

# Meaningful Metrics to Support Quality Improvement in Living Kidney Donation

Gwen McNatt, PhD, FNP-BC, FAAN

Chief Administrative Officer

Organ Transplant Center

University of Iowa HealthCare



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Disclosures

- I do not have anything to disclose



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation

# Objectives

- Discuss how quality indicators/metrics/performance measures are essential to driving quality in health care
- Identify the domains of health care quality as defined by the IOM
- Describe the types of health care quality measures
- Discuss the criteria to select indicators



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation



# Quality of Care

“Quality of care is a remarkably difficult notion to define”

Donabedian 1988.

“It seems likely that there will never be a single comprehensive criterion by which to measure the quality of patient care”

Klein, 1961



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

## Institute of Medicine (IOM)

- The extent to which health services provided to individuals and patient populations improve desired health outcomes.

## Agency for Healthcare Research and Quality (AHRQ)

- Healthcare is accessible, effective, safe, accountable and fair

## Centers for Medicare and Medicaid Services (CMS)

- The right care for every person every time.



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

In God we trust; all  
others bring data.

W. Edwards Deming

Without data you're just another person with an opinion.

# QAPI is Data Driven



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Types of Health Care Quality Measures

Structures



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation



# Types of Health Care Quality Measures

Outcomes



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Quality Domains

## *Safe*

- Delivering health care which minimizes risks and harm to service users.

## *Efficient*

- Delivering health care in a manner which maximizes resource use and avoids waste

## *Accessible*



## *Acceptable/patient-centered*

- Delivering health care which takes into account the preferences and aspirations of individual service users and the cultures of their communities

## *Equitable*

- Delivering health care which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status

## *Effective*

- Delivering health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Quality in Living Donation

Stakes are much higher in Living Donation



Recipient

Donor

Transplant  
Quicker

Better Organ

Death

Complication

Failed  
Transplant



# Terminology

## Performance Measurement/Quality Indicators



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Terminology

## Performance Measures



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation

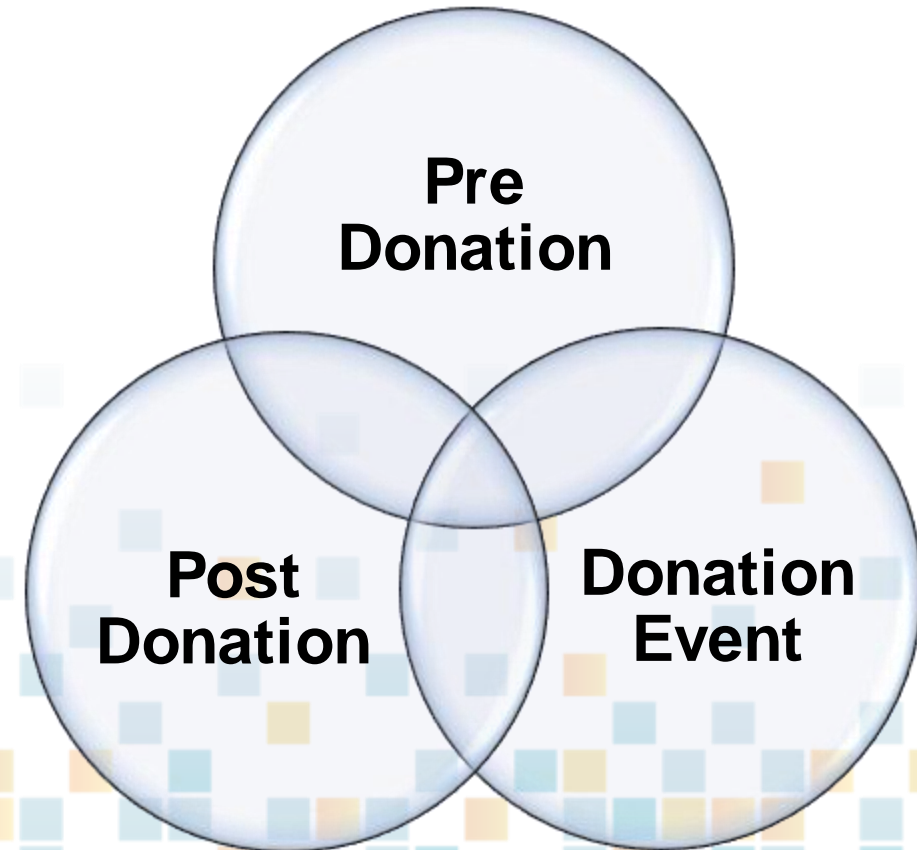
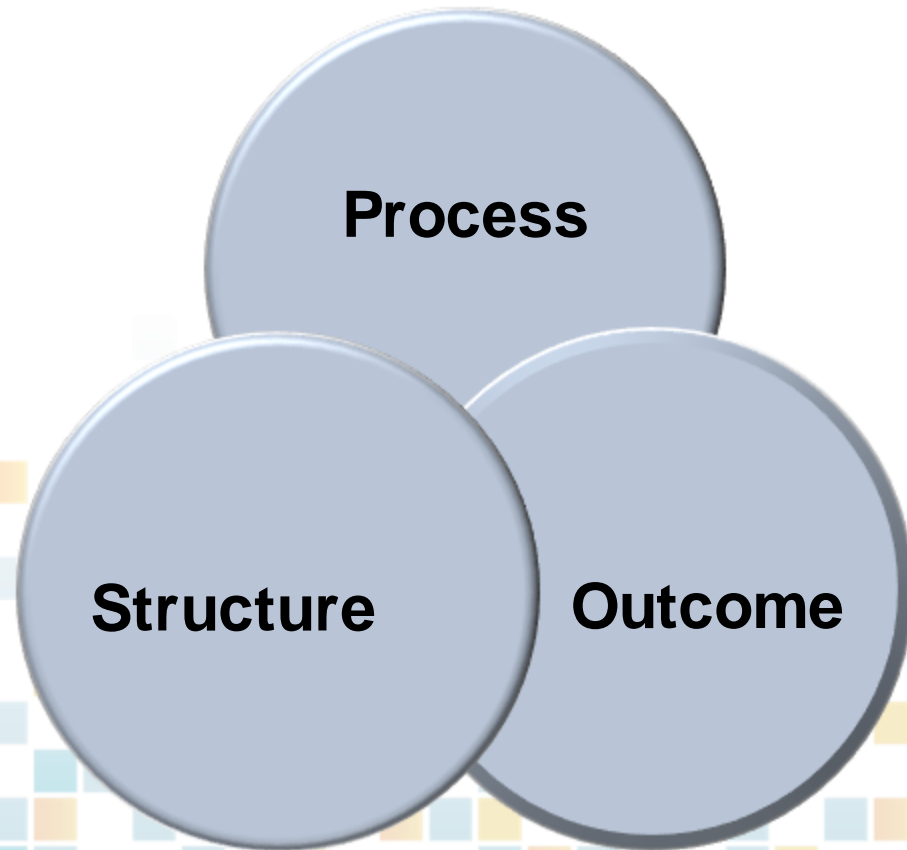
“ In order to know how far we’ve got to go, we first have to establish where we are”



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation



# Quality/Performance Indicators/Measures



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation

# Indicator Selection



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation

# Objective Quality Indicators



# Indicators Pre-Donation

## Outcome

- Higher-risk donor intervention
- Evaluation complications
- Weight loss when indicated prior to donation
- Effectiveness

## Process

- Timeliness of intake and evaluation
- Psychosocial clearance
- Informed consent/education
- Nutrition screening
- Kidney paired donation readiness process
- A2 typed prior to donation
- Donor risk screening
- NAT testing prior to donation
- Referral to evaluation completion
- ILDA documentation

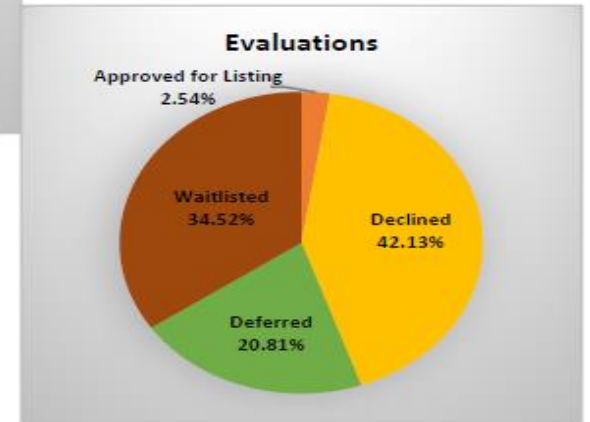
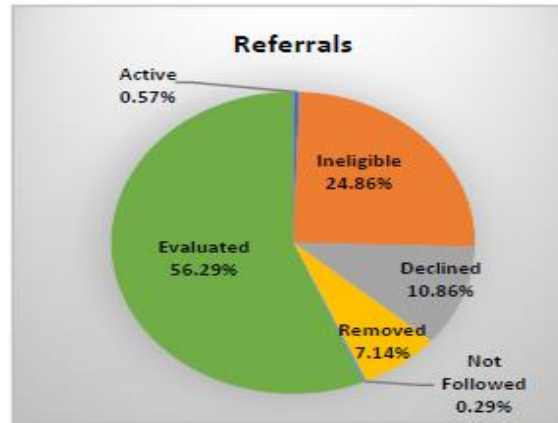
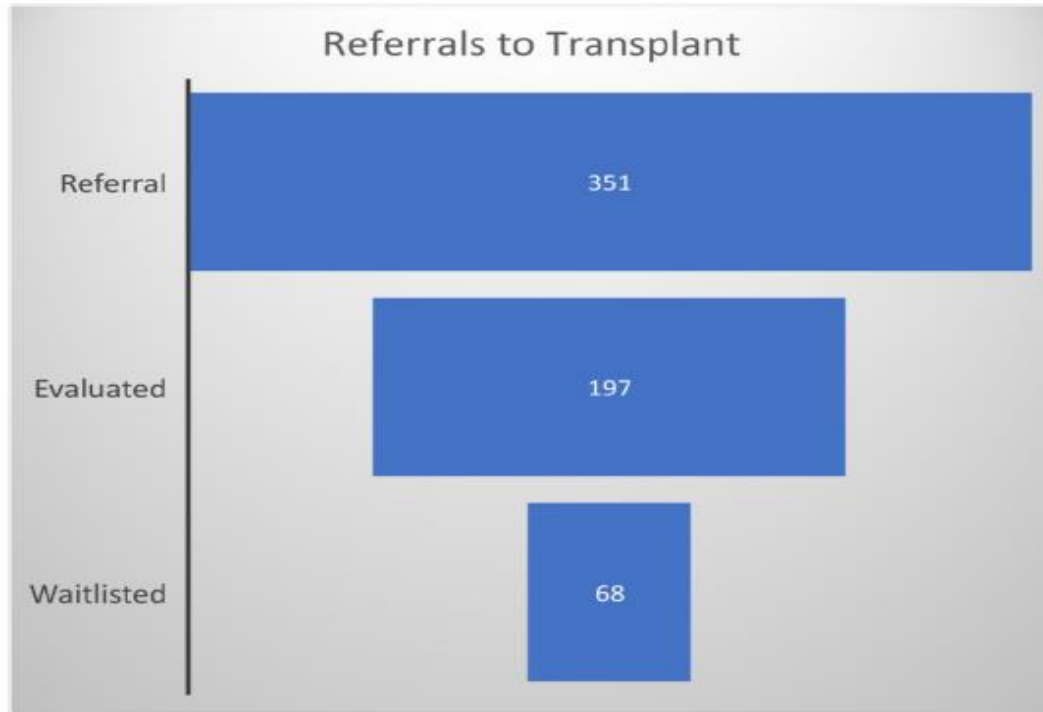


**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Kidney Referrals to Transplant conversion

Patients referred from 4/1/22 to 9/30/22



# Indicators Peri-Donation

## Process

- Final donor and recipient clearance prior to start of either surgery
- ABO verification in the OR
- Timeliness of start of OR

## Outcome

- Conversion to open procedure
- Operative times
- Length of Stay
- Aborted procedure
- Return to the OR
- Blood loss/product use
- Corneal abrasion



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Indicators Post Donation

## Process

- Multidisciplinary team involvement
- ILDA involvement

## Outcome

- Re-admission in 7 and 30 days
- DVT/PR within 30 days
- Infection within 30 days
- Donor death
- Developed hypertension or worsening hypertension in 6 months post donation
- Significant weight gain
- LD f/u 6 mos., 12 mos., 24 mos.
  - Clinical
  - Laboratory



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Quality indicator Definition/Details

Denominator and numerator details

Inclusions and exclusions

Data source and data validation

Sampling criteria

Measurement frequency



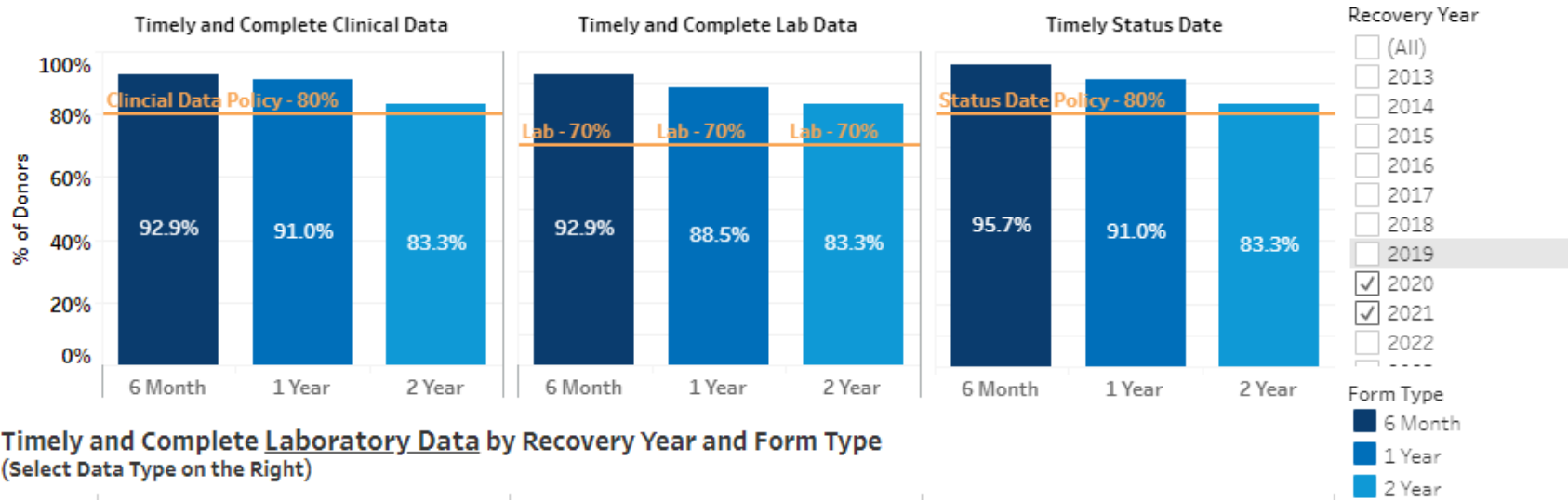
**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

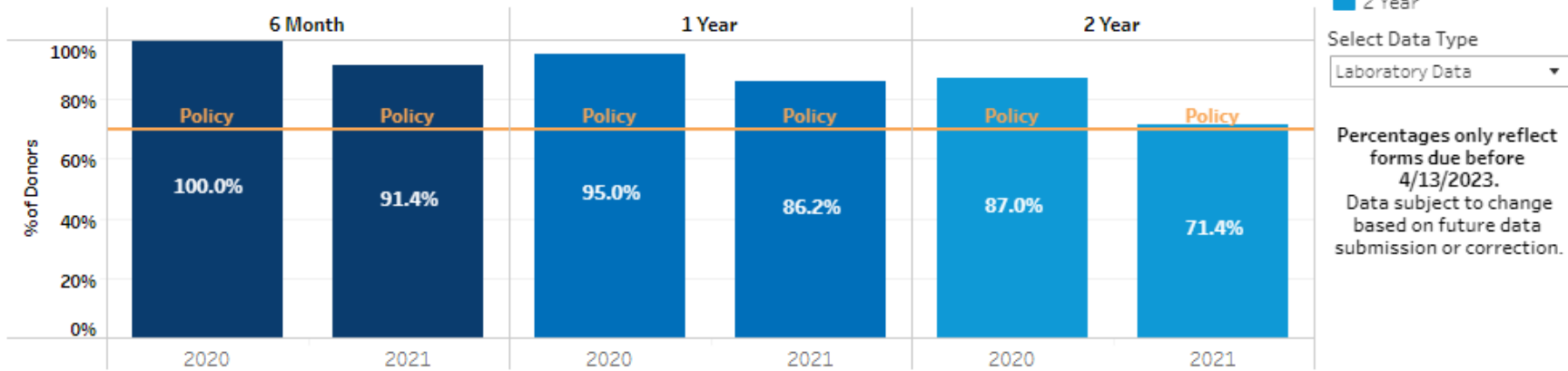


## University of Iowa Hospitals and Clinics Transplant Programs (IAIV) Living Kidney Donor Follow-up Rates for Donors Recovered between 2/1/2013 and 8/4/2022

### Overall Rates by Follow-up Form



### Timely and Complete Laboratory Data by Recovery Year and Form Type (Select Data Type on the Right)



LDF forms due between March 13, 2020 and March 31, 2021 are excluded from the rates above. See Documentation for more information.



## QAPI Dashboard- Kidney LD

	Benchmark Target	FY21 Q4 (Apr-Jun 2021)	FY 22 Q1 (Jul-Sep 2021)	FY 22 Q2 (Oct-Dec 2021)	FY 22 Q3 (Jan-Mar 2022)	FY22 Q4 (Apr-Jun 2022)	FY 23 Q1 (Jul-Sep 2022)	FY 23 Q2 (Oct-Dec 2022)	FY23 Q3 (Jan-Mar 2021)
<b>Pre-Donation: Process</b>									
Referral to ready for scheduling (median)	≤ 30 Days	71	83	55	152	55	69	82	112
<b>Pre-Donation Outcomes</b>									
LD Evaluation clinic volume	Trend	49	52	56	34	41	38	47	46
LD Infectious Disease testing 28 days pre-op	100%	92%	100%	94%	100%	100%	100%	100%	100%
LD Documentation compliance with OPTN 14.4	100%	67%	94%	90%	100%	100%	100%	100%	100%
<b>Donation Episode: Process</b>									
LOS Donation to Discharge ≤ 2 days	100%	92%	79%	93%	93%	71%	92%	75%	92%
VATT blood sample collection	100%	100%	95%	100%	100%	100%	100%	100%	100%
<b>Donation Episode: Outcomes</b>									
Unplanned Return to OR within 30 days of Donation	≤ 15%	0%	0%	0%	0%	14%	0%	0%	0%
<b>Post-Donation: Process</b>									
LDF 6 month completion (clinical)	95%	100%	100%	95%	98%	99%	98%	97%	98%
LDF 12 month completion (clinical)	95%	100%	100%	100%	98%	98%	99%	98%	97%
LDF 24 month completion (clinical)	95%	100%	100%	100%	100%	100%	98%	98%	91%
<b>Post-Transplant: Outcomes</b>									
Readmission 90 days post Discharge	0%	0%	0%	7%	0%	14%	0%	0%	Pending
Volume		12	20	15	14	10	14	11	12



# Benchmarks



- OPTN Data Portal
- Peer reviewed journals
- Hospital compare resources
- Peer to peer compare
- Internal historic data



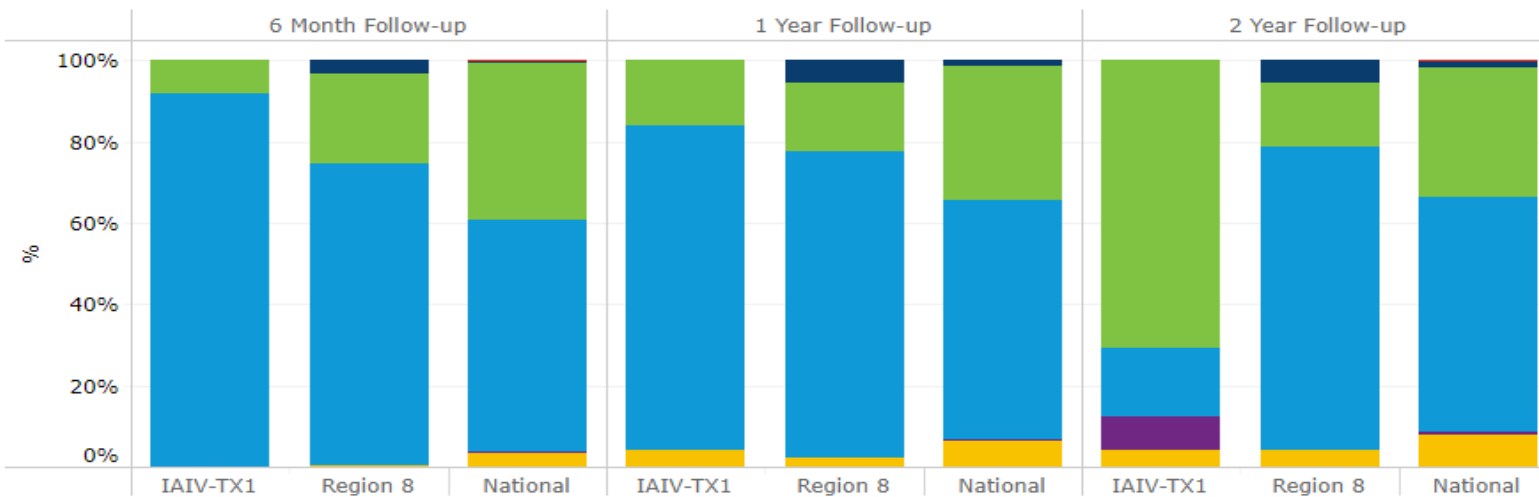
**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

## Living Kidney Donor Outcomes

Completion of Fields on Living Donor Follow-up Forms for IAIV-TX1 Donors Recovered Between 03/01/2020 and 02/01/2021

Proportion of Reported Most Recent Donor Status by Follow-up Period



Select Data to Display

Most Recent Donor Status

Donor Race / Ethnicity

(All)

Donor Age

(All)

Donor BMI

(All)

Donor Gender

(All)

- Deceased
- Living: Declined follow-up
- Living: Seen at TXC
- Living: Status updated else...
- Lost to follow-up
- Not Seen

Follow-up Cohort Selection

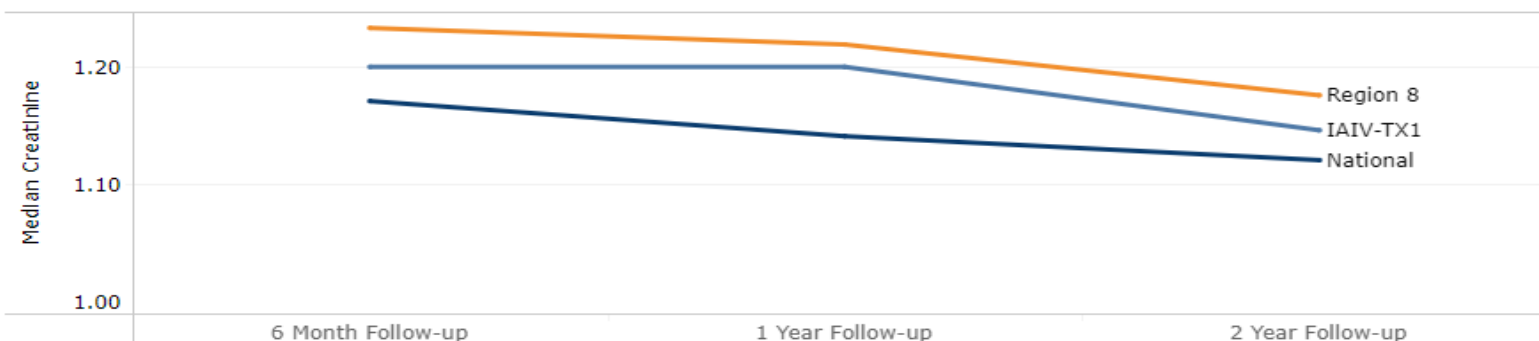
2 Year Follow-up

Patient Status

All Statuses

Based on OPTN data as of 04/07/2023

Median Creatinine by Follow-up Period



# Transplant Comparison by Benchmark Program

Calendar type  
Rolling Year

Comparison Group  
Benchmark Programs

Organ  
(Multiple values)

Age group  
(All)

Donor type  
Living Donor

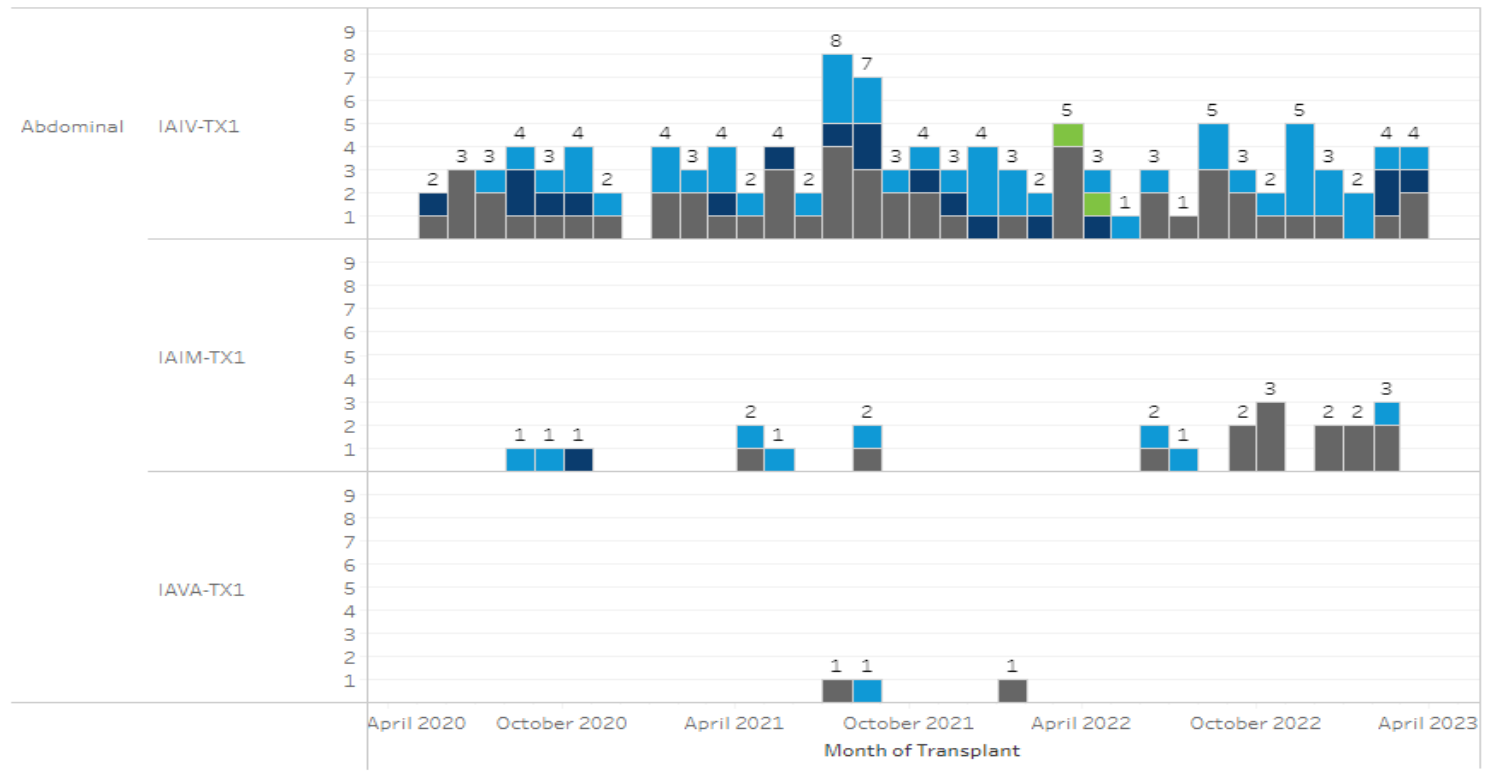
Multi-organ transplant  
No



Benchmark Program

- (All)
- IAIM-TX1
- IAIV-TX1
- IAVA-TX1

Kidney, Pancreas



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation

# Transplant Hospital for Recipients Residing in Nearby States

**Calendar Type**  
Rolling Year

**Year**  
 (All)  
 04/01/2020 - 03/31/2021  
 04/01/2021 - 03/31/2022  
 04/01/2022 - 03/31/2023

**Comparison group**  
Recipients residing in states that border your hospital's state

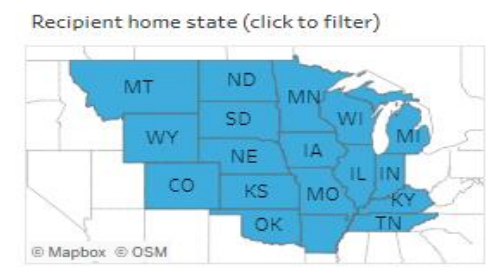
**Organ**  
Kidney

**Age group**  
(All)

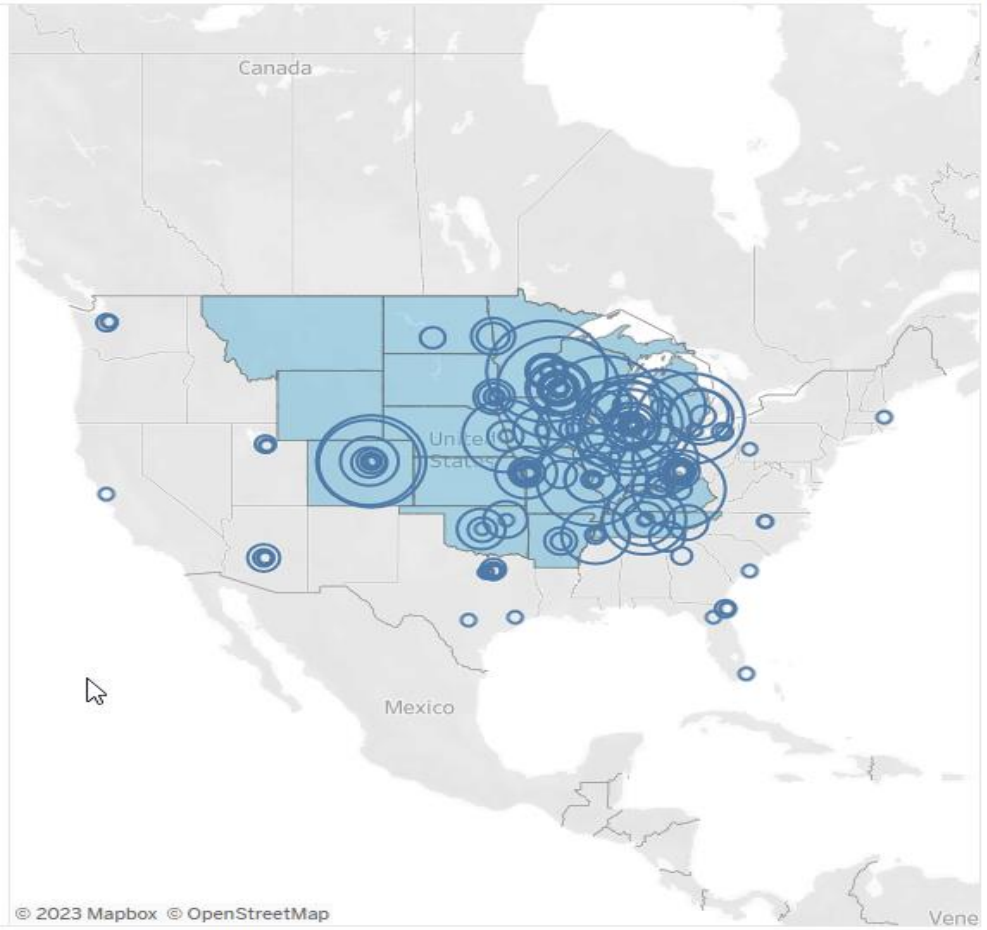
**Donor Type**  
Living Donor

**Multi-organ transplant**  
No

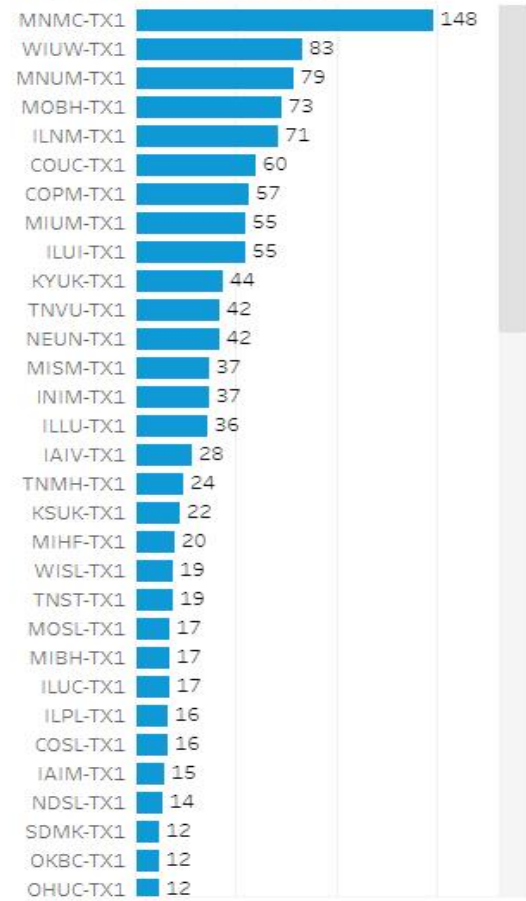
**Show map by:**  
Single map



Kidney



Number of Transplants Recipients from nearby states





Research

## Survey of Living Organ Donors' Experience and Directions for Process Improvement

Timmy Li, BA<sup>1,2</sup>, M. Katherine Dokus, MPH<sup>3,4</sup>, Kristin N. Kelly, MD<sup>3</sup>, Nene Ugoeke, MD<sup>1</sup>, James R. Rogers, BS, BA<sup>5</sup>, George Asham, BS<sup>1,6</sup>, Venkatesh Abhishek Sharma, BA<sup>4,5</sup>, Dominic J. Cirillo, MD, PhD<sup>1</sup>, Mary K. Robinson, NP<sup>4,7</sup>, Erika K. Venniro, PA<sup>4,7</sup>, Jeremy G. Taylor, MD<sup>4,7</sup>, Mark S. Orloff, MD<sup>3,4</sup>, Scott McIntosh, MA, PhD<sup>1</sup>, and Randeep Kashyap, MD, MPH<sup>3,4</sup>

**Introduction:** Understanding living organ donors' experience with donation and challenges faced during the process is necessary to guide the development of effective strategies to maximize donor benefit and increase the number of living donors.


**Methods:** An anonymous self-administered survey, specifically designed for this population based on key informant interviews, was mailed to 426 individuals who donated a kidney or liver at our institution. Quantitative and qualitative methods including open and axial coding were used to analyze donor responses.

**Findings:** Of the 141 survey respondents, 94% would encourage others to become donors; however, nearly half (44%) thought the donation process could be improved and offered numerous suggestions. Five major themes arose: (1) desire for greater convenience in testing and scheduling; (2) involvement of previous donors throughout the process; (3) education and promotion of donation through social media; (4) unanticipated difficulties, specifically pain; and (5) financial concerns.

**Discussion:** Donor feedback has been translated into performance improvements at our hospital, many of which are applicable to other institutions. Population-specific survey development helps to identify vital patient concerns and provides valuable feedback to enhance the delivery of care.

### Keywords

survey studies, patient satisfaction, quality improvement, living donor transplant

- 
- Themes:
  - Greater convenience in testing and scheduling
  - Involvement of previous donors in the process
  - Education and promotion of donation through social media
  - Unanticipated difficulties, specifically pain
  - Financial concerns





# Terminology

## Quality Control

- Relates to monitoring & compliance
- Reactive - works on problems after they occur
- Led by management
- It GUARANTEES quality
- Asks if standards were met?
- Are deficiencies corrected?

## Quality Improvement

- Relates to learning and improvement
- Proactive – works on processes before problems occur
- Relies on measurement
- Data-driven decisions
- Led by staff – team effort
- Continuous
- Errors seen as opportunities for learning



14th Annual Living Donation Conference

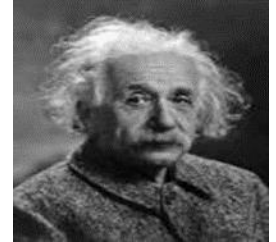
Presented by the American Foundation for Donation and Transplantation

# Performance Measures & Performance Improvement

Reason for Performance Measure	Improvement Plan Status
Determining baseline	Conceptually committed to improvement work if baseline not satisfactory
Monitoring effect of change for improvement	Suggests a documented improvement strategy is actively in progress – PDSA cycles
Assessing sustained improvement	Retired improvement project/moved to monitoring phase



Doing the same thing over and over and over again and expecting a different result is the definition of insanity.



Improvement can  
only occur through  
change

Not every change is  
an improvement



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Quality Improvement

A comprehensive approach to ensuring high quality care

- Full spectrum of living donation services

Objective and proactive approach to improving the quality of care and services provided to patients

- Data driven

Identifies opportunities for improvement

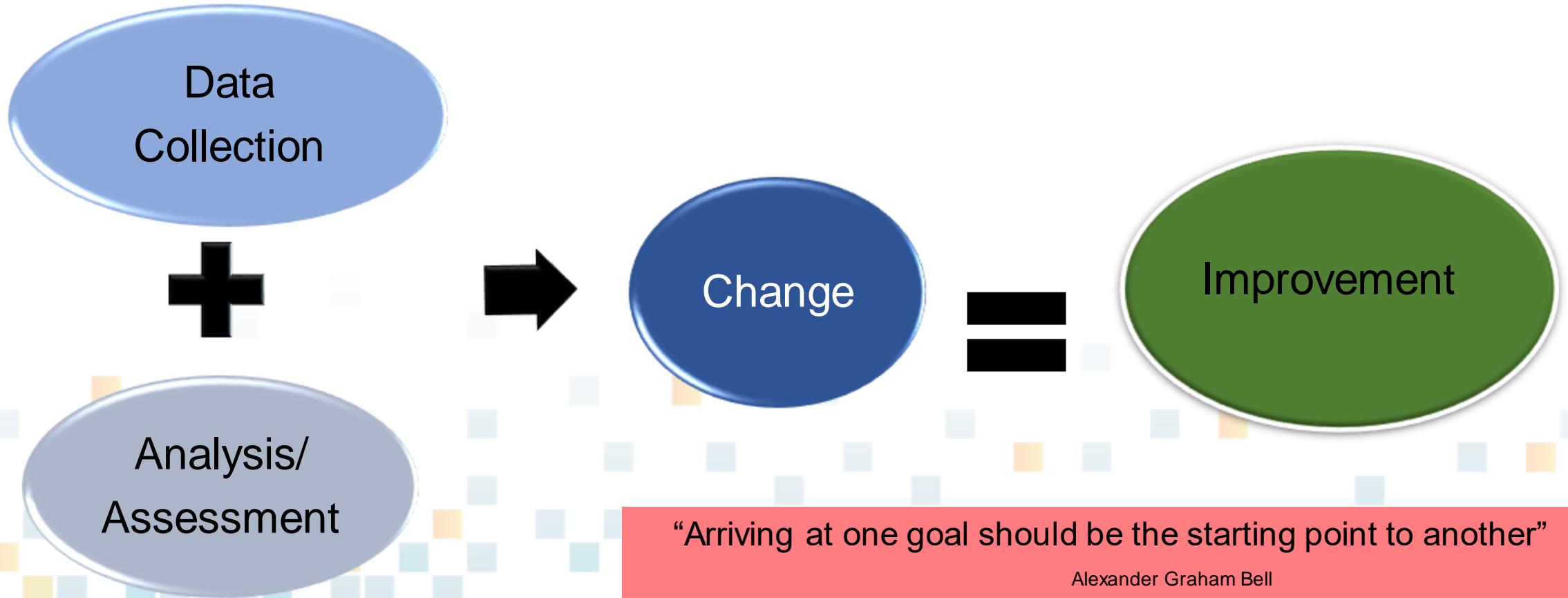
- Addresses gaps in systems or processes

Develops or implements an improvement or corrective plan

Continuously monitors effectiveness of interventions



# Cycle of Continuous Improvement



“Arriving at one goal should be the starting point to another”

Alexander Graham Bell

# Questions?



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation

# References

Graham, Judi M., and Aisling E. Courtney. "The Adoption of a One-Day Donor Assessment Model in a Living Kidney Donor Transplant Program: A Quality Improvement Project." *American journal of kidney diseases* 71.2 (2018): 209–215. Web.

Knoll, Greg A. et al. "Measuring Quality in Living Donation and Kidney Transplantation: Moving Beyond Survival Metrics." *Kidney international* 98.4 (2020): 860–869. Web.

Li, T., Dokus, M. K., Kelly, K. N., Ugoeke, N., Rogers, J. R., Asham, G., Sharma, V. A., Cirillo, D. J., Robinson, M. K., Venniro, E. K., Taylor, J. G., Orloff, M. S., McIntosh, S., & Kashyap, R. (2017). Survey of Living Organ Donors' Experience and Directions for Process Improvement. *Progress in Transplantation*, 27(3), 232–239. <https://doi.org/10.1177/1526924817715467>

Living Kidney Donor Follow-Up: State-of-the-Art and Future Directions, Conference Summary and Recommendations. *American Journal of Transplantation*, Volume 11, Issue 12, 2561 – 2568



**14th Annual Living Donation Conference**

Presented by the American Foundation for Donation and Transplantation

# Session Survey

Gwen McNatt, APRN, PhD, CNN, FNP-BC, FAAN | April 20<sup>th</sup> 11:00 AM-11:30 AM



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation