

NATIONAL KIDNEY REGISTRY®

FACILITATING LIVING DONOR TRANSPLANTS

Paired Exchange Results Quarterly Report

Q1 Results 2020

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Message from the Founder & CEO



The first quarter started with significant volume growth over the prior year, but NKR transplants dropped to zero after March 18th due to the pandemic. With only two transplants facilitated in April and approximately 40 transplants scheduled for May, we are experiencing a historic disruption in KPD transplants. We expect to see most of these backlogged transplants come through the system in the next one to six months, creating an unprecedented surge in volume over the summer and into the fall. To prepare for this surge, we are expanding staffing and have cancelled vacations during the forecasted surge period.

As soon as transplant volume began to drop, the NKR redirected its resources to combat the pandemic. We rapidly implemented COVID testing capabilities, enhanced home blood draws and expanded our remote donation services.

COVID testing: On March 16th, partnering with Viracor-Eurofins and NORA, the NKR implemented rapid turnaround COVID PCR testing for the entire transplant community, including deceased and living donor transplants, across all organ systems. On April 6th, NKR and Viracor-Eurofins launched COVID antibody testing. To date, the NKR has processed over 250 COVID tests across 21 transplant centers. Once COVID testing was deployed, the NKR Medical Board swiftly formalized the COVID testing requirements, ensuring a safe and consistent testing process for swaps going forward.

Home Blood Draw: In order to keep donors out of hospitals, where the risk of COVID infection is higher, the NKR dramatically expanded its home blood draw services to support all types of donor and recipient blood draws. In the month of April we saw home blood draw requests triple and early signs in May point toward home blood draws increasing 500% over our historical run rate. We are currently working to retrofit our automated donor follow-up system with home blood draws as well. This will make the donor follow-up process more convenient for donors and minimize COVID infection risks by keeping donors out of hospitals.

Remote Donation: We have seen an increase in demand for remote donation services as donors look to minimize travel while still donating to help their friends and family members. To best utilize the remote donation capability, many donors are simply entering the Standard Voucher Program which allows them to 1) donate at a local NKR center when it is convenient for their schedule, 2) be covered by the Donor Shield protections and 3) be prioritized for a living donor kidney in the unlikely event they ever need a transplant in the future. Standard voucher donation is now a rapidly growing alternative to paired donation and direct donation.

Thank you for your support and keep up the great work!

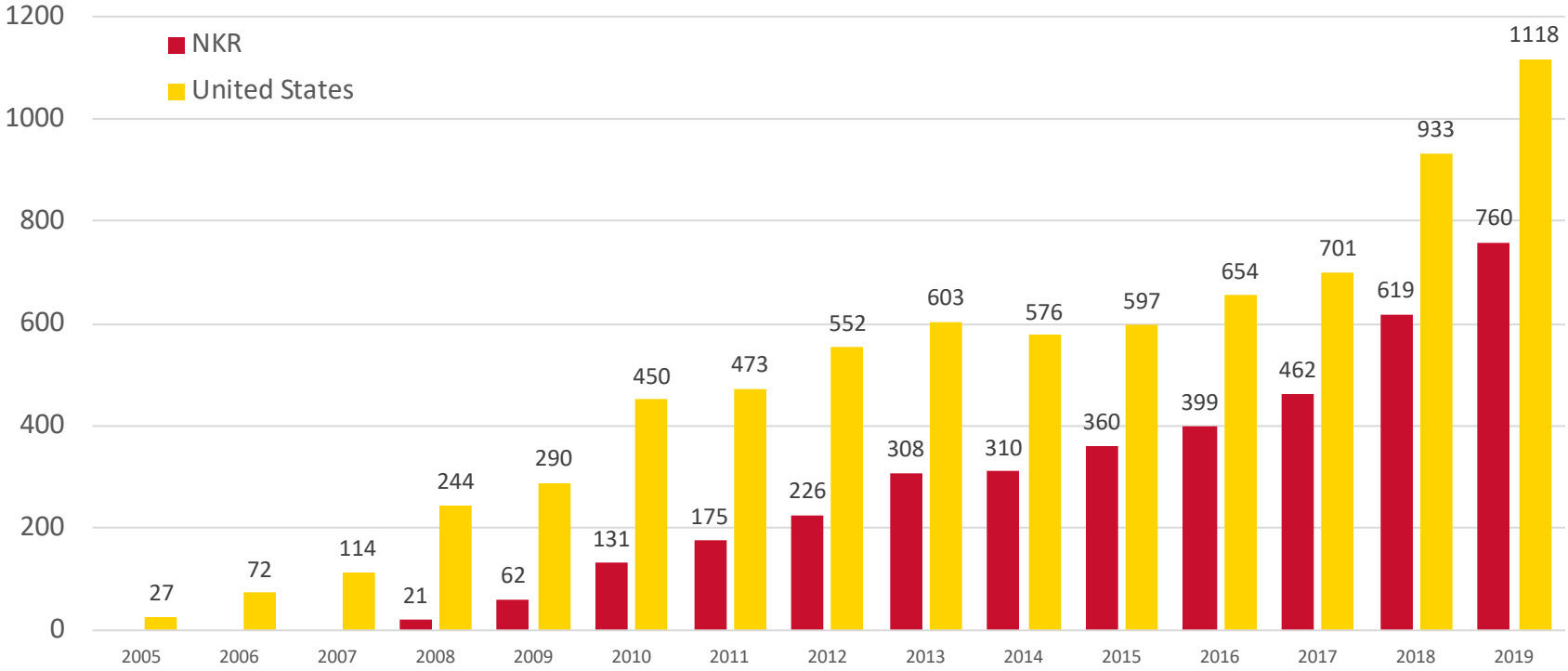
Sincerely,



Garet Hil
Founder & CEO
National Kidney Registry

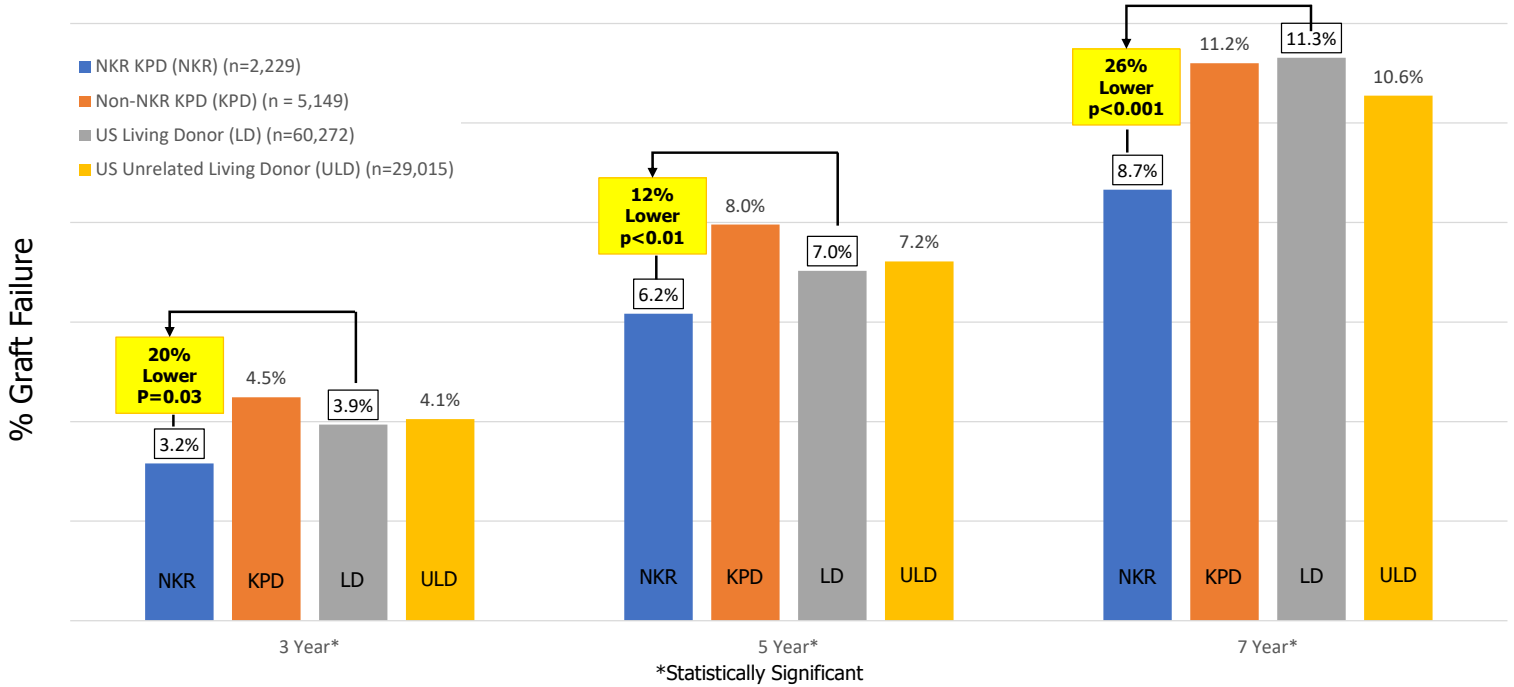
NKR Leading U.S. KPD Growth

Accounting for all U.S. KPD Growth since 2010



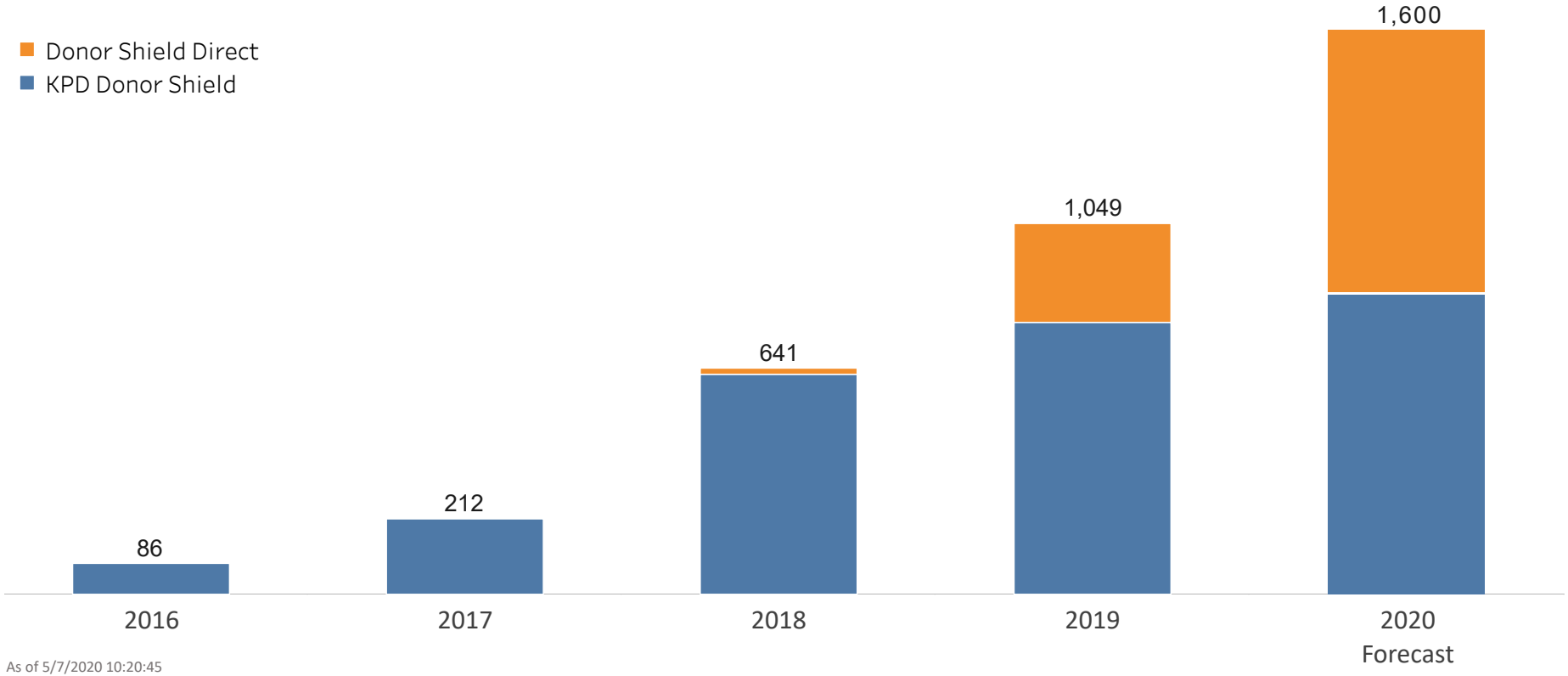
Organ Procurement and Transplantation Network. https://optn.transplant.hrsa.gov/ Accessed 4/16/2020

Death Censored Graft Failure Comparisons



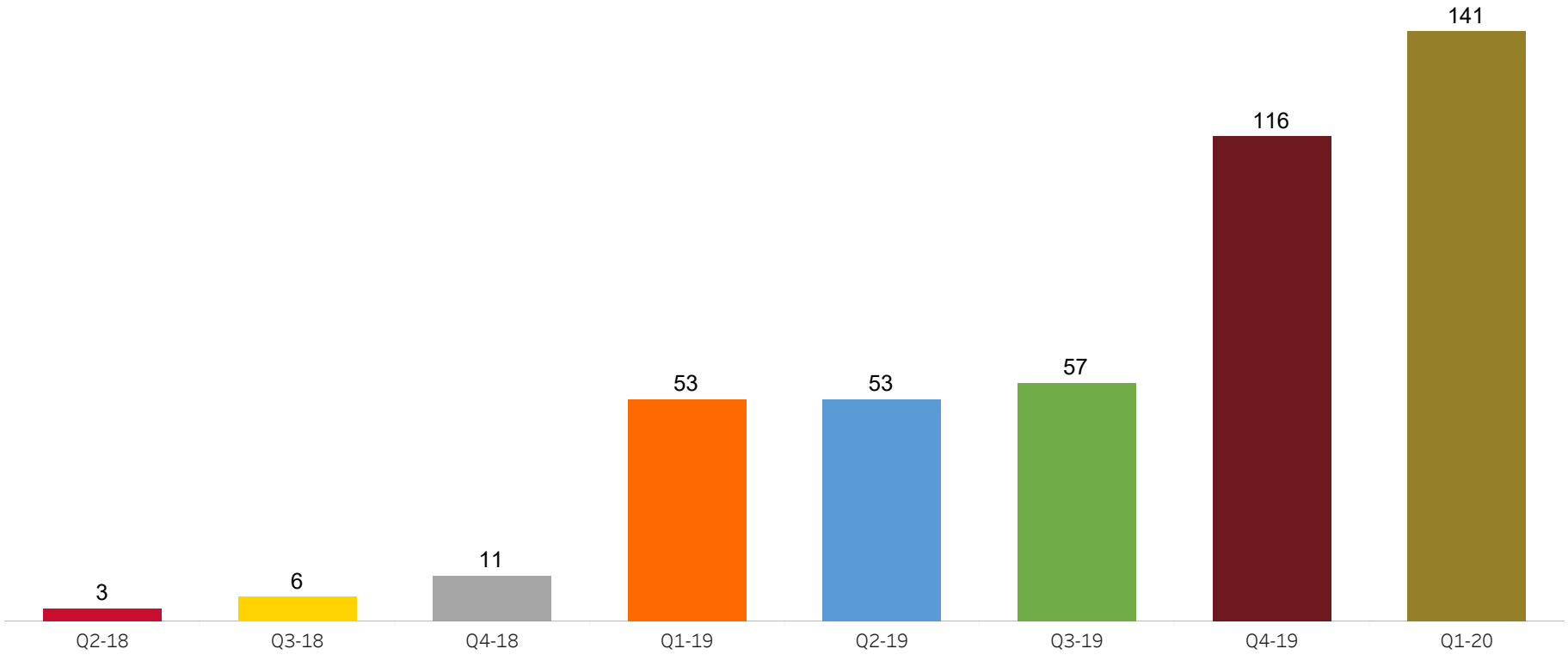
Provided courtesy of Johns Hopkins University School of Medicine, Department of Surgery *Not including CHIP patients;
Kaplan-Meier GS Rates for Transplants Performed: 02/2008-12/2018 with follow-up through 6/30/2019
https://www.srtr.org/ SRTR data as of September 2019

Donors Protected

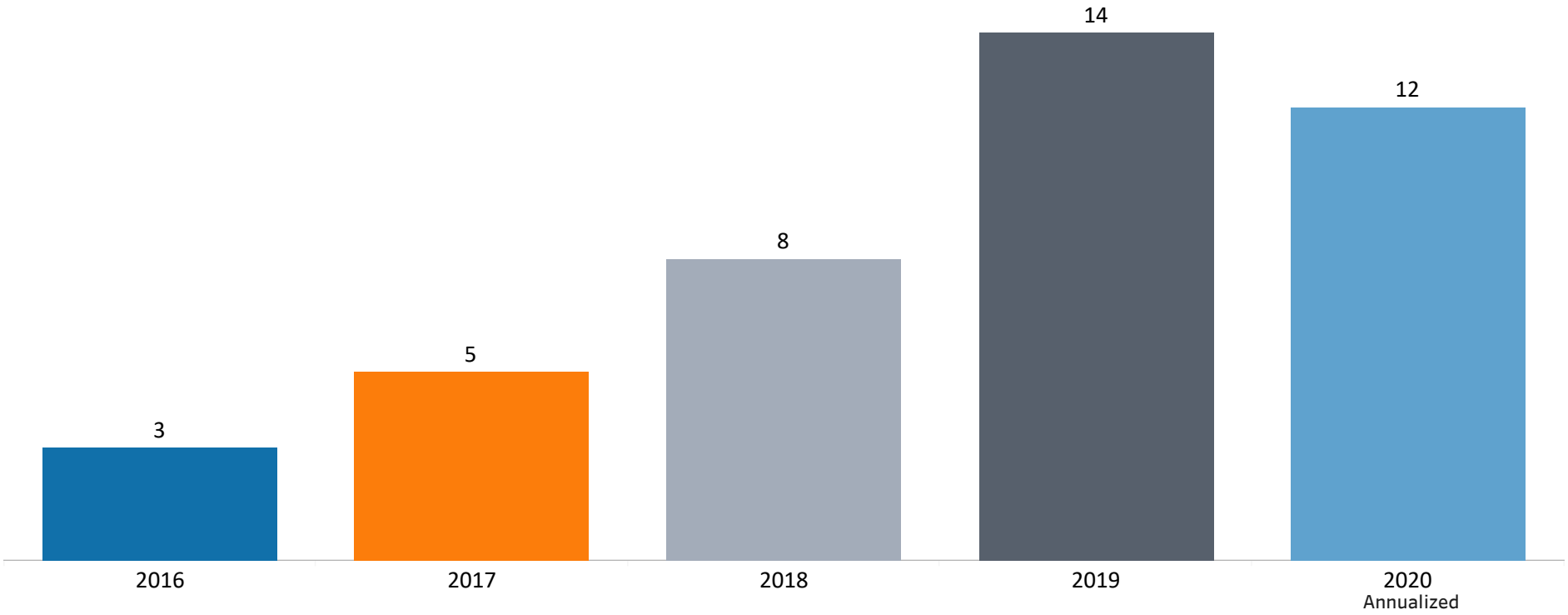


As of 5/7/2020 10:20:45
*Restated due to database update/changes affecting calculations

Donor Shield Direct Utilization

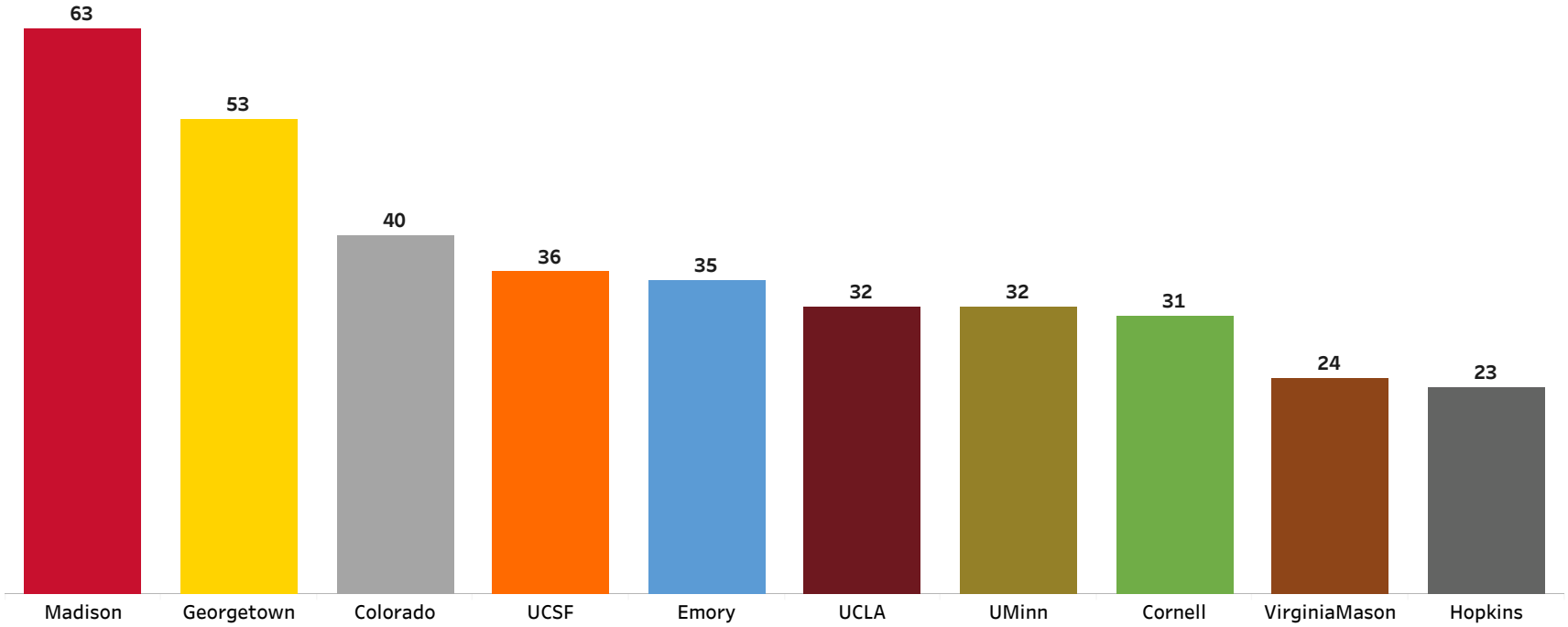


A2 to O Transplants Facilitated

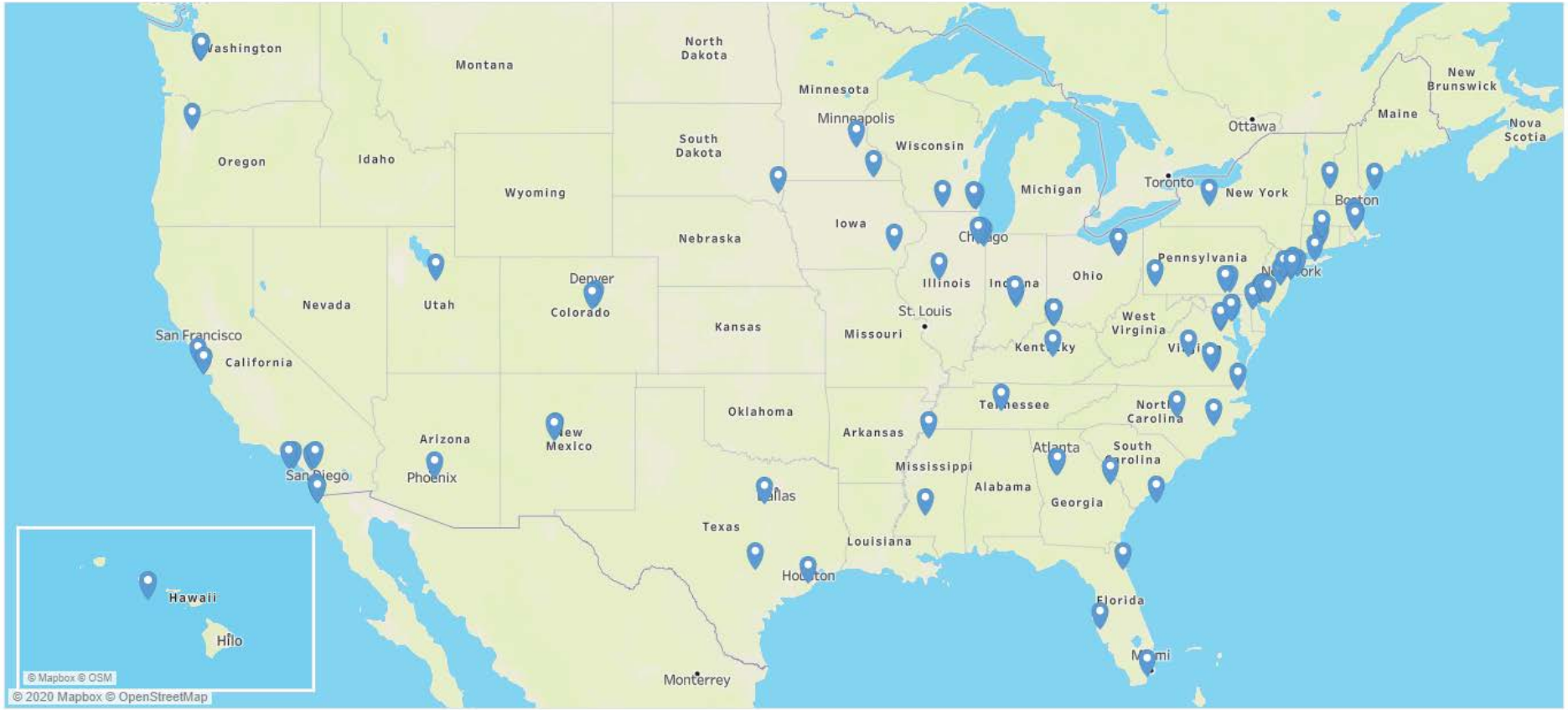


Top Centers

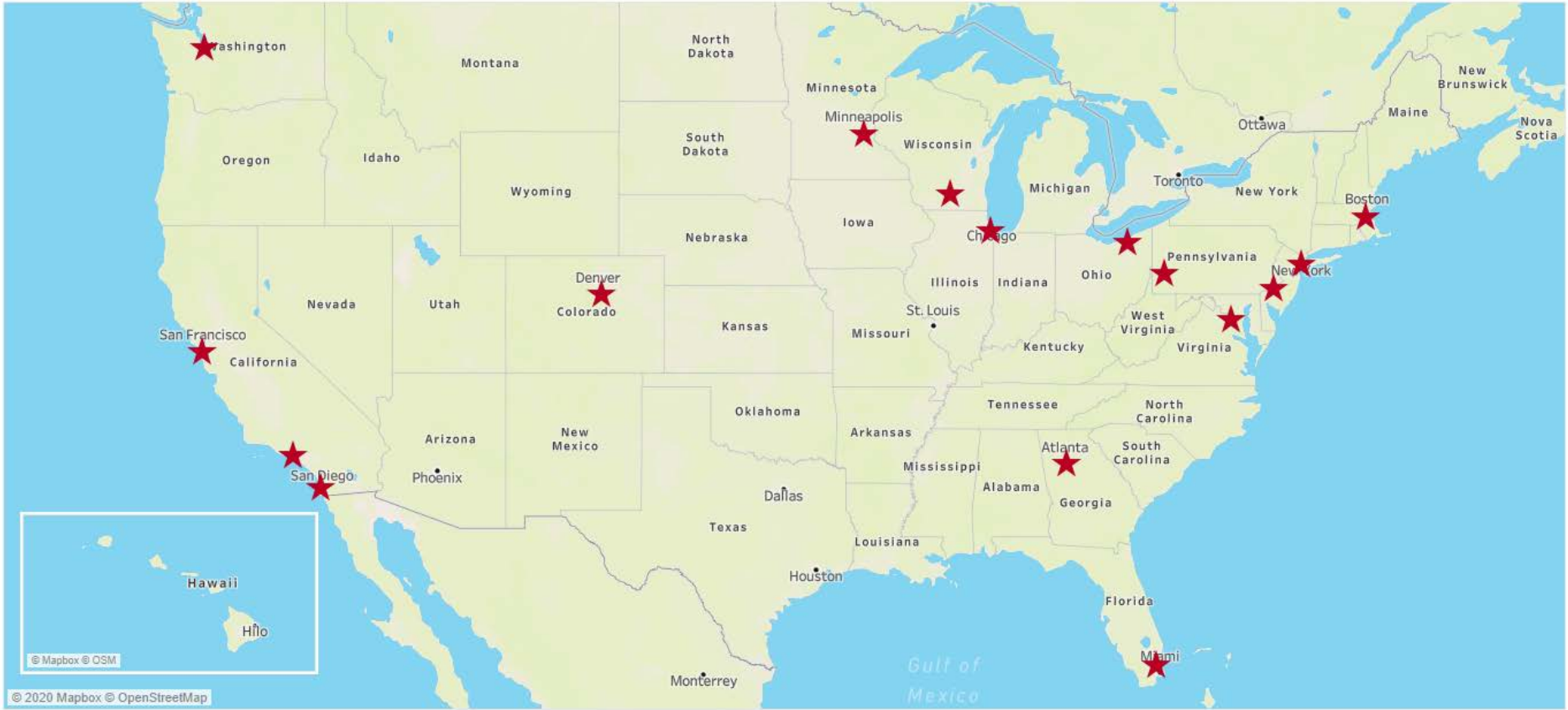
NKR Transplants Q2 2019 – Q1 2020



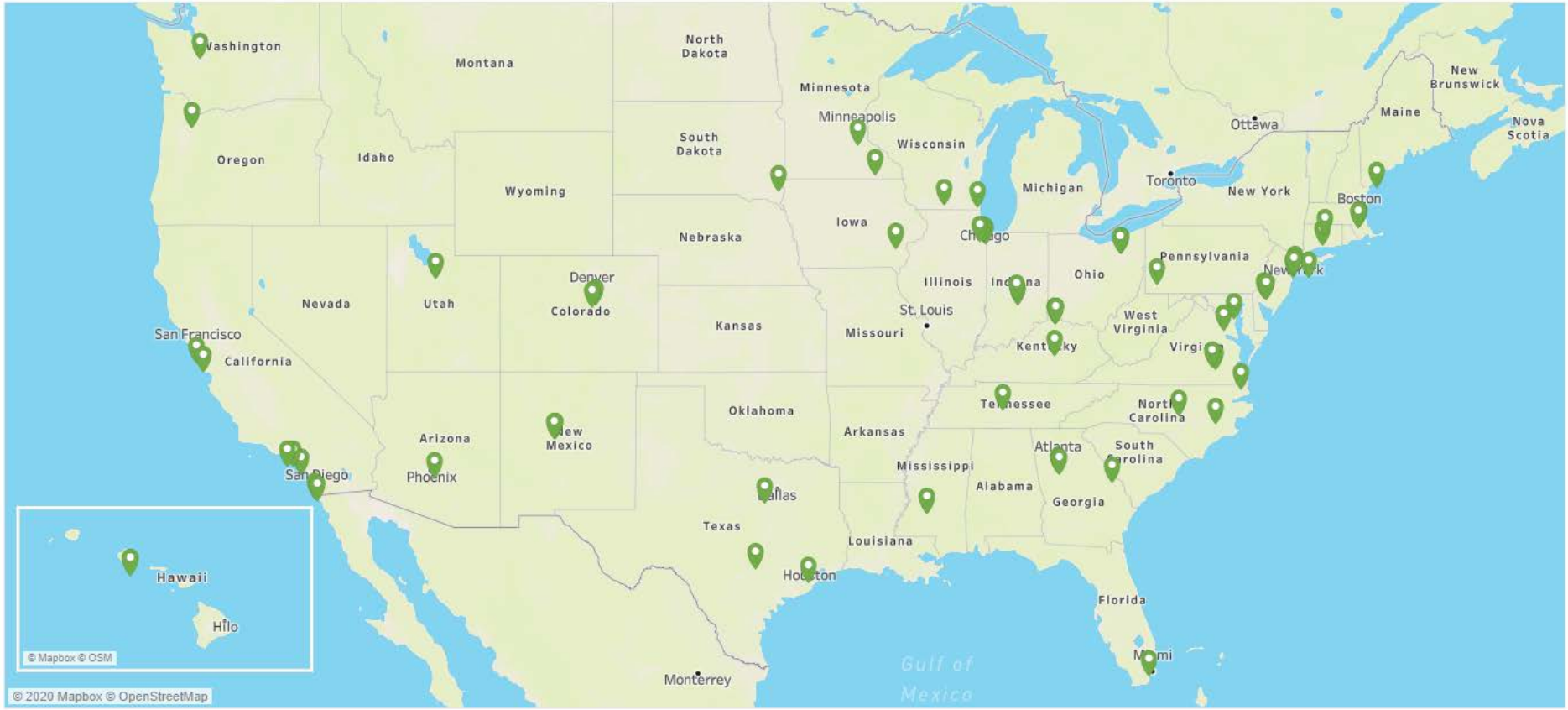
NKR Member Centers Map



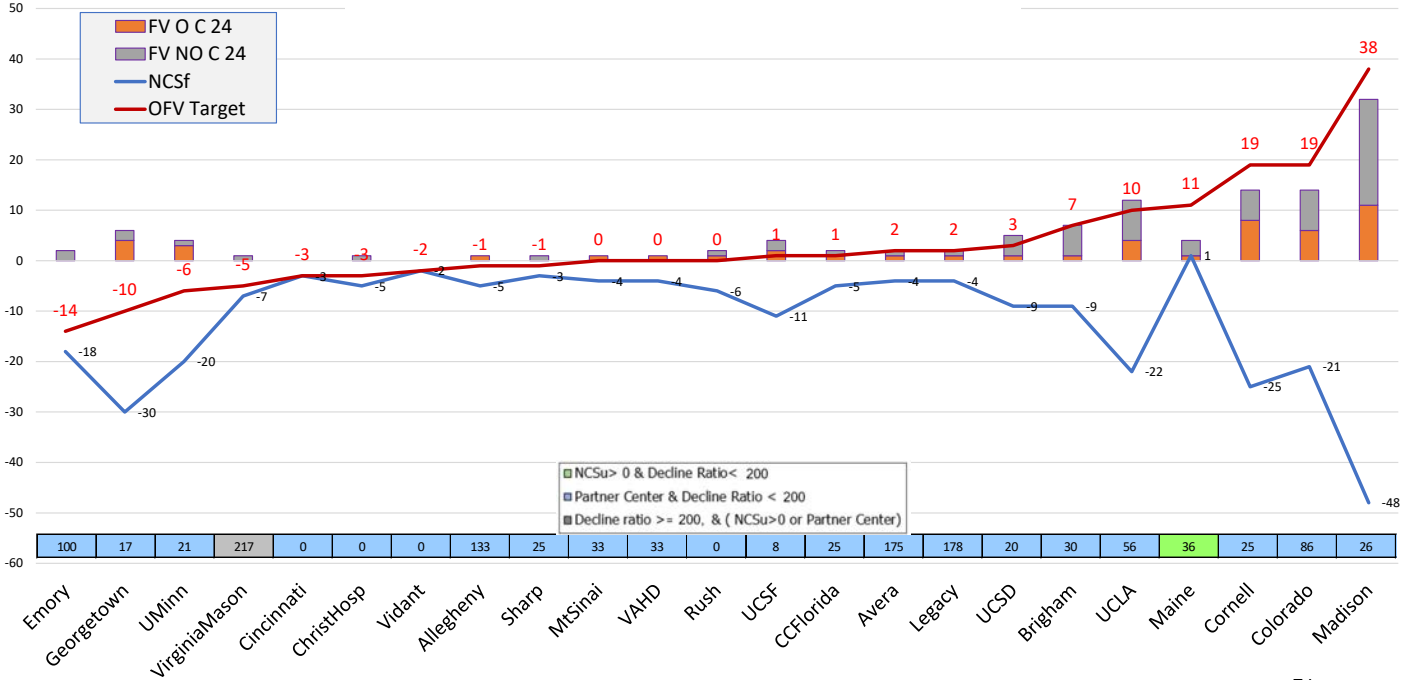
Donor Care Network® Centers of Excellence



Remote Donor Centers



Partner Center Chain End Target

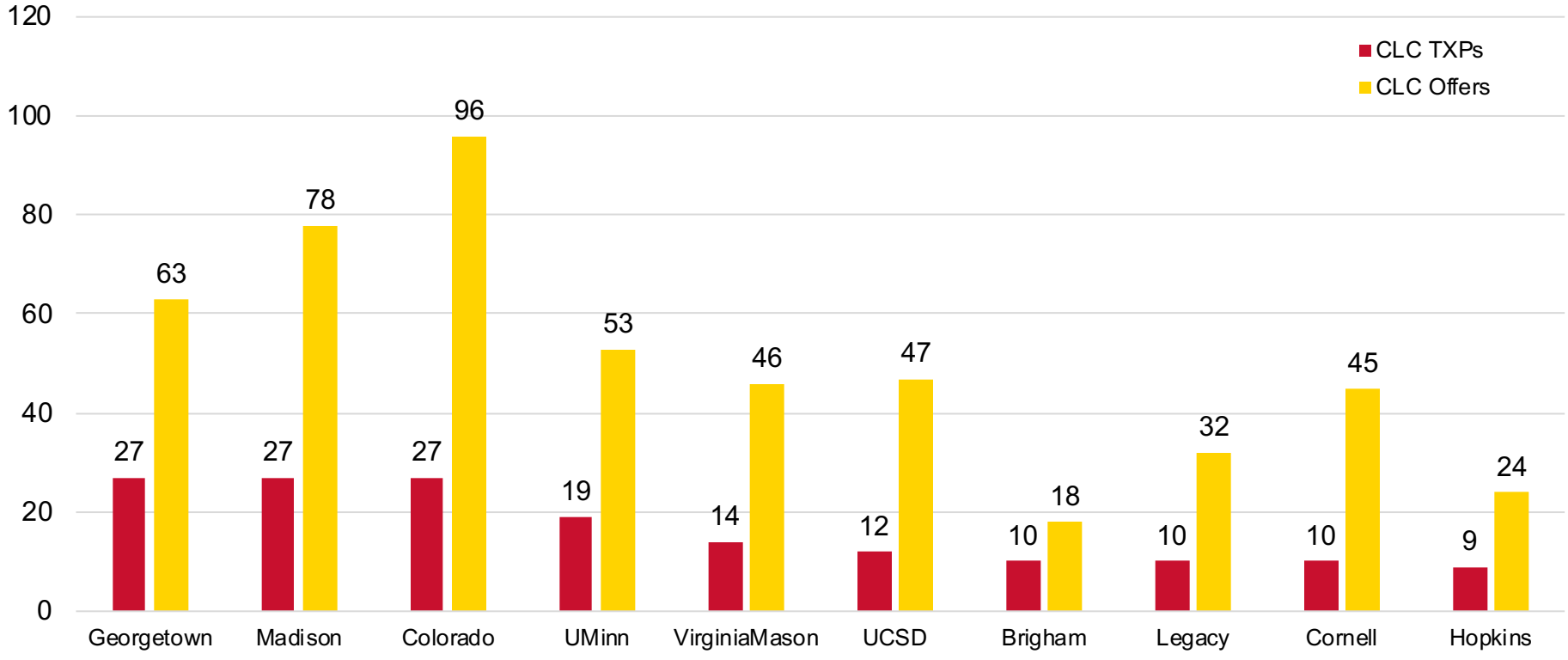


* https://clc.kidneyregistry.org/WebForm1.aspx?ReportKeyPass=ag5Ghnf76Tghd765GFtre&NcsSummary=1&Sort=DefaultSort&Supress=1 Accessed 4/11/20 at 13:09 ET

As of 4/11/2020
"FV O C 24" = Family Voucher 'ABO = O' chain starters in past 24 months
"FV NO C 24" = Family Voucher 'ABO = Non O" chain starters in past 24 months
Target = Family Voucher target score
Target = ((4.0 x chains started with 'O' family voucher donors in the past 24 months) + (2.0 x chains started with 'Non-O' family voucher donors in the past 24 months) + (center's current Net Chain Started score))

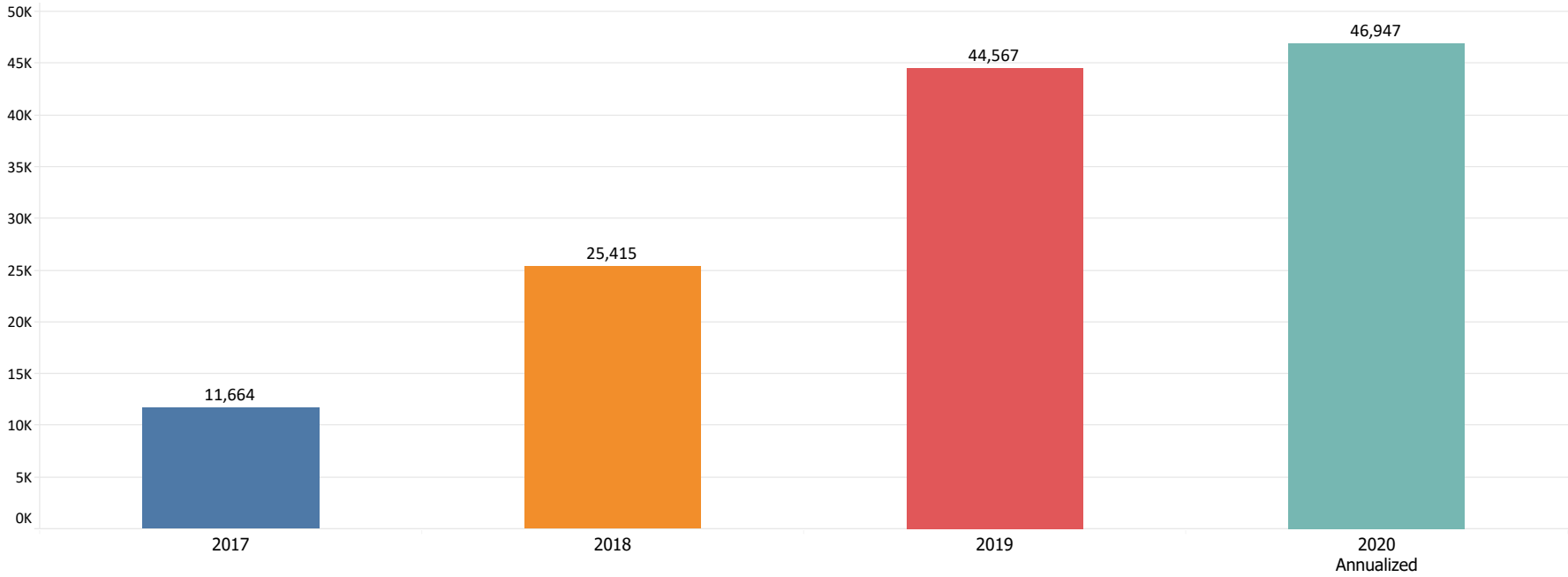
Top Center Liquidity Contributors (CLC)

CLC Driven Transplants 04/01/2019 – 03/31/2020



Donor Contacts

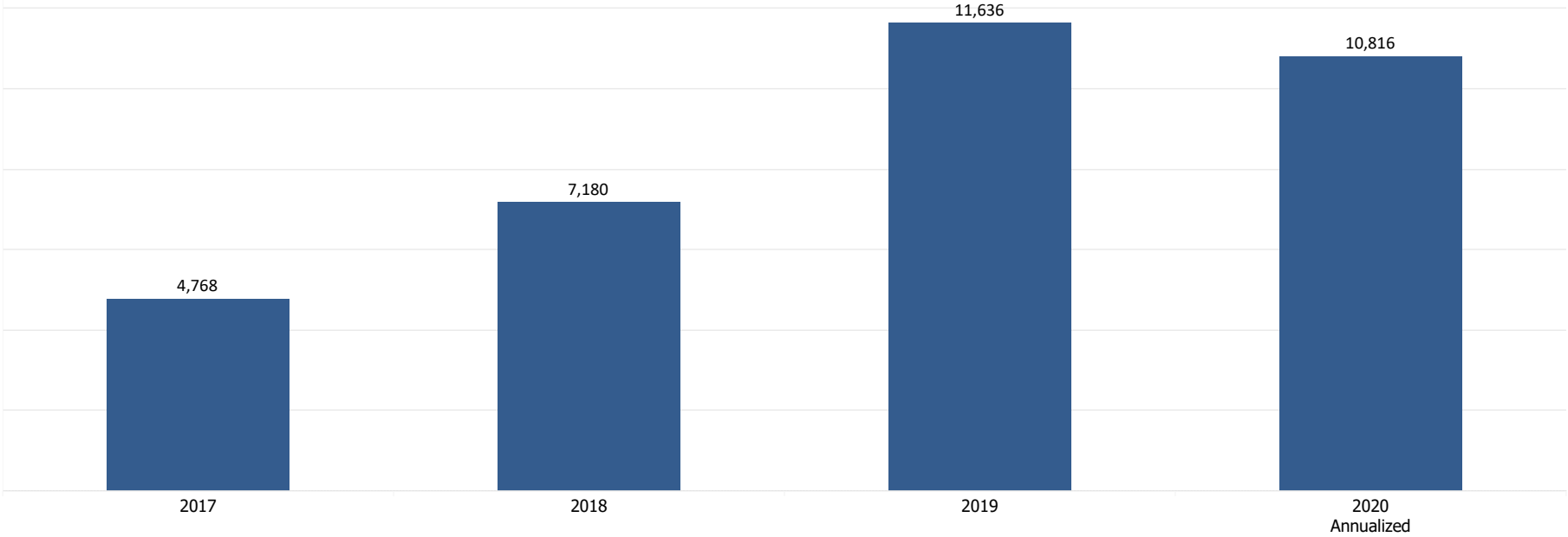
Across All Donor Intake Platforms



*Restated due to database update/changes affecting calculations

Non-Directed & Family Voucher Donor Contacts

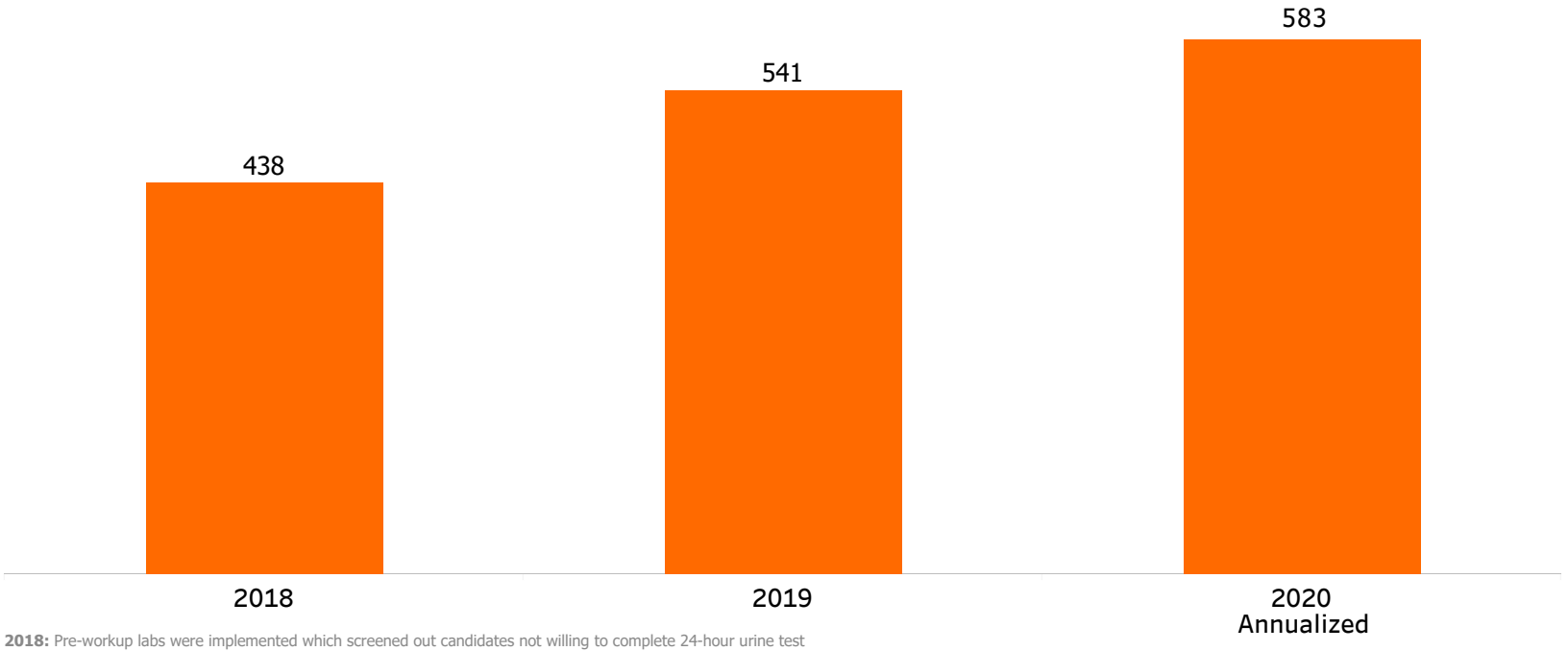
Across All DASH Platforms



*Restated due to database update/changes affecting calculations

Non-Directed & Family Voucher Donor Referrals

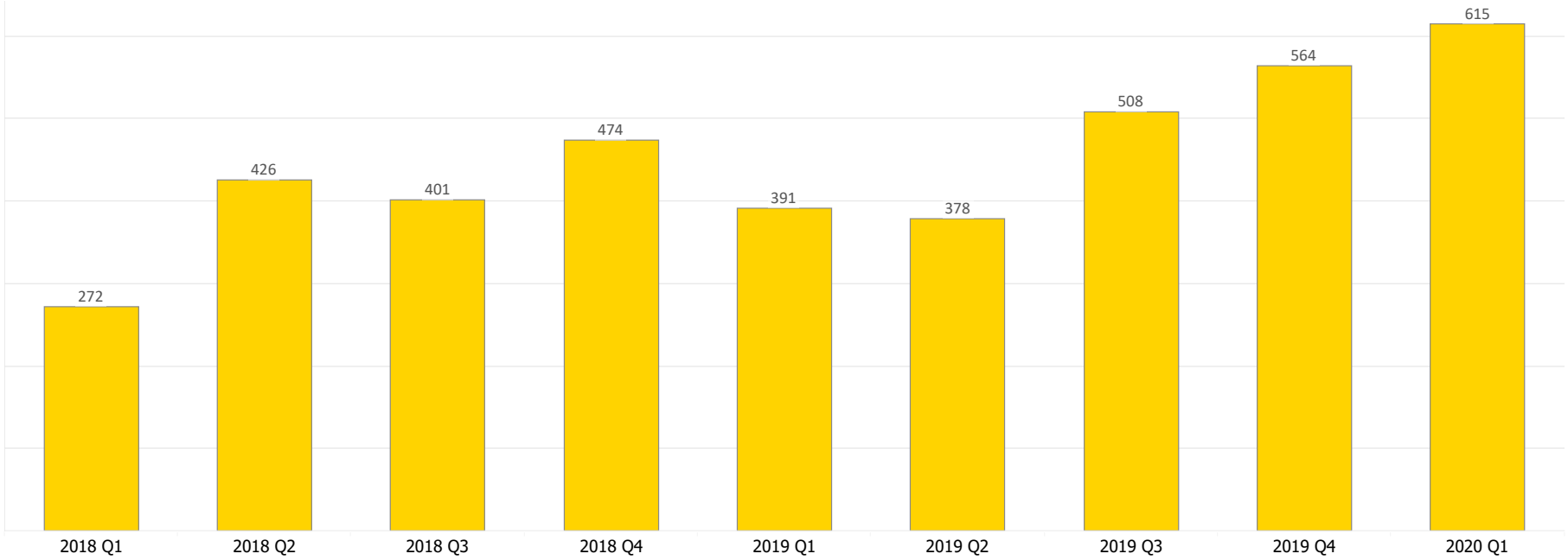
Referred to NKR Member Centers



2018: Pre-workup labs were implemented which screened out candidates not willing to complete 24-hour urine test

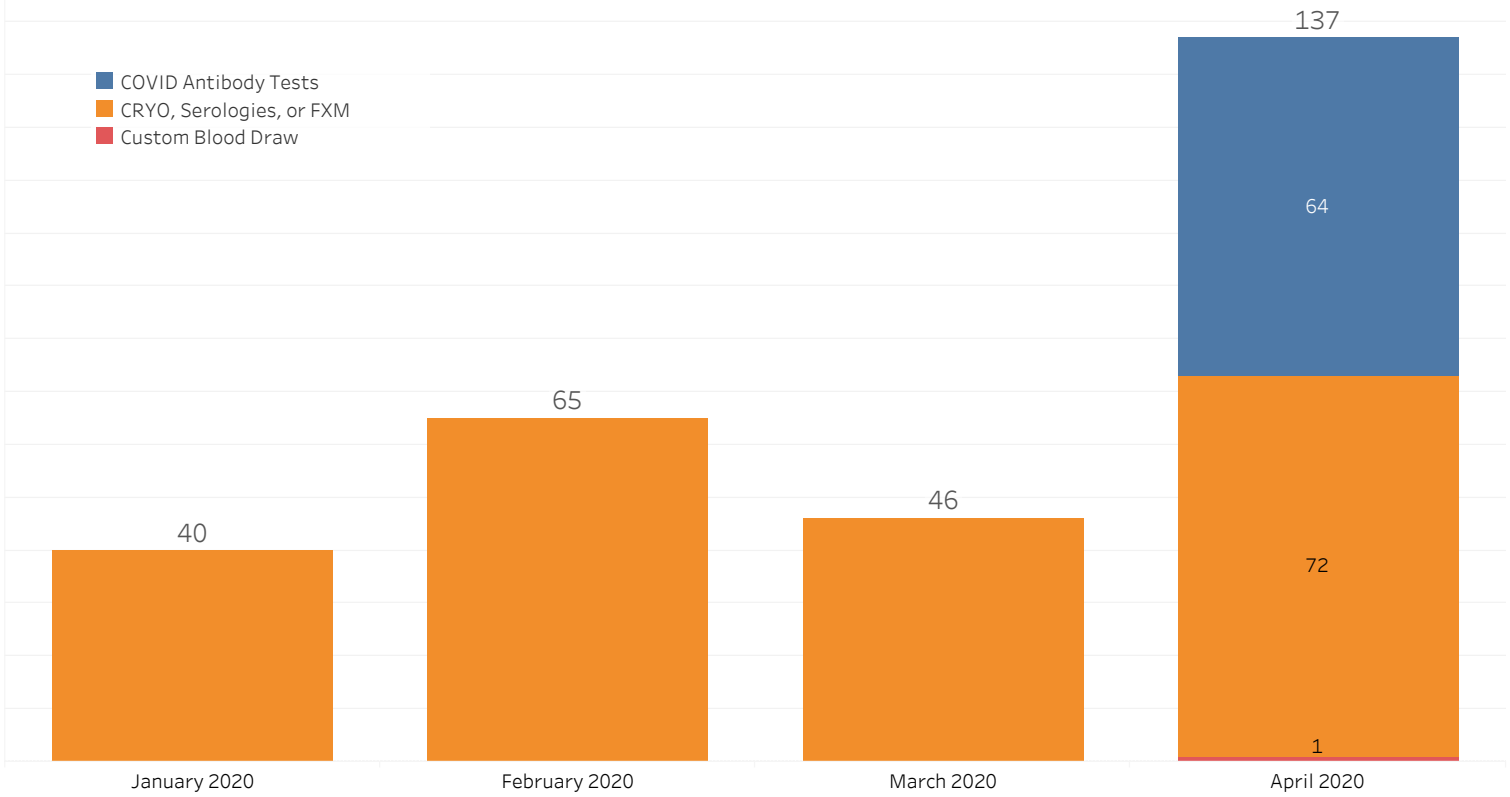
Pre-Workup Labs

Results Uploaded



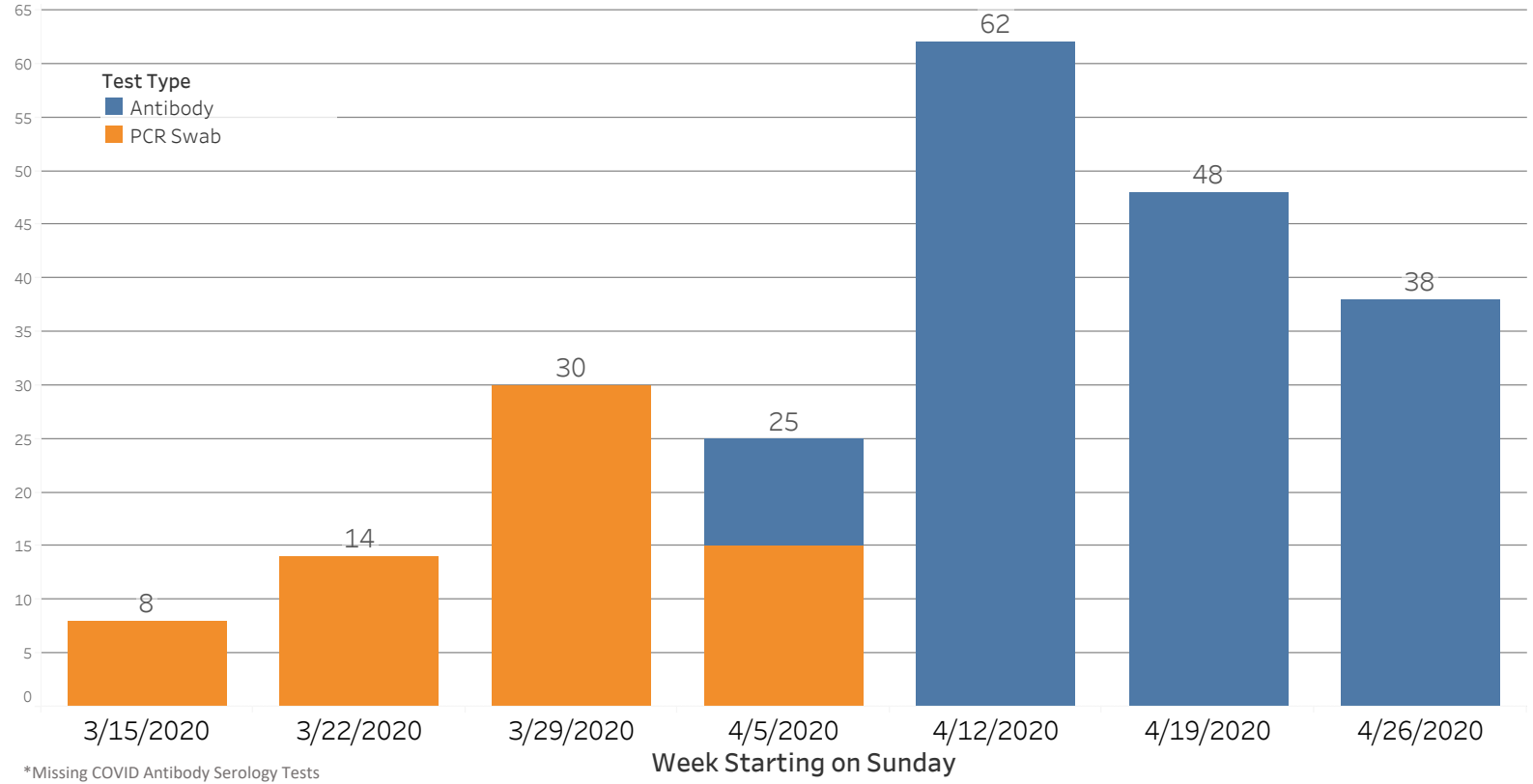
Restated due to database update/changes affecting calculations

Home Blood Draw Requests



As of 5/1/2020 20:07:11

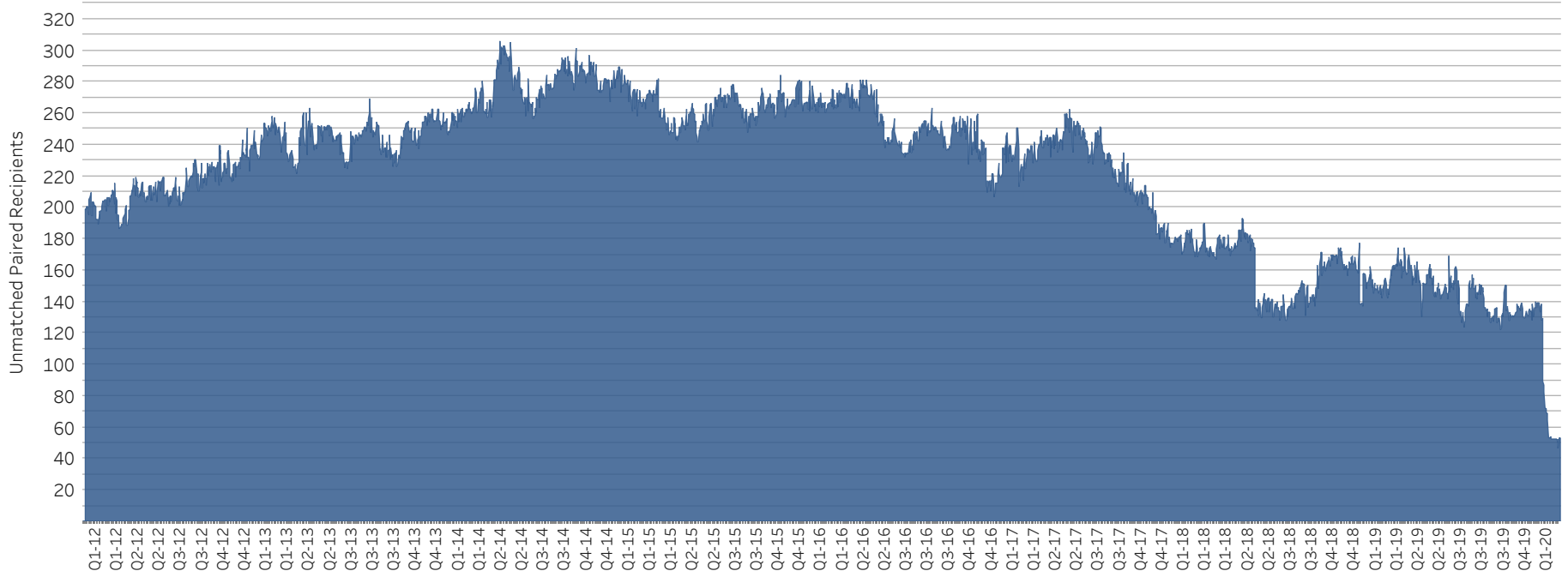
COVID Tests Requested by Week



*Missing COVID Antibody Serology Tests
As of 5/1/2020 20:07:11

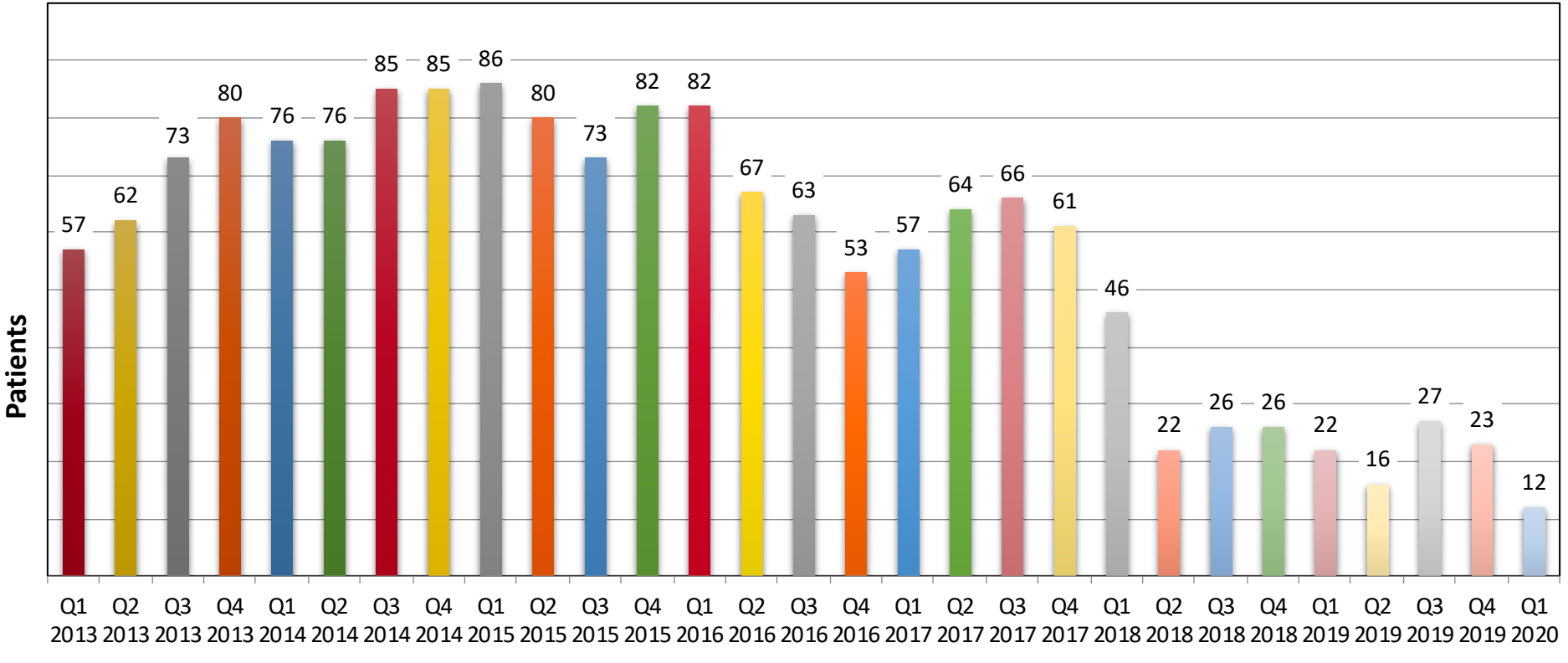
Pool Size

Unmatched Patients



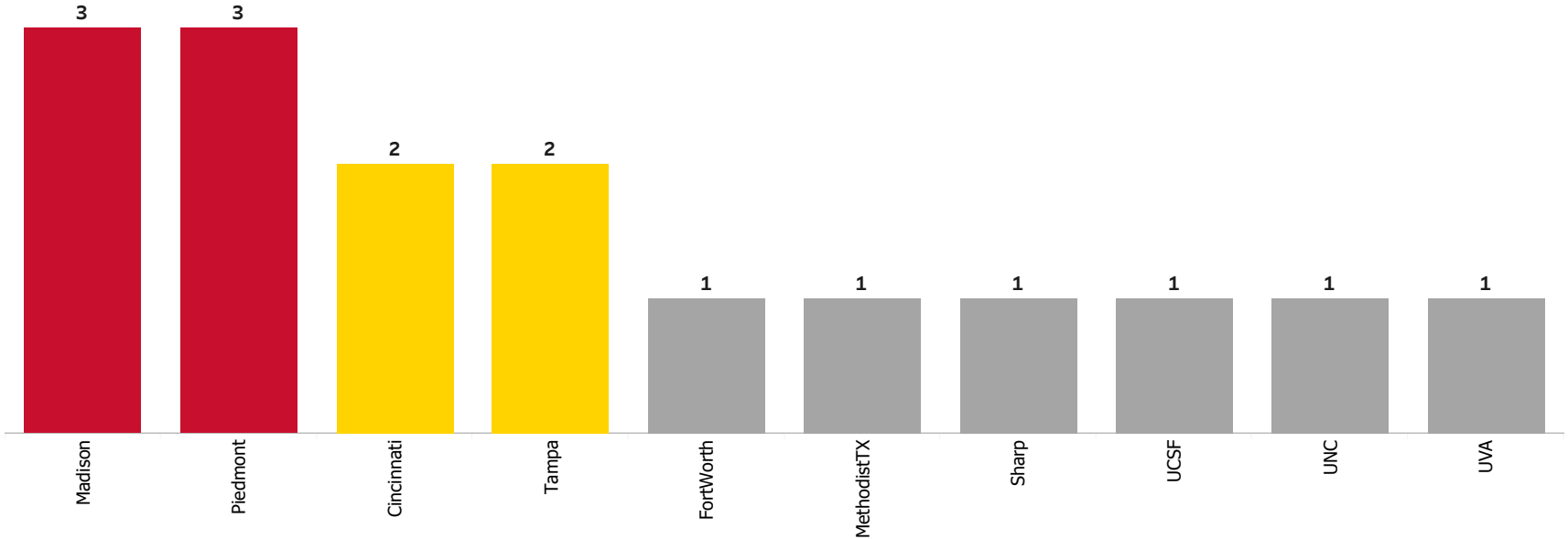
As of 4/20/2020 12:43:38

Patients Waiting > 1 Year by Quarter



* As of 3/31/20

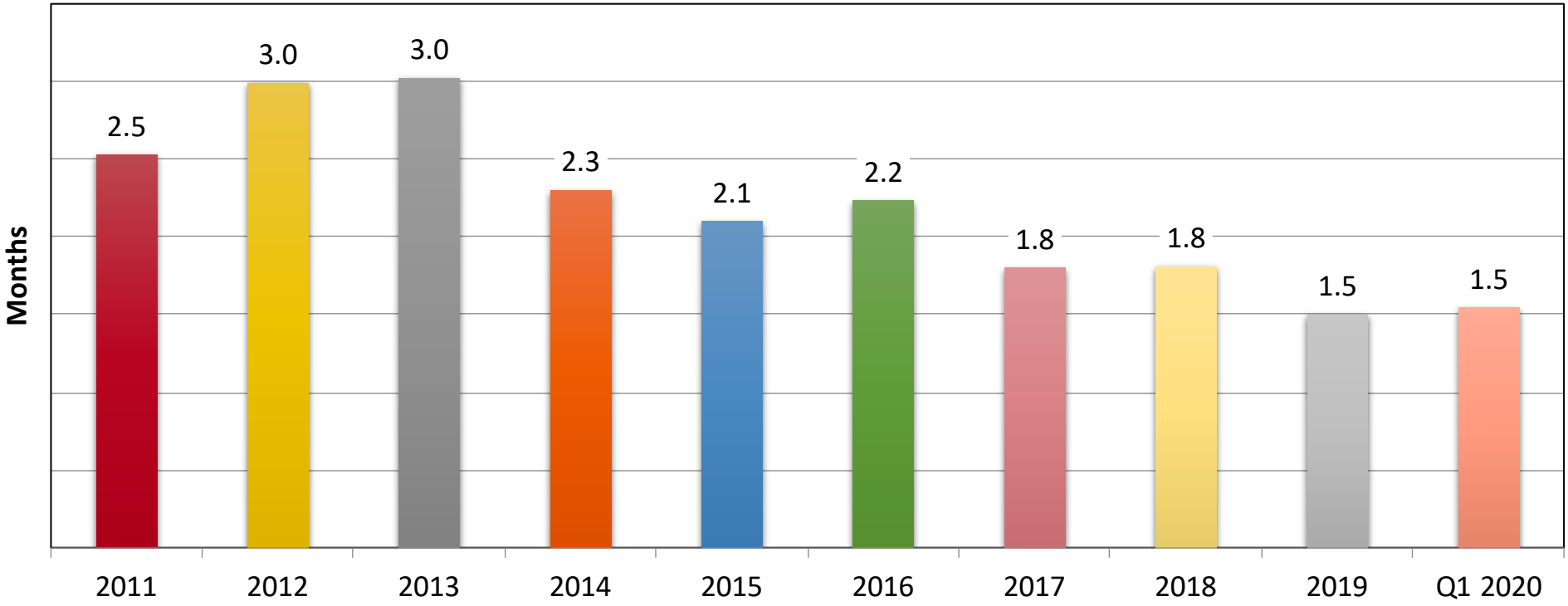
Patients Waiting > 1 Year by Center



As of 4/16/2020 12:33:37

Transplanted Patient Median Wait Time

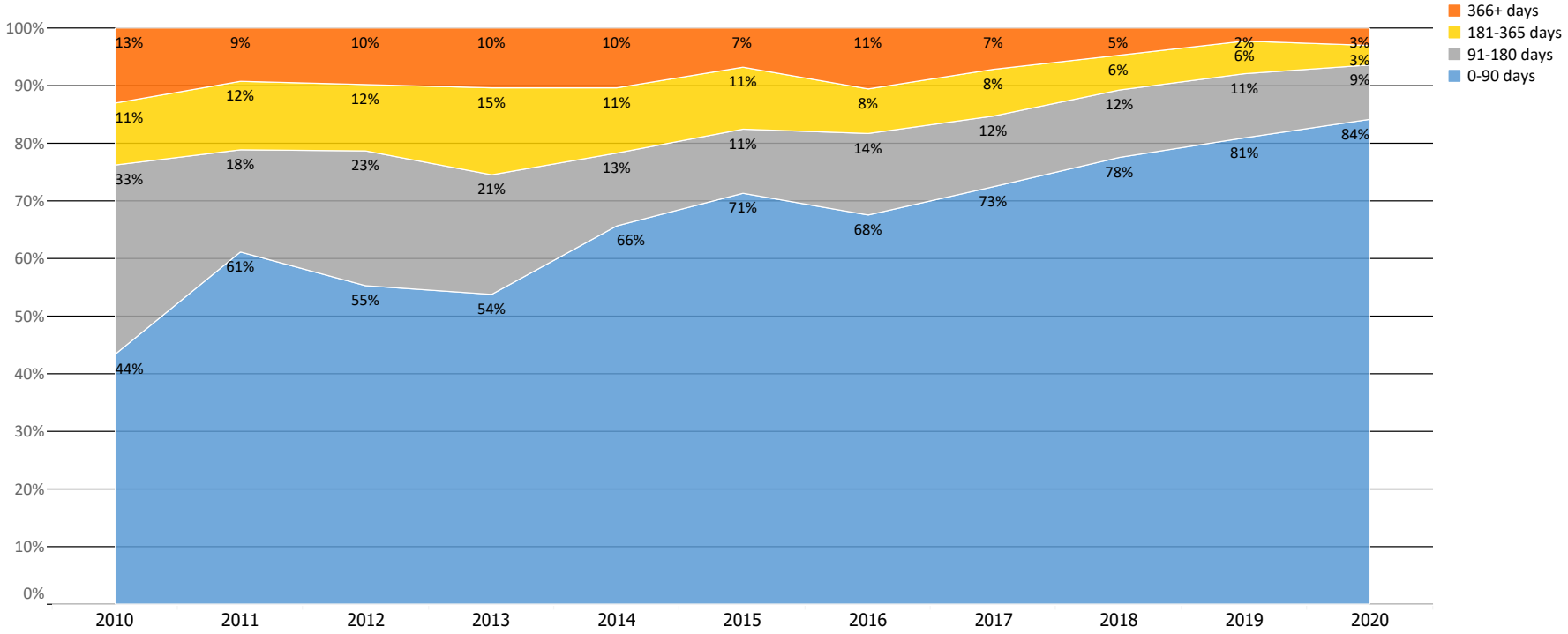
Wait time of patients transplanted during prior 12 months



* As of 3/31/20

Wait Time Distribution

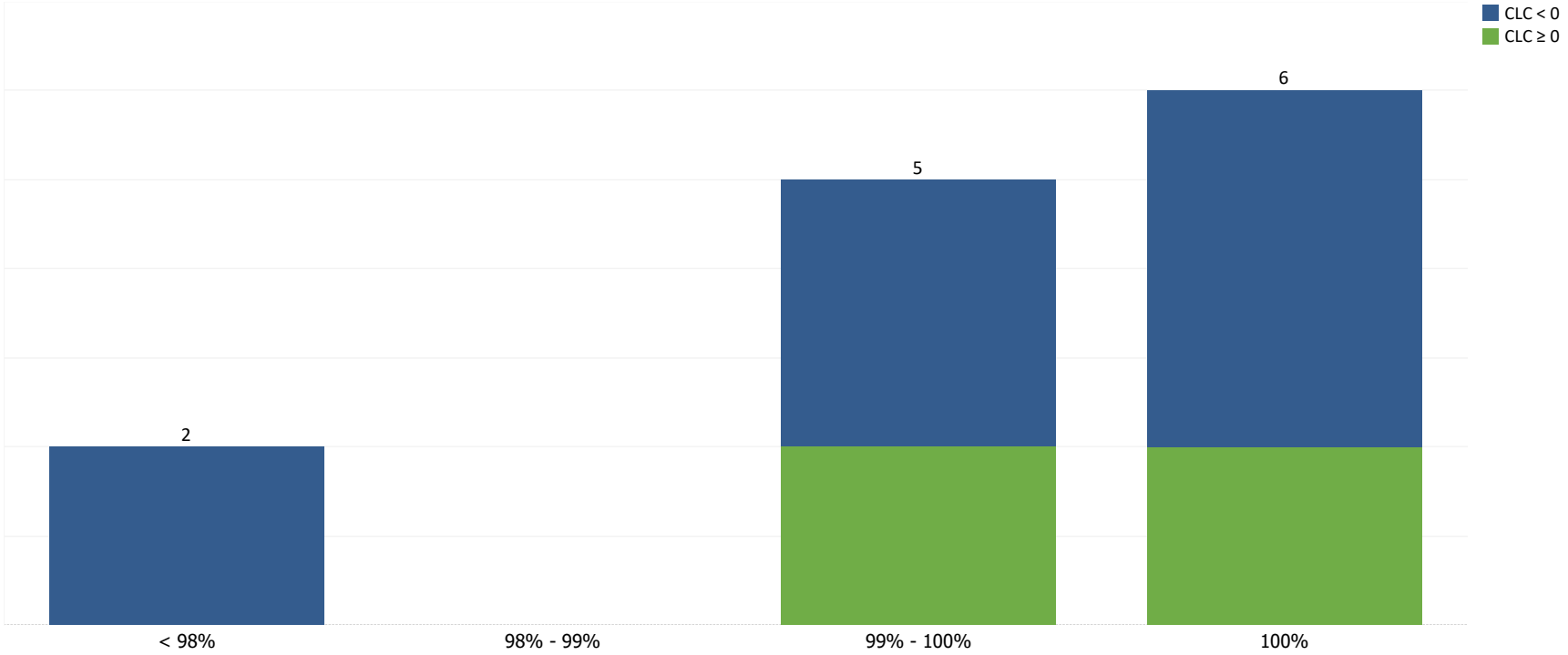
Transplanted Pairs



Restated due to database update/changes affecting calculations

Unmatched Target Pairs

Waiting more than 12 months



As of 4/8/2020 09:15:10

Pairs Waiting > 1 Year

Due to unfavorable blood type combination

#	Recipient Alias	D-ABO	R-ABO	cPRA	D-Age	Months Wait	Center CLC
1	JJ12051951	B	O	43.10	45	20	-2,170
2	UVA2723541	A	O	81.73	62	19	-2,340

As of 4/21/2020 10:54:05

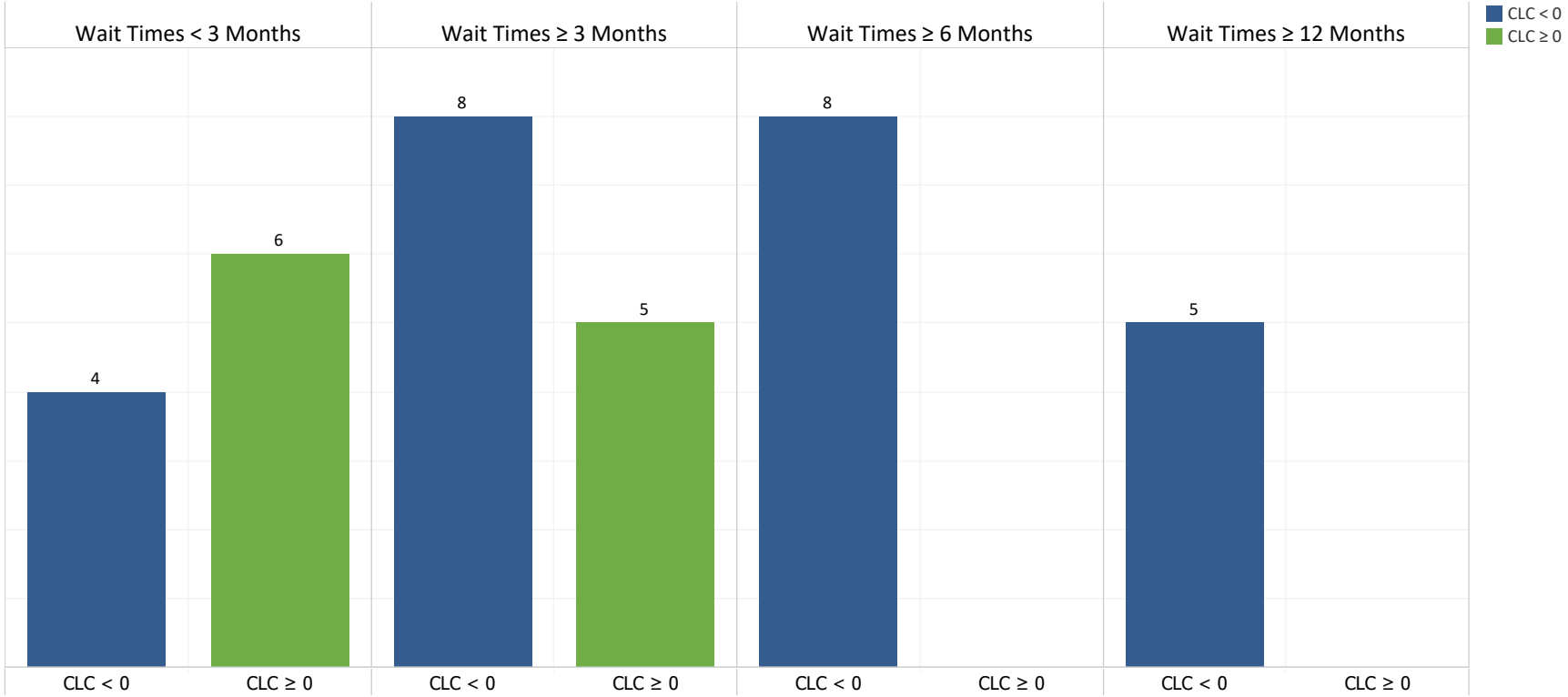
Pair Waiting > 1 Year

Due to high cPRA

#	Recipient Alias	R-ABO	D-ABO	cPRA	D-Ages	Months Wait
1	AH6321	O	O	100.00	40	21
2	F900092902	A	A,AB	100.00	38,30	23
3	H903961717	O	A,O	100.00	54,25	27
4	J36760809G	O	O	100.00	30	32
5	POPOJRE2	A	O	100.00	28	20
6	R203DV	O	O,O	100.00	51,23	27
7	GM8784	B	O	99.98	34	52
8	LANDBRE	O	O	99.98	57	29
9	UC06142609	O	O,A	99.95	51,43	43
10	UC06116165	O	O	99.91	64	12
11	H904586708	O	O	99.78	28	16

As of 4/21/2020 10:54:05

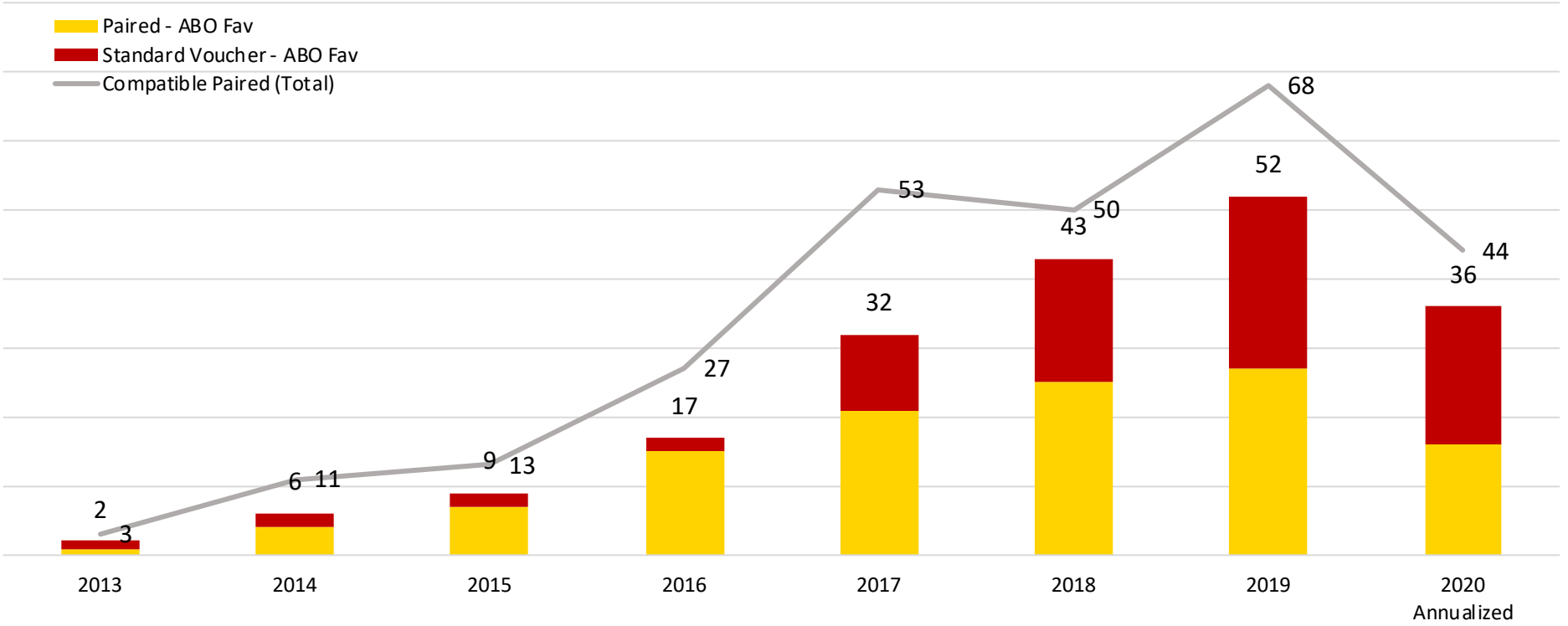
Pair Wait Time Analysis



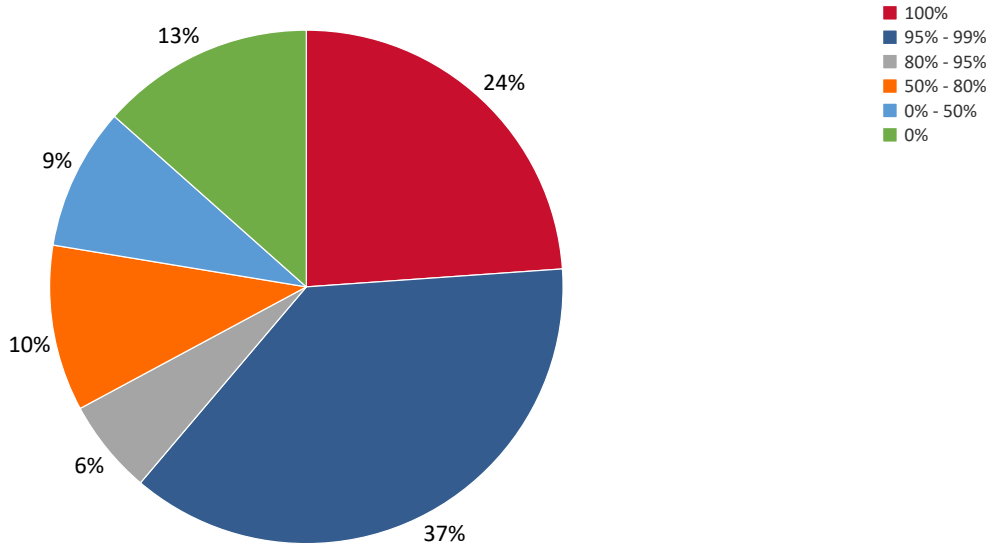
As of 4/8/2020 09:15:10

Compatible Donors Donated

Through 3/31/2020

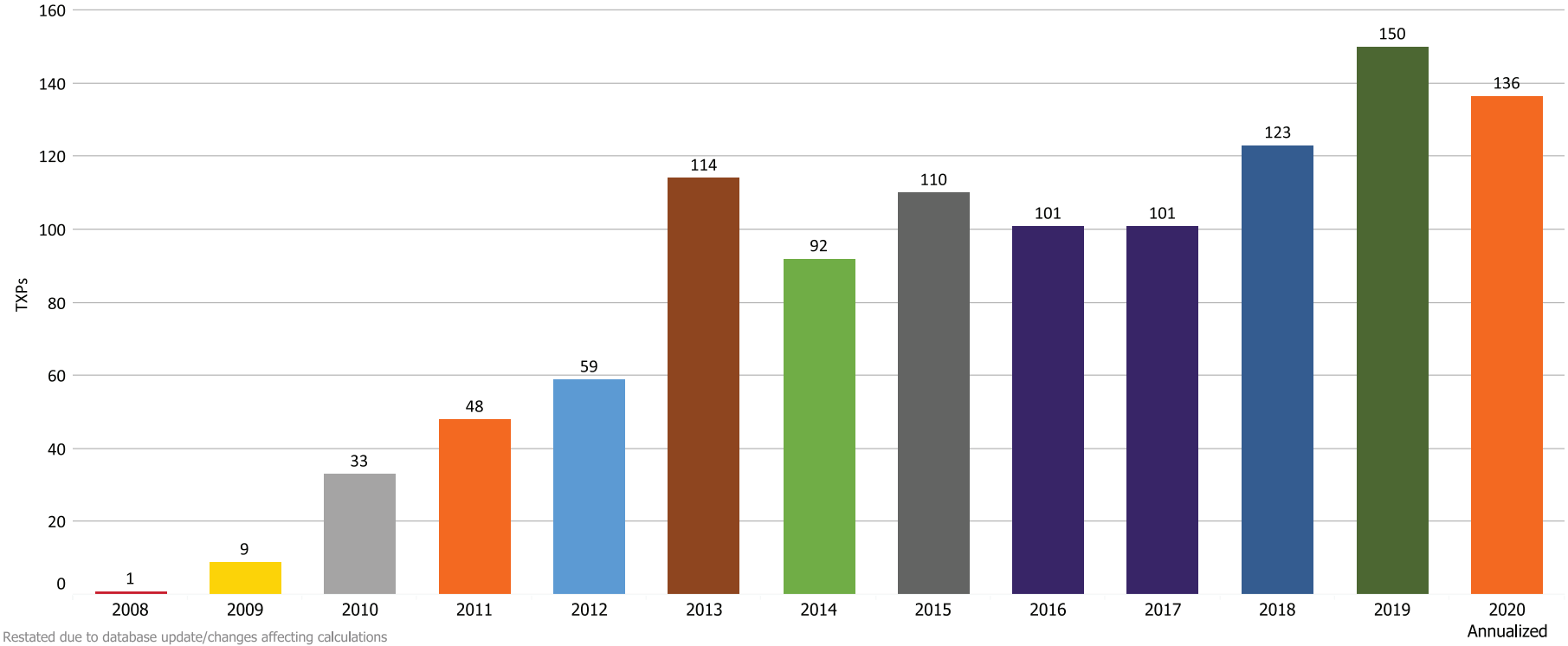


Pool Composition by cPRA



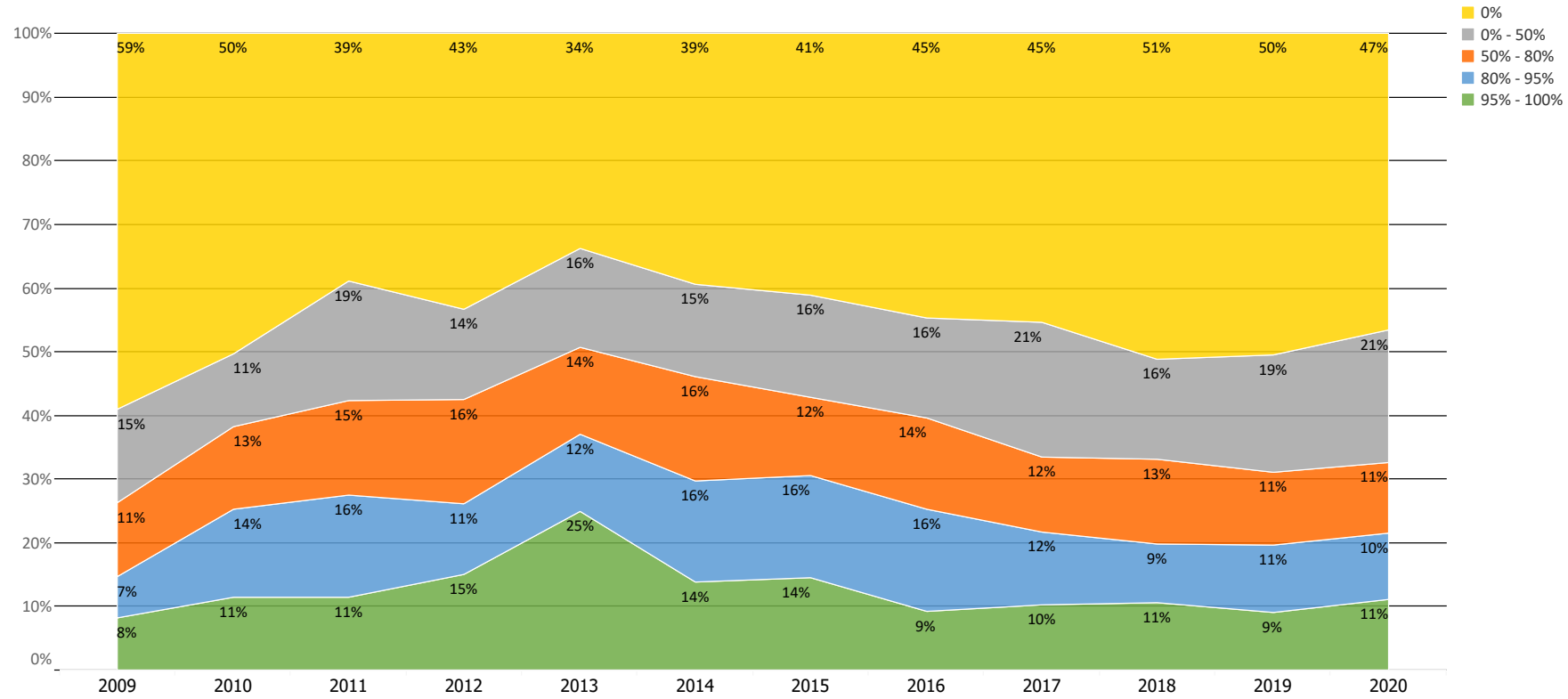
As of 4/8/2020 09:15:10

Transplanted Patients with cPRA > 80%



Restated due to database update/changes affecting calculations

Transplanted Patients by cPRA



* Restated due to database update/changes affecting calculations

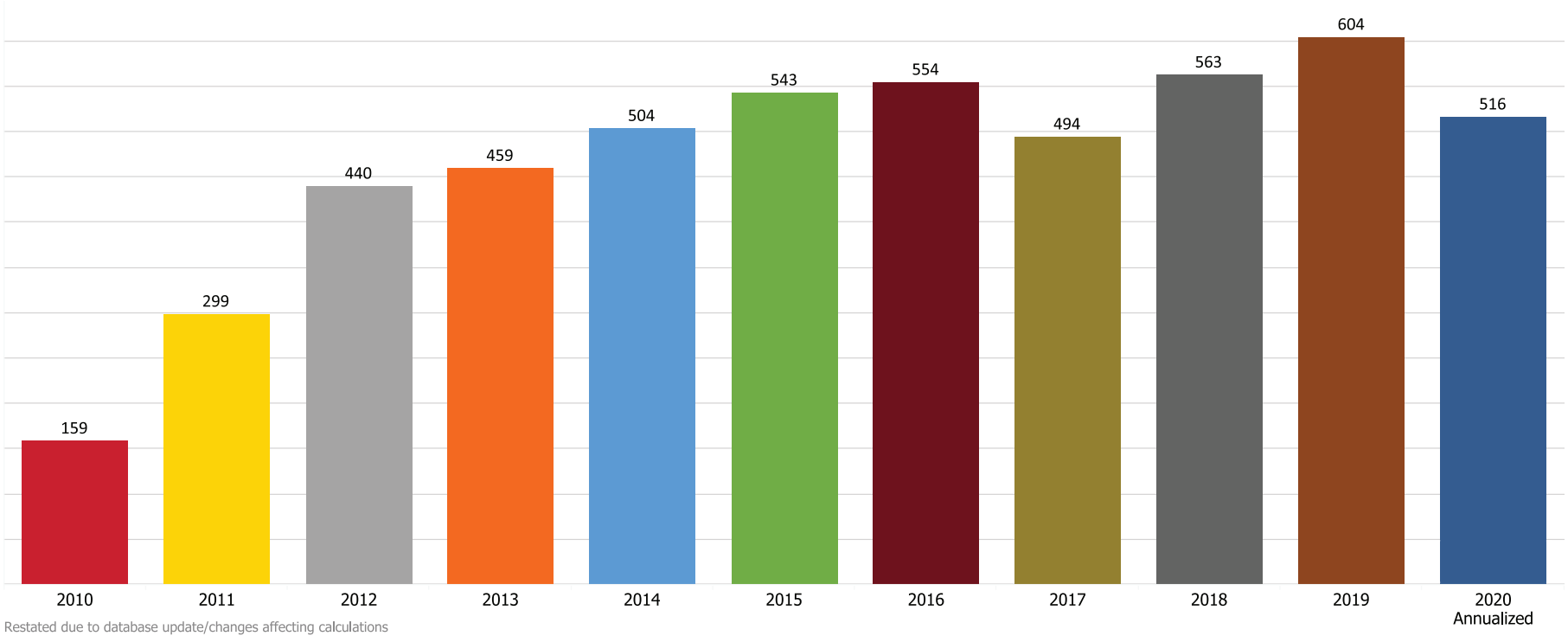
Great HLA Matches

Zero Mismatch

#	Recipient TXP Date	Recipient Center	Swap #	D-ABO	R-ABO	NKR cPRA	Wait time	HLA Match Pts
1	12/12/2019	CCFlorida	1922	A2	A	99.93	16.4	100
2	07/31/2019	Emory	1747	A1	A	0.00	0.1	100
3	07/31/2019	UMinn	1723	A1	A	0.00	0.2	100
4	07/17/2019	UIowa	1739	A1	A	99.51	1.7	100
5	06/11/2019	Sharp	1704	A1	A	0.00	0.5	100
6	03/01/2019	Washington	1491	A1	A	0.00	1.0	100
7	11/01/2018	UMinn	1468	A1	AB	99.62	11.9	100
8	09/21/2018	Madison	1445	A1	A	0.00	0.0	100
9	06/12/2018	Piedmont	1295	O	O	100.00	2.2	100
10	04/04/2018	Cornell	1266	B	AB	0.00	1.1	100
11	02/14/2018	Penn	1227	O	O	7.91	3.5	100
12	02/08/2018	WalterReed	1203	A1	AB	99.58	5.0	100
13	01/03/2018	Hartford	1191	O	O	0.00	9.5	100
14	01/03/2018	Maine	1157	A1	A	99.85	8.6	100
15	12/05/2017	UCLA	1160	O	B	99.10	1.4	100
16	06/01/2017	Hopkins	1019	A1	AB	0.00	1.6	100
17	05/24/2017	Brigham	1026	A1	A	92.62	2.4	100
18	01/18/2017	ChristHosp	952	A1	A	99.10	0.6	100
19	11/08/2016	UMinn	928	A?	A	99.25	4.2	100
20	09/07/2016	Sharp	882	A1	A	0.00	0.0	100
21	08/31/2016	Cincinnati	884	A1	A	74.41	1.0	100
22	08/30/2016	OSU	509	A1	A	87.99	1.2	100
23	02/11/2016	SCarolina	459	A2	A	99.21	2.6	100
24	12/22/2015	Madison	442	A1	A	97.97	5.8	100
25	11/19/2015	UMinn	440	O	O	99.91	5.4	100
26	02/17/2015	UCLA	357	A1	A	99.98	33.8	100
27	12/11/2014	Emory	351	A1	A	99.84	5.0	100
28	11/13/2014	Hopkins	330	A1	O	97.82	1.2	100
29	08/05/2014	Loyola	324	A1	A	99.52	1.1	100
30	01/09/2014	Madison	674	O	A	98.65	5.4	100
31	10/03/2012	Barnabas	182	A?	A	93.95	3.6	100
32	04/19/2012	Cornell	152	A1	A	0.00	0.6	100
33	03/31/2011	Barnes	105	A1	A	99.95	6.9	100
34	06/15/2010	UCSF	58	A?	A	99.43	6.1	100

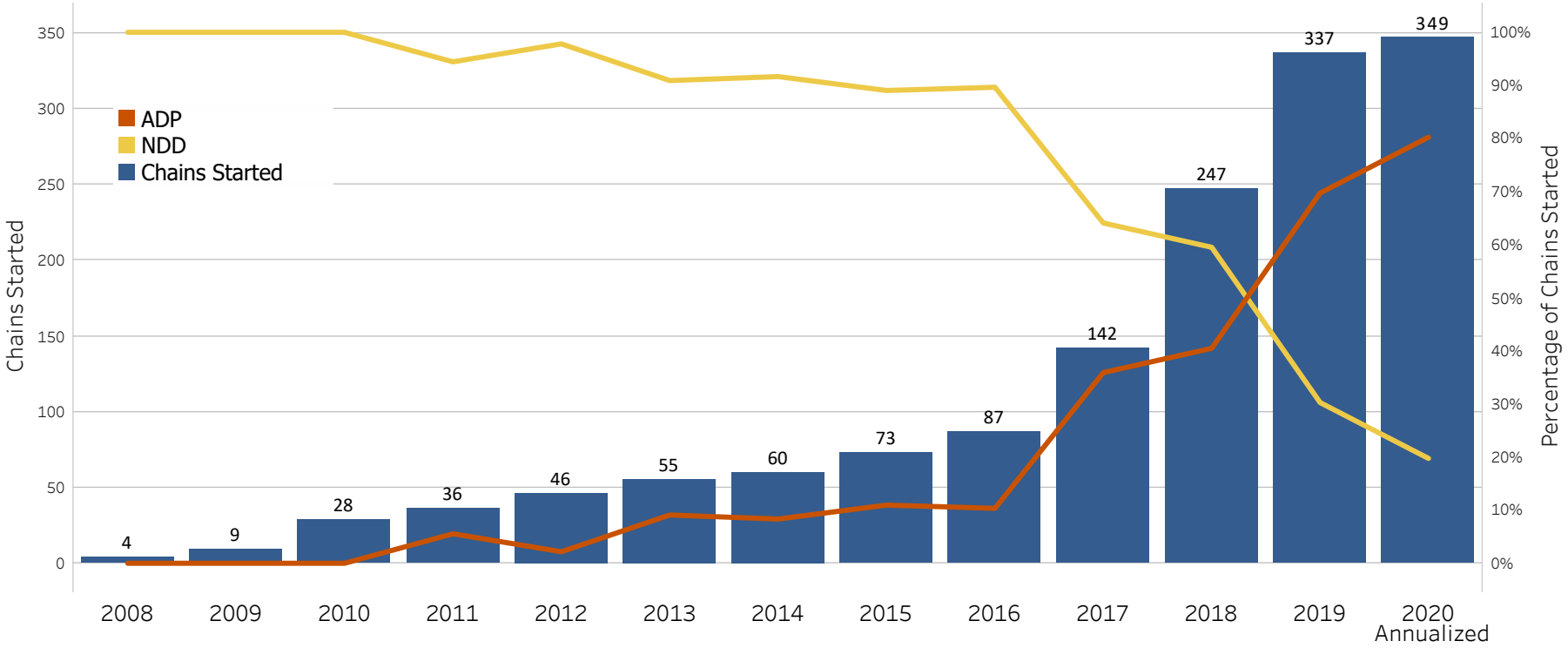
As of 4/8/2020 09:10:24

New Exportable Pairs



Restated due to database update/changes affecting calculations

Chains Started



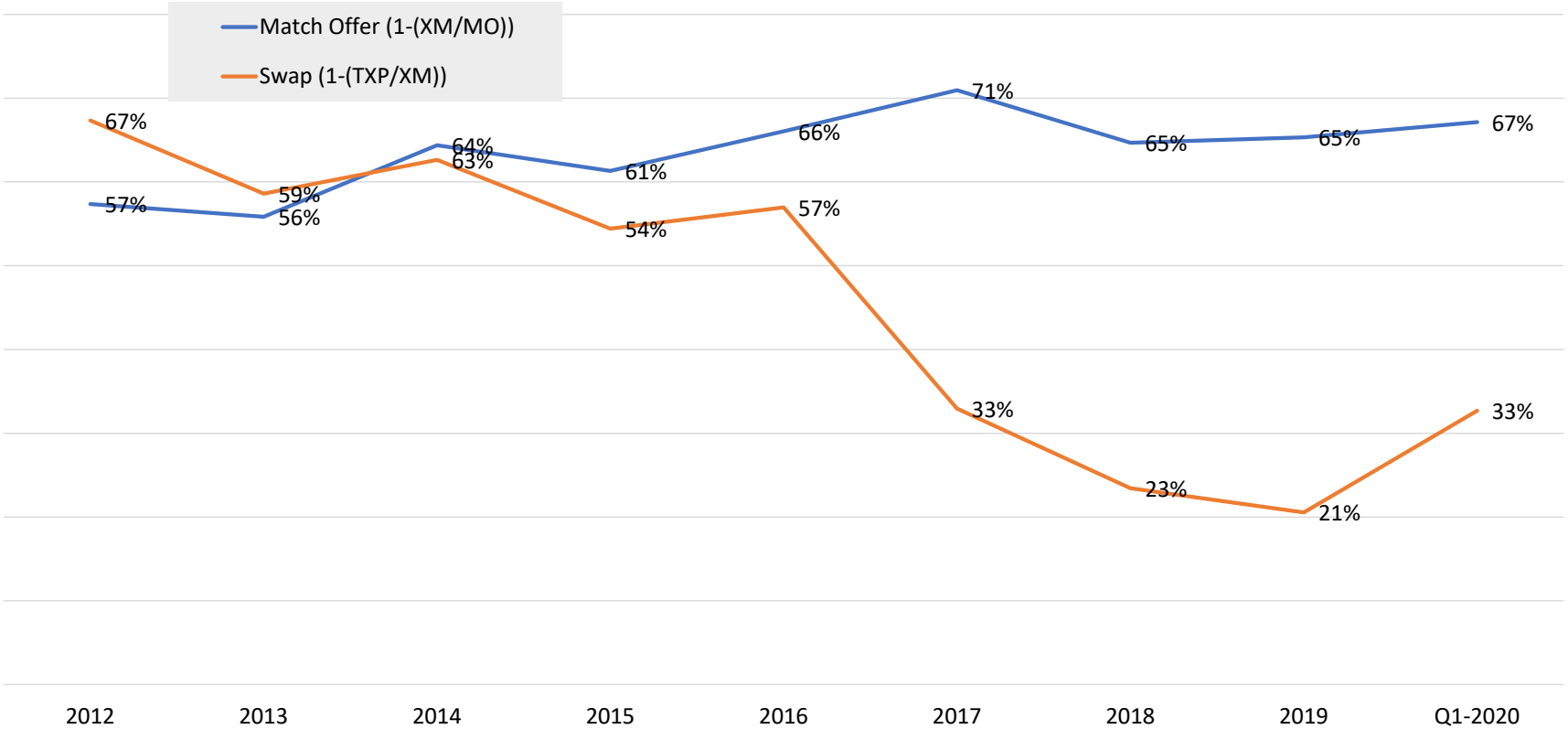
* Restated due to database update/changes affecting calculations

Chain and Loop Statistics

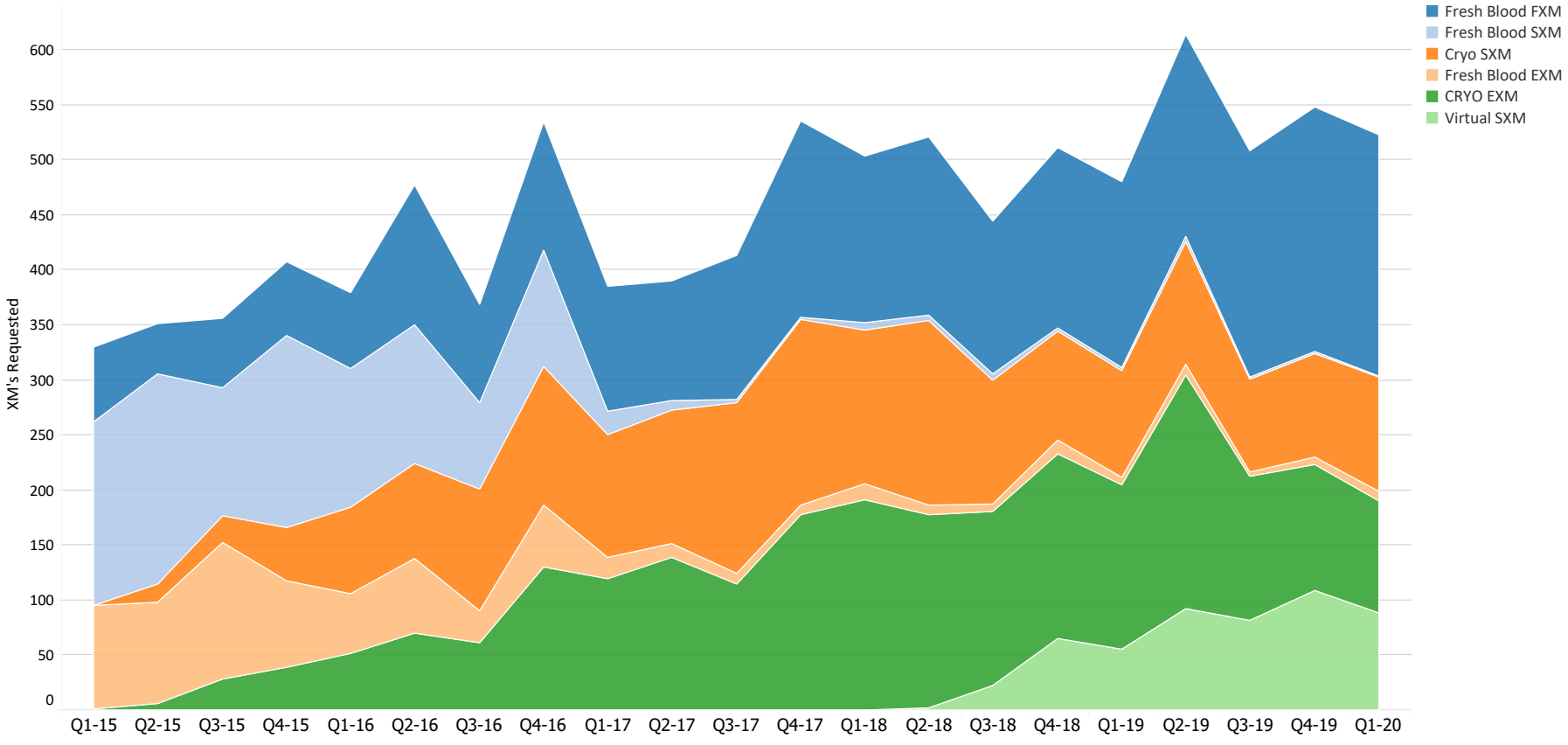
Swap Type	Swap Status	Count	Mean Length	Transplants
Chain	Ended	1,189	3.03	3,604
	Broken	27	3.85	104
	Active	3	1.00	3
	Total	1,219	3.04	3,711
Loop	Ended	131	2.33	305
	Active			
	Total	131	2.33	305
Total		1,350	2.97	4,016

As of 4/7/2020 11:46:38

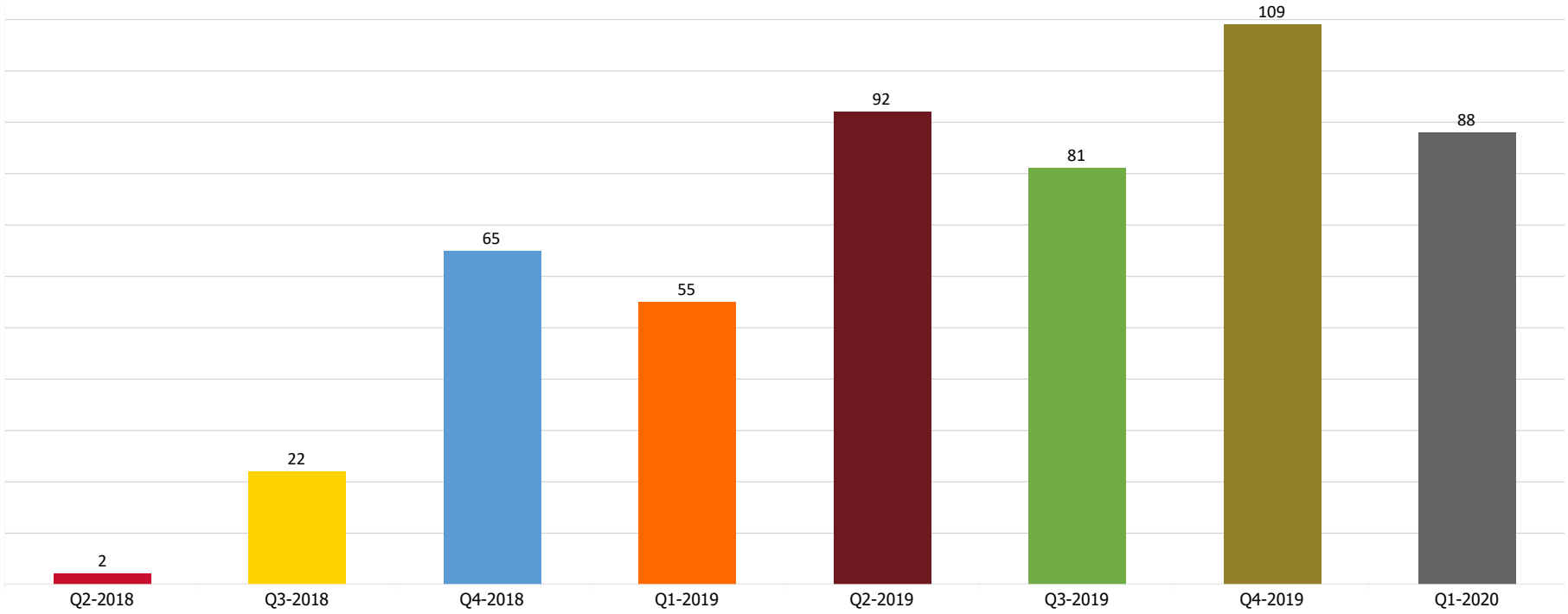
Failure Rates



Streamlined Cross Matches Requested



Virtual Screening Crossmatches



Restated due to database update/changes affecting calculations

Summary Report: Real Time Swap Failures

#	D-Alias	R-Alias	D-Center	Donation Date
1	VIOLKAM	HDACOS	Monte	01/20/2010
2	DK8YT7W	RM7345B	UCSF	06/27/2013
3	LAUPOS	GREPOS	RWJ	07/23/2013
4	COOLST	SMITNI	PorterAH	10/16/2013
5	TC10135173	TC03142797	ChristHosp	03/11/2014
6	ARBRO	BEHIP	Hopkins	07/07/2015
7	EP5866	EP1929	ASL	03/17/2016
8	UZ3007394	AD2745257	Loyola	06/19/2018
9	CC2793862	PC2941652A	Colorado	07/18/2018
10	D118DE	R118DE	UCSF	08/16/2018
11	MK01023903	MK00772251	Avera	10/17/2018
12	JH1264559	TW2135304	Emory	01/23/2019
13	WF1284159	OF2331513	Emory	10/23/2019

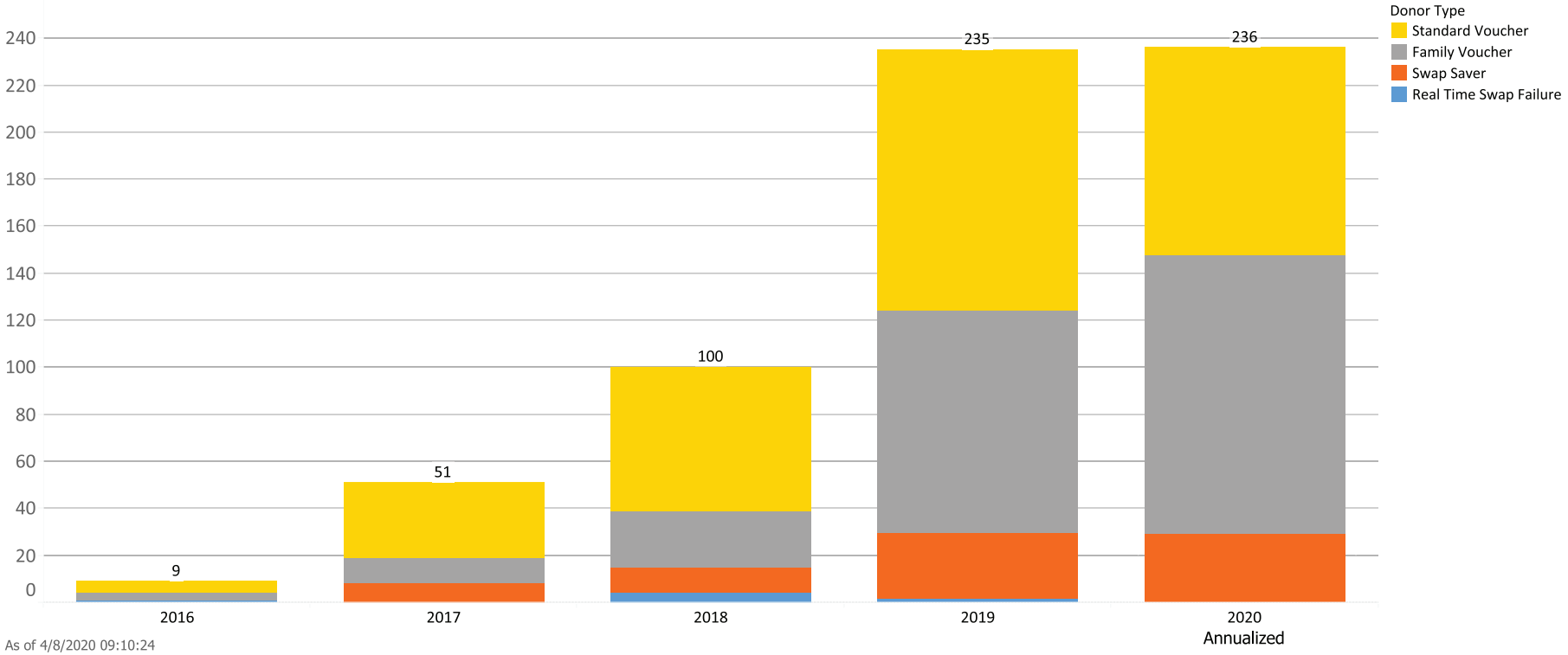
As of 5/7/2020 13:42:58

Advanced Donation Programs (ADP) Summary

Type	Cases	Additional TXPs	80%+ cPRA TXPs Facilitated	95%+ cPRA TXP Facilitated
Standard Voucher	251	562	122	62
Family Voucher	164	386	81	37
Swap Saver	56	126	37	15
RTSF	13	58	16	8
Total	484	1132	256	122

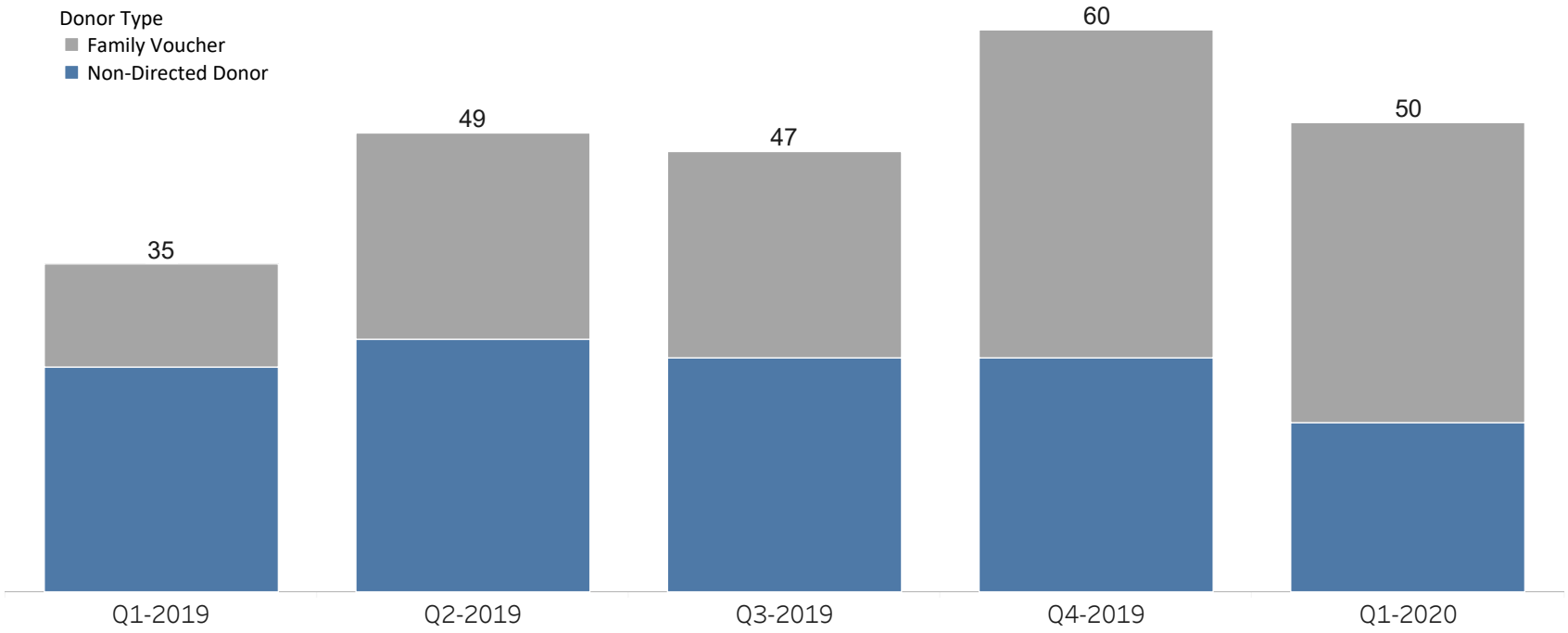
As of 4/27/2020 09:11:04
(This includes donors that have been flagged as ADP going back to 2011)
Cases, Additional TXPs Facilitated, 80%+ cPRA TXPs Facilitated and 95%+ cPRA TXP Facilitated broken down by Voucher Type.

Advanced Donation Program (ADP)



As of 4/8/2020 09:10:24

Family Voucher + NDD Chain Starts



ADP Chains Started vs. Unmatched ADP Recipients

