User Guide

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

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

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

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

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

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

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confidence interval includes (crosses) 1.0, then we cannot say that this program's observed transplant rate is different from what would be expected. The observed transplant rate at this program was 20.8 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. Transplant rates are also presented excluding transplants from a living donor (Table B4D and Figures B1D-B3D). Please refer to the PSR Technical Methods documentation available at http://www.srtr.org for more detail regarding how expected rates are calculated.

The 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 these tables and figures is to describe risk of death once candidates are listed rather than while they are listed. 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.

Table B6 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 B7 and B8 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 B7 and B8 presents the percent of candidates who received a deceased donor transplant by each time point. Table B9 presents data on the time it took for different percentages of patients to be transplanted for candidates added to the list between 07/01/2011 and 12/31/2016. The time it took for 5% (the 5th percentile) of patients to receive a transplant at this program was 2.9 months. If "Not Observed" is displayed in the table, then too few candidates received transplants before 06/30/2017 to calculate a particular percentile of transplant times.

Table B10 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. Figures B7 shows the distribution of program offer acceptance rates as well as the offer acceptance rate for this program. Figures B8 - B11 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.

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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.

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

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

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A. Program Summary

Figure A1. Waiting list and transplant activity

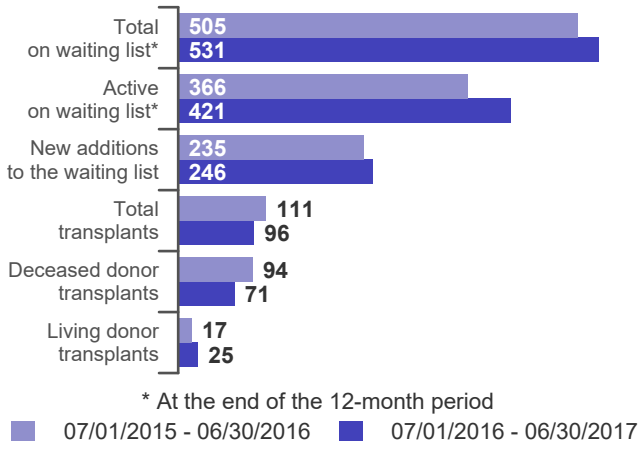


Table A1. Census of transplant recipients

Recipients	07/01/2015-06/30/2016	07/01/2016-06/30/2017
Transplanted at this center	111	96
Followed by this center*	971	982
...transplanted at this program	961	968
...transplanted elsewhere	10	14

* 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 07/01/2015 - 06/30/2017

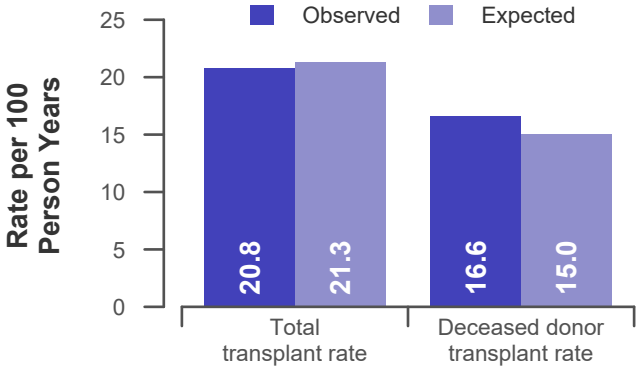


Figure A3. Waiting list mortality rates 07/01/2015 - 06/30/2017

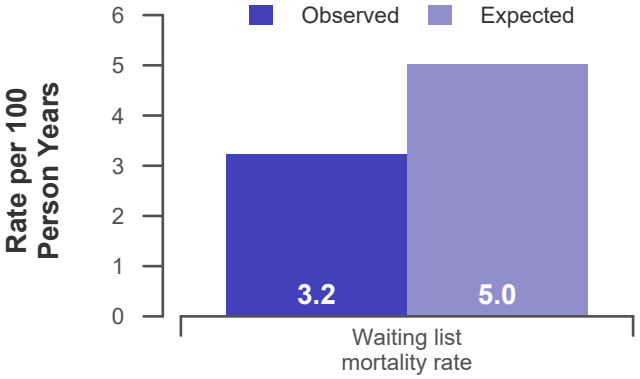


Figure A4. First-year adult graft and patient survival: 07/01/2014 - 12/31/2016

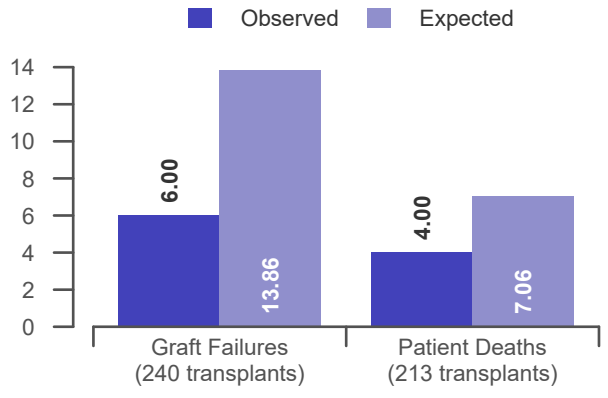
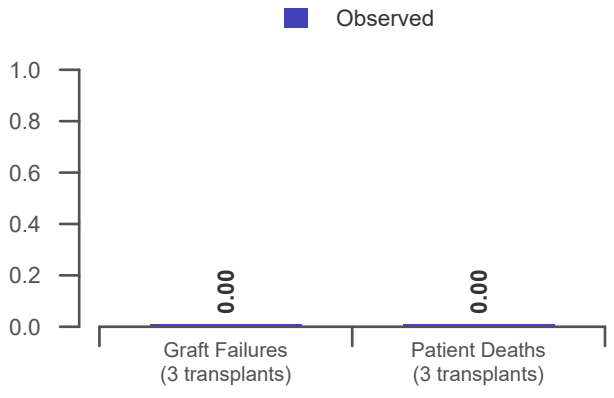


Figure A5. First-year pediatric graft and patient survival: 07/01/2014 - 12/31/2016



B. Waiting List Information

Table B1. Waiting list activity summary: 07/01/2015 - 06/30/2017

Waiting List Registrations	Counts for this center		Activity for 07/01/2016 to 06/30/2017 as percent of registrants on waiting list on 07/01/2016		
	07/01/2015-06/30/2016	07/01/2016-06/30/2017	This Center (%)	OPTN Region (%)	U.S. (%)
On waiting list at start	479	505	100.0	100.0	100.0
Additions					
New listings at this center	235	246	48.7	34.2	35.1
Removals					
Transferred to another center	5	8	1.6	1.4	1.1
Received living donor transplant*	17	24	4.8	7.7	5.4
Received deceased donor transplant*	94	71	14.1	12.3	13.2
Died	13	10	2.0	3.9	4.2
Transplanted at another center	9	5	1.0	3.3	2.9
Deteriorated	11	27	5.3	4.4	4.5
Recovered	0	1	0.2	0.3	0.2
Other reasons	60	74	14.7	6.5	5.4
On waiting list at end of period	505	531	105.1	94.4	98.4

* 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 07/01/2016 and 06/30/2017

Demographic Characteristic	New Waiting List Registrations 07/01/2016 to 06/30/2017 (%)			All Waiting List Registrations on 06/30/2017 (%)		
	This Center (N=246)	OPTN Region (N=2,896)	U.S. (N=36,850)	This Center (N=531)	OPTN Region (N=7,987)	U.S. (N=103,168)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Ethnicity/Race (%)*						
White	27.2	54.0	43.8	21.8	47.2	36.3
African-American	44.3	23.4	27.7	46.3	29.3	33.0
Hispanic/Latino	23.2	13.1	18.8	24.5	12.6	20.0
Asian	5.3	7.2	8.0	7.2	7.9	9.2
Other	0.0	2.3	1.7	0.2	3.0	1.6
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Age (%)						
<2 years	0.0	0.2	0.2	0.0	0.2	0.1
2-11 years	0.0	0.9	1.1	0.0	0.5	0.5
12-17 years	0.0	1.1	1.6	0.0	0.7	0.9
18-34 years	11.8	12.5	11.3	11.7	11.2	11.1
35-49 years	23.6	25.1	25.3	29.6	28.5	28.3
50-64 years	39.0	42.1	41.8	41.8	45.3	43.5
65+ years	25.6	18.1	18.7	16.9	13.6	15.6
Other (includes prenatal)	0.0	0.0	0.0	0.0	0.0	0.0
Gender (%)						
Male	63.0	61.3	62.2	64.2	60.4	61.1
Female	37.0	38.7	37.8	35.8	39.6	38.9

* 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 07/01/2016 and 06/30/2017

Medical Characteristic	New Waiting List Registrations 07/01/2016 to 06/30/2017 (%)			All Waiting List Registrations on 06/30/2017 (%)		
	This Center (N=246)	OPTN Region (N=2,896)	U.S. (N=36,850)	This Center (N=531)	OPTN Region (N=7,987)	U.S. (N=103,168)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Blood Type (%)						
O	47.2	46.4	49.0	50.7	52.7	53.1
A	30.9	34.0	32.6	29.4	28.4	27.7
B	16.7	15.5	14.7	17.1	16.4	16.7
AB	5.3	4.0	3.7	2.8	2.5	2.6
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Previous Transplant (%)						
Yes	17.1	17.1	13.2	23.7	18.4	14.2
No	82.9	82.9	86.8	76.3	81.6	85.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Initial CPRA (%)						
0-9%	96.3	79.7	80.7	97.2	78.8	81.5
10-79%	2.4	12.9	11.9	1.7	13.3	11.2
80+%	1.2	7.3	7.5	1.1	7.9	7.2
Unknown	0.0	0.1	0.0	0.0	0.1	0.0
Primary Disease (%)*						
Glomerular Diseases	17.9	23.0	20.1	18.5	22.0	19.3
Tubular and Interstitial Diseases	2.8	5.3	4.0	1.3	4.6	3.5
Polycystic Kidneys	3.7	7.3	7.4	5.1	7.6	7.0
Congenital, Familial, Metabolic	0.8	2.3	2.2	0.8	2.2	1.6
Diabetes	36.6	27.7	33.2	32.0	29.7	34.6
Renovascular & Vascular Diseases	0.0	0.2	0.2	0.0	0.2	0.1
Neoplasms	0.0	0.4	0.4	0.2	0.4	0.3
Hypertensive Nephrosclerosis	31.3	19.6	20.4	33.0	21.2	23.1
Other	6.9	13.8	11.8	9.2	11.5	10.0
Missing*	0.0	0.4	0.4	0.0	0.6	0.5

* When "retransplant" is indicated, the primary disease is passed forward from the prior transplant in order to indicate the initial primary disease causing organ failure. "Missing" may include some patients for whom retransplant is indicated but no prior diagnosis can be found.

B. Waiting List Information

Table B4. Transplant rates: 07/01/2015 - 06/30/2017

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	479	4,449	9,051	106,306
Person Years**	992.2	8,213.2	17,060.1	209,852.0
Removals for Transplant	206	1,301	3,290	37,821
Adult (18+) Candidates				
Count on waiting list at start*	478	4,406	8,962	105,335
Person Years**	990.5	8,097.6	16,846.0	207,477.0
Removals for transpant	202	1,256	3,164	36,243
Pediatric (<18) Candidates				
Count on waiting list at start*	1	43	89	971
Person Years**	1.7	115.6	214.1	2,375.0
Removals for transplant	4	45	126	1,578

* 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 June 30.

Figure B1. Observed and expected transplant rates: 07/01/2015 - 06/30/2017

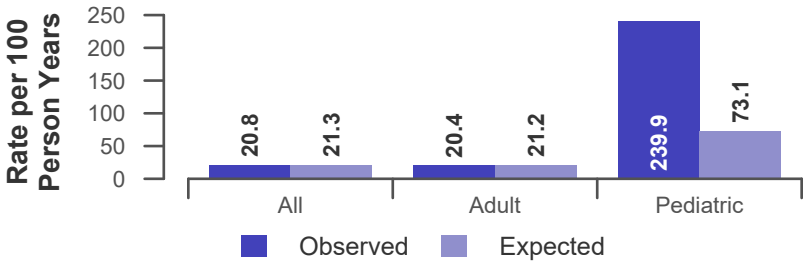


Figure B2. Transplant rate ratio estimate

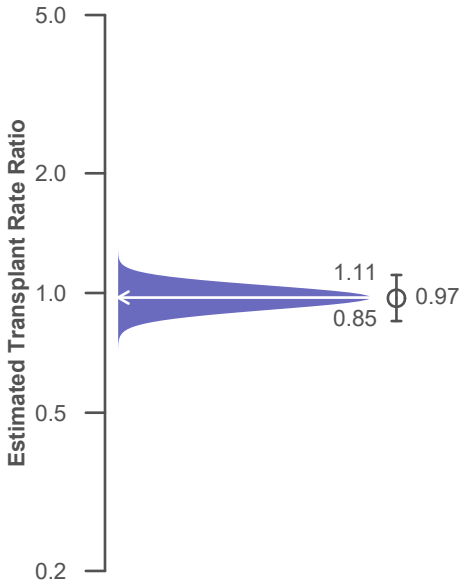
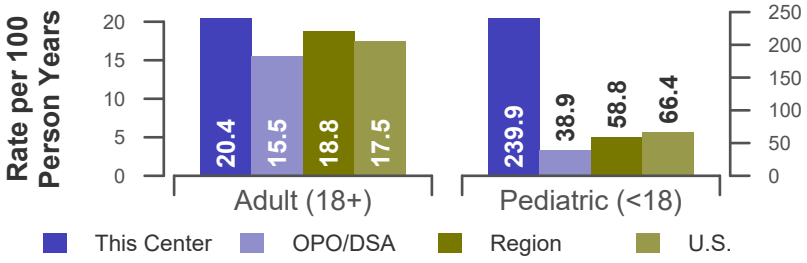


Figure B3. Observed adult (18+) and pediatric (<18) transplant rates: 07/01/2015 - 06/30/2017



B. Waiting List Information

Table B4D. Deceased donor transplant rates: 07/01/2015 - 06/30/2017

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	479	4,449	9,051	106,306
Person Years**	992.2	8,213.2	17,060.1	209,852.0
Removals for Transplant	165	827	1,949	26,609
Adult (18+) Candidates				
Count on waiting list at start*	478	4,406	8,962	105,335
Person Years**	990.5	8,097.6	16,846.0	207,477.0
Removals for transpant	163	804	1,886	25,553
Pediatric (<18) Candidates				
Count on waiting list at start*	1	43	89	971
Person Years**	1.7	115.6	214.1	2,375.0
Removals for transplant	2	23	63	1,056

* 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 June 30.

Figure B1D. Observed and expected deceased donor transplant rates: 07/01/2015 - 06/30/2017

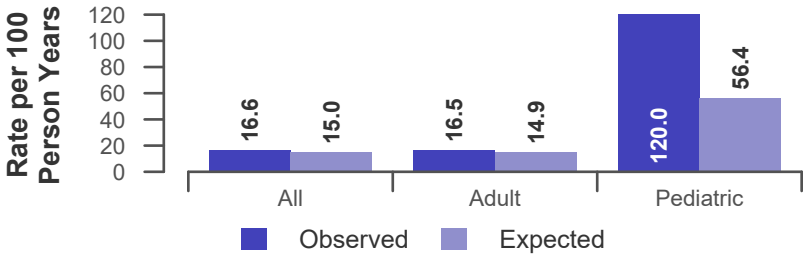


Figure B2D. Deceased donor transplant rate ratio estimate

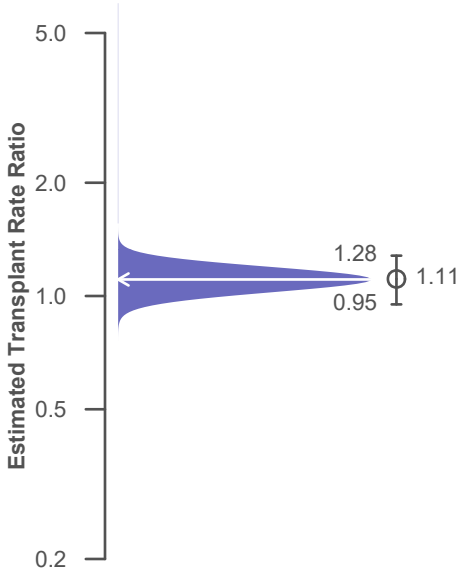
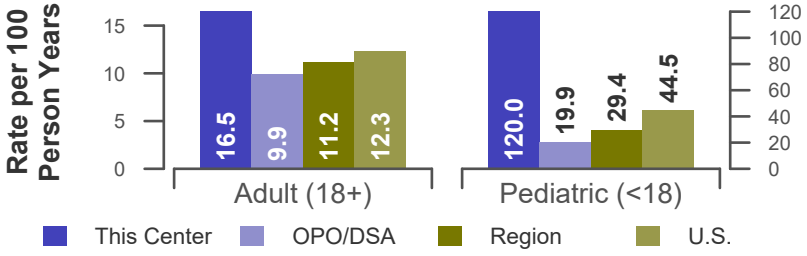


Figure B3D. Observed adult (18+) and pediatric (<18) deceased donor transplant rates: 07/01/2015 - 06/30/2017



B. Waiting List Information

Table B5. Waiting list mortality rates: 07/01/2015 - 06/30/2017

Waiting List Registrations	This Center	OPO/DSA	Region	U.S.
All Candidates				
Count on waiting list at start*	479	4,449	9,051	106,306
Person Years**	1,146.1	9,274.8	18,886.9	227,869.6
Number of deaths	37	515	1,000	12,081
Adult (18+) Candidates				
Count on waiting list at start*	478	4,406	8,962	105,335
Person Years**	1,144.4	9,158.1	18,632.3	225,416.7
Number of deaths	37	514	998	12,045
Pediatric (<18) Candidates				
Count on waiting list at start*	1	43	89	971
Person Years**	1.7	116.7	254.5	2,453.0
Number of deaths	0	1	2	36

* 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 June 30.

Figure B4. Observed and expected waiting list mortality rates: 07/01/2015 - 06/30/2017

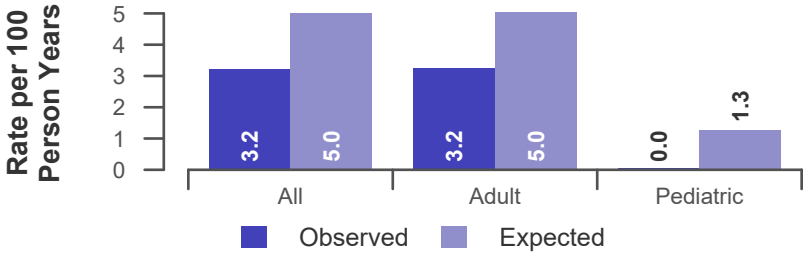


Figure B5. Waiting list mortality rate ratio estimate

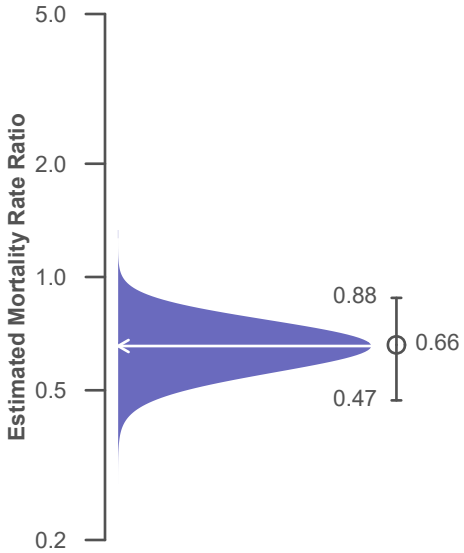
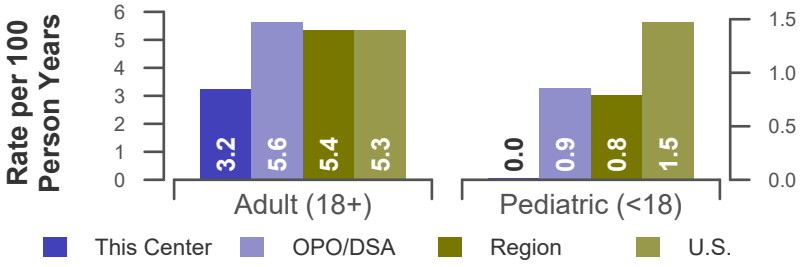


Figure B6. Observed adult (18+) and pediatric (<18) waiting list mortality rates: 07/01/2015 - 06/30/2017



B. Waiting List Information

Table B6. Waiting list candidate status after listing
Candidates registered on waiting list between 01/01/2015 and 12/31/2015

Waiting list status (survival status)	This Center (N=230) Months Since Listing			U.S. (N=36,244) Months Since Listing		
	6	12	18	6	12	18
Alive on waiting list (%)	78.7	57.0	41.3	80.4	68.3	59.0
Died on the waiting list without transplant (%)	0.9	1.3	1.7	1.3	2.4	3.4
Removed without transplant (%):						
Condition worsened (status unknown)	0.9	2.6	3.0	0.8	1.7	2.7
Condition improved (status unknown)	0.0	0.0	0.0	0.1	0.1	0.2
Refused transplant (status unknown)	0.0	0.0	0.0	0.1	0.2	0.2
Other	3.9	13.5	23.0	0.7	1.8	2.9
Transplant (living donor from waiting list only) (%):						
Functioning (alive)	2.6	4.3	5.7	6.3	9.4	8.0
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.0	0.0	0.0
Failed-alive not retransplanted	0.0	0.0	0.0	0.0	0.0	0.0
Died	0.0	0.0	0.0	0.0	0.1	0.1
Status Yet Unknown**	0.0	0.0	0.4	0.1	0.4	3.6
Transplant (deceased donor) (%):						
Functioning (alive)	12.6	19.6	16.5	8.4	11.8	10.4
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.0	0.0	0.0
Failed-alive not retransplanted	0.0	0.0	0.0	0.0	0.0	0.0
Died	0.0	0.4	1.3	0.2	0.3	0.5
Status Yet Unknown*	0.4	0.4	5.7	1.2	2.6	7.6
Lost or Transferred (status unknown) (%)	0.0	0.9	1.3	0.4	0.8	1.3
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waiting list or after transplant	0.9	1.7	3.0	1.5	2.7	4.0
Total % known died or removed as unstable	1.7	4.3	6.1	2.3	4.4	6.7
Total % removed for transplant	15.7	24.8	29.6	16.2	24.7	30.3
Total % with known functioning transplant (alive)	15.2	23.9	22.2	14.8	21.2	18.4

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

B. Waiting List Information

Table B7. Percent of candidates with deceased donor transplants: demographic characteristics
Candidates registered on the waiting list between 07/01/2011 and 06/30/2014

Characteristic	Percent transplanted at time periods since listing									
	This Center					United States				
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	464	1.3	9.1	18.8	24.6	93,757	2.0	10.2	16.8	22.6
Ethnicity/Race*										
White	104	3.8	8.7	13.5	19.2	38,302	2.6	12.3	19.4	25.1
African-American	222	0.5	7.7	21.2	25.7	29,614	1.4	8.4	14.7	20.6
Hispanic/Latino	116	0.9	11.2	17.2	26.7	16,770	2.1	9.5	15.9	21.5
Asian	20	0.0	15.0	30.0	30.0	7,503	1.5	8.3	14.5	19.9
Other	2	0.0	0.0	0.0	0.0	1,568	1.3	9.4	16.1	22.6
Unknown	0	--	--	--	--	0	--	--	--	--
Age										
<2 years	0	--	--	--	--	148	4.1	37.2	55.4	64.2
2-11 years	1	0.0	0.0	0.0	0.0	780	7.6	50.5	65.5	72.2
12-17 years	4	25.0	50.0	75.0	75.0	1,321	8.8	50.2	61.9	67.7
18-34 years	45	0.0	0.0	6.7	11.1	9,576	1.5	8.2	16.2	24.0
35-49 years	133	0.0	4.5	15.8	21.1	23,941	1.6	8.4	14.8	21.0
50-64 years	219	1.8	11.9	21.5	28.8	41,069	2.1	9.5	15.8	21.1
65+ years	62	1.6	12.9	21.0	24.2	16,922	1.8	10.2	16.6	21.5
Other (includes prenatal)	0	--	--	--	--	0	--	--	--	--
Gender										
Male	294	1.7	8.5	18.7	23.8	57,283	2.1	10.0	16.5	22.1
Female	170	0.6	10.0	18.8	25.9	36,474	1.8	10.4	17.4	23.4

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

B. Waiting List Information

Table B8. Percent of candidates with deceased donor transplants: medical characteristics
Candidates registered on the waiting list between 07/01/2011 and 06/30/2014

Characteristic	Percent transplanted at time periods since listing									
	This Center					United States				
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	464	1.3	9.1	18.8	24.6	93,757	2.0	10.2	16.8	22.6
Blood Type										
O	231	0.4	6.5	13.4	20.3	46,175	1.8	8.6	13.9	19.0
A	138	2.2	13.8	25.4	30.4	29,929	2.4	12.4	21.3	28.5
B	79	2.5	8.9	20.3	22.8	14,189	1.5	7.5	12.8	17.0
AB	16	0.0	6.2	31.2	43.8	3,464	3.6	22.1	34.9	42.1
Previous Transplant										
Yes	99	1.0	6.1	12.1	18.2	13,756	1.8	10.7	17.9	24.0
No	365	1.4	9.9	20.5	26.3	80,001	2.1	10.1	16.7	22.3
Peak PRA/CPRA										
0-9%	464	1.3	9.1	18.8	24.6	77,607	2.1	9.8	16.2	21.8
10-79%	0	--	--	--	--	9,512	1.7	11.8	19.5	26.4
80+%	0	--	--	--	--	6,627	1.6	12.5	20.5	26.5
Unknown	0	--	--	--	--	9	100.0	100.0	100.0	100.0
Primary Disease*										
Glomerular Diseases	79	0.0	3.8	12.7	21.5	16,873	1.7	11.3	19.1	26.3
Tubular & Interstitial Diseases	7	0.0	0.0	14.3	14.3	3,462	3.7	14.7	22.2	28.2
Polycystic Kidneys	23	0.0	13.0	17.4	21.7	5,988	1.4	10.0	18.2	25.4
Congenital, Familial, Metabolic	1	0.0	0.0	0.0	0.0	1,675	4.1	25.5	36.9	45.0
Diabetes	120	0.8	7.5	14.2	20.0	32,855	1.2	7.1	12.4	17.0
Renovascular & Vascular Diseases	0	--	--	--	--	147	0.7	8.8	17.7	22.4
Neoplasms	2	0.0	0.0	0.0	0.0	320	1.6	12.8	23.4	30.6
Hypertensive Nephrosclerosis	187	1.1	12.3	24.6	29.9	21,603	1.3	8.3	15.0	21.0
Other	44	6.8	9.1	20.5	25.0	10,404	6.2	18.3	25.3	30.6
Missing*	1	0.0	0.0	0.0	0.0	430	1.4	6.7	12.3	18.6

* When "retransplant" is indicated, the primary disease is passed forward from the prior transplant in order to indicate the initial primary disease causing organ failure. "Missing" may include some patients for whom retransplant is indicated but no prior diagnosis can be found.

B. Waiting List Information

Table B9. Time to transplant for waiting list candidates*
Candidates registered on the waiting list between 07/01/2011 and 12/31/2016

	Months to Transplant**			
Percentile	**Center**	**OPO/DSA**	**Region**	**U.S.**
5th	2.9	1.1	1.4	1.5
10th	5.4	4	3.5	3.8
25th	16.6	18.0	12.6	14.2
50th (median time to transplant)	Not Observed	Not Observed	67.2	Not Observed
75th	Not Observed	Not Observed	Not Observed	Not Observed

* If cells contain "Not Observed" fewer than that percentile of patients had recieved 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 tranplant will not be observed.

** Censored on 06/30/2017. Calculated as the months after listing, during which the corresponding percent of all patients initially listed had recieved a transplant.

B. Waiting List Information

Table B10. Offer Acceptance Practices: 07/01/2016 - 06/30/2017

Offers Acceptance Characteristics	This Center	OPO/DSA	Region	U.S.
Overall				
Number of Offers	9,108	50,346	80,328	1,547,378
Number of Acceptances	67	418	939	12,795
Expected Acceptances	103.2	500.6	957.7	12,785.8
Offer Acceptance Ratio*	0.66	0.84	0.98	1.00
95% Credible Interval**	[0.51, 0.82]	--	--	--
Low-KDRI Donors (KDRI < 1.05)				
Number of Offers	1,503	6,816	11,536	216,298
Number of Acceptances	21	126	346	5,083
Expected Acceptances	33.5	170.8	372.9	5,086.1
Offer Acceptance Ratio*	0.65	0.74	0.93	1.00
95% Credible Interval**	[0.41, 0.94]	--	--	--
Medium-KDRI Donors (1.05 < KDRI < 1.75)				
Number of Offers	6,272	33,918	53,895	1,021,475
Number of Acceptances	39	237	508	6,593
Expected Acceptances	57.7	265.4	494.6	6,581.3
Offer Acceptance Ratio*	0.69	0.89	1.03	1.00
95% Credible Interval**	[0.49, 0.91]	--	--	--
High-KDRI Donors (KDRI > 1.75)				
Number of Offers	1,333	9,612	14,897	309,605
Number of Acceptances	7	55	85	1,119
Expected Acceptances	12.0	64.4	90.1	1,118.3
Offer Acceptance Ratio*	0.64	0.86	0.94	1.00
95% Credible Interval**	[0.29, 1.12]	--	--	--
Hard-to-Place Kidneys (Over 100 Offers)				
Number of Offers	7,365	39,165	62,202	1,329,096
Number of Acceptances	15	68	89	1,687
Expected Acceptances	10.3	62.0	87.5	1,687.0
Offer Acceptance Ratio*	1.39	1.09	1.02	1.00
95% Credible Interval**	[0.81, 2.12]	--	--	--

* The offer acceptance ratio estimates the relative offer acceptance practice of Rush University Medical Center (ILPL) 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, [0.51, 0.82], indicates the location of ILPL's true offer acceptance ratio with 95% probability. The best estimate is 34% less likely to accept an offer compared to nationalacceptance behavior, but ILPL's performance could plausibly range from 49% reduced acceptance up to 18% reduced acceptance.

B. Waiting List Information

Figure B7. Offer acceptance: Overall

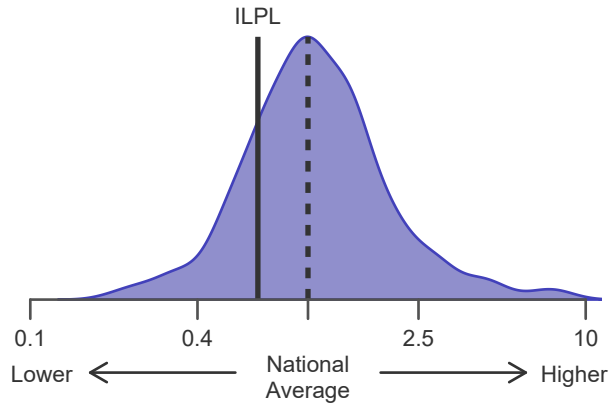


Figure B8. Offer acceptance: Low-KDRI

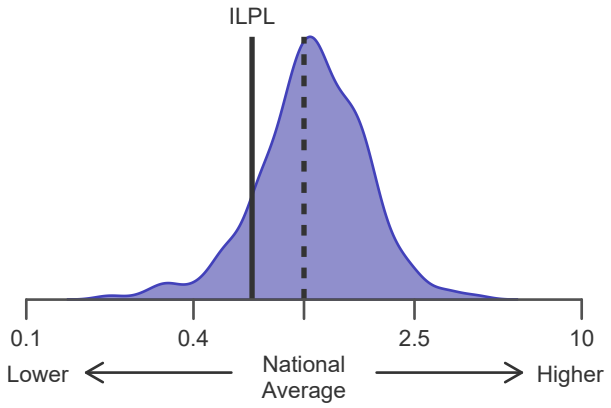


Figure B9. Offer acceptance: Medium-KDRI

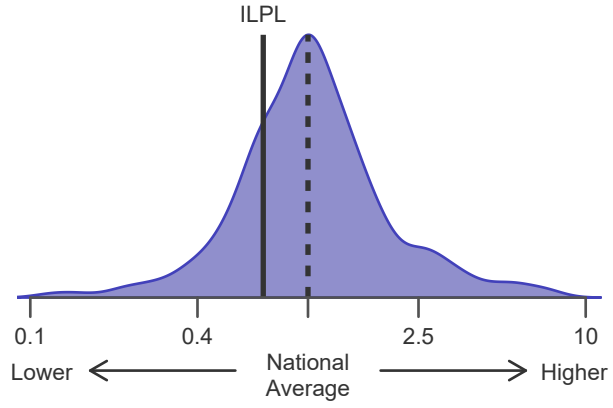


Figure B10. Offer acceptance: High-KDRI

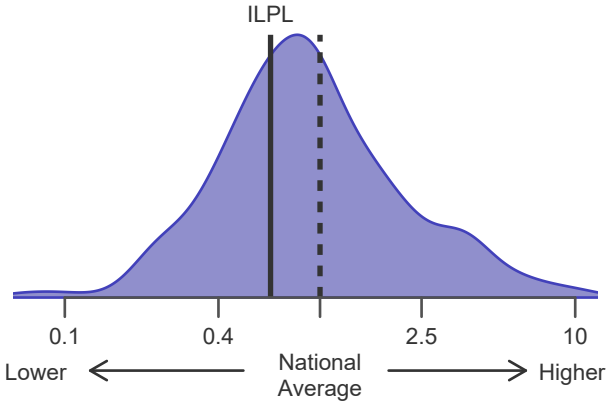
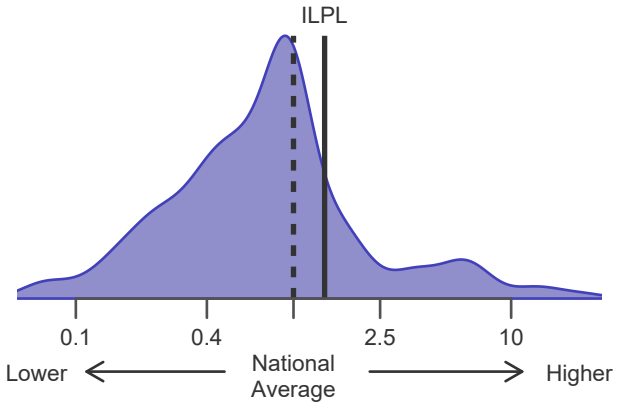


Figure B11. Offer acceptance: Offer number > 100



C. Transplant Information

Table C1D. Deceased donor transplant recipient demographic characteristics
Patients transplanted between 07/01/2016 and 06/30/2017

Characteristic	Percentage in each category		
	Center (N=71)	Region (N=1,049)	U.S. (N=13,841)
Ethnicity/Race (%)*			
White	21.1	46.3	38.4
African-American	49.3	29.0	33.2
Hispanic/Latino	21.1	14.0	19.2
Asian	8.5	7.9	7.3
Other	0.0	2.8	1.9
Unknown	0.0	0.0	0.0
Age (%)			
<2 years	0.0	0.0	0.1
2-11 years	0.0	1.4	1.4
12-17	0.0	1.4	2.1
18-34	4.2	12.4	11.1
35-49 years	26.8	24.6	25.0
50-64 years	43.7	42.3	41.0
65+ years	25.4	17.8	19.3
Unknown	0.0	0.0	0.0
Gender (%)			
Male	53.5	59.5	60.1
Female	46.5	40.5	39.9

* 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%.

C. Transplant Information

Table C1L. Living donor transplant recipient demographic characteristics
Patients transplanted between 07/01/2016 and 06/30/2017

Characteristic	Percentage in each category		
	Center (N=25)	Region (N=672)	U.S. (N=5,722)
Ethnicity/Race (%)*			
White	52.0	74.4	66.1
African-American	12.0	9.1	12.3
Hispanic/Latino	32.0	11.3	14.7
Asian	4.0	4.2	6.0
Other	0.0	1.0	0.9
Unknown	0.0	0.0	0.0
Age (%)			
<2 years	0.0	0.4	0.3
2-11 years	0.0	2.4	1.7
12-17	0.0	1.9	2.0
18-34	20.0	17.0	17.0
35-49 years	36.0	27.1	27.3
50-64 years	28.0	35.4	35.9
65+ years	16.0	15.8	15.8
Unknown	0.0	0.0	0.0
Gender (%)			
Male	48.0	65.5	62.3
Female	52.0	34.5	37.7

* 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 07/01/2016 and 06/30/2017

Characteristic	Percentage in each category		
	Center (N=71)	Region (N=1,049)	U.S. (N=13,841)
Blood Type (%)			
O	49.3	41.9	45.8
A	25.4	36.6	35.1
B	15.5	15.0	13.9
AB	9.9	6.5	5.2
Previous Transplant (%)			
Yes	11.3	17.4	15.1
No	88.7	82.6	84.9
Peak PRA/CPRA Prior to Transplant (%)			
0-9%	69.0	52.4	57.9
10-79%	12.7	25.4	21.6
80+ %	18.3	22.2	20.5
Unknown	0.0	0.0	0.0
Body Mass Index (%)			
0-20	14.1	9.4	10.5
21-25	25.4	27.7	28.8
26-30	26.8	30.3	30.6
31+	33.8	32.4	28.6
Unknown	0.0	0.1	1.6
Primary Disease (%)*			
Glomerular Diseases	9.9	23.2	22.7
Tubular and Interstitial Disease	2.8	5.1	4.2
Polycystic Kidneys	1.4	5.6	7.3
Congenital, Familial, Metabolic	2.8	3.3	3.1
Diabetes	33.8	25.5	26.5
Renovascular & Vascular Diseases	0.0	0.3	0.3
Neoplasms	0.0	0.4	0.4
Hypertensive Nephrosclerosis	38.0	21.0	24.6
Other Kidney	11.3	15.1	10.6
Missing*	0.0	0.6	0.3

* When "retransplant" is indicated, the primary disease is passed forward from the prior transplant in order to indicate the initial primary disease causing organ failure. "Missing" may include some patients for whom retransplant is indicated but no prior diagnosis can be found.

C. Transplant Information

Table C2L. Living donor transplant recipient medical characteristics
Patients transplanted between 07/01/2016 and 06/30/2017

Characteristic	Percentage in each category		
	Center (N=25)	Region (N=672)	U.S. (N=5,722)
Blood Type (%)			
O	44.0	40.3	42.8
A	40.0	42.6	39.6
B	16.0	13.5	13.2
AB	0.0	3.6	4.4
Previous Transplant (%)			
Yes	28.0	14.1	11.7
No	72.0	85.9	88.3
Peak PRA/CPRA Prior to Transplant (%)			
0-9%	72.0	68.2	74.1
10-79%	16.0	24.0	20.5
80+ %	12.0	7.4	5.3
Unknown	0.0	0.4	0.1
Body Mass Index (%)			
0-20	12.0	11.8	12.2
21-25	36.0	29.5	30.5
26-30	20.0	30.5	30.1
31+	32.0	28.1	26.3
Unknown	0.0	0.1	0.9
Primary Disease (%)*			
Glomerular Diseases	48.0	35.9	30.6
Tubular and Interstitial Disease	0.0	5.1	5.3
Polycystic Kidneys	16.0	14.6	13.4
Congenital, Familial, Metabolic	0.0	4.2	4.1
Diabetes	8.0	18.2	22.1
Renovascular & Vascular Diseases	0.0	0.4	0.4
Neoplasms	0.0	0.4	0.5
Hypertensive Nephrosclerosis	28.0	12.4	15.1
Other Kidney	0.0	8.6	8.2
Missing*	0.0	0.3	0.2

* When "retransplant" is indicated, the primary disease is passed forward from the prior transplant in order to indicate the initial primary disease causing organ failure. "Missing" may include some patients for whom retransplant is indicated but no prior diagnosis can be found.

C. Transplant Information

Table C3D. Deceased donor characteristics
Transplants performed between 07/01/2016 and 06/30/2017

Donor Characteristic	Percentage in each category		
	Center (N=71)	Region (N=1,049)	U.S. (N=13,841)
Cause of Death (%)			
Deceased: Stroke	32.4	25.1	24.8
Deceased: MVA	12.7	13.8	14.9
Deceased: Other	54.9	61.1	60.3
Ethnicity/Race (%)*			
White	59.2	70.8	68.0
African-American	23.9	13.9	14.1
Hispanic/Latino	14.1	11.2	14.2
Asian	2.8	2.2	2.9
Other	0.0	1.9	0.9
Not Reported	0.0	0.0	0.0
Age (%)			
<2 years	0.0	1.0	1.1
2-11 years	1.4	1.6	2.9
12-17	5.6	4.8	4.7
18-34	32.4	35.4	36.6
35-49 years	29.6	27.6	29.4
50-64 years	28.2	27.6	23.1
65+ years	2.8	2.0	2.3
Unknown	0.0	0.0	0.0
Gender (%)			
Male	64.8	63.9	60.9
Female	35.2	36.1	39.1
Blood Type (%)			
O	53.5	45.8	47.9
A	22.5	37.1	37.0
B	15.5	12.6	11.4
AB	8.5	4.6	3.7
Unknown	0.0	0.0	0.0
No	81.7	85.6	88.1

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

C. Transplant Information

Table C3L. Living donor characteristics
Transplants performed between 07/01/2016 and 06/30/2017

Donor Characteristic	Percentage in each category		
	Center (N=25)	Region (N=672)	U.S. (N=5,722)
Ethnicity/Race (%)*			
White	60.0	77.5	70.8
African-American	12.0	7.3	9.3
Hispanic/Latino	24.0	11.3	13.7
Asian	4.0	2.4	4.8
Other	0.0	1.5	1.3
Not Reported	0.0	0.0	0.0
Age (%)			
0-11 years	0.0	0.0	0.0
12-17	0.0	0.0	0.0
18-34	28.0	27.1	27.8
35-49 years	28.0	39.1	38.8
50-64 years	44.0	30.1	29.6
65+ years	0.0	3.7	3.8
Unknown	0.0	0.0	0.0
Gender (%)			
Male	20.0	39.1	36.2
Female	80.0	60.9	63.8
Blood Type (%)			
O	72.0	62.8	63.2
A	24.0	29.5	27.7
B	4.0	6.2	7.8
AB	0.0	1.5	1.4
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 07/01/2016 and 06/30/2017

Transplant Characteristic	Percentage in each category		
	Center (N=71)	Region (N=1,049)	U.S. (N=13,841)
Cold Ischemic Time (Hours): Local (%)			
Deceased: 0-11 hr	44.6	41.1	37.8
Deceased: 12-21 hr	50.0	48.1	45.3
Deceased: 22-31 hr	5.4	9.4	13.1
Deceased: 32-41 hr	0.0	0.9	1.9
Deceased: 42+ hr	0.0	0.0	0.4
Not Reported	0.0	0.5	1.5
Cold Ischemic Time (Hours): Shared (%)			
Deceased: 0-11 hr	6.7	14.8	10.1
Deceased: 12-21 hr	60.0	52.2	37.8
Deceased: 22-31 hr	33.3	30.7	35.2
Deceased: 32-41 hr	0.0	1.9	11.3
Deceased: 42+ hr	0.0	0.0	4.2
Not Reported	0.0	0.4	1.4
Level of Mismatch (%)			
A Locus Mismatches (%)			
0	8.5	14.5	11.9
1	33.8	37.6	39.1
2	54.9	46.5	48.4
Not Reported	2.8	1.4	0.6
B Locus Mismatches (%)			
0	9.9	10.2	7.5
1	21.1	23.6	25.2
2	66.2	64.7	66.7
Not Reported	2.8	1.4	0.6
DR Locus Mismatches (%)			
0	16.9	18.9	17.4
1	45.1	44.8	46.7
2	35.2	34.9	35.2
Not Reported	2.8	1.4	0.6
Total Mismatches (%)			
0	7.0	7.6	4.8
1	0.0	1.6	1.4
2	0.0	4.3	5.1
3	15.5	13.9	14.4
4	23.9	24.7	27.5
5	33.8	32.0	31.6
6	16.9	14.4	14.6
Not Reported	2.8	1.4	0.6
Procedure Type (%)			
Kidney alone	95.8	90.6	93.1
Kidney and another organ	4.2	9.4	6.9
Dialysis in First Week After Transplant (%)			
Yes	38.0	29.6	27.0
No	62.0	70.4	72.1
Not Reported	0.0	0.1	0.8
Sharing (%)			
Local	78.9	74.3	70.5
Shared	21.1	25.7	29.5
Median Time in Hospital After Transplant*	3.0 Days	5.0 Days	5.0 Days

* Multiple organ transplants are excluded from this statistic.

C. Transplant Information

Table C4L. Living donor transplant characteristics
Transplants performed between 07/01/2016 and 06/30/2017

Transplant Characteristic	Percentage in each category		
	Center (N=25)	Region (N=672)	U.S. (N=5,722)
Relation with Donor (%)			
Related	60.0	46.3	43.9
Unrelated	40.0	53.7	56.0
Not Reported	0.0	0.0	0.1
Level of Mismatch (%)			
A Locus Mismatches (%)			
0	12.0	18.8	17.6
1	64.0	52.1	51.4
2	24.0	29.0	30.4
Not Reported	0.0	0.1	0.6
B Locus Mismatches (%)			
0	8.0	11.8	11.2
1	60.0	47.9	45.6
2	32.0	40.2	42.6
Not Reported	0.0	0.1	0.6
DR Locus Mismatches (%)			
0	20.0	16.5	17.2
1	56.0	51.9	49.8
2	24.0	31.4	32.4
Not Reported	0.0	0.1	0.6
Total Mismatches (%)			
0	4.0	6.2	5.7
1	0.0	4.0	4.0
2	16.0	14.0	13.6
3	44.0	25.7	24.3
4	16.0	17.7	17.5
5	8.0	20.1	22.6
6	12.0	12.1	11.7
Not Reported	0.0	0.1	0.6
Procedure Type (%)			
Kidney alone	100.0	100.0	100.0
Kidney and another organ	0.0	0.0	0.0
Dialysis in First Week After Transplant (%)			
Yes	4.0	4.5	3.3
No	96.0	95.5	95.9
Not Reported	0.0	0.0	0.8
Median Time in Hospital After Transplant*	3.0 Days	4.0 Days	4.0 Days

* Multiple organ transplants are excluded from this statistic.

C. Transplant Information

Table C5. Adult (18+) 1-month survival with a functioning graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	240	41,909
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	99.17%	98.42%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	98.05%	--
Number of observed graft failures (including deaths) during the first month after transplant	2	663
Number of expected graft failures (including deaths) during the first month after transplant	4.72	--
Estimated hazard ratio*	0.60	--
95% credible interval for the hazard ratio**	[0.16, 1.30]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.16, 1.30], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 40% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 84% reduced risk up to 30% increased risk.

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

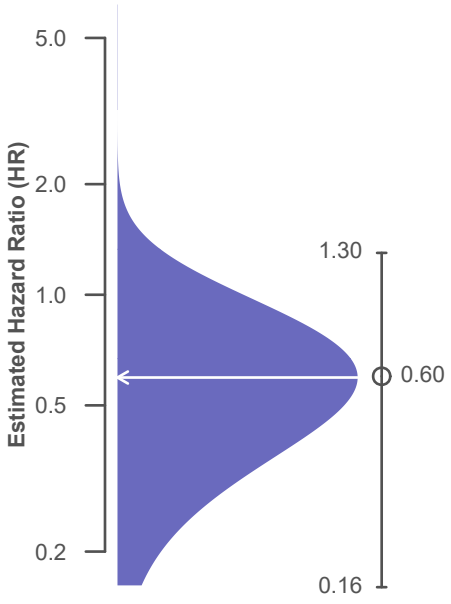
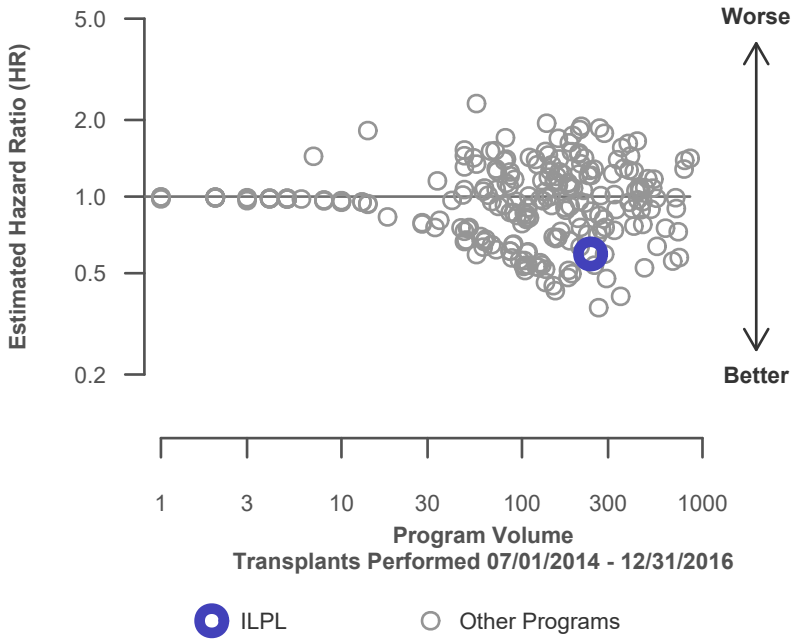


Figure C2. Adult (18+) 1-month graft failure HR program comparison



C. Transplant Information

Table C5D. Adult (18+) 1-month survival with a functioning deceased donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	194	28,418
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	98.97%	98.06%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	97.78%	--
Number of observed graft failures (including deaths) during the first month after transplant	2	550
Number of expected graft failures (including deaths) during the first month after transplant	4.35	--
Estimated hazard ratio*	0.63	--
95% credible interval for the hazard ratio**	[0.17, 1.38]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.17, 1.38], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 37% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 83% reduced risk up to 38% increased risk.

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

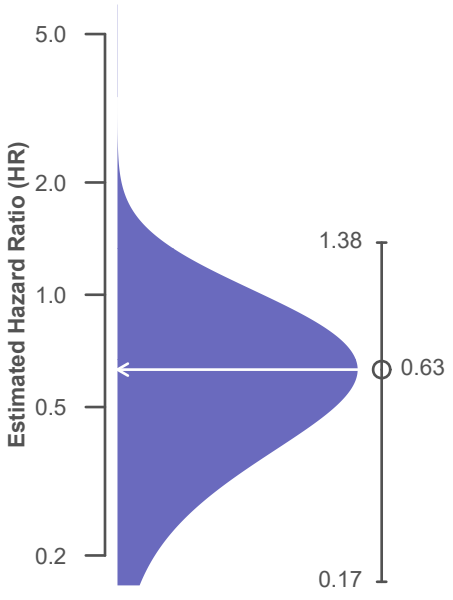
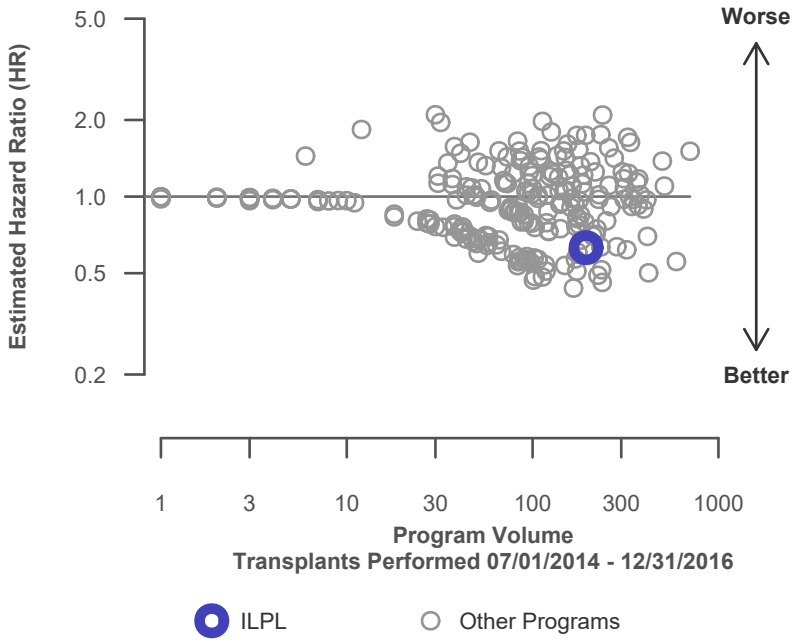


Figure C2D. Adult (18+) 1-month deceased donor graft failure HR program comparison



C. Transplant Information

Table C5L. Adult (18+) 1-month survival with a functioning living donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	46	13,491
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.16%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	99.20%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	113
Number of expected graft failures (including deaths) during the first month after transplant	0.37	--
Estimated hazard ratio*	0.84	--
95% credible interval for the hazard ratio**	[0.10, 2.35]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.10, 2.35], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 16% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 90% reduced risk up to 135% increased risk.

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

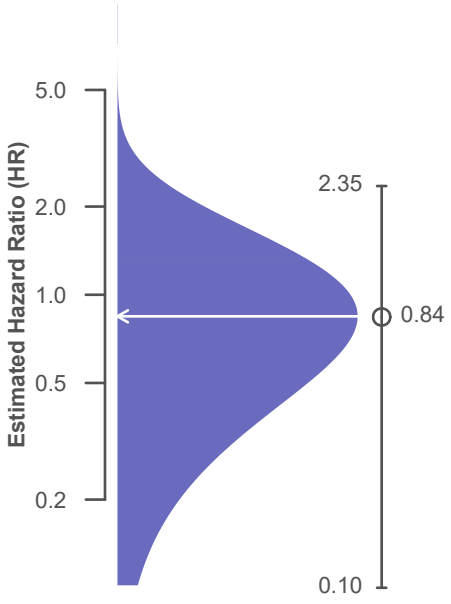
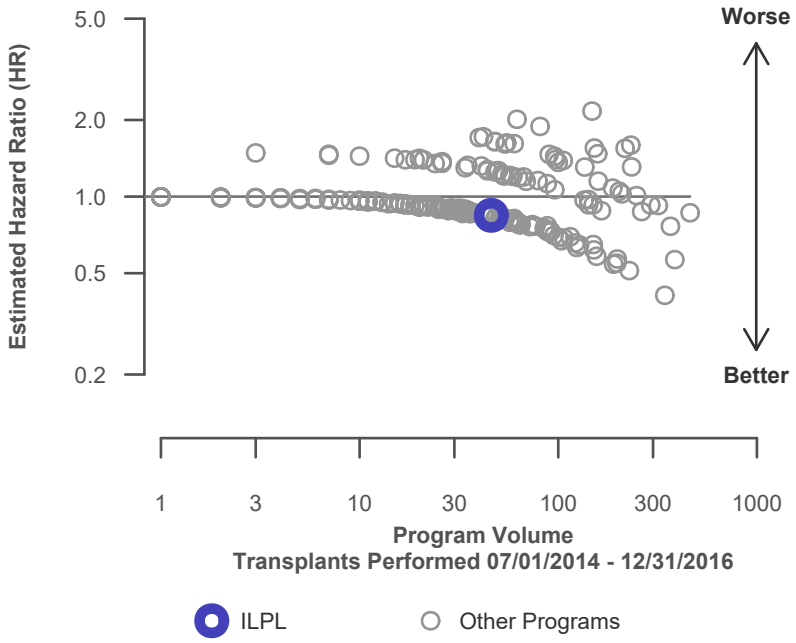


Figure C2L. Adult (18+) 1-month living donor graft failure HR program comparison



C. Transplant Information

Table C6. Adult (18+) 1-year survival with a functioning graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	240	41,909
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	97.30%	95.23%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	94.06%	--
Number of observed graft failures (including deaths) during the first year after transplant	6	1,869
Number of expected graft failures (including deaths) during the first year after transplant	13.86	--
Estimated hazard ratio*	0.50	--
95% credible interval for the hazard ratio**	[0.22, 0.91]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.22, 0.91], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 50% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 78% reduced risk up to 9% reduced risk.

Figure C3. Adult (18+) 1-year graft failure HR estimate

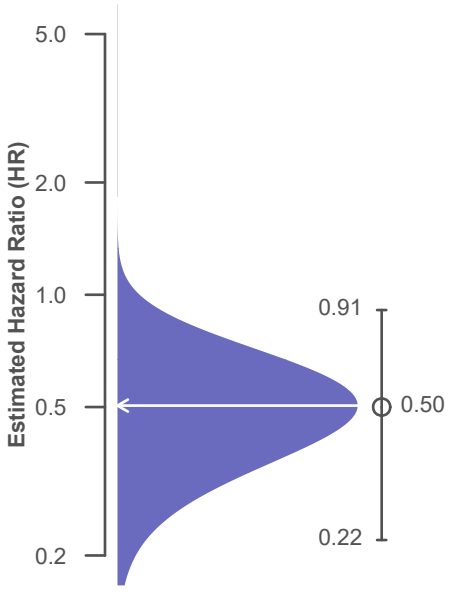
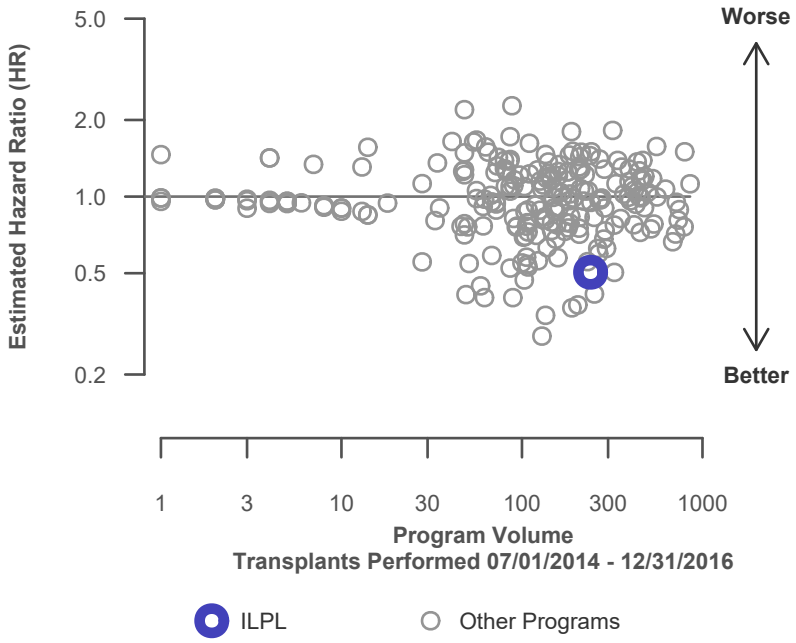


Figure C4. Adult (18+) 1-year graft failure HR program comparison



C. Transplant Information

Table C6D. Adult (18+) 1-year survival with a functioning deceased donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	194	28,418
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	96.70%	94.01%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	93.15%	--
Number of observed graft failures (including deaths) during the first year after transplant	6	1,594
Number of expected graft failures (including deaths) during the first year after transplant	12.98	--
Estimated hazard ratio*	0.53	--
95% credible interval for the hazard ratio**	[0.23, 0.96]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.23, 0.96], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 47% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 77% reduced risk up to 4% reduced risk.

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

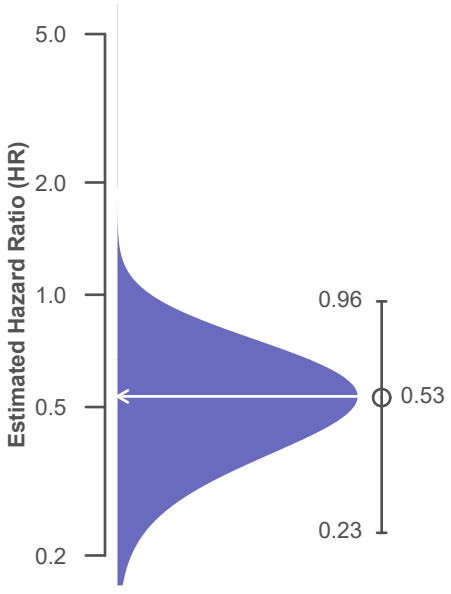
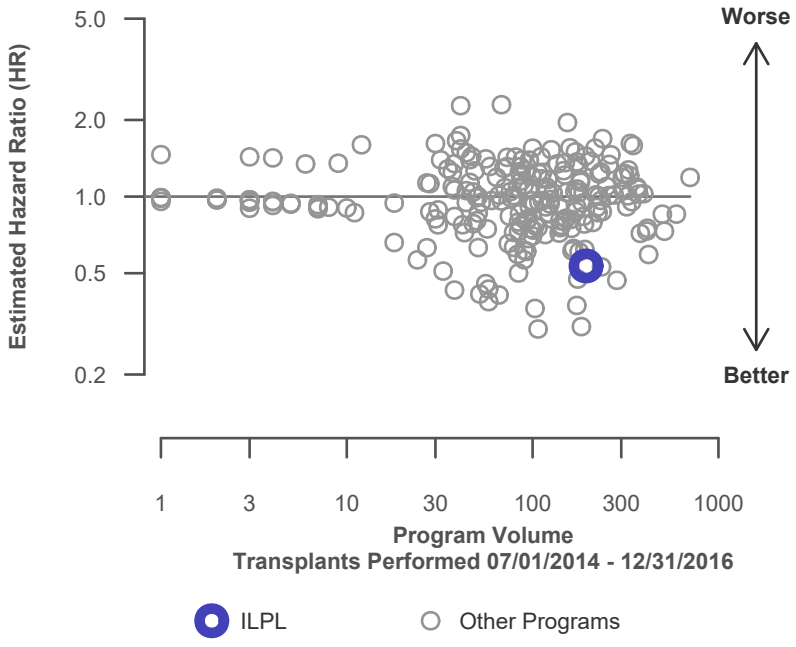


Figure C4D. Adult (18+) 1-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C6L. Adult (18+) 1-year survival with a functioning living donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	46	13,491
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	100.00%	97.81%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	97.91%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	275
Number of expected graft failures (including deaths) during the first year after transplant	0.87	--
Estimated hazard ratio*	0.70	--
95% credible interval for the hazard ratio**	[0.08, 1.94]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.08, 1.94], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 30% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 92% reduced risk up to 94% increased risk.

Figure C3L. Adult (18+) 1-year living donor graft failure HR estimate

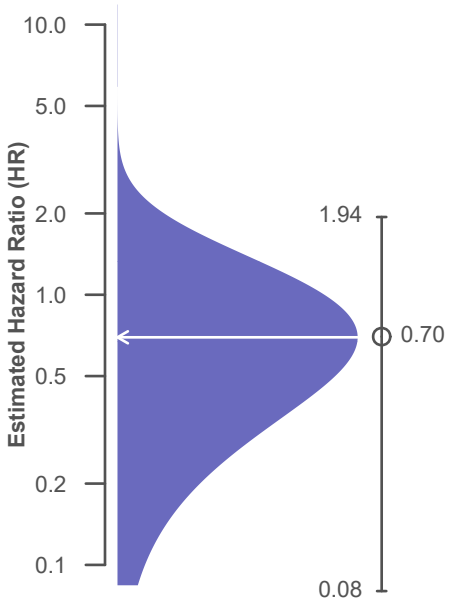
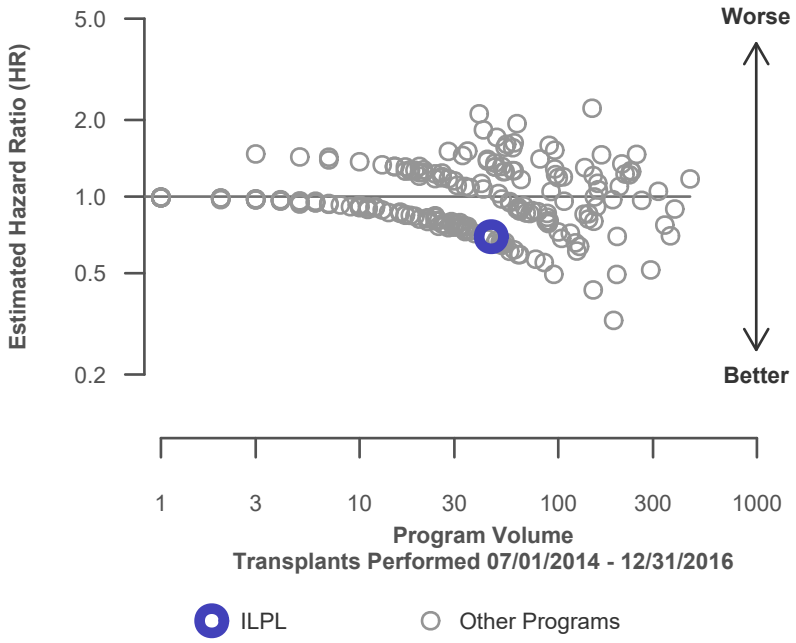


Figure C4L. Adult (18+) 1-year living donor graft failure HR program comparison



C. Transplant Information

Table C7. Adult (18+) 3-year survival with a functioning graft
Single organ transplants performed between 01/01/2012 and 06/30/2014
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	168	38,474
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	89.88%	88.69%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	88.02%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	17	4,353
Number of expected graft failures (including deaths) during the first 3 years after transplant	20.10	--
Estimated hazard ratio*	0.86	--
95% credible interval for the hazard ratio**	[0.52, 1.29]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.52, 1.29], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 14% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 48% reduced risk up to 29% increased risk.

Figure C5. Adult (18+) 3-year graft failure HR estimate

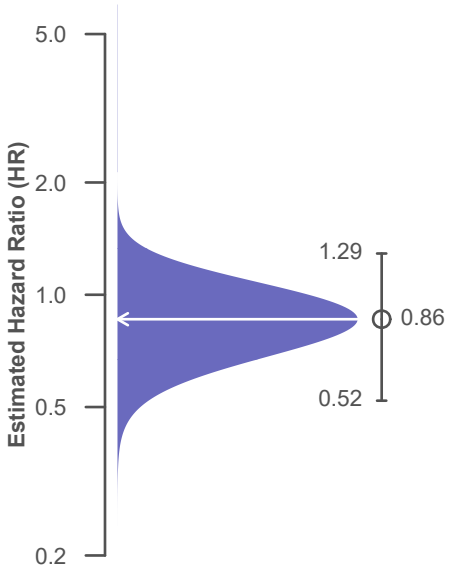
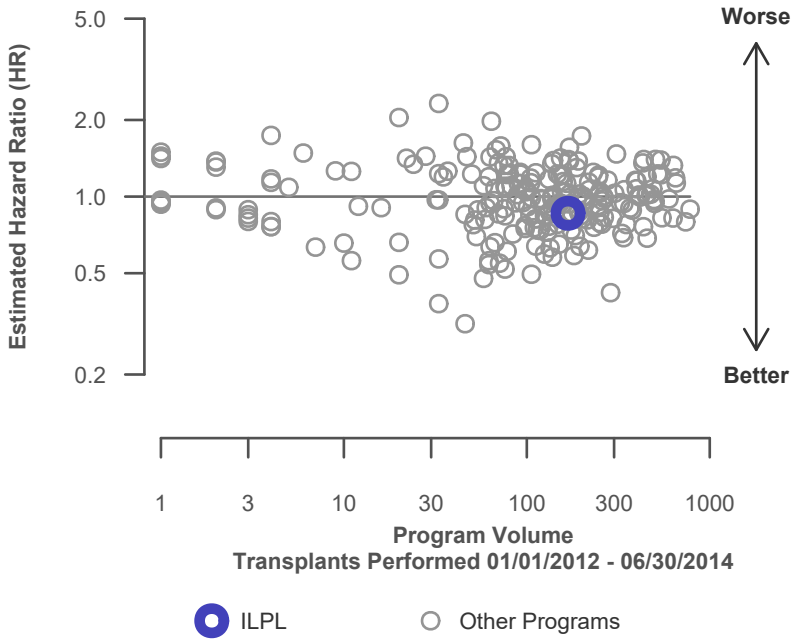


Figure C6. Adult (18+) 3-year graft failure HR program comparison



C. Transplant Information

Table C7D. Adult (18+) 3-year survival with a functioning deceased donor graft
Single organ transplants performed between 01/01/2012 and 06/30/2014
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	134	25,126
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	88.81%	86.29%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	86.87%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	15	3,445
Number of expected graft failures (including deaths) during the first 3 years after transplant	17.49	--
Estimated hazard ratio*	0.87	--
95% credible interval for the hazard ratio**	[0.51, 1.33]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.51, 1.33], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 13% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 49% reduced risk up to 33% increased risk.

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

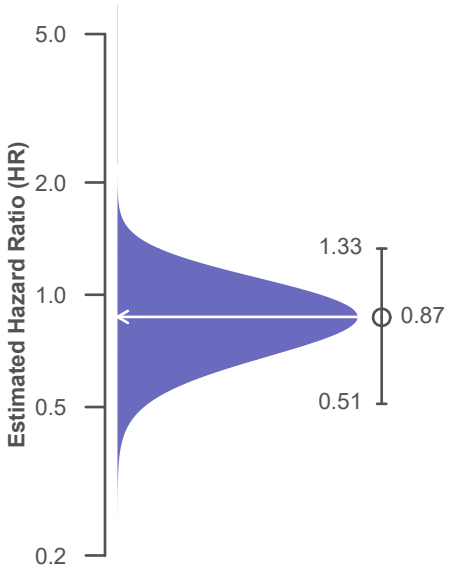
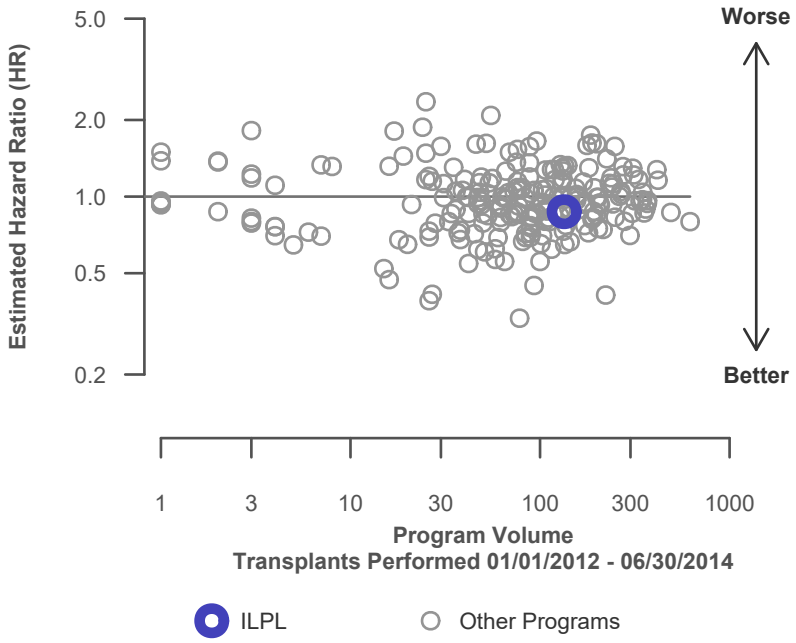


Figure C6D. Adult (18+) 3-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C7L. Adult (18+) 3-year survival with a functioning living donor graft
Single organ transplants performed between 01/01/2012 and 06/30/2014
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	34	13,348
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	94.12%	93.20%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	92.55%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	2	908
Number of expected graft failures (including deaths) during the first 3 years after transplant	2.61	--
Estimated hazard ratio*	0.87	--
95% credible interval for the hazard ratio**	[0.24, 1.90]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.24, 1.90], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 13% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 76% reduced risk up to 90% increased risk.

Figure C5L. Adult (18+) 3-year living donor graft failure HR estimate

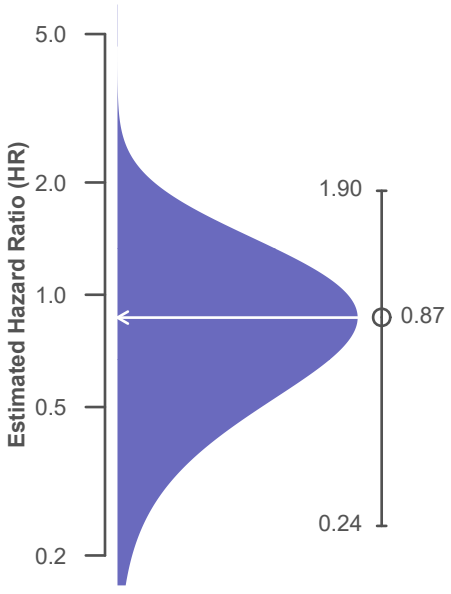
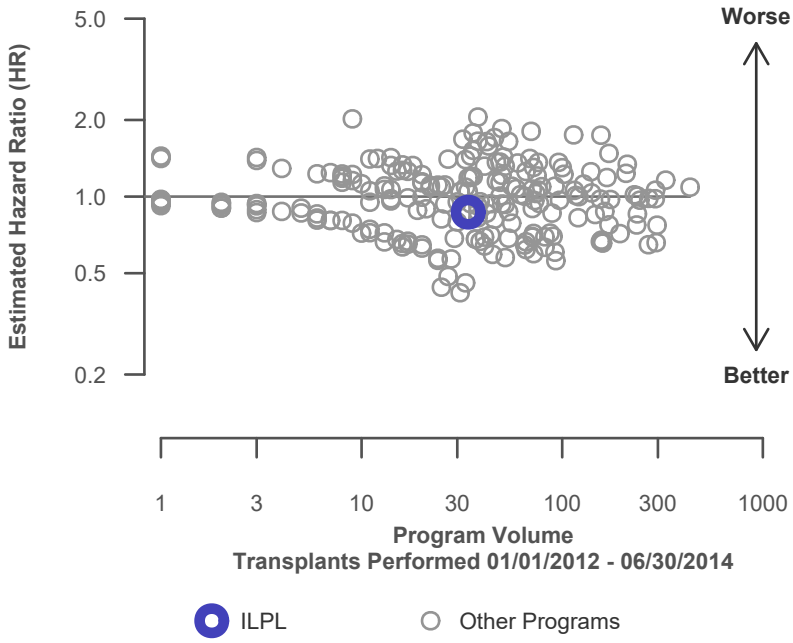


Figure C6L. Adult (18+) 3-year living donor graft failure HR program comparison



C. Transplant Information

Table C8. Pediatric (<18) 1-month survival with a functioning graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	3	1,805
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	100.00%	98.78%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)*	--%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	22
Number of expected graft failures (including deaths) during the first month after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of graft failures, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients.

Figure C7. Pediatric (<18) 1-month graft failure HR estimate

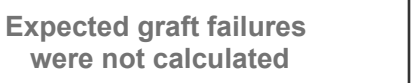
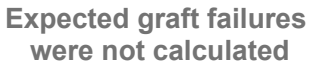


Figure C8. Pediatric (<18) 1-month graft failure HR program comparison



C. Transplant Information

Table C8D. Pediatric (<18) 1-month survival with a functioning deceased donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	2	1,179
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	100.00%	98.73%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)	98.73%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	15
Number of expected graft failures (including deaths) during the first month after transplant	0.03	--
Estimated hazard ratio*	0.99	--
95% credible interval for the hazard ratio**	[0.12, 2.75]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.12, 2.75], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 1% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 88% reduced risk up to 175% increased risk.

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

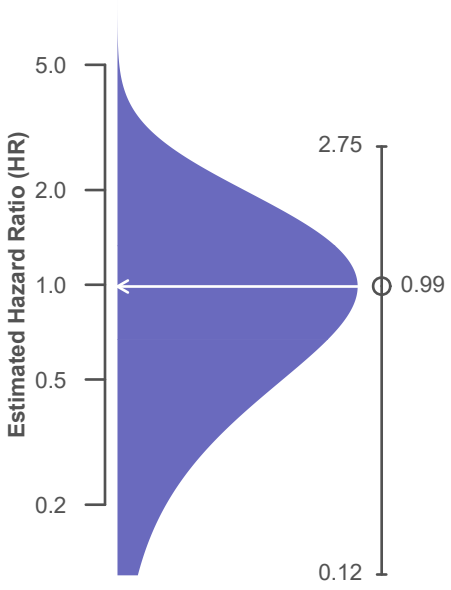
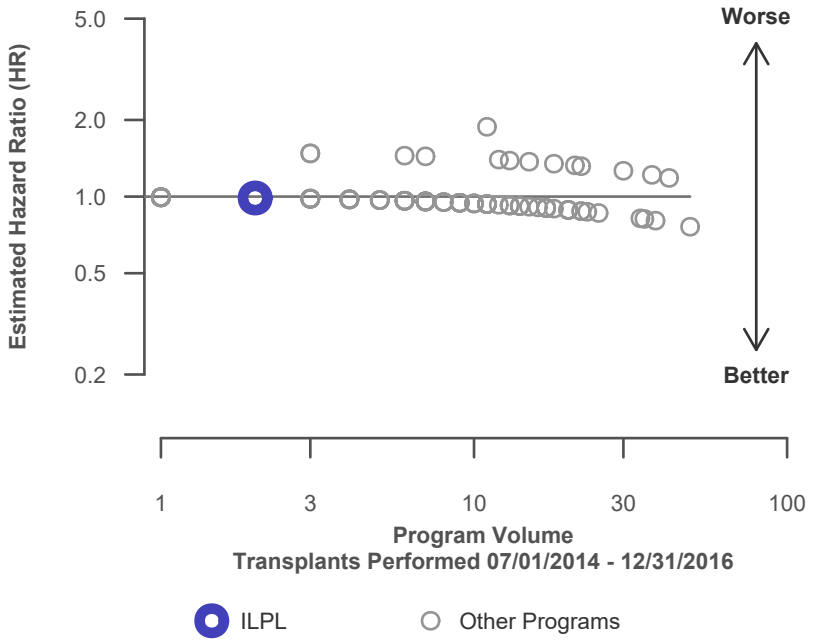


Figure C8D. Pediatric (<18) 1-month deceased donor graft failure HR program comparison



C. Transplant Information

Table C8L. Pediatric (<18) 1-month survival with a functioning living donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	1	626
Estimated probability of surviving with a functioning graft at 1 month (unadjusted for patient and donor characteristics)	100.00%	98.88%
Expected probability of surviving with a functioning graft at 1 month (adjusted for patient and donor characteristics)*	--%	--
Number of observed graft failures (including deaths) during the first month after transplant	0	7
Number of expected graft failures (including deaths) during the first month after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of graft failures, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of living donor grafts.

Figure C7L. Pediatric (<18) 1-month living donor graft failure HR estimate

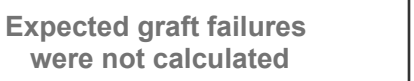
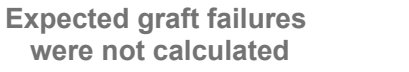


Figure C8L. Pediatric (<18) 1-month living donor graft failure HR program comparison



C. Transplant Information

Table C9. Pediatric (<18) 1-year survival with a functioning graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	3	1,805
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	100.00%	97.88%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)*	--%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	37
Number of expected graft failures (including deaths) during the first year after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of graft failures, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients.

Figure C9. Pediatric (<18) 1-year graft failure HR estimate

Expected graft failures were not calculated

Figure C10. Pediatric (<18) 1-year graft failure HR program comparison

Expected graft failures were not calculated

C. Transplant Information

Table C9D. Pediatric (<18) 1-year survival with a functioning deceased donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	2	1,179
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	100.00%	97.84%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)	97.84%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	25
Number of expected graft failures (including deaths) during the first year after transplant	0.04	--
Estimated hazard ratio*	0.98	--
95% credible interval for the hazard ratio**	[0.12, 2.73]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.12, 2.73], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 2% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 88% reduced risk up to 173% increased risk.

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

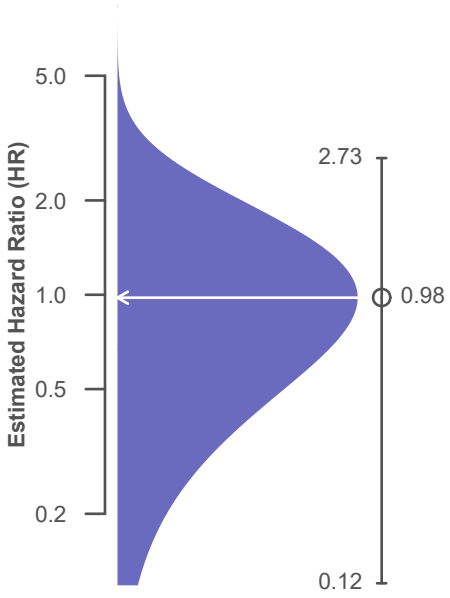
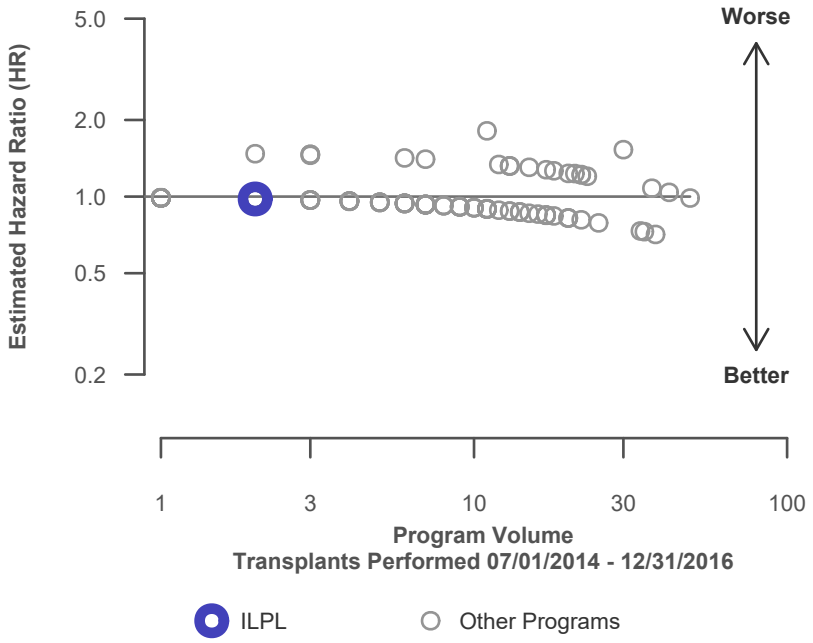


Figure C10D. Pediatric (<18) 1-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C9L. Pediatric (<18) 1-year survival with a functioning living donor graft
Single organ transplants performed between 07/01/2014 and 12/31/2016
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	1	626
Estimated probability of surviving with a functioning graft at 1 year (unadjusted for patient and donor characteristics)	100.00%	97.97%
Expected probability of surviving with a functioning graft at 1 year (adjusted for patient and donor characteristics)*	--%	--
Number of observed graft failures (including deaths) during the first year after transplant	0	12
Number of expected graft failures (including deaths) during the first year after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of graft failures, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of living donor grafts.

Figure C9L. Pediatric (<18) 1-year living donor graft failure HR estimate

Expected graft failures were not calculated

Figure C10L. Pediatric (<18) 1-year living donor graft failure HR program comparison

Expected graft failures were not calculated

C. Transplant Information

Table C10. Pediatric (<18) 3-year survival with a functioning graft
Single organ transplants performed between 01/01/2012 and 06/30/2014
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	3	1,780
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	100.00%	91.18%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	90.74%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	0	157
Number of expected graft failures (including deaths) during the first 3 years after transplant	0.29	--
Estimated hazard ratio*	0.87	--
95% credible interval for the hazard ratio**	[0.11, 2.43]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.11, 2.43], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 13% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 89% reduced risk up to 143% increased risk.

Figure C11. Pediatric (<18) 3-year graft failure HR estimate

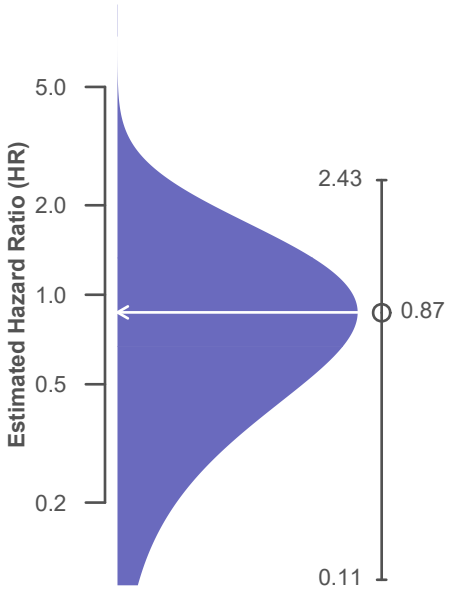
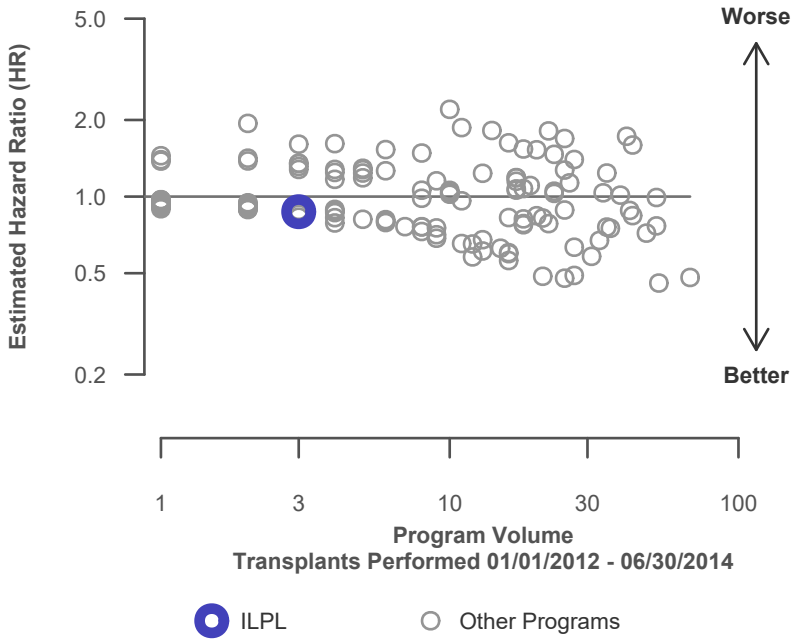


Figure C12. Pediatric (<18) 3-year graft failure HR program comparison



C. Transplant Information

Table C10D. Pediatric (<18) 3-year survival with a functioning deceased donor graft
Single organ transplants performed between 01/01/2012 and 06/30/2014
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	2	1,103
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	100.00%	89.21%
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	0	119
Number of expected graft failures (including deaths) during the first 3 years after transplant	0.24	--
Estimated hazard ratio*	0.89	--
95% credible interval for the hazard ratio**	[0.11, 2.49]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.11, 2.49], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 11% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 89% reduced risk up to 149% increased risk.

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

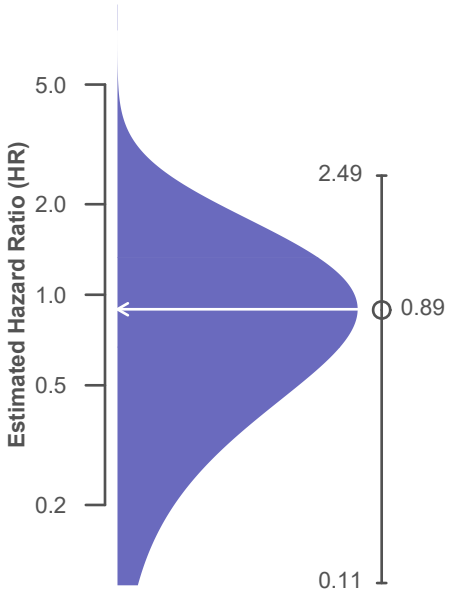
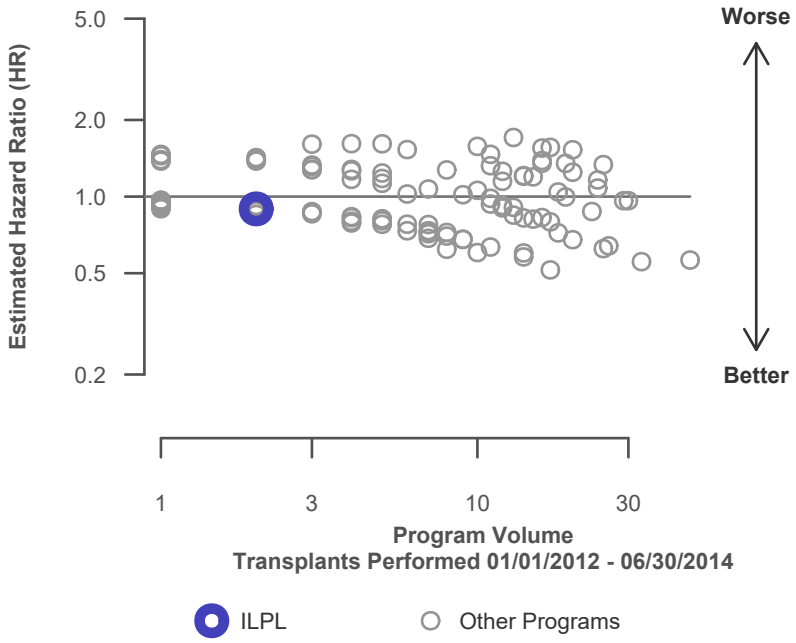


Figure C12D. Pediatric (<18) 3-year deceased donor graft failure HR program comparison



C. Transplant Information

Table C10L. Pediatric (<18) 3-year survival with a functioning living donor graft
Single organ transplants performed between 01/01/2012 and 06/30/2014
Deaths and retransplants are considered graft failures

	ILPL	U.S.
Number of transplants evaluated	1	677
Estimated probability of surviving with a functioning graft at 3 years (unadjusted for patient and donor characteristics)	100.00%	94.39%
Expected probability of surviving with a functioning graft at 3 years (adjusted for patient and donor characteristics)	94.39%	--
Number of observed graft failures (including deaths) during the first 3 years after transplant	0	38
Number of expected graft failures (including deaths) during the first 3 years after transplant	0.06	--
Estimated hazard ratio*	0.97	--
95% credible interval for the hazard ratio**	[0.12, 2.71]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's graft failure rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.12, 2.71], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 3% lower risk of graft failure compared to an average program, but ILPL's performance could plausibly range from 88% reduced risk up to 171% increased risk.

Figure C11L. Pediatric (<18) 3-year living donor graft failure HR estimate

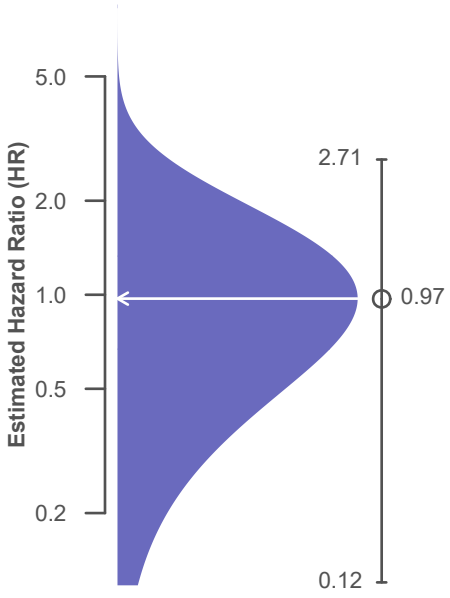
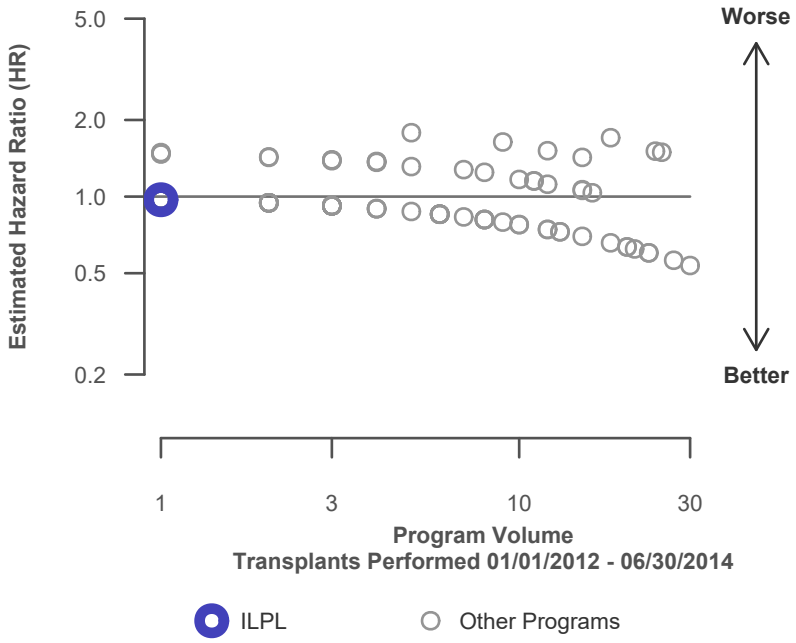


Figure C12L. Pediatric (<18) 3-year living donor graft failure HR program comparison



C. Transplant Information

Table C11. Adult (18+) 1-month patient survival
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	213	36,218
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.50%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	99.33%	--
Number of observed deaths during the first month after transplant	0	182
Number of expected deaths during the first month after transplant	1.43	--
Estimated hazard ratio*	0.58	--
95% credible interval for the hazard ratio**	[0.07, 1.63]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.07, 1.63], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 42% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 93% reduced risk up to 63% increased risk.

Figure C13. Adult (18+) 1-month patient death HR estimate

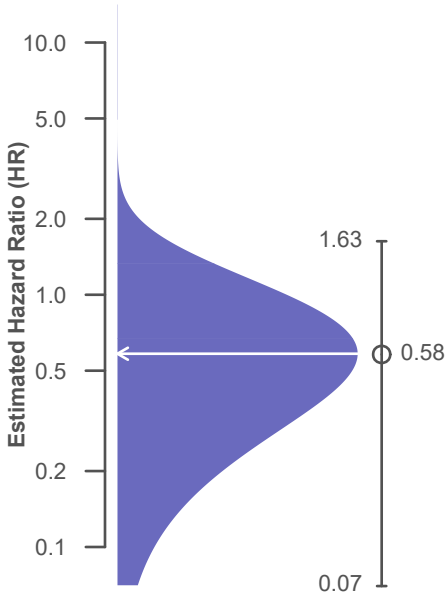
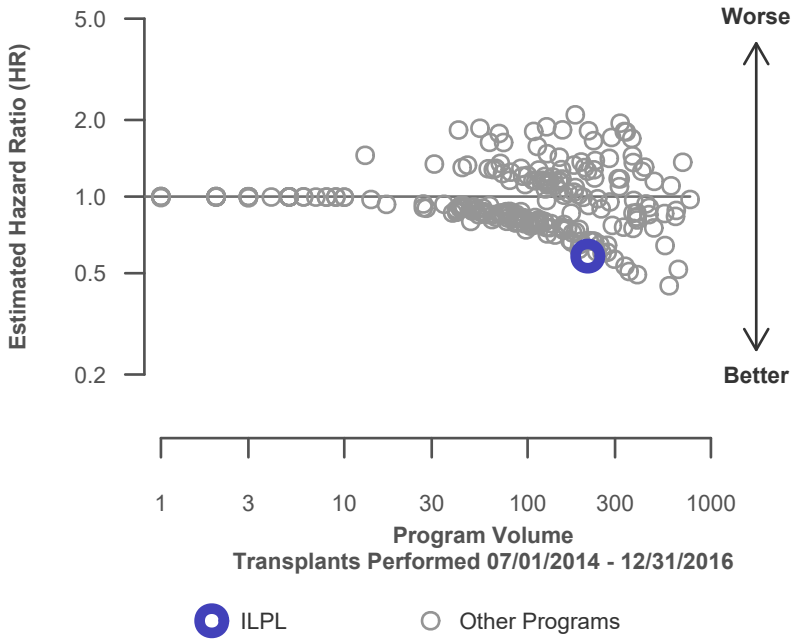


Figure C14. Adult (18+) 1-month patient death HR program comparison



C. Transplant Information

Table C11D. Adult (18+) 1-month patient survival (deceased donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	173	24,113
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.36%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	99.23%	--
Number of observed deaths during the first month after transplant	0	154
Number of expected deaths during the first month after transplant	1.34	--
Estimated hazard ratio*	0.60	--
95% credible interval for the hazard ratio**	[0.07, 1.67]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.07, 1.67], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 40% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 93% reduced risk up to 67% increased risk.

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

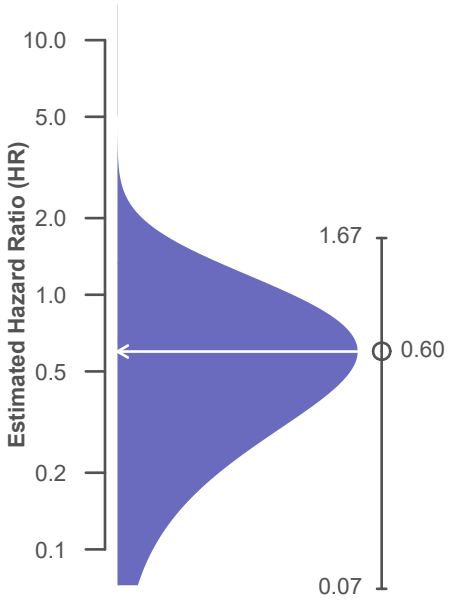
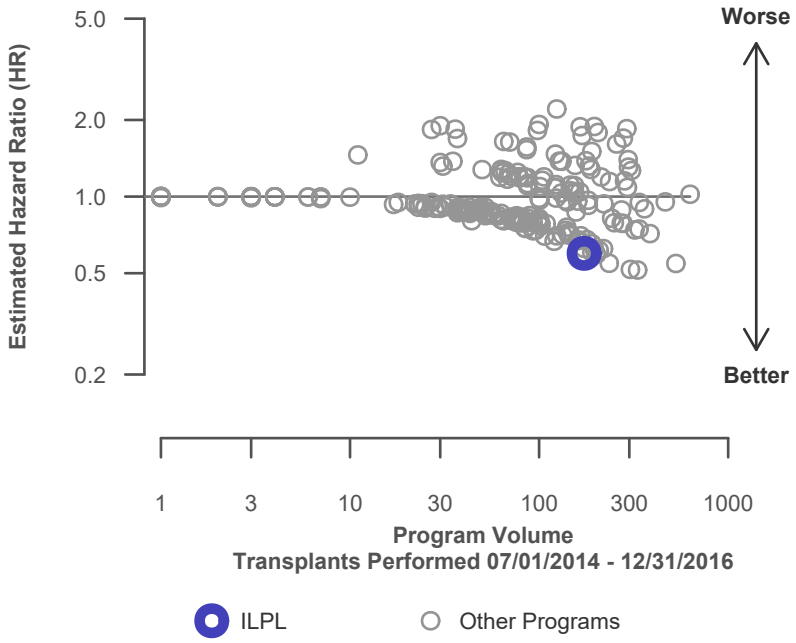


Figure C14D. Adult (18+) 1-month patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C11L. Adult (18+) 1-month patient survival (living donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	40	12,105
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.77%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)	99.79%	--
Number of observed deaths during the first month after transplant	0	28
Number of expected deaths during the first month after transplant	0.08	--
Estimated hazard ratio*	0.96	--
95% credible interval for the hazard ratio**	[0.12, 2.67]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.12, 2.67], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 4% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 88% reduced risk up to 167% increased risk.

Figure C13L. Adult (18+) 1-month patient death HR estimate (living donor grafts)

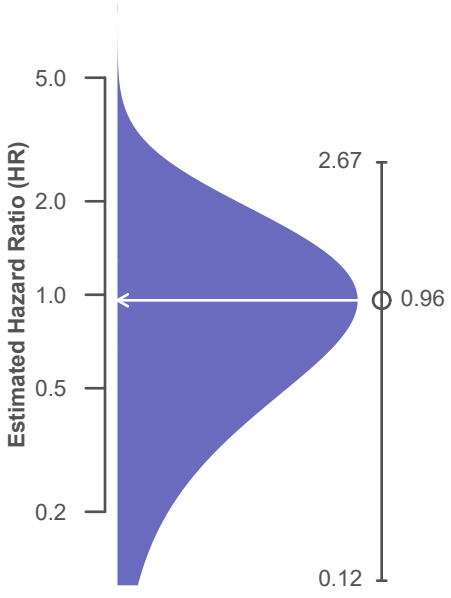
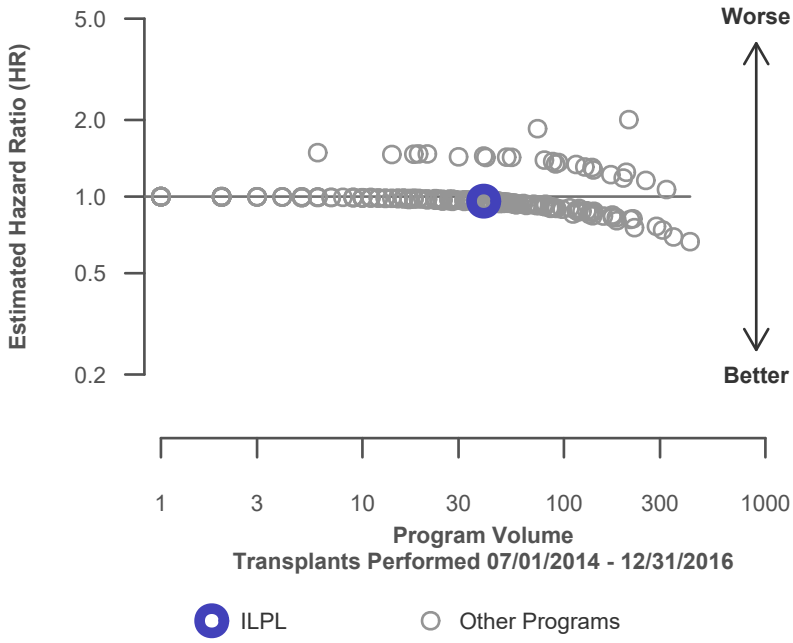


Figure C14L. Adult (18+) 1-month patient death HR program comparison (living donor grafts)



C. Transplant Information

Table C12. Adult (18+) 1-year patient survival
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	213	36,218
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	97.91%	97.36%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	96.47%	--
Number of observed deaths during the first year after transplant	4	874
Number of expected deaths during the first year after transplant	7.06	--
Estimated hazard ratio*	0.66	--
95% credible interval for the hazard ratio**	[0.24, 1.29]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.24, 1.29], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 34% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 76% reduced risk up to 29% increased risk.

Figure C15. Adult (18+) 1-year patient death HR estimate

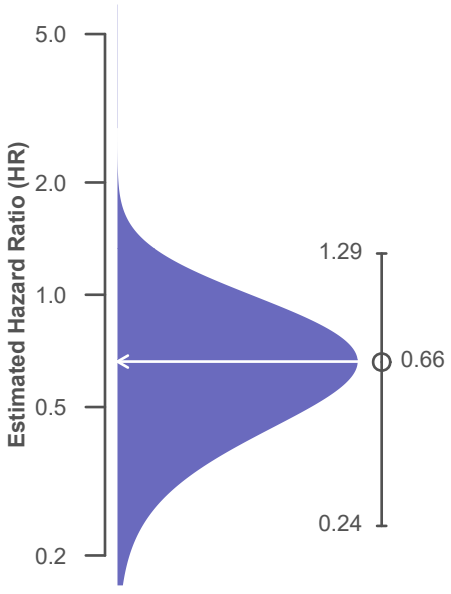
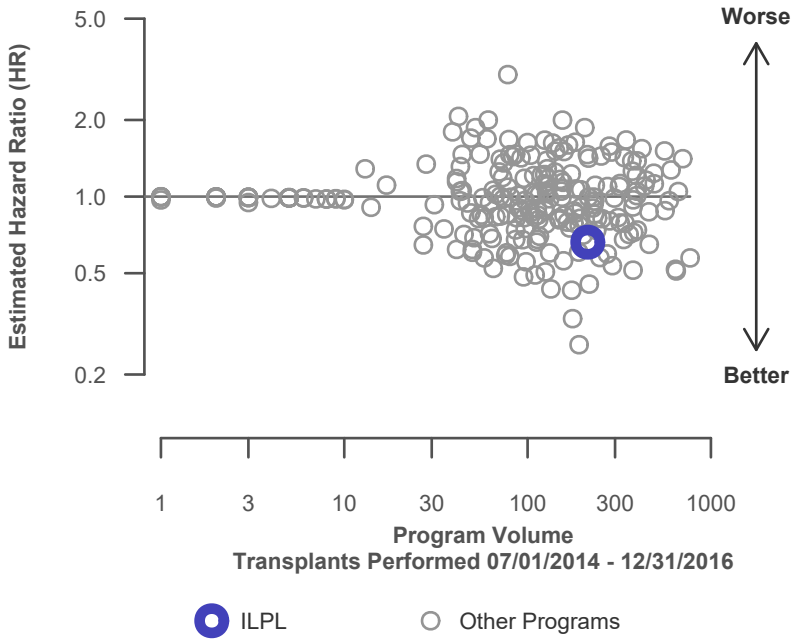


Figure C16. Adult (18+) 1-year patient death HR program comparison



C. Transplant Information

Table C12D. Adult (18+) 1-year patient survival (deceased donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	173	24,113
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	97.45%	96.58%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	95.88%	--
Number of observed deaths during the first year after transplant	4	755
Number of expected deaths during the first year after transplant	6.72	--
Estimated hazard ratio*	0.69	--
95% credible interval for the hazard ratio**	[0.25, 1.34]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.25, 1.34], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 31% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 75% reduced risk up to 34% increased risk.

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

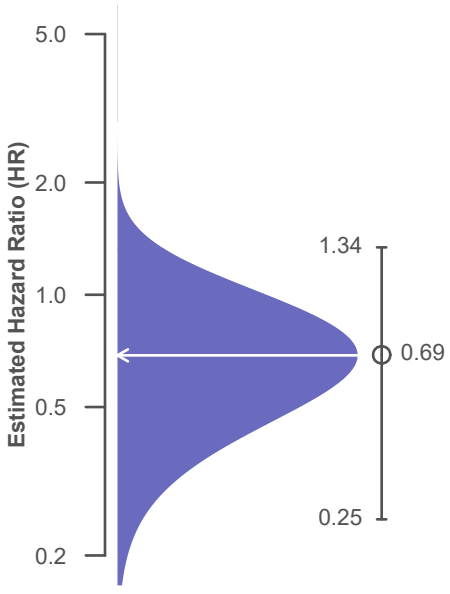
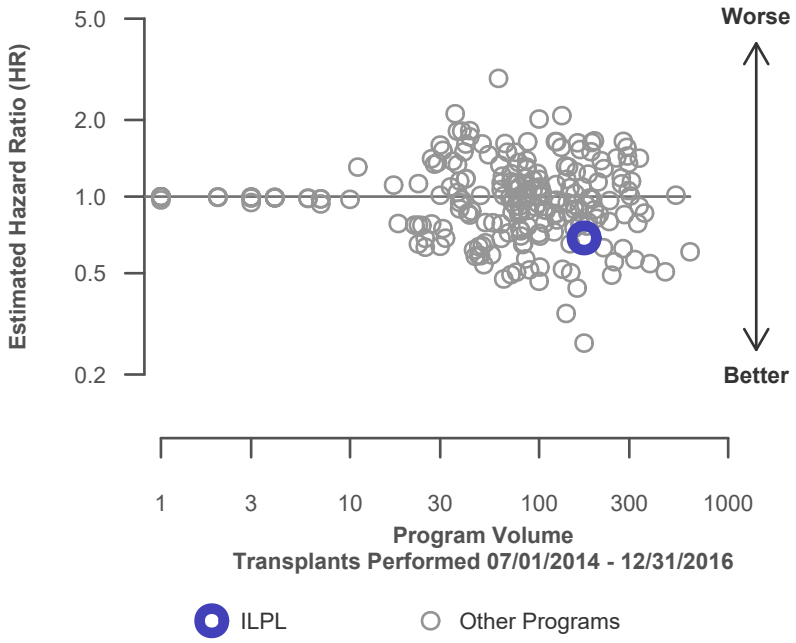


Figure C16D. Adult (18+) 1-year patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C12L. Adult (18+) 1-year patient survival (living donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	40	12,105
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	100.00%	98.91%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)	99.01%	--
Number of observed deaths during the first year after transplant	0	119
Number of expected deaths during the first year after transplant	0.34	--
Estimated hazard ratio*	0.85	--
95% credible interval for the hazard ratio**	[0.10, 2.38]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.10, 2.38], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 15% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 90% reduced risk up to 138% increased risk.

Figure C15L. Adult (18+) 1-year patient death HR estimate (living donor grafts)

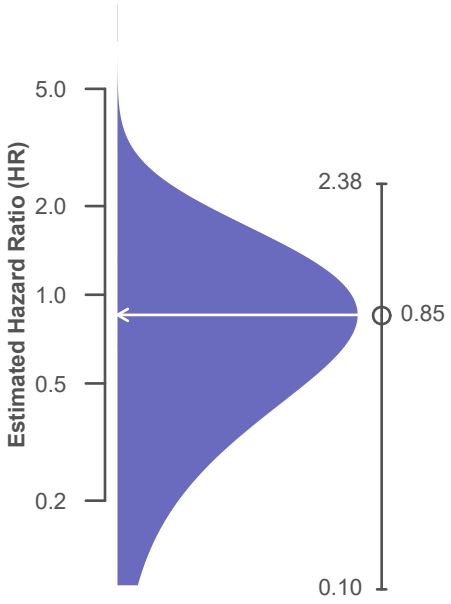
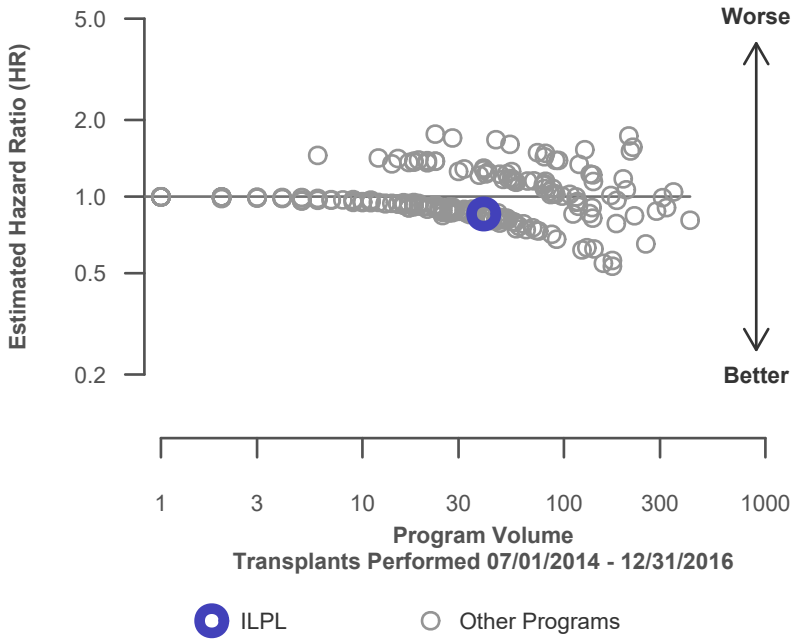


Figure C16L. Adult (18+) 1-year patient death HR program comparison (living donor grafts)



C. Transplant Information

Table C13. Adult (18+) 3-year patient survival
Single organ transplants performed between 01/01/2012 and 06/30/2014
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	144	33,703
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	94.44%	93.75%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	93.88%	--
Number of observed deaths during the first 3 years after transplant	8	2,107
Number of expected deaths during the first 3 years after transplant	8.76	--
Estimated hazard ratio*	0.93	--
95% credible interval for the hazard ratio**	[0.45, 1.59]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.45, 1.59], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 7% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 55% reduced risk up to 59% increased risk.

Figure C17. Adult (18+) 3-year patient death HR estimate

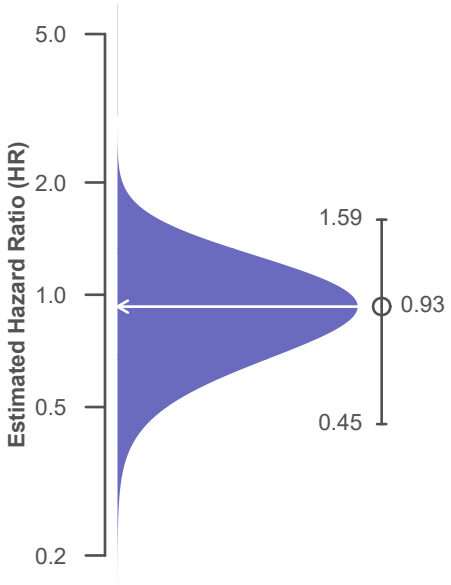
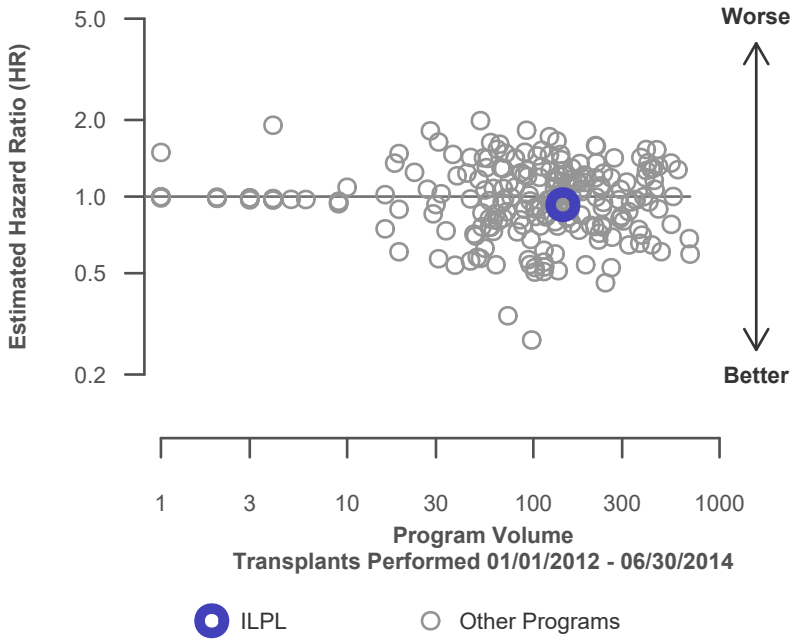


Figure C18. Adult (18+) 3-year patient death HR program comparison



C. Transplant Information

Table C13D. Adult (18+) 3-year patient survival (deceased donor graft recipients)
Single organ transplants performed between 01/01/2012 and 06/30/2014
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	118	21,830
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	94.92%	92.27%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	93.23%	--
Number of observed deaths during the first 3 years after transplant	6	1,687
Number of expected deaths during the first 3 years after transplant	7.93	--
Estimated hazard ratio*	0.81	--
95% credible interval for the hazard ratio**	[0.35, 1.45]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.35, 1.45], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 19% lower risk of patient death compared to an average program, but ILPL's performance could plausibly range from 65% reduced risk up to 45% increased risk.

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

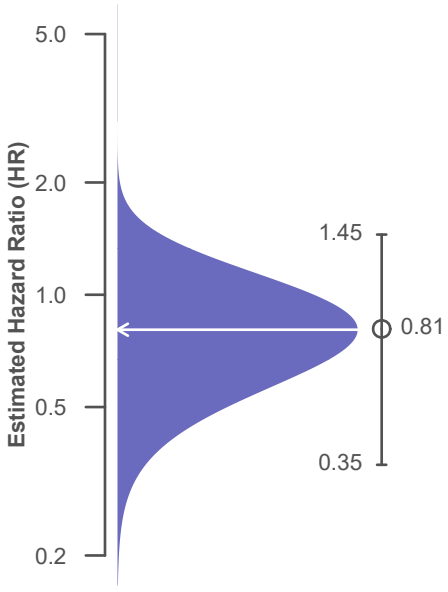
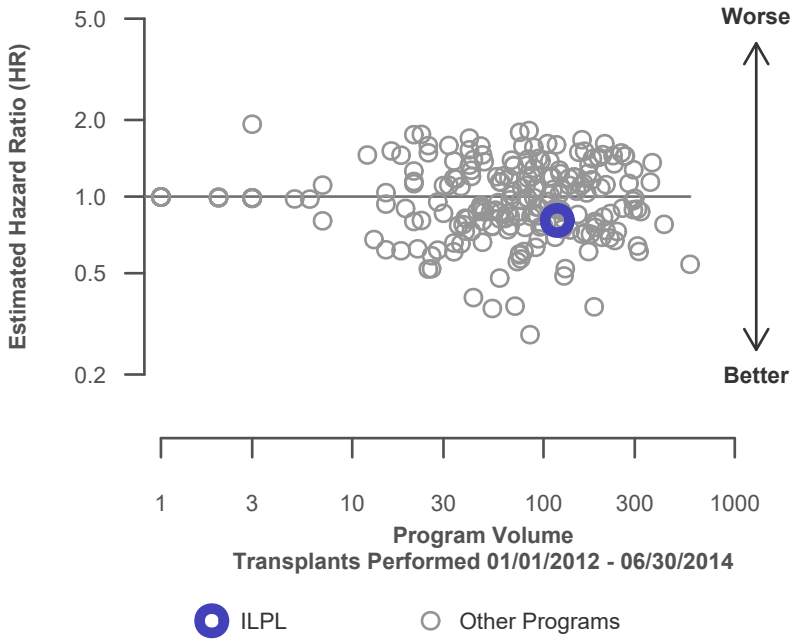


Figure C18D. Adult (18+) 3-year patient death HR program comparison (deceased donor grafts)



C. Transplant Information

Table C13L. Adult (18+) 3-year patient survival (living donor graft recipients)
Single organ transplants performed between 01/01/2012 and 06/30/2014
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	26	11,873
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	92.31%	96.46%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)	96.80%	--
Number of observed deaths during the first 3 years after transplant	2	420
Number of expected deaths during the first 3 years after transplant	0.83	--
Estimated hazard ratio*	1.41	--
95% credible interval for the hazard ratio**	[0.38, 3.10]	--

* The hazard ratio provides an estimate of how Rush University Medical Center (ILPL)'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 ILPL's patient death rate were precisely the expected rate, the estimated hazard ratio would be 1.0.
** The 95% credible interval, [0.38, 3.10], indicates the location of ILPL's true hazard ratio with 95% probability. The best estimate is 41% higher risk of patient death compared to an average program, but ILPL's performance could plausibly range from 62% reduced risk up to 210% increased risk.

Figure C17L. Adult (18+) 3-year patient death HR estimate (living donor grafts)

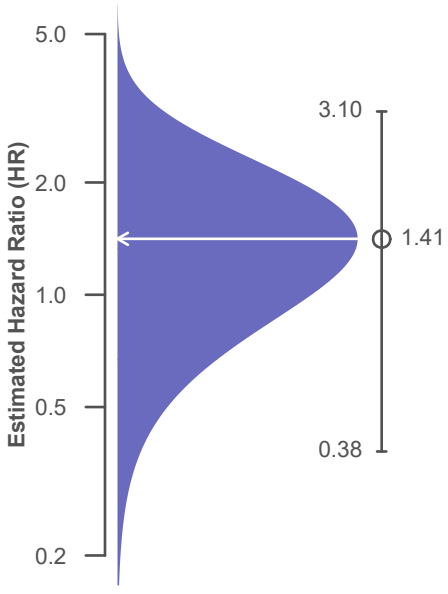
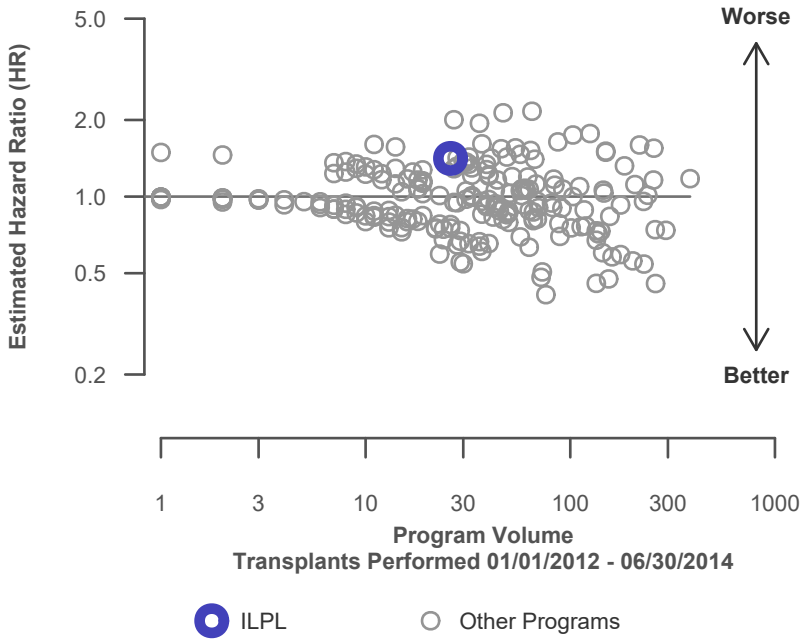


Figure C18L. Adult (18+) 3-year patient death HR program comparison (living donor grafts)



C. Transplant Information

Table C14. Pediatric (<18) 1-month patient survival
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	3	1,656
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.76%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first month after transplant	0	4
Number of expected deaths during the first month after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients.

Figure C19. Pediatric (<18) 1-month patient death HR estimate

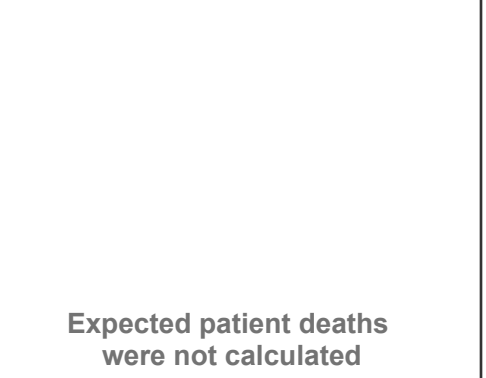
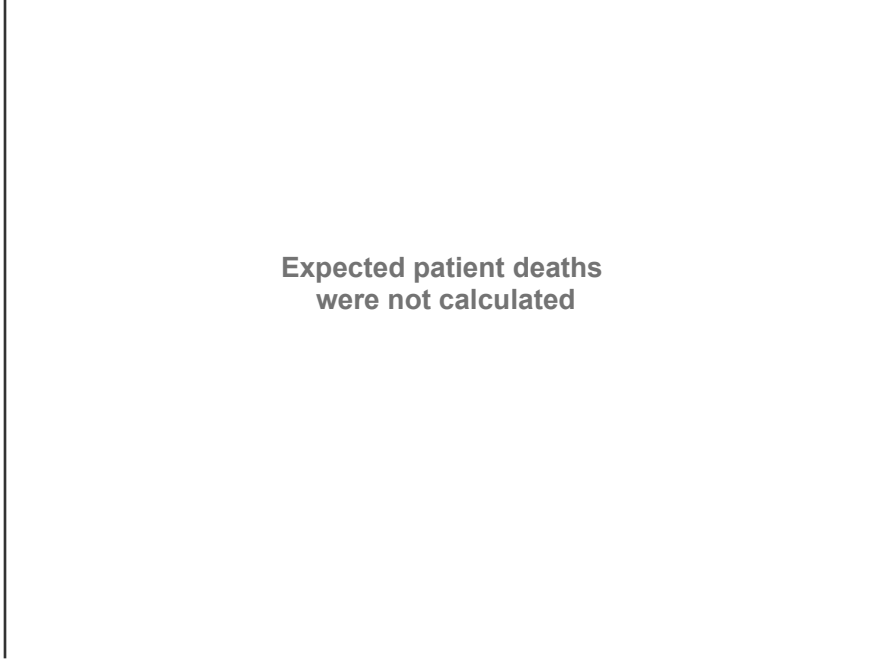


Figure C20. Pediatric (<18) 1-month patient death HR program comparison



C. Transplant Information

Table C14D. Pediatric (<18) 1-month patient survival (deceased donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	2	1,077
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.81%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first month after transplant	0	2
Number of expected deaths during the first month after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of deceased donor grafts.

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

Expected patient deaths were not calculated

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

Expected patient deaths were not calculated

C. Transplant Information

Table C14L. Pediatric (<18) 1-month patient survival (living donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	1	579
Estimated probability of surviving at 1 month (unadjusted for patient and donor characteristics)	100.00%	99.65%
Expected probability of surviving at 1 month (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first month after transplant	0	2
Number of expected deaths during the first month after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of living donor grafts.

Figure C19L. Pediatric (<18) 1-month patient death HR estimate (living donor grafts)

Expected patient deaths were not calculated

Figure C20L. Pediatric (<18) 1-month patient death HR program comparison (living donor grafts)

Expected patient deaths were not calculated

C. Transplant Information

Table C15. Pediatric (<18) 1-year patient survival
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	3	1,656
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	100.00%	99.62%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first year after transplant	0	6
Number of expected deaths during the first year after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients.

Figure C21. Pediatric (<18) 1-year patient death HR estimate

Expected patient deaths were not calculated

Figure C22. Pediatric (<18) 1-year patient death HR program comparison

Expected patient deaths were not calculated

C. Transplant Information

Table C15D. Pediatric (<18) 1-year patient survival (deceased donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	2	1,077
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	100.00%	99.61%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first year after transplant	0	4
Number of expected deaths during the first year after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of deceased donor grafts.

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

Expected patient deaths were not calculated

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

Expected patient deaths were not calculated

C. Transplant Information

Table C15L. Pediatric (<18) 1-year patient survival (living donor graft recipients)
Single organ transplants performed between 07/01/2014 and 12/31/2016
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	1	579
Estimated probability of surviving at 1 year (unadjusted for patient and donor characteristics)	100.00%	99.65%
Expected probability of surviving at 1 year (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first year after transplant	0	2
Number of expected deaths during the first year after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of living donor grafts.

Figure C21L. Pediatric (<18) 1-year patient death HR estimate (living donor grafts)

Expected patient deaths were not calculated

Figure C22L. Pediatric (<18) 1-year patient death HR program comparison (living donor grafts)

Expected patient deaths were not calculated

C. Transplant Information

Table C16. Pediatric (<18) 3-year patient survival
Single organ transplants performed between 01/01/2012 and 06/30/2014
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	3	1,640
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	100.00%	98.41%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first 3 years after transplant	0	26
Number of expected deaths during the first 3 years after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients.

Figure C23. Pediatric (<18) 3-year patient death HR estimate

Expected patient deaths were not calculated

Figure C24. Pediatric (<18) 3-year patient death HR program comparison

Expected patient deaths were not calculated

C. Transplant Information

Table C16D. Pediatric (<18) 3-year patient survival (deceased donor graft recipients)
Single organ transplants performed between 01/01/2012 and 06/30/2014
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	2	1,012
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	100.00%	98.42%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first 3 years after transplant	0	16
Number of expected deaths during the first 3 years after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of deceased donor grafts.

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

Expected patient deaths were not calculated

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

Expected patient deaths were not calculated

C. Transplant Information

Table C16L. Pediatric (<18) 3-year patient survival (living donor graft recipients)
Single organ transplants performed between 01/01/2012 and 06/30/2014
Retransplants excluded

	ILPL	U.S.
Number of transplants evaluated	1	628
Estimated probability of surviving at 3 years (unadjusted for patient and donor characteristics)	100.00%	98.41%
Expected probability of surviving at 3 years (adjusted for patient and donor characteristics)*	--%	--
Number of observed deaths during the first 3 years after transplant	0	10
Number of expected deaths during the first 3 years after transplant*	--	--
Estimated hazard ratio*	--	--
95% credible interval for the hazard ratio*	[--, --]	--

* The expected number of patient deaths, the hazard ratio, and the credible interval are not calculated for pediatric (<18) recipients of living donor grafts.

Figure C23L. Pediatric (<18) 3-year patient death HR estimate (living donor grafts)

Expected patient deaths were not calculated

Figure C24L. Pediatric (<18) 3-year patient death HR program comparison (living donor grafts)

Expected patient deaths were not calculated

C. Transplant Information

Table C17. Multi-organ transplant graft survival: 07/01/2014 - 12/31/2016

Adult (18+) Transplants

Transplant Type	Transplants Performed		First-Year Outcomes: Kidney Graft Failures		First-Year Outcomes: Estimated Kidney Graft Survival	
	ILPL-TX1	USA	ILPL-TX1	USA	ILPL-TX1	USA
Kidney-Liver	6	1,601	0	155	100.0%	89.8%
Kidney-Pancreas	23	1,863	0	68	100.0%	96.2%

Pediatric (<18) Transplants

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

Table C18. Multi-organ transplant patient survival: 07/01/2014 - 12/31/2016

Adult (18+) Transplants

Transplant Type	Transplants Performed		First-Year Outcomes: Patient Deaths		First-Year Outcomes: Estimated Patient Survival	
	ILPL-TX1	USA	ILPL-TX1	USA	ILPL-TX1	USA
Kidney-Liver	6	1,601	0	127	100.0%	91.5%
Kidney-Pancreas	23	1,863	0	41	100.0%	97.7%

Pediatric (<18) Transplants

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

D. Living Donor Information

Table D1. Living donor summary: 07/01/2014 - 06/30/2017

Living Donor Follow-Up	This Center			United States		
	07/2014-06/2015	07/2015-06/2016	07/2016-12/2016	07/2014-06/2015	07/2015-06/2016	07/2016-12/2016
Number of Living Donors	17	17	14	5,558	5,650	2,917
6-Month Follow-Up						
Donors due for follow-up	17	17	14	5,555	5,647	2,910
Timely clinical data	9 52.9%	16 94.1%	13 92.9%	4,604 82.9%	4,834 85.6%	2,592 89.1%
Timely lab data	10 58.8%	16 94.1%	13 92.9%	4,324 77.8%	4,592 81.3%	2,480 85.2%
12-Month Follow-Up						
Donors due for follow-up	17	17		5,554	5,645	
Timely clinical data	14 82.4%	13 76.5%		4,256 76.6%	4,626 81.9%	
Timely lab data	16 94.1%	14 82.4%		3,867 69.6%	4,324 76.6%	
24-Month Follow-Up						
Donors due for follow-up	17			5,553		
Timely clinical data	14 82.4%			4,112 74.1%		
Timely lab data	14 82.4%			3,698 66.6%		

Follow-up completion standards through 2 years post-donation were implemented in policy on February 1, 2013.