Advancing Donation and Transplantation Using Novel Technologies & Solutions

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Leadership & Engaged Learning in Organ Donation & Transplantation
CompuMed™

The Leaders in Diagnostic Telemedicine.

Empowering better decisions through timely, accurate and actionable Diagnostic Interpretations
OPO Donor Case
Two Primary Functions

Evaluation/Management of Donor
- Determine Donor/Organ viability
- Maximize Donor/Organ Recovery
- Minimize Case Time & Cost (Meds, Labs, ICU)

Accurately Portray the Donor/Organs to Tx Teams Through Offering
- Gather all required data
- Request appropriate Diagnostic Imaging and Interpretation
- Document Donor Record in EMR/UNOS
- Answer questions of Tx Team (consult with experts)
OPO Donor Case

Discrete Data
These are typically
• More specific/defined
• Often take less time to gather
• Easier to populate into a specific variable
• Less opinion based
• **Less dependent on a trained expert (technician)**
OPO Donor Case

Rich Data (Imaging)
These are typically
• More encompassing
• Less defined
• Require a summary report
• More difficult to populate into specific variables
• Subject to interpretation/opinion
• Highly dependent on a trained expert (Specialized Physician)
The Statistical Long Tail

A long tail distribution is characterized by a small group (short head) that make up a large percentage of the volume, and a second “long tail” group with a large number of low volume contributors, that collectively make up a similarly large percentage of the volume.
National Donor Hospitals

- 8700 Unique Donor Hospitals in the US over last 10 years
- 6700 Hospitals will have ZERO donors in a year
- Approx 2000 Donor Hospitals any given year
- For 2021 Data (SRTR)
  - 2,031 Donor Hospitals
  - 13,862 Donors
Donor Hospital Long Tail

Total Donors per Donor Hospital
2021 National (US)
Reference SRTR

2,031 Donor Hospitals
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Donor Hospital Long Tail

Total Donors per Donor Hospital
2021 National (US)
Reference SRTR

- Short Head: 15% Hospitals Covering 50% Donors
- Long Tail: 85% Hospitals, Covering 50% Donors, Less than 12 Donor/Year

Donor Hospital
## Donor Hospital Long Tail

### 2021 NATIONAL NUMBERS (Ref SRTR)

<table>
<thead>
<tr>
<th>Donor Hospitals</th>
<th>Hosp [% Total]</th>
<th>Donors [% Total]</th>
<th>Hosp [Qty]</th>
<th>Donors [Qty]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>2031</td>
<td>13862</td>
</tr>
<tr>
<td>Top 20 Hospitals (Donors/Year)</td>
<td>1%</td>
<td>9%</td>
<td>20</td>
<td>1199</td>
</tr>
<tr>
<td>Top 40 Hospitals (Donors/Year)</td>
<td>2%</td>
<td>15%</td>
<td>40</td>
<td>2029</td>
</tr>
<tr>
<td>Top 100 Hospitals (Donors/Year)</td>
<td>5%</td>
<td>28%</td>
<td>100</td>
<td>3880</td>
</tr>
<tr>
<td>Greater than 12 Donors/Year</td>
<td>16%</td>
<td>56%</td>
<td>318</td>
<td>7753</td>
</tr>
</tbody>
</table>

### The Long Tail (Low Volume)

| 12 Donors/Year or Less                   | 84%          | 44%       | 1713       | 6109         |
| 6 Donors/Year or Less                    | 69%          | 24%       | 1404       | 3327         |
| 3 Donors/Year or Less                    | 53%          | 12%       | 1067       | 1711         |
| 2 Donors/Year or Less                    | 42%          | 6%        | 853        | 845          |
Donor Hospital Long Tail

Share of Hospitals in Range (Donor/Yr)

- 61-110
- 41-60
- 21-40
- 13-20
- 7-12
- 0-6

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Donor Hospital Long Tail

Example
3800 Hearts
3500 Echos
2700 Cardiologists
Precision & Accuracy

Precision - how close measured values are to each other (Consistency)

Accuracy - how close a measured value is to the true value. (Understanding/Knowledge)
Donor Hospital Long Tail

More Specialty Experience
More Tx Specific Experience
Better Training
QA, Feedback
Available Consulting

Accuracy

Precise and accurate
Accurate, but not precise
Not accurate and not precise
Precise, but not accurate

Precision

Core Reading Group
Less Readers Involved
More Studies/Reader
Consistent Report Method/Forms
“These results provide data supporting the use of real-time expert interpretation of donor echocardiograms, particularly when a donor heart may be declined for transplantation based on abnormal TTE findings.”


**Reliability of echocardiographic measurements of left ventricular systolic function in potential pediatric heart transplant donors**

Sharon Chen, MD, MPH,¹ Elif Seda Selamet Tierney, MD, b ¹Kiran K. Khush, MD, c John Nguyen, RN, d Benjamin A. Goldstein, PhD, MPH, a Lindsay J. May, MD, b Seth A. Hollander, MD, b Beth D. Kaufman, MD, b and David N. Rosenthal, MD b

**CONCLUSION** “Local and central measurements of LV systolic function were discordant in 36% of studies. Given such discordance, efforts to obtain and view actual echo-cardiographic images should be part of the standard evaluation of potential pediatric heart donors.”
Centralized System

- Small group of trained, specialized doctors
- 24/7 availability, including live consults
- Consistent methodology
- Inject AI analysis, Consistent tools
- Consistent reporting Format
- Integration with EMR and UNET
Doctor Network

Expert Knowledge

- U.S. Board-Certified
- Transplant-focused
- Highly experienced

24/7/365 Availability

- Built for high urgency telemedicine
- STAT diagnostic turn-around times from 30 mins to 2 hours
- Verbal consultations on demand

Consistent Interpretations

- Dedicated “core” reading groups
- Continuous peer reviews
- Personalized, accountable results

Modality Specialties

- CARDIOLOGY
- RADIOLOGY
- PATHOLOGY
- PULMONOLOGY
AI Solutions

Renal AI Automated Analysis

- Learns, detects and quantifies specific features
- Improves efficiency, accuracy & Consistency
- 90% faster than manual image analysis
- Discover novel quantitative data - glomerular density
AI Solutions
3D CT Rendering

- 3D rendering for volume may help reduce declines in the operating room due to size mismatch.
- STAT Interpretations available 24/7/365
- Determination of anatomical abnormalities
- Virtually segment the liver into R & L halves for evaluation of split liver allocation
- 3D visualization & analysis of vasculature & airways
Standardized Platform
Secure Cloud Portal

- Select/View/Modify all DICOM Metadata (Including UNOS ID)
- Structured Report Auto-Confirmation
- “Direct Connect” Eliminate CDs, Auto-Send Exams
- Upload Image/Video without PHI Remaining on Mobile Device
- Request Overread Directly from Study
- Share Single Study or Complete Case
Empowering
OPOs to *ALLOCATE* with Confidence!
and
Transplant Centers to *DECIDE* with confidence!

*For more information*

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