



SCIENTIFIC REGISTRY OF
TRANSPLANT RECIPIENTS

Knowing is Half the Battle: Using SRTR Data to Monitor OPO Program Performance

TODAY'S PANELISTS



Jon Snyder, PhD, MS

Director, SRTR

Director of Transplant Epidemiology,



HennepinHealthcare
Research Institute



Jon Miller, PhD, MPH

Biostatistician



*Equipping a Modern Profession of Lifesavers
in Organ Donation & Transplantation*

Thursday, April 11, 2024, 2:00pm – 3:00pm ET

The Alliance is not an advocacy organization and always intends to maintain an objective and unbiased perspective.

Meet Our Moderators



Kristina Wheeler
Program Consultant



Need Assistance?

Contact Us via Zoom Chat, or
info@organdonationalliance.org
786-866-8730



Katie McKee
Transplant Administrator



Tom Levanos
Director, Business Intelligence
and Performance Excellence



Meet Our Speakers



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Chronic Disease Research Group





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RECIPIENTS

Using SRTR Data to Monitor OPO Program Performance

Jon Snyder, PhD

Director, Scientific Registry of Transplant Recipients
Director, Transplant Epidemiology
Chronic Disease Research Group
Hennepin Healthcare Research Institute

April 11, 2024

Disclosures



The views expressed do not necessarily reflect the official policies of the U.S. Department of Health and Human Services nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

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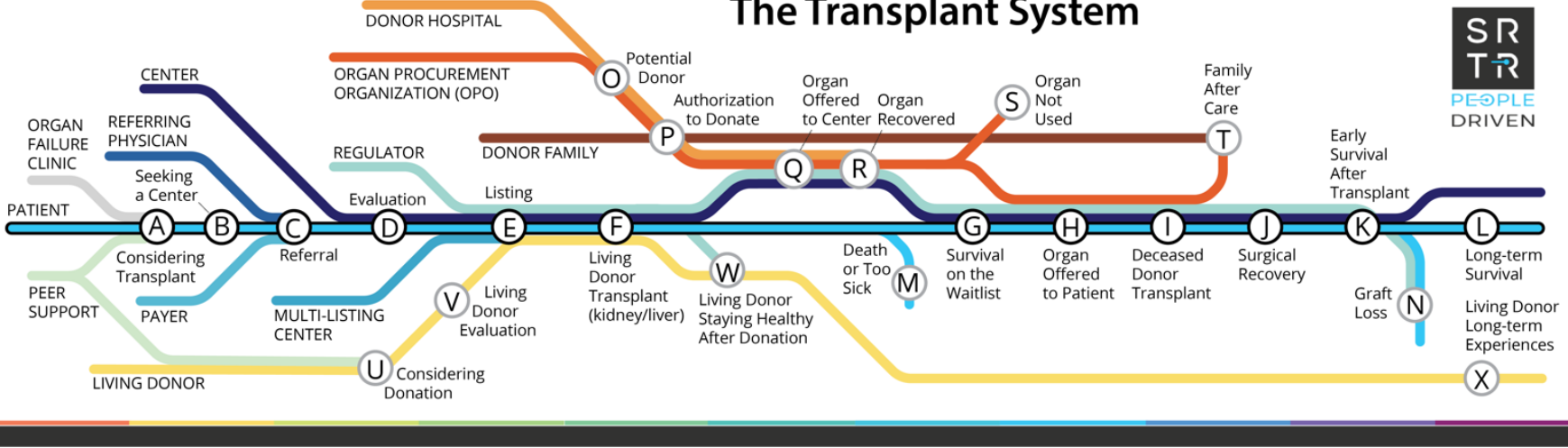


Presentation Goals

- International Performance
- National Performance
- OPO Performance
- Helpful Tools

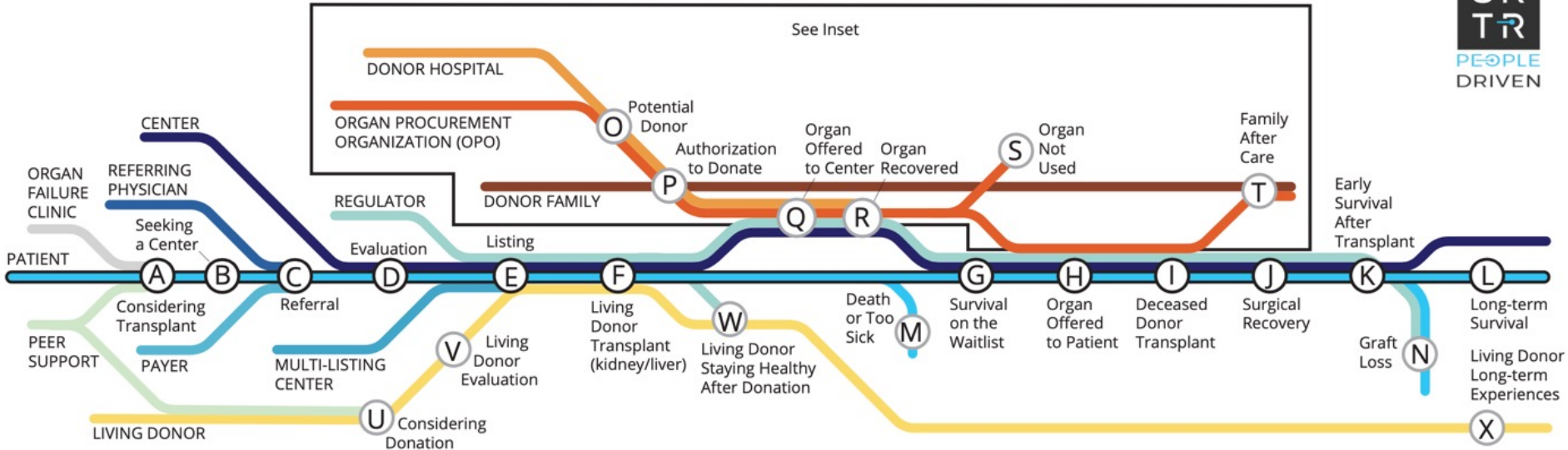
The Transplant System Map

The Transplant System



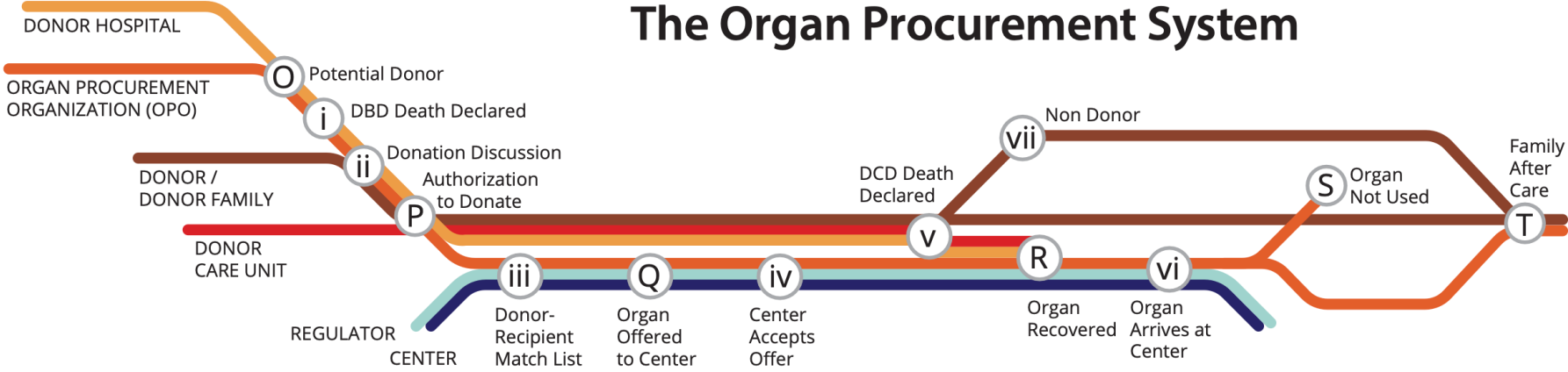
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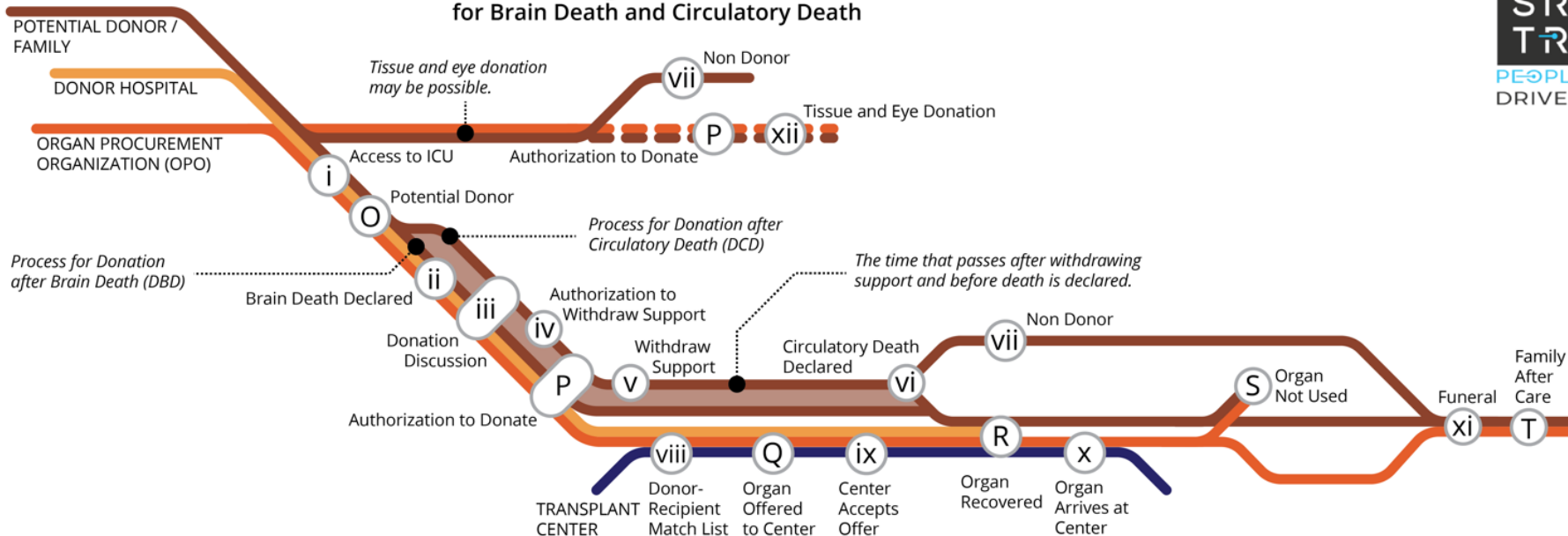


The Organ Procurement System

The Organ Procurement System

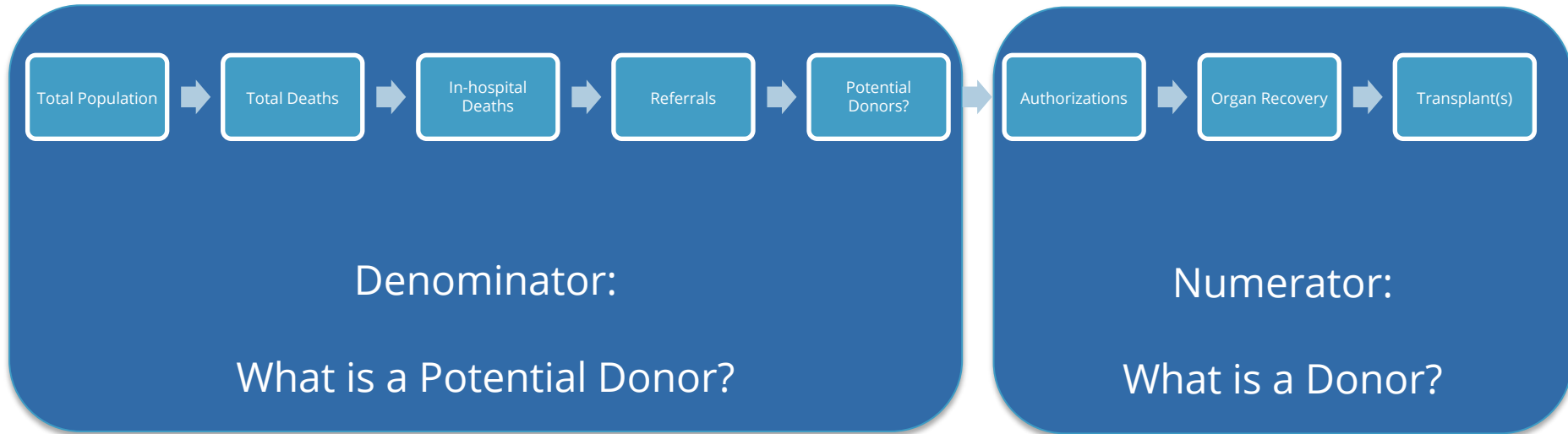


The Organ Procurement Process for Brain Death and Circulatory Death



version 3/21/2024

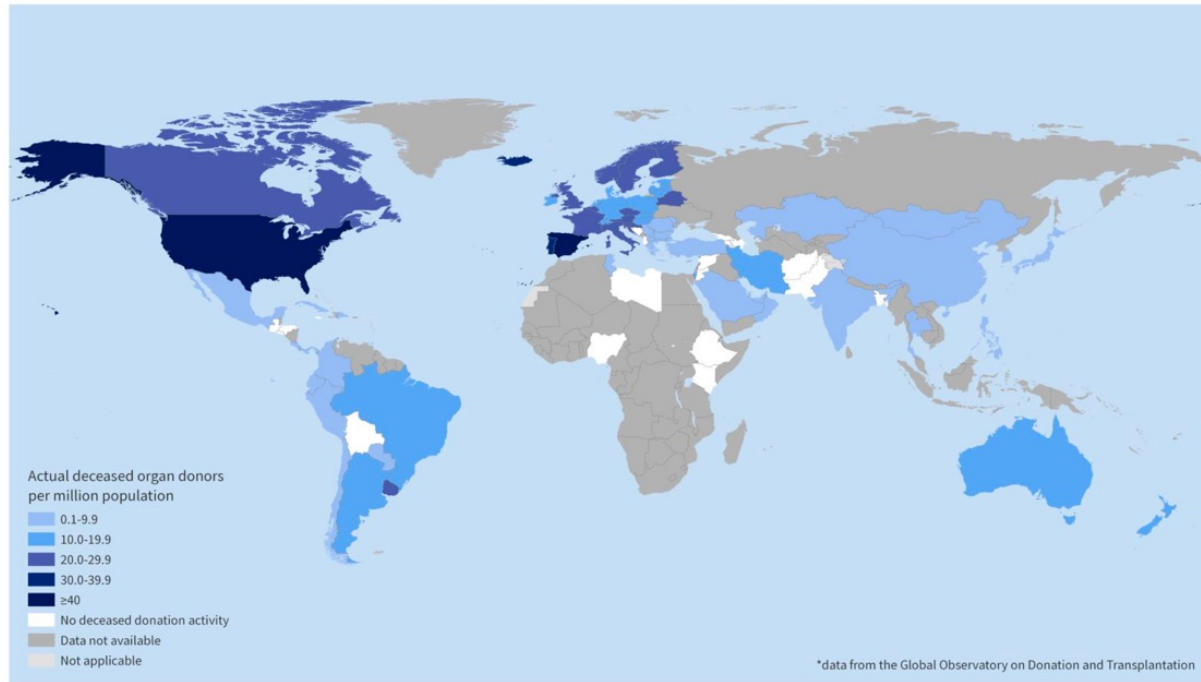
The Process Points Towards Metrics of Importance



How are we doing globally?



Actual donors from deceased persons, 2022*



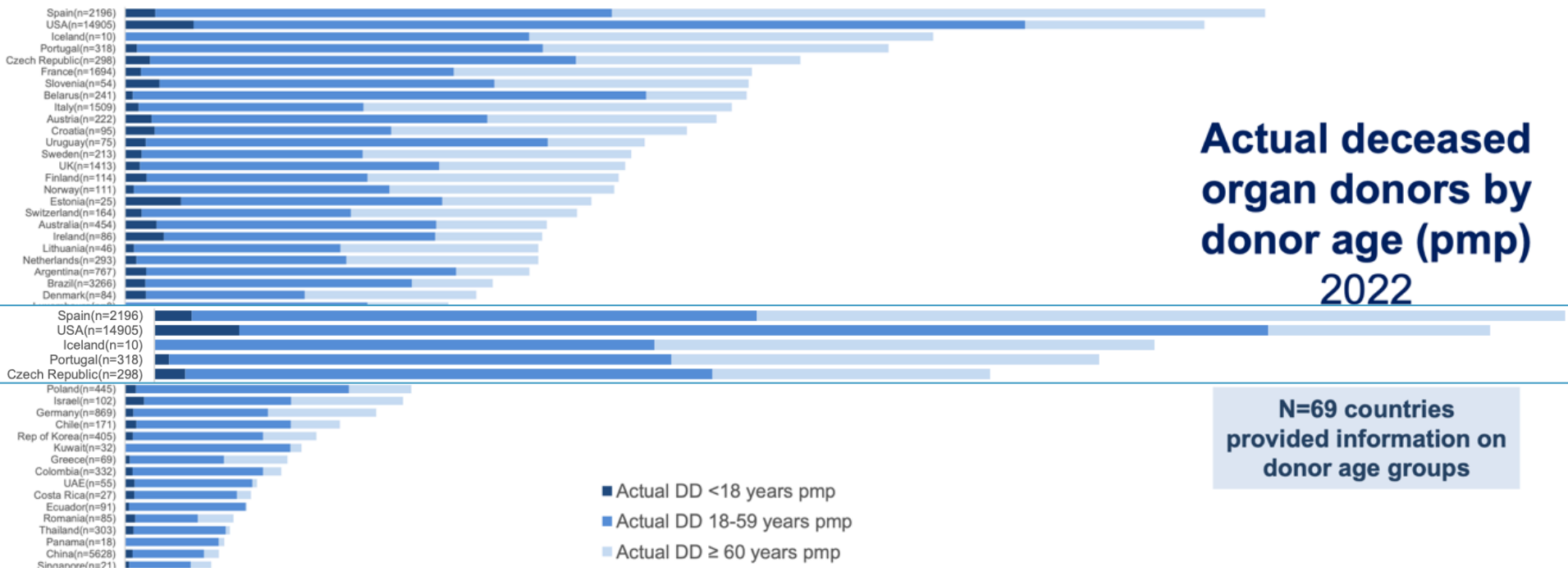
The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: Global Observatory on Donation and Transplantation
Map Production: WHO GIS Centre for Health, DNA/DDI
Map Creation Date: 04 September 2023

 World Health Organization
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Source: https://www.transplant-observatory.org/wp-content/uploads/2016/02/2022-data-global-report_VF_2.pdf

Actual deceased organ donors by donor age (pmp) 2022



N=69 countries provided information on donor age groups

Source: https://www.transplant-observatory.org/wp-content/uploads/2016/02/2022-data-global-report_VF_2.pdf

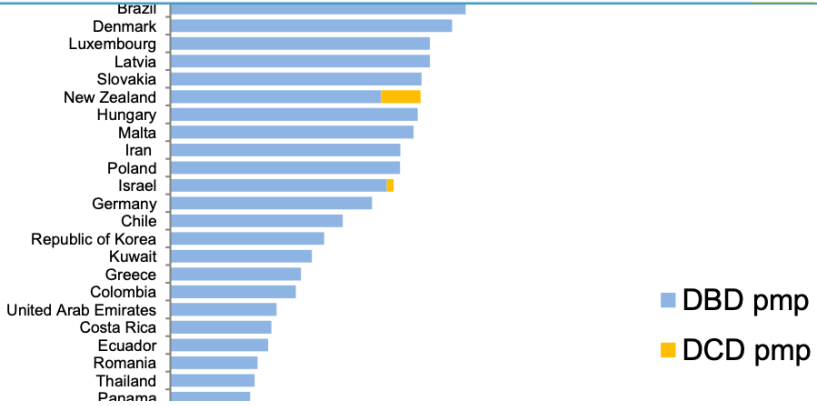
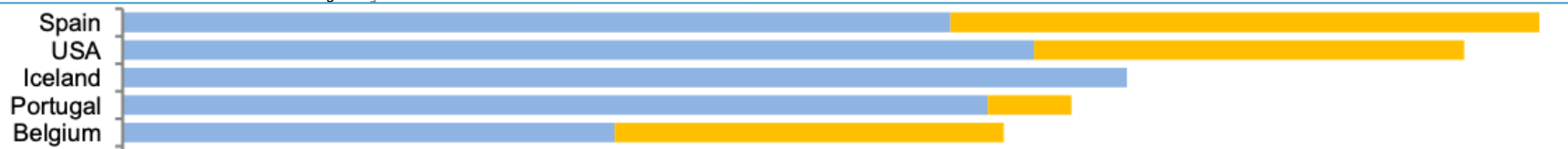
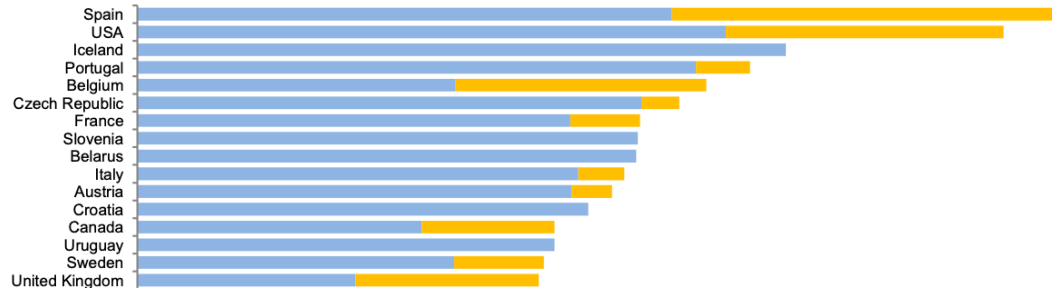
■ Actual DD 18-59 years pmp

■ Actual DD ≥ 60 years pmp

■ Actual DD <18 years pmp

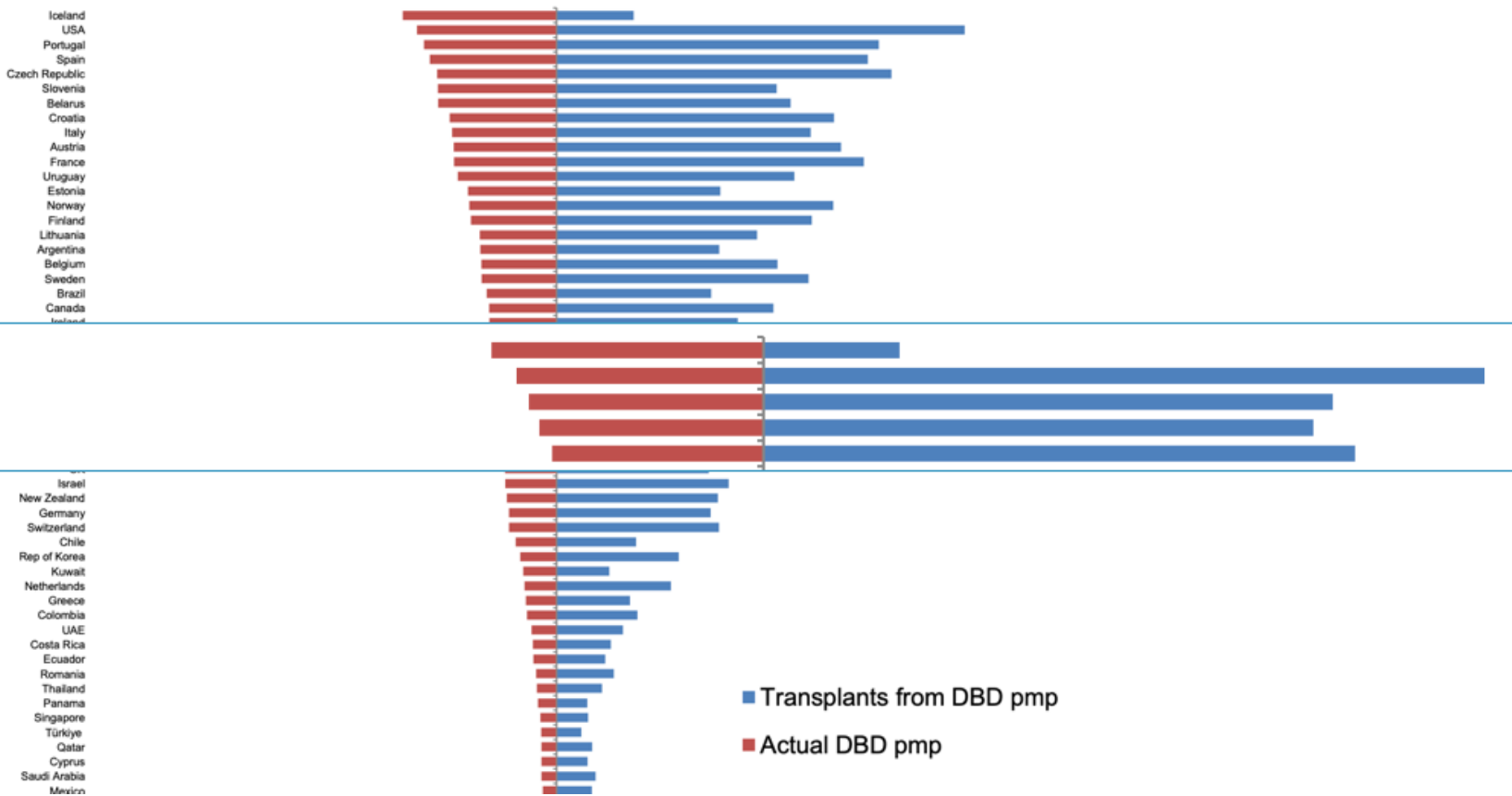
Spain(n=2196)
USA(n=14905)

Source: https://www.transplant-observatory.org/wp-content/uploads/2016/02/2022-data-global-report_VF_2.pdf

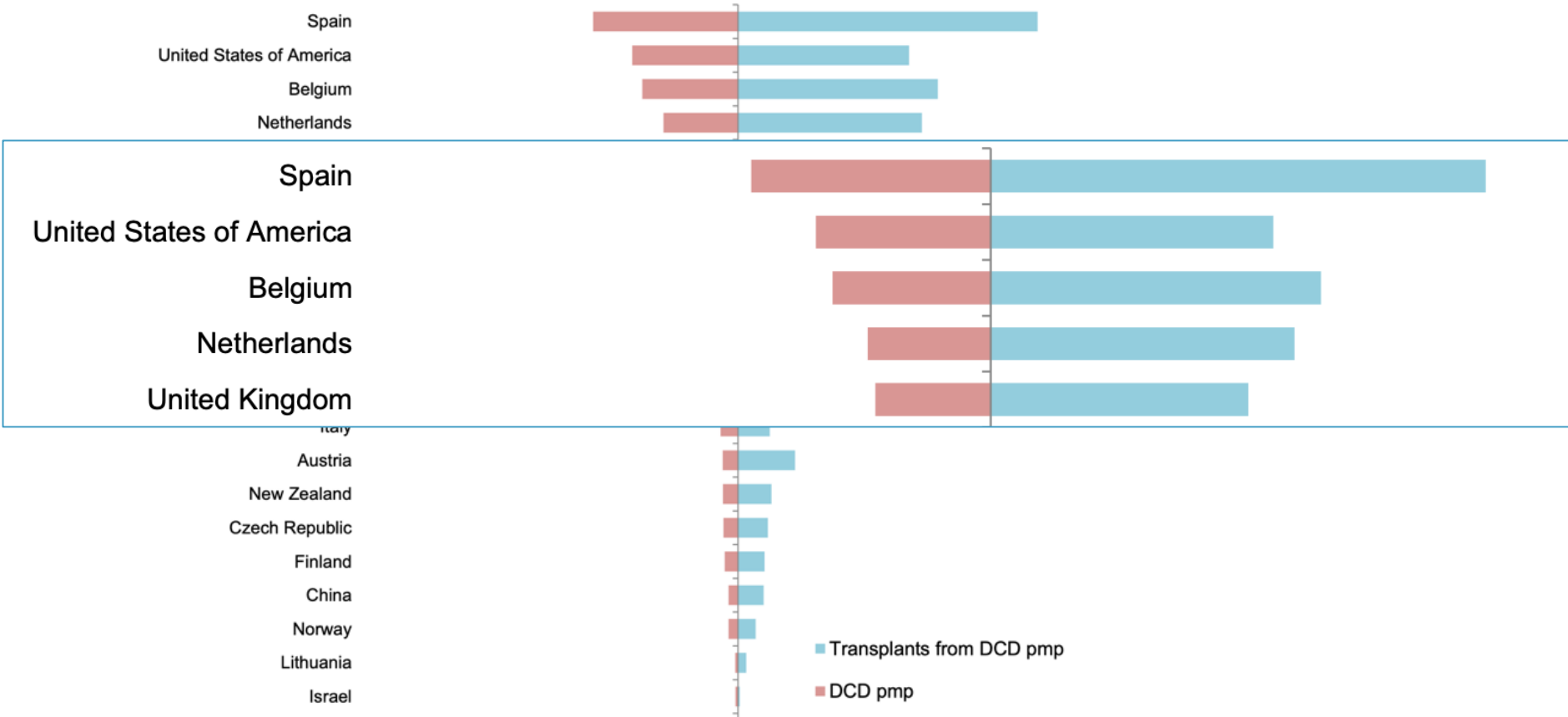


■ DBD pmp
■ DCD pmp

Source: https://www.transplant-observatory.org/wp-content/uploads/2016/02/2022-data-global-report_VF_2.pdf

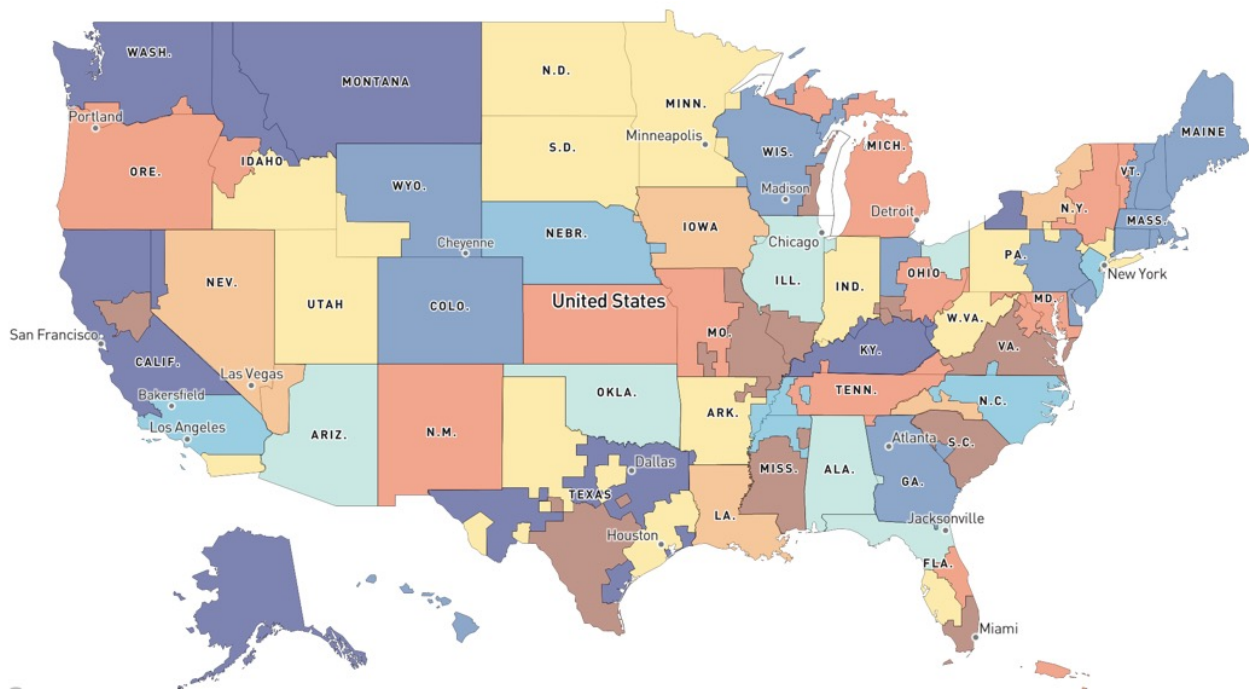


Source: https://www.transplant-observatory.org/wp-content/uploads/2016/02/2022-data-global-report_VF_2.pdf



Source: https://www.transplant-observatory.org/wp-content/uploads/2016/02/2022-data-global-report_VF_2.pdf

How are we doing nationally?





Select Organ

Search by Postal Code or Program Name (optional)

SEARCH

ABOUT SRTR

ABOUT THE DATA

REPORTS

TOOLS

NEWS & MEDIA

REQUESTING SRTR DATA

FAQS

CONTACT US

Now Live | The Donation and Transplant System Explorer
Explore various trends in the donation and transplantation system.

EXPLORE TOOL





FIND & COMPARE TRANSPLANT PROGRAMS

Select Organ

Search by Postal Code or Program Name (optional)

SEARCH

Now Live | The Donor
Explore various trends in



- Risk Adjustment Models
- Posttransplant Outcomes
- Waiting List
- Offer Acceptance
- Deceased Donor Yield
- Mortality After Listing
- Kidney Transplant Decision Aid
- Liver Waiting List Outcomes Calculator
- Acuity Circles Evaluation
- COVID-19 Evaluation
- Donation and Transplantation Analytics
- Donation and Transplant System Explorer

EXPLORE TOOL

System Explorer
Transplantation system.



Select an Organ

All Organs

Select a Rolling Window (Days)

365

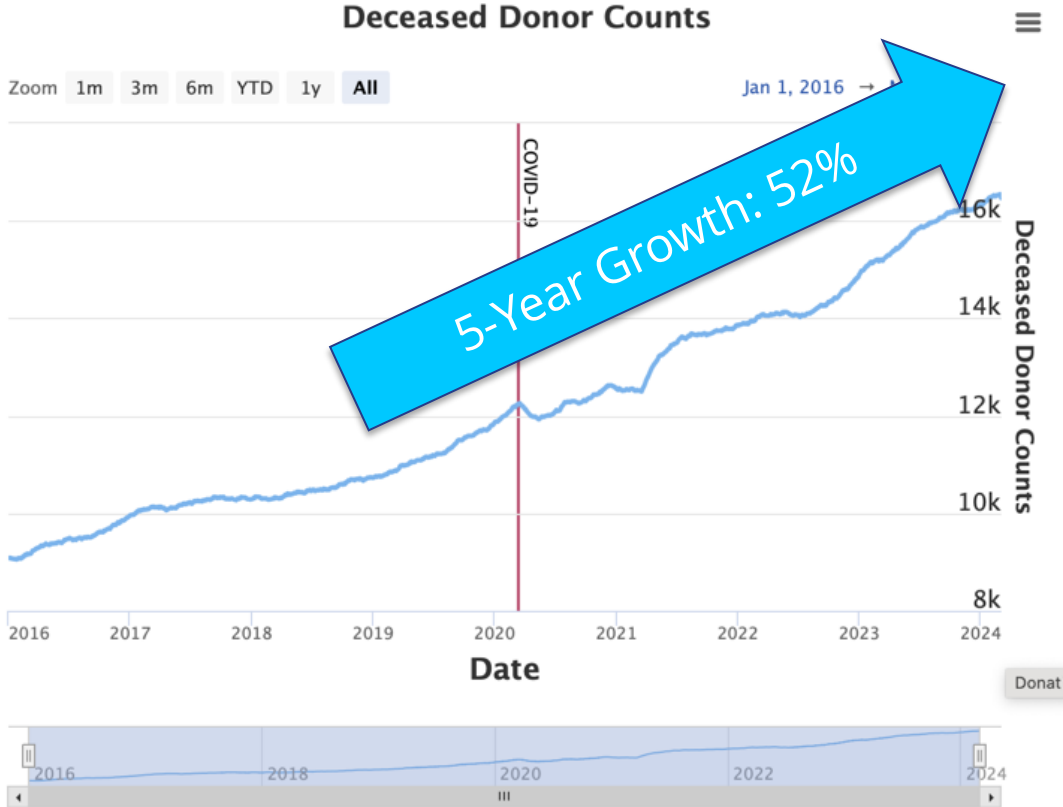
Select a Metric

Deceased Donor Counts

Select a Stratification

Overall

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).



Select an Organ

All Organs

Select a Rolling Window (Days) i

365

Select a Metric

Deceased Donor Counts

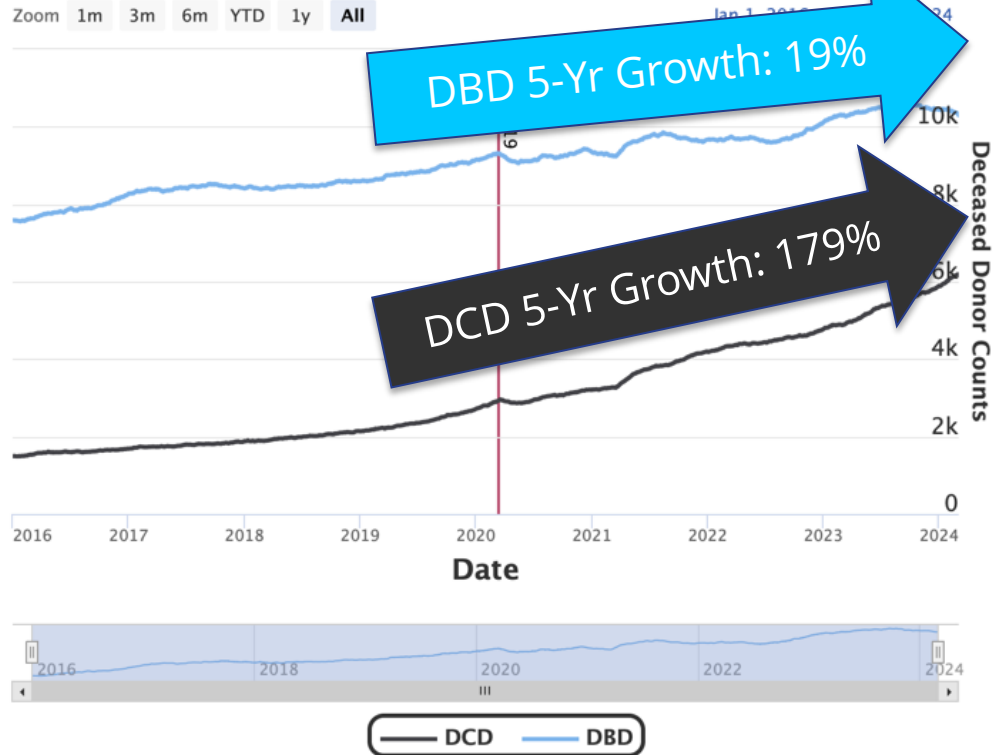
Select a Stratification

DCD vs DBD

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).

DCD vs DBD: Donation After Circulatory Death (DCD) or Donation After Brain Death (DBD).

Deceased Donor Counts



Select an Organ

All Organs

Select a Rolling Window (Days)

365

Select a Metric

Deceased Donor Counts

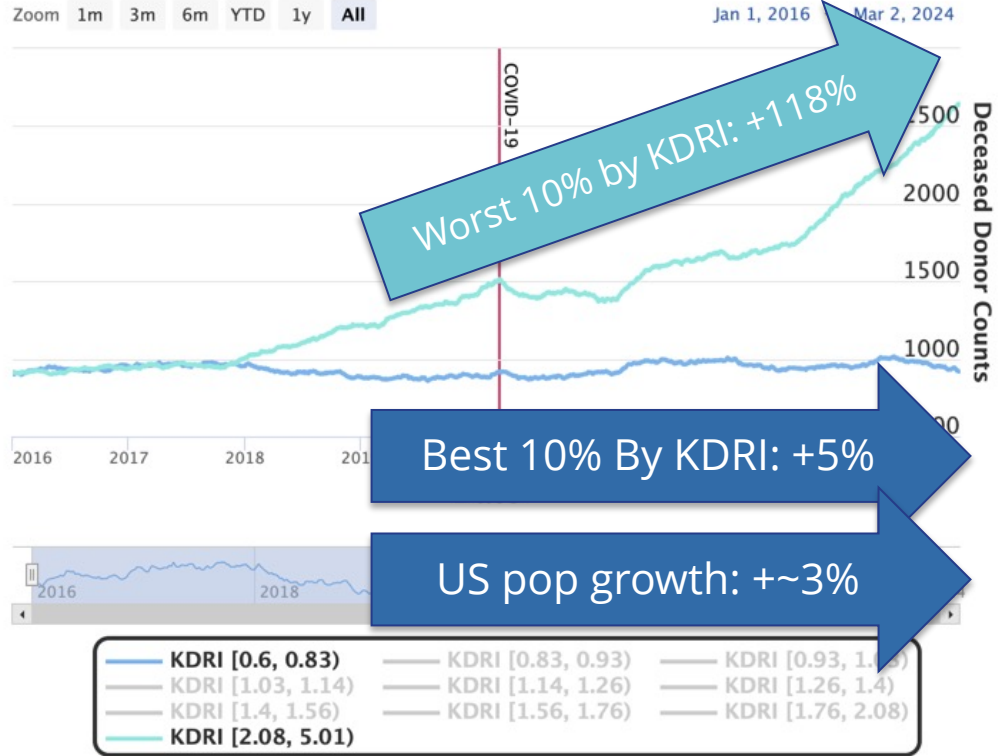
Select a Stratification

KDRI Decile

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).

KDRI Decile: Kidney Donor Risk Index (KDRI). Deciles were determined based on the first year of data in this trend.

Deceased Donor Counts



Select an Organ

All Organs

Select a Rolling Window (Days)

365

Select a Metric

Deceased Donor Counts

Select a Stratification

KDRI Decile

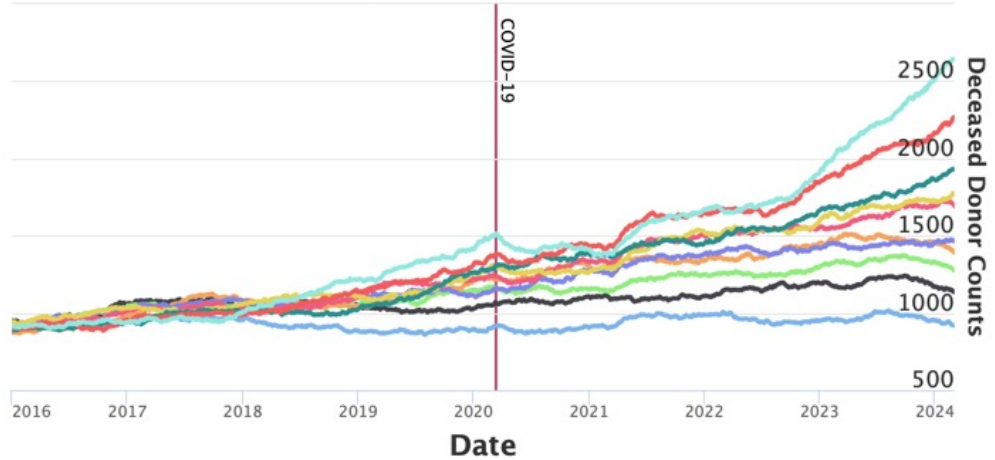
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Deceased Donor Counts

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 → Mar 2, 2024



Select an Organ

All Organs

Select a Rolling Window (Days) i

365

Select a Metric

Deceased Donor Counts

Select a Stratification

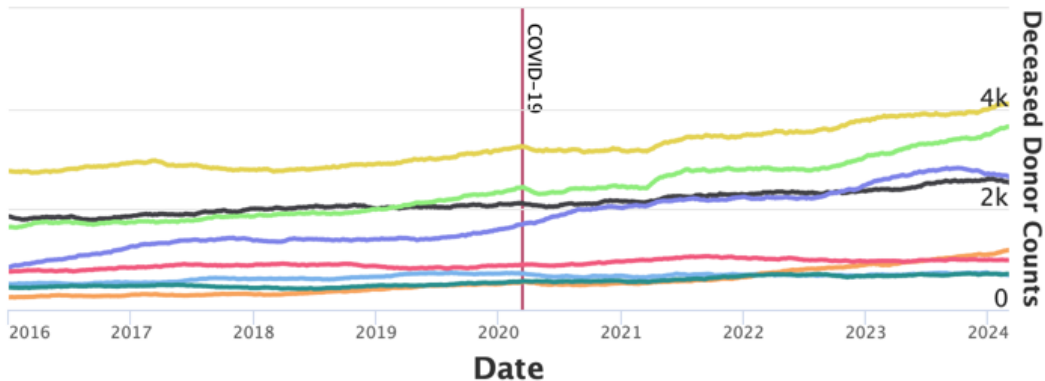
Donor Death Mechanism

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).

Deceased Donor Counts

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 → Mar 2, 2024



- ASPHYXIATION
- BLUNT INJURY
- CARDIOVASCULAR
- DEATH FROM NATURAL CAUSES
- DRUG INTOXICATION
- GUNSHOT WOUND
- INTRACRANIAL HEMORRHAGE/STROKE
- OTHER

Select an Organ

All Organs

Select a Rolling Window (Days) ?

365

Select a Metric

Deceased Donor Counts

Select a Stratification

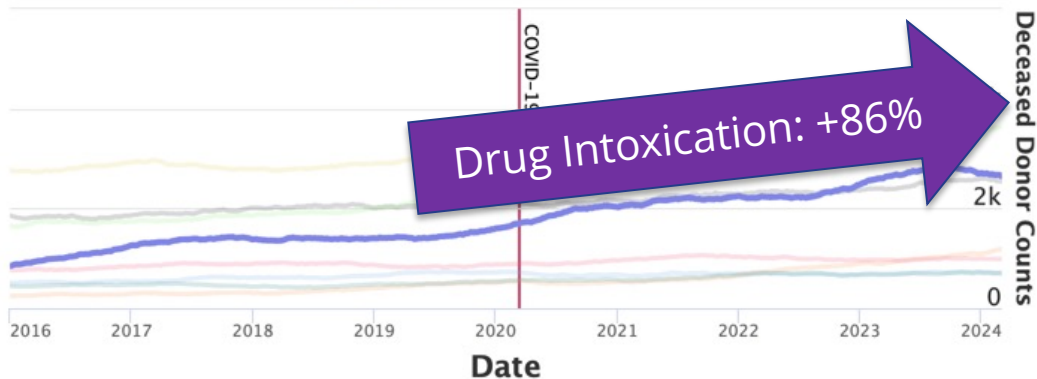
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Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).

Deceased Donor Counts

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 → Mar 2, 2024



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- OTHER

Select an Organ

All Organs

Select a Rolling Window (Days) i

365

Select a Metric

Deceased Donor Counts

Select a Stratification

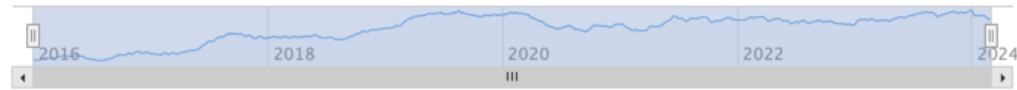
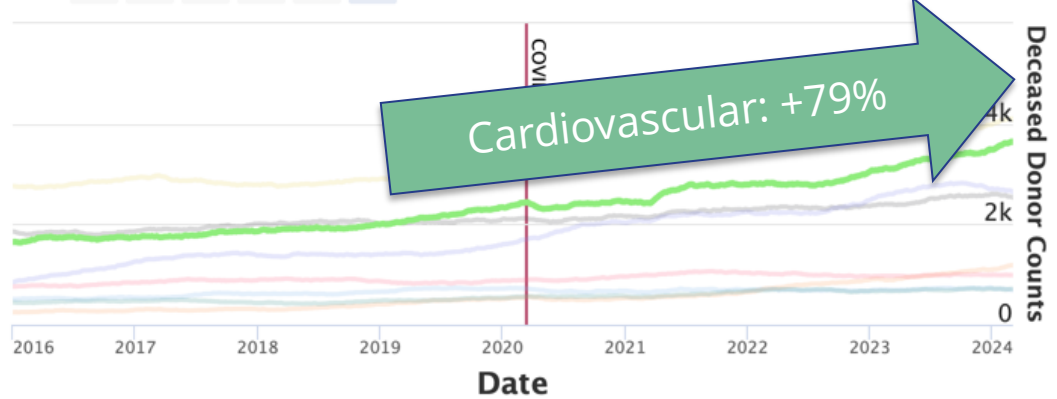
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Deceased Donor Counts

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 → Mar 2, 2024



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- BLUNT INJURY
- CARDIOVASCULAR
- DEATH FROM NATURAL CAUSES
- DRUG INTOXICATION
- GUNSHOT WOUND
- INTRACRANIAL HEMORRHAGE/STROKE
- OTHER

Select an Organ

All Organs

Select a Rolling Window (Days) ?

365

Select a Metric

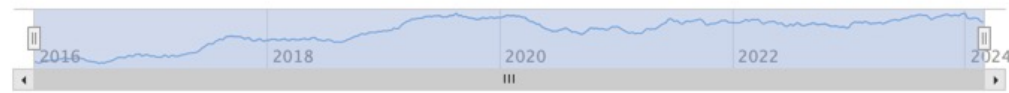
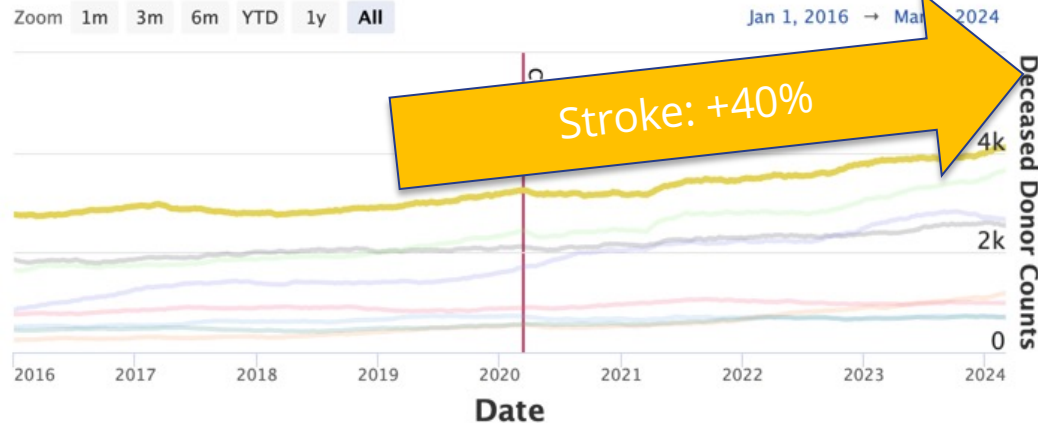
Deceased Donor Counts

Select a Stratification

Donor Death Mechanism

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).

Deceased Donor Counts



- ASPHYXIATION
- BLUNT INJURY
- CARDIOVASCULAR
- DEATH FROM NATURAL CAUSES
- DRUG INTOXICATION
- GUNSHOT WOUND
- INTRACRANIAL HEMORRHAGE/STROKE
- OTHER

Select an Organ

All Organs

Select a Rolling Window (Days) ⓘ

365

Select a Metric

Deceased Donor Counts

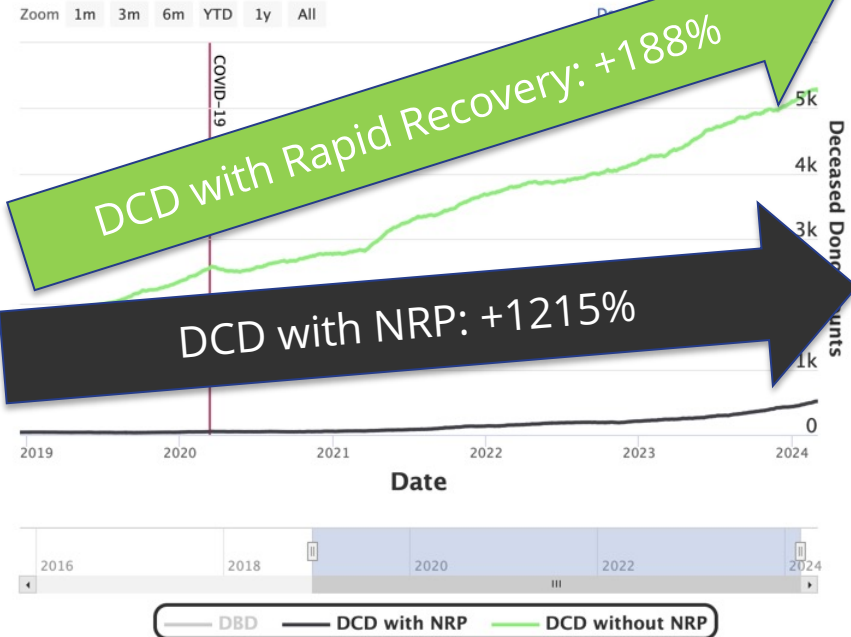
Select a Stratification

Normothermic Regional Perfusion (NRP)

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).

Normothermic Regional Perfusion (NRP): NRP is not directly reported to the OPTN. NRP is inferred if the time from declaration of death to cross clamp is longer than 30 minutes for DCD donors.

Deceased Donor Counts



Select an Organ

All Organs

Select a Rolling Window (Days) i

365

Select a Metric

Proportion with Machine Perfusion

Select a Stratification

Organ

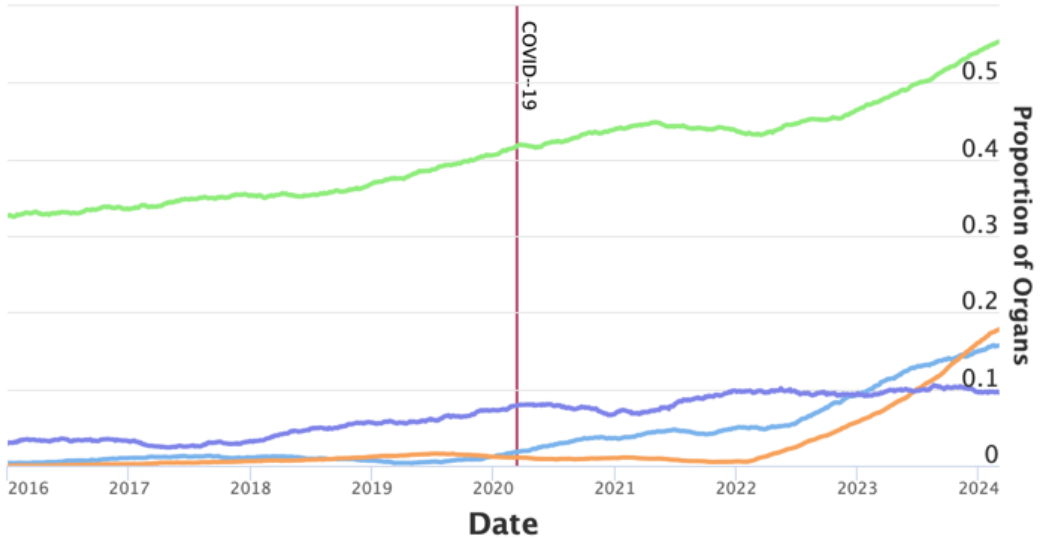
Proportion with Machine Perfusion:

The proportion of organs recovered for the purpose of transplant (disposition code 5 or 6) that underwent machine perfusion.

Proportion with Machine Perfusion

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 → Mar 2, 2024



Select an Organ

All Organs

Select a Rolling Window (Days)

365

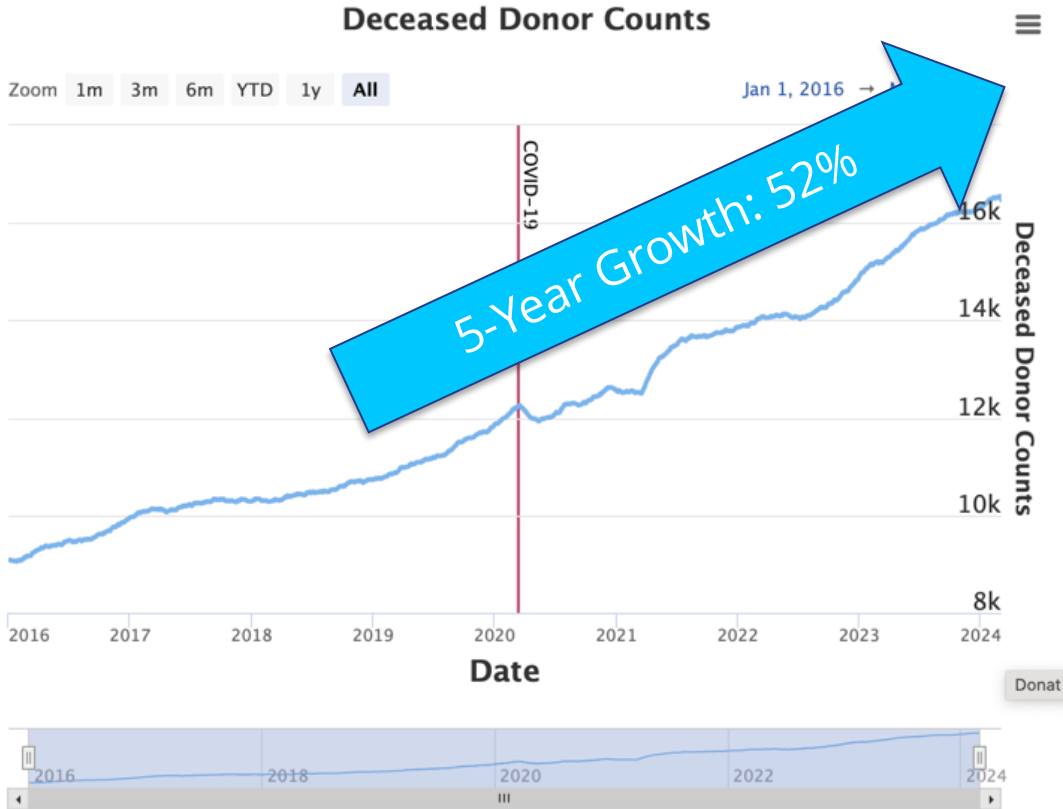
Select a Metric

Deceased Donor Counts

Select a Stratification

Overall

Deceased Donor Counts: A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6).



Select an Organ

All Organs

Select a Rolling Window (Days) i

365

Select a Metric

Transplant Recipient Registrations

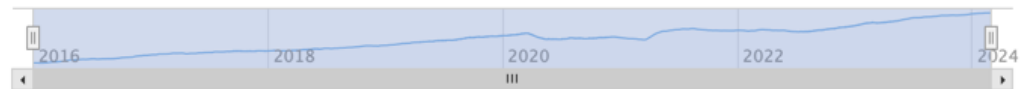
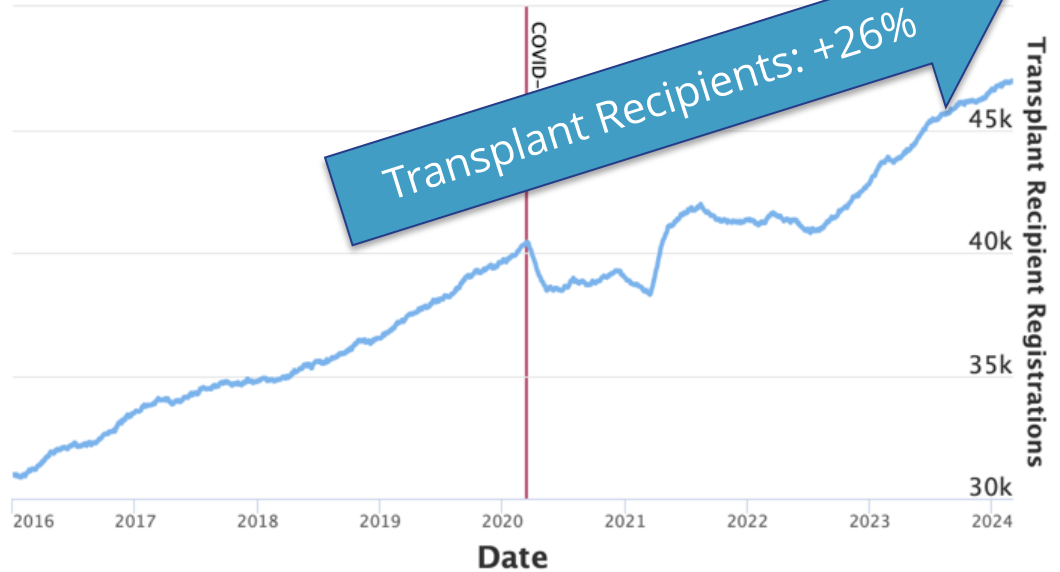
Select a Stratification

Overall

Transplant Recipient Registrations:
Determined by the transplant recipient registration (TRR) form.

Transplant Recipient Registrations

Zoom 1m 3m 6m YTD 1y All Jan 1, 2016 → 2024



Overall

Select an Organ

All Organs

Select a Rolling Window (Days)

365

Select a Metric

Organs Transplanted per Donor

Select a Summary Statistic

Mean

Select a Stratification

Overall

Organs Transplanted per Donor: The number of organs transplanted (disposition code 6) per deceased donor. A deceased donor is defined as a decedent with at least one organ recovered for the purpose of transplant (disposition code 5 or 6). Enbloc kidneys and double lungs count as two whereas everything else counts as one.



Select an Organ

All Organs

Select a Rolling Window (Days) i

365

Select a Metric

Non-Use Rate

Select a Stratification

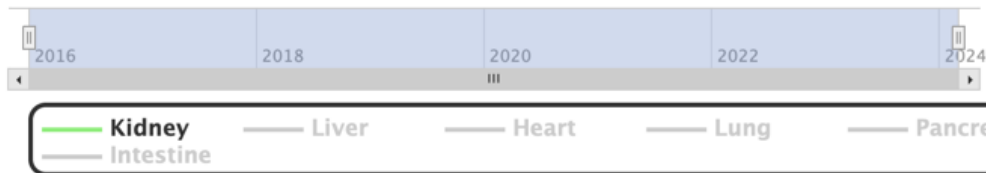
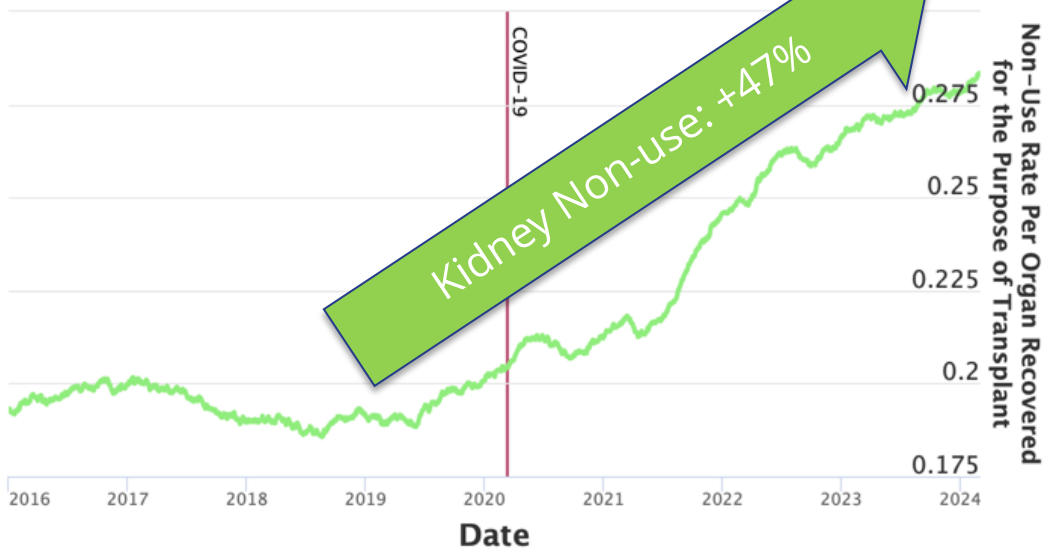
Organ

Non-Use Rate: The proportion of organs recovered from deceased donors for the purpose of transplant (disposition code 5 or 6) but not transplanted (disposition code 5). Enbloc kidneys and double lungs count as two whereas everything else counts as one.

Non-Use Rate

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 2024



Select an Organ

Kidney

Select a Rolling Window (Days)

365

Select a Metric

Non-Use Rate

Select a Stratification

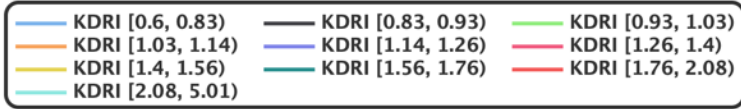
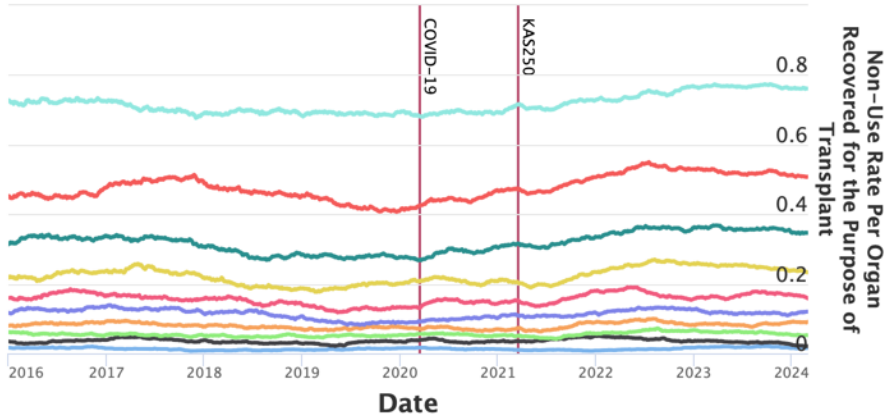
KDRI Decile

Non-Use Rate: The proportion of organs recovered from deceased donors for the purpose of transplant (disposition code 5 or 6) but not transplanted (disposition code 5). Enbloc kidneys and double lungs count as two whereas everything else counts as one.

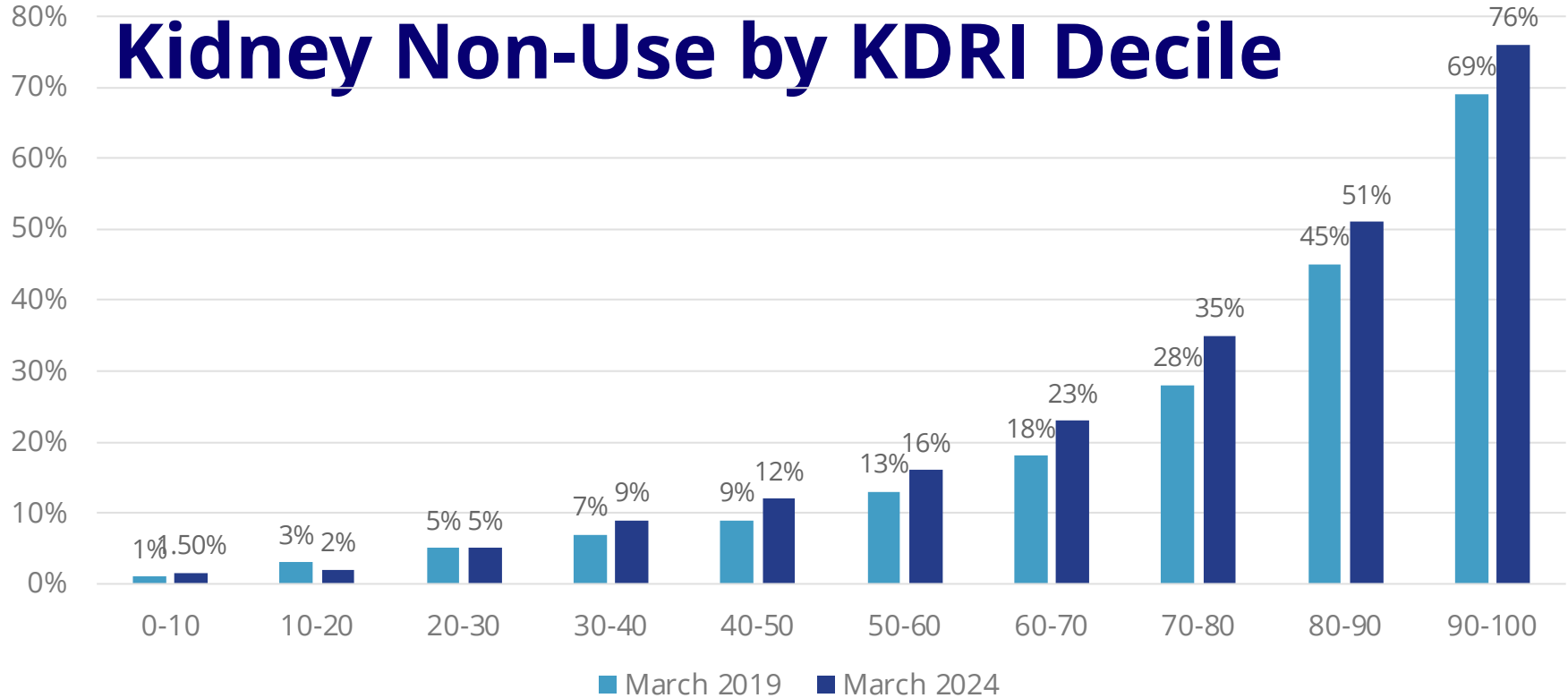
KDRI Decile: Kidney Donor Risk Index (KDRI). Deciles were determined based on the first year of data in this trend.

Non-Use Rate

Zoom 1m 3m 6m YTD 1y All Jan 1, 2016 → Mar 2, 2024



Kidney Non-Use by KDRI Decile



How are we doing at the OPO level?

LifeSource Upper Midwest Organ Procurement Organization

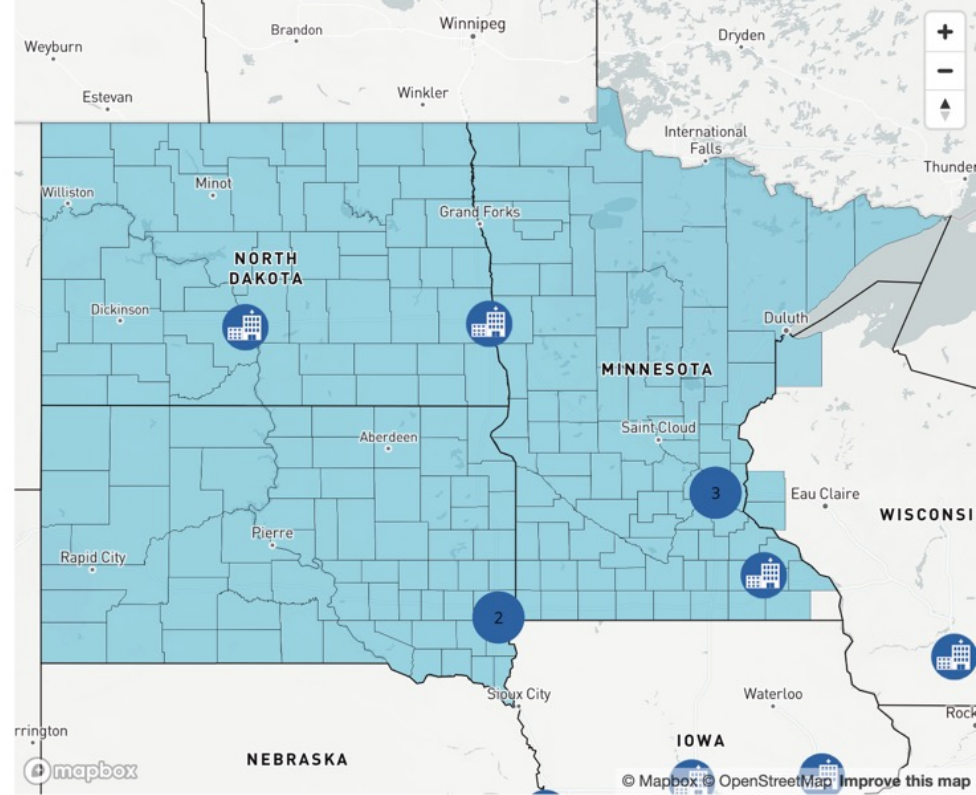
This map shows the counties within the OPO's donation service area (DSA) and transplant programs both within and outside of the DSA. Hover over a county for more information, or choose to filter by transplant program type above.

County: --

State: --

Number of Counties: 208

[VIEW COUNTIES](#)

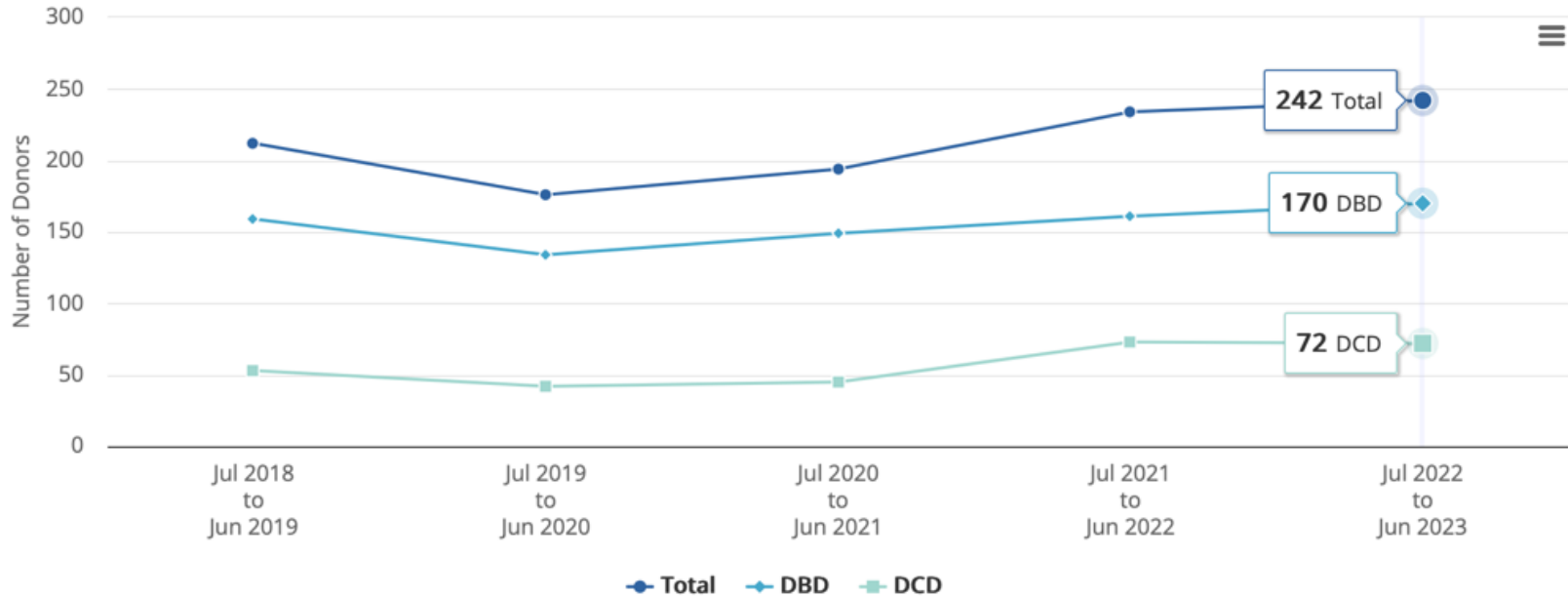


Transplant Programs within the OPO's Donation Service Area

[SHOW PROGRAMS](#)

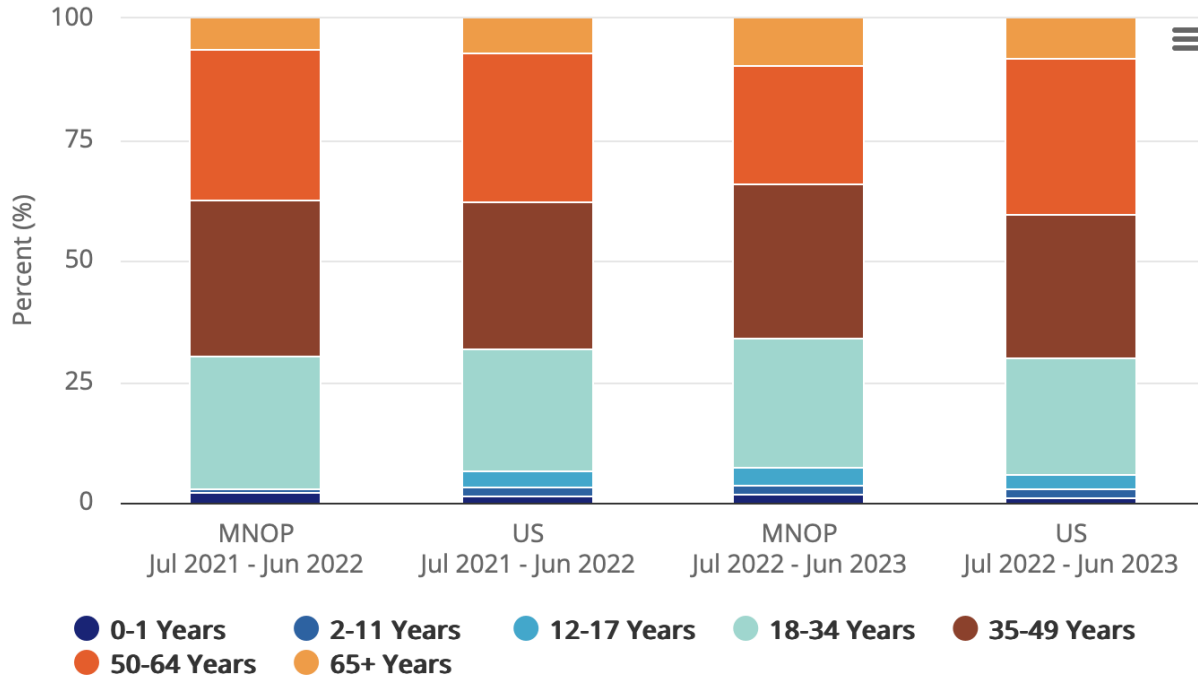
Total Donors & Organs Transplanted

Total Donors Transplanted



Description Of Donors Recovered

Characteristics of all deceased donors recovered, 07/01/2021 to 06/30/2023



Request to include:

- Hypertension
- Diabetes
- IV Drug Use
- Cigarette Use
- Alcohol Use

Select characteristic

Age

Race

Age

Gender

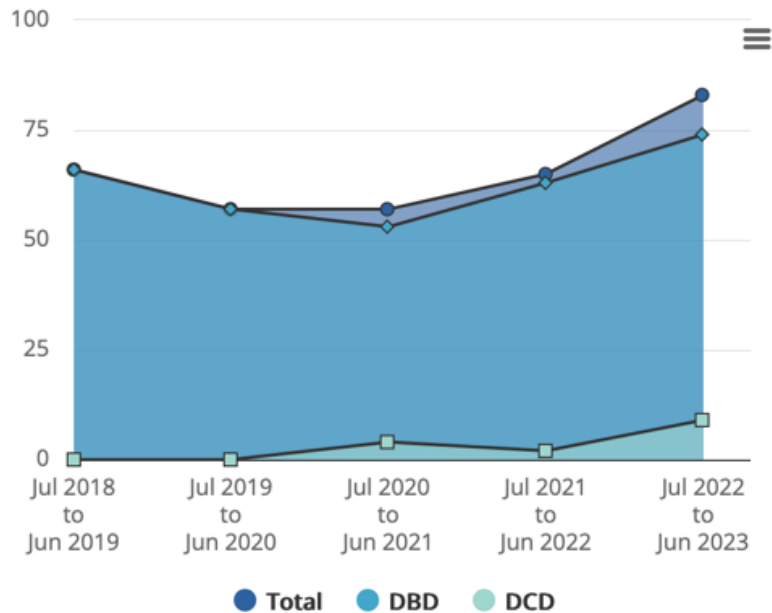
Blood Type

Cause of Death

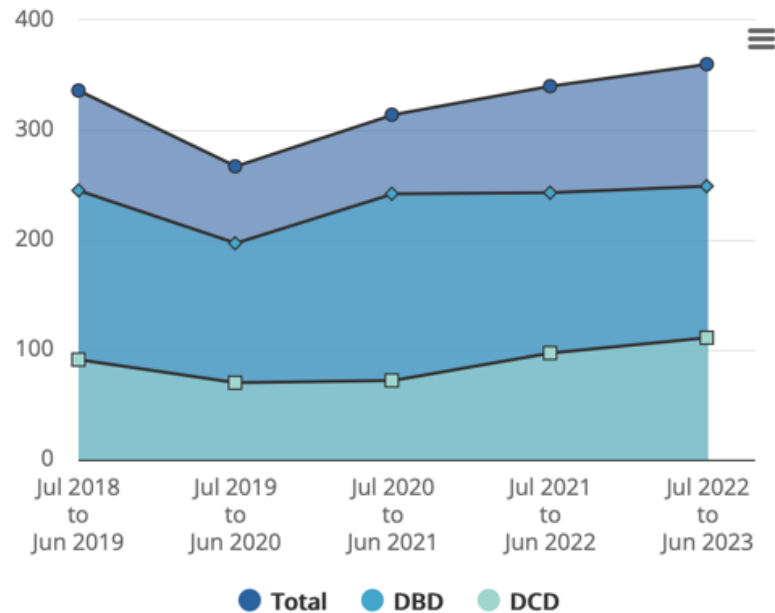
Donors After Circulatory Death



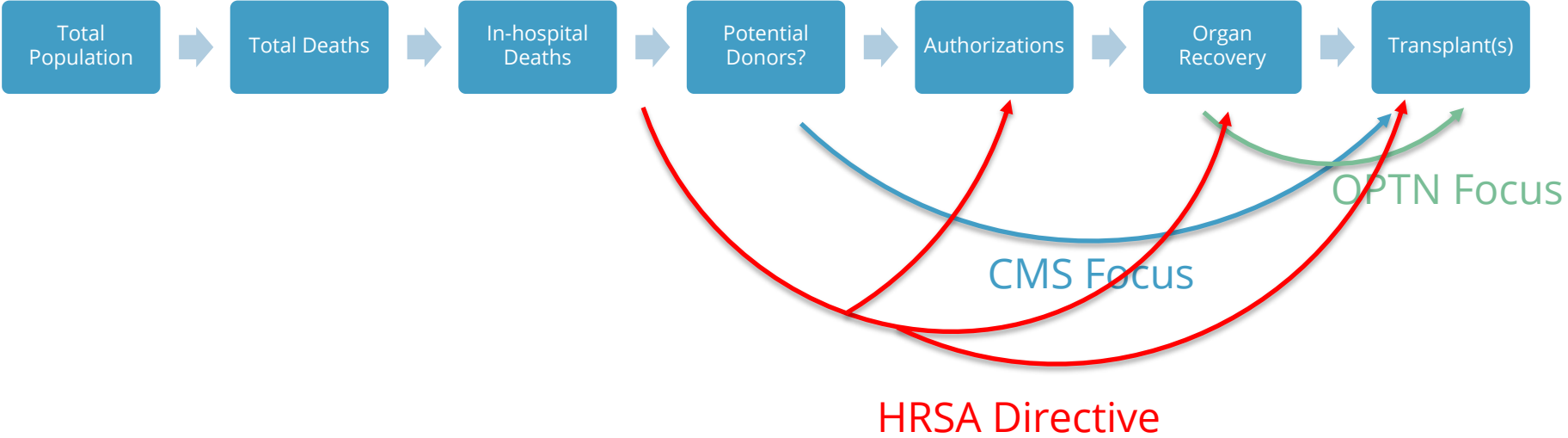
Heart Transplants



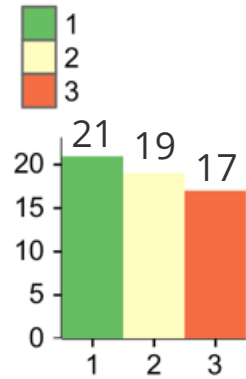
Kidney Transplants



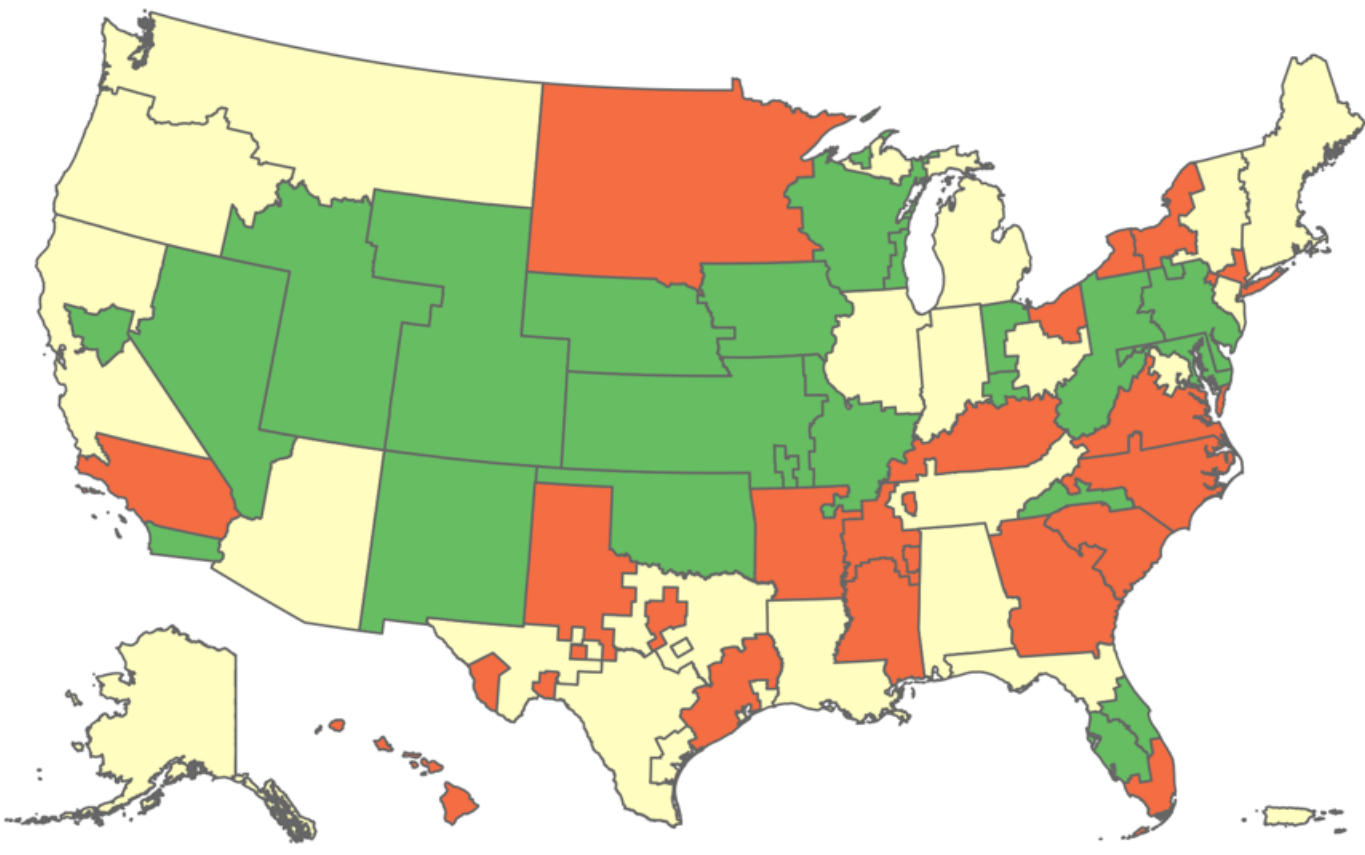
The Process Points Towards Metrics of Importance

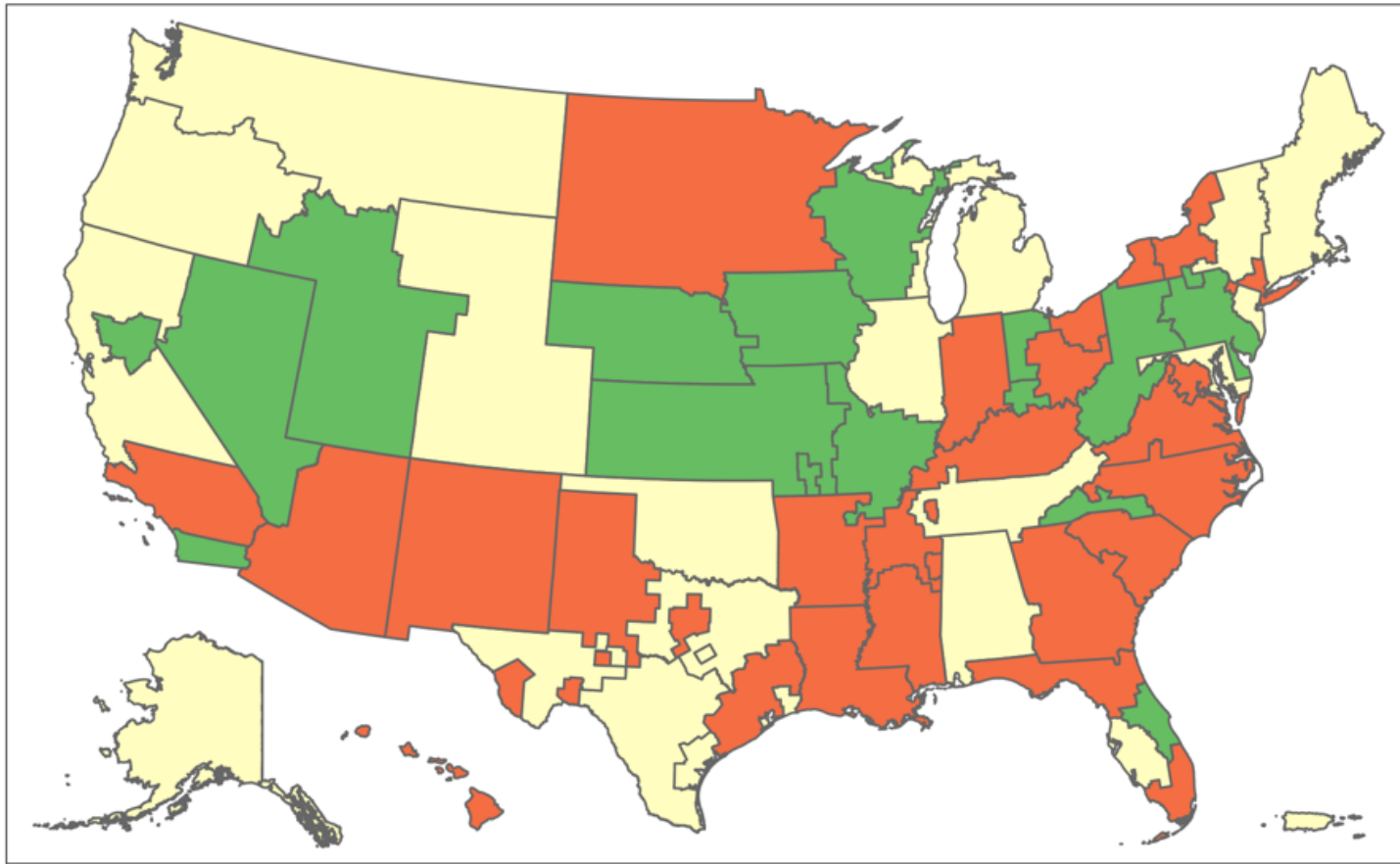


2021 Donation Rate Tier

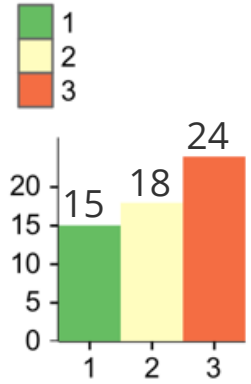


CMS 2021 Donation Rate Tier Assignments



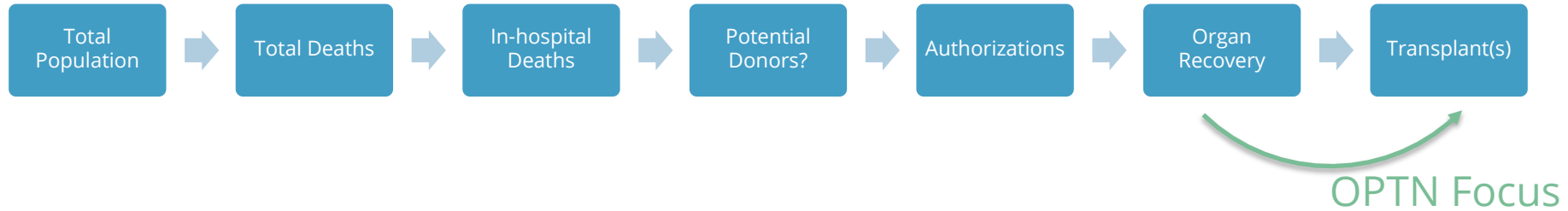


2021 Overall Tier



CMS 2021 Overall Tier Assignments

The Process Points Towards Metrics of Importance



Organ Specific Yield Rates

Observed and Expected Organ Yield per 100 Donors - 7/1/2021 to 6/30/2023

HEART



Observed: **31.1**



Expected: **31**



O/E = 1

KIDNEY



Observed: **147.1**



Expected: **153.2**



O/E = 0.96

LIVER



Observed: **64.9**



Expected: **62.7**



O/E = 1.04

LUNG



Observed: **19.7**



Expected: **17.8**



O/E = 1.11

PANCREAS



Observed: **8.6**



Expected: **6.1**



O/E = 1.41

INTESTINE



Observed: **0.4**



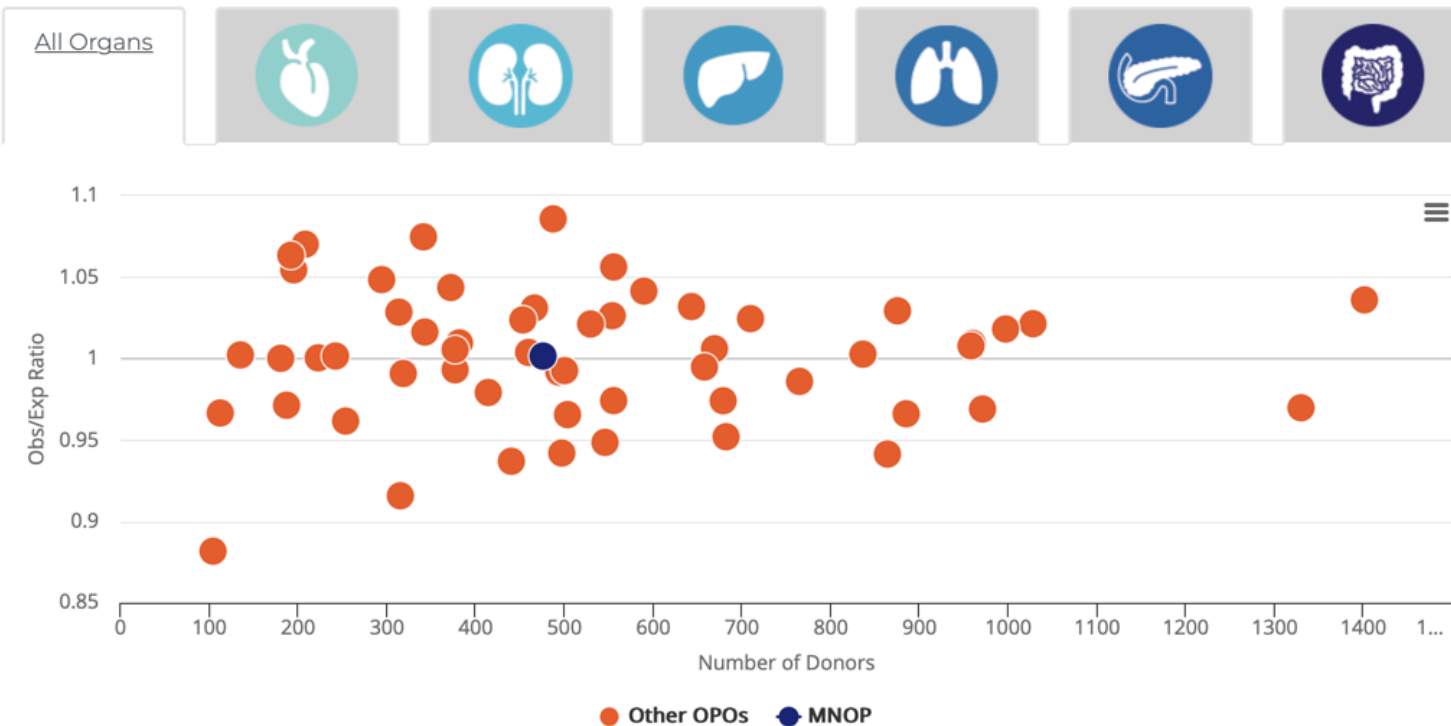
Expected: **0.6**



O/E = 0.65

Observed/Expected Yield by Organ

7/1/2021 to 6/30/2023





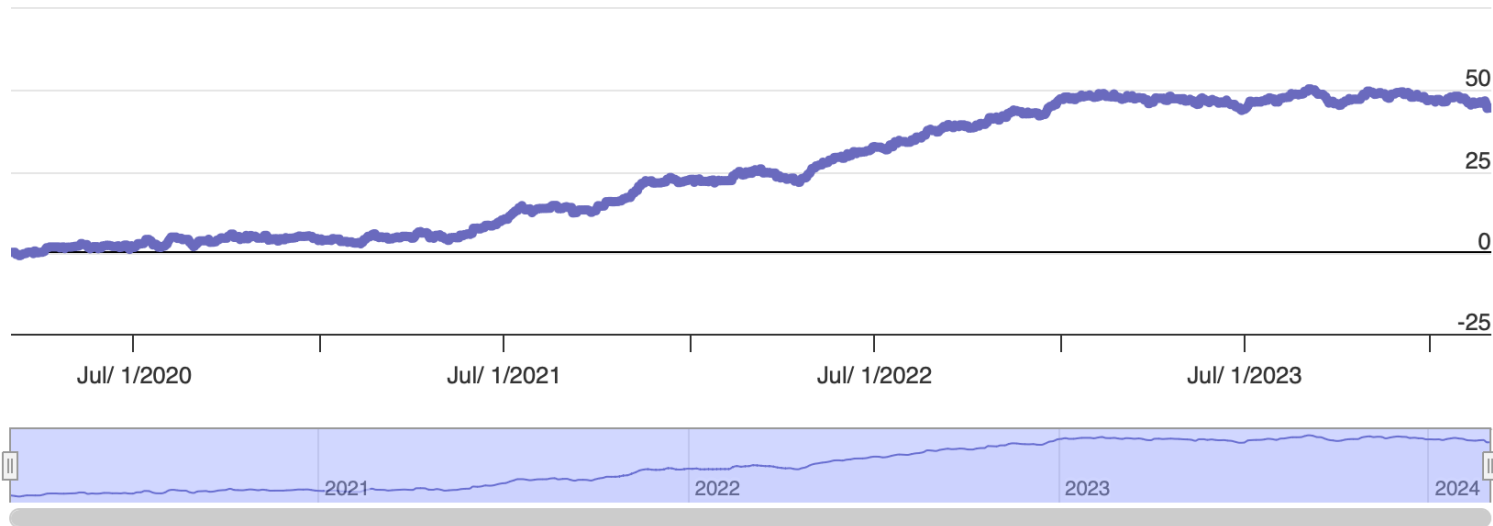
SCIENTIFIC
REGISTRY OF
TRANSPLANT
RECIPIENTS

SECURE SITE

Yield CUSUM Charts (Blinded OPO)

Zoom 1m 3m 6m YTD 1y **All**

1 Mar 2020 → 29 Feb 2024

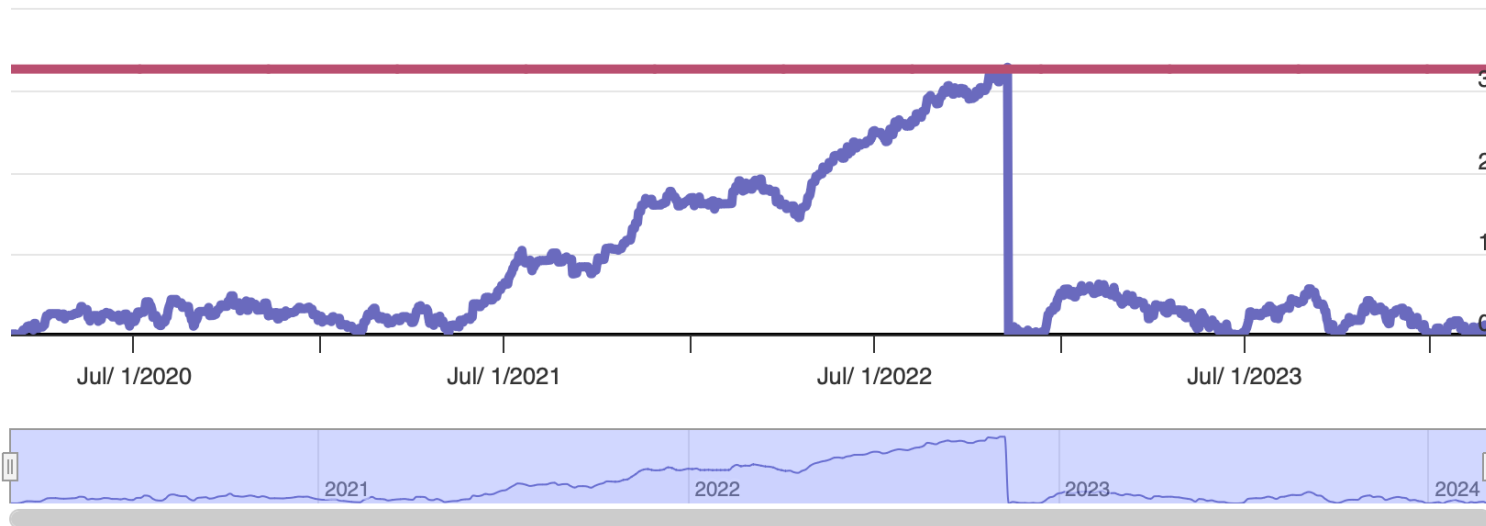




Yield CUSUM Charts: Signal (Blinded OPO)

Zoom 1m 3m 6m YTD 1y **All**

1 Mar 2020 → 29 Feb 2024





Yield Calculator & Offer Acceptance Report

OPO Tools

[OPO Offer Acceptance Report](#)

.HTML posted Dec 15, 2023

[Download](#)

[Fall 2023 OPO Organ Yield Calculator version 1.13 \(application\)](#)

.ZIP posted Dec 15, 2023

Version 1.13:

The OPO Yield Calculator algorithm has been updated for Fall 2023

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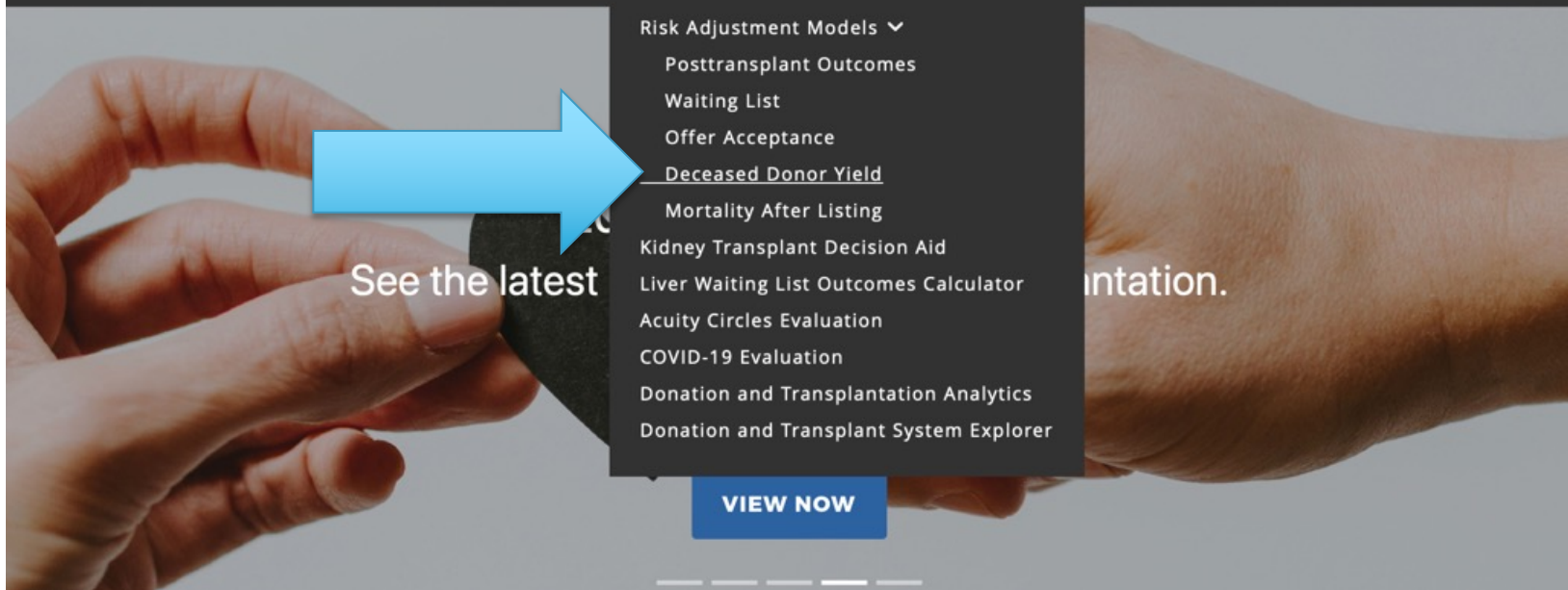
- Released in June and December each year; Announcements are made.
- No plan to include pancreata for research in the tool.

Select Organ 

Search by Postal Code or Program Name (optional)

SEARCH

ABOUT SRTR ▾ **ABOUT THE DATA** ▾ **REPORTS** ▾ **TOOLS** ▾ **NEWS & MEDIA** ▾ **REQUESTING SRTR DATA** ▾ **FAQS** ▾ **CONTACT US**



See the latest **Donation and Transplantation.**

- Risk Adjustment Models ▾
- Posttransplant Outcomes
- Waiting List
- Offer Acceptance
- Deceased Donor Yield
- Mortality After Listing
- Kidney Transplant Decision Aid
- Liver Waiting List Outcomes Calculator
- Acuity Circles Evaluation
- COVID-19 Evaluation
- Donation and Transplantation Analytics
- Donation and Transplant System Explorer

VIEW NOW

Kidney Yield Predictor

Age Effect for Brain Dead Donors (Years)	Current Cigarette Use	History of Other Drug Use	Race: American Indian or Alaska Native
Age Effect for DCD Donors with Downtime >40 Min (Years)	Current Cocaine Use	HIV	Race: Asian
Age Effect for DCD Donors with Downtime 0-20 Min (Years)	Current Other Drug Use	Intercept	Race: Black or African American
Age Effect for DCD Donors with Downtime 21-30 Min (Years)	DCD	Kidney Donor Risk Index (KDRI)	Race: Hispanic/Latino
Age Effect for DCD Donors with Downtime 31-40 Min (Years)	Ejection Fraction (Missing)	Kidney Donor Risk Index (Missing)	Race: Native Hawaiian or Other Pacific Islander
Blood Type	Ejection Fraction (Percent)	Lowest glomerular sclerosis (%)	Race: White
Body Mass Index (BMI)	Gender	Mechanism of Death	Terminal Serum Creatinine (mg/dL)
Body Mass Index (Missing)	HCV+	More than 20 Pack Years	Terminal Serum Creatinine (Missing)
Cardiac Arrest After Brain Death	Heavy Alcohol Use	Organ Recovered Outside The Contiguous 48 States?	Weight (KG)
Cause of Death	Height (CM)	PHS Increased Infectious Risk	Weight (Missing)
Circumstance of Death	Height (Missing)	PO2 (Missing)	
Clinical Infection: Blood	Highest glomerular sclerosis (%)	pO2 (Number)	
Clinical Infection: Lung	History of Any Diabetes	pO2/fiO2 (Missing)	
Clinical Infection: Other	History of Cancer	pO2/fiO2 (Ratio)	
Clinical Infection: Urine	History of Cocaine Use	Previous MI	
Controlled DCD Donor	History of Diabetes	Protein in Urine	
	History of Hypertension		
	History of Insulin Dependence		



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Program Acceptance Data

OPO Tools

[OPO Offer Acceptance Report](#)

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Program Acceptance Data

OPO Offer Acceptance Report

About

Pancreas

Kidney-Pancreas

Heart

Lung

Liver

Kidney

PHS Increased Infectious Risk

DCD

HCV+

Hard-to-Place (Offer Number > 50)

Distance > 500 Miles

COVID Positive

Liver Segment

Show 50 entries

Search:

Program	Offers	Acceptances	Expected	Offer Acceptance Ratio	History of Acceptance
AZMCTX1	1762	104	11.53	7.83	Above Average
FLJMTX1	1719	54	7.8	5.71	Above Average
AZGSTX1	54	19	2.25	4.94	Above Average
OHCCTX1	1724	73	13.43	4.86	Above Average
OHUCTX1	432	64	11.85	4.77	Above Average
CASDTX1	2202	48	13.76	3.17	Above Average
FLSLTX1	1885	33	13.1	2.32	Above Average
MABITX1	2131	33	13.75	2.22	Above Average

OPO Offer Acceptance Report

Data from:
January 09, 2024

Cohort Start:
7/1/2022

Cohort End:
6/30/2023

Feedback?:
SRTR@SRTR.org
1.877.970.SRTR (7787)
<http://www.srtr.org/>



Select an Organ

Kidney

Select a Rolling Window (Days) ⓘ

365

Select a Metric

Proportion of Accepted Offers via Expedited Placement

Select a Stratification

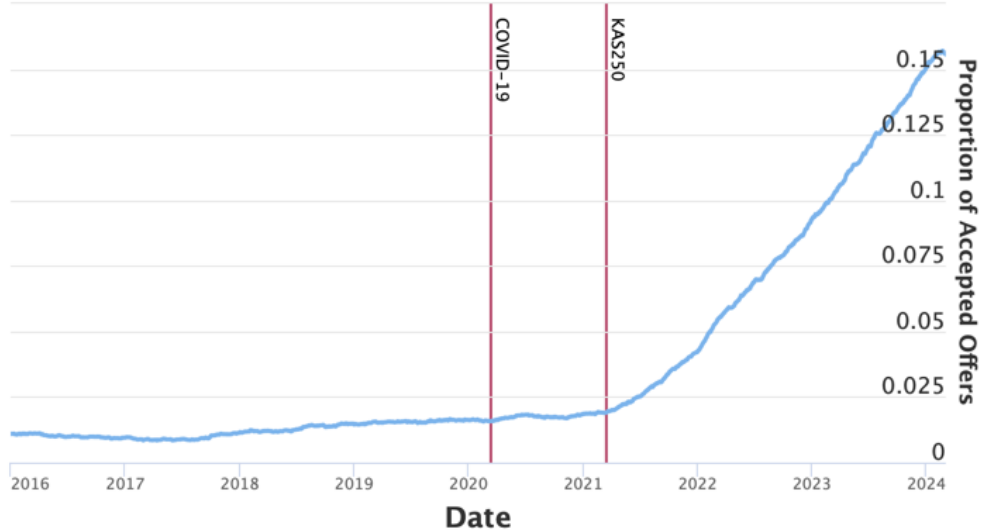
Overall

Proportion of Accepted Offers via Expedited Placement: An accepted offer is identified as resulting from expedited placement if that offer occurred after a bypassed offer with refusal code 863 (Offer not made due to expedited placement attempt) on the same match run.

Proportion of Accepted Offers via Expedited Placement

Zoom 1m 3m 6m YTD 1y All

Jan 1, 2016 → Mar 2, 2024



Overall

Select an Organ

Kidney

Select a Rolling Window (Days) ⓘ

365

Select a Metric

Excess Programs Notified

Select a Summary Statistic

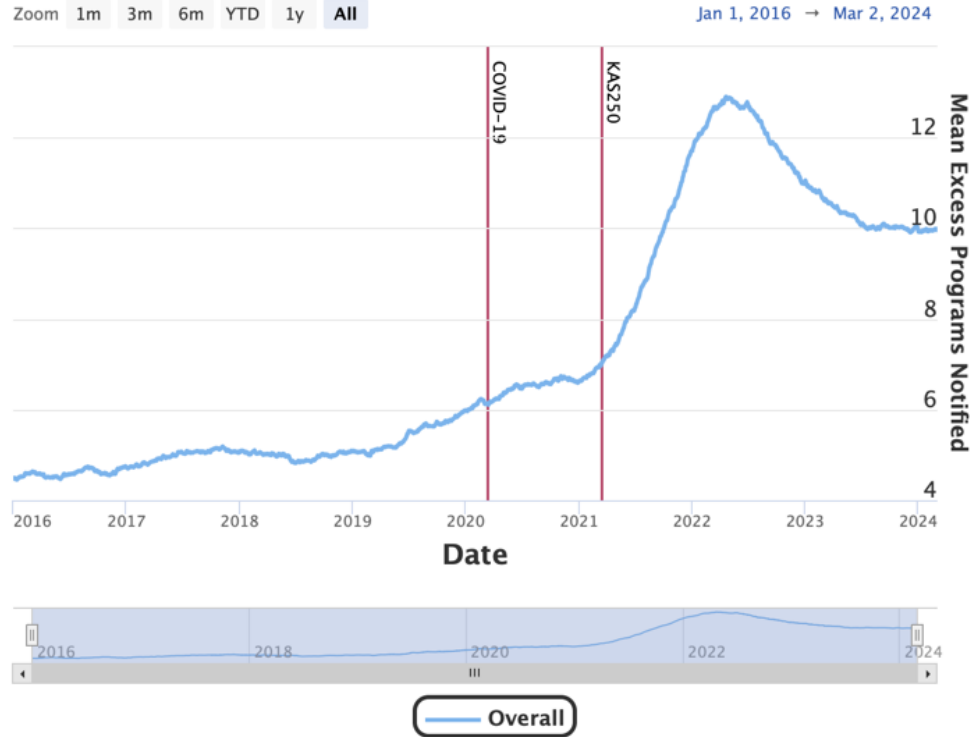
Mean Median

Select a Stratification

Overall

Excess Programs Notified: On a match run with at least one accepted offer, the number of excess programs notified is the difference between the number of programs notified on that match run and the center number at acceptance for the last accepted offer.

Excess Programs Notified



Select an Organ

Kidney

Select a Rolling Window (Days) ⓘ

365

Select a Metric

Variance of Mean Excess Programs Notified

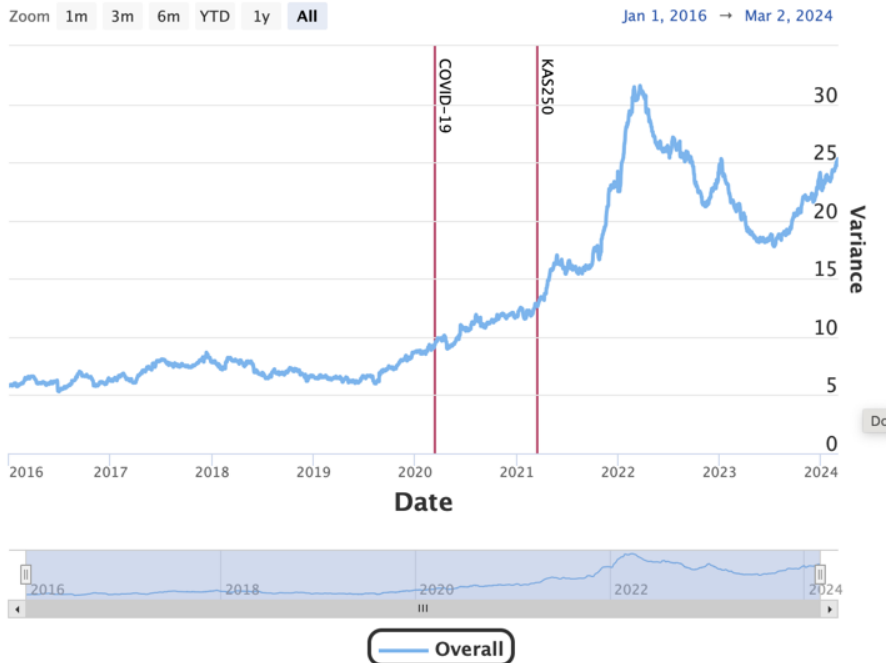
Select a Stratification

Overall

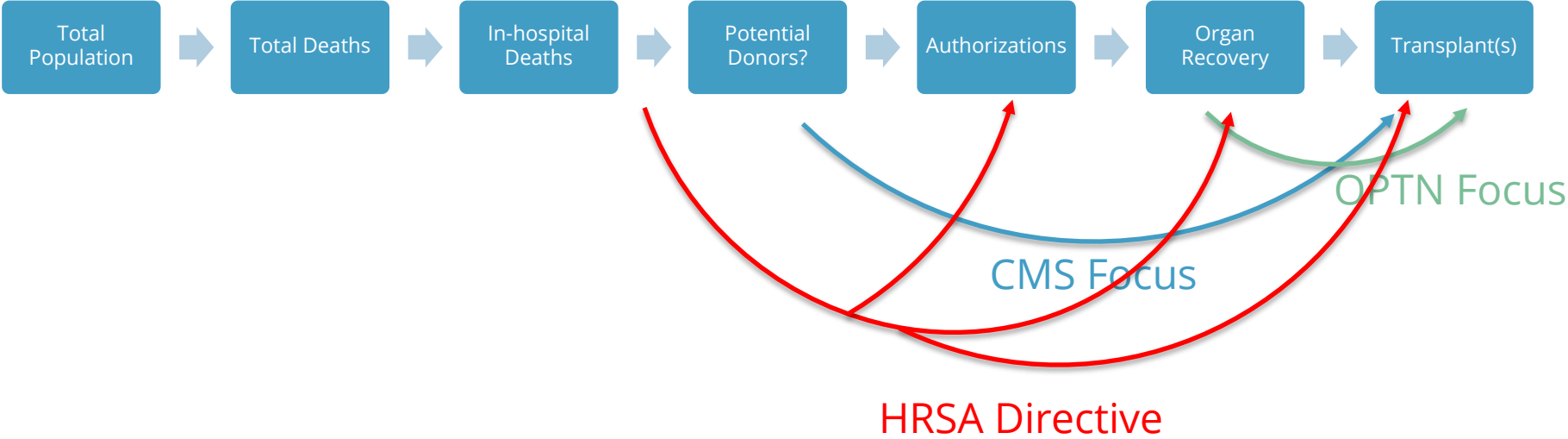
Variance of Mean Excess Programs

Notified: On a match run with at least one accepted offer, the number of excess programs notified is the difference between the number of programs notified on that match run and the center number at acceptance for the last accepted offer. Variance in the mean excess programs notified is then calculated across organ procurement organizations.

Variance of Mean Excess Programs Notified



The Process Points Towards Metrics of Importance



5600 Fishers Lane
Rockville, MD 20857

February 5, 2024

Maureen McBride PhD
OPTN Executive Director
United Network for Organ Sharing
700 North 4th Street
Richmond, VA 23219

Dianne Rudow-LaPointe PhD, RN
OPTN President
United Network for Organ Sharing
700 North 4th Street
Richmond, VA 23219

<https://optn.transplant.hrsa.gov/media/432jifpp/fy2024-optn-data-direction-notification-letter-2524.pdf>

Directive on Ventilated Patient Referrals

The purpose of the Ventilated Patient Form is to collect demographic information and process data on ever-ventilated patients with a Cardiac Time of Death (CTOD).

The form collects data only for patients that were ventilated in their terminal hospital admission and who have a Cardiac Time of Death (CTOD). This must be collected for any ever-ventilated patient referred to the OPO *OR* ever-ventilated patient whose record was discovered upon OPO death record review.

https://optn.transplant.hrsa.gov/media/45tmbjpl/2024-02-5_ventilated-patient-form.xlsx



National Donate Life Registry

**Register to be an organ,
eye and tissue donor.**

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I remind myself: It all begins with a gift. [www.RegisterMe.org!](http://www.RegisterMe.org)



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Your Email

First Name

Middle Name

Last Name

Suffix

Date of Birth

Sex

Address

Address





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**Feedback/Questions:
Jon.Snyder@cdrg.org**

Jon Snyder, PhD

Director, Scientific Registry of Transplant Recipients
Director, Transplant Epidemiology
Chronic Disease Research Group
Hennepin Healthcare Research Institute

April 11, 2024

A Special Thanks to our Speakers



Jon Snyder, PhD, MS

Director, SRTR

Director of Transplant Epidemiology,



Jon Miller, PhD, MPH

Biostatistician

Chronic Disease Research Group





THE Alliance

Conversation Series