



**NATIONAL KIDNEY REGISTRY<sup>®</sup>**

FACILITATING LIVING DONOR TRANSPLANTS

# Quarterly Report

Q1 2024

# Table of Contents

Actual Wait Times to Transplant <i>Compatible Pairs who Received a Low Eplet Mismatch Transplant</i> . . . . .	19	Low Eplet Mismatch Transplants . . . . .	17	Top 10 Centers: Active Microsites . . . . .	6
Compatible Pair Transplants <i>The Kidney for Life Initiative Leads to More Compatible Pairs &amp; Shorter Wait Times</i> . . . . .	20	Low Eplet Mismatch Transplants <i>Compatible and Incompatible Pairs</i> . . . . .	16	Top 10 Centers: Donor Satisfaction Surveys <i>Surveys Completed Within the Last 6 Months</i> . . . . .	7
Death Censored Graft Failure Comparisons <i>Latest Data Shows that NKR Outcomes Continue to Improve</i> . . . . .	21	Medicare Cost Analysis: Dialysis Patients Transplanted <i>The National Kidney Registry is on track to save Medicare nearly \$150 million in dialysis costs in 2024</i> . . . . .	41	Top 10 Centers: NKR Facilitated Transplants <i>Last 12 Months</i> . . . . .	5
Decoupling Trend: Transition to Family Voucher Donation . . . . .	32	Medicare Cost Analysis: Single-Year Dialysis Savings <i>The National Kidney Registry is on track to save Medicare nearly \$150 million in dialysis costs in 2024</i> . . . . .	42	Top 10 DCN Centers: Referral Conversion Rates <i>Annualized Donations / Average Referrals</i> . . . . .	10
Decoupling Trend: Transition to Standard Voucher Donation . . . . .	33	Message from the Founder & CEO . . . . .	3	Top 10 KFL Centers: Low Eplet Mismatch Transplants <i>Compatible and Incompatible Pairs—Last 12 Months</i> . . . . .	8
Donor Care Network: Donor Referral Conversion Rate <i>Donations / Average Referrals</i> . . . . .	27	Microsite Centers . . . . .	15	Top 10 KFL Centers: Low Eplet Mismatch Transplants <i>Compatible Pairs—Last 12 Months</i> . . . . .	9
Donor Mentors Result in Higher Conversion Rates <i>DASH Donations / Average Registrations</i> . . . . .	28	Microsites: Donor Registrations & Referrals <i>Growth in Microsite Activity</i> . . . . .	14	Transplanted Recipients by cPRA . . . . .	39
Donor Shield: Donor Reimbursements Paid <i>Eliminating Donation Disincentives</i> . . . . .	30	Microsites: Enrollment Success <i>Percent of Waitlist Patients with Microsites</i> . . . . .	13	Wait Time: Dialysis Patients Waiting 12+ Months <i>Due to High cPRA</i> . . . . .	38
Donor Shield: Living Donors Supported and Protected . . . . .	29	Microsites: Patients who Received a Living Donor Transplant . . . . .	12	Wait Time: Median by Blood Type <i>From Exportability to Transplant</i> . . . . .	35
Donor Shield: Removing Barriers to Donation <i>Home Blood Draw Requests</i> . . . . .	31	Microsites: Quarterly Growth . . . . .	11	Wait Time: Median Time to Transplant <i>From Exportability to Transplant</i> . . . . .	34
Eplet Mismatch Transplants by Category <i>Voucher &amp; Paired Recipient Types</i> . . . . .	18	NKR Facilitated Transplant Growth . . . . .	4	Wait Time: Voucher Patients have Shorter Wait Times <i>Currently Matchable Patients (At least one matchable donor currently in the donor pool)</i> . . . . .	36
Good Samaritan Kidney Donor Candidate Registrations <i>Across All DASH Intake Platforms</i> . . . . .	24	NKR Living Kidney Donations <i>Resulting from NKR Donor Referrals</i> . . . . .	26	Wait Time: Voucher Patients have Shorter Wait Times <i>Currently Unmatchable Patients (No matchable donors currently in the donor pool)</i> . . . . .	37
Kidney for Life Centers . . . . .	22	NKR Living Kidney Donor Referrals <i>Completed Online Screening, Medical History, and Labs</i> . . . . .	25		
Living Kidney Donor Registrations <i>Across All DASH Intake Platforms</i> . . . . .	23	Resources . . . . .	43		
		Swap Failure Rates . . . . .	40		



# Message from the Founder & CEO

---



We continue to experience strong growth, with the NKR now facilitating 25% of all living donor kidney transplants in the United States. Through the Donor Shield program, we are now protecting and supporting over 35% of all U.S. living donors.

NKR donor referrals are up by 27% over last year. With this strong growth in referrals, we are expecting over 500 donations this year from NKR referred donors.

Donor Shield reimbursements are up 50% over 2023. As we continue to expand the program, reimbursements are expected to exceed \$10M this year as we work to eliminate living donor disincentives.

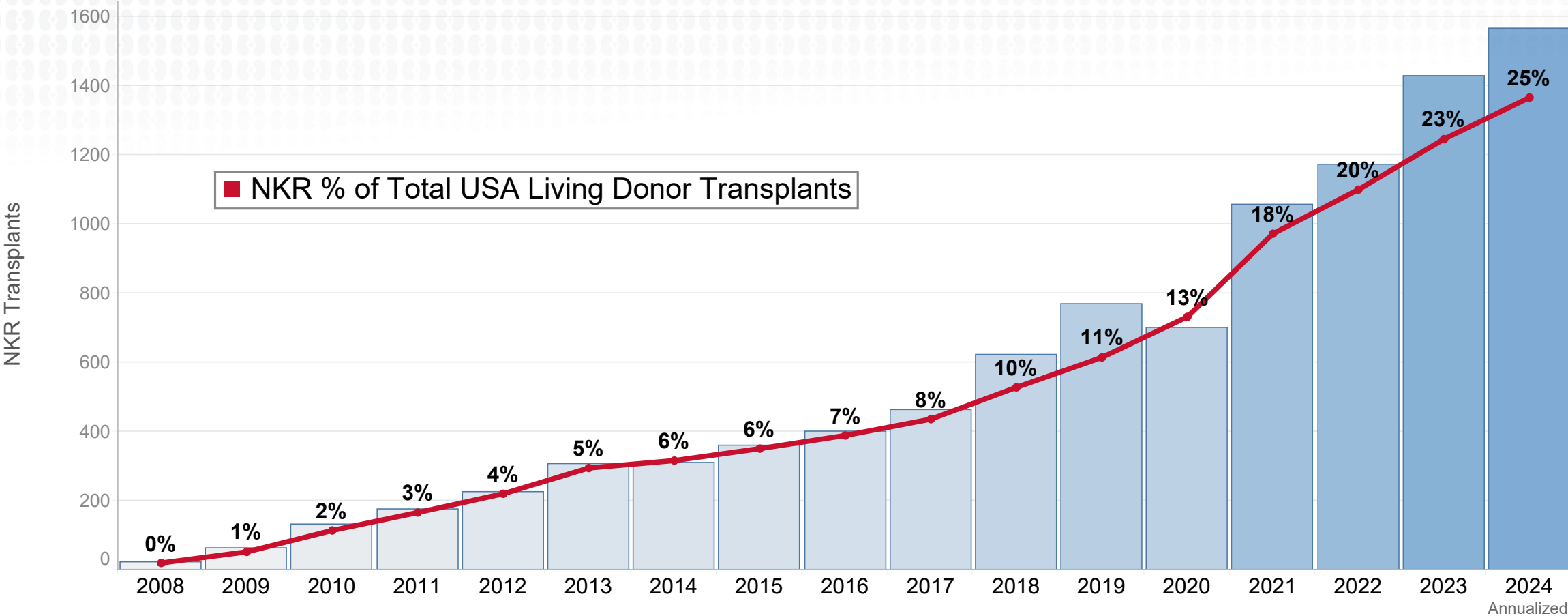
Compatible pair transplants continue to increase. They are driven by the over 20 Member Centers that are on the Kidney for Life Expert System platform. These compatible pairs are helping to bring more O donors into the pool and are driving down the median O blood type wait times by 26%, from 3.4 months to 2.5 months.

Sincerely,

A handwritten signature in blue ink, appearing to read 'G. Hil', written in a cursive style.

**Garet Hil**  
Founder & CEO  
National Kidney Registry  
Living Kidney Donor

# NKR Facilitated Transplant Growth



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sum of All NKR Transplants	22	61	131	175	226	308	310	360	399	462	621	770	700	1,058	1,174	1,430	1,567
United States All LD Txps	5,968	6,387	6,278	5,773	5,619	5,723	5,367	5,620	5,620	5,803	6,442	6,863	5,238	5,961	5,847	6,288	6,284

\*NKR facilitated transplants (TXPs) include voucher, paired, remote directs, KFL remote directs, NKR internal direct, microsite internal direct, and WLP transplants.

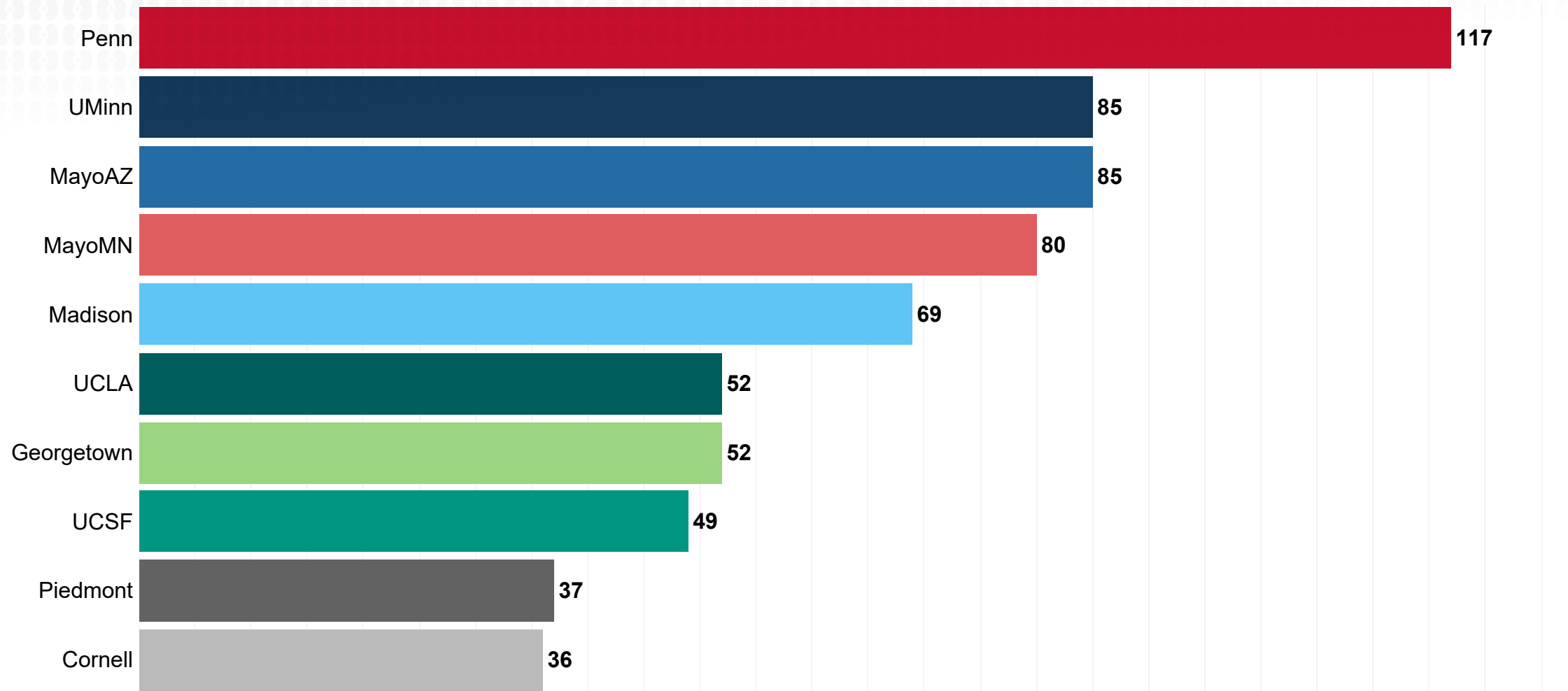
Total transplants subject to change due to delayed reporting. NKR data captured 3/31/2024

\*\*<https://optn.transplant.hrsa.gov/data/> U.S. Living Donor (LD) Transplants Performed: Data for OPTN 1/1/2008 – 3/31/2024



# Top 10 Centers: NKR Facilitated Transplants

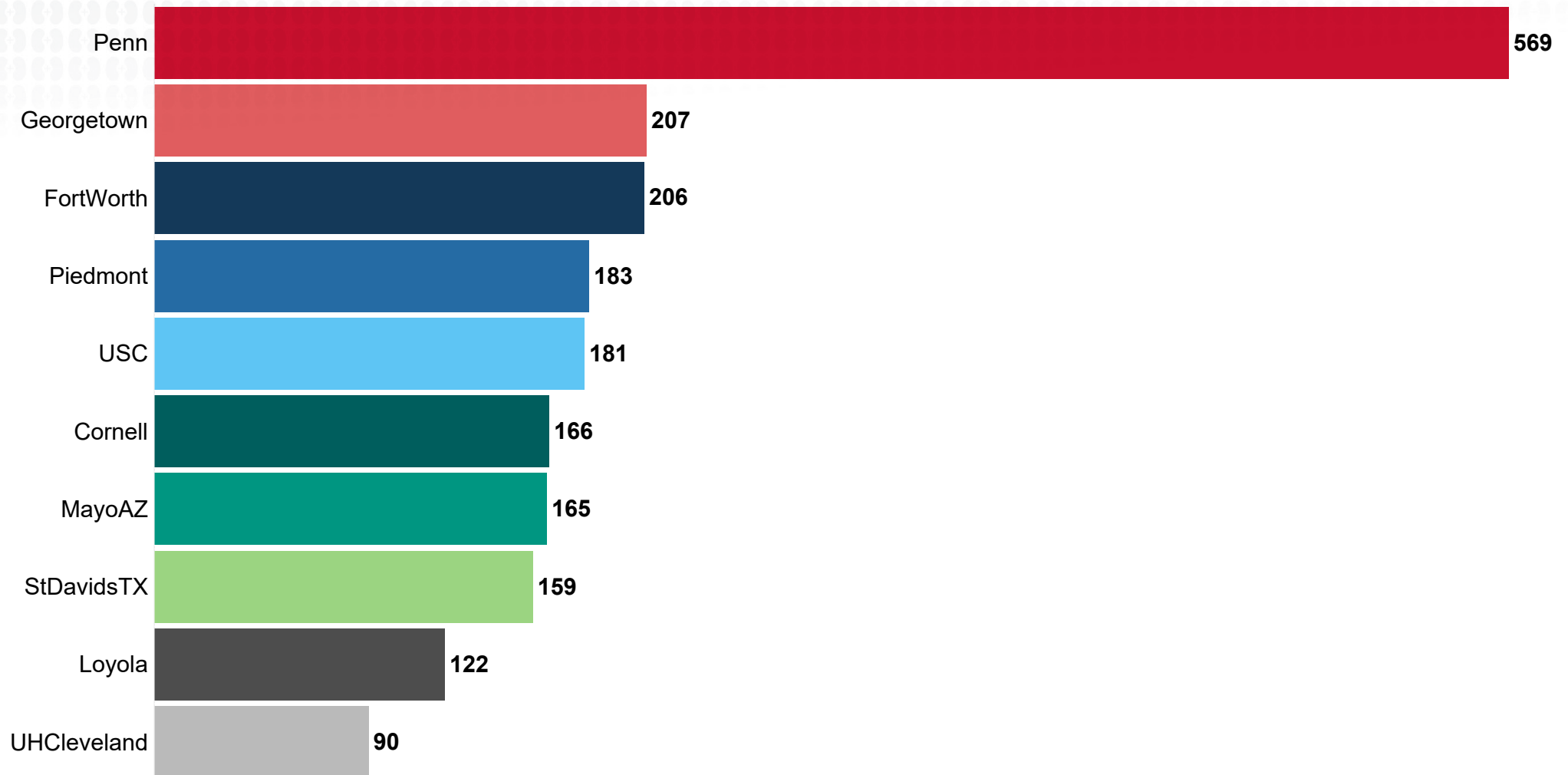
Last 12 Months



*\*NKR facilitated transplants (TXPs) include voucher, paired, remote directs, KFL remote directs, NKR internal direct, microsite internal direct, and waitlist transplants.  
As of 3/31/2024*



# Top 10 Centers: Active Microsites

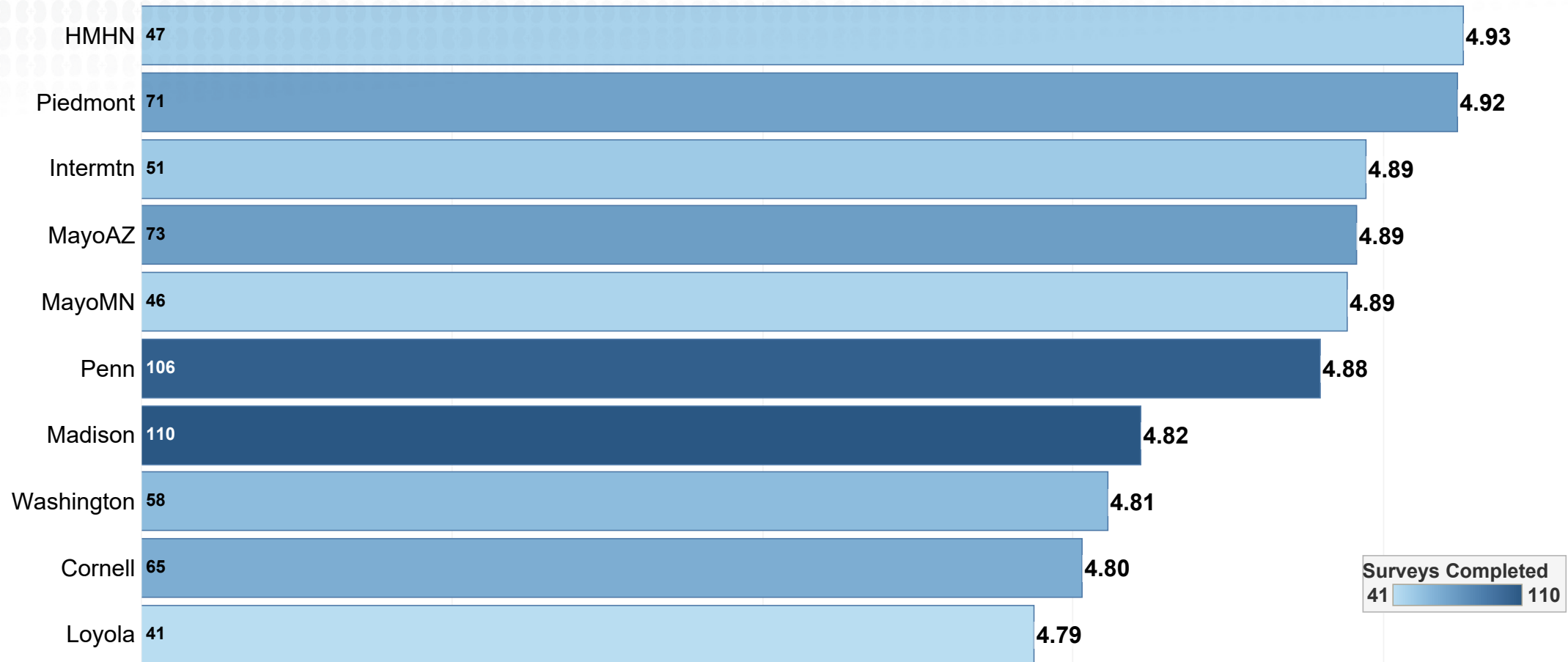


Total active kidney microsites on 3/31/2024



# Top 10 Centers: Donor Satisfaction Surveys

Surveys Completed Within the Last 6 Months

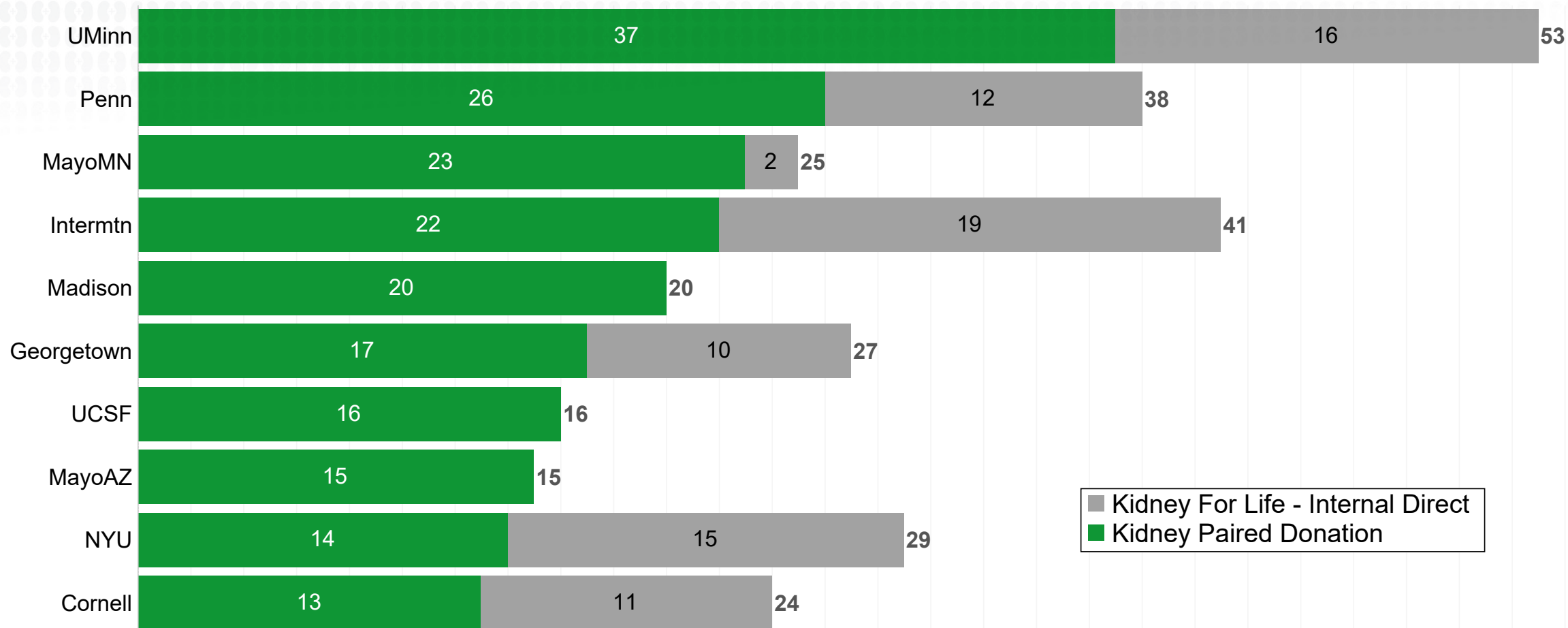


PL DASH centers only. A minimum of 40 completed surveys to qualify.  
As of 3/31/2024



# Top 10 KFL Centers: Low Eplet Mismatch Transplants

Compatible and Incompatible Pairs—Last 12 Months



Excludes waitlist.

As of 3/31/2024

Kidney for Life is an NKR initiative to provide opportunities for better donor matches

Eplet mismatch categories are based on the definition provided by Wiebe C, Kosmoliaptsis V, Pochinco D, et al. HLA-DR/DQ molecular mismatch: a prognostic biomarker for primary alloimmunity.

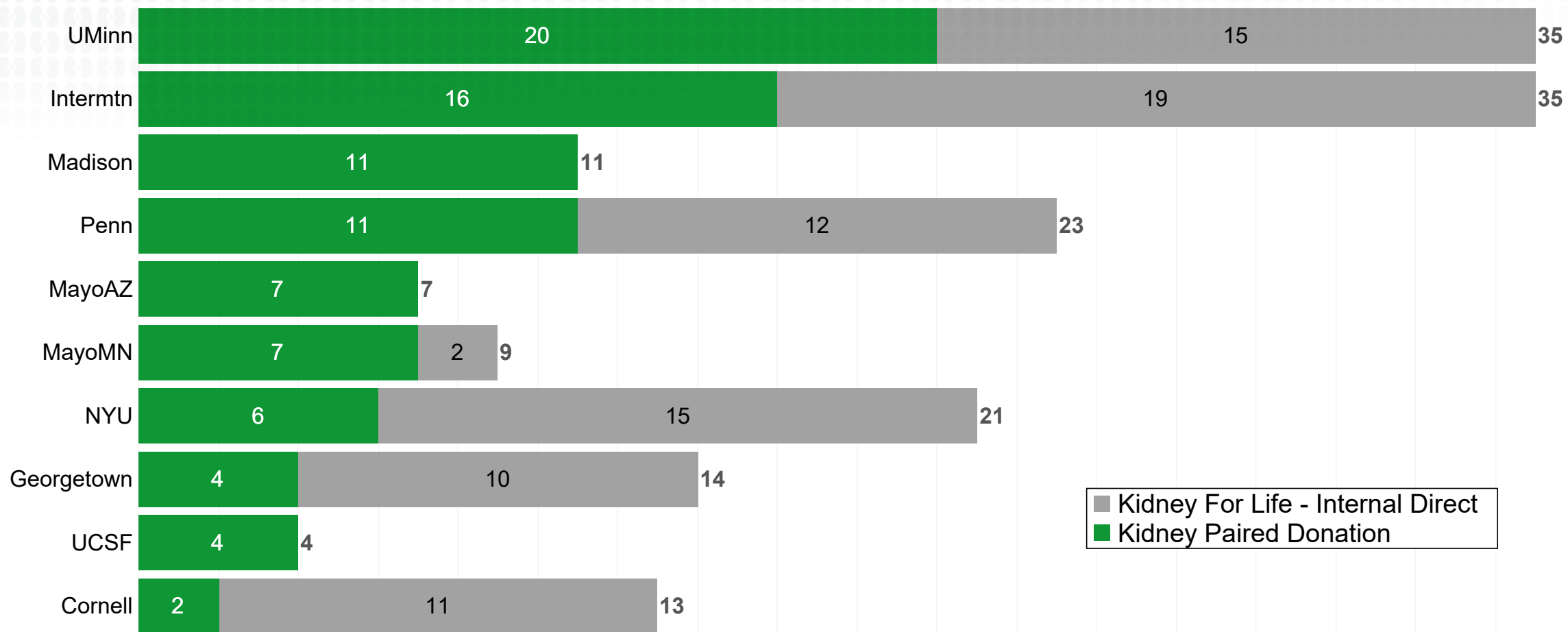
Am J Transplant. 2019;19:1708–1719. <https://doi.org/10.1111/ajt.15177>





# Top 10 KFL Centers: Low Eplet Mismatch Transplants

Compatible Pairs—Last 12 Months



Excludes waitlist.

As of 3/31/2024

Kidney for Life is an NKR initiative to provide opportunities for better donor matches.

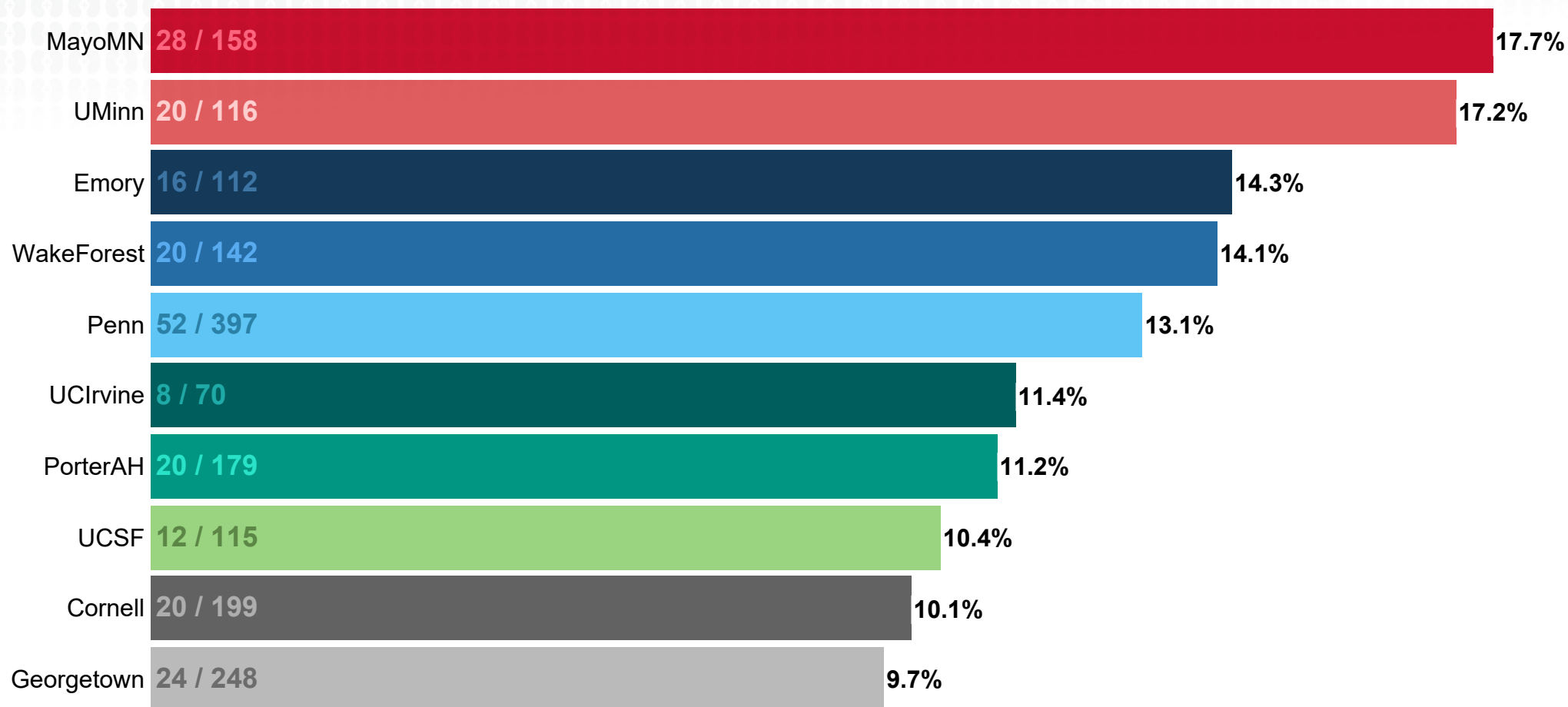
Eplet mismatch categories are based on the definition provided by Wiebe C, Kosmoliaptsis V, Pochinco D, et al. HLA-DR/DQ molecular mismatch: a prognostic biomarker for primary alloimmunity.

Am J Transplant. 2019;19:1708–1719. <https://doi.org/10.1111/ajt.15177>



# Top 10 DCN Centers: Referral Conversion Rates

Annualized Donations / Average Referrals



*Excludes Centers with less than 20 Referrals*

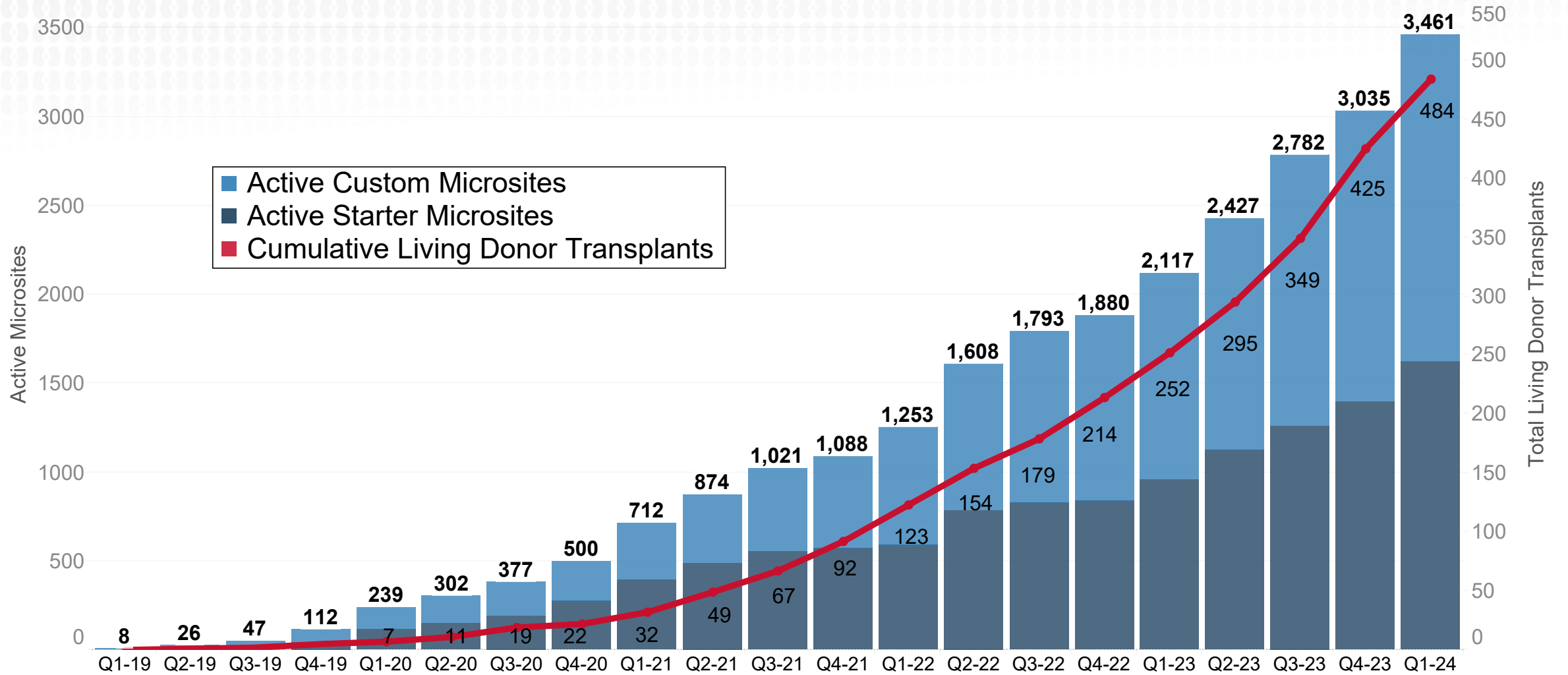
**Average Referrals:** (Annualized Current Year Referrals + Prior Year Referrals) /2

Donor Care Network Center of Excellence (DCN). An elite group of transplant centers offering the highest level care and support to living kidney donors

As of 3/31/2024



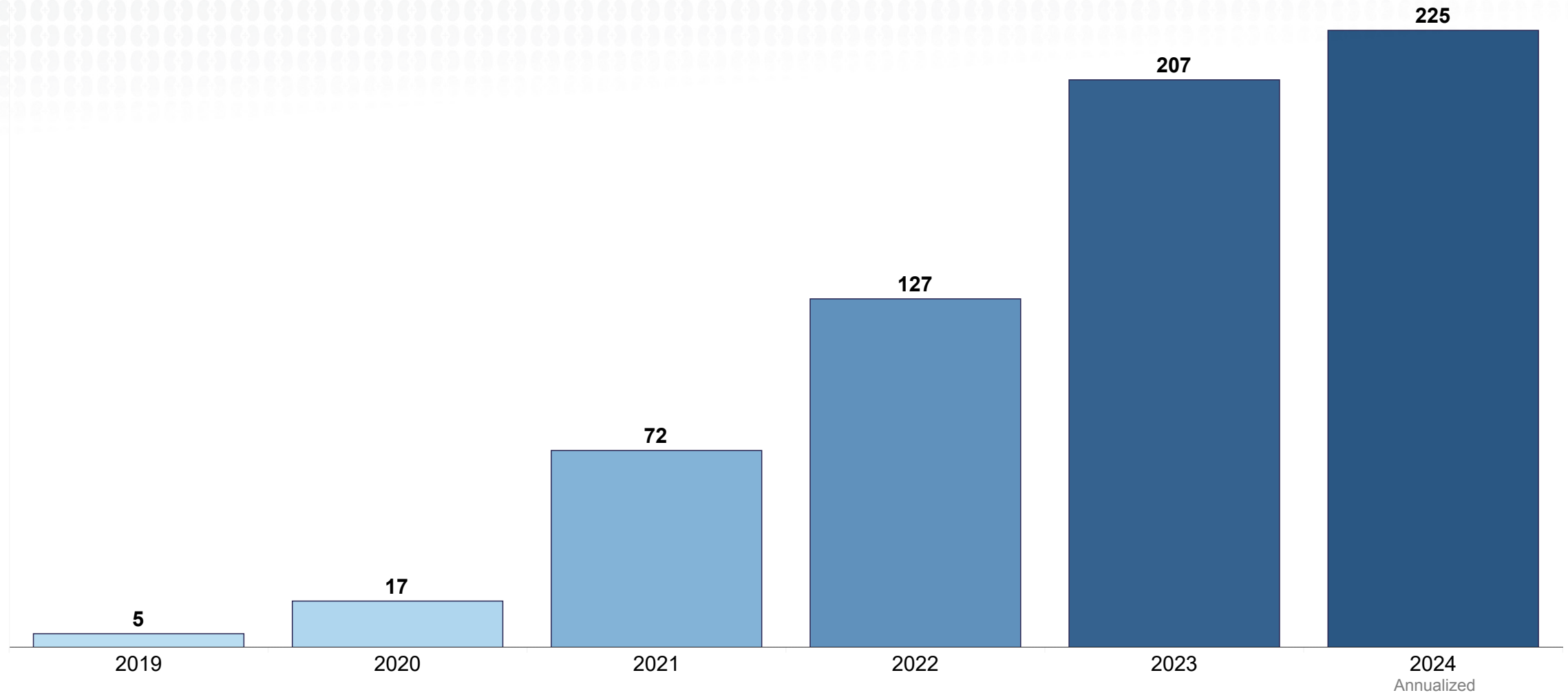
# Microsites: Quarterly Growth



Final cumulative living donor transplants are subject to change due to delays in transplant center reporting.  
As of 3/31/2024



# Microsites: Patients who Received a Living Donor Transplant

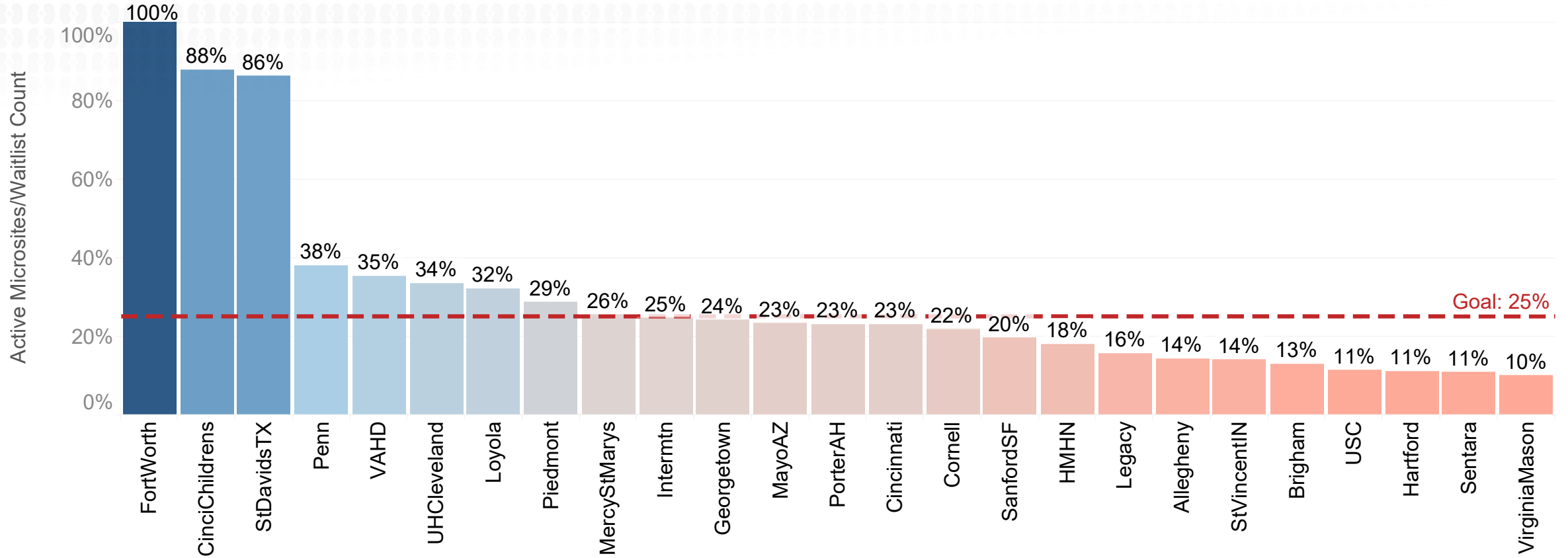


*Includes liver & kidney. Non-cumulative total for each year. 2023 data subject to change due to delays in transplant center reporting.  
As of 3/31/2024*



# Microsites: Enrollment Success

Percent of Waitlist Patients with Microsites



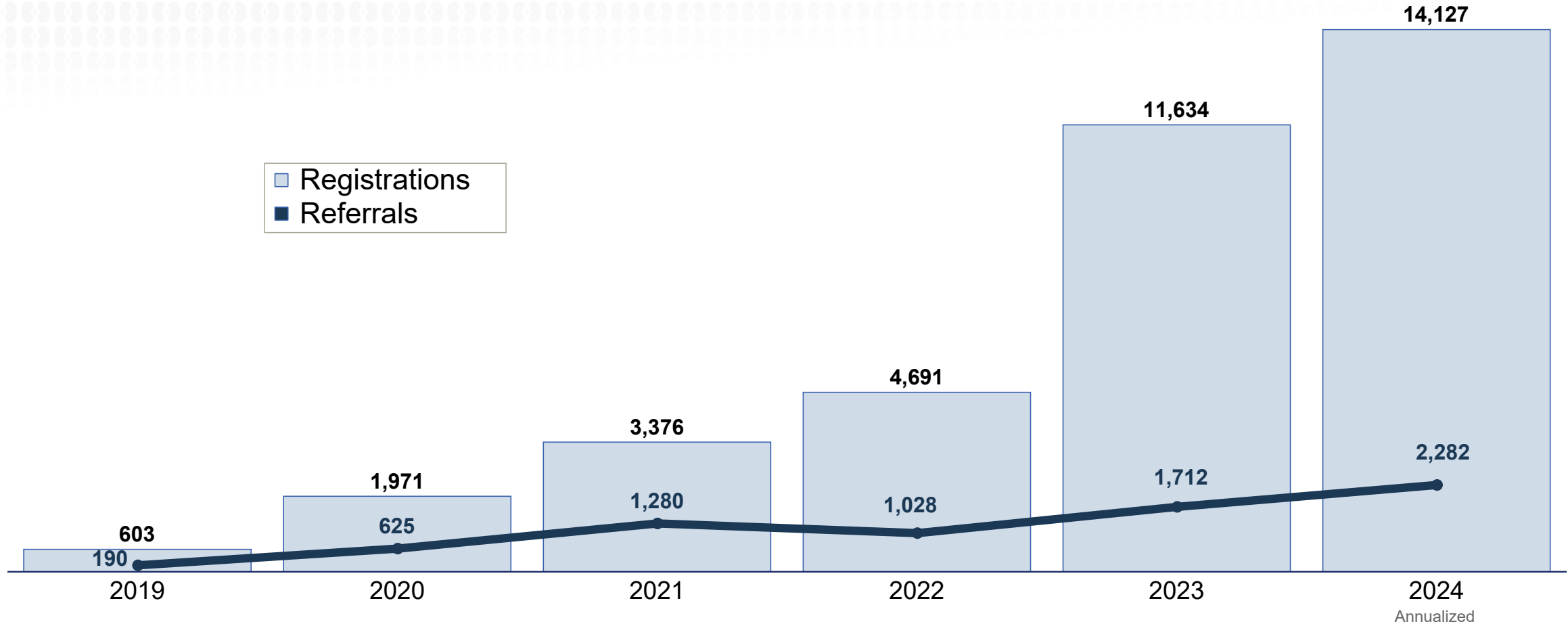
Active MS	206	22	159	569	47	90	122	183	79	88	207	165	69	69	166	17	72	25	30	53	72	181	38	51	25
Waitlist	126	25	184	1,491	133	268	377	634	308	355	853	707	296	296	759	86	395	159	207	375	556	1,597	338	465	244

NKR Microsite Data for 3/31/2024 compared to the latest OPTN waitlist data (2/1/2024). Formula: Active Microsites / Total Waitlist. Minimum 10% Success Rate. Waitlist Data Provided courtesy of NYU Grossman School of Medicine, Department of Surgery



# Microsites: Donor Registrations & Referrals

Growth in Microsite Activity



*Kidney only.*

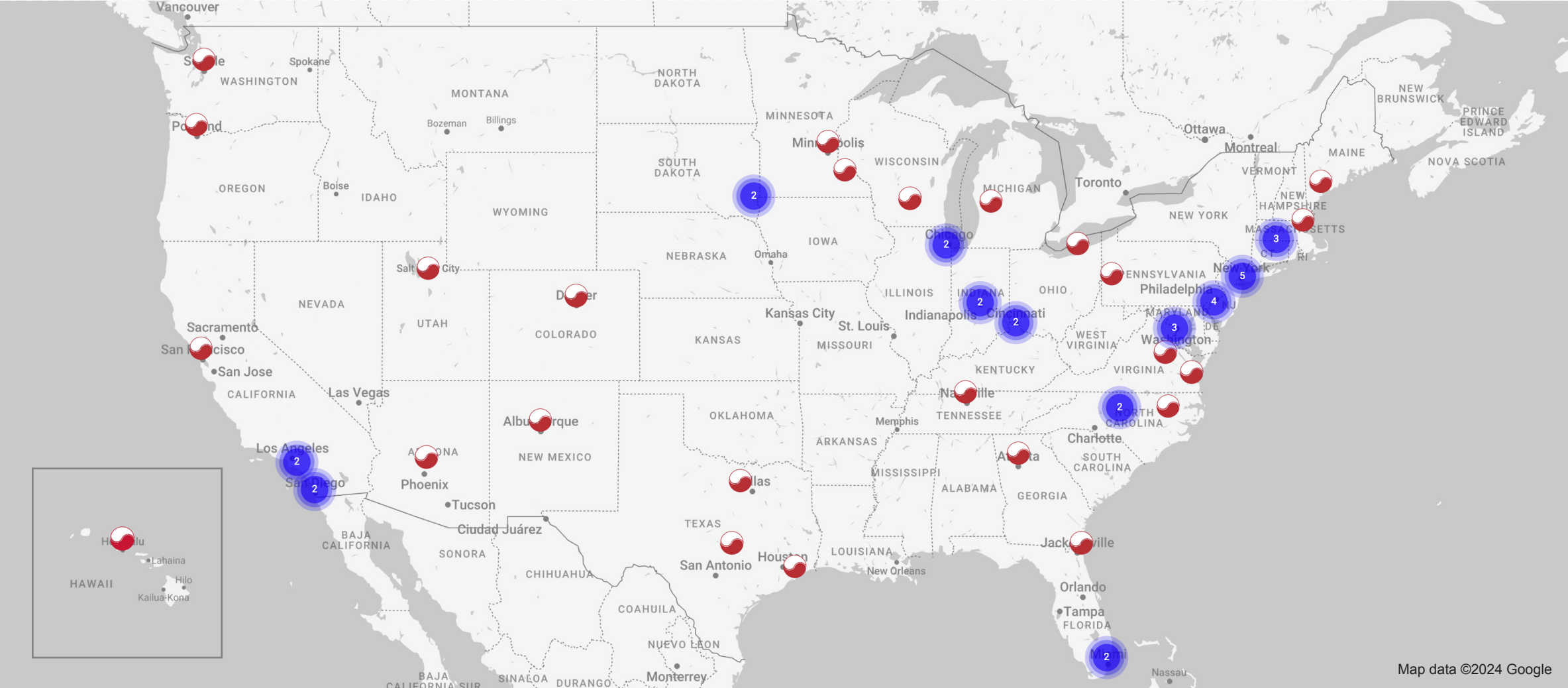
**Registration:** A donor candidate who completes the first form to start the registration process (Many 2023 registrants are still in the process).

**Referral:** A donor candidate who completed all stages of the registration process (Initial labs have been required to complete microsite donor registration process since October 2022).

As of 3/31/2024



# Microsite Centers

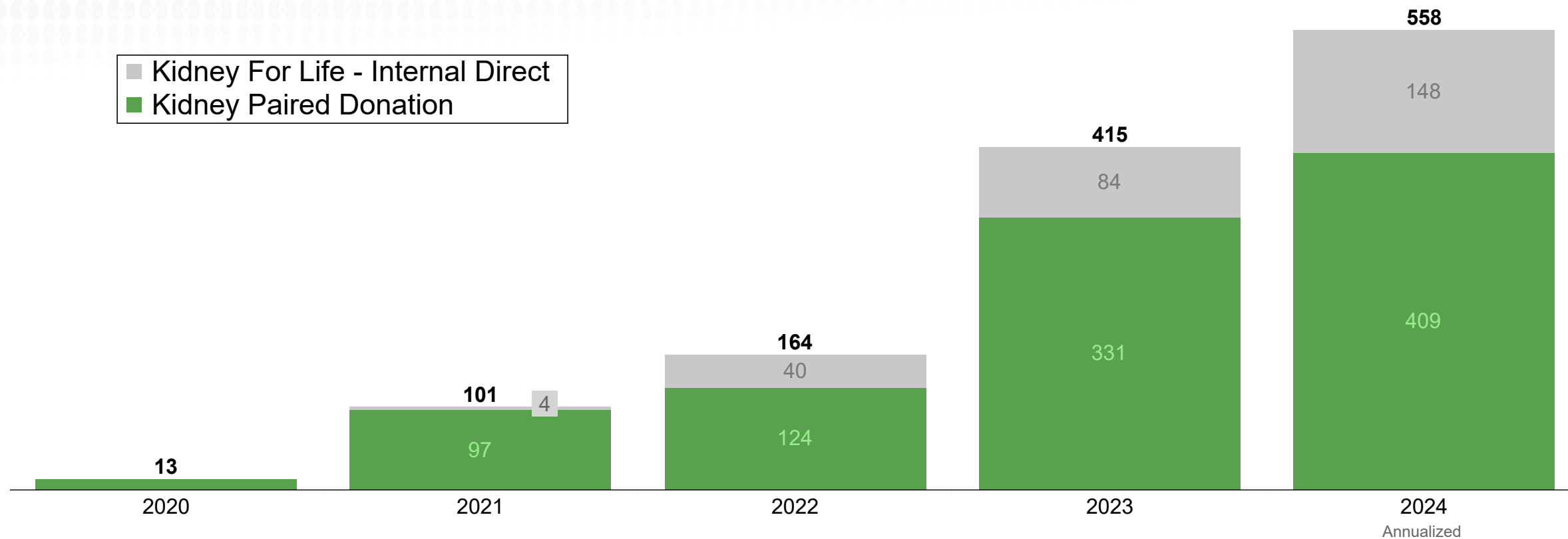


As of 4/16/2024.  
To see the latest microsite participating centers [click here](#).



# Low Eplet Mismatch Transplants

Compatible and Incompatible Pairs



Excludes waitlist.

As of 3/31/2024

Kidney for Life is an NKR initiative to provide opportunities for better donor matches.

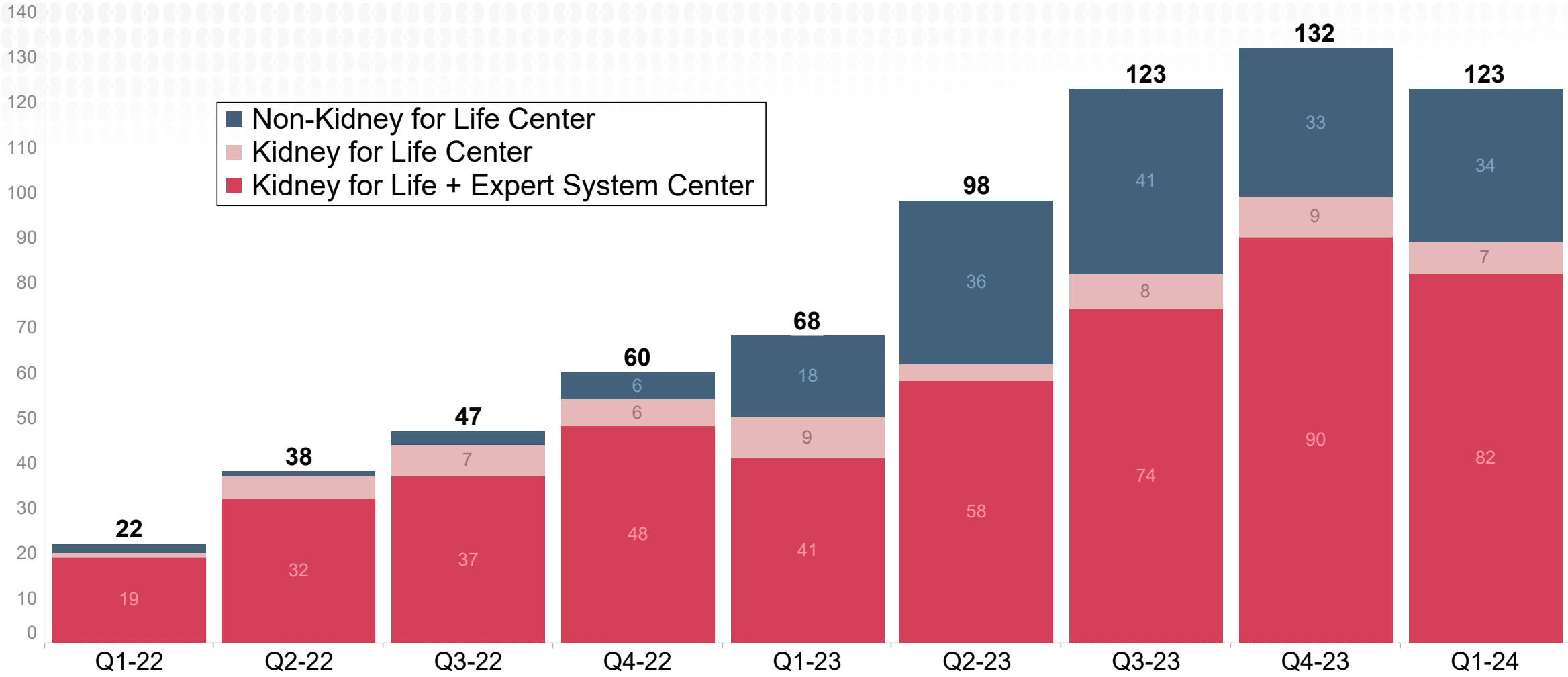
Eplet mismatch categories are based on the definition provided by Wiebe C, Kosmoliaptis V, Pochinco D, et al. HLA-DR/DQ molecular mismatch: a prognostic biomarker for primary alloimmunity.

Am J Transplant. 2019;19:1708–1719. <https://doi.org/10.1111/ajt.15177>





# Low Eplet Mismatch Transplants

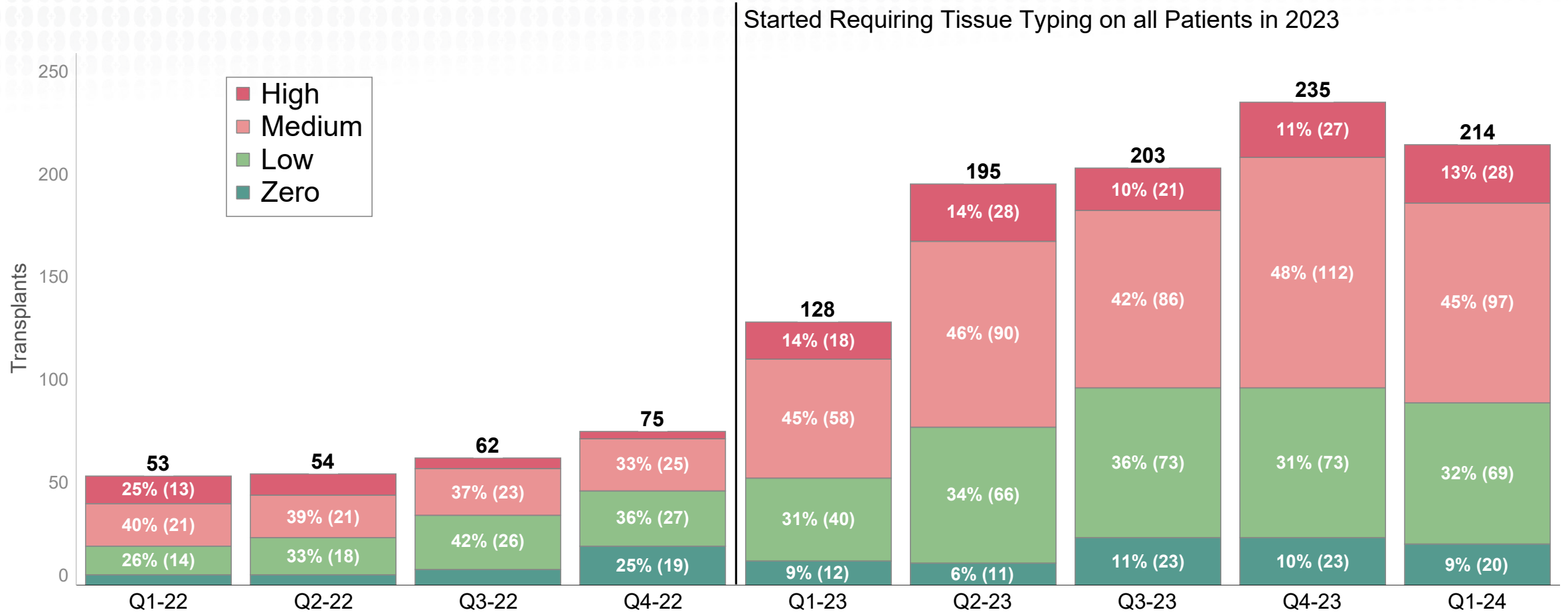


Low eplet mismatch transplants include Kidney for Life internal direct.  
 As of 3/31/2024  
 Kidney for Life is an NKR initiative to provide opportunities for better donor matches.



# Eplet Mismatch Transplants by Category

Voucher & Paired Recipient Types



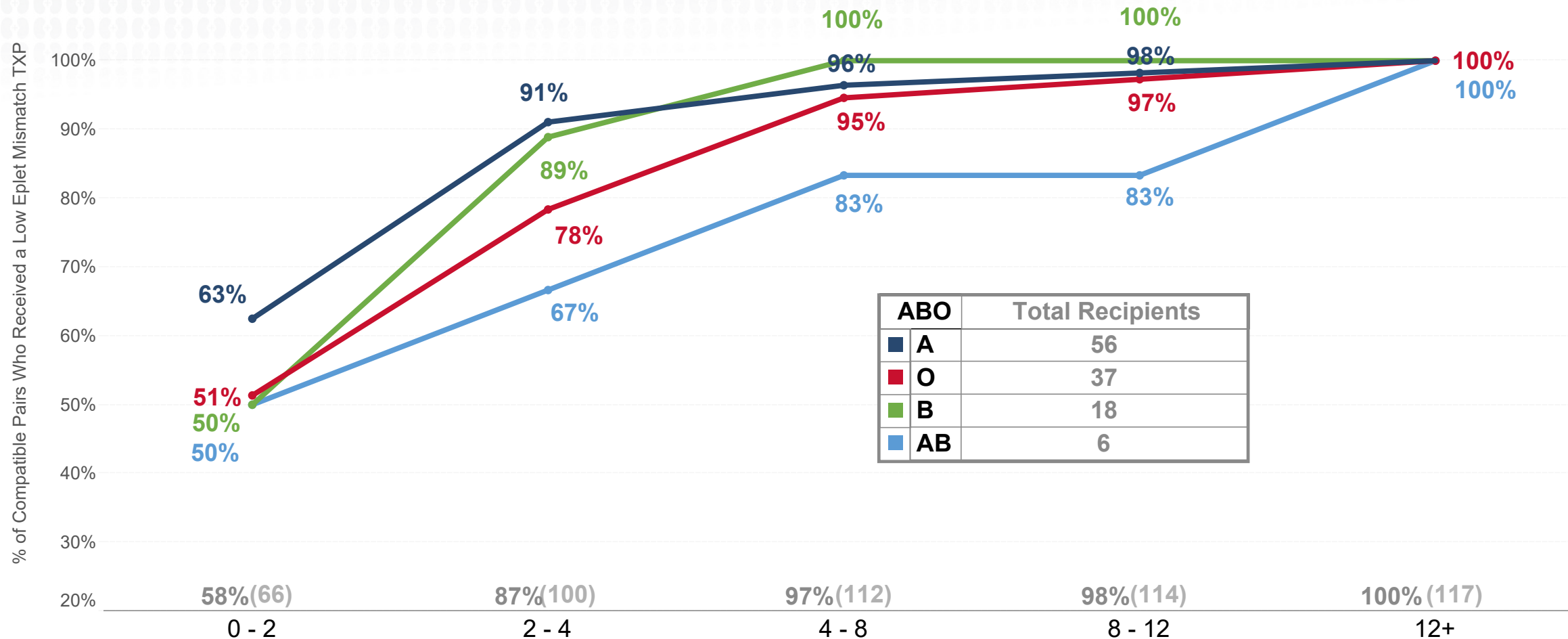
As of 3/31/2024

Eplet mismatch categories are based on the definition provided by Wiebe C, Kosmoliaptis V, Pochinco D, et al. HLA-DR/DQ molecular mismatch: a prognostic biomarker for primary alloimmunity. *Am J Transplant.* 2019;19:1708–1719. <https://doi.org/10.1111/ajt.15177>



# Actual Wait Times to Transplant

Compatible Pairs who Received a Low Eplet Mismatch Transplant

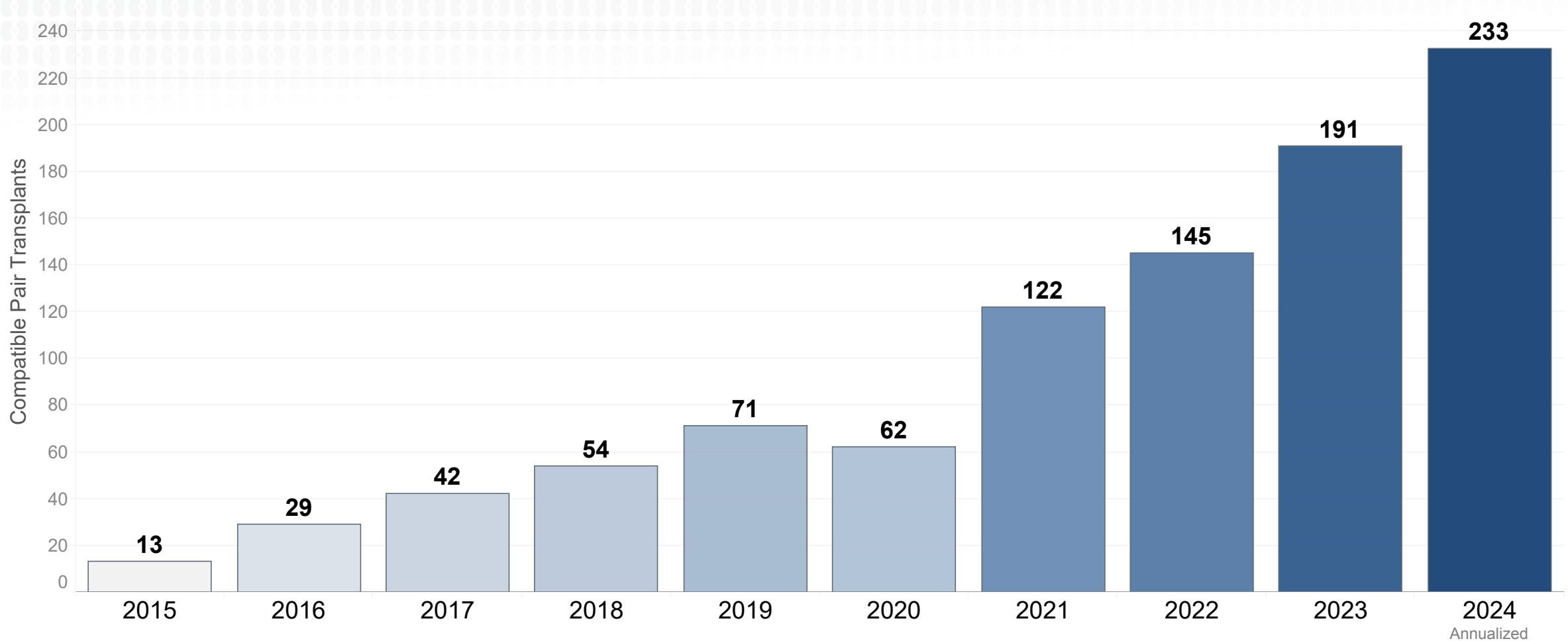


Excludes KFL internal direct. Last 12 months to date—as of 3/31/2024. cPRA ≤ 99



# Compatible Pair Transplants

The Kidney for Life Initiative Leads to More Compatible Pairs & Shorter Wait Times



*Voucher and paired recipients across the network.*

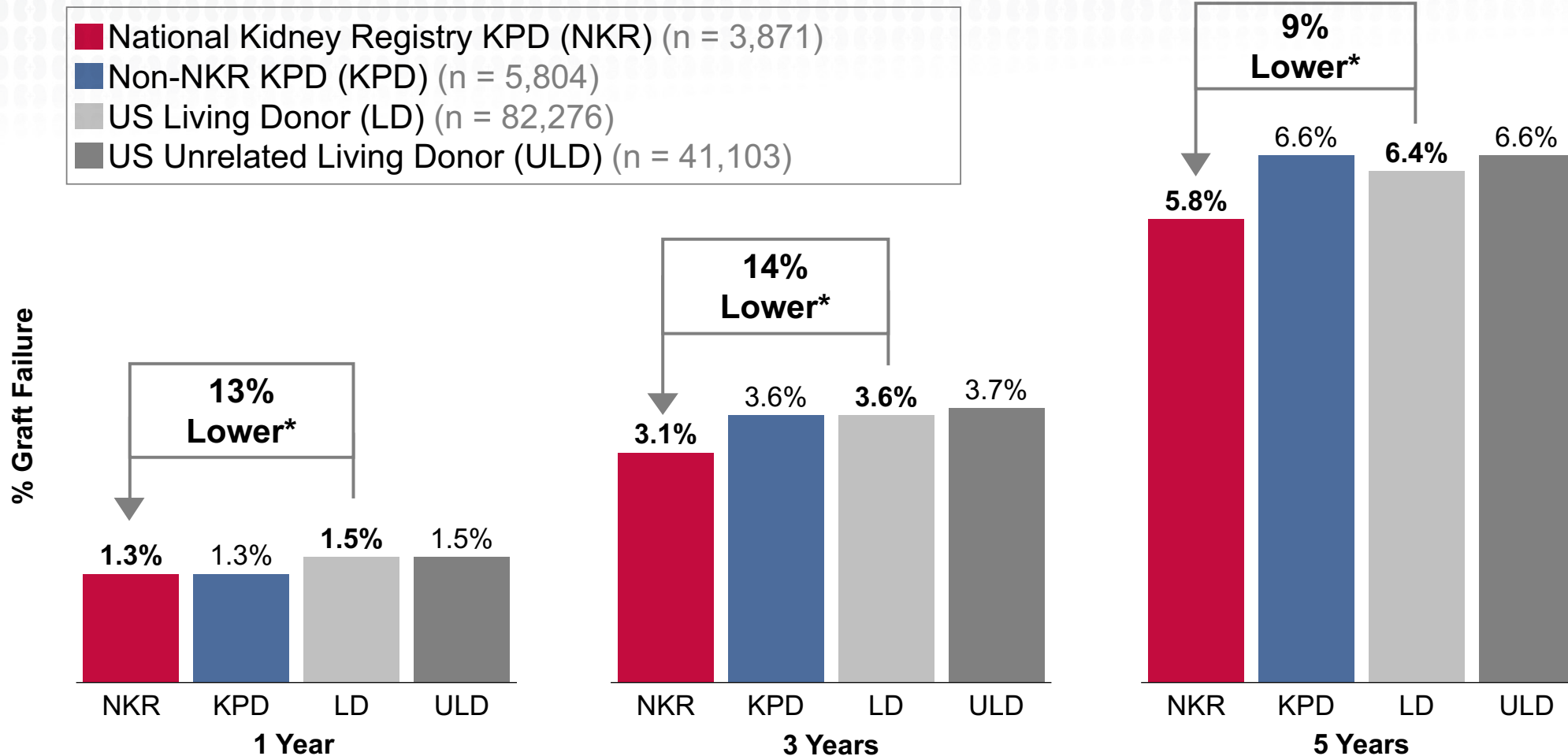
*A compatible pair is defined as a donor and recipient who are biologically compatible via blood type and antibody compatibility.*

*As of 3/31/2024*



# Death Censored Graft Failure Comparisons

Latest Data Shows that NKR Outcomes Continue to Improve



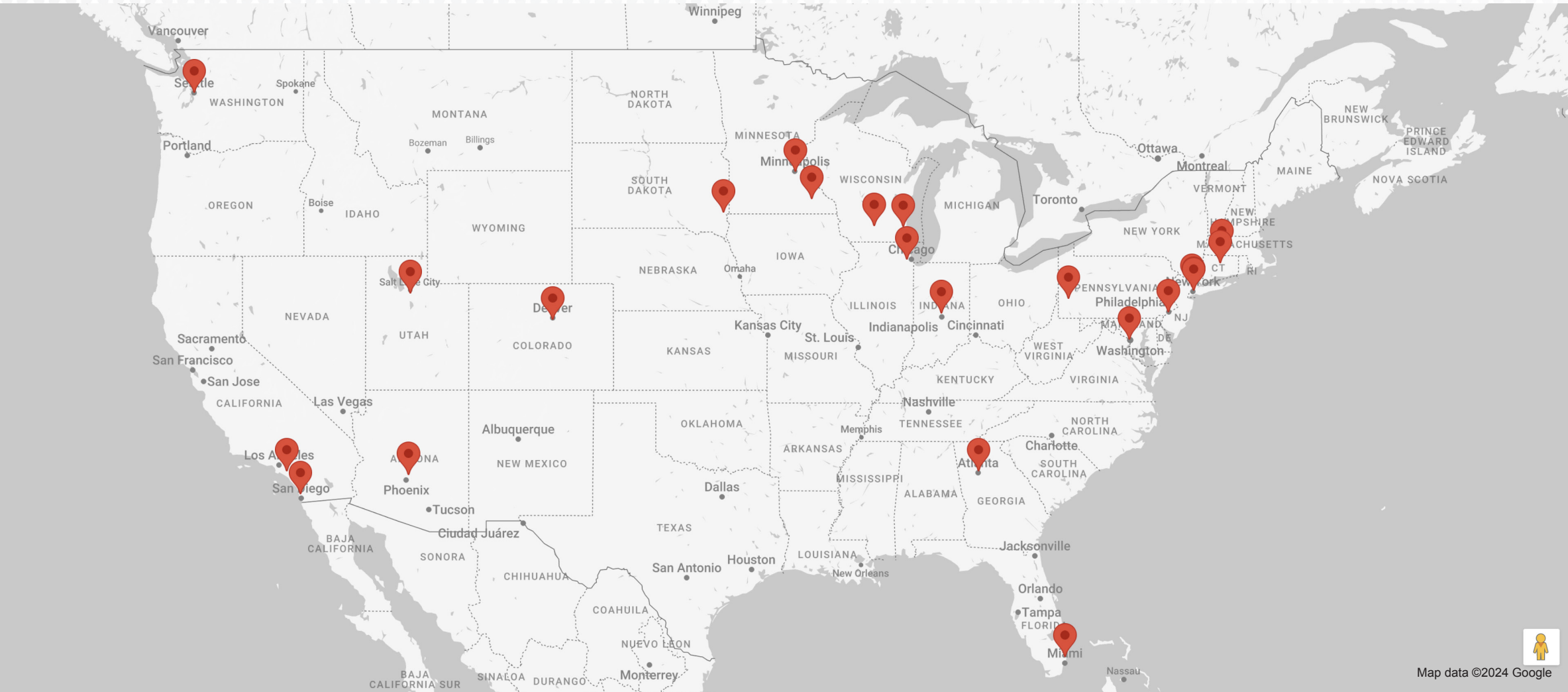
**\*Statistically Significant**

As of 8/1/2023

Provided courtesy of NYU Grossman School of Medicine, Department of Surgery \*Not including waitlist patients; Kaplan-Meier GS Rates for Transplants Performed: 02/2008-5/2023 with follow-up through 6/30/2023. <https://www.str.org/SRTR> data as of August 2023



# Kidney for Life Centers

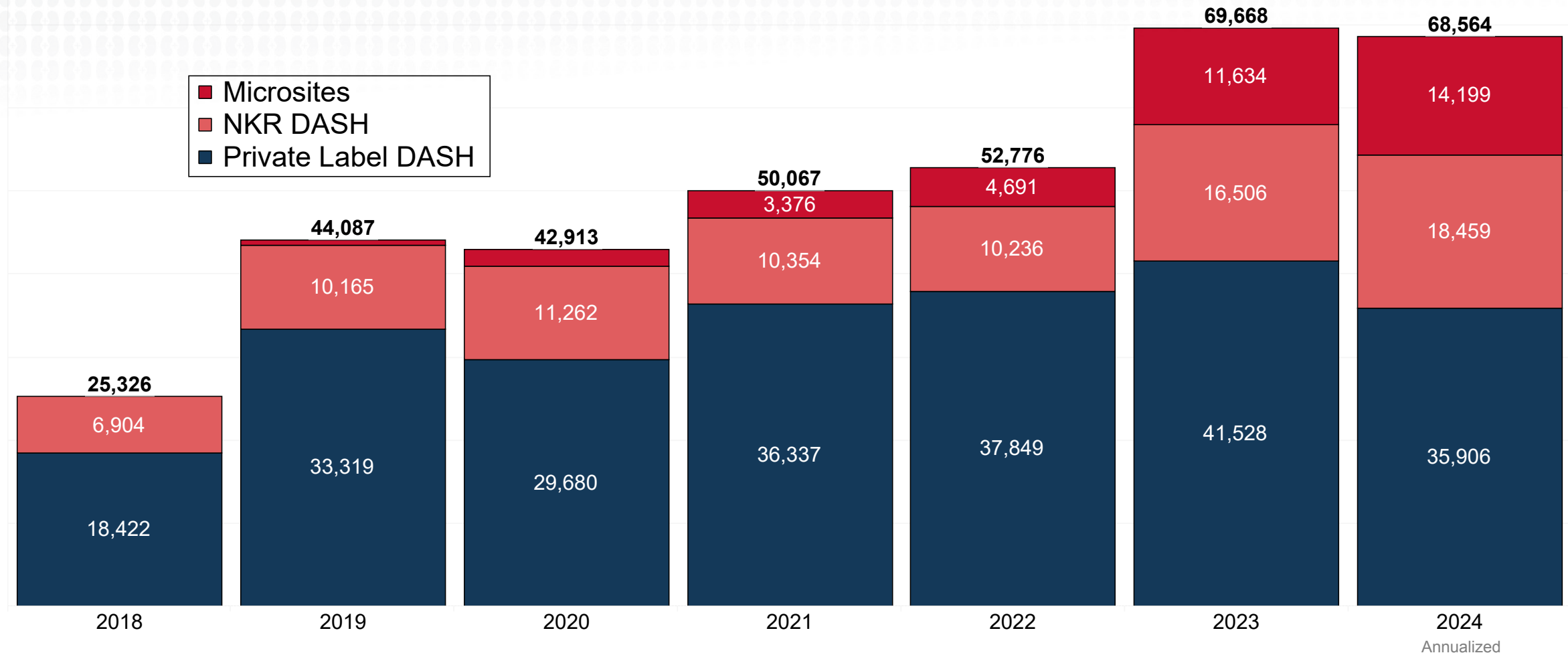


As of 4/16/2024  
To see the latest Kidney for Life participating centers [click here](#).



# Living Kidney Donor Registrations

Across All DASH Intake Platforms



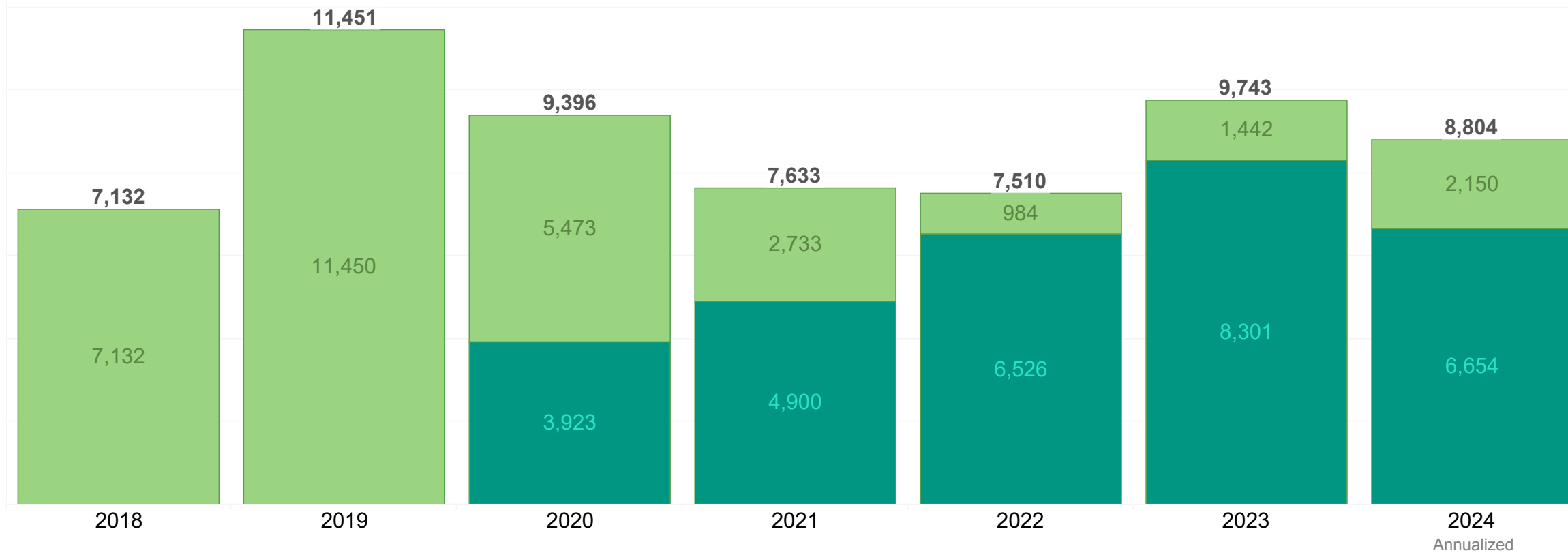
DASH = Donor Automated Screening & History  
As of 3/31/2024



# Good Samaritan Kidney Donor Candidate Registrations

Across All DASH Intake Platforms

**Donor Type**  
■ Non-Directed  
■ Family Voucher



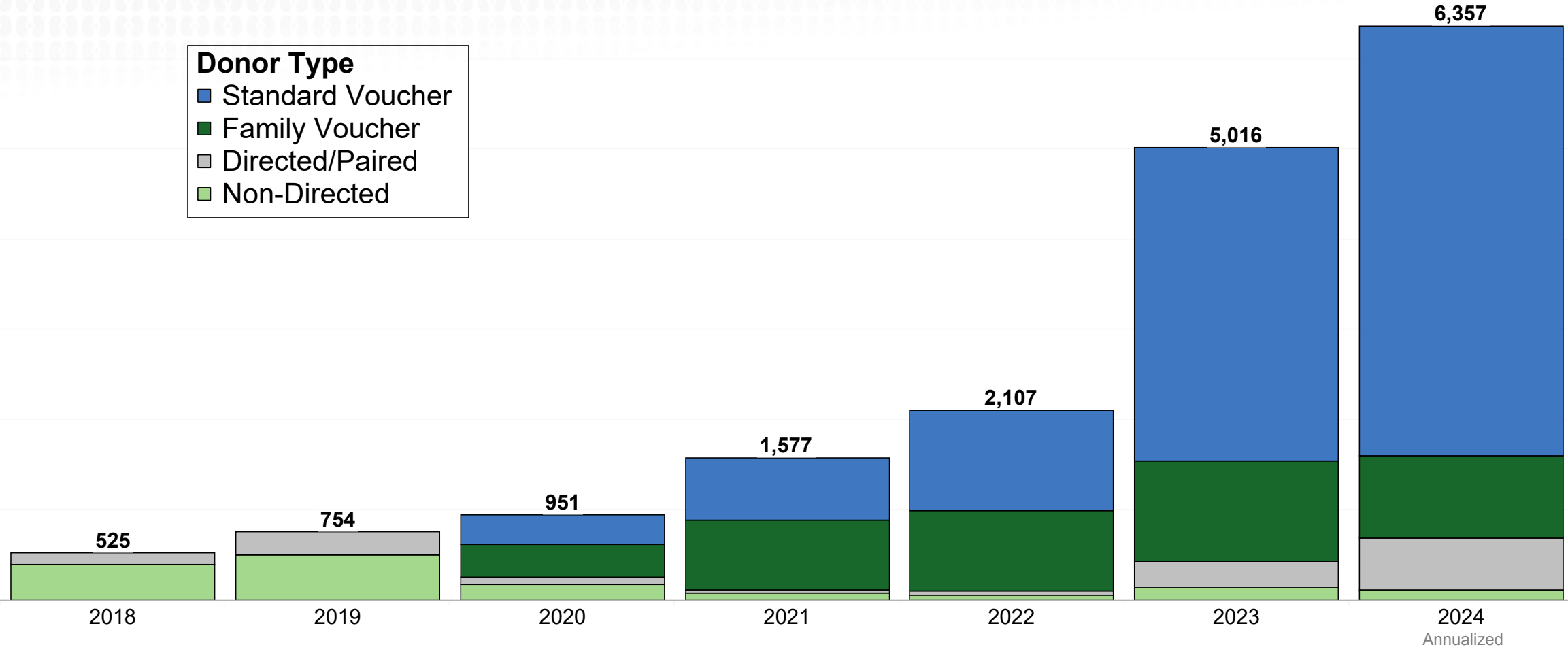
DASH = Donor Automated Screening & History  
As of 3/31/2024





# NKR Living Kidney Donor Referrals

Completed Online Screening, Medical History, and Labs

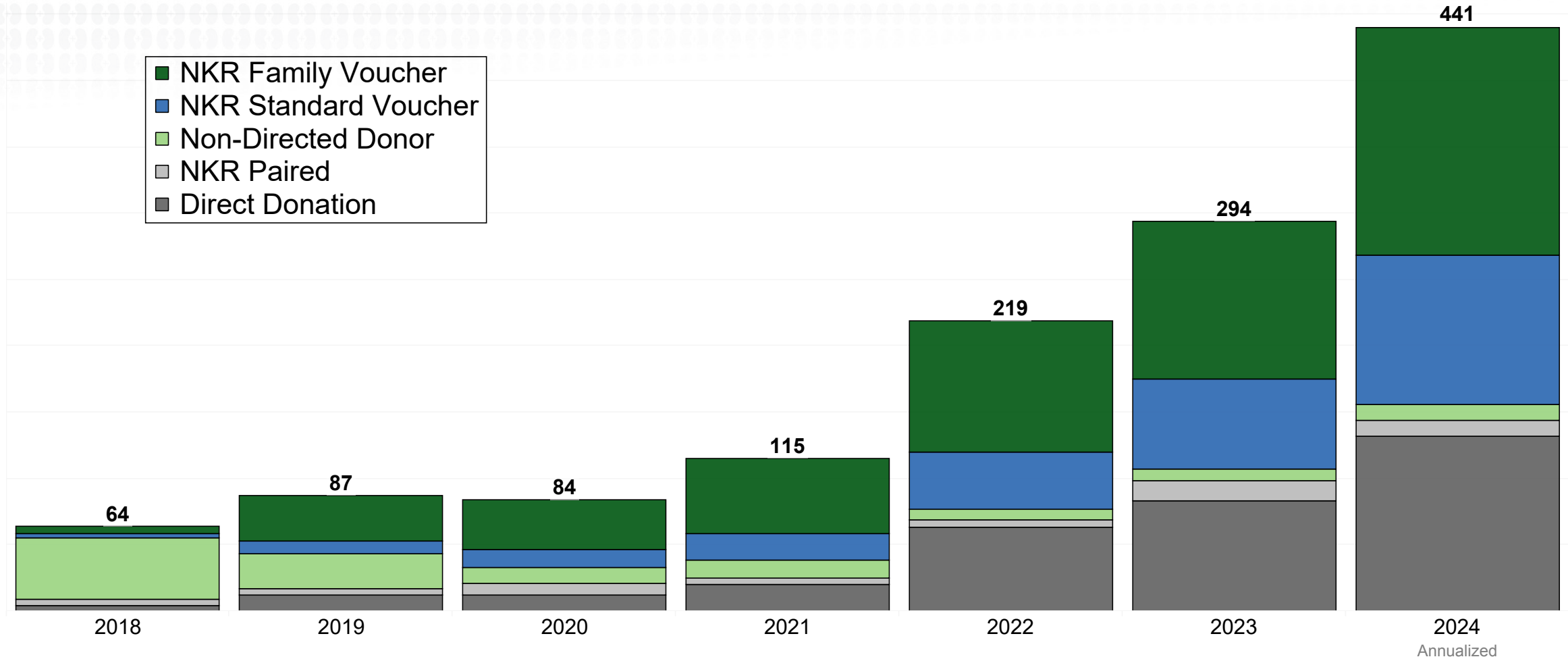


*Includes living kidney donor registrants from all NKR websites  
As of 3/31/2024*



# NKR Living Kidney Donations

Resulting from NKR Donor Referrals

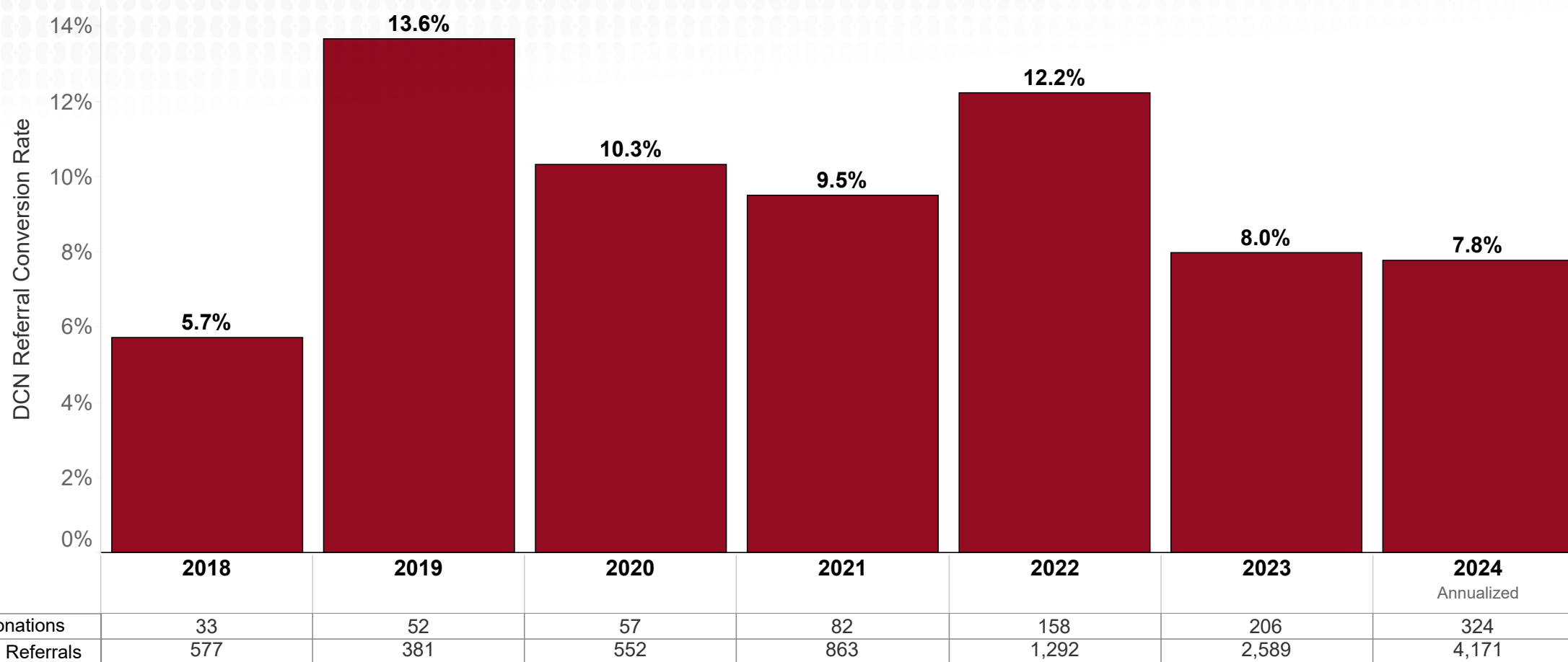


As of 3/31/2024



# Donor Care Network: Donor Referral Conversion Rate

Donations / Average Referrals



**Average Referrals:** (Annualized current year referrals + prior year referrals) / 2

Donor Care Network Center of Excellence (DCN). An elite group of transplant centers offering the highest level care and support to living kidney donors

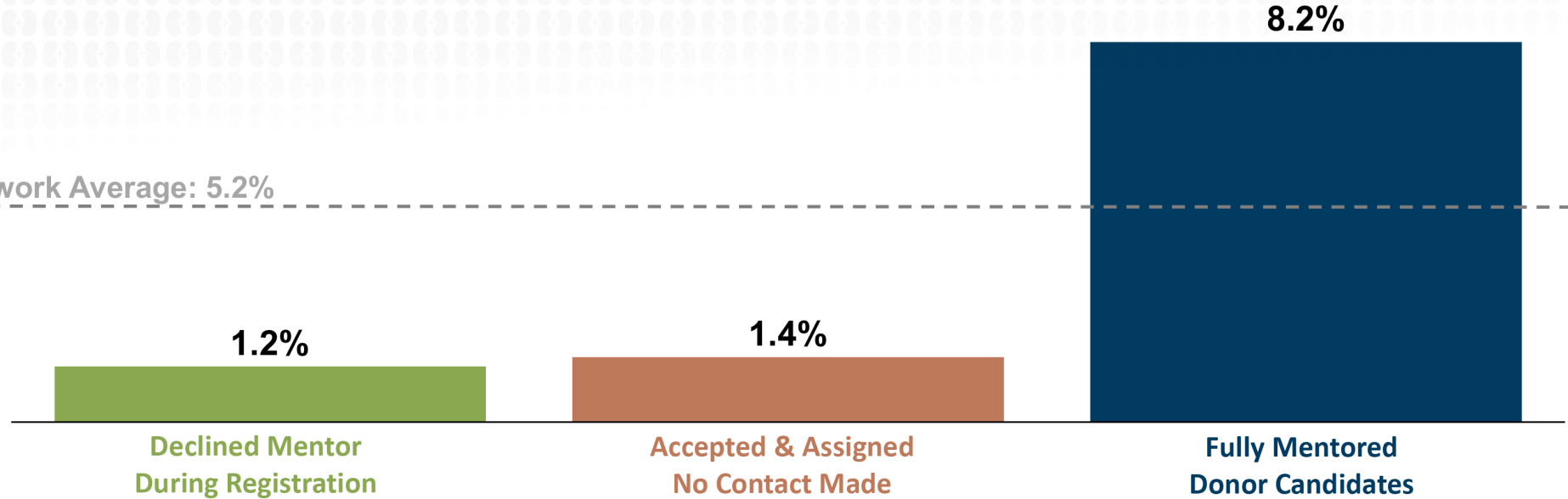
As of 3/31/2024



# Donor Mentors Result in Higher Conversion Rates

DASH Donations / Average Registrations

2024 Donor Care Network Average: 5.2%

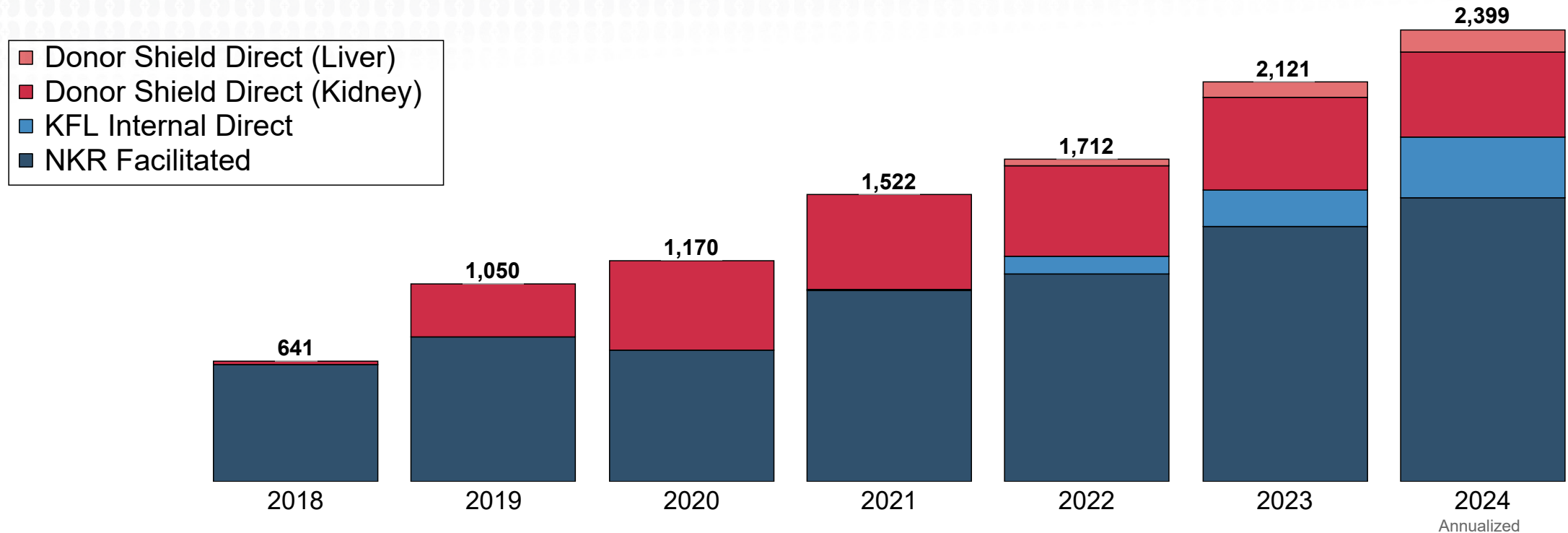


	Declined Mentor During Registration	Accepted & Assigned No Contact Made	Fully Mentored Donor Candidates
2024 Donations	184	140	1,028
2024 Registrations	12,556	9,140	12,540
2023 Registrations	18,063	11,028	12,596
Average Registrations	15,310	10,084	12,568
Conversion Rate	1.2%	1.4%	8.2%

Data for all DASH registrants (NKR & private label) who were offered a mentor during registration. All 2024 data is annualized. As of 3/31/2024



# Donor Shield: Living Donors Supported and Protected



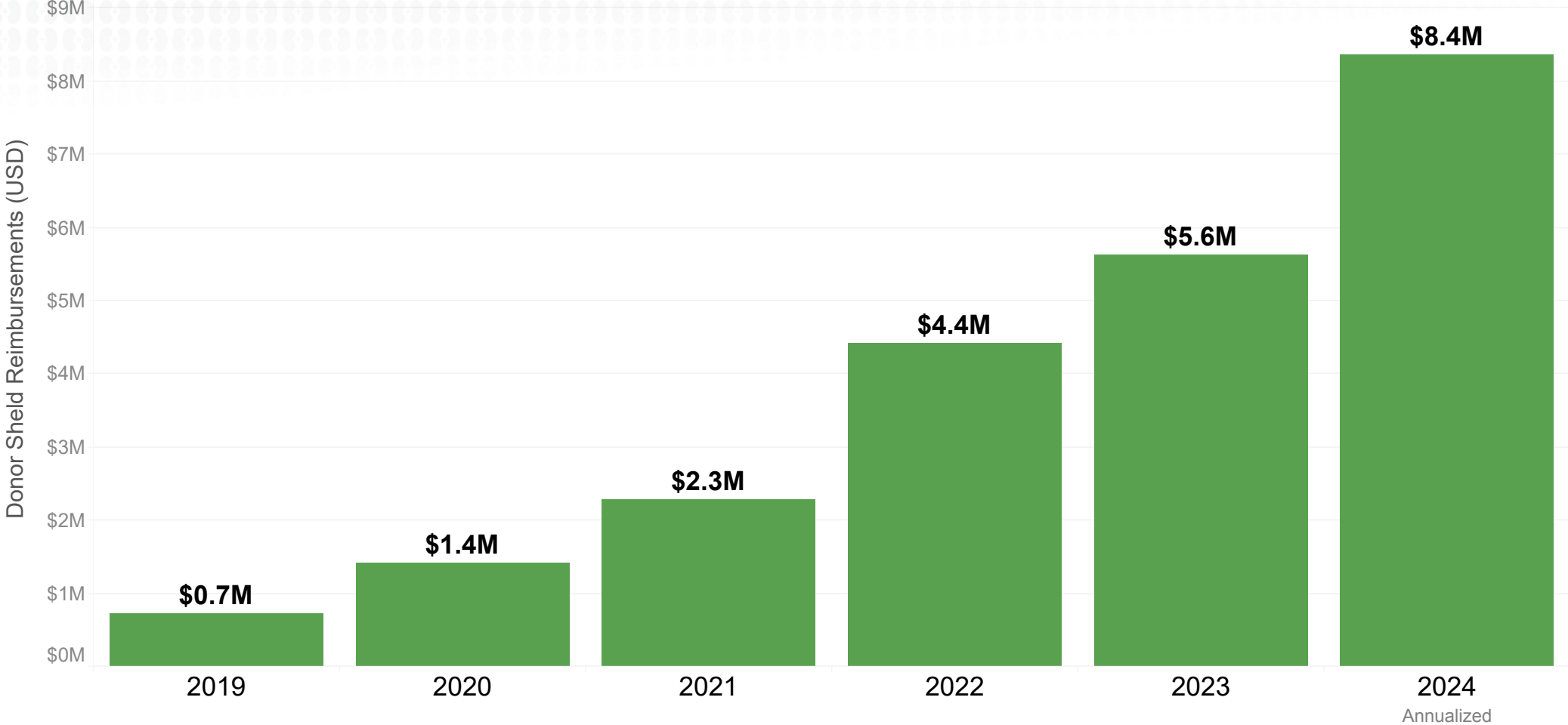
	2018	2019	2020	2021	2022	2023	2024 Annualized
Donor Shield Direct (Liver)					35	85	120
Donor Shield Direct (Kidney)	20	280	470	503	484	490	453
KFL Internal Direct				6	89	193	321
NKR Facilitated	621	770	700	1,013	1,104	1,353	1,504

Donor Shield offered for liver starting 2022. Living donor prioritization excluded for Donor Shield direct kidney and liver cases.  
As of 3/31/2024



# Donor Shield: Donor Reimbursements Paid

Eliminating Donation Disincentives

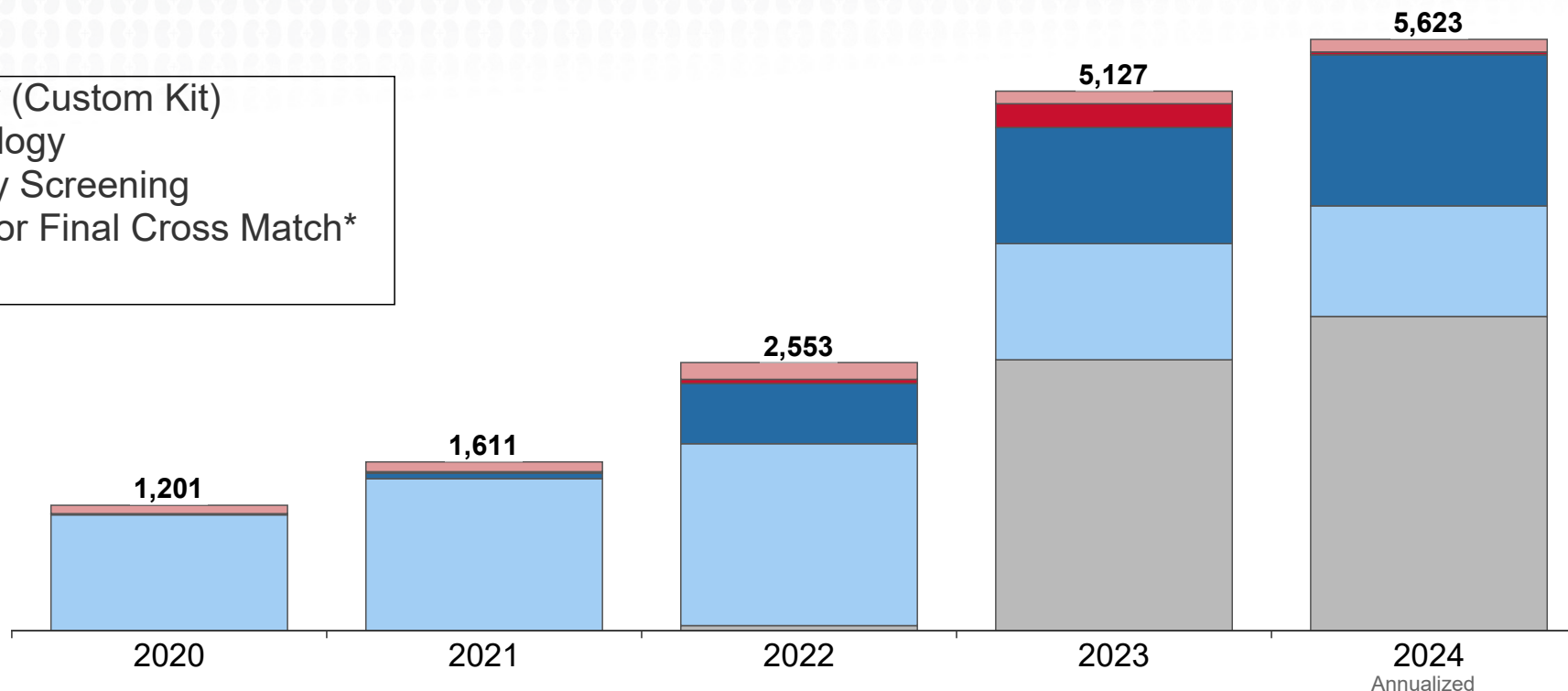
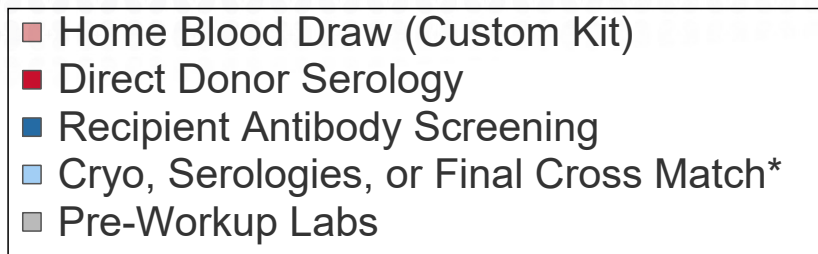


Primary reimbursement costs related to lost wages, travel and lodging.  
As of 3/31/2024



# Donor Shield: Removing Barriers to Donation

## Home Blood Draw Requests



	2020	2021	2022	2023	2024 Annualized
Home Blood Draw (Custom Kit)	79	92	162	118	112
Direct Donor Serology	2	17	37	218	32
Recipient Antibody Screening		51	569	1,110	1,432
Cryo, Serologies, or Final Cross Match*	1,120	1,451	1,726	1,095	1,059
Pre-Workup Labs			59	2,586	2,988

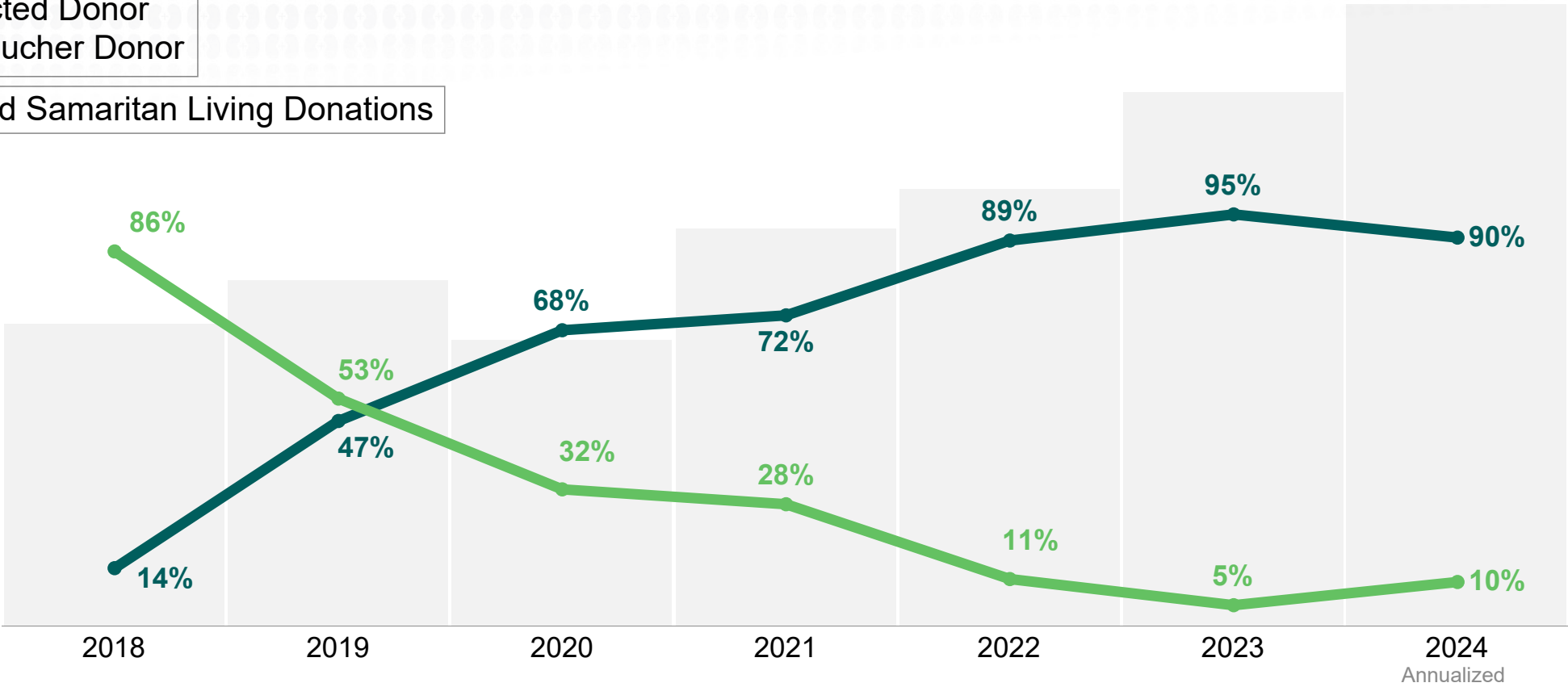
\*No longer shipping cryo kits as of March 2023  
As of 3/31/2024



# Decoupling Trend: Transition to Family Voucher Donation

■ Non-Directed Donor  
■ Family Voucher Donor

■ Total Good Samaritan Living Donations



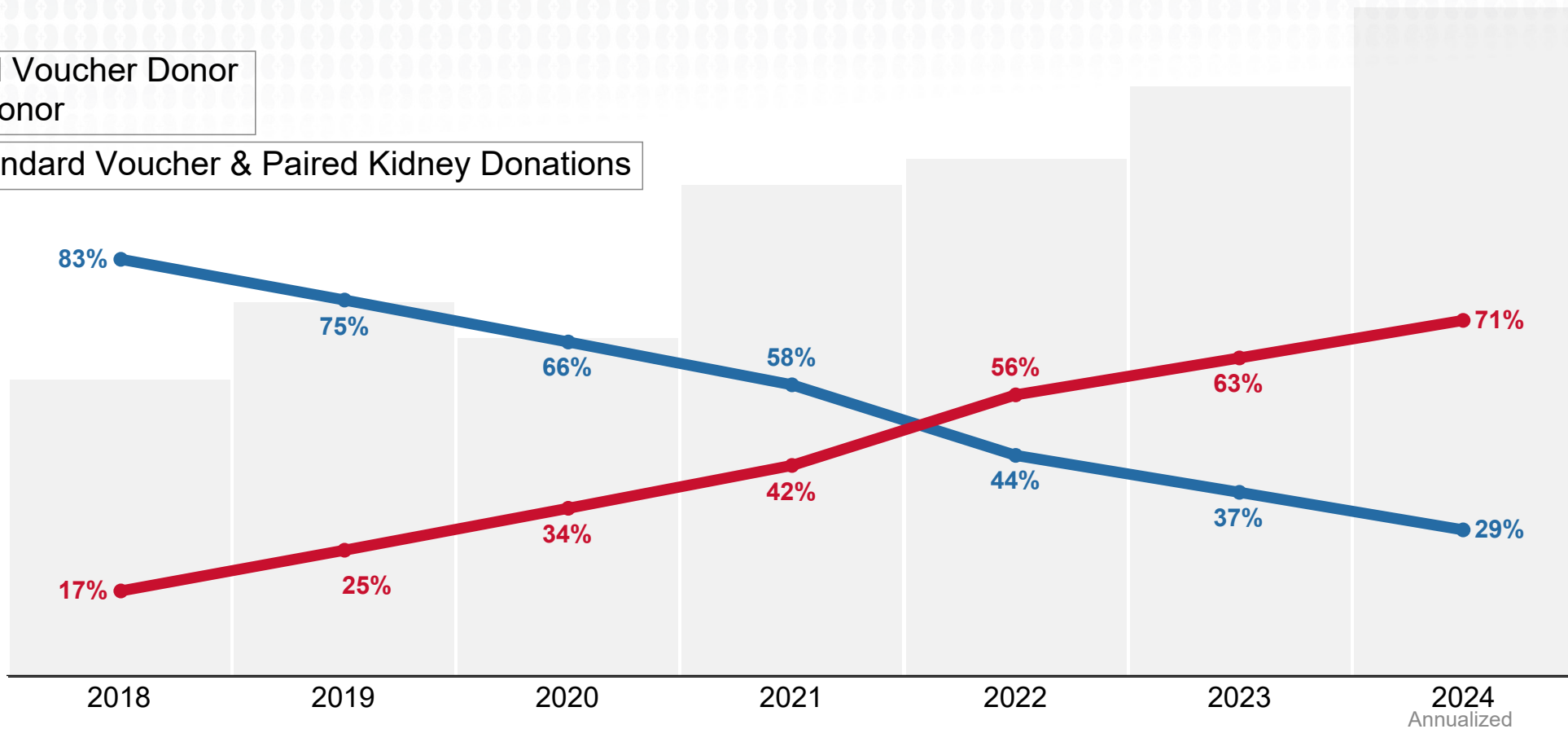
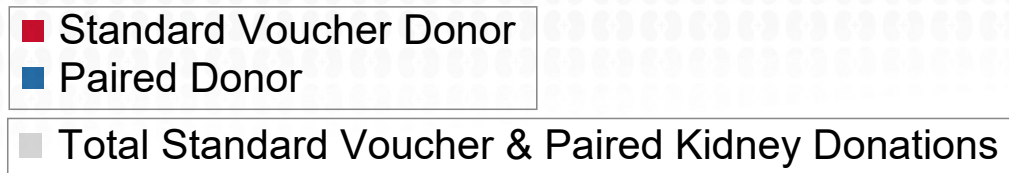
Non-Directed Donor	147	102	51	63	27	15	36
Family Voucher Donor	23	92	110	160	218	285	313
Total Donations	170	194	161	223	245	300	349

As of 3/31/2024





# Decoupling Trend: Transition to Standard Voucher Donation



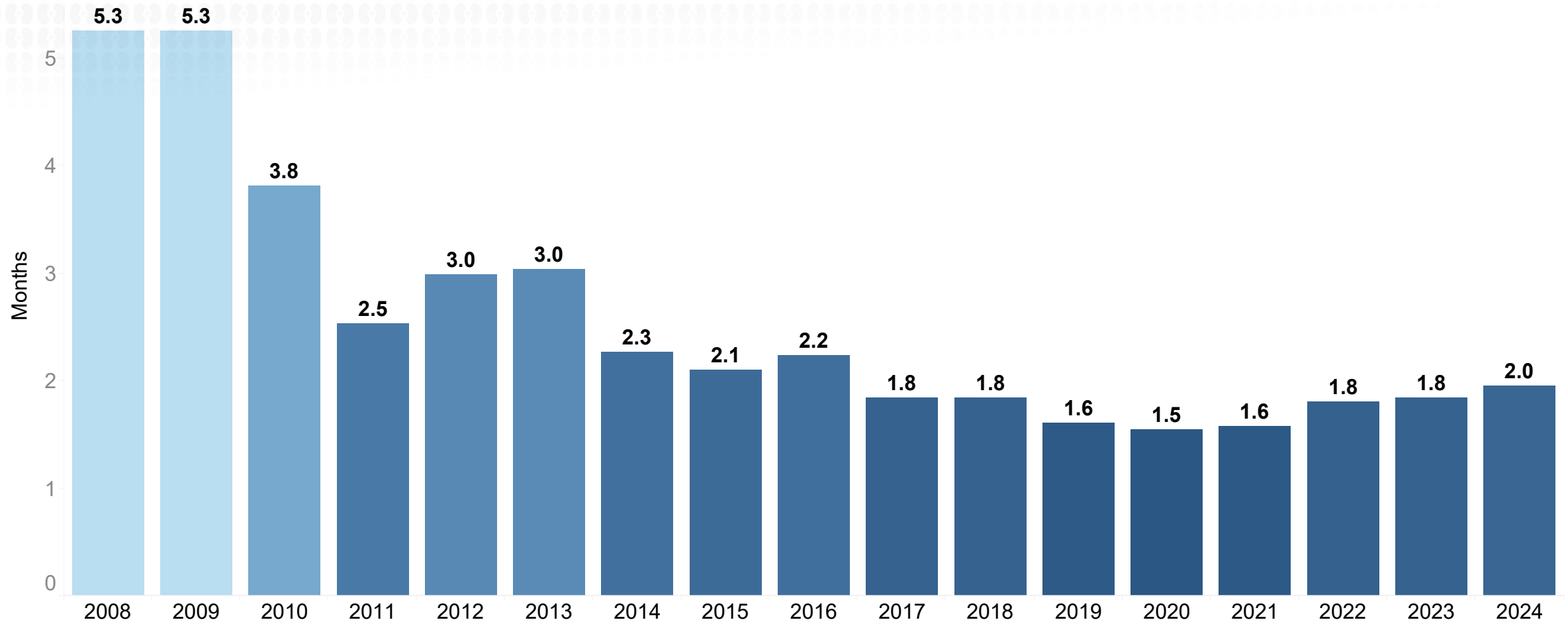
	2018	2019	2020	2021	2022	2023	2024 Annualized
Standard Voucher Donor	77	143	172	313	439	566	718
Paired Donor	372	424	341	432	345	328	297
Total Donations	449	567	513	745	784	894	1,015

As of 3/31/2024



# Wait Time: Median Time to Transplant

From Exportability to Transplant

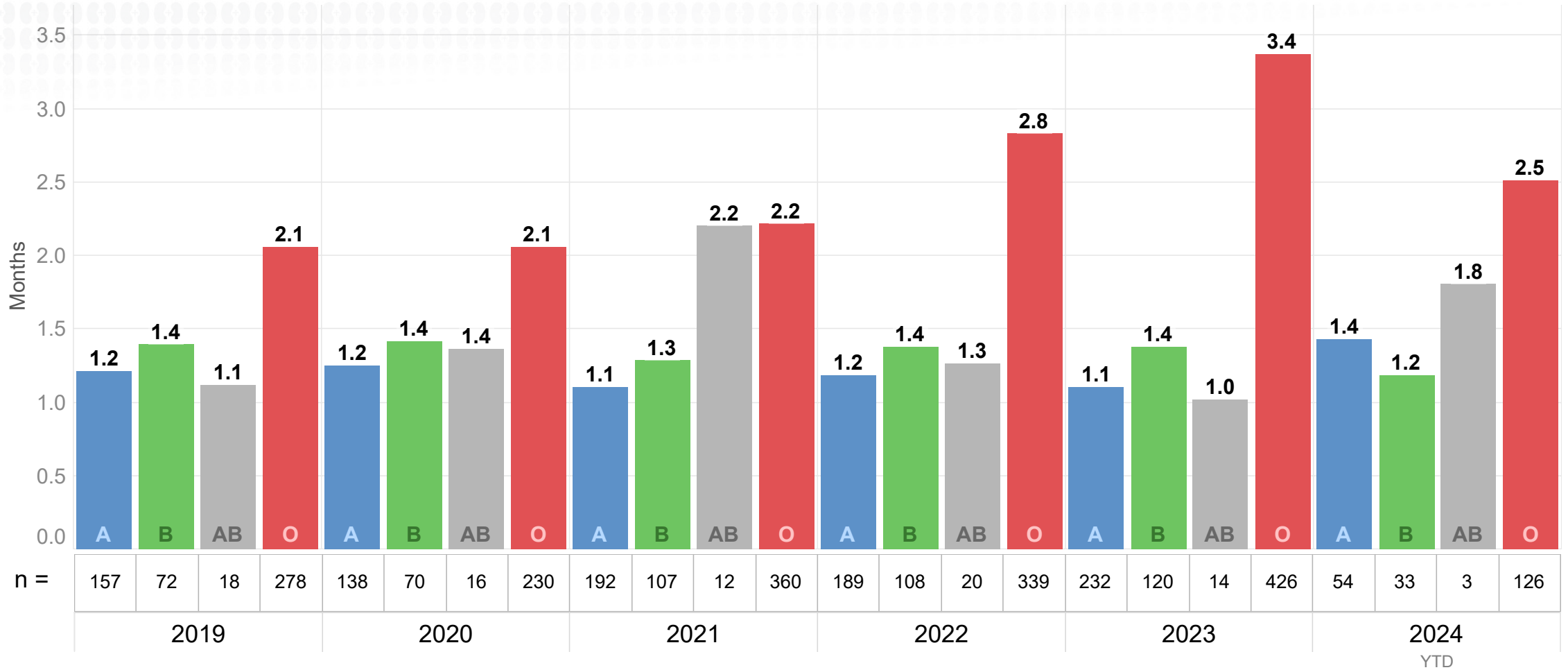


Total wait time including paired and voucher. Excludes non-KPD and waitlist patient transplants.  
As of 3/31/2024



# Wait Time: Median by Blood Type

From Exportability to Transplant

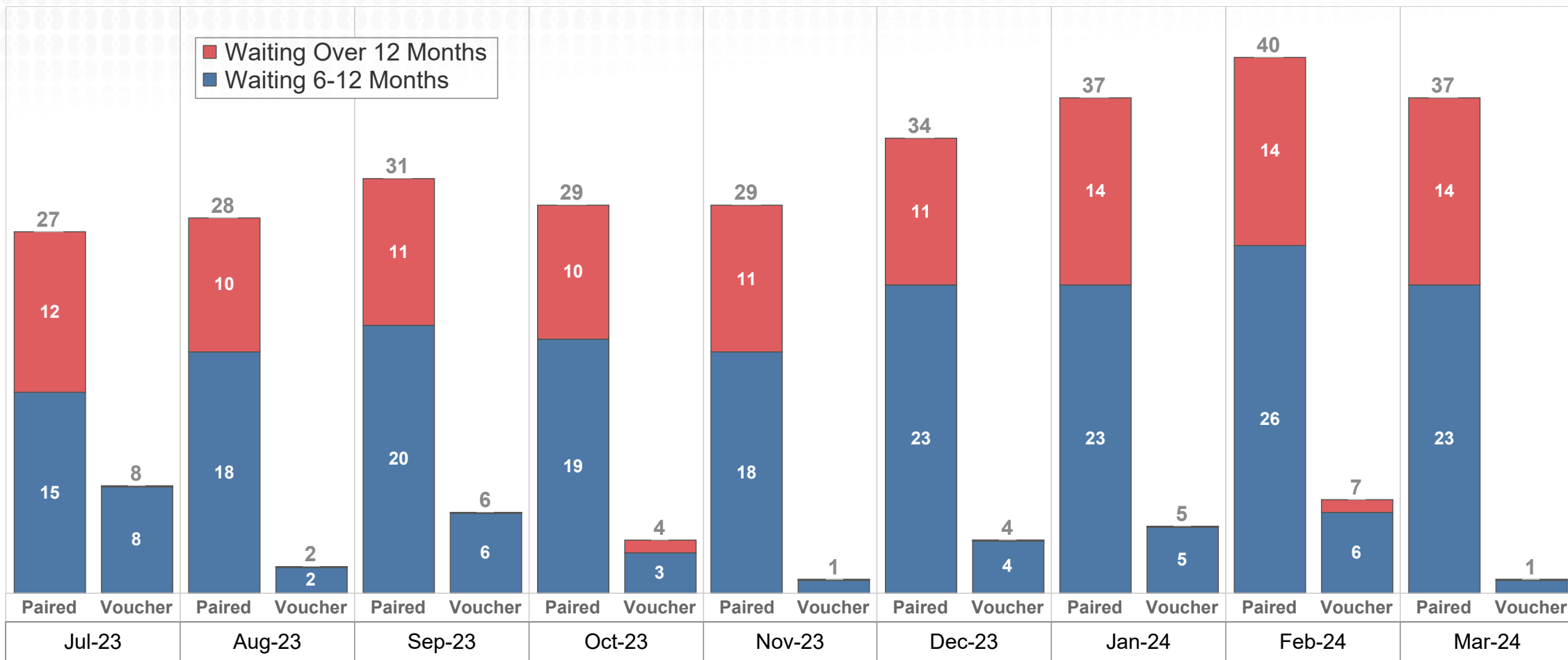


Total wait time including paired and voucher. Excludes non-KPD and waitlist patient transplants.  
As of 3/31/2024



# Wait Time: Voucher Patients have Shorter Wait Times

Currently Matchable Patients (At least one matchable donor currently in the donor pool)

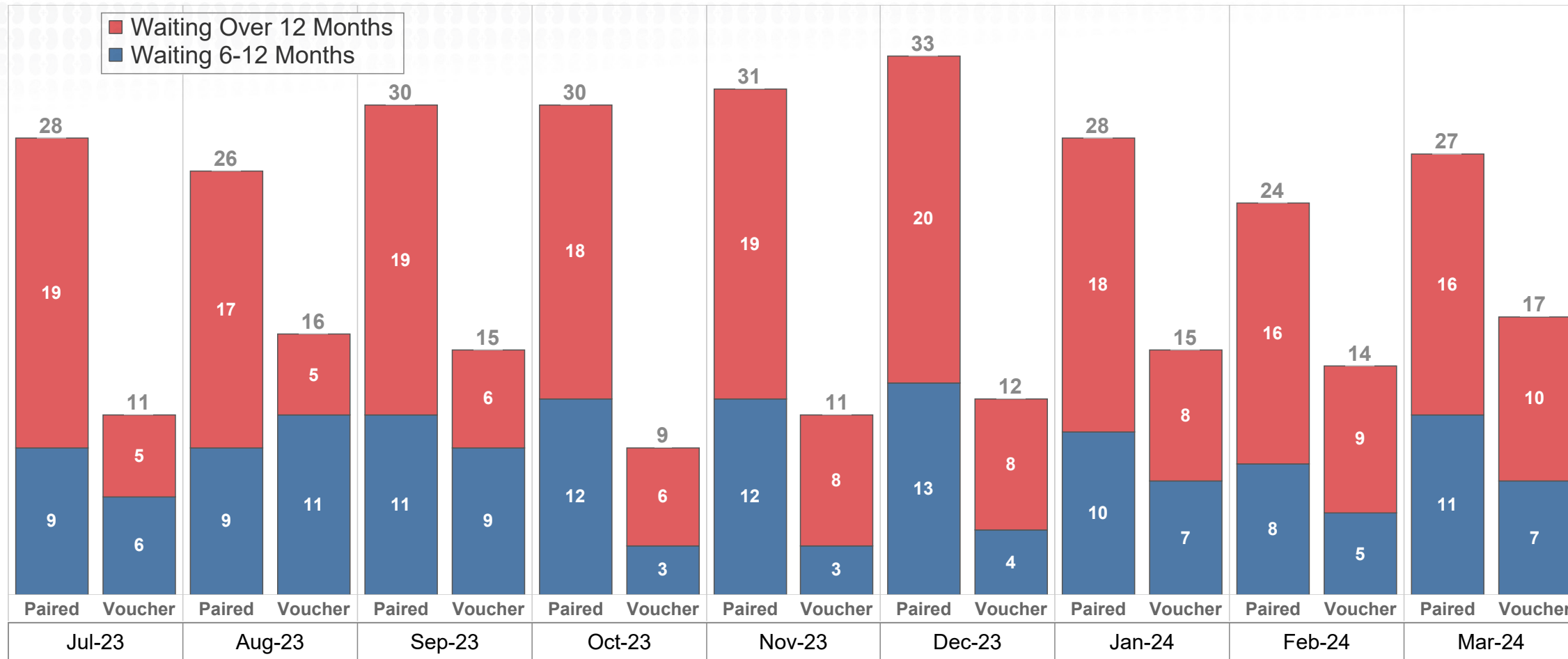


Excludes patients waiting less than 6 months. Snapshot of the last day of each month.  
As of 3/31/2024



# Wait Time: Voucher Patients have Shorter Wait Times

Currently Unmatchable Patients (No matchable donors currently in the donor pool)



Excludes patients waiting less than 6 months. Snapshot of the last day of each month.  
As of 3/31/2024



# Wait Time: Dialysis Patients Waiting 12+ Months

Due to High cPRA

## Paired Patients

#	Patient ID	Patient ABO	cPRA	Pair Wait Time
1	12411	A	100.00	42
2	10569	A	100.00	33
3	14941	O	100.00	28
4	15347	A	100.00	26
5	15582	O	100.00	23
6	16411	O	100.00	20
7	16821	A	100.00	15
8	13677	B	100.00	14
9	16568	O	100.00	13
10	12531	O	99.99	35
11	11785	A	99.99	33
12	18491	O	99.94	12
13	15282	O	99.91	26
14	12565	O	99.86	35
15	14460	O	99.71	26

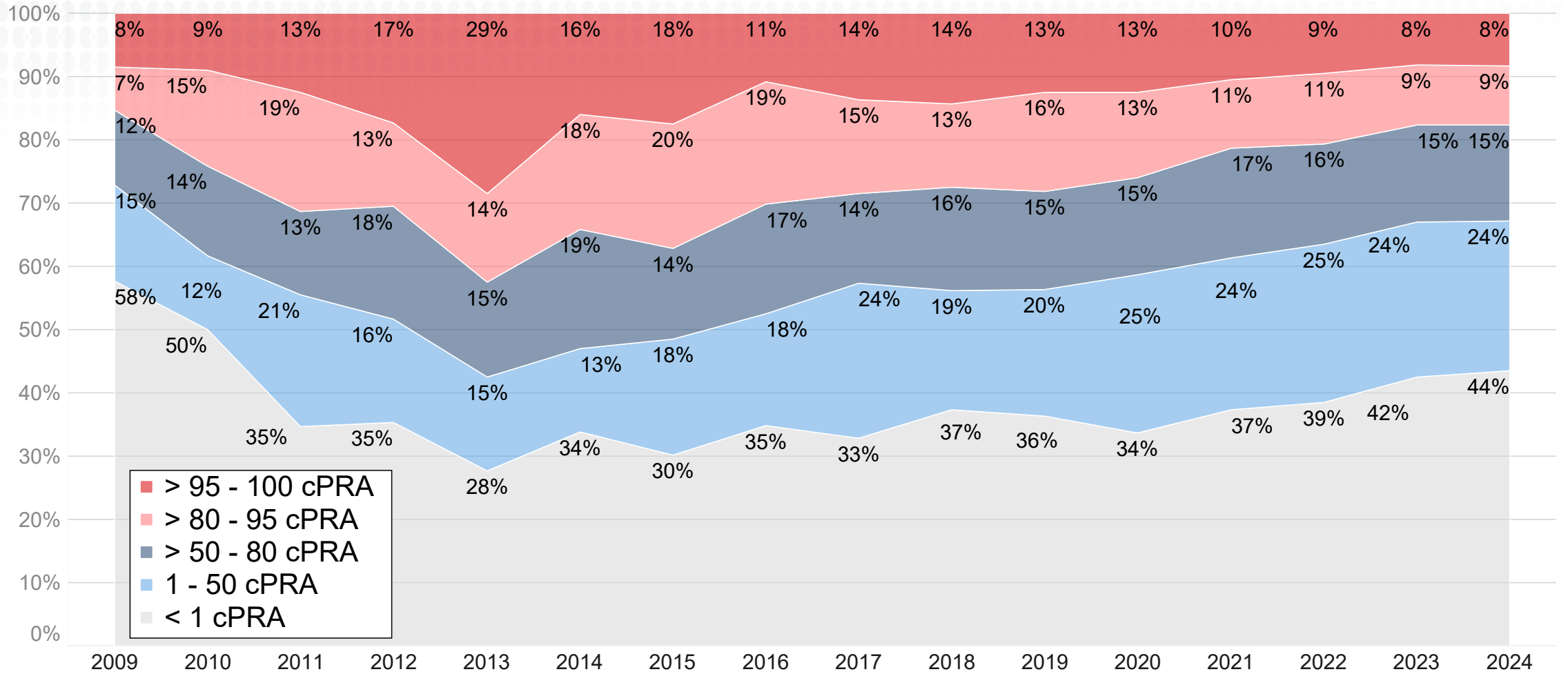
## Voucher Patients

#	Patient ID	Patient ABO	cPRA	Voucher Wait Time
1	13055	O	100.00	39
2	11047	A	100.00	36
3	13023	A	100.00	24
4	16866	O	100.00	18
5	12707	O	100.00	17
6	17677	B	100.00	14
7	10069	A	99.99	53
8	17499	O	99.97	13
9	14955	B	99.88	18

*Includes all patients on dialysis & exportable in the NKR pool with a cPRA >99.00  
As of 3/31/2024*



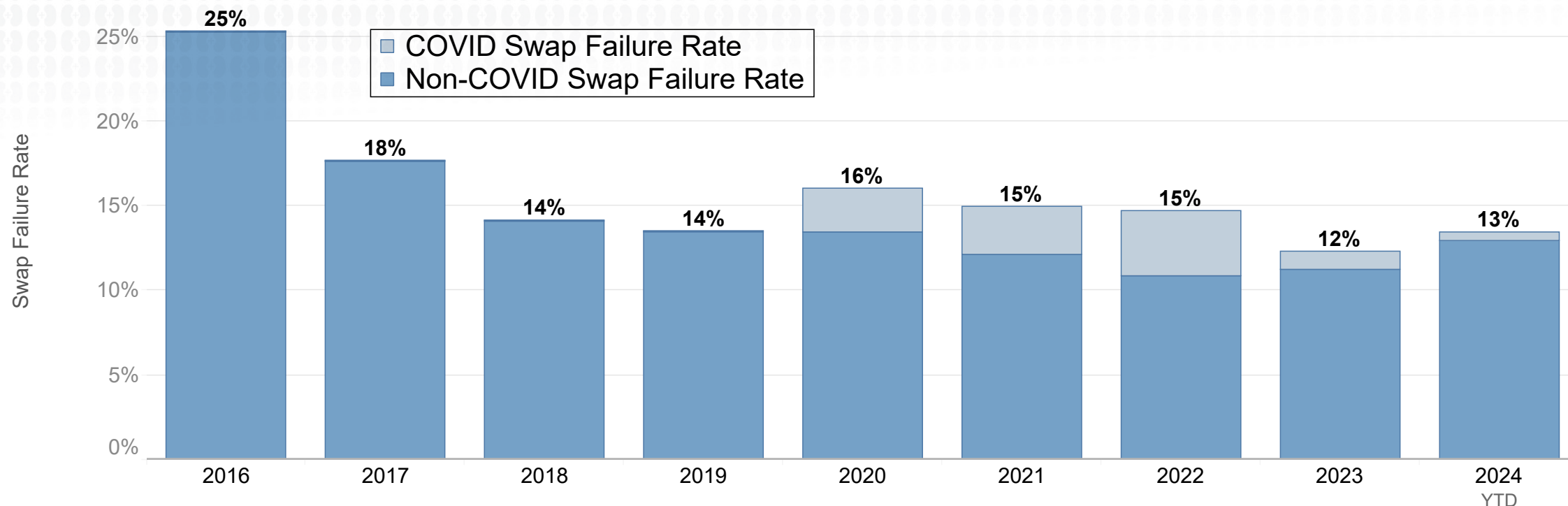
# Transplanted Recipients by cPRA



Excludes all non-KPD and waitlist patient transplants.  
As of 3/31/2024



# Swap Failure Rates



COVID Swap Failure	0	0	0	0	21	32	46	15	2
Non-COVID Swap Failure	135	99	102	119	108	138	131	154	51
Swaps	399	462	619	761	675	968	1,030	1,205	341

**Formula:** Swap Failures / Total Swaps (Successful Swaps + Failed Swaps)

Swaps exclude NKR internal direct, Kidney for Life internal direct, Kidney for Life remote direct, microsite internal direct and remote direct transplant.

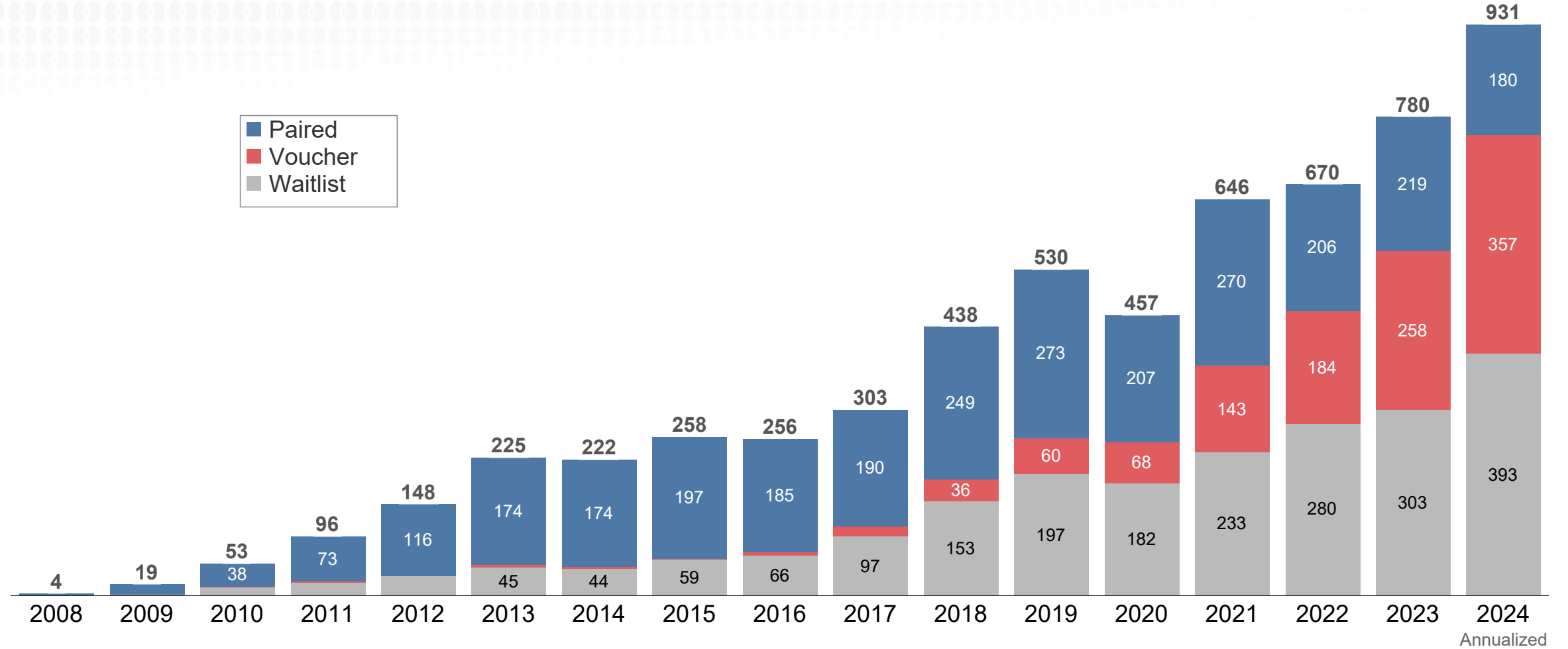
As of 3/31/2024





# Medicare Cost Analysis: Dialysis Patients Transplanted

The National Kidney Registry is on track to save Medicare nearly \$150 million in dialysis costs in 2024



Paired, voucher, and waitlist recipients on dialysis.  
As of 3/31/2024



# Medicare Cost Analysis: Single-Year Dialysis Savings

The National Kidney Registry is on track to save Medicare nearly \$150 million in dialysis costs in 2024

**RESULTS** In 1335 hospital-years from 2012 through 2017, Medicare's share of OACC costs increased from \$0.95 billion in 2012 to \$1.32 billion in 2017 (3.7% of total Medicare End-Stage Renal Disease program expenditure). Median (IQR) OACC costs per transplantation increased from \$81 000 (\$66 000 to \$103 000) in 2012 to \$100 000 (\$82 000 to **\$125 000**) in 2017.

**\$159,738**

Inflation-Adjusted Median  
(IQR) OACC Costs\*

X

**931**

2024 NKR LD Transplants  
for Patients on Dialysis  
(Annualized)

=

**\$149M**

One Year Medicare  
Dialysis Savings

*Paired, voucher, and waitlist recipients on dialysis.*

*\*Inflation calculated from U.S. Consumer Price Index (CPI) Jan 2017–Feb 2024*

*As of 3/31/2024*

*Trends in Cost Attributable to Kidney Transplantation Evaluation and Waiting List Management in the United States, 2012-2017.*

*Xingxing S. Cheng, MD, MS; Avi Dor, PhD Et al.*

*JAMA NetworkOpen. 2022;5(3):e221847.doi:10.1001/jamanetworkopen.2022.1847 March10, 2022*



# Resources

kidneyregistry.org

donor-shield.org

Rank	Center Name	State	...
1	University of Minnesota Medical Center	MN	83
2	Mayo Clinic Rochester	MN	88
3	Hospital of the University of Pennsylvania	PA	81
4	Mayo Clinic Arizona	AZ	77
5	MedStar Georgetown University Hospital	DC	45
6	University of Wisconsin-Madison	WI	63
7	NYU Langone Health	NY	71
8	NewYork Presbyterian/Well Cornell	NY	41
9	UCSF Medical Center	CA	51
10	UCVA Medical Center	VA	49
11	Intermountain Medical Center	UT	23
12	Louisville University Medical Center	IL	28
13	Piedmont Hospital	GA	46
14	Emory Transplant Center	GA	35

kidneytransplantcenters.org

donorcarenet.org

kidneyforlife.org

findakidney.org

livingdonorgames.org

