OPTN Lung Transplantation Committee

Winter 2021
Continuous Distribution of Lungs Development

Informed by fall 2020 public comment feedback and AHP

- Identify attributes
- Assign values
- Prioritize attributes against each other
- Convert attributes into points
- Build framework
- Modeling and analysis
- Public Comment on policy proposal
- Board approval
- Implementation
AHP Results by Community Groups

Most important

Pediatric age

Post-transplant survival

Candidate Biology

Medical urgency

Prior living donors

Placement efficiency

Least important

General public / other

Histocompatibility laboratory professional

OPO Professional

Other

Patient

Transplant Hospital Professional

10

8

17

13

57

81
Current Policy vs. Community Priorities

**Current Policy**
- Waitlist Urgency: 7.00%
- Post Transplant Survival: 3.00%
- Candidate biology: 5.00%
- Pediatric Access: 4.00%
- Prior Living Donors: 0.00%
- Placement Efficiency: 81.00%
- *Other Proximity...: 0.00%
- *Organ Transportation...: 0.00%

**Community AHP**
- Waitlist Urgency: 17.88%
- Post Transplant Survival: 19.35%
- Candidate biology: 17.77%
- Pediatric Access: 23.34%
- Prior Living Donors: 11.31%
- Placement Efficiency: 11.79%
- *Other Proximity...: 5.93%
- *Organ Transportation...: 3.66%

**Lung Committee AHP (Aug)**
- Waitlist Urgency: 27.67%
- Post Transplant Survival: 9.95%
- Candidate biology: 19.17%
- Pediatric Access: 25.59%
- Prior Living Donors: 9.01%
- Placement Efficiency: 8.62%
- *Other Proximity...: 5.02%
- *Organ Transportation...: 3.60%

**Lung Committee AHP (Oct)**
- Waitlist Urgency: 28.51%
- Post Transplant Survival: 12.88%
- Candidate biology: 17.15%
- Pediatric Access: 33.59%
- Prior Living Donors: 3.73%
- Placement Efficiency: 6.27%
- *Other Proximity...: 4.05%
- *Organ Transportation...: 2.22%
## Priorities Inform Relative Attribute Weights

<table>
<thead>
<tr>
<th>Final Committee AHP Results (Rounded)</th>
<th>SRTR Modeling Request</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2:1 LAS</td>
</tr>
<tr>
<td>Waitlist Survival</td>
<td>29%</td>
</tr>
<tr>
<td>Post-Transplant Survival</td>
<td>13%</td>
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<tr>
<td>Candidate Biology</td>
<td>17%</td>
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<tr>
<td>Pediatric</td>
<td>31%</td>
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<tr>
<td>Prior Living Donor</td>
<td>4%</td>
</tr>
<tr>
<td>Placement Efficiency</td>
<td>6%</td>
</tr>
</tbody>
</table>

Waitlist Survival 29% 28% 21% 14% 14%
Post-Transplant Survival 13% 14% 21% 14% 14%
Candidate Biology 17% 17% 17% 11% 40%
Pediatric 31% 31% 31% 20% 20%
Prior Living Donor 4% 4% 4% 1% 1%
Placement Efficiency 6% 6% 6% 40% 11%
Each Attribute is Defined by a Rating Scale
Medical Urgency Rating Scale

Nonlinear curve gives more of a boost to candidates with lower waitlist survival
Post-Transplant Survival Rating Scale

Linear curve gives more points to candidates expected to live up to a year after transplant
Candidate Biology Rating Scale

- Blood type
- Sensitization
- Height

Steep curve gives more of a boost to candidates who are most biologically disadvantaged.
Travel Cost Efficiency Rating Scale

Multi-linear shape represents increases in organ transportation costs at farther distances from the donor hospital.
Proximity Efficiency Rating Scale

Multi-curve shape represents increases in inefficiencies (other than costs) at farther distances from the donor hospital.
All prior living lung donors get the same boost
All pediatric candidates get the same boost
Interactive Tool to Inform Decision-Making

Interactive Tableau dashboard tool available to simulate comparisons and match runs

- Change weights to see match run ordering
- Compare current match run with composite allocation score
- Compare two candidates by selecting clinical criteria
- Calculate scores with different rating scales
- Display candidates equity and utility scores with different weights
Next Steps

- Identify policy changes needed to support shift to continuous distribution
- Review results of initial modeling request and refine as needed
- Submit second modeling request and review results
- Release policy proposal for public comment in August 2021
- Concurrently – work to update models used to estimate medical urgency and post-transplant survival