

**Program Summary**

**Center: Mayo Clinic Hospital (AZMC)**

**Organ: HR: Heart**

<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)	16	314	2,212	07C,08C,09C
On waitlist at start (n)	13	309	2,712	01,02,03
On waitlist at end (n)	15	309	2,997	01,02
Number of new patient registrations (n)	26	471	3,515	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	1.18	1.24	Not Significantly Different (a)	03,04,05,06
Mortality rate while on waitlist	0.27	0.28	Not Significantly Different (a)	03,04

<b>Post-transplant Outcomes ( 01/01/2007-06/30/2009)</b>	<b>1 Year</b>		<b>Statistical Significance of Difference</b>	<b>Tables for More Information</b>
	<b>Observed</b>	<b>Expected</b>		
Adult graft survival (based on 45 transplants) (%)	95.56	91.56	Not Significantly Different (a)	10
Adult patient survival (based on 44 transplants) (%)	95.45	91.16	Not Significantly Different (a)	11
Pediatric graft survival (%)	NA	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: Mayo Clinic Hospital (AZMC)

Organ: HR: Heart

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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. Mayo Clinic Hospital (AZMC) had 9 patients on its waiting list on 01/01/2008 and 15 patients on 12/31/2009. During these two years, 56 patients were added to the list and 50 patients were removed. Of the removals, 35 were for transplant from a deceased donor. Mayo Clinic Hospital (AZMC) performed 16 heart transplants (Table 7) during the last year (01/01/2009-12/31/2009). Typical heart programs currently operating in the United States transplanted between 10 and 22 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 2.1 months after being placed on the waiting list; in the nation it took 4.8 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 Mayo Clinic Hospital (AZMC), 95.45 percent of adult patients were alive one year after transplant, compared to the 91.16 percent that would be expected based on the characteristics of these patients. However, the p-value of 0.564 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 123.1%, (vs. 81.6% nationwide) and the percentage of people removed because of death was 23.1% (vs. 12.9% nationwide). Table 2 shows the characteristics of patients on the waiting list at Mayo Clinic Hospital (AZMC).

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 0.80 transplants per patient year, the rate expected for this program is 1.24. 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 1.18 per year spent on the waiting list for any person(s) on the waiting list. Compared to the expected rate of 1.24, 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:  $1 \text{ transplant} \div .5 \text{ year} = \text{transplant rate of } 2$ .

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, 76.5% of patients had received a transplant by 6 months after being placed on the waiting list, compared with 54.6% in the nation (Table 4). At 6 months, 11.8% had died (compared to 7.5% nationally) and 8.8% were still on the waiting list (31.8% 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, 45.8 percent of patients placed on the heart waiting list had received transplants as of 30 days after being placed on the waiting list. Those not transplanted, the other 54.2 percent, were either still waiting or removed from the waiting list for reasons including death. At one year after placement on the waiting list, 79.2 percent of patients at this program had been transplanted; this figure was 63.2 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 2.1 months after listing; in the nation it took 4.8 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 Mayo Clinic Hospital (AZMC) and their outcomes. Tables 7-9 describe the characteristics of transplant recipients, donors, and operations at this program. For example, of the 16 patients receiving deceased donor transplants at this program in the last year, 62.5 percent had organ failure caused by Cardiomyopathy, compared to a national average of 53.2 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 91.16 may be different from the national average of 88.88 if patients transplanted at this program have characteristics that would make us expect a different survival rate than the average.

At Mayo Clinic Hospital (AZMC), 95.45 percent of adult patients were alive one year after transplant, compared to the 91.16 percent that would be expected based on the characteristics of these patients. However, the p-value of 0.564 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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

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>	9	13	100.0	100.0	100.0
<b>Additions</b>					
New listings at this center	30	26	200.0	152.4	129.6
<b>Removals</b>					
Transferred to another center	1	0	0.0	2.3	1.7
Received living donor transplant*	0	0	0.0	0.0	0.0
Received deceased donor transplant*	19	16	123.1	101.6	81.6
Died	4	3	23.1	14.2	12.9
Transplanted at another center	0	0	0.0	0.3	0.4
Deteriorated	2	2	15.4	10.7	7.9
Recovered	0	3	23.1	13.3	9.2
Other Reasons	0	0	0.0	10.0	5.5
<b>On waitlist at end of period</b>	13	15	115.4	100.0	110.5

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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

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=26)	OPTN Region (N=471)	U.S. (N=3,515)	This Center (N=15)	OPTN Region (N=309)	U.S. (N=2,997)
<b>All (%)</b>	100	100	100	100	100	100
<b>Ethnicity/Race (%)*</b>						
White	80.8	60.5	66.2	73.3	65.0	70.2
African-American	7.7	11.7	20.5	20.0	12.3	19.7
Hispanic/Latino	3.8	17.6	9.2	6.7	16.2	7.7
Asian	0.0	9.3	3.3	0.0	5.8	1.8
Other	7.7	0.8	0.8	0.0	0.6	0.6
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Age (%)</b>						
<2 years	0.0	7.0	7.4	0.0	7.4	3.8
2-11 years	0.0	4.2	4.2	0.0	5.2	3.4
12-17 years	0.0	4.2	4.0	0.0	2.6	2.9
18-34 years	15.4	10.2	9.6	33.3	12.3	11.2
35-49 years	7.7	17.8	18.2	26.7	21.0	23.3
50-64 years	65.4	42.0	44.5	33.3	38.8	45.9
65+ years	11.5	14.4	12.1	6.7	12.6	9.5
Other (includes prenatal)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Gender (%)</b>						
Male	84.6	70.3	71.8	66.7	75.4	74.2
Female	15.4	29.7	28.2	33.3	24.6	25.8
<b>Blood Type (%)</b>						
O	46.2	48.2	45.2	73.3	57.3	56.7
A	38.5	33.3	37.8	26.7	30.1	31.6
B	11.5	13.8	12.9	0.0	9.1	10.0
AB	3.8	4.7	4.2	0.0	3.6	1.7
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Previous Transplant (%)</b>						
Yes	3.8	7.9	5.0	6.7	8.1	4.8
No	96.2	92.1	95.0	93.3	91.9	95.2
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
<b>Primary Disease (%)</b>						
Cardiomyopathy	46.2	49.9	50.3	40.0	44.3	46.7
Coronary Artery Disease	50.0	31.8	32.9	46.7	35.0	37.1
Retransplant/Graft Failure	0.0	7.0	4.5	6.7	7.4	4.4
Valvular Heart Disease	0.0	3.0	1.7	0.0	2.6	1.9
Congenital Heart Disease	3.8	7.9	9.5	6.7	10.4	8.7
Other	0.0	0.4	1.1	0.0	0.3	1.2
Missing	0.0	0.0	0.0	0.0	0.0	0.0
<b>Medical Urgency Status at Listing (%)</b>						
Status 1A	26.9	33.1	28.0	20.0	13.3	12.2
Status 1B	23.1	21.4	33.1	26.7	12.6	24.5
Status 2	23.1	35.2	34.2	33.3	66.0	58.5
Temporarily Inactive	26.9	10.2	4.7	20.0	8.1	4.8

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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

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 *	9	13	57	309	2,696
<b>Transplant Rate</b>					
Person Years **	8.7	13.6	49.7	311.5	2,767.3
<b>Deceased Donors Only</b>					
Removals for transplant	19	16	29	314	2,212
Transplant rate (per year on waitlist)	2.19	1.18	0.58	1.01	0.80
Expected Transplant Rate ***	1.04	1.24	0.67	0.76	0.80
Ratio of Observed to Expected Transplants	2.10	0.95	0.87	1.32	1.00
95% Confidence Interval: Lower Bound <sup>†</sup>	1.27	0.54	NA	NA	NA
Upper Bound <sup>†</sup>	3.28	1.55	NA	NA	NA
p-value (2-sided) <sup>††</sup>	<0.01	0.975	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 ****	8.8	14.9	57.7	338.4	2,919.7
Number of deaths	6	4	11	68	508
Death rate (per year on waitlist)	0.68	0.27	0.19	0.20	0.17
Expected Death Rate *****	0.51	0.28	0.21	0.20	0.17
Ratio of Observed to Expected Deaths	1.33	0.96	0.89	1.00	1.00
95% Confidence Interval: Lower Bound <sup>†</sup>	0.49	0.26	NA	NA	NA
Upper Bound <sup>†</sup>	2.90	2.46	NA	NA	NA
p-value (2-sided) <sup>††</sup>	0.594	0.999	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, medical urgency status, 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, blood type, time on the waiting list, and medical urgency status. Based on data available as of 04/30/2010. Release at [www.ustransplant.org](http://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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

Waitlist status (survival status)	This Center (N=34)			United States (N=3,261)		
	Months Since Waitlisting <sup>†</sup>			Months Since Waitlisting <sup>†</sup>		
	6	12	18	6	12	18
<b>Alive on waitlist (%)</b>	8.8	5.9	2.9	31.8	20.2	14.0
<b>Died on the waitlist without transplant (%)</b>	11.8	11.8	11.8	7.5	8.4	9.2
<b>Removed without transplant: (%)</b>						
Condition worsened (status unknown)	2.9	2.9	2.9	3.6	4.2	4.5
Condition improved (status unknown)	0.0	0.0	2.9	1.0	1.5	2.3
Refused transplant (status unknown)	0.0	0.0	0.0	0.2	0.3	0.4
Other	0.0	0.0	0.0	1.1	1.7	2.1
<b>Transplant (living or deceased donor): (%)</b>						
Functioning (alive)	73.5	70.6	52.9	50.4	54.0	37.3
Failed-Retransplanted (alive)	0.0	0.0	0.0	0.3	0.4	0.4
Failed-alive not retransplanted	0.0	0.0	0.0	0.1	0.0	0.1
Died	2.9	5.9	5.9	3.4	6.0	7.8
Status Yet Unknown *	0.0	2.9	20.6	0.3	2.6	21.2
<b>Lost or Transferred (status unknown) (%)</b>	0.0	0.0	0.0	0.4	0.6	0.8
<b>TOTAL (%)</b>	100.0	100.0	100.0	100.0	100.0	100.0
Total % known died on waitlist or after transplant	14.7	17.6	17.6	10.9	14.5	17.0
Total % known died or removed as unstable	17.6	20.6	20.6	14.4	18.7	21.6
Total % removed for transplant	76.5	79.4	79.4	54.6	63.0	66.7
Total % with known functioning transplant (alive)	73.5	70.6	52.9	50.4	54.0	37.3

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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

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	24	45.8	79.2	79.2	79.2	8,754	24.1	63.2	67.6	68.9
<b>Ethnicity/Race *</b>										
White	18	38.9	83.3	83.3	83.3	6,011	23.0	62.9	67.8	69.3
African-American	0	-	-	-	-	1,641	24.7	62.8	66.7	67.8
Hispanic/Latino	6	66.7	66.7	66.7	66.7	762	28.0	63.3	66.3	67.2
Asian	0	-	-	-	-	253	33.6	73.9	75.1	75.1
Other	0	-	-	-	-	87	25.3	58.6	63.2	63.2
Unknown	0	-	-	-	-	0	-	-	-	-
<b>Age</b>										
<2 years	0	-	-	-	-	568	25.4	56.9	57.2	57.4
2-11 years	0	-	-	-	-	426	30.3	66.2	68.5	70.7
12-17 years	1	0.0	100.0	100.0	100.0	399	35.3	71.7	74.9	76.2
18-34 years	2	50.0	50.0	50.0	50.0	973	23.3	61.4	65.4	66.6
35-49 years	3	100.0	100.0	100.0	100.0	1,795	20.2	60.8	65.3	66.7
50-64 years	18	38.9	77.8	77.8	77.8	3,858	22.9	62.9	68.5	70.1
65+ years	0	-	-	-	-	728	30.1	71.3	74.9	75.3
Other (includes prenatal)	0	-	-	-	-	7	14.3	71.4	71.4	71.4
<b>Gender</b>										
Male	16	43.8	87.5	87.5	87.5	6,343	23.1	62.9	67.8	69.2
Female	8	50.0	62.5	62.5	62.5	2,411	26.5	63.9	67.1	68.2
<b>Blood Type</b>										
O	7	57.1	85.7	85.7	85.7	3,918	15.8	53.2	59.3	61.2
A	12	58.3	75.0	75.0	75.0	3,309	29.8	70.9	74.0	75.0
B	5	0.0	80.0	80.0	80.0	1,149	28.9	70.7	73.8	74.5
AB	0	-	-	-	-	378	44.7	76.5	78.6	78.8
<b>Previous Transplant</b>										
Yes	0	-	-	-	-	454	20.0	51.1	55.9	57.3
No	24	45.8	79.2	79.2	79.2	8,300	24.3	63.8	68.2	69.6
<b>Medical Urgency Status at Listing</b>										
Old Status 1	0	-	-	-	-	0	-	-	-	-
Status 1A	7	71.4	71.4	71.4	71.4	2,237	39.4	66.7	68.0	68.1
Status 1B	5	40.0	100.0	100.0	100.0	2,461	30.1	74.2	77.0	77.2
Status 2	10	30.0	70.0	70.0	70.0	3,720	11.7	54.9	62.4	65.3
Unknown	2	50.0	100.0	100.0	100.0	336	14.3	50.6	53.3	53.3
<b>Primary Disease</b>										
Cardiomyopathy	14	42.9	71.4	71.4	71.4	4,105	26.4	66.6	70.8	71.9
Coronary Artery Disease	10	50.0	90.0	90.0	90.0	3,091	21.9	62.5	67.9	69.5
Retransplant/Graft Failure	0	-	-	-	-	395	20.3	51.6	56.2	57.7
Valvular Heart Disease	0	-	-	-	-	190	22.1	58.4	60.5	63.2
Congenital Heart Disease	0	-	-	-	-	864	23.0	56.5	58.9	60.0
Other	0	-	-	-	-	109	21.1	56.9	58.7	60.6
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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

Percentile	Months to Transplant*			
	Center	OPO/DSA	Region	U.S.
5th	0.1	0.1	0.1	0.2
10th	0.2	0.3	0.2	0.3
25th	0.5	1.2	0.7	1.1
50th (median time to transplant)	2.1	5.5	2.4	4.8
75th	>72	>72	32.2	>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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

Characteristic	Percentage in each category		
	Center (N=16)	Region (N=314)	U.S. (N=2,212)
<b>Ethnicity/Race (%) *</b>			
White	87.5	64.6	67.5
African-American	0.0	9.9	19.0
Hispanic/Latino	12.5	16.2	9.1
Asian	0.0	8.6	3.6
Other	0.0	0.6	0.7
Unknown	0.0	0.0	0.0
<b>Age (%)</b>			
<2 years	0.0	5.7	6.7
2-11 years	0.0	3.8	4.8
12-17 years	0.0	5.4	4.7
18-34 years	12.5	8.6	9.4
35-49 years	6.3	18.8	17.9
50-64 years	68.8	42.4	43.6
65+ years	12.5	15.3	13.0
Unknown	0.0	0.0	0.0
<b>Gender (%)</b>			
Male	93.8	74.2	72.2
Female	6.3	25.8	27.8
<b>Blood Type (%)</b>			
O	31.3	44.9	39.5
A	50.0	35.7	40.7
B	18.8	15.9	15.0
AB	0.0	3.5	4.9
<b>Previous Transplant (%)</b>			
Yes	6.3	7.6	4.1
No	93.8	92.4	95.9
<b>Body Mass Index (%)</b>			
0-20	6.3	23.9	21.1
21-25	31.3	33.1	28.3
26-30	56.3	31.2	30.2
31+	6.3	10.2	17.3
Unknown	0.0	1.6	3.2
<b>Primary Disease (%)</b>			
Cardiomyopathy	62.5	58.0	53.2
Coronary Artery Disease	31.3	31.2	32.6
Retransplant/Graft Failure	0.0	0.0	0.0
Valvular Heart Disease	0.0	1.6	1.9
Congenital Heart Disease	6.3	8.6	9.7
Other	0.0	0.3	2.4
Missing	0.0	0.3	0.1
<b>Medical Urgency Status at Transplant (%)</b>			
Status 1A	50.0	55.7	57.4
Status 1B	43.8	30.6	34.9
Status 2	6.3	13.7	7.6
Temporarily Inactive	0.0	0.0	0.0
<b>Recipient Medical Condition at Transplant (%)</b>			
Not Hospitalized	50.0	43.3	52.0
Hospitalized	25.0	19.4	17.0
ICU	25.0	37.3	30.3
Unknown	0.0	0.0	0.7
<b>Recipient Mechanical, Ventilated or Organ-Perfusion Support Status at Transplant (%)</b>			
No Support Mechanism	6.3	33.4	24.8
Devices *	43.8	31.5	39.5
Other Support Mechanism	50.0	35.0	35.2
Unknown	0.0	0.0	0.5

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.

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

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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

Donor Characteristic	Percentage in each category		
	Center 100% (N=16)	Region 100% (N=314)	U.S. 100% (N=2,212)
<b>Cause of Death (%)</b>			
Deceased: Stroke	18.8	20.7	25.8
Deceased: MVA	12.5	24.5	23.9
Deceased: Other	68.8	54.8	50.3
<b>Ethnicity/Race (%) *</b>			
White	56.3	46.8	63.1
African-American	6.3	9.9	17.2
Hispanic/Latino	25.0	39.2	17.5
Asian	6.3	3.5	1.5
Other	6.3	0.6	0.6
Not Reported	0.0	0.0	0.0
<b>Age (%)</b>			
<2 years	0.0	4.5	6.1
2-11 years	0.0	4.8	5.1
12-17 years	6.3	8.6	9.3
18-34 years	75.0	51.0	45.3
35-49 years	18.8	25.5	25.8
50-64 years	0.0	5.7	8.3
65+ years	0.0	0.0	0.0
Unknown	0.0	0.0	0.0
<b>Gender (%)</b>			
Male	81.3	73.6	70.7
Female	18.8	26.4	29.3
<b>Blood Type (%)</b>			
O	50.0	61.8	51.9
A	50.0	27.7	34.7
B	0.0	9.6	11.3
AB	0.0	1.0	2.1
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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart**

	Percentage in each category (except where noted)		
	Center 100% (N=16)	Region 100% (N=314)	U.S. 100% (N=2,212)
<b>Cold Ischemic Time (Minutes): Local (%)</b>			
Deceased: 0-90 min	0.0	1.5	6.2
Deceased: 91-180 min	77.8	42.2	53.4
Deceased: 181-270 min	22.2	45.2	32.6
Deceased: 271-360 min	0.0	5.5	3.7
Deceased: 361+ min	0.0	2.0	0.8
Not Reported	0.0	3.5	3.2
<b>Cold Ischemic Time (Minutes): Shared (%)</b>			
Deceased: 0-90 min	0.0	0.0	0.3
Deceased: 91-180 min	0.0	6.1	14.7
Deceased: 181-270 min	100.0	62.6	64.5
Deceased: 271-360 min	0.0	25.2	14.9
Deceased: 361+ min	0.0	6.1	1.9
Not Reported	0.0	0.0	3.8
<b>Procedure Type (%)</b>			
ORGAN Alone	93.8	94.3	96.7
ORGAN and OTHER ORGAN	6.3	5.7	3.3
<b>Sharing (%)</b>			
Local	56.3	63.4	51.9
Shared	43.8	36.6	48.1
<b>Median Time in Hospital After Transplant *</b>	20.0 Days	13.0 Days	14.0 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](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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart (Single-Organ Transplants Only)**  
**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>	45	45	17	4,402	4,402	4,447
<b>Percent (%) of Grafts Surviving at End of Period</b>						
Observed at this Center <sup>2</sup>	97.78	95.56	76.47	95.16	88.35	80.32
Expected, based on national experience <sup>3</sup>	96.66	91.56	85.06			
<b>Graft Failures During Follow-up Period</b>						
Observed at this center	1	2	4	213	488	875
Expected, based on national experience <sup>4</sup>	1.50	3.59	2.42	213	488	875
Ratio: Observed to Expected (O/E)	0.67	0.56	1.66	1.00	1.00	1.00
(95% Confidence Interval) <sup>5</sup>	(0.02-3.72)	(0.07-2.01)	(0.45-4.24)			
P-value (2-sided), observed v. expected <sup>6</sup>	0.999	0.609	0.449			
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 (%) <sup>7</sup>	100.0	98.5	98.6	99.9	98.5	97.6
Maximum Days of Follow-up (n)	30	365	1,095	30	365	1,095
<b>Pediatric (Age &lt; 18)</b>						
Transplants (n) <sup>1</sup>	-	-	1	860	860	768
<b>Percent (%) of Grafts Surviving at End of Period</b>						
Observed at this Center <sup>2</sup>	-	-	100.00	95.00	88.11	80.34
Expected, based on national experience <sup>3</sup>	-	-	89.42			
<b>Graft Failures During Follow-up Period</b>						
Observed at this center	-	-	0	43	98	151
Expected, based on national experience <sup>4</sup>	-	-	0.11	43	98	151
Ratio: Observed to Expected (O/E)	-	-	0.00	1.00	1.00	1.00
(95% Confidence Interval) <sup>5</sup>	(--)	(--)	(0.00-33.00)			
P-value (2-sided), observed v. expected <sup>6</sup>	-	-	0.999			
How does this center's survival compare to what is expected for similar patients?	-	-	Not Significantly Different (a)			
Follow-up days reported by center (%) <sup>7</sup>	-	-	96.4	99.5	96.8	96.7
Maximum Days of Follow-up (n)	-	-	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.

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

<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.

**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: Mayo Clinic Hospital (AZMC)**  
**Organ: HR: Heart (Single-Organ Transplants Only; 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>	44	44	17	4,263	4,263	4,312
<b>Percent (%) of Patients Surviving at End of Period</b>						
Observed at this Center <sup>2</sup>	97.73	95.45	76.47	95.47	88.88	81.08
Expected, based on national experience <sup>3</sup>	96.50	91.16	86.06			
<b>Deaths During Follow-up Period</b>						
Observed at this center	1	2	4	193	450	816
Expected, based on national experience <sup>4</sup>	1.54	3.72	2.25	193	450	816
Ratio: Observed to Expected (O/E)	0.65	0.54	1.78	1.00	1.00	1.00
(95% Confidence Interval) <sup>5</sup>	(0.02-3.62)	(0.07-1.94)	(0.48-4.55)			
P-value (2-sided), observed v. expected <sup>6</sup>	0.999	0.564	0.382			
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	0.0	0.3	0.3	0.7
Follow-up days reported by center (%) <sup>7</sup>	100.0	98.5	98.6	99.8	98.4	97.2
Maximum Days of Follow-up (n)	30	365	1,095	30	365	1,095
<b>Pediatric (Age &lt; 18)</b>						
Transplants (n) <sup>1</sup>	-	-	1	804	804	711
<b>Percent (%) of Patients Surviving at End of Period</b>						
Observed at this Center <sup>2</sup>	-	-	100.00	95.52	89.02	81.72
Expected, based on national experience <sup>3</sup>	-	-	93.95			
<b>Deaths During Follow-up Period</b>						
Observed at this center	-	-	0	36	85	130
Expected, based on national experience <sup>4</sup>	-	-	0.06	36	85	130
Ratio: Observed to Expected (O/E)	-	-	0.00	1.00	1.00	1.00
(95% Confidence Interval) <sup>5</sup>	(---)	(---)	(0.00-59.10)			
P-value (2-sided), observed v. expected <sup>6</sup>	-	-	0.999			
How does this center's survival compare to what is expected for similar patients?	-	-	Not Significantly Different (a)			
Percent retransplanted	-	-	0.0	0.9	1.4	1.4
Follow-up days reported by center (%) <sup>7</sup>	-	-	96.4	99.1	96.0	96.1
Maximum Days of Follow-up (n)	-	-	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.

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

<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.

**Center:** AZMCTX1HR

#### General Comments

Mayo Clinic is the largest transplant center in the United States, providing care for patients in need of lifesaving liver, kidney, pancreas, heart, or bone marrow transplantation. Mayo Clinic differentiates itself from other healthcare centers by delivering outstanding care as an integrated team of specialists, treating the complex medical needs of each patient rather than a disease in isolation.

Mayo Clinic Hospital in Phoenix, Arizona, has received numerous accolades for both excellent care and service. It is the only Arizona hospital to receive the 2009 Top Hospital award by Leapfrog for “its commitment to extraordinary quality and safety efforts.” Mayo Clinic Hospital also has the highest patient satisfaction of all transplant centers in Arizona, according to the HCAHPS survey from the Center for Medicare and Medicaid Services (CMS).

Mayo Clinic in Arizona is one of only 15 transplant centers in the US to be recognized by HRSA (Health Resources and Services Administration arm of the US Department of Health and Human Services) as most successful as defined by high transplant volumes and successful patient outcomes.

At the time of this submission (June 2010), Mayo Clinic has performed over 70 heart transplants in Arizona with excellent outcomes. Our mortality rate (the chance of dying while on the waitlist), was lower than expected and also lower than the average of other programs in Arizona, the region and the nation. Our median time to transplant is 2.1 months as compared to the national median of 4.8 months.

The Village at Mayo Clinic Arizona opened in 2009 to provide a refuge for transplant patients and their caregivers on the campus on the hospital, providing easy access to outpatient services. The Village replaced the Arizona Transplant House at Brusally Ranch which was a generous gift to Mayo. The Arizona Transplant House at the Village at Mayo Clinic is operated by a separate 501(C) (3).

Mayo Clinic’s dedication to patient safety and clinical excellence delivered in a compassionate environment while serving as a local, regional and national provider of transplantation continues today. You may contact us at (800) 344-6296 or email at [Gillette.pamela@mayo.clinic.edu](mailto:Gillette.pamela@mayo.clinic.edu).

Please visit our website at <http://www.mayoclinic.org/transplant-sct> to learn more about Mayo Clinic’s transplant program in Arizona.