Embracing the Magic: Increasing Organ Acceptance Rates Through Data Review and Risk Stratification

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Overview- Kidney Scarcity

- There are currently 121,678 people waiting for lifesaving organ transplants in the U.S. Of these, 100,791 await kidney transplants. (as of 1/11/16)¹

- In 2014, 4,761 patients died while waiting for a kidney transplant. Another, 3,668 people became too sick to receive a kidney transplant

- On average, 13 people die each day while waiting for a life-saving kidney transplant

- Despite the high demand for donated kidneys, many of the kidneys procured end up being discarded rather than transplanted. In many instances, the organ could have been successfully transplanted.

- Strategically accepting marginal offers, based on balancing donor criteria with recipient characteristics allows us to accept a greater number of import offers.

Source: ¹National Kidney Foundation
Objective:

1. Define Current Practice
2. Developing Organ Offer Strategies Evaluate Results
3. Summarize: Challenges and Benefits
Define Current Practice

Sharon Norfles, RN, BSN
Total Kidney Transplants 2003 - 2014

Kidney Demand vs. Supply

United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
Kidney Transplant Candidates are Getting Older

The Waiting Times Are Increasing

Kidney Waitlist | 2016

Source: United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
Kidney Organ Waitlist by State: Waitlist is 3 Years to 5 Years

Source: United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
Kidney Organ Waitlist by State: Waitlist is More Than 5 Years

Source: United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
Deceased Donor Kidney Donation Rates (per 1,000 Deaths) | 2011-2013

Three-Year Outcomes for Adults Waiting for Kidney Transplant | New Listings in 2011

Kidneys Recovered

Source: United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
Recovered Kidneys Usage

- All Kidneys Transplanted
- All Kidneys Recovered but not Transplanted

Source: United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
The Percent of Discarded Kidneys is Growing

Source: United Network for Organ Sharing: Wait List Candidates by Organ Type – All States | July 2, 2016
Percentages of Kidneys Not Transplanted Out of All Kidneys Recovered for Transplant | 2014

Percentages of Kidneys Not Transplanted Out of All Kidneys Recovered for Transplant | By KDPI

Percentages of DCD Kidneys Not Transplanted Out of All Kidneys Recovered

![Percentage Graph]

Percentages of Kidneys Not Transplanted Out of All Kidneys Recovered for Transplant | By Age

Developing Organ Offer Strategies

Sandra Felty RN, BSN, MSN, MHA
Given the Constraints on the Supply Side, and the Increasing Demand ...

There are two possible strategies that can be implemented to increase the utilization of the current kidney supply market:

1. Greater acceptance of marginal kidneys that are offered by local centers.

2. Initiate regional and national allocation earlier to the centers that are more likely to utilize marginal organs due to higher average wait times for transplant.
Percentages of Kidneys Not Transplanted Out of All Kidneys Recovered for Transplant | 2014

More Patients Are Willing To Take Marginal Kidneys (Accept ECD or KDPI >85\% kidney)

Over Time, Older Patients Have Become More Willing To Accept a Marginal Kidney

Graft Survival Among Adult Kidney Transplant Recipients (In Months) | 2009, Deceased Donors

Import Kidney Offers Accepted by USC 2010 – 2015

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Kidney Offers From Outside USC DSA | 2010 – 2015, By KDPI

Offer Not Accepted

Offer Accepted

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Accepted Kidney Offers From Outside USC DSA | 2010 – 2015, By KDPI

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Kidney Offers From Outside USC DSA | 2010 – 2015, By DCD Donor Status

Offer Not Accepted
- Not a DCD
- Yes a DCD

Offer Accepted
- Not a DCD
- Yes a DCD

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Accepted Kidney Offers From Outside USC DSA | 2010 – 2015, By Age Group

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Accepted Kidney Offers From Outside USC DSA | 2012, By State

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Accepted Kidney Offers From Outside USC DSA | 2013, By State

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Accepted Kidney Offers From Outside USC DSA | 2014, By State

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Accepted Kidney Offers From Outside USC DSA | 2015, By State

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Kidney Offers Accepted | 2010 – 2015, By KPDI% and DSA Location

Accepted by USC

Outside DSA Location |

Source: UNITED NETWORK FOR ORGAN SHARING
Organs offered to CAUH-TX1-KI Includes only organs that were transplanted. Matches run between October 1, 2010 and September 30, 2015
Observed and Expected Deceased Donor Transplant Rates: 01/01/2013 – 06/30/2015

Source: Scientific Registry of Transplant Recipients | Keck Hospital of USC. Release Data, June 16, 2016
First-Year Adult Graft and Patient Survival: 01/01/2013 – 06/30/2015

- **Patient Deaths (265 Transplants):**
  - Observed: 14.65
  - Expected: 7.48

- **Graft Failures (289 Transplants):**
  - Observed: 7
  - Expected: 4

Source: *Scientific Registry of Transplant Recipients | Keck Hospital of USC. Release Data, June 16, 2016*
Of Organs Transplanted at USC

- 31.0% were not from local DSA (20% national)
- 19.0% were from outside the state of California
- 21.0% were DCD
- 13.0% were ECD
- 72.3% were given to people aged over 50
- 50% of transplanted organs have a cold time in the range of 20-30 hrs (vs. 37% nationally)
- 22.5% of kidneys were given to people aged over 65 (vs. 19.1% nationally)
- More transplants were performed than were expected (0.10% exp vs. 0.13% observed)
- One year graft survival was also higher than expected (94.2% exp vs. 96.8% observed)