

Program Summary

Center: University Medical Center, Univ of Arizona (AZUA)

Organ: LU: Lung

Center Activity (01/01/2009-12/31/2009)	Center	Region	United States	Tables for More Information
Deceased donor transplants (n=number)	14	218	1,660	07C,08C,09C
On waitlist at start (n)	23	223	2,019	01,02,03
On waitlist at end (n)	31	207	1,862	01,02
Number of new patient registrations (n)	32	298	2,280	01,02

Waiting List Outcomes (01/01/2009-12/31/2009)	Statistical Significance of Difference			Tables for More Information
	Observed	Expected		
Transplant rate (from deceased donors) among waitlist patients	0.51	1.08	Statistically Lower (b)	03,04,05,06
Mortality rate while on waitlist	0.32	0.15	Not Significantly Different (a)	03,04

Post-transplant Outcomes (01/01/2007-06/30/2009)	1 Year			Tables for More Information
	Observed	Expected	Statistical Significance of Difference	
Adult graft survival (based on 45 transplants) (%)	79.57	77.39	Not Significantly Different (a)	10
Adult patient survival (based on 39 transplants) (%)	79.01	81.47	Not Significantly Different (a)	11
Pediatric graft survival (based on 1 transplants) (%)	100.00	NA	NA	10
Pediatric patient survival (%)	NA	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.

NA=Not Applicable.

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

Center: University Medical Center, Univ of Arizona (AZUA)

Organ: LU: Lung

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. University Medical Center, Univ of Arizona (AZUA) had 20 patients on its waiting list on 01/01/2008 and 31 patients on 12/31/2009. During these two years, 65 patients were added to the list and 54 patients were removed. Of the removals, 35 were for transplant from a deceased donor. University Medical Center, Univ of Arizona (AZUA) performed 14 lung transplants (Table 7) during the last year (01/01/2009-12/31/2009). Typical lung programs currently operating in the United States transplanted between 9 and 35 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. Half of the patients listed at this program had received a transplant as of 7.5 months after being placed on the waiting list; in the nation it took 6.7 months to reach the same fraction of patients transplanted. The other half 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 University Medical Center, Univ of Arizona (AZUA), 79.01 percent of adult patients were alive one year after transplant, compared to the 81.47 percent that would be expected based on the characteristics of these patients. However, the p-value of 0.652 indicates that the difference between these rates is not statistically significant. Similar comparisons may be made for shorter- (1 month) and longer-term (3 year) survival, also in Table 11, as well as for graft survival (Table 10). Further discussion of actual, expected, and national survival rates may be found in the Table Details section below.

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 60.9%, (vs. 82.2% nationwide) and the percentage of people removed because of death was 30.4% (vs. 11.7% nationwide). Table 2 shows the characteristics of patients on the waiting list at University Medical Center, Univ of Arizona (AZUA).

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 Donor Network of Arizona 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 0.87 transplants per patient year, the rate expected for this program is 1.08. 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 0.51 per year spent on the waiting list for any person(s) on the waiting list. Compared to the expected rate of 1.08, the difference is unlikely to have occurred by random chance ($p < .01$) and probably represents a real difference from the expected rate.

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: $1 \text{ transplant} \div .5 \text{ year} = \text{transplant rate of } 2$.

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, 51.3% of patients had received a transplant by 6 months after being placed on the waiting list, compared with 53.6% in the nation (Table 4). At 6 months, 0.0% had died (compared to 7.8% nationally) and 46.2% were still on the waiting list (35.3% 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, 20.0 percent of patients placed on the lung waiting list had received transplants as of 30 days after being placed on the waiting list. Those not transplanted, the other 80.0 percent, were either still waiting or removed from the waiting list for reasons including death. At one year after placement on the waiting list, 62.2 percent of patients at this program had been transplanted; this figure was 52.2 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. Half of the patients placed on the waiting list at this program had received a transplant as of 7.5 months after listing; in the nation it took 6.7 months to reach the same fraction. The other half 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 University Medical Center, Univ of Arizona (AZUA) and their outcomes. Tables 7-9 describe the characteristics of transplant recipients, donors, and operations at this program. For example, of the 14 patients receiving deceased donor transplants at this program in the last year, 50.0 percent had organ failure caused by Emphysema/COPD, compared to a national average of 32.0 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, an actual (observed) survival for the nation, and an expected survival for the program. 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.

The expected survival rate for a given program is the percentage of grafts functioning (or patients alive) that would be expected for the patients served by this program, given their characteristics (age, disease, blood type, etc.) and the experience of similar patients in the entire country. At this program, the expected one-year patient survival rate of 81.47 may be different from the national average of 82.86 if patients transplanted at this program have characteristics that would make us expect a different survival rate than the average.

At University Medical Center, Univ of Arizona (AZUA), 79.01 percent of adult patients were alive one year after transplant, compared to the 81.47 percent that would be expected based on the characteristics of these patients. However, the p-value of 0.652 indicates that the difference between these rates is not statistically significant. Similar comparisons may be made for shorter- (1 month) and longer-term (3 year) survival, also in Table 11, as well as for graft survival (Table 10). Further discussion of actual, expected, and national survival rates may be found in the Table Details section below.

Table 1

Waitlist Activity Summary (see Tables 2-6 for details)

Date: 01/01/2008 - 12/31/2009

Center: University Medical Center, Univ of Arizona (AZUA)

Organ: LU: 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. (%)
On waitlist at start	20	23	100.0	100.0	100.0
Additions					
New listings at this center	33	32	139.1	133.6	112.9
Removals					
Transferred to another center	1	0	0.0	0.9	1.5
Received living donor transplant*	0	0	0.0	0.4	0.0
Received deceased donor transplant*	21	14	60.9	97.8	82.2
Died	3	7	30.4	18.8	11.7
Transplanted at another center	1	1	4.3	3.1	1.5
Deteriorated	0	0	0.0	6.7	6.8
Recovered	0	0	0.0	6.7	7.7
Other Reasons	4	2	8.7	6.3	9.2
On waitlist at end of period	23	31	134.8	92.8	92.2

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 on 07/13/2010.

Table 2
Characteristics of Waitlist Patients
Patients registered on the waitlist between 01/01/2009 and 12/31/2009
Center: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: 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=32)	OPTN Region (N=298)	U.S. (N=2,280)	This Center (N=31)	OPTN Region (N=207)	U.S. (N=1,862)
All (%)	100	100	100	100	100	100
Ethnicity/Race (%)*						
White	71.9	69.8	82.8	71.0	64.3	81.3
African-American	3.1	4.7	9.1	3.2	8.2	10.1
Hispanic/Latino	21.9	20.1	6.0	16.1	19.3	5.9
Asian	0.0	5.0	1.8	0.0	6.3	1.9
Other	3.1	0.3	0.3	9.7	1.9	0.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Age (%)						
<2 years	0.0	0.0	0.6	0.0	0.0	0.8
2-11 years	0.0	0.7	1.1	0.0	3.4	3.2
12-17 years	0.0	3.7	3.0	0.0	2.9	4.0
18-34 years	9.4	14.1	12.0	12.9	9.7	14.0
35-49 years	9.4	19.5	14.8	6.5	22.7	21.6
50-64 years	62.5	39.6	48.6	61.3	42.5	46.5
65+ years	18.8	22.5	19.9	19.4	18.8	9.9
Other (includes prenatal)	0.0	0.0	0.0	0.0	0.0	0.0
Gender (%)						
Male	50.0	48.3	55.3	38.7	33.8	39.8
Female	50.0	51.7	44.7	61.3	66.2	60.2
Blood Type (%)						
O	50.0	49.3	46.1	51.6	51.2	48.7
A	40.6	41.3	39.3	41.9	40.1	37.8
B	6.3	7.0	11.0	6.5	6.8	10.7
AB	3.1	2.3	3.6	0.0	1.9	2.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Previous Transplant (%)						
Yes	6.3	5.7	5.8	0.0	1.4	3.3
No	93.8	94.3	94.2	100.0	98.6	96.7
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Primary Disease (%)						
Idiopathic Pulmonary Arterial Hypertension	3.1	9.1	5.3	9.7	13.0	10.8
Cystic Fibrosis	6.3	15.1	13.6	6.5	10.6	13.2
Idiopathic Pulmonary Fibrosis	31.3	50.0	48.2	19.4	34.3	29.3
Emphysema/COPD	56.3	23.2	29.5	61.3	37.2	41.8
Other	3.1	2.7	3.5	3.2	4.8	4.8
Missing	0.0	0.0	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). 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 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: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: 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.
Sample					
Count on waitlist at start *	20	23	26	220	2,008
Transplant Rate					
Person Years **	23.6	27.4	29.2	210.6	1,905.0
Deceased Donors Only					
Removals for transplant	21	14	29	218	1,660
Transplant rate (per year on waitlist)	0.89	0.51	0.99	1.04	0.87
Expected Transplant Rate ***	1.11	1.08	1.15	1.01	0.87
Ratio of Observed to Expected Transplants	0.80	0.47	0.86	1.02	1.00
95% Confidence Interval: Lower Bound [†]	0.50	0.26	NA	NA	NA
Upper Bound [†]	1.23	0.79	NA	NA	NA
p-value (2-sided) ^{††}	0.366	<0.01	NA	NA	NA
How do the rates at this center compare to those in the nation?	Not Significantly Different (a)	Statistically Lower (b)	NA	NA	NA
Mortality rate after being placed on waitlist					
Person Years ****	24.6	28.0	30.3	223.3	2,047.0
Number of deaths	4	9	9	55	339
Death rate (per year on waitlist)	0.16	0.32	0.30	0.25	0.17
Expected Death Rate *****	0.20	0.15	0.16	0.19	0.17
Ratio of Observed to Expected Deaths	0.81	2.15	1.80	1.27	1.00
95% Confidence Interval: Lower Bound [†]	0.22	0.98	NA	NA	NA
Upper Bound [†]	2.09	4.07	NA	NA	NA
p-value (2-sided) ^{††}	0.913	0.056	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.

[†] 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.

^{††} 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, primary diagnosis, 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: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung

Waitlist status (survival status)	This Center (N=39)			United States (N=1,958)		
	Months Since Waitlisting [†]			Months Since Waitlisting [†]		
	6	12	18	6	12	18
Alive on waitlist (%)	46.2	23.1	15.4	35.3	21.2	14.0
Died on the waitlist without transplant (%)	0.0	0.0	5.1	7.8	9.2	10.2
Removed without transplant: (%)						
Condition worsened (status unknown)	0.0	0.0	0.0	2.0	2.9	3.3
Condition improved (status unknown)	0.0	0.0	0.0	0.1	0.4	0.5
Refused transplant (status unknown)	0.0	0.0	0.0	0.1	0.3	0.3
Other	2.6	2.6	2.6	1.0	1.6	2.3
Transplant (living or deceased donor): (%)						
Functioning (alive)	43.6	64.1	53.8	48.3	52.8	38.1
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.5	0.6	0.8
Failed-alive not retransplanted	0.0	0.0	0.0	0.1	0.1	0.1
Died	2.6	5.1	15.4	4.2	8.3	11.9
Status Yet Unknown *	5.1	5.1	7.7	0.6	2.6	18.1
Lost or Transferred (status unknown) (%)	0.0	0.0	0.0	0.1	0.2	0.5
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waitlist or after transplant	2.6	5.1	20.5	12.0	17.5	22.1
Total % known died or removed as unstable	2.6	5.1	20.5	14.0	20.4	25.4
Total % removed for transplant	51.3	74.4	76.9	53.6	64.3	68.9
Total % with known functioning transplant (alive)	43.6	64.1	53.8	48.3	52.8	38.1

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 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 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: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: 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	45	20.0	62.2	73.3	73.3	5,325	15.6	52.2	60.2	62.8
Ethnicity/Race *										
White	30	16.7	60.0	76.7	76.7	4,412	15.9	53.6	61.7	64.6
African-American	2	50.0	100.0	100.0	100.0	483	13.3	46.8	56.1	57.6
Hispanic/Latino	11	27.3	63.6	63.6	63.6	313	14.7	44.4	48.9	49.2
Asian	0	-	-	-	-	78	16.7	39.7	44.9	50.0
Other	2	0.0	50.0	50.0	50.0	39	10.3	46.2	53.8	56.4
Unknown	0	-	-	-	-	0	-	-	-	-
Age										
<2 years	0	-	-	-	-	25	24.0	56.0	56.0	56.0
2-11 years	1	0.0	100.0	100.0	100.0	98	10.2	39.8	43.9	44.9
12-17 years	1	0.0	0.0	0.0	0.0	177	11.9	39.5	45.2	48.6
18-34 years	8	25.0	62.5	62.5	62.5	766	13.8	44.9	54.0	56.5
35-49 years	9	44.4	88.9	100.0	100.0	1,042	13.1	43.9	51.5	54.0
50-64 years	25	12.0	56.0	72.0	72.0	2,841	15.5	55.5	64.2	67.1
65+ years	1	0.0	0.0	0.0	0.0	376	29.5	74.2	77.1	78.7
Other (includes prenatal)	0	-	-	-	-	0	-	-	-	-
Gender										
Male	18	22.2	77.8	77.8	77.8	2,657	20.1	59.5	66.3	68.9
Female	27	18.5	51.9	70.4	70.4	2,668	11.1	44.9	54.0	56.6
Blood Type										
O	26	11.5	61.5	69.2	69.2	2,451	13.4	49.2	57.7	60.2
A	15	20.0	60.0	80.0	80.0	2,106	17.4	53.2	60.9	64.0
B	2	50.0	50.0	50.0	50.0	566	14.8	58.3	64.8	66.1
AB	2	100.0	100.0	100.0	100.0	202	25.2	61.9	68.8	71.3
Previous Transplant										
Yes	4	50.0	100.0	100.0	100.0	289	22.5	52.9	55.7	56.4
No	41	17.1	58.5	70.7	70.7	5,036	15.2	52.2	60.4	63.1
Primary Disease										
Congenital Disease	0	-	-	-	-	2	0.0	0.0	0.0	0.0
Retransplant/Graft Failure	0	-	-	-	-	0	-	-	-	-
Idiopathic Pulmonary Arterial Hypertension	8	25.0	50.0	50.0	50.0	351	8.8	29.3	34.5	35.6
Cystic Fibrosis	5	20.0	80.0	80.0	80.0	798	14.5	47.9	57.4	60.8
Idiopathic Pulmonary Fibrosis	18	16.7	66.7	77.8	77.8	2,096	20.4	57.9	63.5	64.7
Alpha-1-Antitrypsin Deficiency	0	-	-	-	-	0	-	-	-	-
Emphysema/COPD	13	23.1	53.8	76.9	76.9	1,835	12.6	52.6	63.3	67.4
Other	1	0.0	100.0	100.0	100.0	243	9.9	47.3	54.3	57.2
Missing	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: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung

Percentile	Months to Transplant*			
	Center	OPO/DSA	Region	U.S.
5th	0.3	0.1	0.2	0.2
10th	0.6	0.3	0.4	0.4
25th	1.9	1.0	1.4	1.5
50th (median time to transplant)	7.5	5.4	4.9	6.7
75th	>72	>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 on 07/13/2010.

Table 7
Transplant Recipient Characteristics, Deceased Donor Transplants
Patients transplanted between 01/01/2009 and 12/31/2009
Center: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung

Characteristic	Percentage in each category		
	Center (N=14)	Region (N=218)	U.S. (N=1,660)
Ethnicity/Race (%)[†]			
White	64.3	73.4	84.7
African-American	14.3	2.8	8.0
Hispanic/Latino	21.4	19.7	6.0
Asian	0.0	4.1	1.3
Other	0.0	0.0	0.1
Unknown	0.0	0.0	0.0
Age (%)			
<2 years	0.0	0.0	0.2
2-11 years	0.0	0.0	0.8
12-17 years	0.0	3.2	2.7
18-34 years	14.3	15.1	11.1
35-49 years	7.1	16.5	14.0
50-64 years	71.4	42.7	48.9
65+ years	7.1	22.5	22.2
Unknown	0.0	0.0	0.0
Gender (%)			
Male	42.9	53.2	57.3
Female	57.1	46.8	42.7
Blood Type (%)			
O	35.7	45.0	42.5
A	42.9	42.2	42.3
B	14.3	8.7	11.2
AB	7.1	4.1	3.9
Previous Transplant (%)			
Yes	14.3	4.1	4.9
No	85.7	95.9	95.1
Body Mass Index (%)			
0-20	21.4	27.5	26.4
21-25	50.0	31.7	30.9
26-30	7.1	33.5	31.4
31+	21.4	7.3	10.5
Unknown	0.0	0.0	0.7
Primary Disease (%)			
Idiopathic Pulmonary Arterial Hypertension	0.0	7.8	4.9
Cystic Fibrosis	14.3	17.4	15.1
Idiopathic Pulmonary Fibrosis	28.6	49.1	42.5
Emphysema/COPD	50.0	24.3	32.0
Other	7.1	1.4	5.5
Missing	0.0	0.0	0.0
Recipient Medical Condition at Transplant (%)			
Not Hospitalized	78.6	81.7	80.2
Hospitalized	0.0	8.7	9.8
ICU	21.4	9.6	9.3
Unknown	0.0	0.0	0.7

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

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 on 07/13/2010.

Table 8
Donor Characteristics, Deceased Donor Transplants
Transplants performed between 01/01/2009 and 12/31/2009
Center: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung

Donor Characteristic	Percentage in each category		
	Center 100% (N=14)	Region 100% (N=218)	U.S. 100% (N=1,660)
Cause of Death (%)			
Deceased: Stroke	42.9	38.1	40.0
Deceased: MVA	14.3	15.1	15.7
Deceased: Other	42.9	46.8	44.3
Ethnicity/Race (%) *			
White	50.0	51.8	61.7
African-American	0.0	8.7	19.8
Hispanic/Latino	35.7	33.0	15.4
Asian	7.1	6.0	3.0
Other	7.1	0.5	0.1
Not Reported	0.0	0.0	0.0
Age (%)			
<2 years	0.0	0.0	0.2
2-11 years	0.0	0.9	1.6
12-17 years	0.0	11.5	11.0
18-34 years	71.4	43.1	41.1
35-49 years	21.4	27.5	26.5
50-64 years	7.1	17.0	18.6
65+ years	0.0	0.0	1.0
Unknown	0.0	0.0	0.0
Gender (%)			
Male	57.1	64.7	58.4
Female	42.9	35.3	41.6
Blood Type (%)			
O	50.0	55.5	49.0
A	35.7	33.0	37.9
B	7.1	10.1	11.0
AB	7.1	1.4	2.0
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 on 07/13/2010.

Table 9
Transplant Operation Characteristics, Deceased Donor Transplants
Transplants performed between 01/01/2009 and 12/31/2009
Center: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung

	Percentage in each category (except where noted)		
	Center 100% (N=14)	Region 100% (N=218)	U.S. 100% (N=1,660)
Cold Ischemic Time (Minutes): Local (%)			
Deceased: 0-90 min	0.0	0.0	0.6
Deceased: 91-180 min	18.2	7.7	13.0
Deceased: 181-270 min	81.8	51.4	36.4
Deceased: 271-360 min	0.0	31.0	30.5
Deceased: 361+ min	0.0	9.9	15.8
Not Reported	0.0	0.0	3.7
Cold Ischemic Time (Minutes): Shared (%)			
Deceased: 0-90 min	0.0	0.0	0.0
Deceased: 91-180 min	0.0	0.0	2.7
Deceased: 181-270 min	66.7	17.1	19.4
Deceased: 271-360 min	33.3	43.4	37.2
Deceased: 361+ min	0.0	38.2	36.7
Not Reported	0.0	1.3	4.0
Procedure Type (%)			
ORGAN Alone	100.0	99.1	99.2
ORGAN and OTHER ORGAN	0.0	0.9	0.8
Sharing (%)			
Local	78.6	65.1	50.4
Shared	21.4	34.9	49.6
Median Time in Hospital After Transplant *	21.0 Days	15.0 Days	16.0 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.

* Multiple organ transplants are excluded from this statistic.

Based on data available as of 04/30/2010. Release at 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: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung (Lung Transplants Only - Single or Double)
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
Adult (Age ≥ 18)						
Transplants (n=number) ¹	45	45	25	3,619	3,619	3,258
Percent (%) of Grafts Surviving at End of Period						
Observed at this Center ²	88.89	79.57	51.33	94.75	81.28	64.52
Expected, based on national experience ³	93.22	77.39	66.67			
Graft Failures During Follow-up Period						
Observed at this center	5	9	12	190	625	1,144
Expected, based on national experience ⁴	2.90	9.26	7.40	190	625	1,144
Ratio: Observed to Expected (O/E)	1.72	0.97	1.62	1.00	1.00	1.00
(95% Confidence Interval) ⁵	(0.56-4.02)	(0.44-1.84)	(0.84-2.83)			
P-value (2-sided), observed v. expected ⁶	0.338	0.999	0.147			
How does this center's survival compare to what is expected for similar patients?	Not Significantly Different (a)	Not Significantly Different (a)	Not Significantly Different (a)			
Follow-up days reported by center (%) ⁷	100.0	100.0	99.3	100.0	98.7	98.7
Maximum Days of Follow-up (n)	30	365	1,095	30	365	1,095
Pediatric (Age < 18)						
Transplants (n) ¹	1	1	1	120	120	136
Percent (%) of Grafts Surviving at End of Period						
Observed at this Center ²	100.00	100.00	0.00	97.50	86.95	61.67
Expected, based on national experience ³	-	-	-			
Graft Failures During Follow-up Period						
Observed at this center	0	0	1	3	14	51
Expected, based on national experience ⁴	-	-	-	-	-	-
Ratio: Observed to Expected (O/E)	-	-	-	1.00	1.00	1.00
(95% Confidence Interval) ⁵	(--)	(--)	(--)			
P-value (2-sided), observed v. expected ⁶	-	-	-			
How does this center's survival compare to what is expected for similar patients?	-	-	-			
Follow-up days reported by center (%) ⁷	100.0	100.0	100.0	100.0	98.6	98.6
Maximum Days of Follow-up (n)	30	365	414	30	365	1,095
Transplant Time Period	01/01/2007-06/30/2009	01/01/2007-06/30/2009	07/01/2004-12/31/2006	01/01/2007-06/30/2009	01/01/2007-06/30/2009	07/01/2004-12/31/2006

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.

¹ Transplants of this organ during the time period indicated in the last row of the table.

² 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.

³ 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.

⁴ 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.

⁵ 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.

⁶ 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.

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

⁷ 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.

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: University Medical Center, Univ of Arizona (AZUA)
Organ: LU: Lung (Lung Transplants Only - Single or Double; 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
Adult (Age 18+)						
Transplants (n=number) ¹	39	39	23	3,430	3,430	3,120
Percent (%) of Patients Surviving at End of Period						
Observed at this Center ²	89.74	79.01	60.87	95.60	82.86	66.96
Expected, based on national experience ³	95.18	81.47	70.61			
Deaths During Follow-up Period						
Observed at this center	4	8	9	151	546	1,031
Expected, based on national experience ⁴	1.81	6.49	5.75	151	546	1,031
Ratio: Observed to Expected (O/E)	2.22	1.23	1.57	1.00	1.00	1.00
(95% Confidence Interval) ⁵	(0.60-5.67)	(0.53-2.43)	(0.72-2.97)			
P-value (2-sided), observed v. expected ⁶	0.219	0.652	0.256			
How does this center's survival compare to what is expected for similar patients?	Not Significantly Different (a)	Not Significantly Different (a)	Not Significantly Different (a)			
Percent retransplanted	0.0	0.0	13.0	0.4	0.9	3.0
Follow-up days reported by center (%) ⁷	100.0	100.0	95.8	99.8	98.3	97.8
Maximum Days of Follow-up (n)	30	365	1,095	30	365	1,095
Pediatric (Age < 18)						
Transplants (n) ¹	-	-	1	111	111	127
Percent (%) of Patients Surviving at End of Period						
Observed at this Center ²	-	-	0.00	97.30	87.98	64.57
Expected, based on national experience ³	-	-	-			
Deaths During Follow-up Period						
Observed at this center	-	-	1	3	12	45
Expected, based on national experience ⁴	-	-	-	-	-	-
Ratio: Observed to Expected (O/E)	-	-	-	1.00	1.00	1.00
(95% Confidence Interval) ⁵	(---)	(---)	(---)			
P-value (2-sided), observed v. expected ⁶	-	-	-			
How does this center's survival compare to what is expected for similar patients?	-	-	-			
Percent retransplanted	-	-	100.0	0.0	0.9	5.5
Follow-up days reported by center (%) ⁷	-	-	51.6	100.0	98.1	97.6
Maximum Days of Follow-up (n)	-	-	803	30	365	1,095
Transplant Time Period	01/01/2007-06/30/2009	01/01/2007-06/30/2009	07/01/2004-12/31/2006	01/01/2007-06/30/2009	01/01/2007-06/30/2009	07/01/2004-12/31/2006

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.

¹ Transplants during the time period indicated in the last row of the table.

² 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.

³ 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.

⁴ 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.

⁵ 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.

⁶ 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.

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

⁷ 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.

Center: AZUATX1LU

General Comments

University Medical Center (UMC) in Tucson, Arizona, is a state-of-the-art facility for both adult and pediatric transplant patients. The Transplant Center's mission is to improve the quality of life for patients with end-stage organ failure by providing excellent medical care. UMC's Transplant Center offers the most comprehensive services in the entire Southwest to heart, lung, liver, kidney, pancreas, and small-bowel transplant candidates. Our multidisciplinary team is headed by exceptional transplant physicians and surgeons whose skills, knowledge base, and decades of combined experience have contributed to the development of important cutting-edge technologies and novel treatments. The Transplant Center enjoys a long-standing partnership with The University of Arizona, which is ranked among the top 20 public research universities in the nation. This partnership has resulted in much innovative research and continues to create the next generation of knowledge, benefiting our patients and their families, many of whom have been able to participate directly in advanced research efforts. The Transplant Center's educational outreach and support programs provide our patients and their caregivers with continuing education and assistance throughout the transplant process. UMC is proud to be the first hospital in the state of Arizona to receive Magnet status, a recognition awarded by the American Nursing Credentialing Center for health care organizations that provide nursing excellence. In 2009, UMC was recognized by Becker's Hospital Review magazine as one of the 10 best hospitals in the nation, in such elite company as Duke University Hospital, Johns Hopkins Hospital, Massachusetts General Hospital, and the Mayo Clinic in Rochester, Minnesota. If you have any questions or would like additional information, please contact us at 1-800-524-5928 or 520-694-8888.