

Incremental Cost-effectiveness of Lung Transplant by Lung Allocation Score

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I have no financial relationships to disclose within the past 12 months relevant to my presentation.

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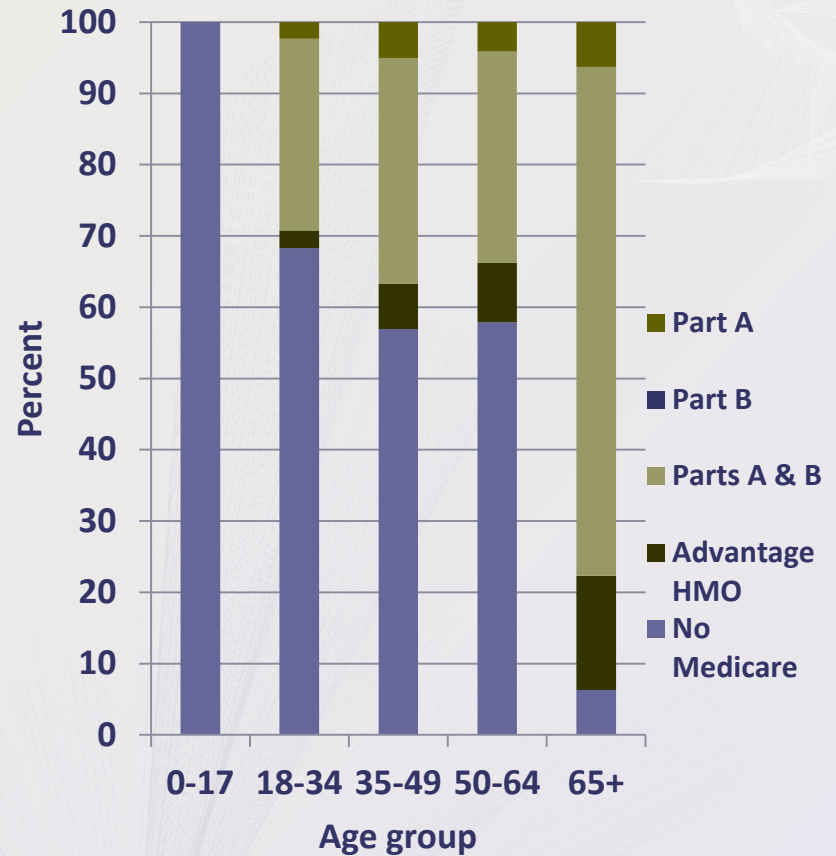
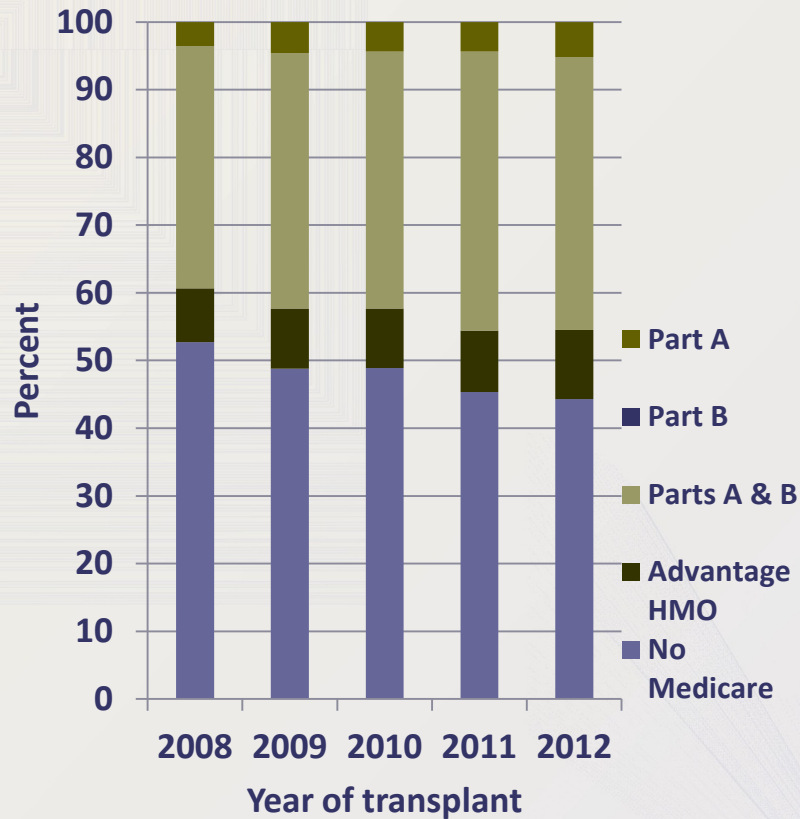
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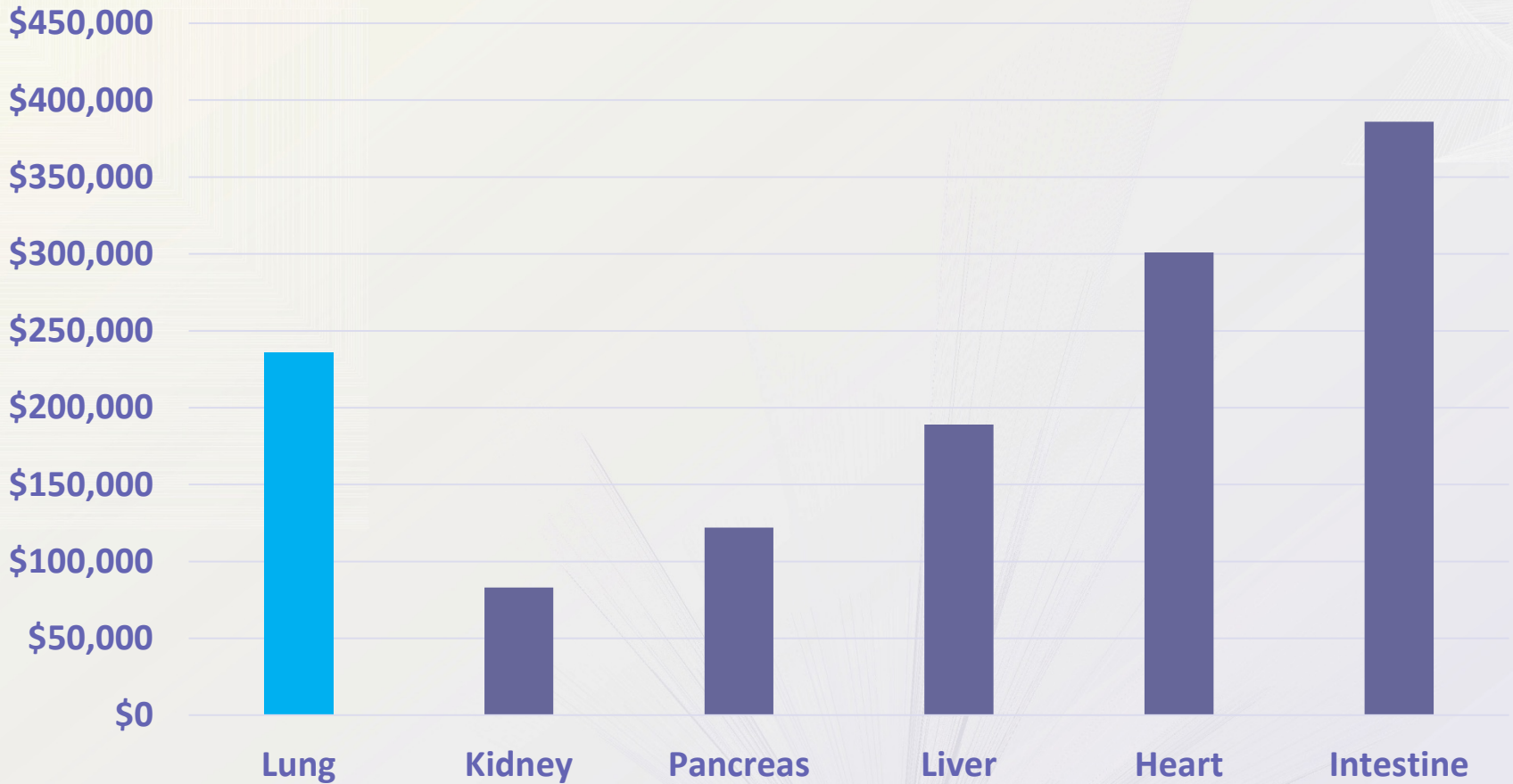
Methods

- Markov Model of lung TX compared to medical management (MM) of severe pulmonary disease.
- US registry (OPTN) data linked to Medicare claims 2008 – 2012
- Medical management cost drawn from literature
- “Effect” - Quality Adjusted Life Years (QALYs)
- Survival expectations by LAS were drawn from the 2012 SRTR annual data report

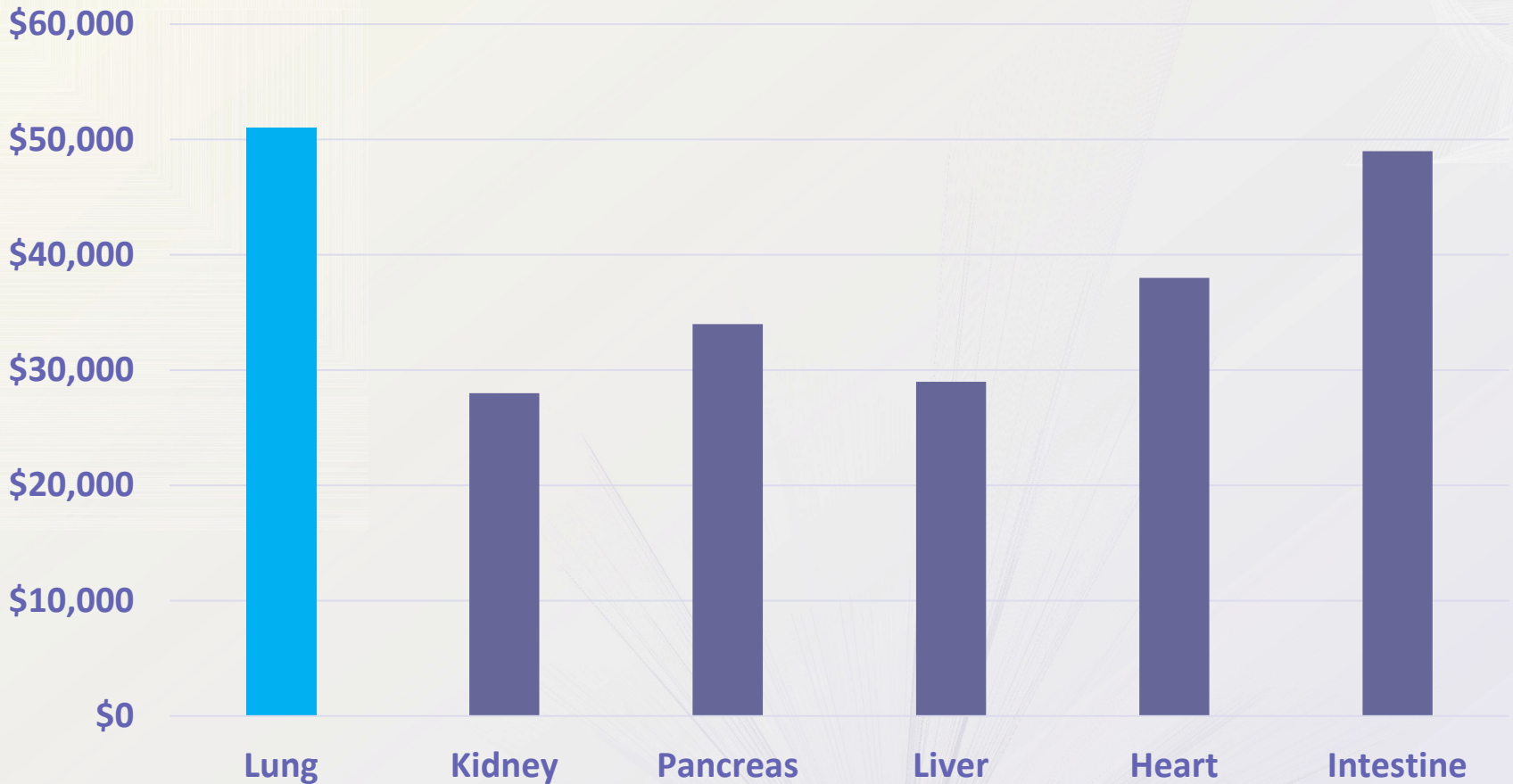
Medicare Coverage of Lung Transplant



Cost Comparison by Organ Transplant Through One Year Post



Cost Comparison by Organ Transplant Through Second Year Post



Lung Transplant Costs by Lung Allocation Score (LAS)



Cost-Effectiveness of Lung Transplantation by LAS

| LAS | < 35 | 35 – 50 | > 50 |
|-----------------------|-----------|-----------|-----------|
| QALY: TX | 3.08 | 3.05 | 3.00 |
| MM | 1.74 | 1.44 | 0.31 |
| Cost: TX | \$440,120 | \$485,263 | \$527,667 |
| MM | \$381,985 | \$367,611 | \$240,851 |
| TX ICER | | | |
| \$/QALY gained | \$46,472 | \$73,053 | \$103,448 |

Example: Factors Outside of LAS may have LARGE Effects on Lung TX Cost-effectiveness

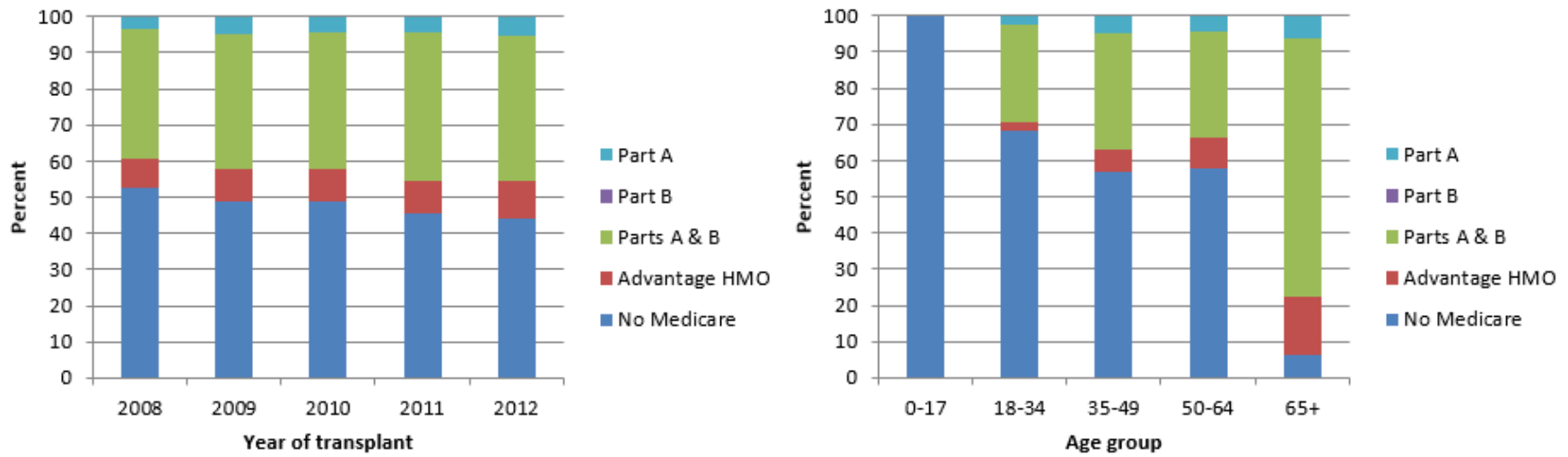
| | Death Hazard Ratio |
|-------------------------|---------------------------|
| Donor Body Surface Area | 1.88 |
| Donor Diabetes | 1.37 |
| Donor Race (Black) | 1.40 |
| Donor Age 50+ | 1.08 |

Source: SRTR PSR January 2014

Conclusions

- Lung transplant is not the most expensive solid organ transplant modality
 - Heart transplant is likely more cost-effective
 - Total lifetime heart transplant cost is certainly much higher
- Lung transplant appears to be cost-effective in the Medicare system
 - Similar to dialysis at high LAS
 - Considerably better than dialysis at low LAS
- Factors outside of LAS may have dramatic effects on lung ICERs
 - Donor factors
 - Patients poorly fit by the LAS model
 - Rapid progressors
 - Major comorbid conditions outside of LAS
 - ...

Medicare Coverage of Lung Transplant



Lung Transplant Costs by Lung Allocation Score (LAS)

