

**Program Summary**

**Center: Stanford University Medical Center (CASU)**

**Organ: HL: Heart/Lung**

<b>Center Activity (01/01/2009-12/31/2009)</b>	<b>Center</b>	<b>Region</b>	<b>United States</b>	<b>Tables for More Information</b>
Deceased donor transplants (n=number)	3	6	29	07C,08C,09C
On waitlist at start (n)	9	16	91	01,02,03
On waitlist at end (n)	9	15	78	01,02
Number of new patient registrations (n)	7	14	64	01,02

<b>Waiting List Outcomes ( 01/01/2009-12/31/2009)</b>				<b>Tables for More Information</b>
	<b>Observed</b>	<b>Expected</b>	<b>Statistical Significance of Difference</b>	
Transplant rate (from deceased donors) among waitlist patients	0.40	0.17	Not Significantly Different (a)	03,04,05,06
Mortality rate while on waitlist	0.00	0.23	Not Significantly Different (a)	03,04

<b>Post-transplant Outcomes ( 01/01/2007-06/30/2009)</b>	<b>1 Year</b>			<b>Tables for More Information</b>
	<b>Observed</b>	<b>Expected</b>	<b>Statistical Significance of Difference</b>	
Adult graft survival (based on 16 transplants) (%)	93.75	NA	NA	10
Adult patient survival (based on 16 transplants) (%)	93.75	NA	NA	11

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).  
 Note: Tables referring to small sample sizes should be treated with caution. Sample sizes can be found in the table referenced in the last column.

## **A Guide to Reading and Understanding the Center-Specific Reports (CSRs) Prepared by the Scientific Registry of Transplant Recipients (SRTR)**

**Center: Stanford University Medical Center (CASU)**

**Organ: HL: Heart/Lung**

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### **Overview:**

These Program-Specific Reports contain a wide range of useful information about transplant programs operating in the United States. The information includes many features of the transplant program, such as the number of transplants performed in recent years, waiting time and waiting list outcomes, and post-transplant experience of patients served by this program. The statistics are arranged to allow comparisons to national averages, as well as to the experience for similar patients at other programs in the country. This report is based largely on data submitted by this transplant program for patients on the waiting list and those transplanted within the last five years.

Table 1 provides a picture of the volume and type of waiting list and transplant activity at this program. Stanford University Medical Center (CASU) had 12 patients on its waiting list on 01/01/2008 and 9 patients on 12/31/2009. During these two years, 16 patients were added to the list and 19 patients were removed. Of the removals, 13 were for transplant from a deceased donor. Stanford University Medical Center (CASU) performed 3 heart-lung transplants (Table 7) during the last year (01/01/2009-12/31/2009). Typical heart-lung programs currently operating in the United States transplanted between 1 and 1 people in that same period. More about the activity at this program and the types of patients served is found in the Table Details section below and in Tables 1 and 2 (waiting list) and Tables 7, 8, and 9 (transplant).

Waiting times for transplantation differ from facility to facility and also from person to person, depending upon many factors. One quarter of the patients listed at this program had received a transplant as of 1.0 months after being placed on the waiting list; in the nation it took 3.7 months to reach the same fraction of patients transplanted. The other three quarters of the patients were either still waiting or removed from the waiting list for reasons including death. Tables 3 through 5, which focus on other characteristics of waiting list and waiting time (including risk-adjusted comparisons) are discussed in the details section below.

At Stanford University Medical Center (CASU), 93.75 percent of adult patients were alive one year after transplant. For the nation as a whole, the percent was 78.04. A comparison between these is not risk-adjusted; that is, it does not account for differences in the types of patients served at this program.

Specific circumstances at each program may affect many of the measures reported in these reports. Frequently, staff from transplant programs make public comments regarding these reports, made available in the comments page. We encourage all readers of these reports to consider these comments and to contact the program directly for further information.

## Table Details:

The above overview provides most readers with a quick look at some of the statistics that help describe a transplant program. The following section, for the more interested reader, provides a more detailed accounting of each table and how figures are defined and calculated.

Tables 1 through 6 focus on characteristics of the waiting list process at this program. Table 1 provides an overview of the waiting list activity at this program: not just the size of the waiting list at a given point in time, but also how many people have moved on to and off of this waiting list, and for what reasons. Shown as a percentage of the total waiting list size on 01/01/2009, the percent of people removed for a transplant from a deceased donor was 33.3%, (vs. 31.9% nationwide) and the percentage of people removed because of death was 0.0% (vs. 17.6% nationwide). Table 2 shows the characteristics of patients on the waiting list at Stanford University Medical Center (CASU).

The waiting time at a given transplant program is affected by many factors, including the medical condition and characteristics of the patients listed with this program (Table 2), the availability of organs in the Donation Service Area served by the OPO, and decisions by medical professionals and other patients about organ acceptance. Some of the variability in waiting time may be accounted for by local availability of organs, in which case other programs in the Donation Service Area served by CA Transplant Donor Network may have similar waiting times.

Tables 3 through 6 provide different measures of looking at waiting list outcomes. Table 3 shows a 'risk-adjusted' comparison of two outcomes from the waiting list: transplant rate and death rate. While the national average transplant rate (from deceased donors) is 0.35 transplants per patient year, the rate expected for this program is 0.17. The difference, or 'adjustment', between the national average and expected rate is caused by the fact that this program may treat patients who typically have longer (or shorter) waiting times, based on the characteristics of these patients. The patients on the waiting list at this program experienced a transplant rate of 0.40 per year spent on the waiting list for any person(s) on the waiting list. Compared to the expected rate of 0.17, the difference is not statistically significant ( $p > .05$ ); there is a good possibility that it is due to random chance.

These waiting list rates are measured as the number of transplants (or deaths) per year that any patient spends on the waiting list. It is possible for these rates to be above 1, as would be the case if 2 patients each spent 3 months on the waiting list, and one received a transplant:  $1 \text{ transplant} \div 0.5 \text{ year} = \text{transplant rate of } 2$ .

While Table 3 provides a waiting list outcome rate that allows easy comparison of risk-adjusted outcomes, statistics from tables 4 through 6 may be more interpretable at a patient level. Table 4 answers the questions: 'What has been the outcome for patients at this program 6 months after being placed on the waiting list? What about at 12 or 18 months?' The table also examines post-transplant outcomes: at 12 months, for example, the table tells if the patient is still on the waiting list, was transplanted and is still alive, or died after transplant. At this program, 66.7% of patients had received a transplant by 6 months after being placed on the waiting list, compared with 32.0% in the nation (Table 4). At 6 months, 0.0% had died (compared to 18.0% nationally) and 33.3% were still on the waiting list (44.0% nationally). Note that these figures are not adjusted for patient characteristics.

Table 5 provides another way to look at how quickly patients receive transplants at this program, this time looking at many different kinds of patients. At this program, 25.0 percent of patients placed on the heart-lung waiting list had received transplants as of 30 days after being placed on the waiting list. Those not transplanted, the other 75.0 percent, were either still waiting or removed from the waiting list for reasons including death. At one year after placement on the waiting list, 55.0 percent of patients at this program had been transplanted; this figure was 32.2 for all the programs in the nation. The table also shows similar figures for subgroups of patients, such as by age, disease, or medical urgency, allowing the reader to see if specific groups of patients have experienced longer waiting times.

Table 6 shows the time it takes for a given percentage of patients at this facility to receive a transplant. This is the 'time-to-transplant' among all wait-listed patients, including those who never receive a transplant. One quarter of the patients placed on the waiting list at this program had received a transplant as of 1.0 months after listing; in the nation it took 3.7 months to reach the same fraction. The other three quarters of the patients were either still waiting or removed from the waiting list, for reasons including death. (Another common statistic, 'median waiting time,' differs in that it is often calculated only among patients who actually received a transplant. The two are often correlated, but different in magnitude. While median waiting time reflects time waiting among successful candidates, time-to-transplant incorporates a measure of the probability of success in receiving an organ.)

The remainder of the tables, 7 through 11, focus on transplants performed at Stanford University Medical Center (CASU) and their outcomes. Tables 7-9 describe the characteristics of transplant recipients, donors, and operations at this program. For example, of the 3 patients receiving deceased donor transplants at this program in the last year, 66.7 percent had organ failure caused by Primary Pulmonary Hypertension, compared to a national average of 51.7 percent.

Tables 10 and 11 show post-transplant outcomes. Table 10 shows the survival experience of grafts (transplants) in patients transplanted by this program. Table 11 shows the survival experience of these patients themselves. These may be different because a patient may continue survival after a graft fails through means such as a new transplant, or, for kidney patients, dialysis. For each outcome, these tables show an actual (observed) survival for the program and for the nation. No risk-adjusted survival is presented. Each survival number measures the percentage of patients who have a functioning graft (Table 10) or who are alive (Table 11) at 1 month, 1 year, and 3 years after transplant.

For some organs, an 'expected' survival is not calculated because the characteristics influencing expected survival are not well known.

At Stanford University Medical Center (CASU), 93.75 percent of adult patients were alive one year after transplant. For the nation as a whole, the percent was 78.04. A comparison between these is not risk-adjusted; that is, it does not account for differences in the types of patients served at this program.

**Table 1**  
**Waitlist Activity Summary (see Tables 2-6 for details)**  
**Date: 01/01/2008 - 12/31/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Waitlist Registrations	Counts for this center		Activity for 01/01/2009 to 12/31/2009 as percent of registrants on waitlist on 01/01/2009		
	01/01/2008-12/31/2008	01/01/2009-12/31/2009	This Center (%)	OPTN Region (%)	U.S. (%)
<b>On waitlist at start</b>	12	9	100.0	100.0	100.0
<b>Additions</b>					
New listings at this center	9	7	77.8	87.5	70.3
<b>Removals</b>					
Transferred to another center	0	1	11.1	6.3	3.3
Received living donor transplant*	0	0	0.0	0.0	0.0
Received deceased donor transplant*	10	3	33.3	37.5	31.9
Died	2	0	0.0	0.0	17.6
Transplanted at another center	0	0	0.0	0.0	0.0
Deteriorated	0	1	11.1	18.8	8.8
Recovered	0	1	11.1	6.3	11.0
Other Reasons	0	1	11.1	25.0	12.1
<b>On waitlist at end of period</b>	9	9	100.0	93.8	85.7

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

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

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

**Table 2**  
**Characteristics of Waitlist Patients**  
**Patients registered on the waitlist between 01/01/2009 and 12/31/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Characteristic of Waitlist Candidate	Percent of New Waitlist Registrations 01/01/2009 to 12/31/2009			Percent of All Waitlist Registrations on 12/31/2009		
	This Center (N=7)	OPTN Region (N=14)	U.S. (N=64)	This Center (N=9)	OPTN Region (N=15)	U.S. (N=78)
<b>All (%)</b>	100	100	100	100	100	100
<b>Ethnicity/Race (%)*</b>						
White	57.1	71.4	59.4	77.8	73.3	67.9
African-American	42.9	21.4	25.0	11.1	6.7	11.5
Hispanic/Latino	0.0	7.1	10.9	11.1	20.0	17.9
Asian	0.0	0.0	4.7	0.0	0.0	1.3
Other	0.0	0.0	0.0	0.0	0.0	1.3
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Age (%)</b>						
<2 years	14.3	21.4	4.7	0.0	6.7	1.3
2-11 years	0.0	0.0	3.1	0.0	6.7	9.0
12-17 years	0.0	7.1	6.3	0.0	6.7	7.7
18-34 years	28.6	21.4	32.8	22.2	13.3	38.5
35-49 years	14.3	21.4	26.6	44.4	40.0	24.4
50-64 years	42.9	28.6	26.6	33.3	26.7	17.9
65+ years	0.0	0.0	0.0	0.0	0.0	1.3
Other (includes prenatal)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Gender (%)</b>						
Male	14.3	28.6	37.5	55.6	53.3	38.5
Female	85.7	71.4	62.5	44.4	46.7	61.5
<b>Blood Type (%)</b>						
O	42.9	21.4	31.3	44.4	40.0	48.7
A	57.1	71.4	51.6	44.4	46.7	39.7
B	0.0	7.1	9.4	0.0	6.7	7.7
AB	0.0	0.0	7.8	11.1	6.7	3.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Previous Transplant (%)</b>						
Yes	0.0	0.0	3.1	0.0	0.0	0.0
No	100.0	100.0	96.9	100.0	100.0	100.0
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Primary Disease (%)</b>						
Congenital Disease	0.0	14.3	31.3	22.2	40.0	48.7
Retransplant/Graft Failure	0.0	0.0	0.0	0.0	0.0	0.0
Idiopathic Pulmonary Arterial Hypertension	0.0	0.0	0.0	0.0	0.0	0.0
Cystic Fibrosis	0.0	0.0	0.0	0.0	0.0	0.0
Idiopathic Pulmonary Fibrosis	0.0	0.0	0.0	0.0	0.0	0.0
Emphysema/COPD	0.0	0.0	0.0	0.0	0.0	0.0
Other	100.0	85.7	68.8	33.3	33.3	34.6
Missing	0.0	0.0	0.0	44.4	26.7	16.7

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA). Percents add to 100% for each Categorization. N=number.

\* 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 percent.

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

**Table 3**  
**Transplant and Mortality Rates For Patients After Being Placed on the Waitlist**  
**Patients on the waitlist between 01/01/2008 and 12/31/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Waitlist Registrations	This Center		Geographic Summaries, 01/01/2009-12/31/2009		
	01/01/2008- 12/31/2008	01/01/2009- 12/31/2009	OPO/DSA	Region	U.S.
<b>Sample</b>					
Count on waitlist at start *	12	9	14	16	91
<b>Transplant Rate</b>					
Person Years **	11.7	7.5	11.1	13.1	82.6
<b>Deceased Donors Only</b>					
Removals for transplant	10	3	4	6	29
Transplant rate (per year on waitlist)	0.85	0.40	0.36	0.46	0.35
Expected Transplant Rate ***	0.31	0.17	0.38	0.39	0.35
Ratio of Observed to Expected Transplants	2.74	2.33	0.96	1.18	1.00
95% Confidence Interval: Lower Bound <sup>†</sup>	1.31	0.48	NA	NA	NA
Upper Bound <sup>†</sup>	5.04	6.82	NA	NA	NA
p-value (2-sided) <sup>††</sup>	<0.01	0.279	NA	NA	NA
How do the rates at this center compare to those in the nation?	Statistically Higher (b)	Not Significantly Different (a)	NA	NA	NA
<b>Mortality rate after being placed on waitlist</b>					
Person Years ****	11.7	8.0	13.5	16.4	91.6
Number of deaths	2	0	1	1	20
Death rate (per year on waitlist)	0.17	0.00	0.07	0.06	0.22
Expected Death Rate *****	0.08	0.23	0.27	0.26	0.22
Ratio of Observed to Expected Deaths	2.15	0.00	0.28	0.24	1.00
95% Confidence Interval: Lower Bound <sup>†</sup>	0.26	-	NA	NA	NA
Upper Bound <sup>†</sup>	7.75	-	NA	NA	NA
p-value (2-sided) <sup>††</sup>	0.478	0.328	NA	NA	NA
How do the rates at this center compare to those in the nation?	Not Significantly Different (a)	Not Significantly Different (a)	NA	NA	NA

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA). NA=Not Applicable.

<sup>†</sup> The 95% confidence interval gives a range of values for the true ratio of events (transplants or deaths) at the facility to those expected based on the national experience. The true ratio will be between this lower and upper bound 95% of the time.

<sup>††</sup> A p-value gives the probability that a difference between observed and expected is due to random chance. A p-value of <.05 is usually considered statistically significant.

(a) This difference could plausibly be just a chance occurrence.

(b) This difference is unlikely due to random chance and probably represents a real difference from the expected rate.

\* Counts in this table may be lower than similar counts in other waiting list tables, such as Table 1. 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 calculations for this table.

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

\*\*\* The expected transplant rate is adjusted for age, blood type, time on the waiting list, and previous transplantation.

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

\*\*\*\*\* The expected mortality rate is adjusted for age, race, ethnicity, gender, time on the waiting list, and blood type.

Based on data available as of 04/30/2010. Release at www.ustransplant.org on 07/13/2010.

**Table 4**  
**Waitlist Activity and Patient Vital Status at 6, 12, and 18 Months Since Waitlisting**  
**Patients placed on waitlist between 07/01/2007 and 06/30/2008**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Waitlist status (survival status)	This Center (N=6)			United States (N=50)		
	Months Since Waitlisting <sup>†</sup>			Months Since Waitlisting <sup>†</sup>		
	6	12	18	6	12	18
<b>Alive on waitlist (%)</b>	33.3	16.7	0.0	44.0	34.0	16.0
<b>Died on the waitlist without transplant (%)</b>	0.0	0.0	0.0	18.0	20.0	22.0
<b>Removed without transplant: (%)</b>						
Condition worsened (status unknown)	0.0	0.0	0.0	0.0	0.0	2.0
Condition improved (status unknown)	0.0	0.0	0.0	2.0	2.0	6.0
Refused transplant (status unknown)	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	4.0	4.0	6.0
<b>Transplant (living or deceased donor): (%)</b>						
Functioning (alive)	66.7	66.7	50.0	26.0	28.0	26.0
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	16.7	33.3	6.0	10.0	14.0
Status Yet Unknown *	0.0	0.0	16.7	0.0	0.0	6.0
<b>Lost or Transferred (status unknown) (%)</b>	0.0	0.0	0.0	0.0	2.0	2.0
<b>TOTAL (%)</b>	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waitlist or after transplant	0.0	16.7	33.3	24.0	30.0	36.0
Total % known died or removed as unstable	0.0	16.7	33.3	24.0	30.0	38.0
Total % removed for transplant	66.7	83.3	100.0	32.0	38.0	46.0
Total % with known functioning transplant (alive)	66.7	66.7	50.0	26.0	28.0	26.0

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

<sup>†</sup>Percents for top section add to 100% for each column. N=number.

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

NOTE: All patients (100%) are alive on the waitlist at month 0 since waitlisting and move to other categories as time progresses.

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

**Table 5**  
**Percent Transplanted for Waitlist Patients (excludes recipients of transplants from living donors \*)**  
**Patients placed on waitlist at this center between 01/01/2004 and 12/31/2006**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Characteristic	Percent transplanted at time periods since waitlisting									
	This Center					United States				
	N	30 day	1 year	2 years	3 years	N	30 day	1 year	2 years	3 years
All	20	25.0	55.0	65.0	70.0	214	7.5	32.2	34.6	36.4
<b>Ethnicity/Race *</b>										
White	9	22.2	44.4	44.4	55.6	155	6.5	29.7	31.0	33.5
African-American	3	0.0	66.7	100.0	100.0	26	7.7	34.6	42.3	42.3
Hispanic/Latino	4	50.0	75.0	75.0	75.0	21	14.3	33.3	33.3	33.3
Asian	3	33.3	33.3	66.7	66.7	9	11.1	66.7	77.8	77.8
Other	1	0.0	100.0	100.0	100.0	3	0.0	33.3	33.3	33.3
Unknown	0	-	-	-	-	0	-	-	-	-
<b>Age</b>										
<2 years	2	0.0	0.0	50.0	50.0	7	42.9	42.9	57.1	57.1
2-11 years	1	0.0	0.0	0.0	0.0	14	7.1	21.4	28.6	28.6
12-17 years	0	-	-	-	-	16	0.0	31.3	31.3	31.3
18-34 years	8	37.5	62.5	62.5	75.0	61	8.2	29.5	29.5	31.1
35-49 years	9	22.2	66.7	77.8	77.8	73	6.8	37.0	41.1	45.2
50-64 years	0	-	-	-	-	43	4.7	30.2	30.2	30.2
65+ years	0	-	-	-	-	0	-	-	-	-
Other (includes prenatal)	0	-	-	-	-	0	-	-	-	-
<b>Gender</b>										
Male	7	28.6	42.9	42.9	57.1	95	8.4	31.6	33.7	34.7
Female	13	23.1	61.5	76.9	76.9	119	6.7	32.8	35.3	37.8
<b>Blood Type</b>										
O	11	27.3	45.5	54.5	63.6	104	7.7	26.9	29.8	33.7
A	6	33.3	83.3	83.3	83.3	84	8.3	35.7	36.9	36.9
B	1	0.0	100.0	100.0	100.0	17	0.0	35.3	35.3	35.3
AB	2	0.0	0.0	50.0	50.0	9	11.1	55.6	66.7	66.7
<b>Previous Transplant</b>										
Yes	0	-	-	-	-	3	0.0	0.0	0.0	0.0
No	20	25.0	55.0	65.0	70.0	211	7.6	32.7	35.1	37.0
<b>Primary Disease</b>										
Congenital Disease	0	-	-	-	-	0	-	-	-	-
Retransplant/Graft Failure	0	-	-	-	-	2	0.0	0.0	0.0	0.0
Idiopathic Pulmonary Arterial Hypertension	3	66.7	100.0	100.0	100.0	21	14.3	66.7	66.7	66.7
Cystic Fibrosis	0	-	-	-	-	0	-	-	-	-
Idiopathic Pulmonary Fibrosis	0	-	-	-	-	3	0.0	0.0	0.0	0.0
Alpha-1-Antitrypsin Deficiency	0	-	-	-	-	0	-	-	-	-
Emphysema/COPD	0	-	-	-	-	1	0.0	0.0	0.0	0.0
Other	17	17.6	47.1	58.8	64.7	182	7.1	30.2	33.0	35.2
Missing	0	-	-	-	-	5	0.0	0.0	0.0	0.0

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

\* Patients removed from waitlist with removal code indicating transplant from a living donor were excluded from this analysis.

Note: Population totals equal for each characteristic.

\* 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 percent.

Based on data available as of 04/30/2010. Release at www.ustransplant.org on 07/13/2010.

**Table 6**  
**Time to Transplant for Waitlist Patients\*\***  
**Patients registered on the waitlist between 01/01/2004 and 06/30/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Percentile	Months to Transplant*			
	Center	OPO/DSA	Region	U.S.
5th	0.1	0.2	0.2	0.3
10th	0.2	0.3	0.4	0.9
25th	1.0	1.1	1.6	3.7
50th (median time to transplant)	2.9	5.7	7.4	>72
75th	23.8	>72	>72	>72

\* Censored on 12/31/2009; Calculated as the months after waitlisting, during which the corresponding percent of all patients initially waitlisted had received a transplant.

\*\* If cells contain ">72" fewer than that percentile of patients had received a transplant.

Note: Includes deceased and living donor transplants at any center.

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

**Table 7**  
**Transplant Recipient Characteristics, Deceased Donor Transplants**  
**Patients transplanted between 01/01/2009 and 12/31/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Characteristic	Percentage in each category		
	Center (N=3)	Region (N=6)	U.S. (N=29)
<b>Ethnicity/Race (%) *</b>			
White	33.3	50.0	44.8
African-American	0.0	0.0	31.0
Hispanic/Latino	33.3	33.3	13.8
Asian	33.3	16.7	6.9
Other	0.0	0.0	3.4
Unknown	0.0	0.0	0.0
<b>Age (%)</b>			
<2 years	0.0	0.0	0.0
2-11 years	0.0	0.0	10.3
12-17 years	0.0	0.0	0.0
18-34 years	66.7	50.0	31.0
35-49 years	0.0	16.7	41.4
50-64 years	33.3	33.3	17.2
65+ years	0.0	0.0	0.0
Unknown	0.0	0.0	0.0
<b>Gender (%)</b>			
Male	0.0	16.7	37.9
Female	100.0	83.3	62.1
<b>Blood Type (%)</b>			
O	66.7	33.3	27.6
A	33.3	66.7	51.7
B	0.0	0.0	6.9
AB	0.0	0.0	13.8
<b>Previous Transplant (%)</b>			
Yes	0.0	0.0	3.4
No	100.0	100.0	96.6
<b>Body Mass Index (%)</b>			
0-20	66.7	50.0	37.9
21-25	33.3	33.3	37.9
26-30	0.0	16.7	10.3
31+	0.0	0.0	10.3
Unknown	0.0	0.0	3.4
<b>Primary Disease (%)</b>			
Congenital Disease	33.3	33.3	20.7
Retransplant/Graft Failure	0.0	0.0	0.0
Idiopathic Pulmonary Arterial Hypertension	66.7	66.7	51.7
Cystic Fibrosis	0.0	0.0	0.0
Idiopathic Pulmonary Fibrosis	0.0	0.0	20.7
Emphysema/COPD	0.0	0.0	0.0
Other	0.0	0.0	6.9
Missing	0.0	0.0	0.0
<b>Recipient Medical Condition at Transplant (%)</b>			
Not Hospitalized	100.0	50.0	37.9
Hospitalized	0.0	33.3	37.9
ICU	0.0	16.7	24.1
Unknown	0.0	0.0	0.0

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Note: Percentages add to 100% for each characteristic. N=Number.

\* 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 percent.

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

**Table 8**  
**Donor Characteristics, Deceased Donor Transplants**  
**Transplants performed between 01/01/2009 and 12/31/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

Donor Characteristic	Percentage in each category		
	Center 100% (N=3)	Region 100% (N=6)	U.S. 100% (N=29)
<b>Cause of Death (%)</b>			
Deceased: Stroke	33.3	50.0	31.0
Deceased: MVA	0.0	0.0	13.8
Deceased: Other	66.7	50.0	55.2
<b>Ethnicity/Race (%) *</b>			
White	0.0	0.0	34.5
African-American	33.3	33.3	37.9
Hispanic/Latino	33.3	33.3	20.7
Asian	33.3	33.3	6.9
Other	0.0	0.0	0.0
Not Reported	0.0	0.0	0.0
<b>Age (%)</b>			
<2 years	0.0	0.0	0.0
2-11 years	0.0	0.0	10.3
12-17 years	33.3	16.7	17.2
18-34 years	66.7	66.7	48.3
35-49 years	0.0	0.0	20.7
50-64 years	0.0	16.7	3.4
65+ years	0.0	0.0	0.0
Unknown	0.0	0.0	0.0
<b>Gender (%)</b>			
Male	33.3	66.7	58.6
Female	66.7	33.3	41.4
<b>Blood Type (%)</b>			
O	66.7	50.0	41.4
A	33.3	50.0	44.8
B	0.0	0.0	10.3
AB	0.0	0.0	3.4
Unknown	0.0	0.0	0.0

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

Note: Percentages add to 100% for each characteristic. N=Number.

\* 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 percent.

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

**Table 9**  
**Transplant Operation Characteristics, Deceased Donor Transplants**  
**Transplants performed between 01/01/2009 and 12/31/2009**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung**

	Percentage in each category (except where noted)		
	Center 100% (N=3)	Region 100% (N=6)	U.S. 100% (N=29)
<b>Cold Ischemic Time (Minutes): Local (%)</b>			
Deceased: 0-90 min	0.0	0.0	5.6
Deceased: 91-180 min	50.0	20.0	33.3
Deceased: 181-270 min	50.0	60.0	44.4
Deceased: 271-360 min	0.0	20.0	16.7
Deceased: 361+ min	0.0	0.0	0.0
Not Reported	0.0	0.0	0.0
<b>Cold Ischemic Time (Minutes): Shared (%)</b>			
Deceased: 0-90 min	0.0	0.0	0.0
Deceased: 91-180 min	0.0	0.0	0.0
Deceased: 181-270 min	100.0	100.0	36.4
Deceased: 271-360 min	0.0	0.0	27.3
Deceased: 361+ min	0.0	0.0	9.1
Not Reported	0.0	0.0	27.3
<b>Sharing (%)</b>			
Local	66.7	83.3	62.1
Shared	33.3	16.7	37.9
<b>Median Time in Hospital After Transplant *</b>			
	8.0 Days	37.0 Days	37.0 Days

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

Note: Percentages add to 100% for each characteristic. N=Number.

\* Heart-lung transplants only. Other multiple organ transplants are excluded from this statistic.

Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://www.ustransplant.org) on 07/13/2010.

Table 10

**Graft Survival by Age at Transplant and by Time since Transplant**

For Patients Transplanted between 01/01/2007 and 06/30/2009 for the 1 Month and 1 Year Models; between 07/01/2004 and 12/31/2006 for the 3 Year Model

Center: Stanford University Medical Center (CASU)

Organ: HL: Heart/Lung (HL Only; No Other Multi-Organ Transplants)

Note: Deaths and retransplants are counted as graft failures

	Graft Survival by Time since Transplant					
	This Center			United States		
	1 Month	1 Year	3 Years	1 Month	1 Year	3 Years
<b>Adult (Age 18+)</b>						
Transplants (n=number) <sup>1</sup>	16	16	9	62	62	72
<b>Percent (%) of Grafts Surviving at End of Period</b>						
Observed at this Center <sup>2</sup>	93.75	93.75	88.89	88.71	77.61	63.89
Expected, based on national experience <sup>3</sup>	-	-	-	-	-	-
<b>Graft Failures During Follow-up Period</b>						
Observed at this center	1	1	1	7	13	26
Expected, based on national experience <sup>4</sup>	-	-	-	-	-	-
Ratio: Observed to Expected (O/E) (95% Confidence Interval) <sup>5</sup>	(---)	(---)	(---)	1.00	1.00	1.00
P-value (2-sided), observed v. expected <sup>6</sup>	.	.	.	.	.	.
How does this center's survival compare to what is expected for similar patients?	.	.	.	.	.	.
Follow-up days reported by center (%) <sup>7</sup>	100.0	97.2	100.0	100.0	99.1	99.7
Maximum Days of Follow-up (n)	30	365	1,095	30	365	1,095
<b>Transplant Time Period</b>	<b>01/01/2007- 06/30/2009</b>	<b>01/01/2007- 06/30/2009</b>	<b>07/01/2004- 12/31/2006</b>	<b>01/01/2007- 06/30/2009</b>	<b>01/01/2007- 06/30/2009</b>	<b>07/01/2004- 12/31/2006</b>

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

NA=Not Applicable.

<sup>1</sup> Transplants of this organ during the time period indicated in the last row of the table.

<sup>2</sup> Observed graft survival rates use the Kaplan-Meier method to estimate outcomes for patients for whom complete follow-up is not expected; see Analytic Methods for more details. This statistic represents graft failure rates among patients still being followed by the facility. If the followup percent is low, this statistic may not be representative of outcomes for all patients at this facility. Because different cohorts are followed for each time period, it is possible for reported 3-year survival to exceed 1-year survival.

<sup>3</sup> The graft survival rate that would be expected for the patients served by this center, given the characteristic mix of the recipient and donor (age, disease, blood type, etc.) and the experience of similar patients in the entire country. See the Analytic Methods for a description of adjustment and complete list of adjustment factors.

<sup>4</sup> The number of graft failures that would be expected during the follow-up time, as described in footnote 3. Unlike the expected survival percent, the expected count of graft failures reflects the expected number of graft failures only during the time the patient is alive with a functioning graft and actually followed; therefore, it accounts for differences in the time that elapses from transplant until graft failure.

<sup>5</sup> The 95% confidence interval gives a range of values for the true ratio of failures at the facility to those expected based on the national experience. The true ratio will be between this lower and upper bound 95% of the time.

<sup>6</sup> A p-value less than or equal to 0.05 indicates that the difference between the actual and expected graft survival is probably real and is not due to random chance, while a p-value greater than 0.05 indicates that the difference could possibly be due to random chance.

<sup>7</sup> Of days expected to be included in the follow-up period, the percentage of days covered by follow-up reporting by this center for these transplants. This measures the possibility that events such as failure have occurred without being reported, and it is not a measure of compliance.

Based on data available as of 04/30/2010. Release at www.ustransplant.org on 07/13/2010.

**Table 11**  
**Patient Survival by Age and by Time since First Transplant of This Organ Type**  
**For Patients Receiving their First Transplant of this type between 01/01/2007 and 06/30/2009 for the 1 Month and 1 Year Models; between 07/01/2004 and 12/31/2006 for the 3 Year Model**  
**Center: Stanford University Medical Center (CASU)**  
**Organ: HL: Heart/Lung (HL Only; No Other Multi-Organ Transplants; Re-transplants excluded)**

	Patient Survival by Time since First Transplant					
	This Center			United States		
	1 Month	1 Year	3 Years	1 Month	1 Year	3 Years
<b>Adult (Age 18+)</b>						
Transplants (n=number) <sup>1</sup>	16	16	9	62	62	72
<b>Percent (%) of Patients Surviving at End of Period</b>						
Observed at this Center <sup>2</sup>	93.75	93.75	88.89	88.71	78.04	63.89
Expected, based on national experience <sup>3</sup>	-	-	-			
<b>Deaths During Follow-up Period</b>						
Observed at this center	1	1	1	7	13	26
Expected, based on national experience <sup>4</sup>	-	-	-	-	-	-
Ratio: Observed to Expected (O/E) (95% Confidence Interval) <sup>5</sup>	-	-	-	1.00	1.00	1.00
P-value (2-sided), observed v. expected <sup>6</sup>	.	.	.			
How does this center's survival compare to what is expected for similar patients?	.	.	.			
Percent retransplanted	0.0	6.3	0.0	0.0	3.2	1.4
Follow-up days reported by center (%) <sup>7</sup>	100.0	97.2	100.0	100.0	99.1	99.7
Maximum Days of Follow-up (n)	30	365	1,095	30	365	1,095
<b>Transplant Time Period</b>	<b>01/01/2007- 06/30/2009</b>	<b>01/01/2007- 06/30/2009</b>	<b>07/01/2004- 12/31/2006</b>	<b>01/01/2007- 06/30/2009</b>	<b>01/01/2007- 06/30/2009</b>	<b>07/01/2004- 12/31/2006</b>

The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR) under contract with the Health Resources and Services Administration (HRSA).

NA=Not Applicable.

<sup>1</sup> Transplants during the time period indicated in the last row of the table.

<sup>2</sup> Observed survival rates use the Kaplan-Meier method to estimate outcomes for patients for whom complete follow-up is not expected; see Analytic Methods for more details. Because different cohorts are followed for each time period, it is possible for reported 3-year survival to exceed 1-year survival.

<sup>3</sup> The survival rate that would be expected for the patients served by this center, given the characteristic mix of the recipient and donor (age, disease, blood type, etc.) and the experience of similar patients in the entire country. See the Analytic Methods for a description of adjustment and complete list of adjustment factors.

<sup>4</sup> The number of deaths that would be expected during the follow-up time, as described in footnote 3. Unlike the expected survival percent, the expected count of deaths reflects the expected number of deaths only during the time the patient is alive and actually followed; therefore, it accounts for differences in the time that elapses from transplant until death.

<sup>5</sup> The 95% confidence interval gives a range of values for the true ratio of deaths at the facility to those expected based on the national experience. The true ratio will be between this lower and upper bound 95% of the time.

<sup>6</sup> A p-value less than or equal to 0.05 indicates that the difference between the actual and expected patient survival is probably real and is not due to random chance, while a p-value greater than 0.05 indicates that the difference could possibly be due to random chance.

<sup>7</sup> Of days expected to be included in the follow-up period, the percentage of days covered by follow-up reporting at this center for these transplants. Additional follow-up days included in survival may be covered by SSDMF data. This measures the possibility that events such as failure have occurred without being reported, and it is not a measure of compliance.

Based on data available as of 04/30/2010. Release at www.ustransplant.org on 07/13/2010.