AST AMERICAN SOCIETY OF TRANSPLANTATION

# Innovation at UNOS: Connecting People and Data

Brian Shepard, CEO

UNOS

CEOT CUTTING EDGE of TRANSPLANTATION

TRANSPLANT SUMMIT 2018

*Breaking Through Regulatory Barriers to Unleash Transplant Innovation*

FEBRUARY 8–10, 2018

ARIZONA BILTMORE • PHOENIX, AZ

## Disclosure

I have nothing to disclose.

*system*

only a ~~bureaucracy~~

can innovate

can innovate?

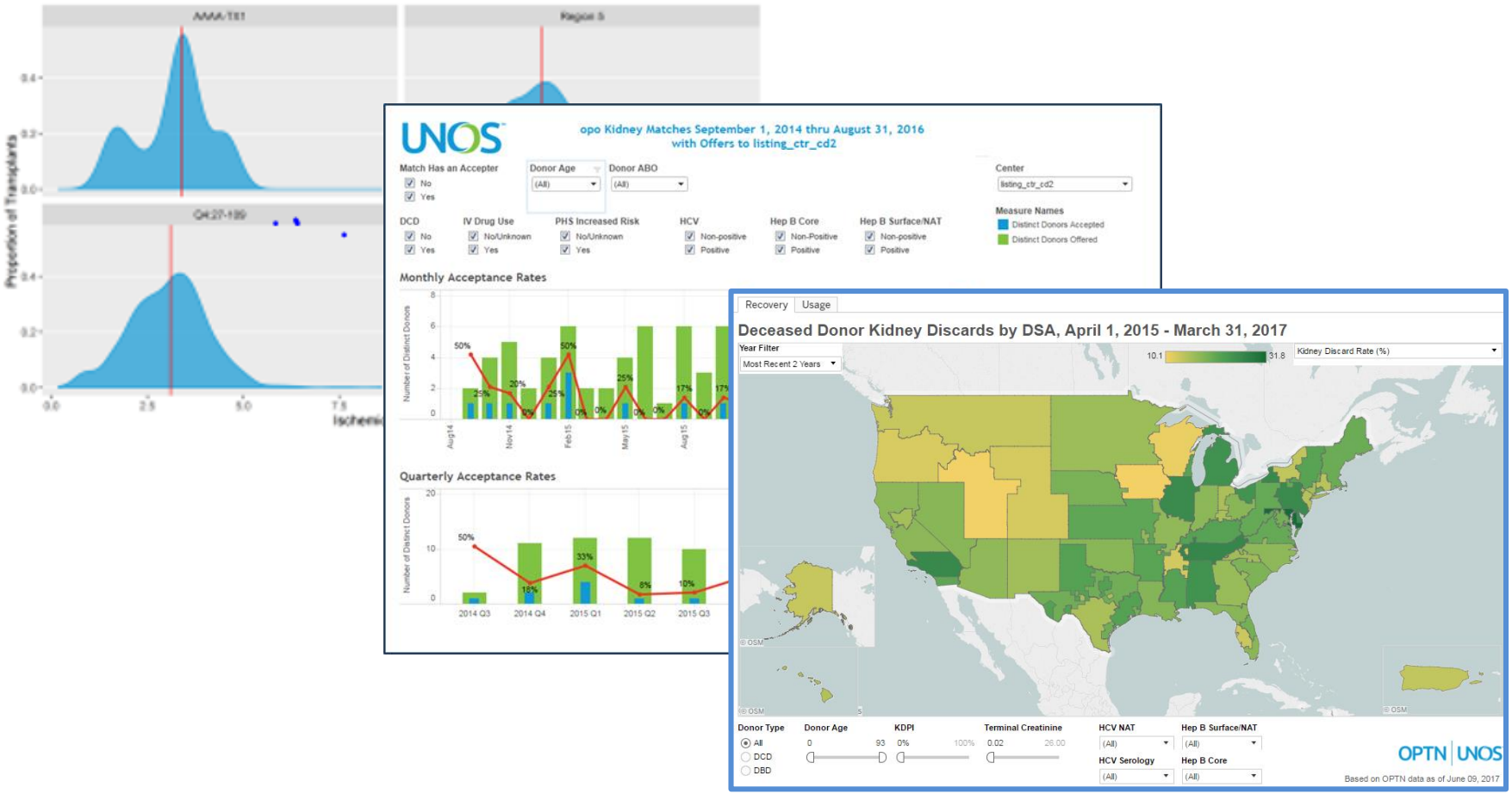
Innovation is the

*repeatable implementation*

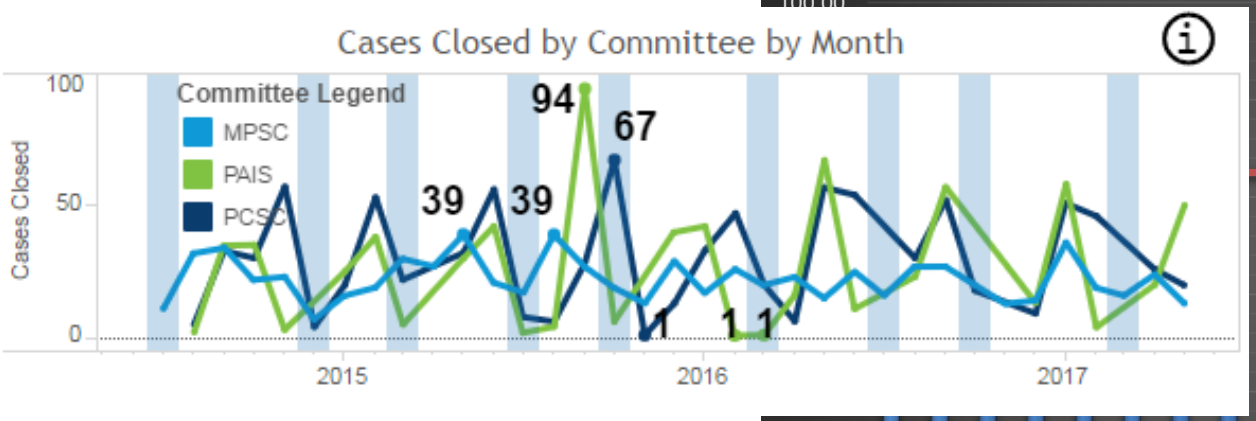
of genius

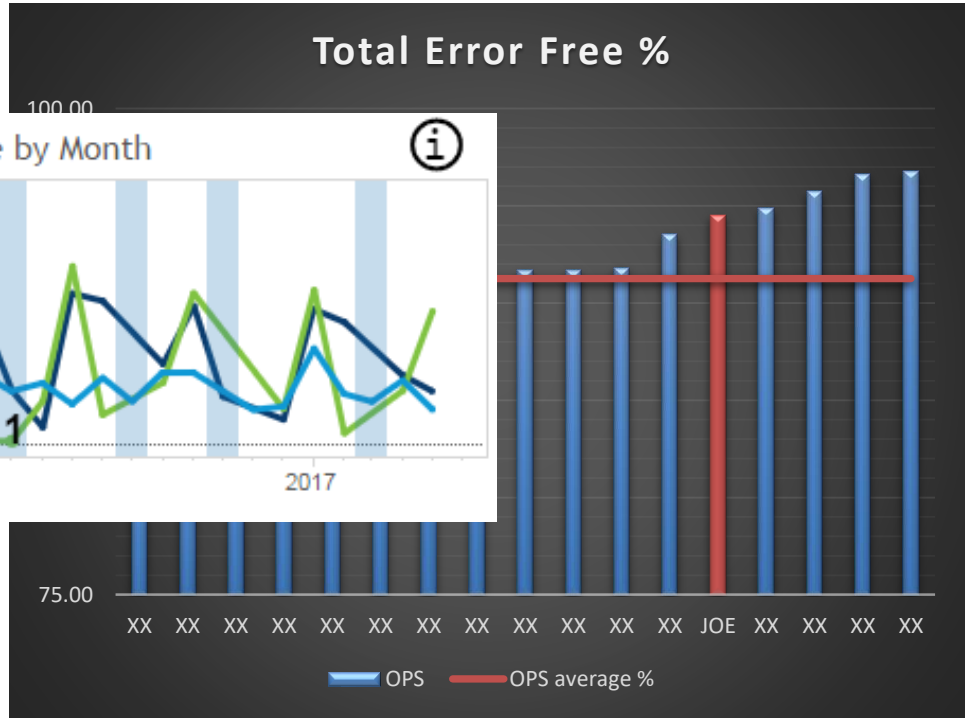
- Observe
- Share
- Push

# observe


Proportion of Transplants
UNOS
opo Kidney Matches September 1, 2014 thru August 31, 2016
with Offers to listing_ctr_cd2
Match Has an Accepter
Donor Age
Donor ABO
Center
DCD
IV Drug Use
PHS Increased Risk
HCV
Hep B Core
Hep B Surface/NAT
Measure Names
Distinct Donors Accepted
Distinct Donors Offered
Monthly Acceptance Rates
Number of Distinct Donors
Quarterly Acceptance Rates
Recovery
Usage
Deceased Donor Kidney Discards by DSA, April 1, 2015 - March 31, 2017
Year Filter
Most Recent 2 Years
Kidney Discard Rate (%)
Donor Type
Donor Age
KDPI
Terminal Creatinine
HCV NAT
Hep B Surface/NAT
HCV Serology
Hep B Core
OPTN | UNOS
Based on OPTN data as of June 09, 2017

# Individual-specific data



# share

UNOS Connect

Username

Password

Welcome! Getting Started Course Catalog Help Contact Us

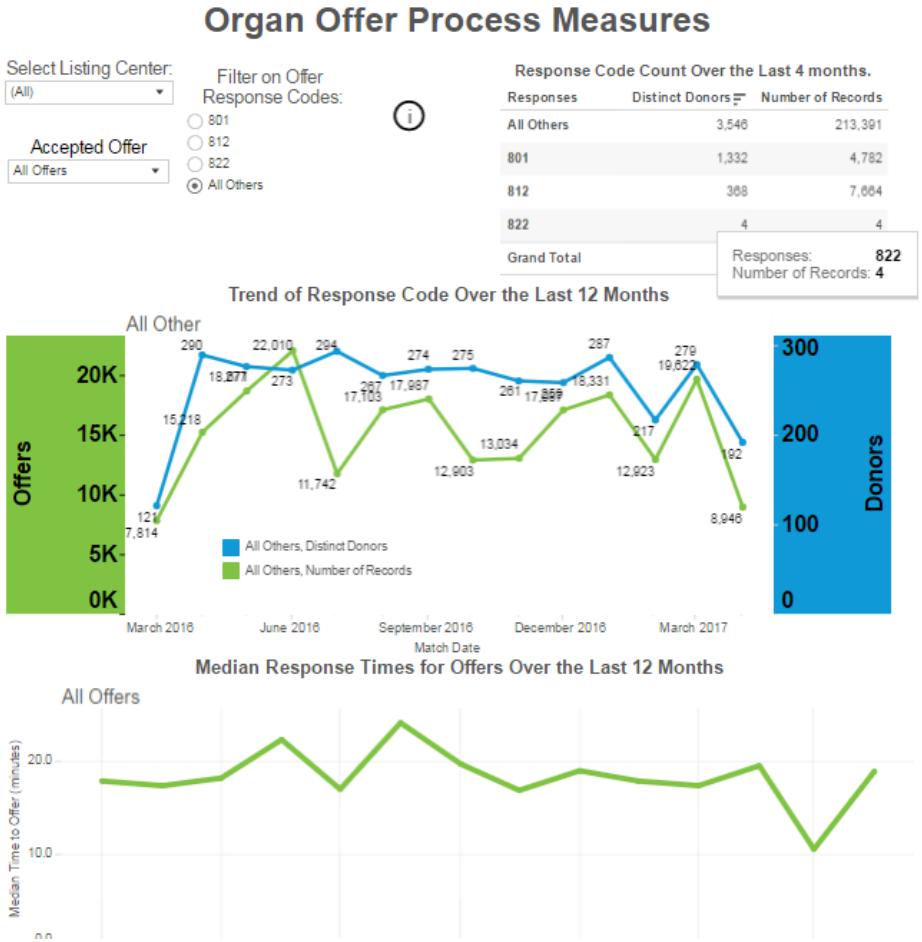
## Course Catalog Categories

The course catalog in UNOS Connect is sorted by categories. The categories are listed below. Once logged in, simply click on any of the category names in order to view all the offerings in that category.

For a comprehensive list of all avalailable offerings, you can Download the Course Catalog.

- VCA — VCA
- Donor — Donor
- Ethics — Ethics
- Heart — Heart
- Histo — Histo
- Kidney — Kidney
- KPD — Kidney-Paired Donation
- Live Webinar — Live Webinars
- Liver — Liver
- Lung — Lung
- Pancreas — Pancreas
- Patient Safety — Patient Safety
- Pediatric — Pediatrics
- Quality — Quality/Effective Practices
- UNet System — System

# Data + coaching = COIIN



# push

OPTN | ORGAN TRANS

## Contents


Policy 1: Administrative Rules and Definitions
Policy 2: Deceased Donor Organ Procuremer
Policy 3: Candidate Registrations, Modificatio
Policy 4: Histocompatibility
Policy 5: Organ Offers, Acceptance, and Verif
Policy 6: Allocation of Hearts and Heart-Lung
Policy 7: Allocation of Intestines
Policy 8: Allocation of Kidneys
Policy 9: Allocation of Livers and Liver-Intestir
Policy 10: Allocation of Lungs
Policy 11: Allocation of Pancreas, Kidney-Panc
Policy 12: Allocation of Vascularized Composit
Policy 13: Kidney Paired Donation (KPD)
Policy 14: Living Donation
Policy 15: Identification of Transmissible Disea


## A. Program Summary

**Figure A1. Waiting list and transplant activity**

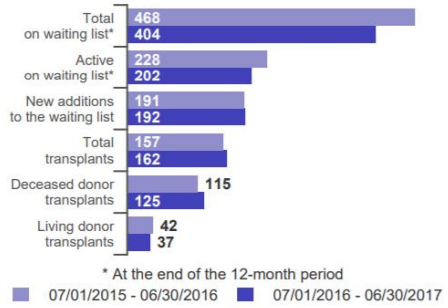



**Table A1. Census of transplant recipients**

| Recipients | 07/01/2015-06/30/2016 | 07/01/2016-06/30/2017 |
|---|---|---|
| Transplanted at this center | 157 | 162 |
| Followed by this center* | 965 | 1,013 |
| ...transplanted at this program | 955 | 1,004 |
| ...transplanted elsewhere | 10 | 9 |

* Recipients followed are transplant recipients for whom the center has submitted a post-transplant follow-up form for a transplant that took place before the 12-month interval for each column.

**Figure A2. Transplant rates 07/01/2015 - 06/30/2017**

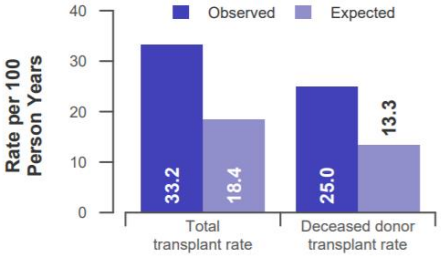



**Figure A3. Waiting list mortality rates 07/01/2015 - 06/30/2017**

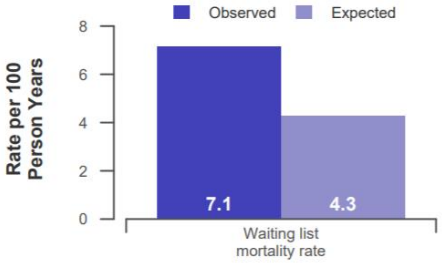



**Figure A4. First-year adult graft and patient survival: 07/01/2014 - 12/31/2016**

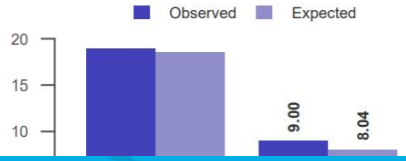
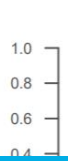



**Figure A5. First-year pediatric graft and patient survival: 07/01/2014 - 12/31/2016**



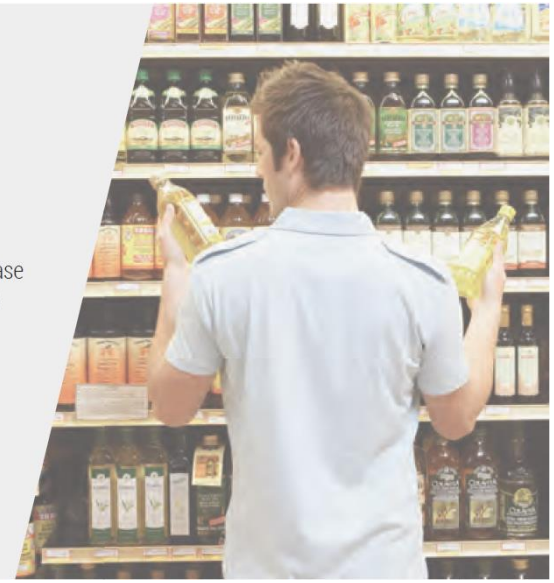
# Concepts: “Our Behavior and Our Biases”

## CHOICE OVERLOAD

### STORY

Customers were six times more likely to purchase jams when only six choices were presented, as compared to when twenty four choices were presented.

*Source: Iyengar, Sheena S., and Mark R. Lepper 2000*



### TAKEAWAY

When faced with too much information or too many choices, people tend to either defer making a choice or go with a default choice, if one exists.

Source: www.irrationallabs.org

1. Relativity
2. Mental Accounting
3. Sunk Costs
4. Default Effect
6. Choice Overload
7. Identifiable Victim
8. Decoy Effect
9. Social Proof
10. Hyperbolic Discounting
11. Loss Aversion
12. Non-Monetary Incentives
13. Status & Self Image
14. Intrinsic Vs. Extrinsic Motivation
15. Peak End Rule
16. Goal Gradient Effect
17. The Power of Free
18. The IKEA Effect

Source: www.irrationallabs.org

# a digression about decions

A new disease outbreak is expected to kill 600, and you must choose between two treatments:

- Treatment A will save 200
- Treatment B has a 1:3 chance of saving everyone, but 2:3 chance of saving no one

*72 % choose treatment A*

A new disease outbreak is expected to kill 600, and you must choose between two treatments:

- Treatment C will leave 400 dead
- Treatment D has a 1:3 chance of 0 deaths, but 2:3 chance 600 deaths

*22 % choose treatment C*

# UNOSLabs Mock Offer Simulation System

DonorNet Study | Match Results | Donor Summary

Kidney Allocation for Donors with KDPI 35% - 85% MATCH RESULTS

**Summary**

Your candidate is the first on the match.

**Donor Blood Type**

O

**Local, blood type identical or permissible**

| Seq # | Name | Age | ABO |
|---|---|---|---|
| 1 | Smith, Devon | 57 Years | O |

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DonorNet Study | Match Results | Donor Summary

Local Deceased Donor

PROVIDER INFORMATION

OPO: Your Local OPO

DONOR INFORMATION

Height: 5 ft 4 in / 163.00 cm
Weight: 154 lbs / 70.0000 kg
Body Mass Index (BMI): 36.346 kg/m$^2$
Age: 78 Years
Gender: FEMALE
Current KDPI: 90% Graft Survival Rates by KDPI
Ethnicity/Race: White: White: Not Specified/Unknown

Cause of death: CEREBROVASCULAR/STROKE
Mechanism of injury: INTRACRANIAL HEMORRHAGE/STROKE
Occurrance of death: DEATH FROM NATURAL CAUSES
Cross-clamp date: [pre-procurement]
Cold Ischemic Time: [Cross-clam data not available.]

Donor meets DCD criteria: NO
Cardiac arrest/downtime: NO
CPR administered: NO

Donor Highlights:
Unable to procure liver due to mass.
Admission Course Comments:
Came to hospital after car accident. Declared brain dead on arrival.

MEDICAL & SOCIAL HISTORY
VITAL SIGNS - DONOR MANAGEMENT INDICATORS
COMPLETE BLOOD COUNT (CBC)
LAB PANEL
URINALYSIS
CULTURES/MICROBIOLOGY
MEDICATIONS & FLUIDS
TRANSMISSION/BLOOD PRODUCTS
INFECTIOUS DISEASES
TESTS & DIAGNOSES
CROSSMATCH
KIDNEY

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DonorNet Study | Match Results | Donor Summary

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**Summary**

Your candidate is the first on the match.

**Donor Blood Type**

O

**Local, blood type identical or permissible**

| Name | Age | ABO |
|---|---|---|
| Smith, Devon | 57 Years | O |

**Candidate Information For Smith, Devon**

**Waitlist Organ: Kidney**

**Age:** 57 Years
**Gender:** Female
**Blood Type:** O
**HLA Antibody Tested:** Yes, Antibodies detected
**Mismatch A,B,DR:** 2, 2, 2
**UNOS Status:** Active (1)
**CPRA:** 93

View all candidate information +

**Kidney Organ Information**

**EPTS:** 68%
**Total UNOS Waiting Time:** 541 days 3 hours 23 minutes 9 seconds
**Will Recieve Donation Status Points:** No
**Number of previous solid organ transplants:** 0

**Offer Response:**
Accept:
Refuse:

Save

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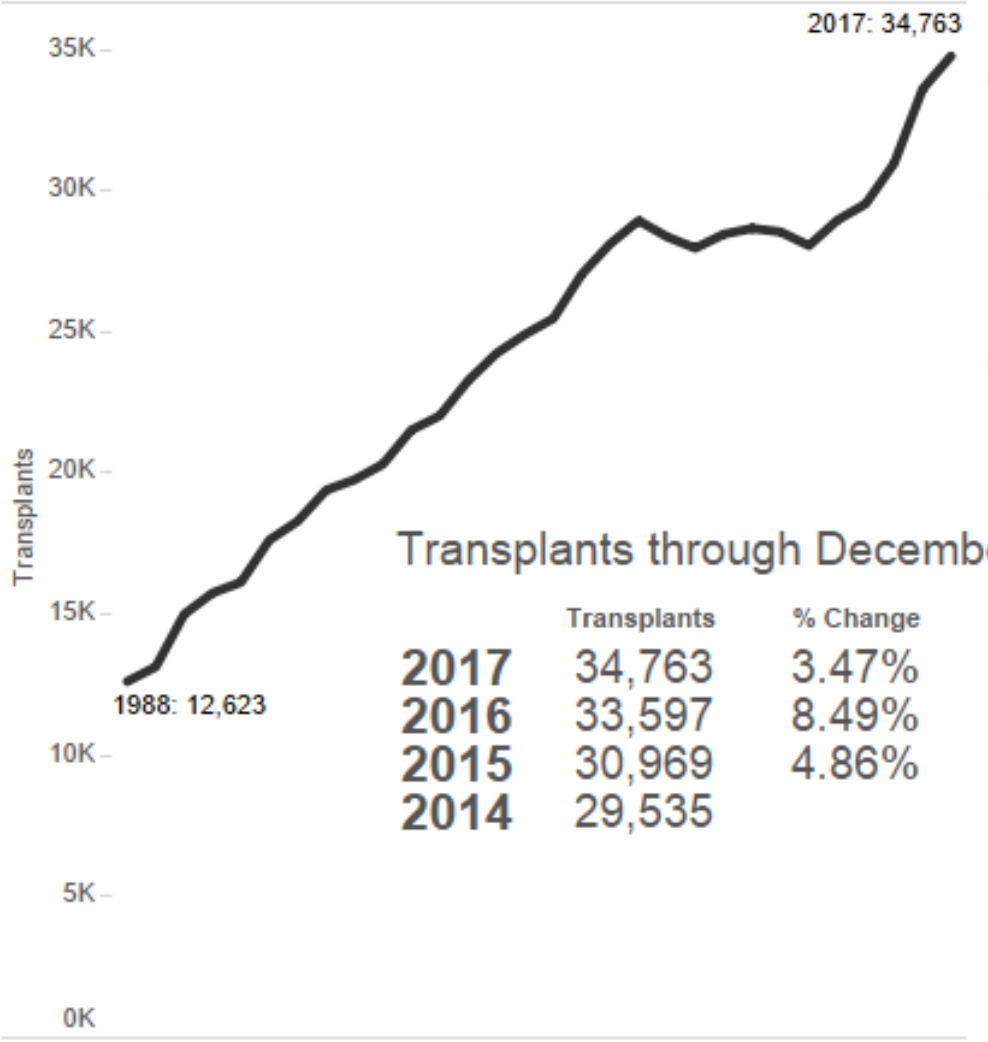
That’s the system spreading local innovations – can the system itself innovate?

## Transplants by Calendar Year




Region

National

Organ Group

All Organs

Transplant Year

2014 2017

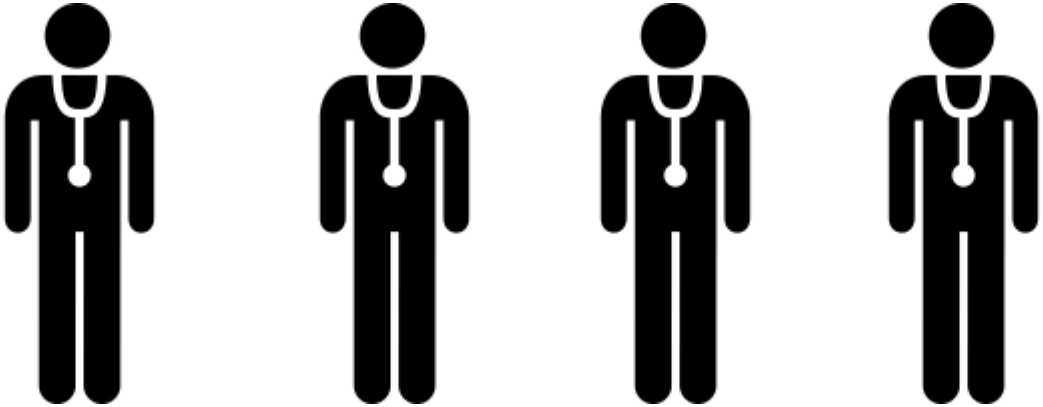
Calendar Type

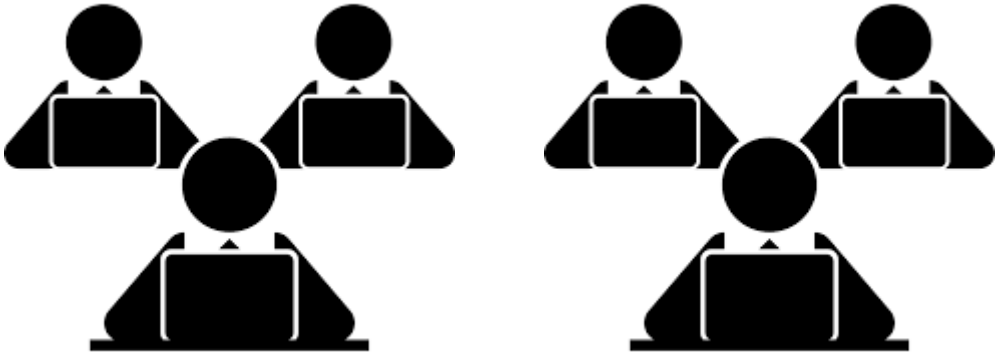
Calendar

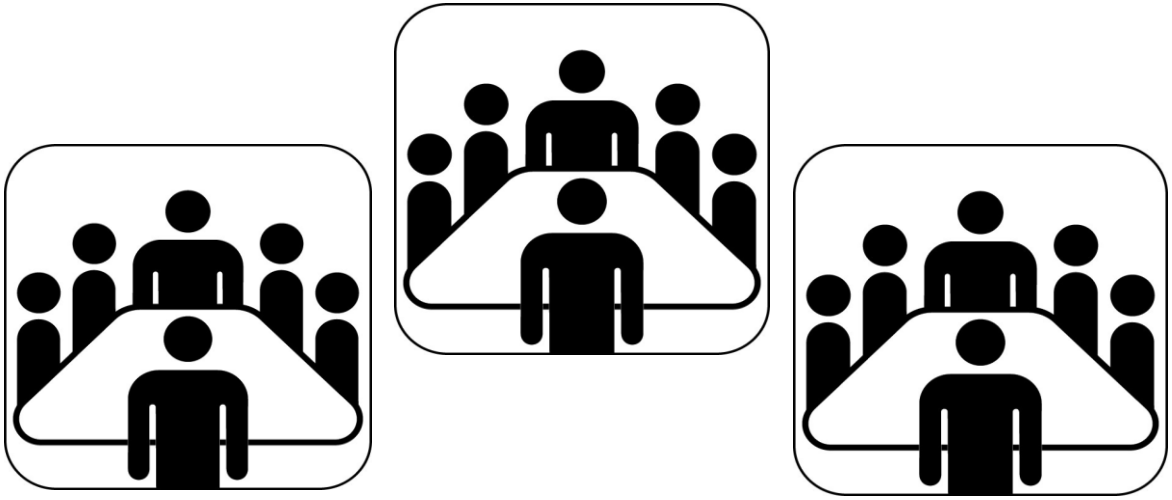
### Transplants through December

| | Transplants | % Change |
|---|---|---|
| **2017** | 34,763 | 3.47% |
| **2016** | 33,597 | 8.49% |
| **2015** | 30,969 | 4.86% |
| **2014** | 29,535 | |

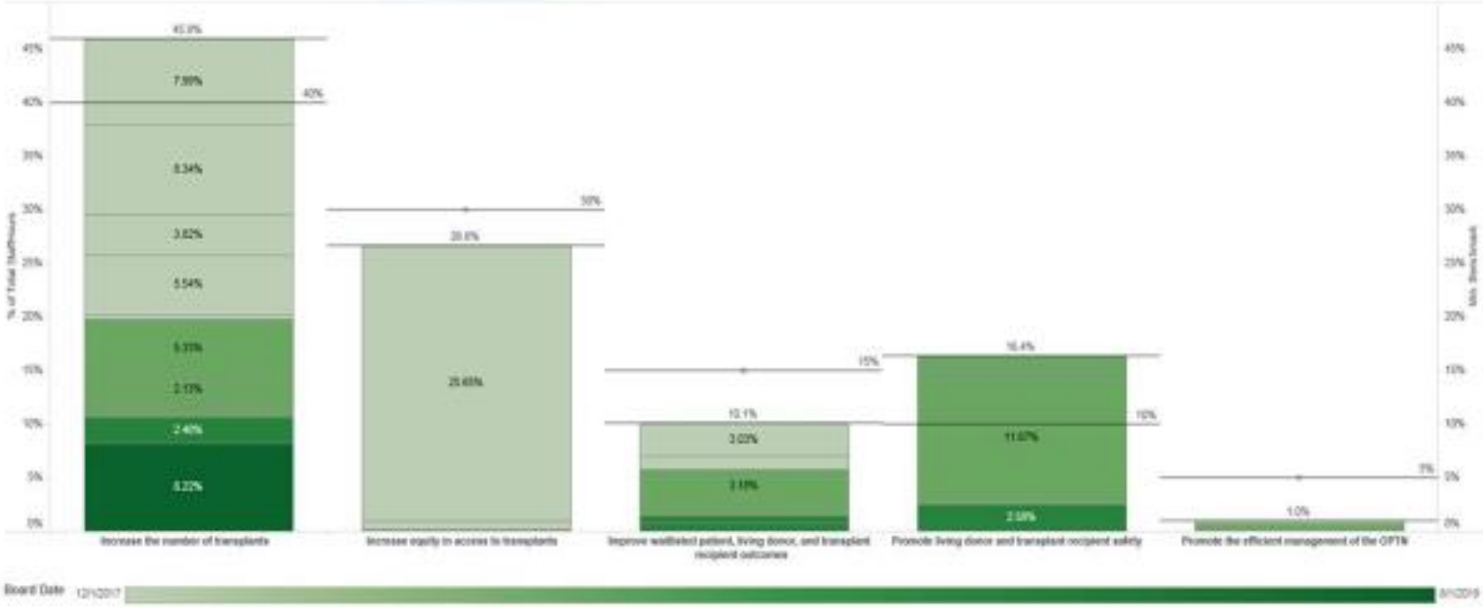
Coca-Cola







# Strategic Plan Alignment - Current

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- Ariely, Dan, Controlling the Information Flow: Effects on Consumers' Decision Making and Preferences, *Journal of Consumer Research*, Volume 27, Issue 2, 1 September 2000, Pages 233–248.

- Tversky, Amos and Daniel Kahneman, The Framing of Decisions and the Psychology of Choice, Science, New Series, Vol. 211, No. 4481. (Jan. 30, 1981), pp. 453-458.