease	17.4	10.8	10.3
Other	0.0	0.9	1.2
Missing	0.0	0.0	0.2
<b>Medical Urgency Status at Transplant (%)</b>			
Status 1A	12.9	10.2	10.4
Status 1B	3.0	2.7	2.4
Status 2	0.0	0.2	0.7
Adult Status 1	4.5	5.7	7.4
Adult Status 2	25.8	41.2	40.4
Adult Status 3	20.5	15.6	15.7
Adult Status 4	25.0	19.9	18.5
Adult Status 5	1.5	0.6	1.0
Adult Status 6	6.8	4.0	3.6
<b>Recipient Medical Condition at Transplant (%)</b>			
Not Hospitalized	50.0	36.8	33.0
Hospitalized	13.6	14.4	14.8
ICU	36.4	48.8	52.0
Unknown	0.0	0.0	0.2
<b>Recipient Mechanical, Ventilated or Organ-Perfusion Support Status at Transplant (%)</b>			
No Support Mechanism	23.5	17.8	19.7
Devices*	61.4	63.6	63.6
Other Support Mechanism	15.2	18.6	16.6
Unknown	0.0	0.0	0.1

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



## C. Transplant Information

**Table C3D. Deceased donor characteristics**  
Transplants performed between 07/01/2019 and 06/30/2020

Donor Characteristic	Percentage in each category		
	Center (N=132)	Region (N=527)	U.S. (N=3,519)
<b>Cause of Death (%)</b>			
Deceased: Stroke	13.6	12.5	13.6
Deceased: MVA	11.4	15.7	18.4
Deceased: Other	75.0	71.7	68.0
<b>Ethnicity/Race (%)*</b>			
White	71.2	67.9	61.7
African-American	17.4	21.6	16.5
Hispanic/Latino	10.6	9.7	18.5
Asian	0.0	0.2	2.0
Other	0.8	0.6	1.2
Not Reported	0.0	0.0	0.0
<b>Age (%)</b>			
<2 years	9.1	4.4	3.4
2-11 years	3.8	3.4	4.7
12-17	6.8	6.3	6.7
18-34	51.5	53.5	51.6
35-49 years	25.0	26.9	27.8
50-64 years	3.8	5.3	5.7
65-69 years	0.0	0.2	0.0
70+ years	0.0	0.0	0.0
<b>Gender (%)</b>			
Male	65.9	74.2	71.6
Female	34.1	25.8	28.4
<b>Blood Type (%)</b>			
O	55.3	53.1	51.9
A	31.1	33.2	35.1
B	12.1	12.1	11.3
AB	1.5	1.5	1.7
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 07/01/2019 and 06/30/2020

Transplant Characteristic	Percentage in each category		
	Center (N=132)	Region (N=527)	U.S. (N=3,519)
<b>Total Ischemic Time (Minutes): Local (%)</b>			
Deceased: 0-90 min	22.2	19.5	9.5
Deceased: 91-180 min	48.1	51.7	63.2
Deceased: 181-270 min	22.2	24.1	23.9
Deceased: 271-360 min	0.0	0.0	2.0
Deceased: 361+ min	3.7	2.3	0.7
Not Reported	3.7	2.3	0.8
<b>Total Ischemic Time (Minutes): Shared (%)</b>			
Deceased: 0-90 min	1.0	0.2	0.3
Deceased: 91-180 min	11.4	16.6	16.6
Deceased: 181-270 min	70.5	65.2	67.8
Deceased: 271-360 min	10.5	10.7	12.1
Deceased: 361+ min	4.8	6.4	2.6
Not Reported	1.9	0.9	0.7
<b>Procedure Type (%)</b>			
Heart alone	84.8	91.7	91.8
Heart and another organ	15.2	8.3	8.2
<b>Sharing (%)</b>			
Local	20.5	16.5	26.2
Shared	79.5	83.5	73.8
<b>Median Time in Hospital After Transplant*</b>	16.0 Days	16.0 Days	17.0 Days

\* Multiple organ transplants are excluded from this statistic.



## C. Transplant Information

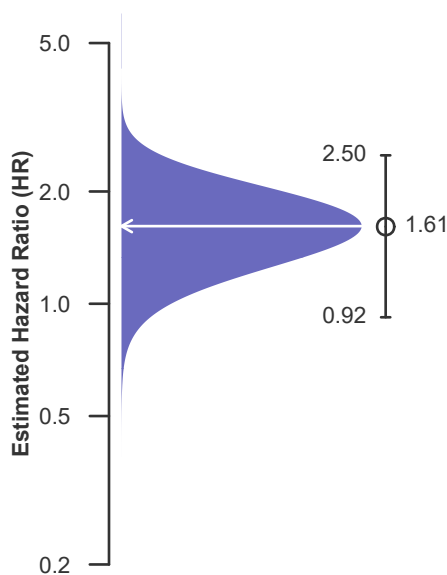
**Table C5D. Adult (18+) 1-month survival with a functioning deceased donor graft**  
**Single organ transplants performed between 07/01/2017 and 12/31/2019**  
**Deaths and retransplants are considered graft failures**

	TNVU	U.S.
Number of transplants evaluated	210	6,750
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	93.33%	96.61%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	96.33%	--
Number of observed graft failures (including deaths) during the first month after transplant	14	229
Number of expected graft failures (including deaths) during the first month after transplant	7.91	--
Estimated hazard ratio*	1.61	--
95% credible interval for the hazard ratio**	[0.92, 2.50]	--

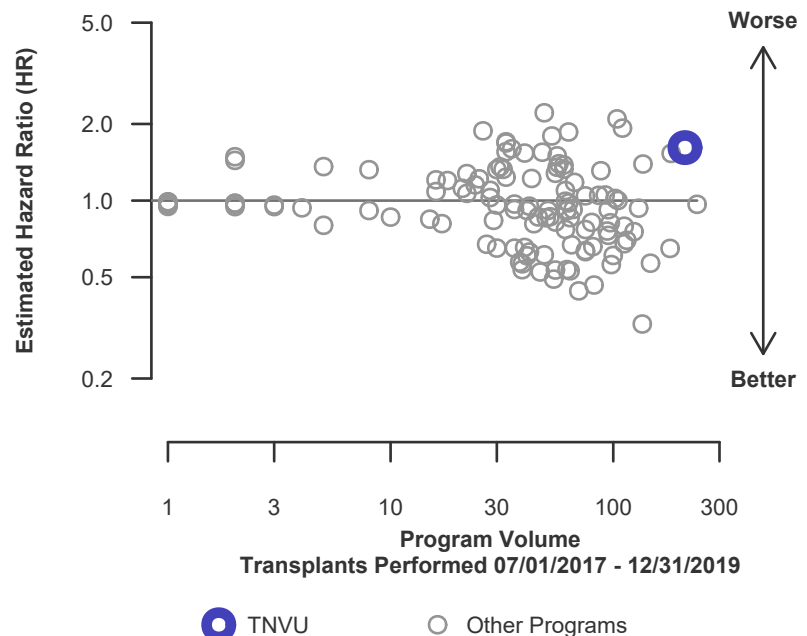
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.92, 2.50], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 61% higher risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 8% reduced risk up to 150% increased risk.

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



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





## C. Transplant Information

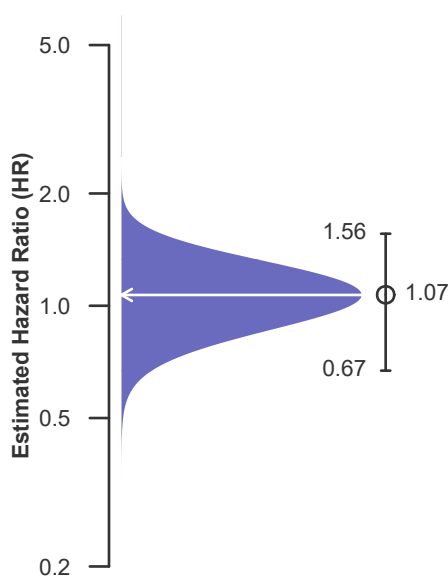
**Table C6D. Adult (18+) 1-year survival with a functioning deceased donor graft**  
**Single organ transplants performed between 07/01/2017 and 12/31/2019**  
**Deaths and retransplants are considered graft failures**

	TNVU	U.S.
Number of transplants evaluated	210	6,750
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	89.65%	91.32%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	90.75%	--
Number of observed graft failures (including deaths) during the first year after transplant	20	551
Number of expected graft failures (including deaths) during the first year after transplant	18.58	--
Estimated hazard ratio*	1.07	--
95% credible interval for the hazard ratio**	[0.67, 1.56]	--

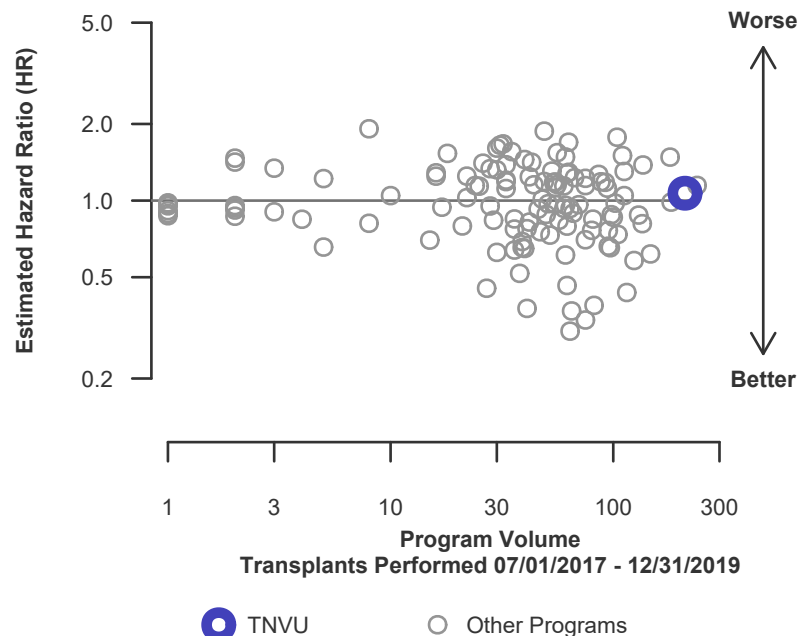
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.67, 1.56], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 7% higher risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 33% reduced risk up to 56% increased risk.

**Figure C3D. Adult (18+) 1-year deceased donor graft failure HR estimate**



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





## C. Transplant Information

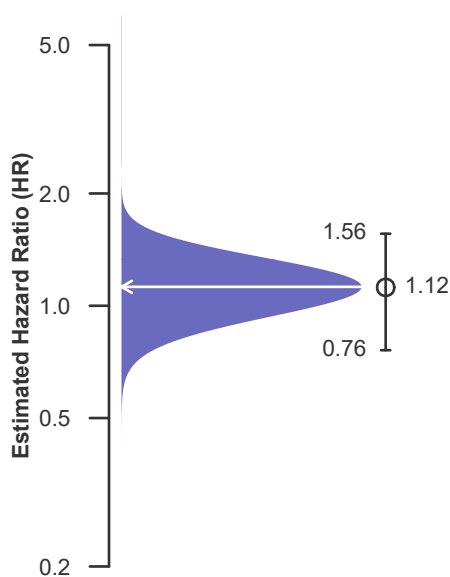
**Table C7D. Adult (18+) 3-year survival with a functioning deceased donor graft**  
**Single organ transplants performed between 01/01/2015 and 06/30/2017**  
**Deaths and retransplants are considered graft failures**

	TNVU	U.S.
Number of transplants evaluated	161	6,028
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	82.50%	85.47%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	84.77%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	28	873
Number of expected graft failures (including deaths) during the first 3 years after transplant	24.70	--
Estimated hazard ratio*	1.12	--
95% credible interval for the hazard ratio**	[0.76, 1.56]	--

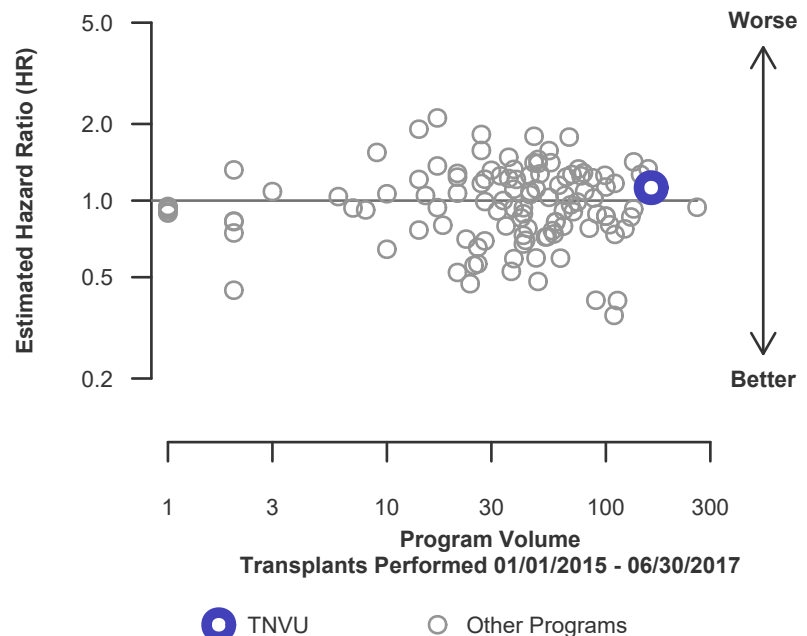
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.76, 1.56], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 12% higher risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 24% reduced risk up to 56% increased risk.

**Figure C5D. Adult (18+) 3-year deceased donor graft failure HR estimate**



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







## C. Transplant Information

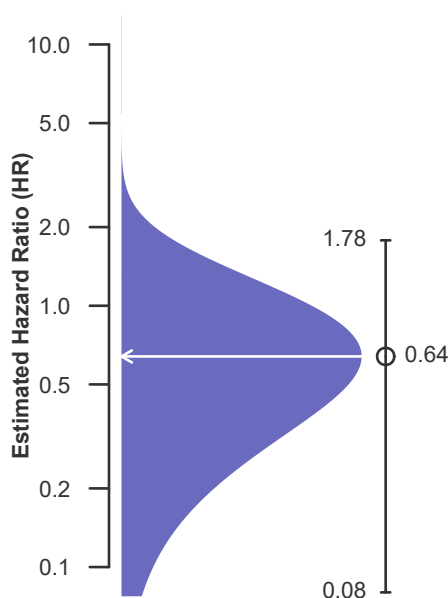
**Table C8D. Pediatric (<18) 1-month survival with a functioning deceased donor graft**  
**Single organ transplants performed between 07/01/2017 and 12/31/2019**  
**Deaths and retransplants are considered graft failures**

	TNVU	U.S.
Number of transplants evaluated	40	1,228
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	100.00%	97.64%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	97.23%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	29
Number of expected graft failures (including deaths) during the first month after transplant	1.13	--
Estimated hazard ratio*	0.64	--
95% credible interval for the hazard ratio**	[0.08, 1.78]	--

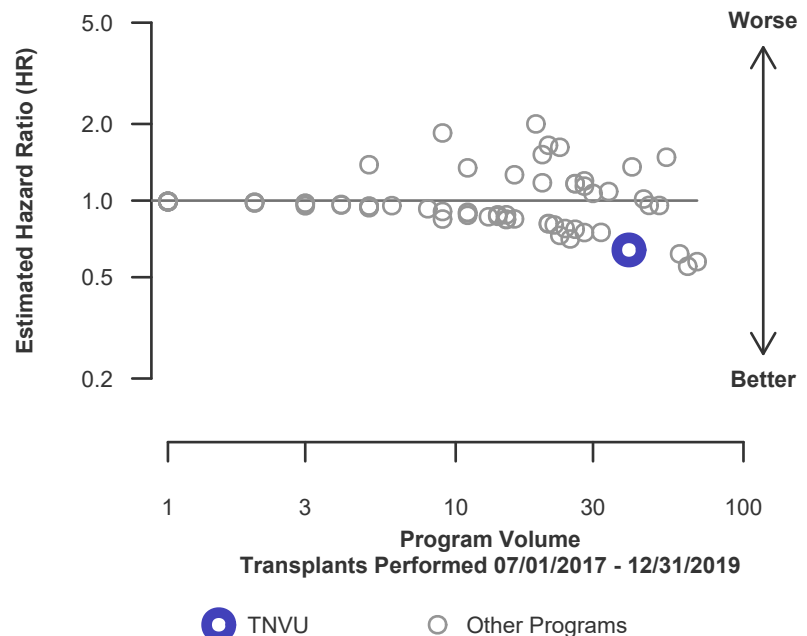
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.08, 1.78], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 36% lower risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 92% reduced risk up to 78% increased risk.

**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**





## C. Transplant Information

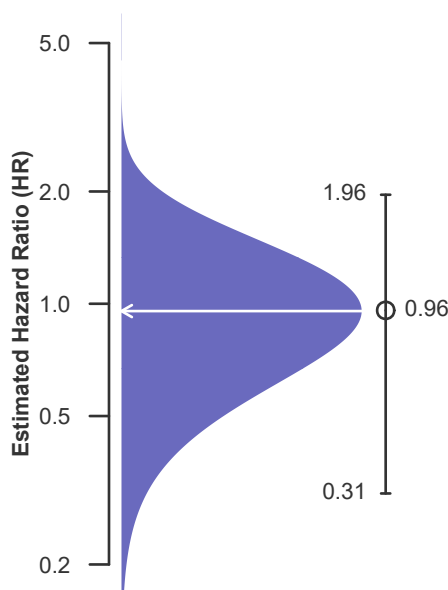
**Table C9D. Pediatric (<18) 1-year survival with a functioning deceased donor graft**  
**Single organ transplants performed between 07/01/2017 and 12/31/2019**  
**Deaths and retransplants are considered graft failures**

	TNVU	U.S.
Number of transplants evaluated	40	1,228
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	91.48%	92.32%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	90.97%	--
Number of observed graft failures (including deaths) during the first year after transplant	3	87
Number of expected graft failures (including deaths) during the first year after transplant	3.23	--
Estimated hazard ratio*	0.96	--
95% credible interval for the hazard ratio**	[0.31, 1.96]	--

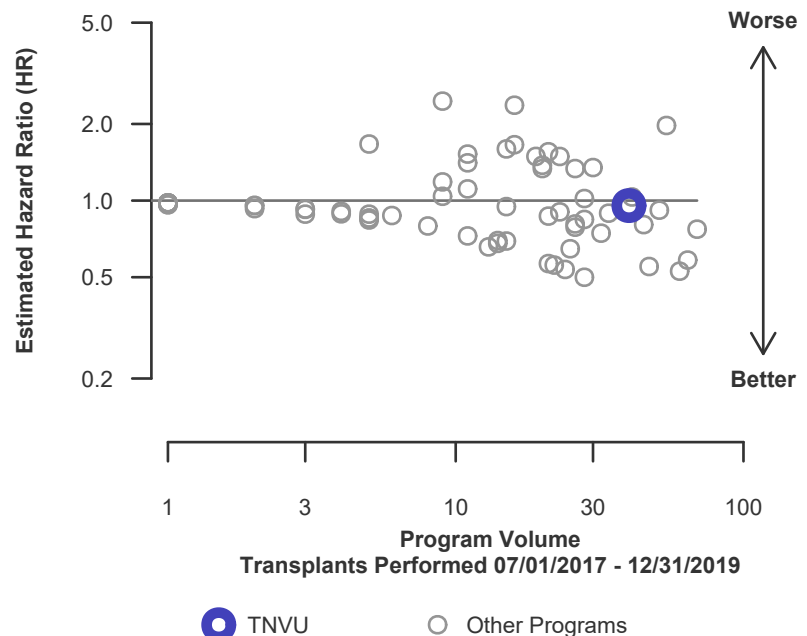
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.31, 1.96], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 4% lower risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 69% reduced risk up to 96% increased risk.

**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**





## C. Transplant Information

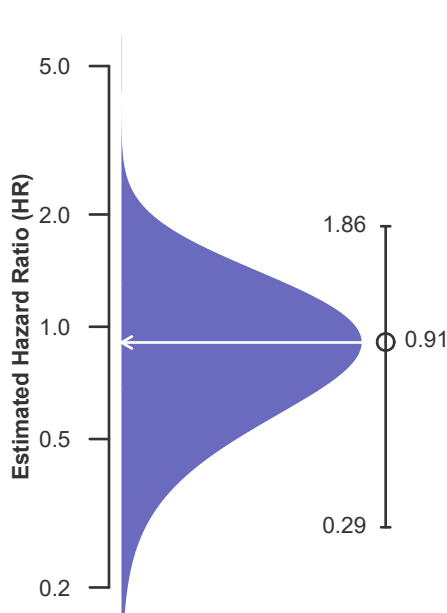
**Table C10D. Pediatric (<18) 3-year survival with a functioning deceased donor graft**  
**Single organ transplants performed between 01/01/2015 and 06/30/2017**  
**Deaths and retransplants are considered graft failures**

	TNVU	U.S.
Number of transplants evaluated	32	1,122
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	90.62%	88.90%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	88.91%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	3	124
Number of expected graft failures (including deaths) during the first 3 years after transplant	3.51	--
Estimated hazard ratio*	0.91	--
95% credible interval for the hazard ratio**	[0.29, 1.86]	--

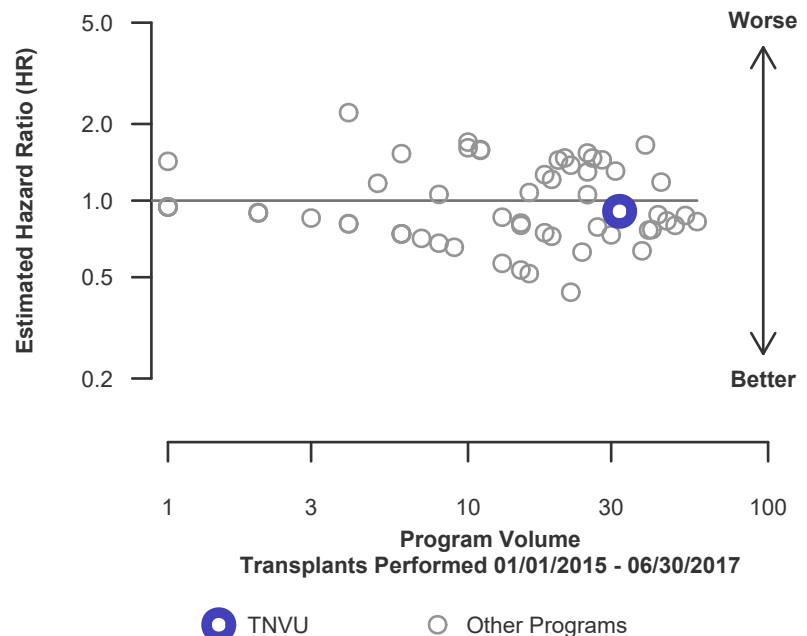
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected graft failure rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.29, 1.86], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 9% lower risk of graft failure compared to an average program, but TNVU's performance could plausibly range from 71% reduced risk up to 86% increased risk.

**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**





## C. Transplant Information

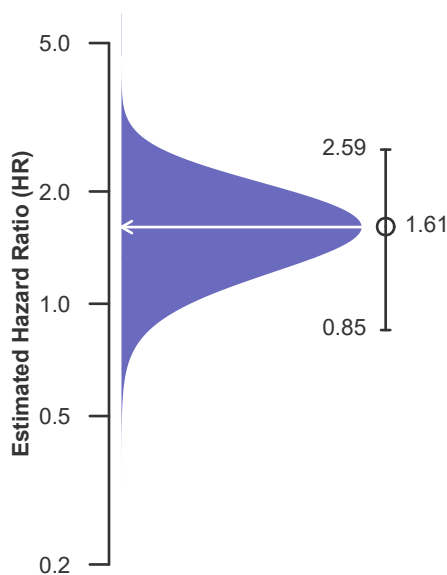
**Table C11D. Adult (18+) 1-month patient survival (deceased donor graft recipients)  
Single organ transplants performed between 07/01/2017 and 12/31/2019  
Retransplants excluded**

	TNVU	U.S.
Number of transplants evaluated	196	6,582
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	94.39%	96.98%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	96.88%	--
Number of observed deaths during the first month after transplant	11	199
Number of expected deaths during the first month after transplant	6.10	--
Estimated hazard ratio*	1.61	--
95% credible interval for the hazard ratio**	[0.85, 2.59]	--

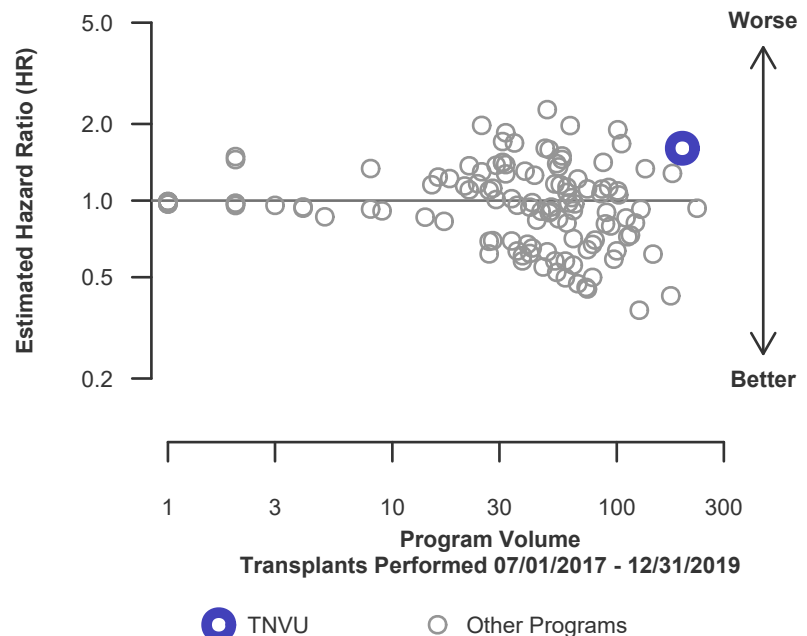
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.85, 2.59], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 61% higher risk of patient death compared to an average program, but TNVU's performance could plausibly range from 15% reduced risk up to 159% increased risk.

**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)**





## C. Transplant Information

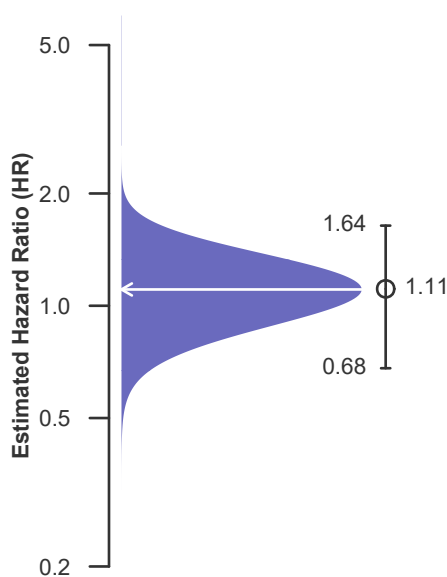
**Table C12D. Adult (18+) 1-year patient survival (deceased donor graft recipients)**  
**Single organ transplants performed between 07/01/2017 and 12/31/2019**  
**Retransplants excluded**

	TNVU	U.S.
Number of transplants evaluated	196	6,582
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	89.87%	91.67%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	91.34%	--
Number of observed deaths during the first year after transplant	18	514
Number of expected deaths during the first year after transplant	16.09	--
Estimated hazard ratio*	1.11	--
95% credible interval for the hazard ratio**	[0.68, 1.64]	--

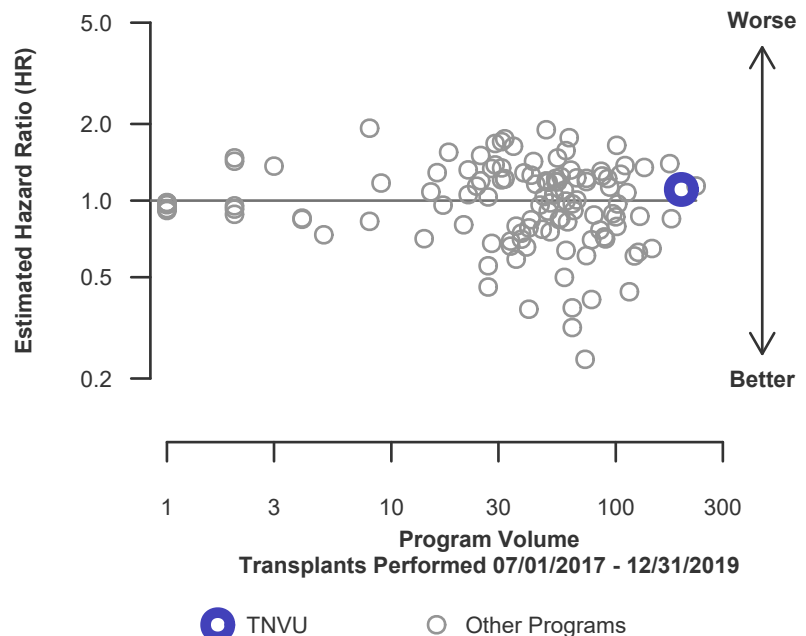
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.68, 1.64], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 11% higher risk of patient death compared to an average program, but TNVU's performance could plausibly range from 32% reduced risk up to 64% increased risk.

**Figure C15D. Adult (18+) 1-year patient death HR estimate (deceased donor grafts)**



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





## C. Transplant Information

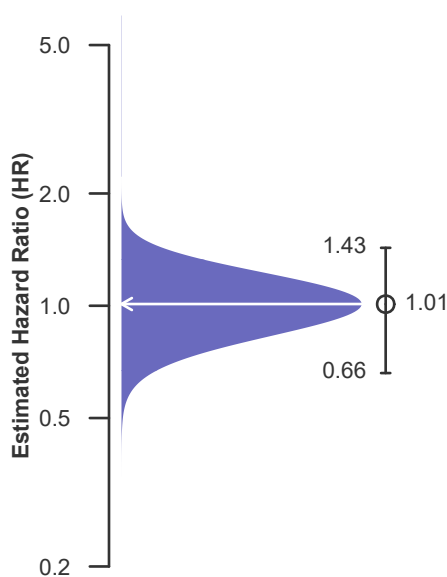
**Table C13D. Adult (18+) 3-year patient survival (deceased donor graft recipients)**  
**Single organ transplants performed between 01/01/2015 and 06/30/2017**  
**Retransplants excluded**

	TNVU	U.S.
Number of transplants evaluated	160	5,900
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	84.90%	85.96%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	85.29%	--
Number of observed deaths during the first 3 years after transplant	24	826
Number of expected deaths during the first 3 years after transplant	23.72	--
Estimated hazard ratio*	1.01	--
95% credible interval for the hazard ratio**	[0.66, 1.43]	--

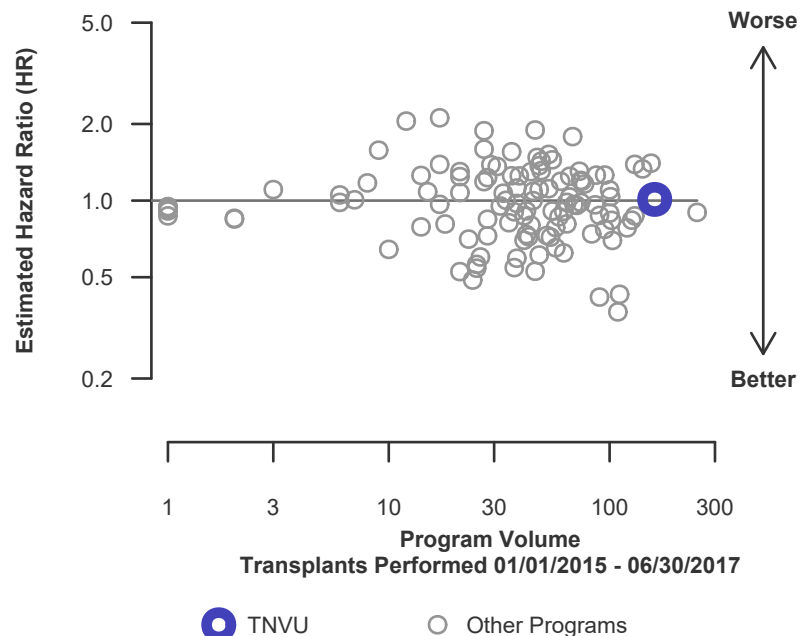
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.66, 1.43], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 1% higher risk of patient death compared to an average program, but TNVU's performance could plausibly range from 34% reduced risk up to 43% increased risk.

**Figure C17D. Adult (18+) 3-year patient death HR estimate (deceased donor grafts)**



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





## C. Transplant Information

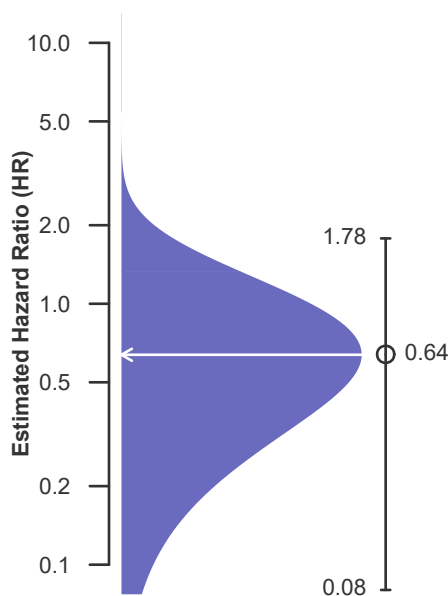
**Table C14D. Pediatric (<18) 1-month patient survival (deceased donor graft recipients)**  
**Single organ transplants performed between 07/01/2017 and 12/31/2019**  
**Retransplants excluded**

	TNVU	U.S.
Number of transplants evaluated	38	1,176
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	97.62%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	97.06%	--
Number of observed deaths during the first month after transplant	0	28
Number of expected deaths during the first month after transplant	1.14	--
Estimated hazard ratio*	0.64	--
95% credible interval for the hazard ratio**	[0.08, 1.78]	--

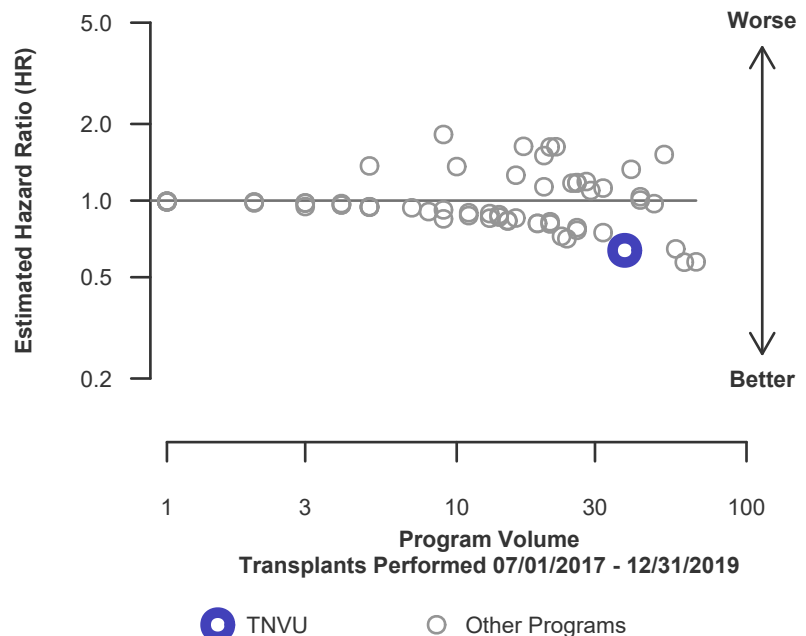
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.08, 1.78], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 36% lower risk of patient death compared to an average program, but TNVU's performance could plausibly range from 92% reduced risk up to 78% increased risk.

**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)**







## C. Transplant Information

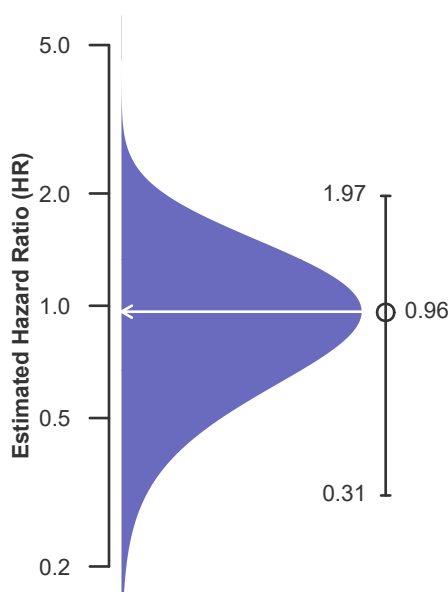
**Table C15D. Pediatric (<18) 1-year patient survival (deceased donor graft recipients)**  
Single organ transplants performed between 07/01/2017 and 12/31/2019  
Retransplants excluded

	TNVU	U.S.
Number of transplants evaluated	38	1,176
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	90.95%	92.47%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	90.66%	--
Number of observed deaths during the first year after transplant	3	82
Number of expected deaths during the first year after transplant	3.19	--
Estimated hazard ratio*	0.96	--
95% credible interval for the hazard ratio**	[0.31, 1.97]	--

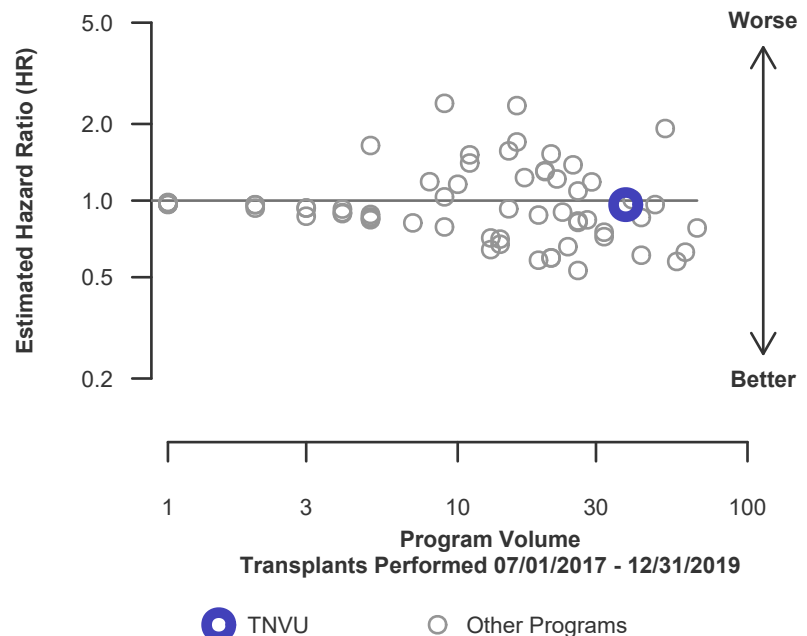
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.31, 1.97], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 4% lower risk of patient death compared to an average program, but TNVU's performance could plausibly range from 69% reduced risk up to 97% increased risk.

**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)**







## C. Transplant Information

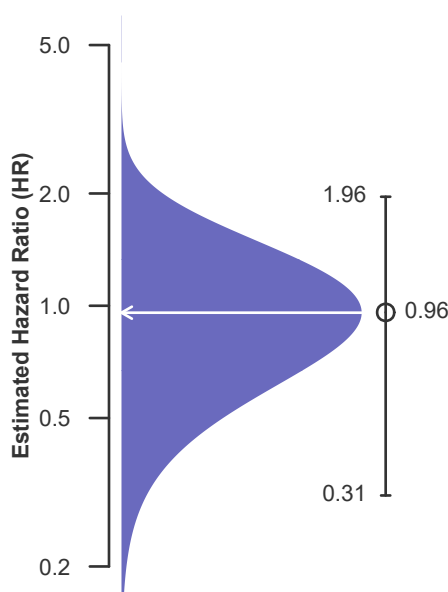
**Table C16D. Pediatric (<18) 3-year patient survival (deceased donor graft recipients)**  
Single organ transplants performed between 01/01/2015 and 06/30/2017  
Retransplants excluded

	TNVU	U.S.
Number of transplants evaluated	31	1,066
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	90.32%	89.44%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	89.45%	--
Number of observed deaths during the first 3 years after transplant	3	112
Number of expected deaths during the first 3 years after transplant	3.22	--
Estimated hazard ratio*	0.96	--
95% credible interval for the hazard ratio**	[0.31, 1.96]	--

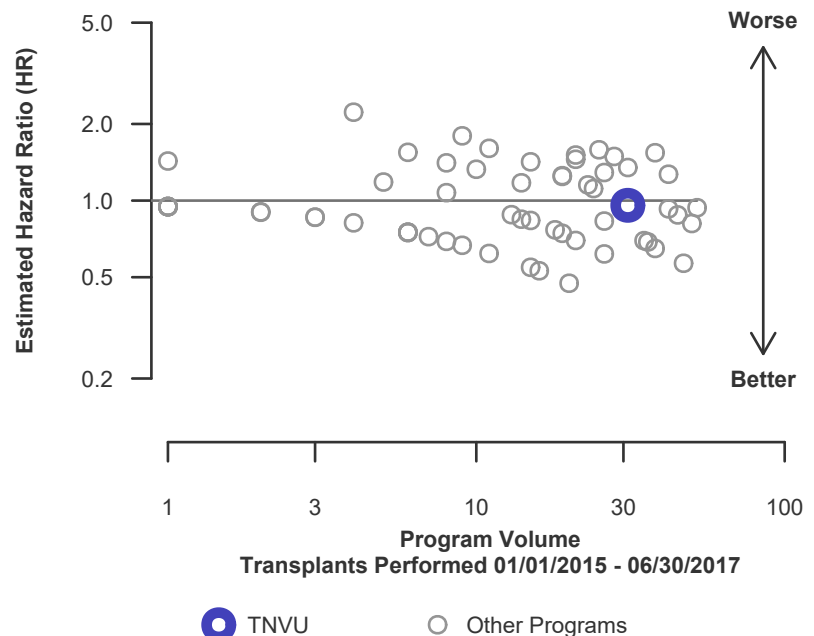
\* The hazard ratio provides an estimate of how Vanderbilt University Medical Center (TNVU)'s results compare with what was expected based on modeling the transplant outcomes from all U.S. programs. A ratio above 1 indicates higher than expected patient death rates (e.g., a hazard ratio of 1.5 would 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.

\*\* The 95% credible interval, [0.31, 1.96], indicates the location of TNVU's true hazard ratio with 95% probability. The best estimate is 4% lower risk of patient death compared to an average program, but TNVU's performance could plausibly range from 69% reduced risk up to 96% increased risk.

**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)**





## C. Transplant Information

**Table C17. Multi-organ transplant graft survival: 07/01/2017 - 12/31/2019**

### Adult (18+) Transplants

Transplant Type	First-Year Outcomes					
	Transplants Performed		Heart Graft Failures		Estimated Heart Graft Survival	
	TNVU-TX1	USA	TNVU-TX1	USA	TNVU-TX1	USA
Kidney-Heart	24	507	5	59	78.4%	88.1%
Liver-Heart	3	96	1	11	66.7%	88.1%

### Pediatric (<18) Transplants

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

**Table C18. Multi-organ transplant patient survival: 07/01/2017 - 12/31/2019**

### Adult (18+) Transplants

Transplant Type	First-Year Outcomes					
	Transplants Performed		Patient Deaths		Estimated Patient Survival	
	TNVU-TX1	USA	TNVU-TX1	USA	TNVU-TX1	USA
Kidney-Heart	24	507	5	58	78.4%	88.3%
Liver-Heart	3	96	1	11	66.7%	88.0%

### Pediatric (<18) Transplants

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