SUPPLEMENTAL MATERIAL

Table S1: Candidate demographic, socioeconomic, hemodynamic, and medical factors of All Adult Heart Transplant Candidates listed from July 12th 2000 to July 11th 2015.

| | July 12 th 2000– July 11 th 2003 (N = 8,396) | July 12 th 2003– July 11 th 2006 (N =7,284) | July 12 th 2006 – Dec. 31 st 2010 (N = 12,629) | Jan. 1 st 2011– July 11 th 2015 (N = 15,193) |
|---|--|---|--|--|
| Mean Candidate Age (years)* | 51 | 50.7 | 51.7 | 52.7 |
| Mean Candidate Height (cm) | 173.9 | 173.9 | 174 | 174 |
| Mean Candidate Weight (kg)* | 81.9 | 82.3 | 83.6 | 84 |
| Mean Candidate BMI* (kg/m ²) | 27 | 27.2 | 27.5 | 27.6 |
| Gender | % | % | % | % |
| Male* | 24 | 24 | 25 | 26 |
| Female* | 76 | 76 | 75 | 74 |
| Race | | % | % | % |
| White* | 75 | 72 | 68 | 65 |
| Black* | 15 | 17 | 21 | 23 |
| Asian* | 2 | 2 | 3 | 3 |
| Hispanic* | 7 | 8 | 8 | 8 |
| Other† | 1 | 1 | 1 | 1 |
| Hemodynamic Data | | | | |
| Mean Candidate O2 | | | | |
| consumption (ml/kg/min) | 11.7 | 11.5 | 11.7 | 11.6 |
| Candidate on inotropes/vasodilators at time of measurement: | | | | |
| Mean CI (L/min/m ²) | 2.29 | 2.27 | 2.24 | 2.22 |
| Mean PA (mmHg) | 30.1 | 30.8 | 31.4 | 31.2 |
| Mean PCWP | 20.2 | 20.8 | 21.3 | 21.0 |
| Candidate not on inotropes/vasodilators at time of measurement: | | | | |
| Mean CI (L/min/m ²) | 2.17 | 2.08 | 2.10 | 2.16 |
| Mean PA (mmHg) | 28.4 | 29.4 | 29.8 | 28.4 |
| Mean PCWP | 19.3 | 20.1 | 20.3 | 18.8 |

| | July 12 th 2000– July 11 th 2003 (N = 8,396) | July 12 th 2003– July 11 th 2006 (N =7,284) | July 12 th 2006 – Dec. 31 st 2010 (N = 12,629) | Jan. 1 st 2011– July 11 th 2015 (N = 15,193) |
|---|--|---|--|--|
| Diagnosis | % | % | % | % |
| Dilated Cardiomyopathy, Non-Ischemic* | 38 | 40 | 41 | 42 |
| Ischemic Cardiomyopathy* | 47 | 43 | 39 | 35 |
| Restrictive Cardiomyopathy* | 4 | 5 | 7 | 11 |
| Other | 11 | 13 | 12 | 11 |
| Comorbidities | | | | |
| Diabetes Mellitus * Symptomatic Cerebrovascular | 21 | 25 | 28 | 29 |
| Disease* | 4 | 4 | 4 | 6 |
| History of Malignancy* | 4 | 5 | 6 | 8 |
| History of any Smoking* | - | 51 | 49 | 47 |
| Prior known Cardiac Surgery* | - | 27 | 38 | 42 |
| Renal Function | | | | |
| On Dialysis | 2 | 3 | 3 | 3 |
| <30 ml/min/1.73 m ² | 6 | 6 | 5 | 5 |
| 30-59 ml/min/1.73 m ² | 40 | 41 | 40 | 38 |
| \geq 60 ml/min/1.73 m ² | 52 | 51 | 52 | 54 |
| Blood Type | | | | |
| A* | 39.9 | 39 | 38.3 | 36.8 |
| AB | 4.3 | 4.4 | 4.3 | 5 |
| В† | 12.8 | 13.5 | 13 | 14.2 |
| O | 43 | 43 | 44.3 | 44 |
| ICD use | | | | |
| ICD present* | 36 | 59 | 75 | 76 |
| Location | | | | |
| Intensive Care Unit* | 31 | 28 | 29 | 26 |
| Hospitalized, not in ICU* | 16 | 19 | 19 | 18 |

| | July 12 th 2000– July 11 th 2003 (N = 8,396) | July 12 th 2003– July 11 th 2006 (N =7,284) | July 12 th 2006 – Dec. 31 st 2010 (N = 12,629) | Jan. 1 st 2011– July 11 th 2015 (N = 15,193) |
|--------------------------------|--|---|--|--|
| Not Hospitalized | 54 | 53 | 52 | 56 |
| Functional Status | % | % | % | % |
| Limited Impairment (Good)* | - | - | 34 | 32 |
| Moderate Impairment* | - | - | 33 | 36 |
| Severe Impairment† | - | - | 31 | 29 |
| Education | | | | |
| high school or less* | 66 | 61 | 55 | 47 |
| college or more* | 34 | 39 | 45 | 53 |
| Employment Working for Income* | - | - | 9 | 11 |
| Payor | | | | |
| Private Insurance* | 61 | 57 | 56 | 51 |
| Medicaid | 12 | 12 | 12 | 12 |
| Medicare* | 22 | 25 | 29 | 33 |
| Other* | 6 | 6 | 4 | 4 |

Equal sized year bins of four years each constructed for ease of visualization. *p<0.001 for trend \dagger p<0.01 for trend by year from 2000-2015 \dagger . BMI = Body Mass Index. CI= Cardiac index. ICD = Implantable Cardiodefibrillator. ICU = Intensive Care Unit. PA = Pulmonary Artery. PCWP = Pulmonary Capillary Wedge Pressure.

Given the large number of observations in the dataset, almost all characteristics had a small statistically significant test for trend over time (by year of listing). *p<0.001 for trend †p<0.01 for trend by year from 2000-2015. Candidate smoking history and cardiac surgery history were not recorded prior to 2003. Work history and functional status were not recorded prior to 2005. *A priori*, we categorized functional status into Severe (0-30%, severely disabled requiring hospitalization or worse), Moderate (40-60%, disabled requiring significant assistance but not hospitalization), and Limited Impairment (70-100%, able to care for self, living independently with no or minimal assistance).

Table S2: Adjusted hierarchal logistic regression models with fixed effects by center Model 1: Odds of Status 1A listing for all candidates, July 12th 2000- July 11th 2006.

| N = 11,730 $Centers = 124$ | Odds Ratio Status 1A | p-value | [95% Co | onf. Interv |
|---|-------------------------|-----------------------|-----------------------|-------------|
| Year(baseline july 2000-july 2001) | Status 1A | | | |
| July 2005-July 2006 | 0.001 | 0.972 | 0.701 | 1.2 |
| July 2005-July 2006 July 2004-July 2005 | 0.981 | 0.873 0.742 | 0.781 0.830 | |
| | 1.039 | | | 1.3 |
| July 2003-July 2004 | 1.225 | 0.077 | 0.979 | 1.5 |
| July 2002-July 2003 | 0.950 | 0.639 | 0.765 | 1.1 |
| July 2001-July 2002 | 1.075 | 0.501 | 0.871 | 1.3 |
| Candidate Variables | 1.000 | 0.065 | 0.004 | 1./ |
| Age | 1.000 | 0.965 | 0.994 | 1.0 |
| Height (cm) | 1.002 | 0.719 | 0.993 | 1.0 |
| Blood Type | 0.042 | 0.205 | 0.612 | |
| AB | 0.843 | 0.295 | 0.613 | 1.1 |
| В | 1.072 | 0.497 | 0.877 | 1.3 |
| 0 | 0.954 | 0.511 | 0.828 | 1.0 |
| Male gender | 1.095 | 0.374 | 0.897 | 1.3 |
| BMI | | | | |
| 25-29 | 0.897 | 0.160 | 0.772 | 1.0 |
| 30-34 | 0.764 | 0.004 | 0.637 | 0.9 |
| ≥35 | 0.663 | 0.004 | 0.502 | 0.3 |
| Medical condition | | | | |
| Hospitalized, not in ICU | 0.109 | 0.000 | 0.091 | 0. |
| Not hospitalized | 0.012 | 0.000 | 0.010 | 0.0 |
| Race | | | | |
| Black | 1.003 | 0.973 | 0.833 | 1.2 |
| Asian | 1.131 | 0.572 | 0.739 | 1. |
| Hispanic | 0.911 | 0.517 | 0.687 | 1.3 |
| Other | 0.992 | 0.979 | 0.539 | 1.3 |
| College Education | 0.904 | 0.153 | 0.786 | 1.0 |
| Payor | | | | |
| Medicaid | 1.188 | 0.104 | 0.965 | 1.4 |
| Medicare | 0.853 | 0.057 | 0.723 | 1.0 |
| Other | 0.961 | 0.791 | 0.716 | 1.3 |
| Diagnosis | | | | |
| ischemic CM | 1.114 | 0.175 | 0.953 | 1 |
| restrictive CM | 0.738 | 0.074 | 0.529 | 1.0 |
| other | 0.923 | 0.511 | 0.728 | 1. |
| Diabetes | 0.975 | 0.751 | 0.833 | 1. |
| Renal Function | | | | |
| 30-59 ml/min/1.73 m^2 | 0.945 | 0.441 | 0.820 | 1.0 |
| <30 ml/min/1.73 m^2 | 1.164 | 0.260 | 0.894 | 1.: |
| on dialysis | 1.677 | 0.007 | 1.151 | 2.4 |
| History of CVA | 0.913 | 0.608 | 0.644 | 1.2 |
| History of Malignancy | 1.044 | 0.778 | 0.773 | 1.4 |
| ICD | 0.673 | 0.000 | 0.586 | 0. |
| Cardiac Index | 0.931 | 0.151 | 0.845 | 1.0 |
| Pulmonary Artery Mean | 0.998 | 0.643 | 0.987 | 1.0 |
| PCWP | 1.014 | 0.029 | 1.001 | 1.0 |

Base case is female candidate with blood type O, hospitalized in ICU, less than college education, private insurance, dilated cardiomyopathy diagnosis, GFR 60 \ge ml/min/1.73 m^2 listed from july 12th 2000- july 11th 2001. There were 13 centers with no Status 1A or only Status 1A listings that were excluded (77 candidates).

Model 2: Odds of Status 1A listing, all candidates, July 12th 2005- July 11th 2015.

| Model 2: Odds of Status 1A listing | | | | |
|------------------------------------|------------|-------|-------|-------------------|
| N= 24,949 Centers = 125 | Odds Ratio | P> z | [95 | % Conf. Interval] |
| Year(baseline july 2005-july 2006) | | | | |
| July 2006-July 2007 | 1.303 | 0.007 | 1.075 | 1.580 |
| July 2007-July 2008 | 1.347 | 0.007 | 1.113 | 1.631 |
| July 2008-July 2009 | 1.370 | 0.002 | 1.134 | 1.656 |
| July 2009-July 2010 | 1.467 | 0.000 | 1.215 | 1.769 |
| July 2010-July 2011 | 2.069 | 0.000 | 1.721 | 2.488 |
| July 2011-July 2012 | 2.135 | 0.000 | 1.777 | 2.565 |
| July 2012-July 2013 | 2.397 | 0.000 | 2.003 | 2.870 |
| July 2013-July 2014 | 2.372 | 0.000 | 1.986 | 2.834 |
| July 2014-July 2015 | 2.165 | 0.000 | 1.815 | 2.583 |
| Candidate Variables | 2.105 | 0.000 | 1.015 | 2.505 |
| Age | 0.994 | 0.000 | 0.990 | 0.997 |
| Height (cm) | 0.996 | 0.091 | 0.991 | 1.001 |
| Blood Type | 0.770 | 0.071 | 0.551 | 1.001 |
| AB | 1.052 | 0.560 | 0.886 | 1.249 |
| В | 1.078 | 0.189 | 0.964 | 1.205 |
| 0 | 0.900 | 0.010 | 0.831 | 0.975 |
| Male gender | 1.168 | 0.006 | 1.045 | 1.306 |
| BMI | 1.100 | 0.000 | 1.015 | 1.500 |
| 25-29 | 0.848 | 0.000 | 0.777 | 0.927 |
| 30-34 | 0.752 | 0.000 | 0.679 | 0.832 |
| ≥35 | 0.814 | 0.004 | 0.709 | 0.936 |
| Functional Status | 0.011 | 0.001 | 0.707 | 0.750 |
| Moderate Impairment | 1.437 | 0.000 | 1.289 | 1.602 |
| Severe Impairment | 8.878 | 0.000 | 7.982 | 9.874 |
| Unknown/Missing | 3.257 | 0.000 | 2.498 | 4.248 |
| Working for Income | 0.421 | 0.000 | 0.351 | 0.506 |
| Race | | | | |
| Black | 1.105 | 0.042 | 1.003 | 1.217 |
| Asian | 0.887 | 0.303 | 0.705 | 1.115 |
| Hispanic | 0.944 | 0.446 | 0.813 | 1.095 |
| Other | 0.989 | 0.950 | 0.707 | 1.385 |
| College Education | 0.913 | 0.018 | 0.847 | 0.984 |
| Payor | | | | |
| Medicaid | 0.887 | 0.049 | 0.787 | 1.000 |
| Medicare | 0.856 | 0.000 | 0.785 | 0.932 |
| Other | 1.008 | 0.938 | 0.830 | 1.224 |
| Diagnosis | | | | |
| ischemic CM | 0.823 | 0.000 | 0.749 | 0.903 |
| restrictive CM | 0.758 | 0.000 | 0.662 | 0.868 |
| other | 0.662 | 0.000 | 0.577 | 0.760 |
| Diabetes | 0.981 | 0.646 | 0.902 | 1.066 |
| Renal Function | | | | |
| 30-59 ml/min/1.73 m^2 | 0.987 | 0.749 | 0.912 | 1.068 |
| <30 ml/min/1.73 m^2 | 1.285 | 0.003 | 1.088 | 1.517 |
| on dialysis | 0.860 | 0.166 | 0.696 | 1.064 |
| Smoking History | 0.996 | 0.926 | 0.923 | 1.075 |
| History of CVA | 1.088 | 0.288 | 0.931 | 1.271 |
| History of Malignancy | 1.057 | 0.434 | 0.920 | 1.214 |
| History of Cardiac Surgery | 1.545 | 0.000 | 1.426 | 1.675 |

| ICD | 0.678 | 0.000 | 0.621 | 0.741 |
|-----------------------|-------|-------|-------|-------|
| Cardiac Index | 1.020 | 0.507 | 0.963 | 1.080 |
| Pulmonary Artery Mean | 0.998 | 0.567 | 0.992 | 1.004 |
| PCWP | 1.008 | 0.031 | 1.001 | 1.015 |

Base case is blood type O, female, limited impairment in functional status, less than college education, private insurance, dilated cardiomyopathy diagnosis, GFR $60 \ge ml/min/1.73$ m² listed in July 12th 2005 to July 11th 2006. There were 22 centers who did not list a candidate status 1A or only listed Status 1A candidates that were excluded (83 candidates total).

Model 3: Odds of Status 1A inotrope listing, excluding candidates with MCS, July $12^{\rm th}$ 2000- July $11^{\rm th}$ 2006.

| N =9,763 | Odds Ratio | P> z | [95% Ca | onf. Interval] |
|-------------------------------------|------------|--------|----------|----------------|
| Centers = 119 | Odds Ratio | 1 > L | [7570 CC | m. mervarj |
| Year (baseline july 2000-july 2001) | | | | |
| July 2005-July 2006 | 0.750 | 0.080 | 0.544 | 1.035 |
| July 2003-3thy 2005 | 0.838 | 0.271 | 0.613 | 1.147 |
| July 2003-July 2004 | 0.924 | 0.620 | 0.675 | 1.264 |
| July 2002-July 2003 | 0.861 | 0.329 | 0.638 | 1.162 |
| July 2001-July 2002 | 1.070 | 0.641 | 0.805 | 1.423 |
| Candidate Variables | 1.070 | 0.041 | 0.003 | 1.423 |
| Age | 1.003 | 0.542 | 0.994 | 1.011 |
| Height (cm) | 0.992 | 0.163 | 0.980 | 1.003 |
| Blood Type | 0.772 | 0.103 | 0.700 | 1.003 |
| AB | 1.011 | 0.957 | 0.672 | 1.522 |
| В | 0.951 | 0.725 | 0.721 | 1.256 |
| 0 | 0.856 | 0.126 | 0.700 | 1.045 |
| Male gender | 1.050 | 0.727 | 0.797 | 1.385 |
| BMI | 1.000 | 0.727 | 0.777 | 1.000 |
| 25-29 | 0.821 | 0.064 | 0.666 | 1.012 |
| 30-34 | 0.618 | 0.000 | 0.477 | 0.800 |
| ≥35 | 0.523 | 0.002 | 0.348 | 0.786 |
| Medical condition | 0.000 | 0.00 | 0.00.0 | 317.55 |
| Hospitalized, not in ICU | 0.064 | 0.000 | 0.048 | 0.085 |
| Not hospitalized | 0.007 | 0.000 | 0.005 | 0.011 |
| Race | | | | |
| Black | 1.339 | 0.026 | 1.036 | 1.730 |
| Asian | 1.382 | 0.251 | 0.795 | 2.401 |
| Hispanic | 0.987 | 0.948 | 0.674 | 1.447 |
| Other | 1.200 | 0.662 | 0.529 | 2.722 |
| College Education | 1.069 | 0.495 | 0.882 | 1.295 |
| Payor | | | | |
| Medicaid | 1.222 | 0.169 | 0.919 | 1.626 |
| Medicare | 0.914 | 0.437 | 0.727 | 1.148 |
| Other | 0.972 | 0.899 | 0.626 | 1.509 |
| Diagnosis | | | | |
| ischemic CM | 0.926 | 0.490 | 0.744 | 1.152 |
| restrictive CM | 0.844 | 0.431 | 0.554 | 1.287 |
| other | 0.583 | 0.004 | 0.404 | 0.842 |
| Diabetes | 1.055 | 0.635 | 0.846 | 1.316 |
| Renal Function | | | | |
| 30-59 ml/min/1.73 m^2 | 0.849 | 0.108 | 0.696 | 1.036 |
| <30 ml/min/1.73 m^2 | 1.295 | 0.176 | 0.890 | 1.882 |

| on dialysis | 2.048 | 0.013 | 1.162 | 3.612 |
|-----------------------|-------|-------|-------|-------|
| History of CVA | 0.794 | 0.396 | 0.467 | 1.351 |
| History of Malignancy | 1.154 | 0.508 | 0.755 | 1.765 |
| ICD | 0.722 | 0.001 | 0.595 | 0.878 |
| Cardiac Index | 0.814 | 0.004 | 0.708 | 0.936 |
| Pulmonary Artery Mean | 1.010 | 0.170 | 0.996 | 1.024 |
| PCWP | 1.022 | 0.009 | 1.005 | 1.039 |

Base case is blood type O, female, hospitalized in ICU, less than college education, private insurance, dilated cardiomyopathy diagnosis, GFR $60 \ge \text{ml/min/1.73 m^2}$. There were 23 centers that either did not list any 1A inotrope candidates or only listed 1A inotrope candidates that were excluded (444 candidates).

Model 4: Odds of Status 1A listing, excluding candidates with MCS for July 12th 2005- July 11th 2015.

| N=18,184 | Odds Ratio | P> z | [95% | Conf. Interval] |
|--|------------|-------|--------|-----------------|
| Centers = 112 Year(baseline july 2005-july 2006) | | | | |
| July 2006-July 2007 | 1.248 | 0.125 | 0.940 | 1.656 |
| July 2007-July 2008 | 1.210 | 0.185 | 0.913 | 1.605 |
| July 2008-July 2009 | 1.355 | 0.036 | 1.020 | 1.800 |
| July 2009-July 2010 | 1.305 | 0.069 | 0.980 | 1.739 |
| July 2010-July 2011 | 1.826 | 0.000 | 1.374 | 2.427 |
| July 2011-July 2012 | 1.809 | 0.000 | 1.367 | 2.394 |
| July 2012-July 2013 | 2.327 | 0.000 | 1.772 | 3.054 |
| July 2013-July 2014 | 1.789 | 0.000 | 1.359 | 2.355 |
| July 2014-July 2015 | 1.819 | 0.000 | 1.393 | 2.375 |
| Candidate Variables | | 0.000 | | |
| Age | 0.997 | 0.222 | 0.991 | 1.002 |
| Height (cm) | 0.992 | 0.032 | 0.984 | 0.999 |
| Blood Type | | | | |
| AB | 0.896 | 0.425 | 0.686 | 1.172 |
| В | 1.119 | 0.198 | 0.943 | 1.329 |
| 0 | 0.789 | 0.000 | 0.694 | 0.897 |
| Male gender | 1.186 | 0.055 | 0.996 | 1.413 |
| BMI | | | | |
| 25-29 | 0.671 | 0.000 | 0.586 | 0.768 |
| 30-34 | 0.535 | 0.000 | 0.454 | 0.630 |
| ≥35 | 0.465 | 0.000 | 0.361 | 0.597 |
| Functional Status | | | | |
| Moderate Impairment | 2.061 | 0.000 | 1.660 | 2.558 |
| Severe Impairment | 19.752 | 0.000 | 16.136 | 24.178 |
| Unknown/Missing | 7.175 | 0.000 | 4.919 | 10.466 |
| Working for Income | 0.343 | 0.000 | 0.241 | 0.490 |
| Race | | | | |
| Black | 1.134 | 0.105 | 0.974 | 1.321 |
| Asian | 0.970 | 0.864 | 0.688 | 1.369 |
| Hispanic | 0.957 | 0.695 | 0.766 | 1.195 |
| Other | 0.984 | 0.955 | 0.557 | 1.738 |
| College Education | 0.921 | 0.179 | 0.816 | 1.039 |
| Payor | | | | |
| Medicaid | 0.921 | 0.384 | 0.764 | 1.109 |
| Medicare | 0.747 | 0.000 | 0.650 | 0.858 |
| Other | 1.012 | 0.940 | 0.748 | 1.368 |

| Diagnosis | | | | |
|----------------------------|-------|-------|-------|-------|
| ischemic CM | 0.792 | 0.003 | 0.679 | 0.924 |
| restrictive CM | 0.820 | 0.056 | 0.668 | 1.005 |
| other | 0.712 | 0.004 | 0.567 | 0.895 |
| Diabetes | 0.968 | 0.637 | 0.846 | 1.108 |
| Renal Function | | | | |
| 30-59 ml/min/1.73 m^2 | 1.029 | 0.661 | 0.907 | 1.166 |
| <30 ml/min/1.73 m^2 | 1.337 | 0.026 | 1.035 | 1.728 |
| on dialysis | 0.643 | 0.031 | 0.430 | 0.960 |
| Smoking History | 1.002 | 0.971 | 0.887 | 1.132 |
| History of CVA | 1.006 | 0.964 | 0.779 | 1.299 |
| History of Malignancy | 1.242 | 0.046 | 1.004 | 1.536 |
| History of Cardiac Surgery | 0.824 | 0.007 | 0.715 | 0.948 |
| ICD | 0.830 | 0.012 | 0.717 | 0.959 |
| Cardiac Index | 0.942 | 0.211 | 0.858 | 1.035 |
| Pulmonary Artery Mean | 1.021 | 0.000 | 1.012 | 1.031 |
| PCWP | 1.009 | 0.095 | 0.998 | 1.020 |

Base case is blood type O, female, limited impairment in functional status, less than college education, private insurance, dilated cardiomyopathy diagnosis, GFR $60 \ge ml/min/1.73$ m^2. There were 34 centers that either did not list any Status 1A inotrope candidates or only listed Status 1A inotrope candidates that were excluded (399 candidates).

Table S3: Full Competing Risks Model for Death or Delisting Due to Illness with interaction effects

| (base Status 2, 2000-2003) | Sub-hazard Ratio | 95% CI |
|----------------------------|-------------------------|---------------|
| Status 1A inotrope | 2.30 | (1.92-2.75) |
| Status 1B inotrope | 1.59 | (1.38-1.85) |
| I1 2002 I1 2007 | 0.05 | (0.92.1.00) |
| July 2003- July 2006 | 0.95 | (0.82 - 1.09) |
| July 2006- July 2010 | 0.98 | (0.86-1.11) |
| July 2010-July 2015 | 1.42 | (1.26-1.61) |
| | | |
| 1A*2003-2006 | 0.85 | (0.63-1.14) |
| 1A*2006-2010 | 0.58 | (0.44-0.76) |
| 1A*2011-2015 | 0.54 | (0.42-0.69) |
| 1B*2003-2006 | 1.00 | (0.80-1.25) |
| 1B*2006-2010 | 0.83 | (0.68-1.01) |
| 1B*2011-2015 | 0.66 | (0.55-0.80) |

Table S4A: Sub-Hazard Ratios for Death Due to Illness for Adult Heart Transplant Candidates listed inotropes or no support, 2000-2015.

| | Pre-geographic | Pre-geographic sharing policy | | e sharing policy |
|---|---|---|---|---|
| | July 12 th 2000- July 11 th 2003 | July 12 th 2003- July 11 th 2006 | July 12 th 2006- Dec. 31th 2010 | Jan 1st 2011- July 11 th 2015 |
| Status 1A inotrope vs Status 1B inotrope | 1.40 (1.23-1.73) | 1.09 (0.82-1.45) | 0.87 (0.66-1.14) | 1.10 (0.89-1.36) |
| Status 1A inotrope vs Status 2 | 2.15 (1.77-2.62) | 1.58 (1.20-2.08) | 1.09 (0.83-1.43) | 1.11 (0.89-1.37) |
| Status 1B inotrope vs Status 2 | 1.54 (1.31-1.81) | 1.44 (1.20-1.73) | 1.26 (1.07-1.48) | 1.01 (0.86-1.19) |
| Total Listings | 8,159 | 5,876 | 9,572 | 10,910 |

Sub-hazard ratios estimated with a Fine-Gray competing risks regression model (see Table S3 for full model results). 95% CI in parentheses.

Table S4B: Full Competing Risks Model for death on waitlist with interaction effects

| (base Status 2, 2000-2003) | Sub-hazard Ratio | 95% CI |
|--|-------------------------|----------------|
| Status 1A inotrope | 2.16 | (1.77 - 2.62) |
| Status 1B inotrope | 1.54 | (1.31 - 1.81) |
| T. 1. 12th 2002 T. 1. 14th 2006 | 0.05 | (0.01 1.10) |
| July 12 th 2003- July 11 th 2006 | 0.95 | (0.81 - 1.10) |
| July 12 th 2006- Dec 31 st 2010 | 0.74 | (0.64 - 0.86) |
| Jan 1 st 2011-July 2015 | 0.92 | (0.79 - 1.07) |
| | | |
| 1A*2003-2006 | 0.73 | (0.52 - 1.03) |
| 1A*2006-2010 | 0.51 | (0.36 - 0.71) |
| 1A*2011-2015 | 0.52 | (0.39 - 0.69) |
| 1B*2003-2006 | 0.94 | (0.73 - 1.20) |
| 1B*2006-2010 | 0.82 | (0.65 - 1.03) |
| 1B*2011-2015 | 0.66 | (0.521 - 0.82) |

Table S5: Competing Risks Model with receiving VAD as competing risk

A: Sub-hazards of death and delisting by time period

| | Pre-geographic sharing policy | | Post-geographic sharing policy | |
|---|---|---|---|---|
| | July 12 th 2000- July 11 th 2003 | July 12 th 2003- July 11 th 2006 | July 12 th 2006- Dec. 31th 2010 | Jan 1st 2011- July 11 th 2015 |
| Status 1A inotrope vs Status 1B inotrope | 1.44 (1.16-1.78) | 1.09 (0.81-1.45) | 0.96 (0.76-1.22) | 1.26 (1.06-1.50) |
| Status 1A inotrope vs Status 2 | 2.08 (1.71-2.52) | 1.47 (1.11-1.95) | 1.12 (0.89-1.40) | 1.19 (1.00-1.42) |
| Status 1B inotrope vs Status 2 | 1.44 (1.23-1.69) | 1.35 (1.13-1.63) | 1.16 (1.00-1.33) | 0.94 (0.83-1.08) |
| Total Listings | 8,130 | 5,849 | 9,463 | 9,878 |

Sub-hazard ratios estimated with a Fine-Gray competing risks regression model (see Table S3 for full model results). 95% CI in parentheses.

B: Full Competing Risks Model

| (base Status 2, 2000-2003) | Sub-hazard Ratio | 95% CI |
|--|------------------|-------------|
| Status 1A inotrope | 2.08 | (1.71-2.52) |
| Status 1B inotrope | 1.44 | (1.23-1.69) |
| July 12 th 2003- July 11 th 2006 | 0.94 | (0.81-1.09) |
| July 12 th 2006- Dec 31 st 2010 | 0.98 | (0.85-1.12) |
| Jan 1 st 2011-July 2015 | 1.21 | (1.06-1.38) |
| 1A*2003-2006 | 0.71 | (0.51-1.00) |
| 1A*2006-2010 | 0.54 | (0.40-0.73) |
| 1A*2011-2015 | 0.57 | (0.44-0.74) |
| 1B*2003-2006 | 0.94 | (0.74-1.19) |
| 1B*2006-2010 | 0.80 | (0.65-0.99) |
| 1B*2011-2015 | 0.66 | (0.53-0.81) |

Table S6: Competing Risks Model controlling for known candidate risk factors for death/deterioration

A: Sub-hazards of death and delisting by time period

| | Pre-geographic sharing policy | | Post-geographic sharing policy | |
|---|---|---|---|---|
| | July 12 th 2000- July 11 th 2003 | July 12 th 2003- July 11 th 2006 | July 12 th 2006- Dec. 31th 2010 | Jan 1st 2011- July 11 th 2015 |
| Status 1A inotrope vs Status 1B inotrope | 1.29 (1.05-1.59) | 1.13 (0.87-1.46) | 1.00 (0.82-1.24) | 1.14 (0.97-1.33) |
| Status 1A inotrope vs Status 2 | 1.95 (1.61-2.36) | 1.77 (1.38-2.28) | 1.33 (1.08-1.65) | 1.24 (1.06-1.46) |
| Status 1B inotrope vs Status 2 | 1.51 (1.29-1.77) | 1.57 (1.32-1.87) | 1.32 (1.16-1.52) | 1.09 (0.97-1.24) |
| Total Listings | 7,470 | 5,629 | 9,312 | 9,169 |

Sub-hazard ratios estimated with a Fine-Gray competing risks regression model (see Table S3 for full model results). 95% CI in parentheses.

Table S6 B: Full competing risks model controlling for known candidate risk factors for death/deterioration on the waitlist

| | SHR | [95% Co | nf. Interval] |
|--|------|---------|---------------|
| Status 1A Inotrope | 1.95 | 1.61 | 2.36 |
| Status 1B Inotrope | 1.51 | 1.29 | 1.77 |
| Time Period | | | |
| July 12 th 2003- July 11 th 2006 | 0.94 | 0.81 | 1.09 |
| July 12 th 2006- Dec 31 st 2010 | 0.98 | 0.85 | 1.12 |
| Jan 1 st 2011-July 2015 | 1.39 | 1.22 | 1.59 |
| Status 1A#2003-2006 | 0.91 | 0.66 | 1.25 |
| Status 1A#2006-2010 | 0.68 | 0.51 | 0.91 |
| Status 1A#2011-2015 | 0.64 | 0.50 | 0.82 |
| Status 1B#2003-2006 | 1.04 | 0.82 | 1.31 |
| Status 1B#2006-2010 | 0.88 | 0.71 | 1.08 |
| Status 1B#2011-2015 | 0.72 | 0.59 | 0.88 |
| PCWP>20 mmHg | 1.34 | 1.25 | 1.43 |
| Age | | | |
| 40-59 y | 1.07 | 0.97 | 1.19 |
| 60-69 y | 1.32 | 1.18 | 1.48 |
| ≥70 years | 1.38 | 1.10 | 1.74 |
| Diagnosis | | | |
| ischemic CM | 1.11 | 1.02 | 1.20 |
| restrictive CM | 1.16 | 1.03 | 1.32 |
| other | 1.34 | 1.21 | 1.49 |
| BMI | | | |
| 25-29 | 0.97 | 0.90 | 1.06 |
| 30-34 | 1.01 | 0.92 | 1.11 |
| ≥35 | 1.26 | 1.11 | 1.43 |
| Diabetes | 1.17 | 1.09 | 1.26 |
| Race | | | |
| Black | 1.05 | 0.97 | 1.15 |
| Hispanic | 0.95 | 0.83 | 1.08 |
| Other | 0.79 | 0.65 | 0.96 |
| PCWP>20 mmHg | 0.81 | 0.75 | 0.88 |
| Age | | | |
| 40-59 y | 1.48 | 1.37 | 1.59 |
| 60-69 y | 2.67 | 2.37 | 3.01 |
| ≥70 years | 3.07 | 2.62 | 3.59 |

Competing risks of transplantation and delisting from any cause. Base case age 18-39, dilated cardiomyopathy, BMI<25, white race, listed at Status 2 in July 2000-July 2003

Table S7: Cause-specific hazard regression of death and delisting by time period

A: Cause-specific hazards

| | Pre-geographic sharing policy | | Post-geographic sharing policy | |
|---|---|---|---|---|
| | July 12 th 2000- July 11 th 2003 | July 12 th 2003- July 11 th 2006 | July 12 th 2006- Dec. 31th 2010 | Jan 1st 2011- July 11 th 2015 |
| Status 1A inotrope vs Status 1B inotrope | 2.12 (1.77-2.54) | 1.93 (1.53-2.43) | 1.45 (1.20-1.75) | 1.79 (1.55-2.07) |
| Status 1A inotrope vs Status 2 | 5.42 (4.62-6.36) | 5.10 (4.10-6.34) | 2.66 (2.21-3.20) | 2.44 (2.11-2.82) |
| Status 1B inotrope vs Status 2 | 2.56 (2.25-2.90) | 2.64 (2.27-3.06) | 1.83 (1.64-2.04) | 1.36 (1.22-1.52) |
| Total Listings | 8,130 | 5,849 | 9,425 | 9,238 |

Cause-specific hazard ratios estimated with a Cox proportional hazards model (censored for transplant). 95% CI in parentheses.

B: Full Model

| | Cause-specific | |
|--|----------------|-------------|
| (base Status 2, 2000-2003) | hazard ratio | 95% CI |
| Status 1A inotrope | 5.42 | (4.62-6.35) |
| Status 1B inotrope | 2.56 | (2.25-2.90) |
| July 12 th 2003- July 11 th 2006 | 1.04 | (0.93-1.16) |
| July 12 th 2006- Dec 31 st 2010 | 1.18 | (1.07-1.30) |
| Jan 1 st 2011-July 2015 | 1.69 | (1.53-1.87) |
| 1A*2003-2006 | 0.94 | (0.72-1.23) |
| 1A*2006-2010 | 0.49 | (0.39-0.63) |
| 1A*2011-2015 | 0.45 | (0.36-0.56) |
| 1B*2003-2006 | 1.03 | (0.85-1.25) |
| 1B*2006-2010 | 0.72 | (0.61-0.85) |
| 1B*2011-2015 | 0.53 | (0.45-0.63) |
| NT 00 640 G | 1 | |

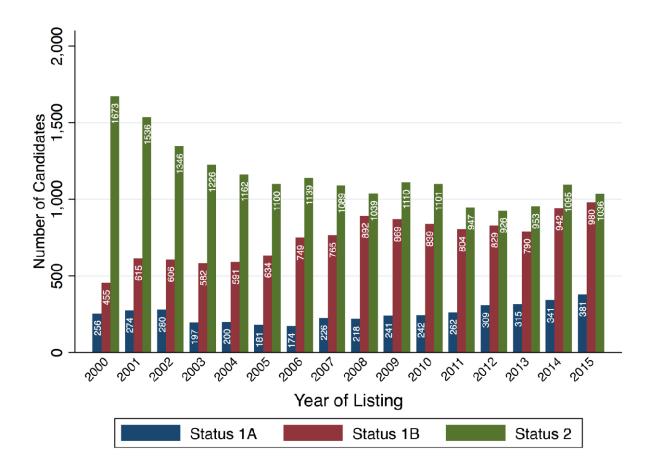


Figure S1: The Initial Listing Status of Non-MCS Heart-Alone Candidates for 2000-2015.

Candidates excluding patients receiving mechanical circulatory support, mechanical ventilation, or granted Status 1A or 1B with exceptions were excluded. Columns represent number of listings in each Status category during the calendar year. Blue: Status 1A, Red: Status 1B, Green: Status 2. Candidates initially listed inactive omitted.

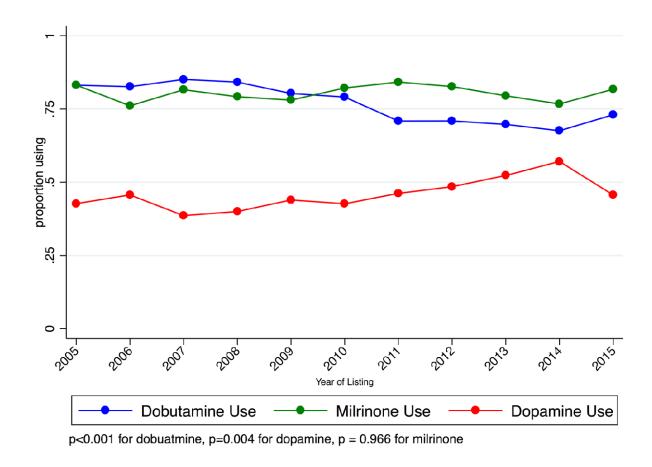


Figure S2: Inotrope types for Status 1A Candidates listed with multiple inotropes. These candidates did not have MCS and were listed under criteria d) Continuous infusion of multiple inotropes with hemodynamic monitoring. P-values are for trends from 2005-2015.

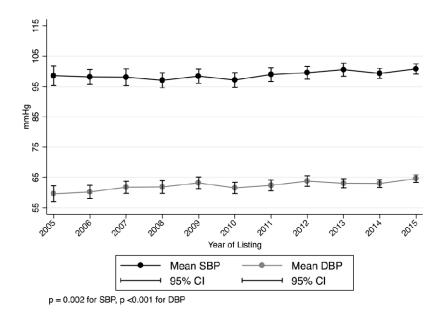


Figure S3: Blood Pressure Measurements for Status 1A Candidates listed with multiple inotropes. These candidates did not have MCS and were listed under criteria d) Continuous infusion of multiple inotropes with hemodynamic monitoring. P-values are for trends from 2005-2015. Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP).

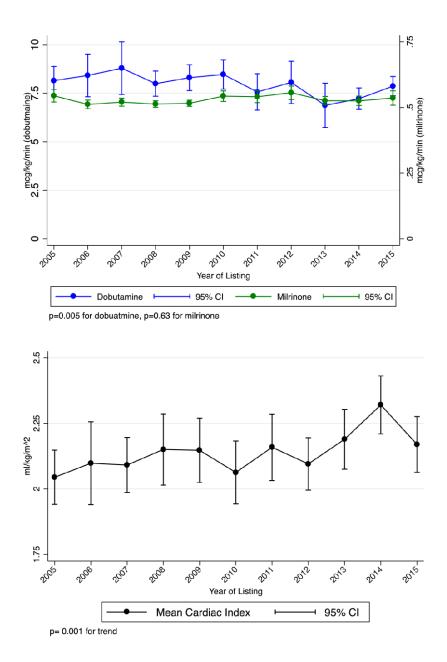


Figure S4: Mean Inotrope Doses and Cardiac Index for Single High Dose Inotrope Status **1A Candidates Listed 2005-2015.** These candidates did not have MCS and were listed under criteria d) continuous infusion of a single high dose inotrope with hemodynamic monitoring. P-values are for trends from 2005-2015. Panel A: Inotrope Doses. Panel B: Cardiac Index.

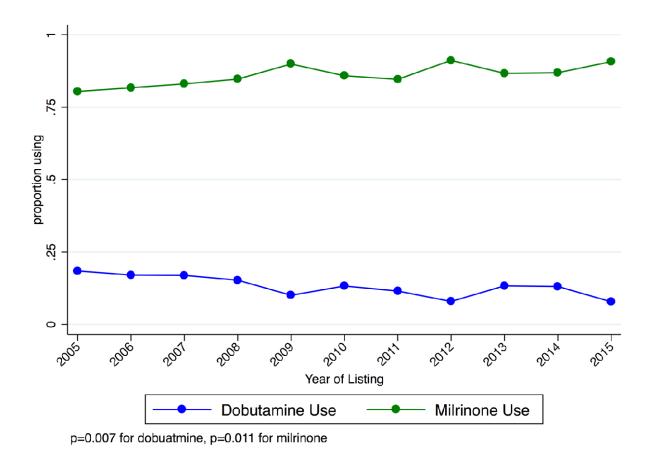


Figure S5: Inotrope types for Status 1A Candidates listed with a single high dose inotrope.

These candidates did not have MCS and were listed under criteria d) Continuous infusion of a single high dose inotrope with hemodynamic monitoring. P-values are for trends from 2005-2015

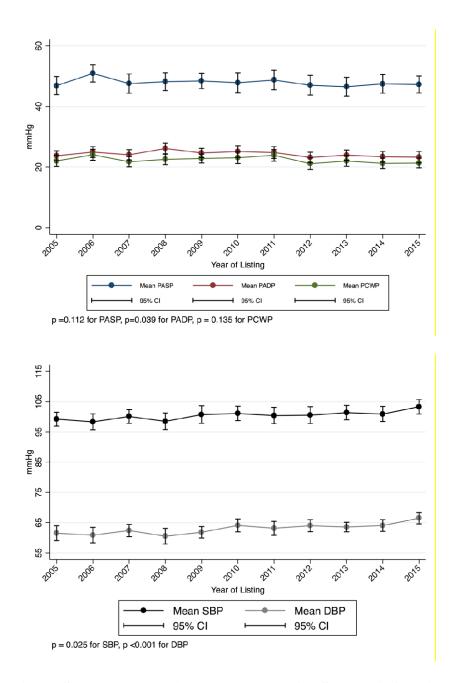


Figure S6: Hemodynamic Measurements for Status 1A Candidates listed with a single high-dose inotrope. These candidates did not have MCS and were listed under criteria d)

Continuous infusion of a single high-dose inotrope with hemodynamic monitoring. P-values are for trends from 2005-2015. Panel A: Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP). Panel B: Pulmonary Artery Systolic Pressure (PASP), Pulmonary Artery Diastolic Pressure (PADP), and Pulmonary Capillary Wedge Pressure (PCWP)