The New Kidney Allocation System (KAS): The First Six(+) Months

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slideset updated 11/20/15
Background

- KAS implemented Dec 4, 2014
- Key goals:
  - Make better use of available kidneys
  - Increase transplant opportunities for difficult-to-match patients (increased equity)
  - Increase fairness by awarding waiting time points based on dialysis start date
  - Have minimal impact on most candidates
Performance tracked monthly through June 2015 ("out of the gate" reports)

(http://optn.transplant.hrsa.gov)

FEATURED REPORTS

KAS Monitoring Report - June 2015
(PDF - 569 KB)

(PDF - 754 KB)

KAS Monitoring Report - April 2015
(PDF - 748 KB)

KAS Monitoring Report - March 2015
(PDF - 2.5 MB)

KAS Monitoring Report - February 2015
(PDF - 422 KB)

KAS "Out of the Gate" Monitoring Report - January 2015
(PDF - 392 KB)
Background

Six-Month Evaluation of the New, National Kidney Allocation System (KAS)

Pre-KAS period: June 1, 2013 – December 3, 2014 (18 months)

Post-KAS period: December 4, 2014 – May 31, 2015 (6 months)
Kidney waiting list trends
The size of the kidney waiting list has plateaued after KAS.

New registrations decreased by 4.2%.
Deceased donor kidney transplants
Transplant volume has increased slightly (about 1%) post-KAS.
Who’s getting transplanted under KAS?
Percentage of Deceased Donor Kidney Transplants by Recipient Age

- More young adults (18-49) are receiving kidney transplants.
- Still, over half of transplants are going to age 50+ recipients under KAS.

### Table 1.2a

**Waitlist (11/30/2014)**
- **Pre-KAS**
- **Post-KAS**

<table>
<thead>
<tr>
<th>Recipient age</th>
<th>0-17</th>
<th>18-34</th>
<th>35-49</th>
<th>50-64</th>
<th>65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-KAS</td>
<td>0.9%</td>
<td>4.3%</td>
<td>25.5%</td>
<td>43.0%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Post-KAS</td>
<td>3.6%</td>
<td>8.9%</td>
<td>23.8%</td>
<td>37.4%</td>
<td>22.2%</td>
</tr>
</tbody>
</table>

Who’s getting transplanted under KAS?

Percentage of Deceased Donor Kidney Transplants by Recipient Age

- Pediatric volume has returned to near pre-KAS levels in recent months.
Transplant rates (per active patient-year) by candidate age

- Pediatric transplant rate 5 times higher than for adults.
- Transplant rate increase for 18-34 and 35-49, decreased for older patients.
Transplant rates (per active patient-year) by candidate age

- Pediatric transplant rate in past 5 months nearly identical to pre-KAS.
- Transplant rate for age 65+ has rebounded as well.
Pediatric transplants Pre-KAS: 86% had KDPI<35%; post-KAS: 95%

Post-KAS: Adult median KDPI: 47%; Pediatric: 13%
Who’s getting transplanted under KAS?
Percentage of Deceased Donor Kidney Transplants by Recipient CPRA

- Transplants have increased sharply for CPRA 99-100% patients.
- Transplants have declined for CPRA=0% and 80-94% patients.
Transplant rates (per active patient-year) by candidate CPRA

- Pre-KAS, transplant rates were extremely variable across the CPRA spectrum.

Table II.12
Transplant rates (per active patient-year) by candidate CPRA

- Post-KAS, marked ↓ for CPRA 80-94 and ↑ for CPRA 99-100
- Transplant rate pattern smoother: increase in equitable access

Table II.12
Transplants to CPRA 99-100% patients rose sharply after KAS but have been tapering over time, likely due to a bolus effect.
Fewer 0-ABDR and 0-DR mismatch transplants occurred in the post-KAS period.

<table>
<thead>
<tr>
<th></th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ABDR Mismatch</td>
<td>8.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>1+ ABDR Mismatch</td>
<td>91.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>0 DR Mismatch</td>
<td>20.0%</td>
<td>16.7%</td>
</tr>
<tr>
<td>1+ DR Mismatch</td>
<td>80.0%</td>
<td>83.3%</td>
</tr>
</tbody>
</table>
Who’s getting transplanted under KAS?

Percentage of Deceased Donor Kidney Transplants by Recipient Duration on Dialysis

- More transplants are going to long dialysis duration recipients.
- Fewer preemptive (before dialysis) transplants.
High dialysis time recipient “bolus effect”

- Transplants to recipient with 10+ years of dialysis rose sharply after KAS but have been tapering over time, likely due to a bolus effect.

Table A.1d

<table>
<thead>
<tr>
<th>Transplant date</th>
<th>% of transplants to dialysis&gt;=10 yrs recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/6/2013</td>
<td>3.9% 4.0% 4.1%</td>
</tr>
<tr>
<td>8/14/2013</td>
<td>3.1% 3.4%</td>
</tr>
<tr>
<td>11/22/2013</td>
<td>4.3% 4.1% 3.9%</td>
</tr>
<tr>
<td>3/2/2014</td>
<td>5.5%</td>
</tr>
<tr>
<td>6/10/2014</td>
<td>3.8% 4.5% 4.2%</td>
</tr>
<tr>
<td>9/18/2014</td>
<td>4.8% 4.9% 5.0%</td>
</tr>
<tr>
<td>12/27/2014</td>
<td>4.3%</td>
</tr>
<tr>
<td>4/6/2015</td>
<td>18.6%</td>
</tr>
<tr>
<td>7/15/2015</td>
<td>12.7%</td>
</tr>
</tbody>
</table>
Who’s getting transplanted under KAS?
Percentage of Deceased Donor Kidney Transplants by Recipient Race/ethnicity

- More African Americans are receiving kidney transplants under KAS.
- Transplants have also increased for Hispanics, but declined for Whites.
Who’s getting transplanted under KAS?

Percentage of Deceased Donor Kidney Transplants by Recipient Primary Diagnosis

- Transplants increased for recipients with hypertensive nephrosclerosis as well as patients needing a retransplant.
- Transplants have decreased for diabetics and polycystic kidney disease patients.
Who’s getting transplanted under KAS?

Percentage of Deceased Donor Kidney Transplants by Recipient Gender

- Transplants to female recipients have increased slightly under KAS.
- Highly sensitized patients tend to more often be female.
Who’s getting transplanted under KAS?

Percentage of Deceased Donor Kidney Transplants by Recipient Blood Type

- The distribution of transplants has changed little by recipient ABO.
- Slight increases for blood type B and AB patients.
A2/A2B subtype to blood type B recipients

Trends

- Sharp rise in A2/A2B transplants, though counts still small.
Prior living donors’ access to transplants
Deceased donor transplant rates per active patient-year on the WL

- Transplant rates for prior living donors are similar pre vs. post KAS and much greater than for other kidney candidate populations.


(*) Difference not statistically significant (p>0.05)
### Longevity-matching under KAS

#### Percentage of Deceased Donor Kidney Transplants by KDPI and Recipient Age

<table>
<thead>
<tr>
<th>AGE</th>
<th>KDPI 0-20</th>
<th>KDPI 21-34</th>
<th>KDPI 35-85</th>
<th>KDPI 86-100</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>2.9%</td>
<td>0.8%</td>
<td>0.6%</td>
<td>0.0%</td>
<td>4.3%</td>
</tr>
<tr>
<td>18-34</td>
<td>2.5%</td>
<td>1.9%</td>
<td>4.4%</td>
<td>0.1%</td>
<td>8.9%</td>
</tr>
<tr>
<td>35-49</td>
<td>5.5%</td>
<td>4.5%</td>
<td>13.2%</td>
<td>0.6%</td>
<td>23.8%</td>
</tr>
<tr>
<td>50-64</td>
<td>7.1%</td>
<td>6.5%</td>
<td>23.6%</td>
<td>3.7%</td>
<td>40.9%</td>
</tr>
<tr>
<td>65 Plus</td>
<td>2.9%</td>
<td>2.6%</td>
<td>13.1%</td>
<td>3.6%</td>
<td>22.2%</td>
</tr>
<tr>
<td>All</td>
<td>20.9%</td>
<td>16.2%</td>
<td>54.8%</td>
<td>8.1%</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AGE</th>
<th>KDPI 0-20</th>
<th>KDPI 21-34</th>
<th>KDPI 35-85</th>
<th>KDPI 86-100</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>2.5%</td>
<td>0.9%</td>
<td>0.2%</td>
<td>0.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>18-34</td>
<td>6.7%</td>
<td>2.4%</td>
<td>4.3%</td>
<td>0.1%</td>
<td>13.5%</td>
</tr>
<tr>
<td>35-49</td>
<td>7.3%</td>
<td>4.7%</td>
<td>15.9%</td>
<td>0.6%</td>
<td>28.5%</td>
</tr>
<tr>
<td>50-64</td>
<td>2.8%</td>
<td>6.0%</td>
<td>25.4%</td>
<td>3.3%</td>
<td>37.4%</td>
</tr>
<tr>
<td>65 Plus</td>
<td>1.0%</td>
<td>2.2%</td>
<td>10.9%</td>
<td>3.0%</td>
<td>17.0%</td>
</tr>
<tr>
<td>All</td>
<td>20.3%</td>
<td>16.2%</td>
<td>56.5%</td>
<td>7.0%</td>
<td>100.0</td>
</tr>
</tbody>
</table>

- **Transplants with KDPI 0-20% and recipient age 18-34:**
  - Pre-KAS: 2.5% of transplants / Post-KAS: 6.7% of transplants
- **Transplants with KDPI 0-20% and recipient age 50+:**
  - Pre-KAS: 10% of transplants / Post-KAS: 4% of transplants

Table II.3b
Geographic distribution of kidney transplants

- More kidneys are being distributed outside recovery OPO’s DSA.

Table II.1b
Cold ischemic times for transplanted kidneys

- Average CIT increased 6% from 17.0 to 18.1 hours
- CIT> 24 hours - Pre-KAS: 18.3%, Post-KAS: 22.9%

<table>
<thead>
<tr>
<th>CIT (hours)</th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>1.6%</td>
<td>1.9%</td>
</tr>
<tr>
<td>4-8</td>
<td>11.3%</td>
<td>9.7%</td>
</tr>
<tr>
<td>8-12</td>
<td>18.2%</td>
<td>15.4%</td>
</tr>
<tr>
<td>12-16</td>
<td>19.7%</td>
<td>18.6%</td>
</tr>
<tr>
<td>16-20</td>
<td>17.7%</td>
<td>17.5%</td>
</tr>
<tr>
<td>20-24</td>
<td>14.0%</td>
<td>14.7%</td>
</tr>
<tr>
<td>24-36</td>
<td>18.8%</td>
<td>18.8%</td>
</tr>
<tr>
<td>&gt;=36</td>
<td>3.6%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Table II.1d (known CIT only)
Geographic distribution of kidney transplants

- No significant changes by OPTN region.

Table II.6
The percentage of recipients requiring dialysis within the first week after transplant increased from 24.5% pre-KAS to 30.8% after KAS.
Deceased donor kidney recovery and utilization
Deceased kidney donors recovered under KAS
Pre vs. post-KAS trends

- Recovered kidney donor volume has increased 4% post-KAS.

Table II.1a

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-13</td>
<td>659.0</td>
<td>636.3</td>
</tr>
<tr>
<td>Aug-13</td>
<td>641.0</td>
<td></td>
</tr>
<tr>
<td>Nov-13</td>
<td>613.5</td>
<td>661.2</td>
</tr>
<tr>
<td>Mar-14</td>
<td>654.0</td>
<td></td>
</tr>
<tr>
<td>Jun-14</td>
<td>628.9</td>
<td></td>
</tr>
<tr>
<td>Sep-14</td>
<td>692.9</td>
<td></td>
</tr>
<tr>
<td>Dec-14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul-15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Total N=11,687) (Total N=3,945)
Kidney recovery & utilization under KAS

Percentage of Recovered Deceased Kidney Donors by KDPI

- Total kidney donors recovered per month increased 4% (636 to 661).
- However, the distribution by KDPI has remained very similar.

Table III.1b
Kidney recovery & utilization under KAS

Kidney Discard Rate by KDPI

- Kidney discard rates increased by 1.7% points (about 10%).
- Increase largest for, but not limited to, KDPI>85% kidneys.
Kidney recovery & utilization under KAS

Kidney Discard Rate by KDPI -- including months 7-11 (Jun – Oct ‘15)

- Discard rates have returned to pre-KAS levels in recent months.
Kidney recovery & utilization under KAS

Kidney Discord Reasons

<table>
<thead>
<tr>
<th>Discard reasons</th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopsy findings</td>
<td>33.5%</td>
<td>35.9%</td>
</tr>
<tr>
<td>No recip. located (list exhausted)</td>
<td>28.5%</td>
<td>26.4%</td>
</tr>
<tr>
<td>Other specify</td>
<td>15.0%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Poor organ function</td>
<td>7.2%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Anatomical abnormalities</td>
<td>6.1%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Diseased organ</td>
<td>2.3%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Vascular damage</td>
<td>1.4%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Organ trauma</td>
<td>1.2%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Too old on ice</td>
<td>1.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Positive Hepatitis</td>
<td>1.0%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other</td>
<td>2.7%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

- Reasons for discard similar pre vs post-KAS.

Table III.4
Disposition of offers accepted non-locally*

- Less non-local acceptances are for CPRA 0-98 patients under KAS (size of bubble)
- Of these acceptances, about 1/3 have not gone to acceptor, pre and post-KAS
- Dramatic increase in number of non-local acceptances for CPRA 99-100% patients
- DECREASE in % of kidneys not transplanted to these acceptors

Table III.6
Disposition of offers accepted non-locally*
All non-local acceptances

% NOT going to acceptor

- Overall, increase in number of non-local acceptances
- Decrease in % of kidneys not transplanted to these acceptors

Net effects:
- Slight overall increase in # acceptances not going to acceptor (~95 to 113 per month)
- Distribution of these cases has shifted by CPRA

Table III.6
Just over a third of kidneys accepted but not transplanted to the accepting patient were discarded, pre and post-KAS.

The remaining kidneys were transplanted into another recipient.
Summary: First Six+ Months of KAS

- Overall – KAS is meeting key goals
  - Increase in the number of transplants among very highly sensitized patients
  - Increase in access to transplant for African Americans candidates
  - Decrease in longevity mismatches
  - “Bolus effects”: the percent of transplants to CPRA 99-100% and dialysis>10 years recipients are both tapering post-KAS
  - Increase in A2/A2B→B transplants, but still room for growth
  - Transplant volume up 1%
Several trends deserve further attention:

- Fewer 0MM transplants
- Slight drop in pediatric transplants, but appears to have bounced back
- Increase in discard rates, particularly KDPI>85% kidneys. But rates seem to have stabilized in more recent data.
- Logistical challenges in allocation
- Increased CIT and DGF

Other metrics (e.g., graft survival rates) require additional lag time and will be available in future reports.
Feedback from the Community

- Transplants for blood types A2 and A2B for blood type B candidates
- Living donor prioritization
- Access for pediatrics
- Access for older recipients
- Outcomes from transplanting more patients with increased dialysis time and other risk factors
- Discard rates
- Logistical challenges of increased sharing
- Highly sensitized candidates undergoing desensitization
What’s being addressed?

- KAS Clarifications & Clean Up Proposal
- Increasing the # of centers willing to accept kidneys from donors with medically eligible blood types $A_2$ and $A_2B$ for blood type B candidates
- Living Donor Prioritization
What does the Kidney Committee need to monitor?

- Access for pediatrics
- Access for older recipients
- Outcomes from transplanting more patients with increased dialysis time and other risk factors
- Discard rates
What does the Kidney Committee need to work on?

- Logistical challenges of increased sharing
- Highly sensitized candidates undergoing desensitization
Questions?
Extras
Prior to KAS implementation, centers had entered data to calculate EPTS scores for nearly all patients and had entered signatures verifying unacceptable antigens for over 90% of CPRA 99-100% patients.
The % of registrations on the kidney waiting list in active status has remained relatively constant at about 60%.
The distribution of registrations on the waiting list by candidate age, race/ethnicity, diagnosis, and other factors has changed little.
Rates of receiving and accepting offers by candidate age

- Offer rates dropped post-KAS for pediatrics, but acceptance rates remained relatively high. Donor quality increased for pediatric offers (avg KDPI↓).
- Offer acceptance rates dropped for older patients and increased for younger adults, most likely due to organ quality (KDPI) differences.
Offer & accept. rates by candidate CPRA

- Offer rate curve smoother post-KAS, and higher for CPRA>95% patients.
- Offer acceptance rates increase as CPRA increases, both pre/post-KAS

Table II.13
Table III.5
- 0MM offers decreased 9% post-KAS.
- Acceptance rates for 0MM offers dropped by 42%.

Table II.13
Table III.5
Offer & accept. rates by candidate time on dialysis

- Offer rates increased post-KAS for high dialysis time patients.
- Offer acceptance rates rose sharply for candidates with 10+ years on dialysis and dropped sharply for preemptive patients.
Transplant rates (per active patient-year) by candidate race/ethnicity

- Statistically significant increase in transplant rates for African American (AA) candidates, decrease for Caucasian candidates.
- Offer rates up 17% and acceptance rates up 6% for AA candidates.
A2/A2B subtype to blood type B recipients
Pre vs post-KAS summary

<table>
<thead>
<tr>
<th>Metric</th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2/A2B transplants</td>
<td>34</td>
<td>47</td>
</tr>
<tr>
<td>A2/A2B transplants (normalized per year)</td>
<td>22.5</td>
<td>95.8</td>
</tr>
<tr>
<td>% of transplants</td>
<td>0.2%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

- A2/A2B→B transplants have increased 4-fold.
### Single vs. Dual vs. En bloc kidney transplants

#### Pre vs post-KAS summary

<table>
<thead>
<tr>
<th></th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Single</td>
<td>15948</td>
<td>97.2%</td>
</tr>
<tr>
<td>Dual</td>
<td>144</td>
<td>0.9%</td>
</tr>
<tr>
<td>En bloc</td>
<td>314</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

- Dual kidney transplants have decreased slightly post-KAS.
### Multi-organ kidney transplants

**Pre vs post-KAS summary**

<table>
<thead>
<tr>
<th>Multi-organ kidney transplant type</th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>All</td>
<td>2086</td>
<td>11.3%</td>
</tr>
<tr>
<td>Heart-Kidney</td>
<td>159</td>
<td>1.0%</td>
</tr>
<tr>
<td>Kidney-Pancreas (KP)</td>
<td>1100</td>
<td>6.3%</td>
</tr>
<tr>
<td>Liver-Kidney (SLK)</td>
<td>803</td>
<td>4.7%</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

- The proportion of transplanted deceased donor kidneys used in multi-organ transplants has changed little.

*Table II.11*
Longevity-matching under KAS

- Of KDPI 0-20% kidney transplants, 61% are going to EPTS Top 20% recipients under KAS.
- Under KAS, over half (52%) of EPTS Top 20% recipients received a KDPI 0-20% kidney.
- Increased percentage of pediatric recipients receiving KDPI<35% kidneys:
  - Pre-KAS (85%) vs. Post-KAS (94%).
- However, a higher % of KDPI>85% kidneys are going to patients under age 50 (8.4% vs. 10% after KAS)
### Table 1.2a

<table>
<thead>
<tr>
<th>Candidate EPTS Score</th>
<th>% Waitlist</th>
<th>Post-KAS % transplants</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPTS 0-20%</td>
<td>20%</td>
<td>24.6%</td>
</tr>
<tr>
<td>EPTS 21-100%</td>
<td>80%</td>
<td>75.3%</td>
</tr>
</tbody>
</table>

- EPTS 0-20% candidates have moderately higher access to transplants than EPTS 21-100% candidates under KAS, including 18% higher transplant rates.

### Table II.1b

<table>
<thead>
<tr>
<th>Candidate EPTS Score</th>
<th>Transplants per active patient-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=20%</td>
<td>0.20</td>
</tr>
<tr>
<td>&gt;20% (or missing)</td>
<td>0.17</td>
</tr>
</tbody>
</table>

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Table 1.2a
Table II.1b
Table II.12
Post-KAS offer and accept. rates by EPTS score

Surprisingly, offer rates were lower for EPTS 0-20% patients. However, organ quality was better (lower average KDPI) and acceptance rates for EPTS 0-20% patients were 30% higher than for EPTS 21-100% patients.

Table II.13
Table III.5
Pediatrics, Highly Sensitized, and Prior Living Donors

- Proportion of transplants relative to WL prevalence under KAS:
  - CPRA 99-100: 14.8/8.3 = \(1.8\)
  - PLDs: 0.30/0.028 = \(11\)
  - Pediatrics: 3.6/0.9 = \(4\)

Though fewer transplants are occurring locally, approximately the same percentage had KDPI 0-20% kidneys: Pre (22.0%), Post (21.6%)
Kidney recovery & utilization under KAS

Kidney Discard Rate by DCD vs. BD

- Greater discard rate increase for kidneys from DCD donors.

Table III.3
Accepted Offers Not Transplanted to the Acceptor*

Post-KAS, a smaller percentage of non-local, accepted offers are not going to the acceptor. (This is also true for the subset of CPRA 99-100% non-local acceptances: 26.5%→18.2%.)

However, substantially more of the accepted offers are non-local under KAS (28% to 40%), which has lead to... (next slide)

*(DonorNet acceptance data may not include all cases and should be interpreted cautiously.)
Accepted Offers Not Transplanted to the Acceptor*

Table III.6

<table>
<thead>
<tr>
<th></th>
<th>Pre-KAS</th>
<th>Post-KAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>9.3%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Non-local</td>
<td>32.0%</td>
<td>27.8%</td>
</tr>
</tbody>
</table>

(Example of “Simpson’s Paradox”)

- Bottom line: More kidneys are not going to the acceptor under KAS.
- However, this is because more kidneys are being allocated non-locally, not because of less efficient allocation of shipped kidneys.
- If the non-local rate had not improved but remained at 32%, the overall rate would have been 12.9%.

(*DonorNet acceptance data may not include all cases and should be interpreted cautiously.)