



**NATIONAL KIDNEY REGISTRY®**

FACILITATING LIVING DONOR TRANSPLANTS

# Paired Exchange Results Quarterly Report

Q2 Results 2020

# Table of Contents

- Message from the Founder & CEO
- NKR KPD + Remote Direct Transplants Daily Average 1/1/20 – 7/21/20
- Death Censored Graft Failure Comparisons
- Donors Protected
- Donor Shield Direct Utilization
- A2 to O Transplants Facilitated
- Top Centers NKR Transplants in Last 12 Months
- NKR Member Centers Map
- Donor Care Network® Centers of Excellence
- Microsites Centers
- Remote Donor Centers
- Remote Donations by Donor Type
- Partner Center Chain End Targets as of 7/8/2020
- Top Center Liquidity Contributors (CLC)  
CLC Driven Transplants 07/01/2019 – 06/30/2020
- Donor Contacts Across All DASH Platforms
- Non-Directed & Family Voucher Donor Contacts Across All DASH Platforms
- Non-Directed & Family Voucher Donor Referrals Referred to NKR Member Centers
- Home Blood Draw Requests
- Pre-Workup Labs Results Uploaded
- Pool Size Unmatched Patients by Day
- Patients Waiting > 1 Year by Quarter
- Patients Waiting > 1 Year by Center
- Transplanted Patient Median Wait Time
- Wait Time Distribution Transplanted Pairs
- Unmatched Target Pairs Waiting more than 12 months
- Pairs Waiting > 1 Year Due to unfavorable blood type combination
- Pairs Waiting > 1 Year Due to high cPRA
- Pair Wait Time Analysis
- Compatible Donors Donated Through 6/30/2020
- Pool Composition by cPRA
- Transplanted Patients with cPRA > 80%
- Transplanted Patients by cPRA
- Great HLA Matches Zero Mismatch
- Virtual Screening Crossmatches
- Streamlined Cross Matches Requested
- Real Time Swap Failures
- Failure Rates
- New Exportable Pairs
- Chains Started
- Chain and Loop Statistics
- Advanced Donation Programs (ADP) Summary
- Advanced Donation Program (ADP)
- Family Voucher + NDD Chain Starts
- Outstanding ADP Voucher Holders
- Active Voucher Liabilities
- Voucher Liabilities by Center & Type



# Message from the Founder & CEO



Living donor transplant activity was down in the second quarter due to the pandemic. NKR-facilitated transplants dropped to about 50% of their normal rate in March and May, and dropped to near zero in April. NKR volumes have returned to pre-pandemic levels in June and July despite many transplant centers still operating at reduced KPD activity levels. We are expecting an increase in KPD transplants in the coming months as backlogged cases make their way through the system.

Usage of our home blood draw services, aimed at keeping donors out of hospitals, has tripled in recent months and our remote donation program is expanding at a rapid pace as donors look to avoid COVID risks related to travel.

This past quarter we expanded our Donor Shield coverage by adding a seventh protection to reimburse lost wages and travel/lodging costs in those rare instances where a complication causes a donor to miss time at work and/or incur travel expenses. We have also expanded the prioritization for a living donor kidney (NKR donor protection) to include coverage of any transplant costs not covered by insurance. This means that any NKR donor who loses their kidney function and needs a transplant will not have to worry about the transplant co-pay or other transplant-related costs. With over 4,000 NKR donors to date, we have not seen any donors return to us in need of a kidney transplant, but we want to ensure that if it happens, the donor is completely covered. All of the Donor Shield support and protections can be found at our new Donor Shield website at [www.donor-shield.org](http://www.donor-shield.org).

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

Sincerely,

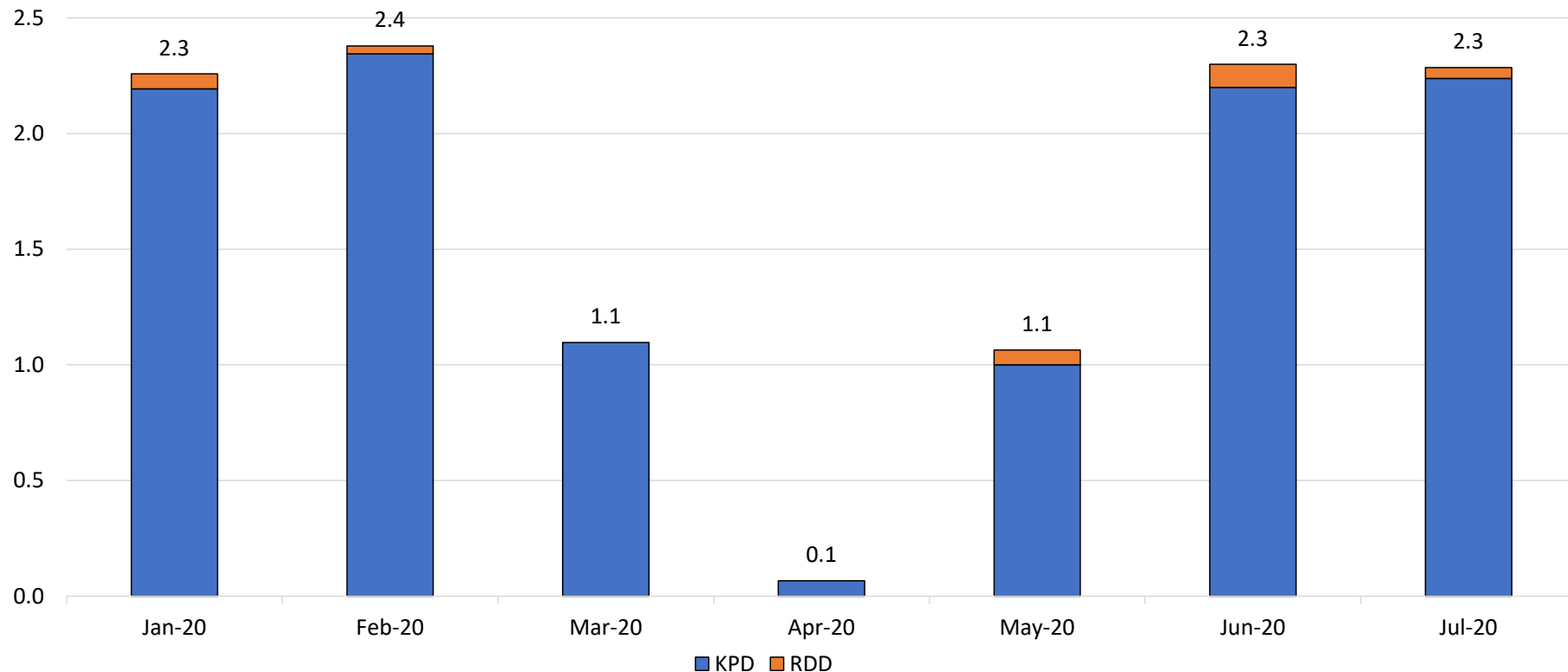
A handwritten signature in blue ink, appearing to read 'G Hil', with a long horizontal stroke extending to the right.

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

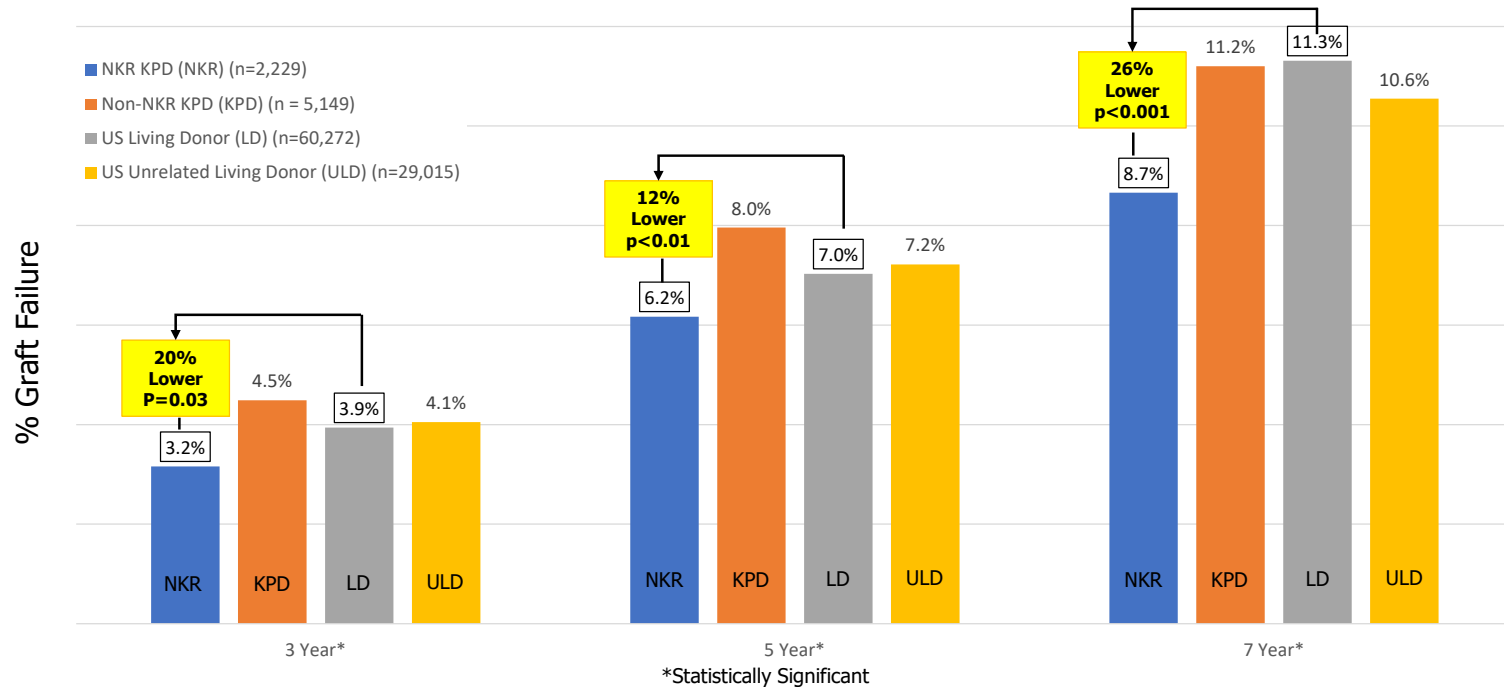


# NKR KPD + Remote Direct Transplants Daily Average

1/1/20 – 7/21/20



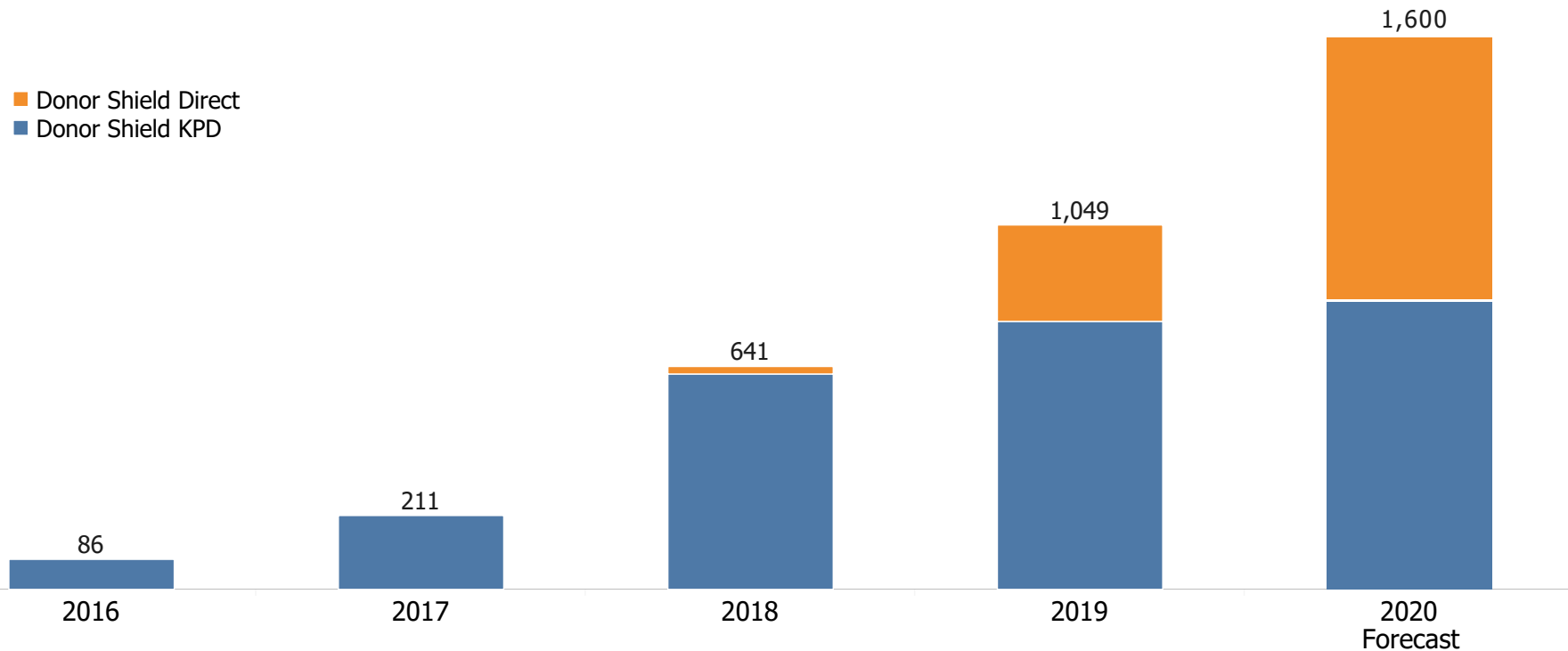
# Death Censored Graft Failure Comparisons



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

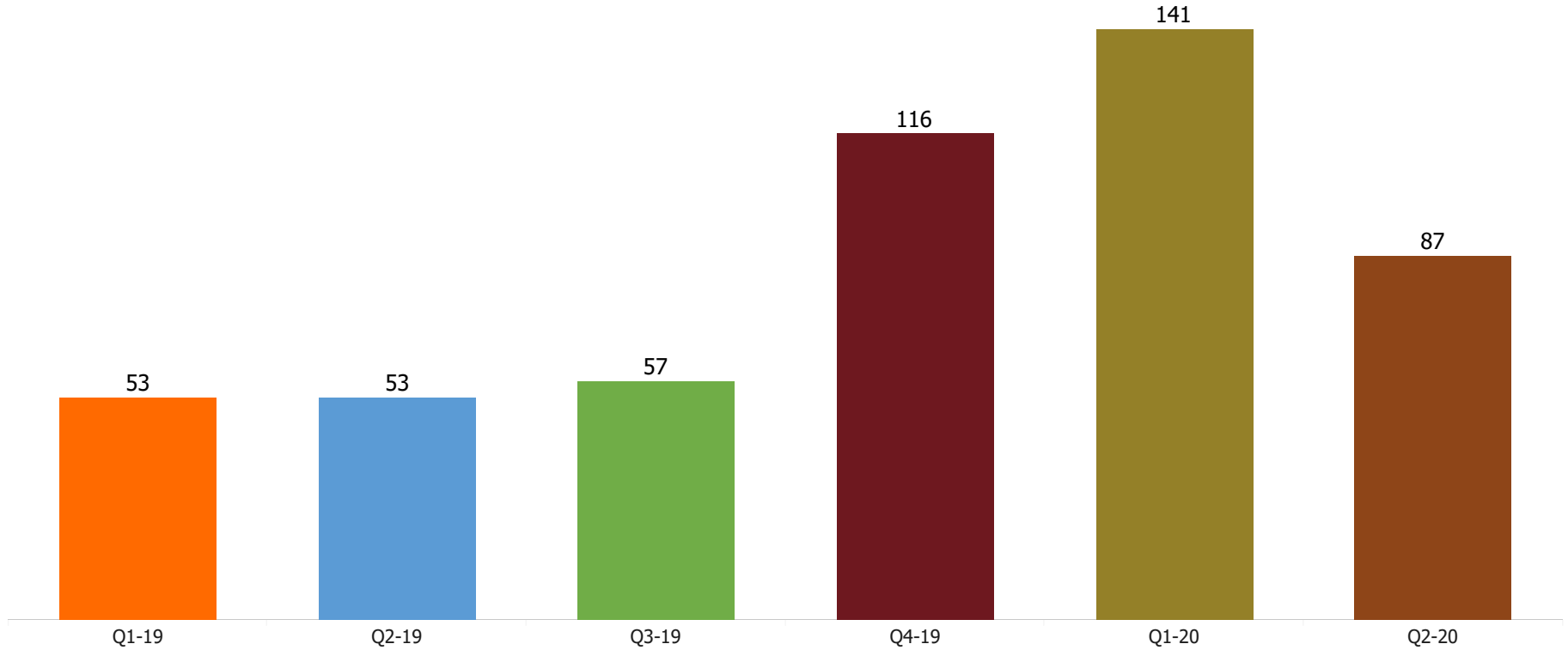


As of 7/19/2020 14:31:26

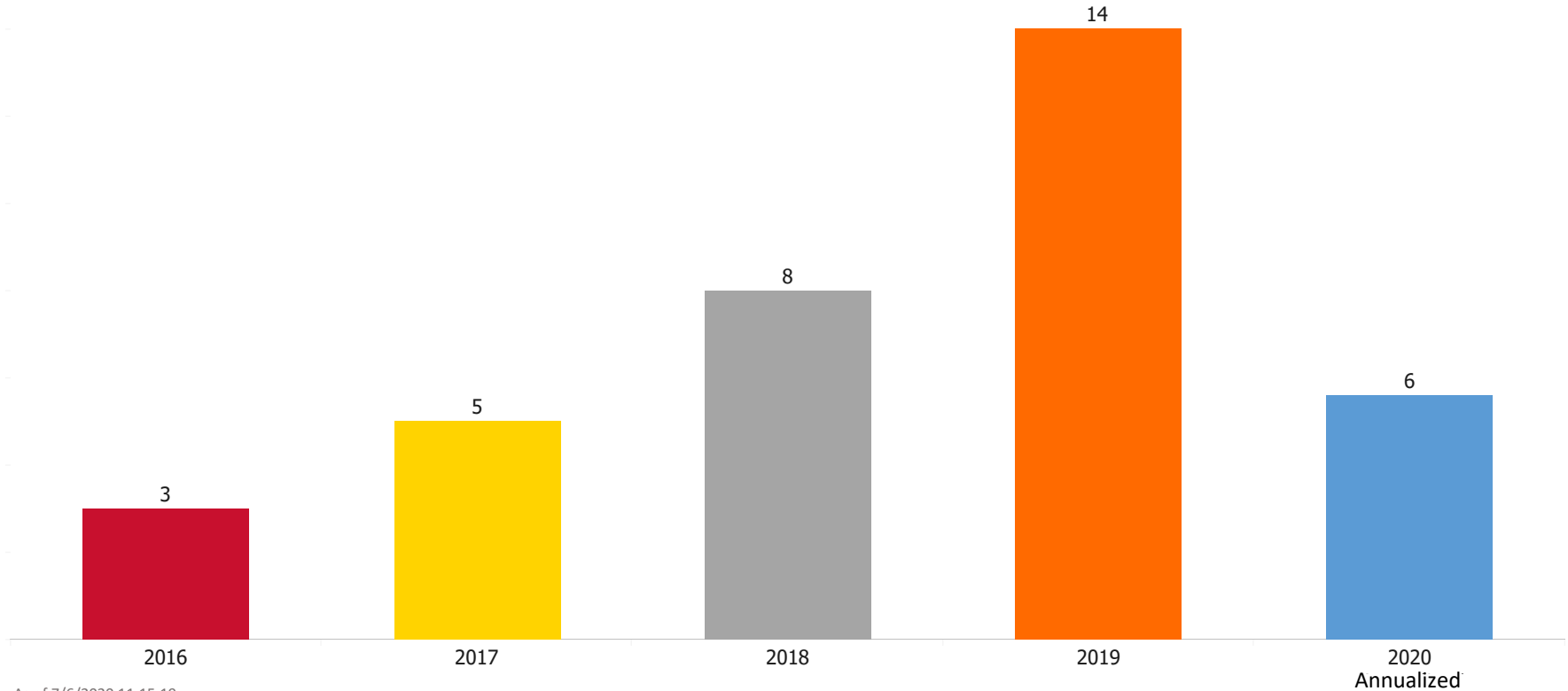
\*Restated due to database update/changes affecting calculations



# Donor Shield Direct Utilization



# A2 to O Transplants Facilitated



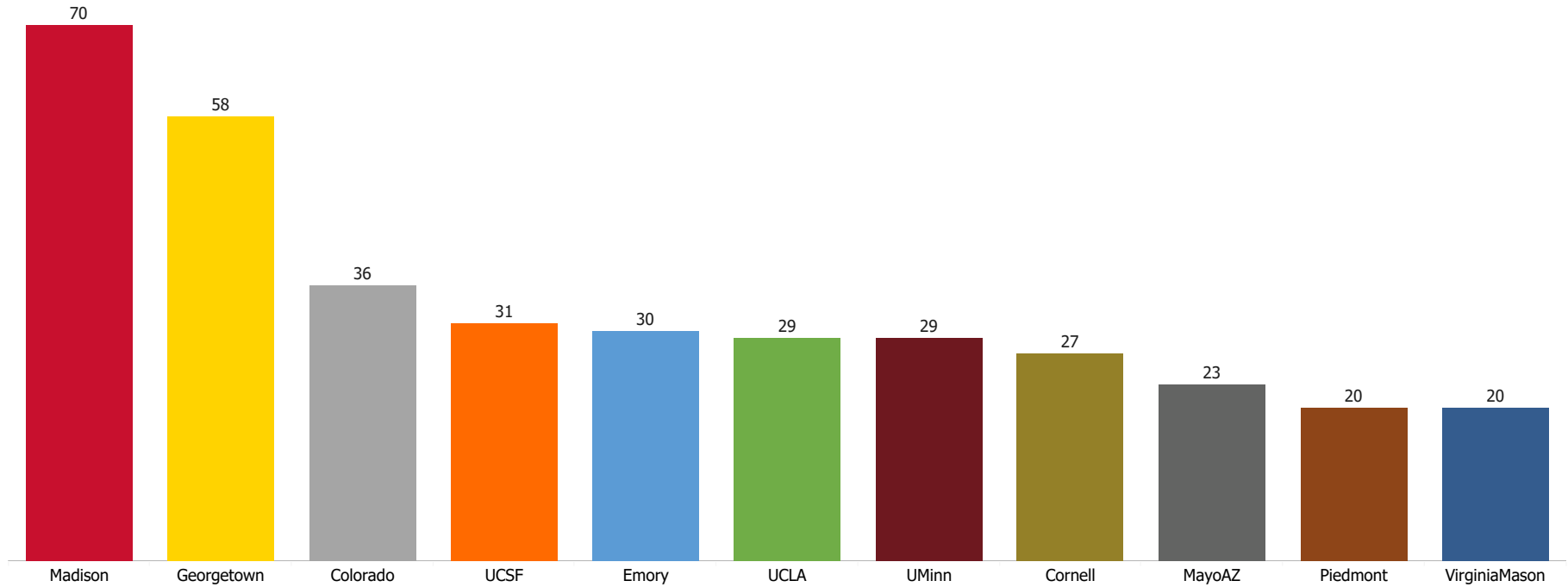
As of 7/6/2020 11:15:19





# Top Centers

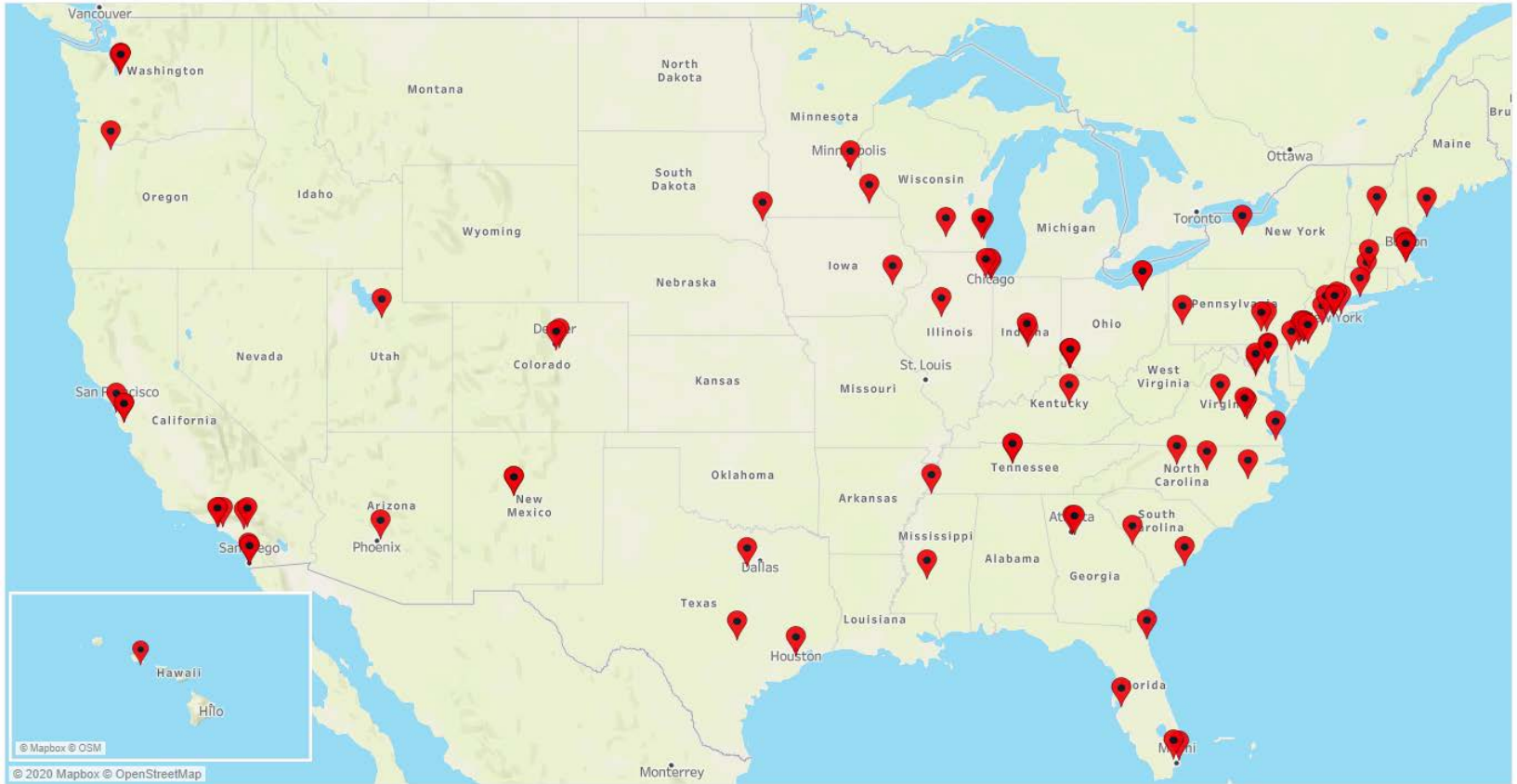
## NKR Transplants in Last 12 Months



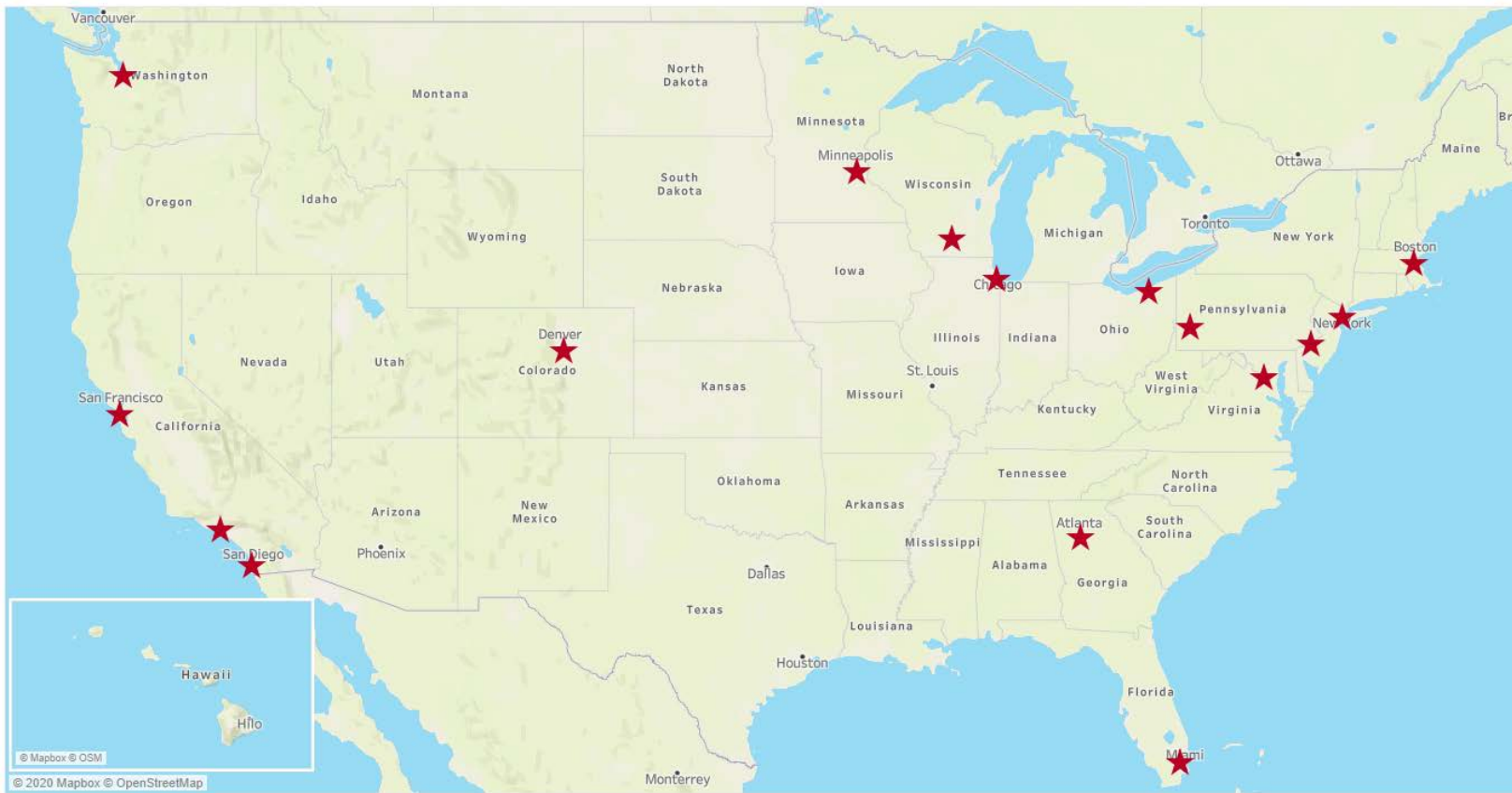
As of 7/7/2020 10:31:00



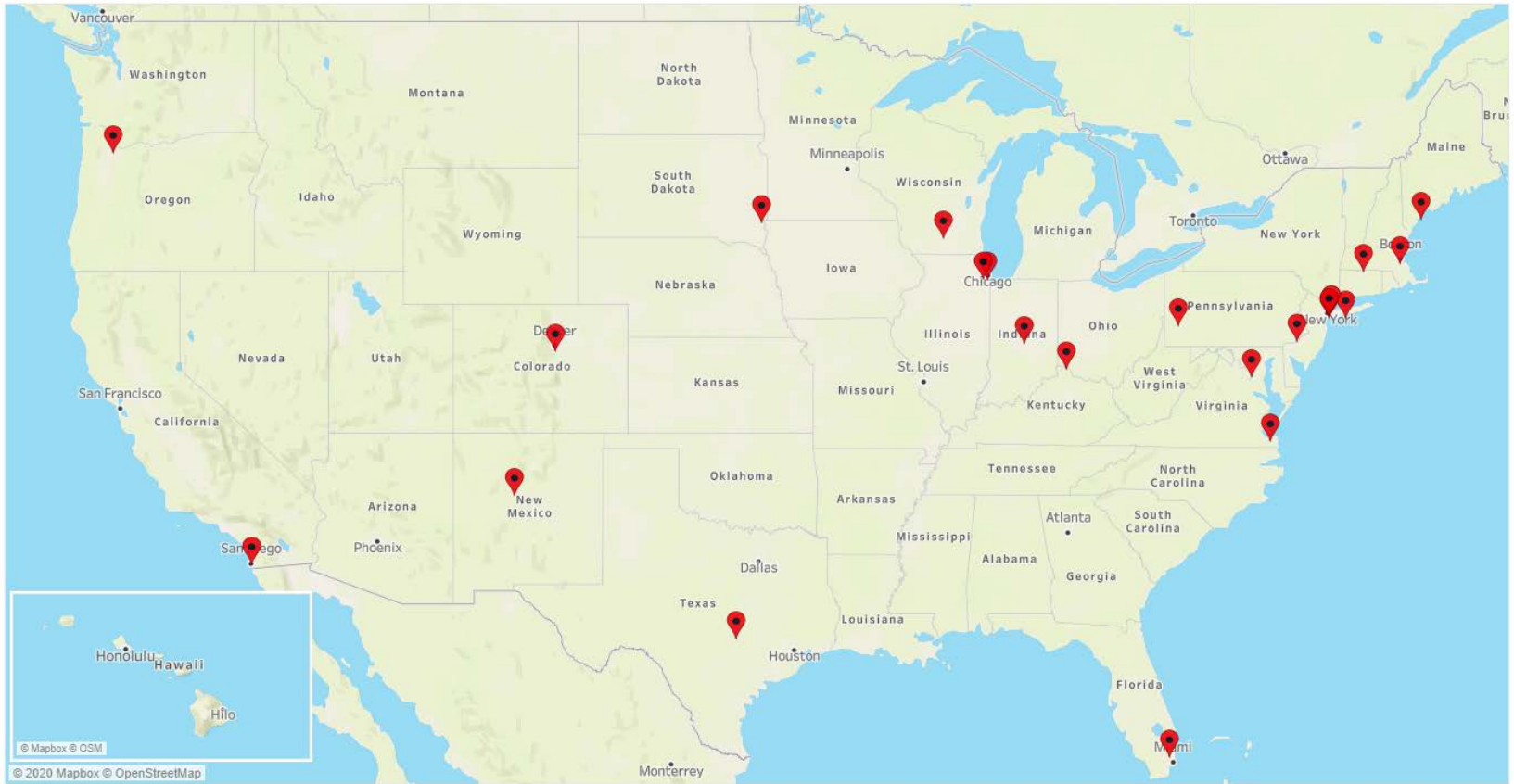
## NKR Member Centers Map



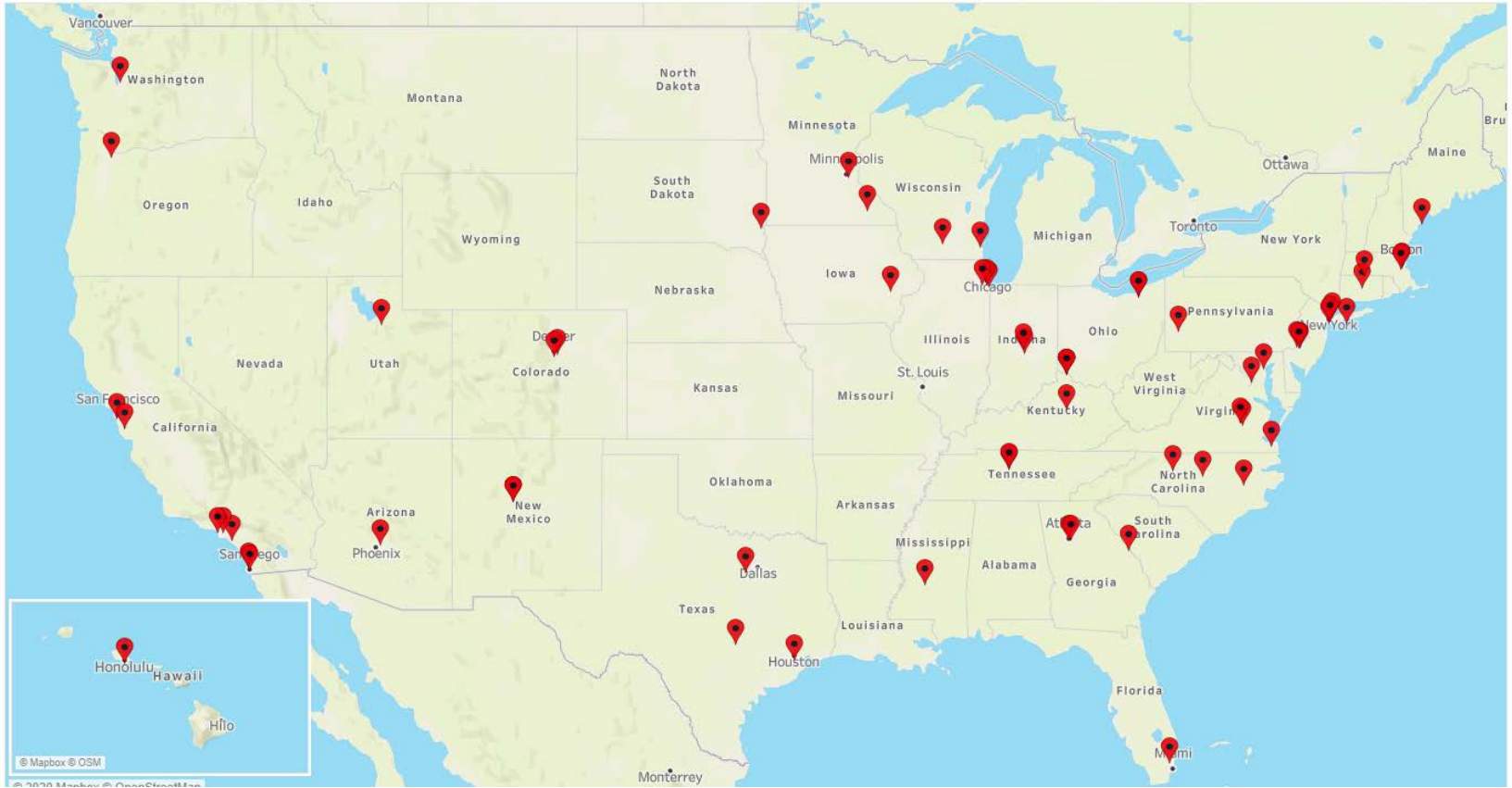
# Donor Care Network® Centers of Excellence



# Microsites Centers



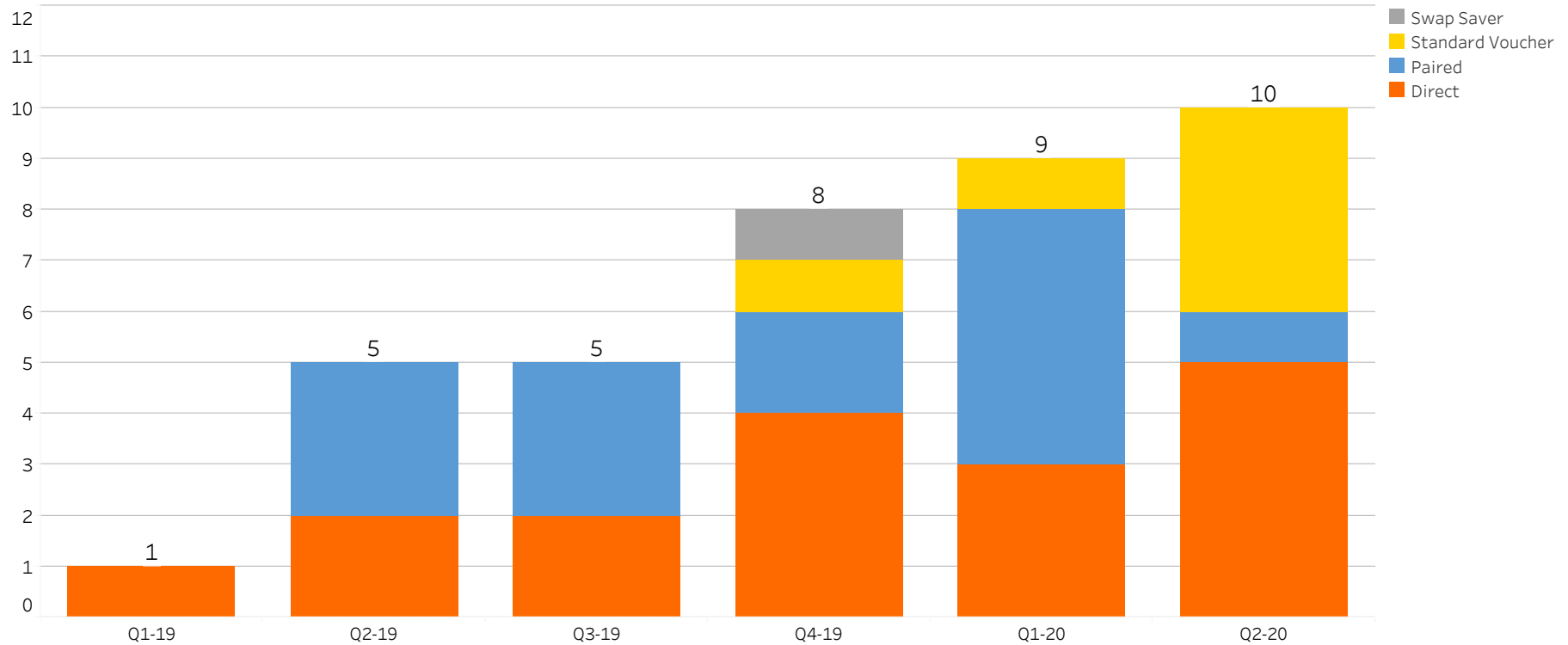
# Remote Donor Centers



**NATIONAL KIDNEY REGISTRY®**  
FACILITATING LIVING DONOR TRANSPLANTS

Remote Kidney Donation allows someone who wants to donate a kidney to a friend or family member in a distant city without requiring the donor to travel to the transplant center in the distant city. Remote donation utilizes proven logistics systems pioneered in kidney swaps by the National Kidney Registry over the past decade to safely transport the kidney from the donor's local hospital to the transplant center in the distant city. Click [here](#) for more info.

# Remote Donations by Donor Type

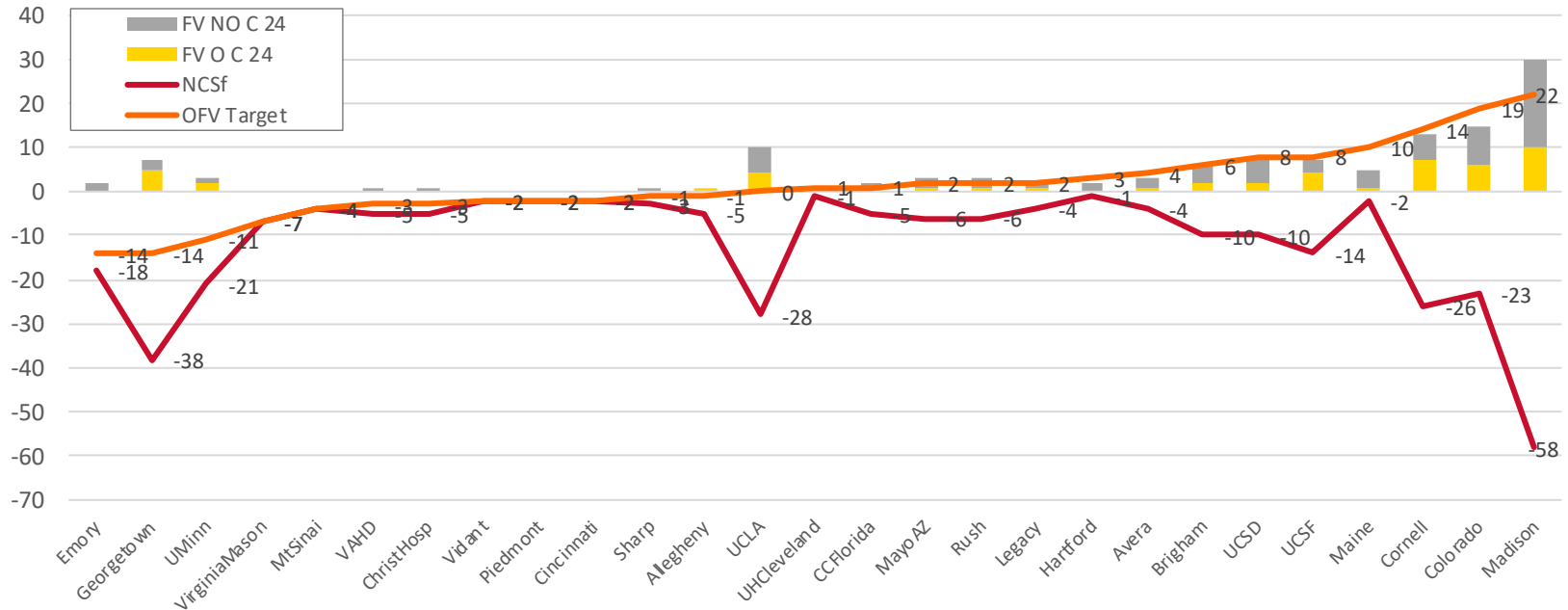


As of 7/19/2020 14:44:06



# Partner Center Chain End Targets

## as of 7/8/2020



\* <https://clckidneyregistry.org/WebForm1.aspx?ReportKeyPass=ag5Ghnf76Tghd765GFtre&NcsSummary=1&Sort=DefaultSort&Supress=1> Accessed 7/08/20 at 13:43 ET

"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

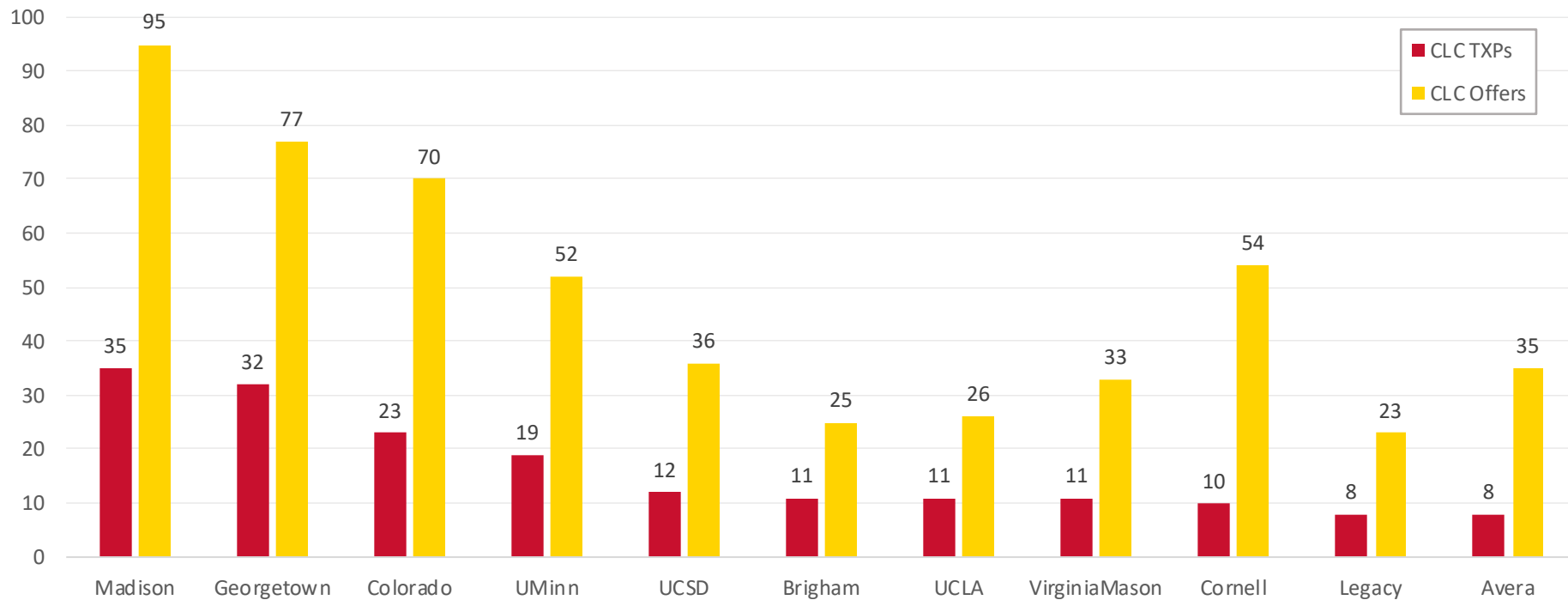
NCSf = Net Chains Started forecasted

OFV 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)

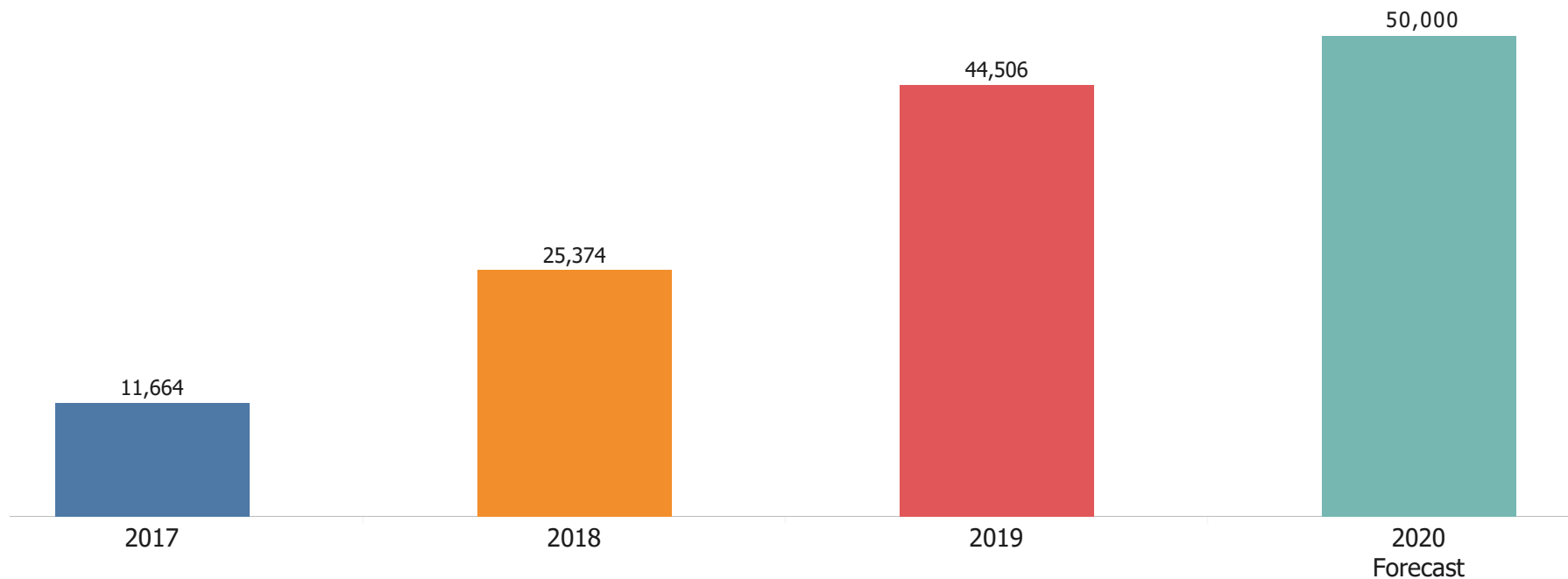
CLC Driven Transplants 07/01/2019 – 06/30/2020





# Donor Contacts

## Across All DASH Platforms



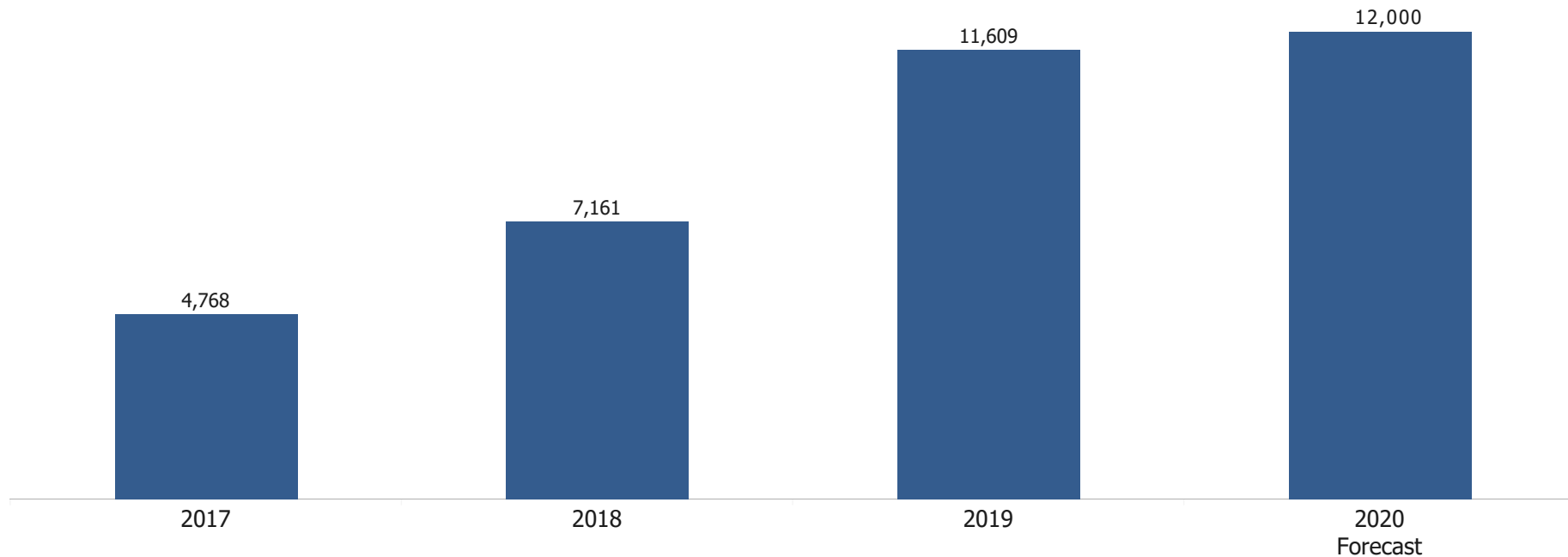
As of 7/19/2020 14:42:53

\*Restarted due to database update/changes affecting calculations



# Non-Directed & Family Voucher Donor Contacts

Across All DASH Platforms



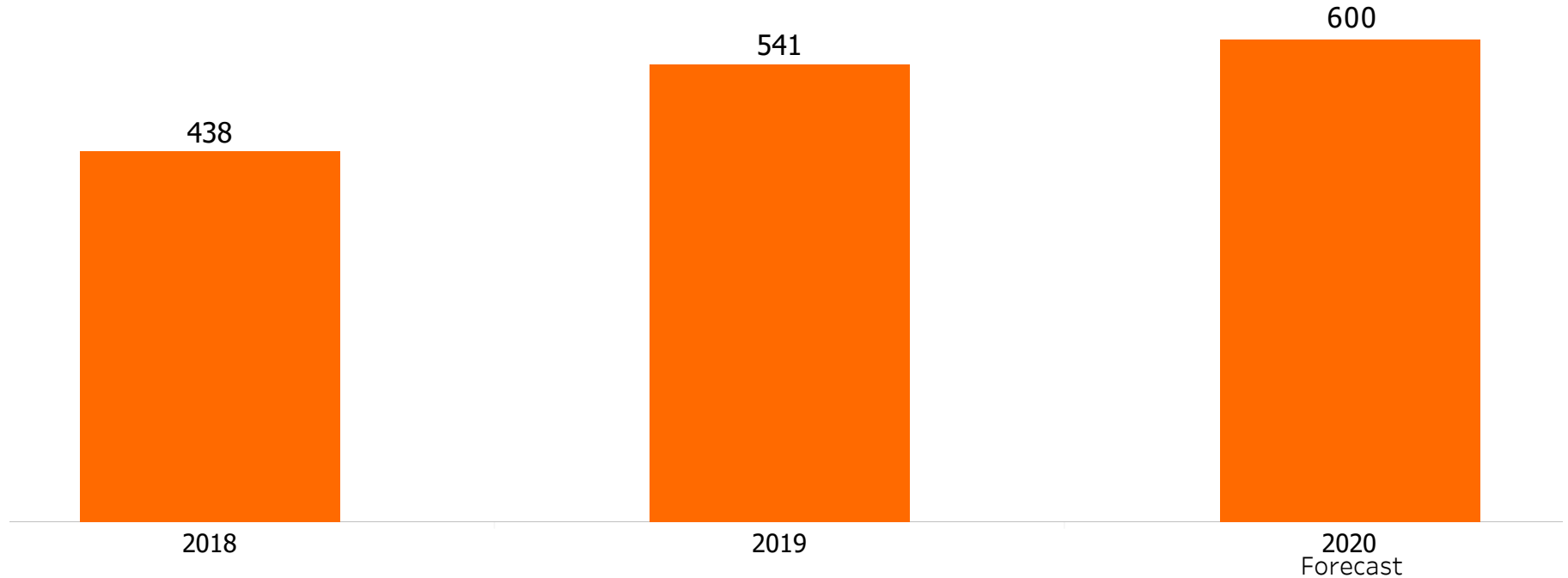
As of 7/19/2020 14:42:53

\*Restarted due to database update/changes affecting calculations



# Non-Directed & Family Voucher Donor Referrals

Referred to NKR Member Centers

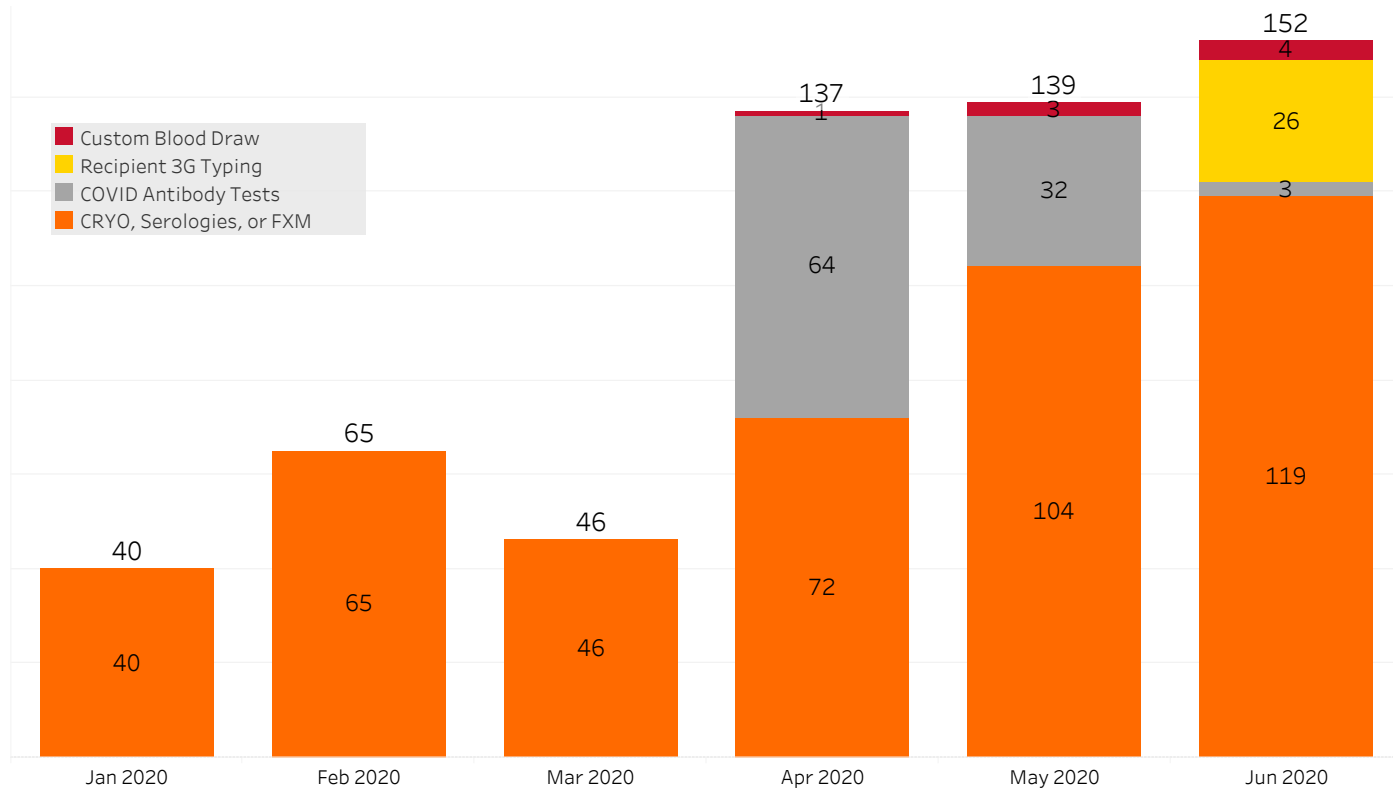


As of 7/19/2020 14:42:53

\*Restarted due to database update/changes affecting calculations



# Home Blood Draw Requests

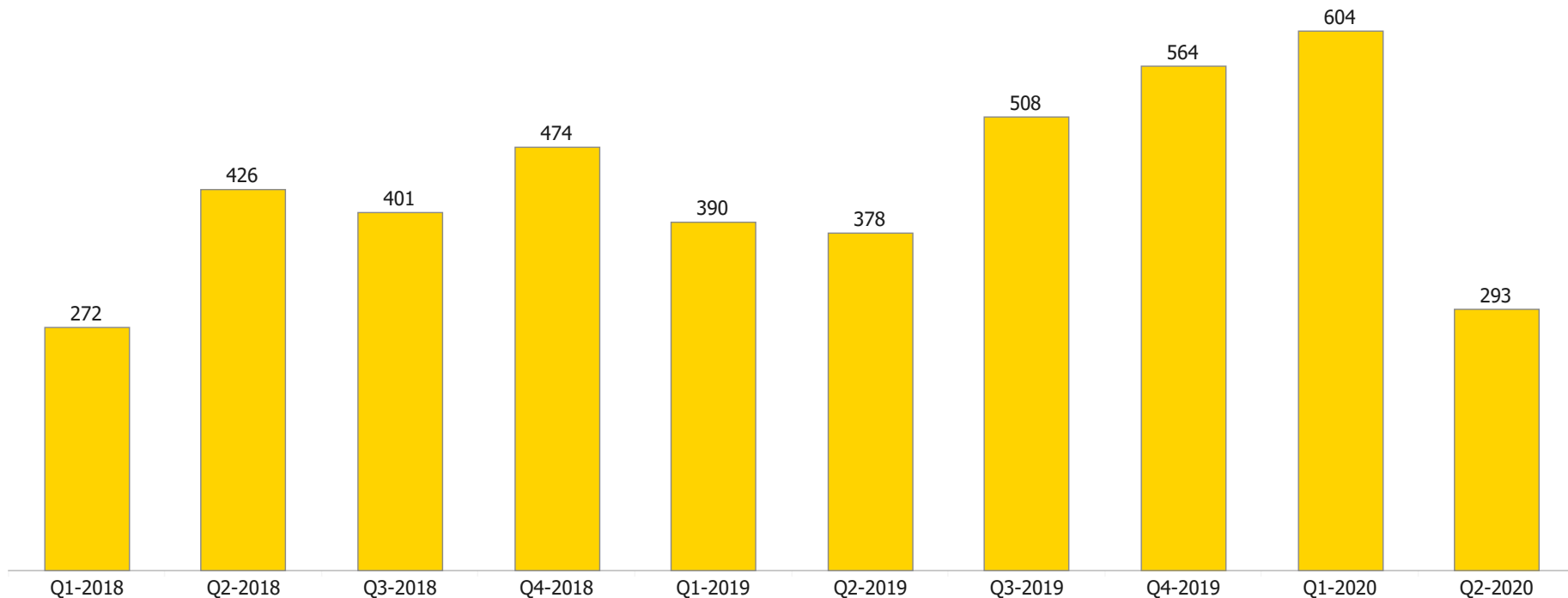


As of 7/14/2020 08:32:20



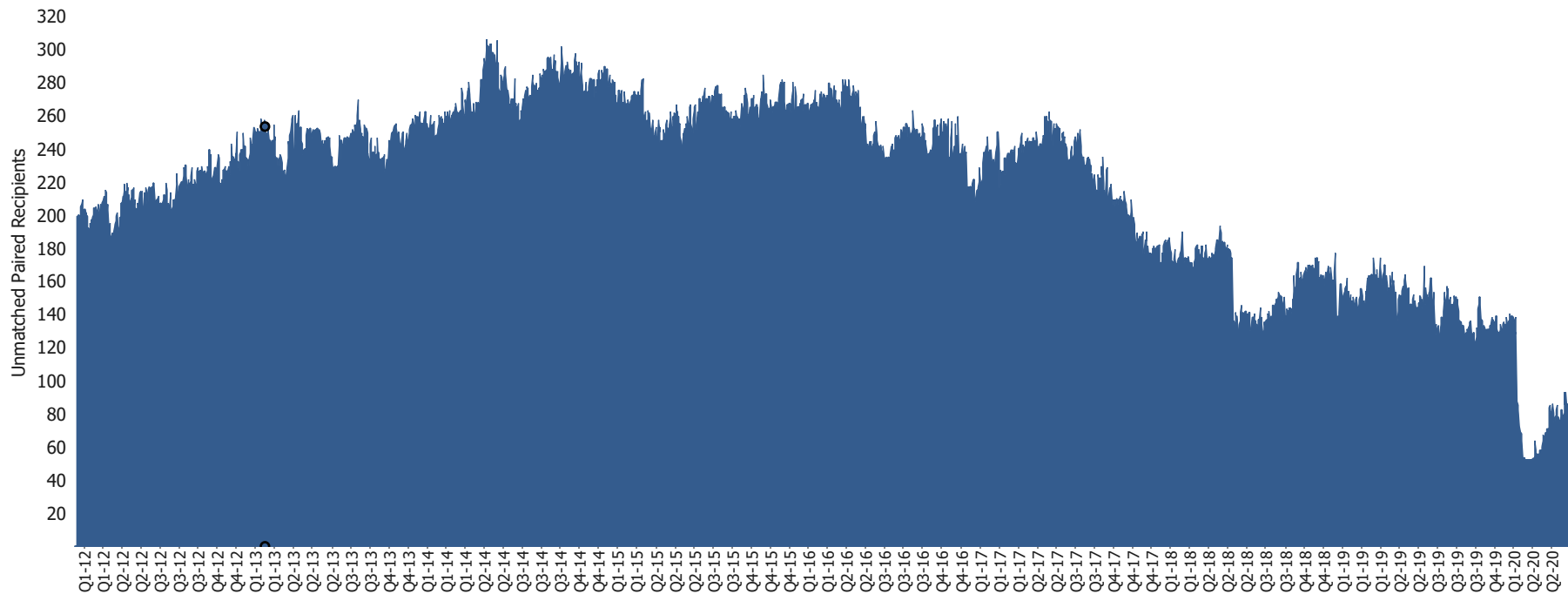
# Pre-Workup Labs

## Results Uploaded



# Pool Size

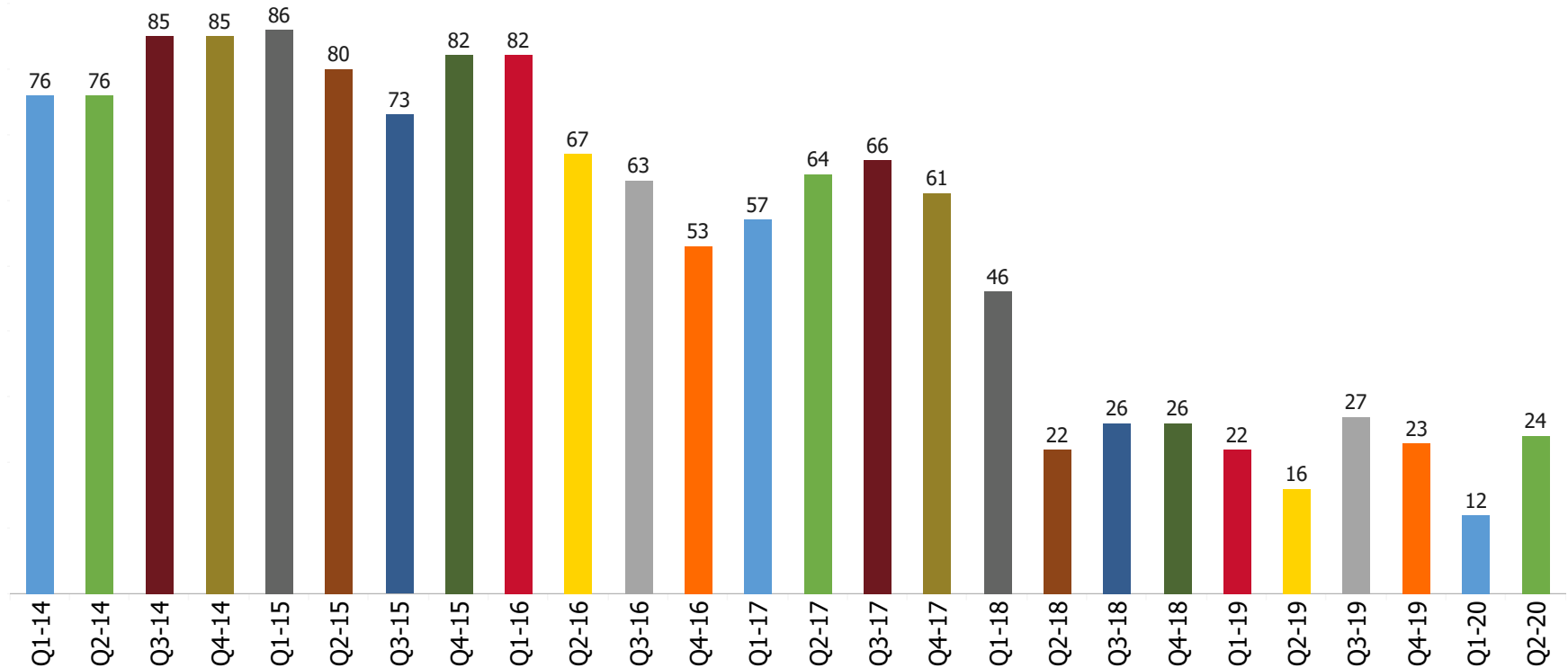
## Unmatched Patients by Day



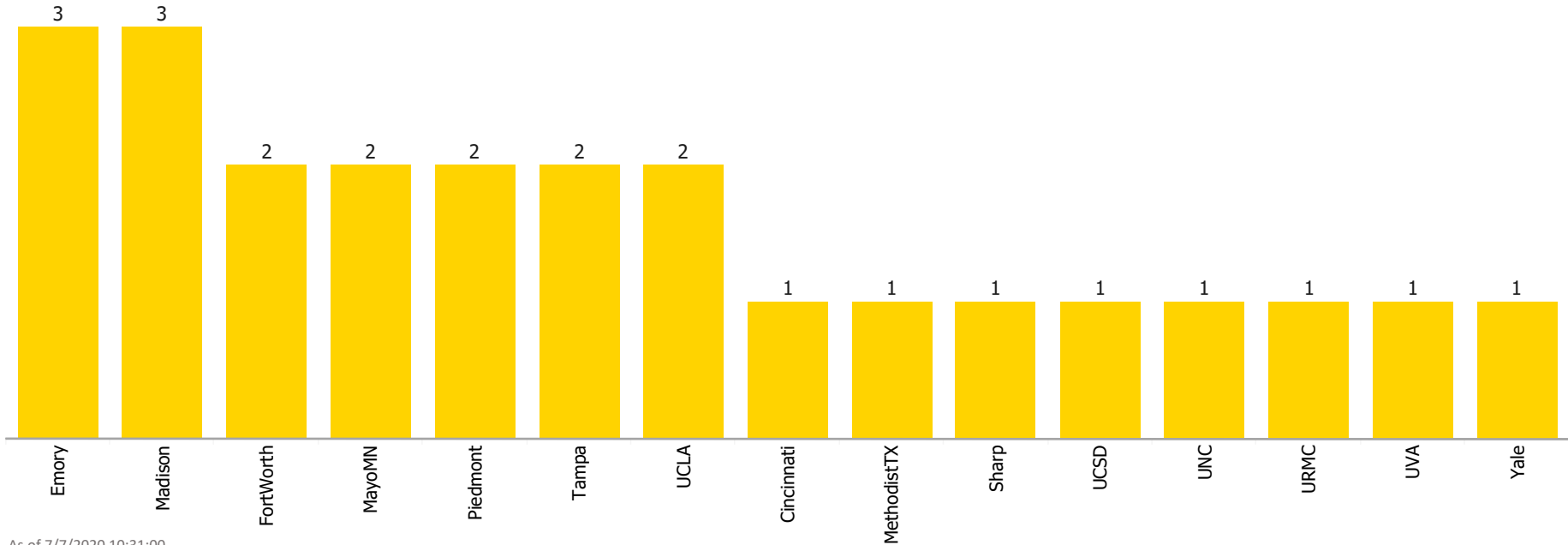
As of 7/6/2020 12:56:02



# Patients Waiting > 1 Year by Quarter



# Patients Waiting > 1 Year by Center

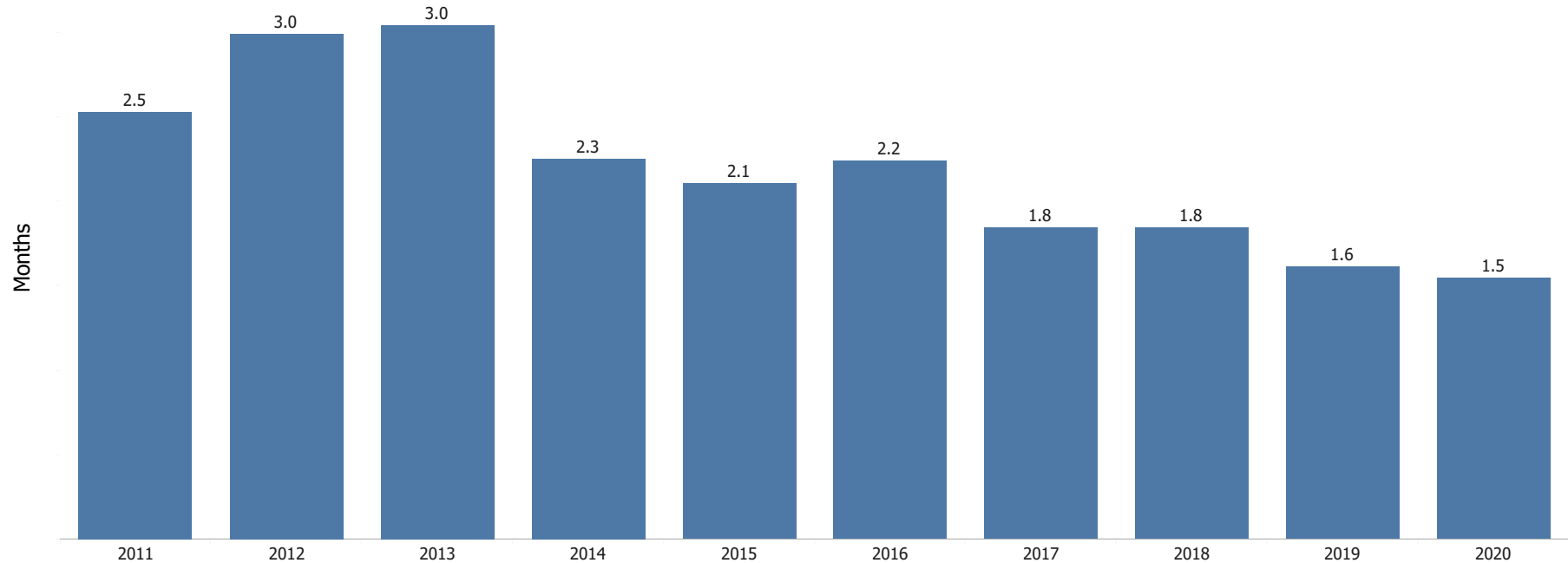


As of 7/7/2020 10:31:00





# Transplanted Patient Median Wait Time



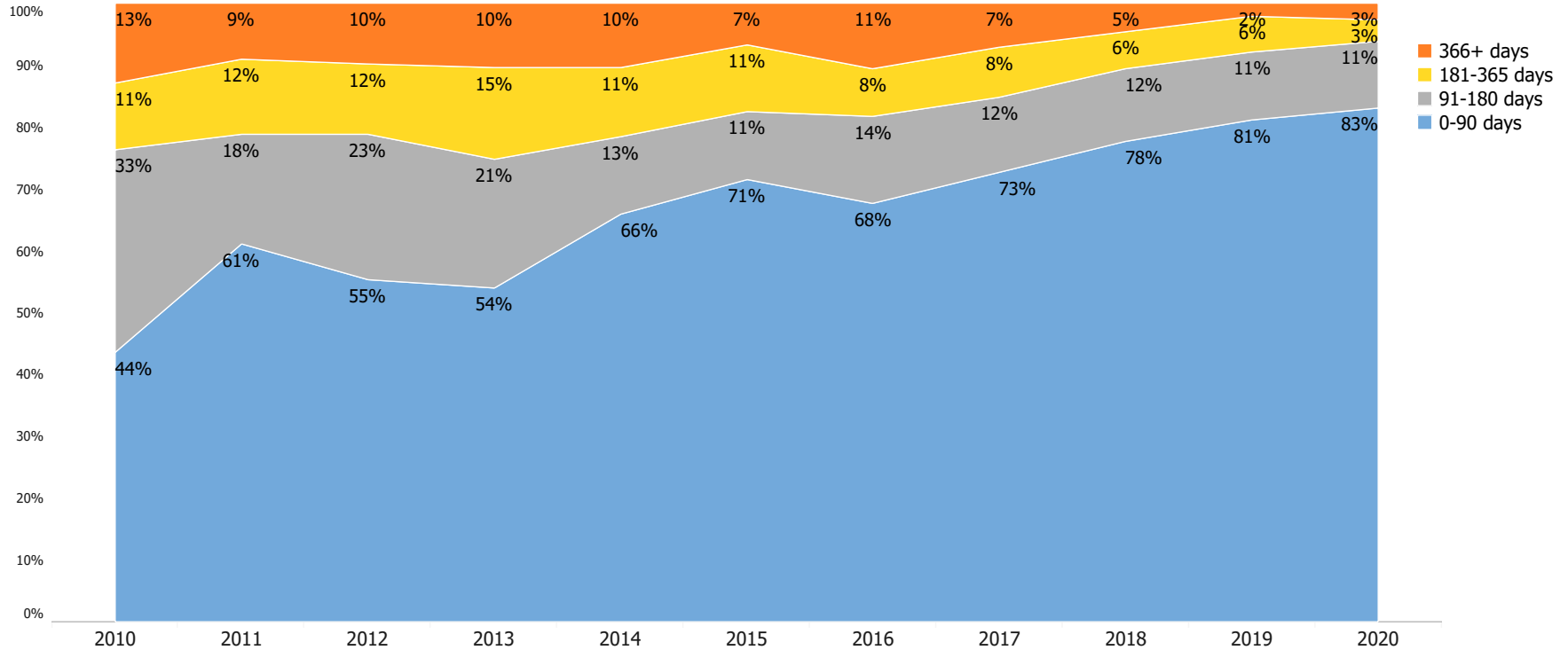
As of 7/19/2020 15:21:40

\* Restated due to database update/changes affecting calculations



# Wait Time Distribution

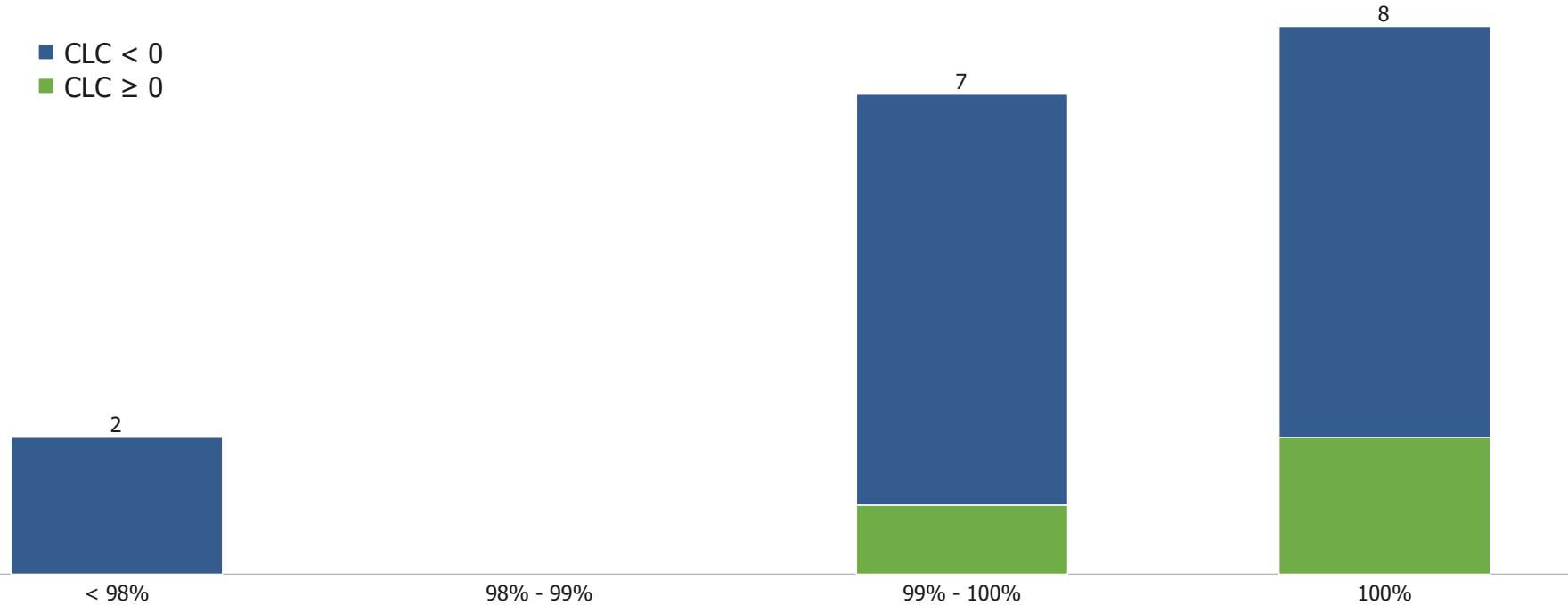
## Transplanted Pairs



# Unmatched Target Pairs

Waiting more than 12 months

■ CLC < 0  
■ CLC ≥ 0



As of 7/7/2020 10:31:00



# Pairs Waiting > 1 Year

Due to unfavorable blood type combination

#	Recipient Alias	D-ABO	R-ABO	cPRA	D-Ages	Months Wait	Center CLC
1	JJ12051951	B	O	43.22	45	23	-3,170

As of 7/6/2020 11:14:38



# Pairs Waiting > 1 Year

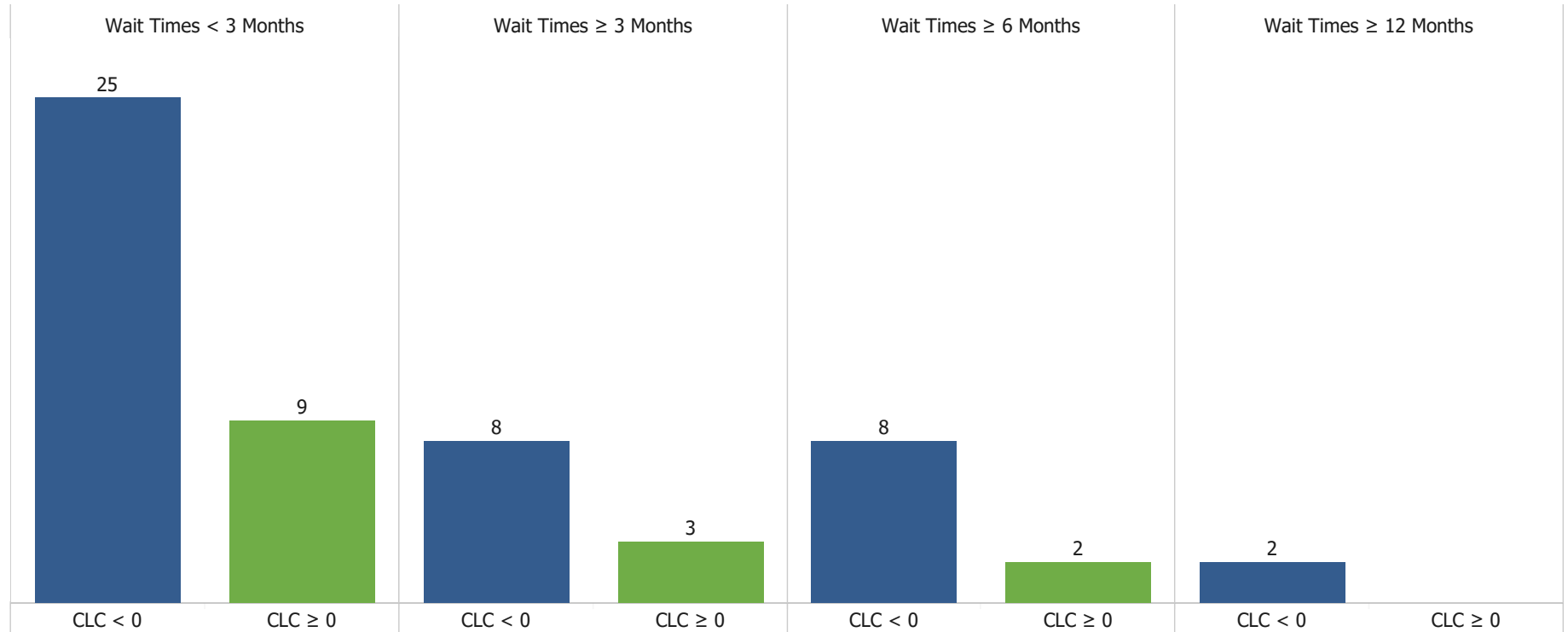
Due to high cPRA

#	Recipient Alias	D-ABO	R-ABO	cPRA	D-Ages	Months Wait
1	GM8784	O	B	99.98	34	55
2	UC06142609	O,A	O	99.95	51,43	46
3	J36760809G	O	O	100.00	30	35
4	LANDBRE	O	O	99.98	57	32
5	CR02221971	A	O	99.95	47	30
6	H903961717	A,O	O	100.00	54,26	30
7	F900092902	A,AB	A	99.79	38,30	26
8	AH6321	O	O	100.00	40	24
9	POPOJRE2	O	A	100.00	28	23
10	ROAI1976	O	A	99.98	44	20
11	AH2160223	O	A	100.00	52	18
12	R475238	O	O	100.00	58	18
13	BRBA52375	O,A	O	100.00	65,62	17
14	M000464196	O,O,O	O	99.98	34,34,34	14
15	REYKRI750	B	B	100.00	54	13
16	LEKAY78R	B	B	99.98	34	12

As of 7/14/2020 08:00:50



# Pair Wait Time Analysis



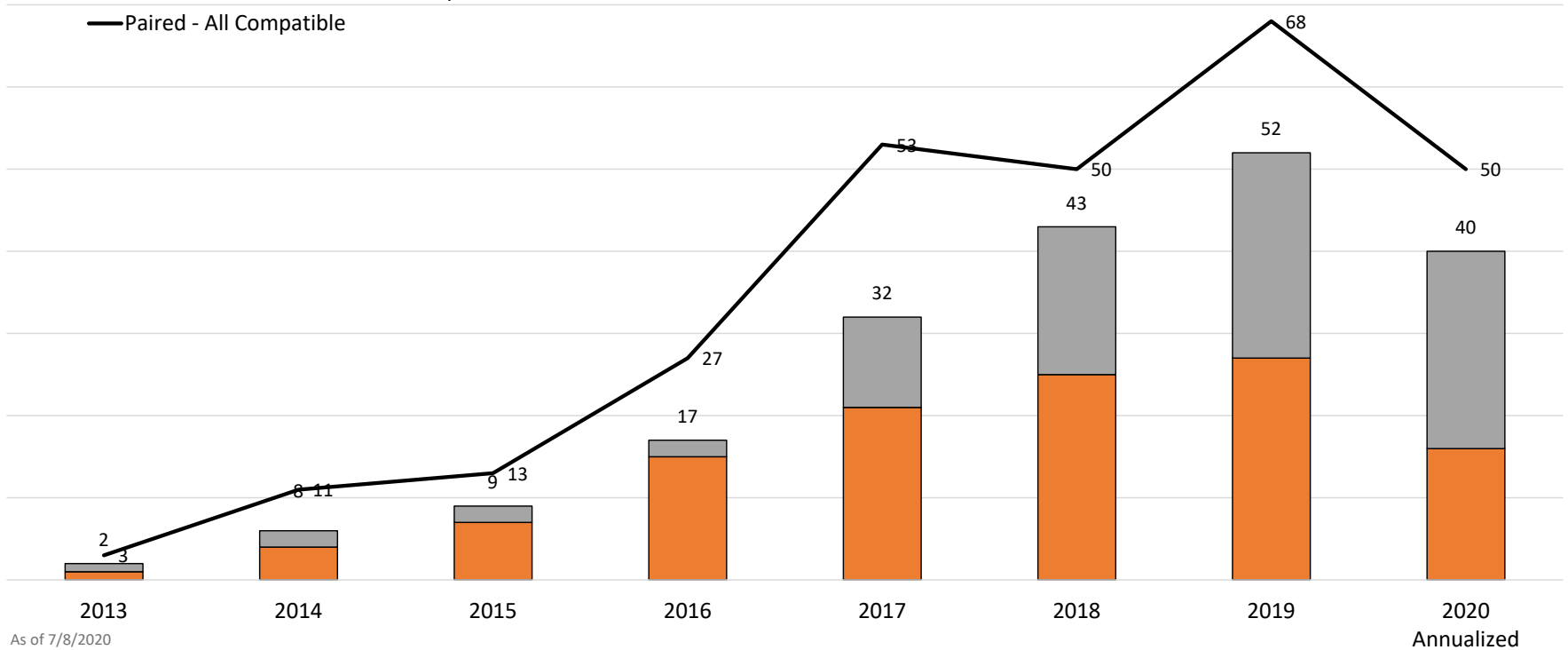
Excluding patients with cPRA > 99.7  
As of 7/14/2020 08:00:50



# Compatible Donors Donated

## Through 6/30/2020

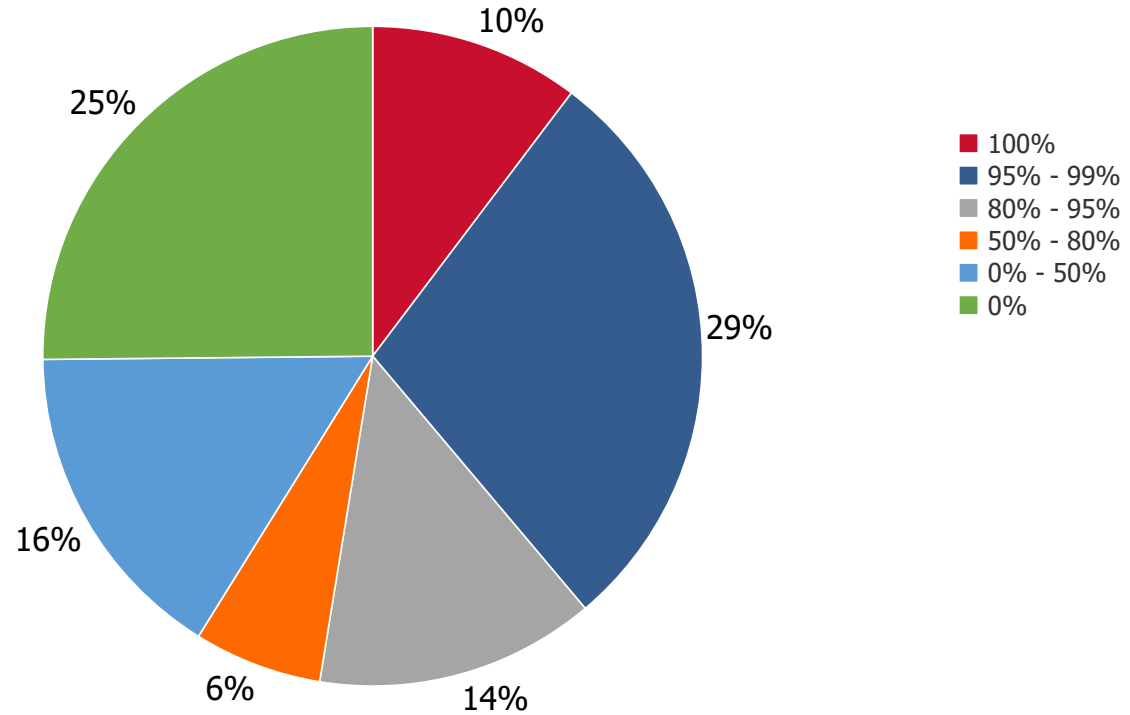
- Paired - ABO Fav Compatible
- Standard Voucher - ABO Fav Compatible
- Paired - All Compatible



As of 7/8/2020



# Pool Composition by cPRA

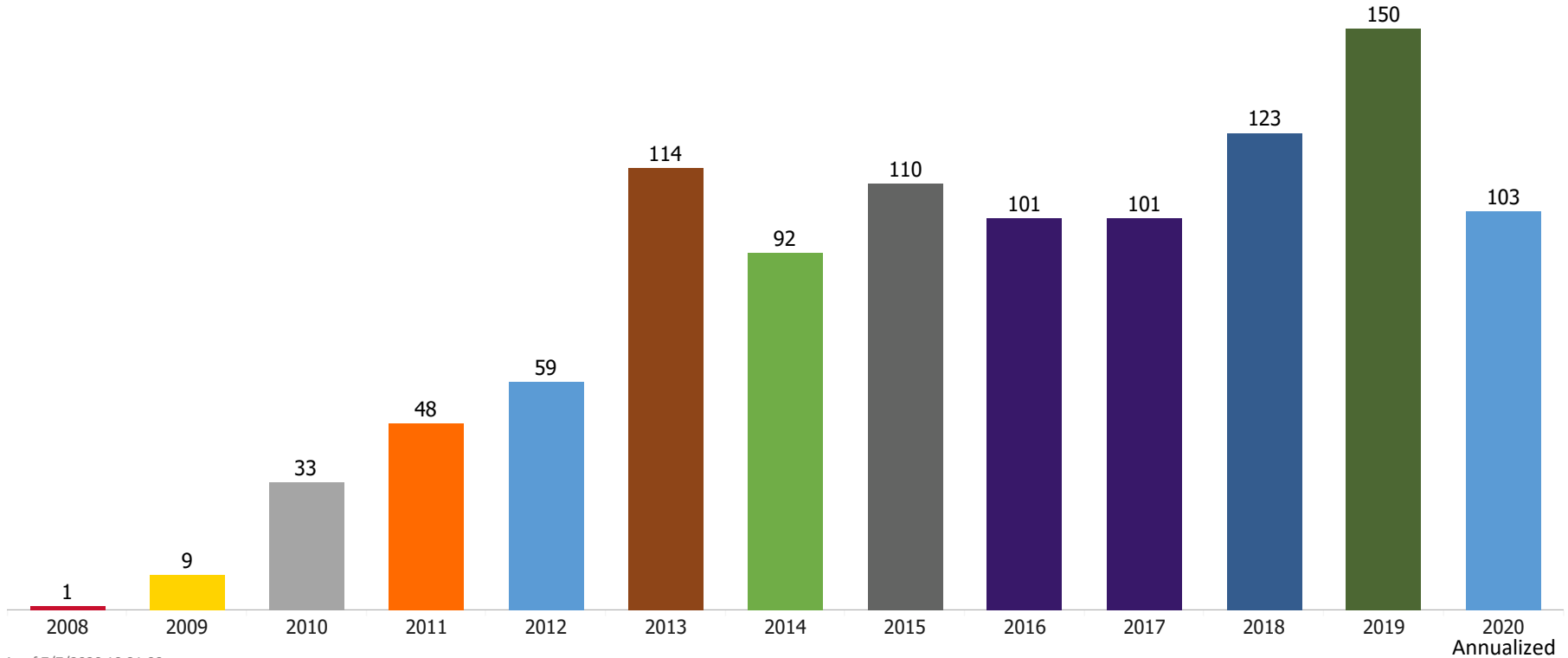


As of 7/7/2020 10:31:00





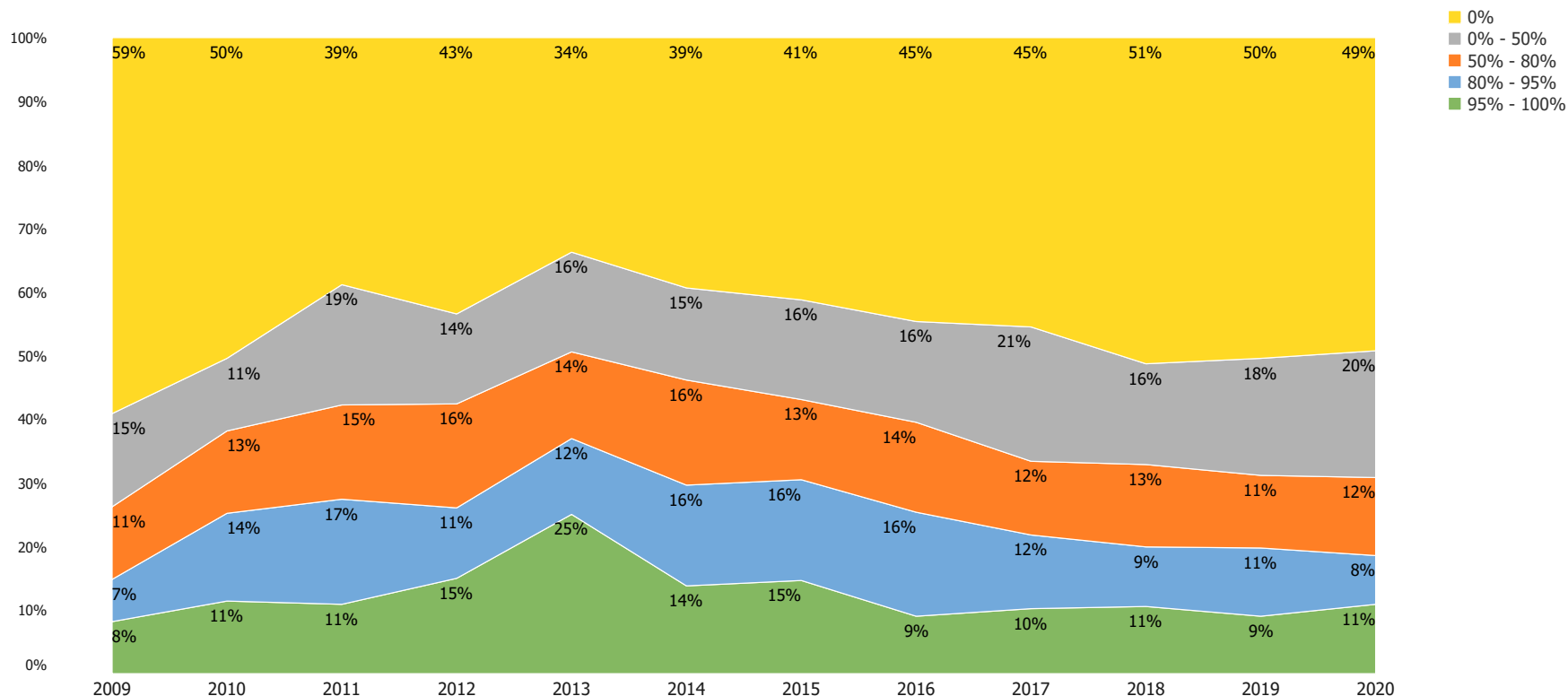
# Transplanted Patients with cPRA > 80%



As of 7/7/2020 10:31:00



# Transplanted Patients by cPRA



\* Restated due to database update/changes affecting calculations



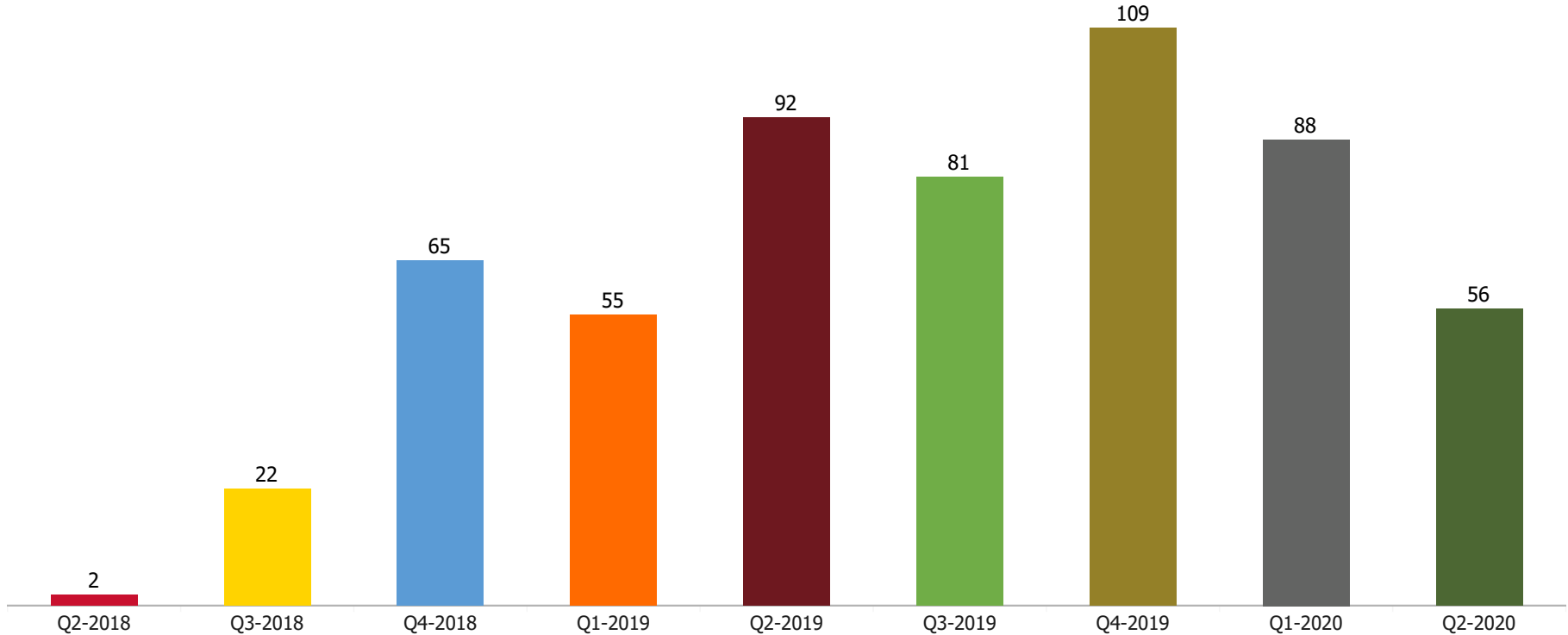
# Great HLA Matches

## Zero Mismatch

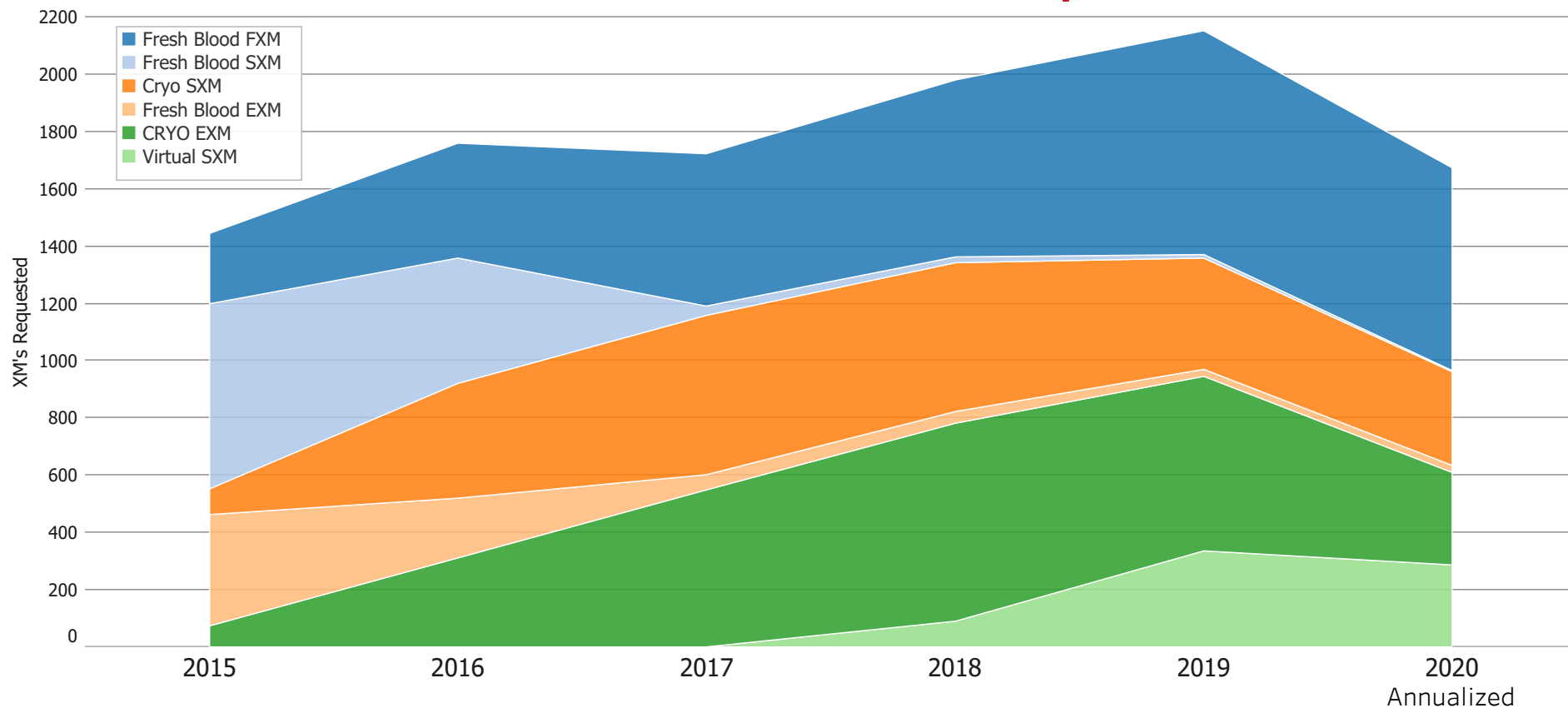
#	Recipient TXP Date	Recipient Center	Swap #	D-ABO	R-ABO	NKR cPRA	Wait time In Months	HLA Match Pts
1	06/11/2020	RadyChild	2117	O	O	0.00	0.0	100
2	05/28/2020	UIowa	2075	O	O	89.48	2.8	100
3	05/20/2020	Colorado	2045	O	A	0.00	0.2	100
4	12/12/2019	CCFlorida	1922	A2	A	99.93	16.4	100
5	07/31/2019	Emory	1747	A1	A	0.00	0.1	100
6	07/31/2019	UMinn	1723	A1	A	0.00	0.2	100
7	07/17/2019	UIowa	1739	A1	A	99.50	1.7	100
8	06/11/2019	Sharp	1704	A1	A	0.00	0.5	100
9	03/01/2019	Washington	1491	A1	A	0.00	1.0	100
10	11/01/2018	UMinn	1468	A1	AB	99.61	11.9	100
11	09/21/2018	Madison	1445	A1	A	0.00	0.0	100
12	06/12/2018	Piedmont	1295	O	O	100.00	2.2	100
13	04/04/2018	Cornell	1266	B	AB	0.00	1.1	100
14	02/14/2018	Penn	1227	O	O	7.93	3.5	100
15	02/08/2018	WalterReed	1203	A1	AB	99.59	5.0	100
16	01/03/2018	Hartford	1191	O	O	0.00	9.5	100
17	01/03/2018	Maine	1157	A1	A	99.86	8.6	100
18	12/05/2017	UCLA	1160	O	B	99.09	1.4	100
19	06/01/2017	Hopkins	1019	A1	AB	0.00	1.6	100
20	05/24/2017	Brigham	1026	A1	A	92.51	2.4	100
21	01/18/2017	ChristHosp	952	A1	A	99.09	0.6	100
22	11/08/2016	UMinn	928	A?	A	99.20	4.2	100
23	09/07/2016	Sharp	882	A1	A	0.00	0.0	100
24	08/31/2016	Cincinnati	884	A1	A	74.49	1.0	100
25	08/30/2016	OSU	509	A1	A	87.98	1.2	100
26	02/11/2016	SCarolina	459	A2	A	99.22	2.6	100
27	12/22/2015	Madison	442	A1	A	97.99	5.8	100
28	11/19/2015	UMinn	440	O	O	99.91	5.4	100
29	02/17/2015	UCLA	357	A1	A	99.98	33.8	100
30	12/11/2014	Emory	351	A1	A	99.84	5.0	100
31	11/13/2014	Hopkins	330	A1	O	97.81	1.2	100
32	08/05/2014	Loyola	324	A1	A	99.52	1.1	100
33	01/09/2014	Madison	674	O	A	98.68	5.4	100
34	10/03/2012	Barnabas	182	A?	A	93.81	3.6	100
35	04/19/2012	Cornell	152	A1	A	0.00	0.6	100
36	03/31/2011	Barnes	105	A1	A	99.95	6.9	100
37	06/15/2010	UCSF	58	A?	A	99.43	6.1	100



# Virtual Screening Crossmatches



# Streamlined Cross Matches Requested



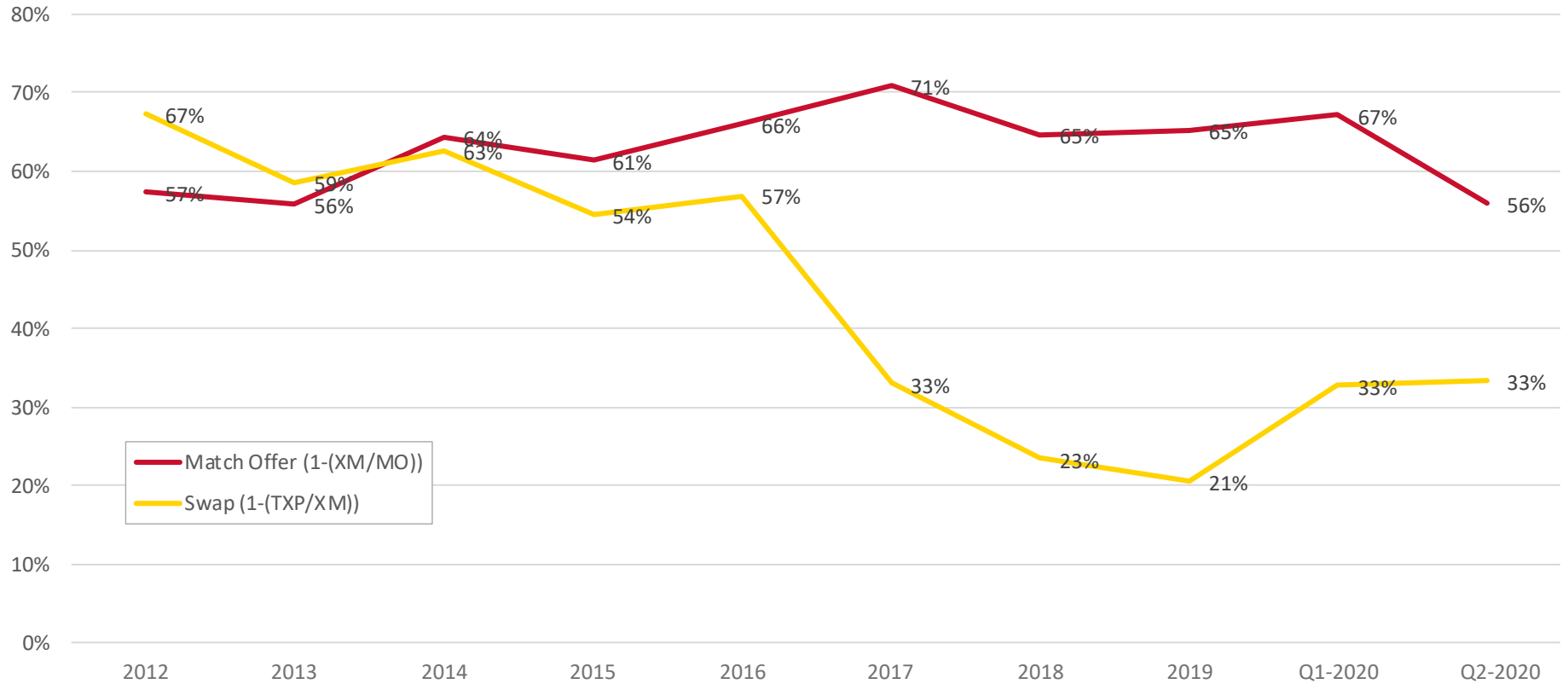
# Real Time Swap Failures

#	D-Center	R-Center	Orphaned R-Alias	Paired Donor Alias	Swap #	Paired Donor Donation Date	R- TXP Date	Date Variance	R-ABO	R-cPRA	Reason
1	UTMC	Monte	HDACOS	VIOLKAM	5	01/20/2010	03/25/2010	64	O	87.6%	D Medical Issue
2	CPMC	UCSF	RM7345B	DK8YT7W	246	06/27/2013	08/21/2013	55	A	22.7%	D Surgery aborted
3	Penn	RWJ	GREPOS	LAUPOS	254	07/23/2013	10/16/2013	85	B	0.0%	R Surgical decline (Kidney shipped backed)
4	Loyola	PorterAH	SMITNI	COOLST	688	10/16/2013	08/14/2014	302	O	44.5%	R Medical issue
5	OSU	ChristHosp	TC03142797	TC10135173	258	03/11/2014	07/21/2016	863	O	97.0%	R Medical issue
6	Tampa	Hopkins	BEHIP	ARBRO	797	07/07/2015	08/06/2015	30	A	75.4%	R Surgical decline (Kidney shipped backed)
7	PorterAH	ASL	EP1929	EP5866	475	03/17/2016	05/10/2016	54	O	27.8%	R Surgical decline (Kidney never shipped to R Center)
8	UNC	Indiana	RBAKE	SBAKE	1059	09/27/2017	03/13/2018	167	O	0.0%	R Surgical decline (Kidney shipped backed)
9	Sentara	Loyola	AD2745257	UZ3007394	1379	06/19/2018	07/26/2018	37	B	0.0%	R Medical issue
10	OSU	Colorado	PC2941652A	CC2793862	1390	07/18/2018	12/20/2018	155	O	0.0%	R Surgical issue (Kidney went to Waitlist)
11	Georgetown	UCSF	R118DE	D118DE	1414	08/16/2018	12/06/2018	112	O	0.1%	R Surgical decline (Kidney never shipped to R Center)
12	Cornell	Avera	MK00772251	MK01023903	1473	10/17/2018	01/30/2019	105	O	36.5%	R Surgical decline (Kidney shipped backed)
13	UCLA	Emory	TW2135304	JH1264559	1547	01/23/2019	04/04/2019	71	O	47.6%	R Surgical decline (Kidney shipped backed)
14	Maine	Emory	OF2331513	WF1284159	1887	10/23/2019	12/17/2019	55	A	31.8%	R Surgical decline (Kidney never shipped to R Center)

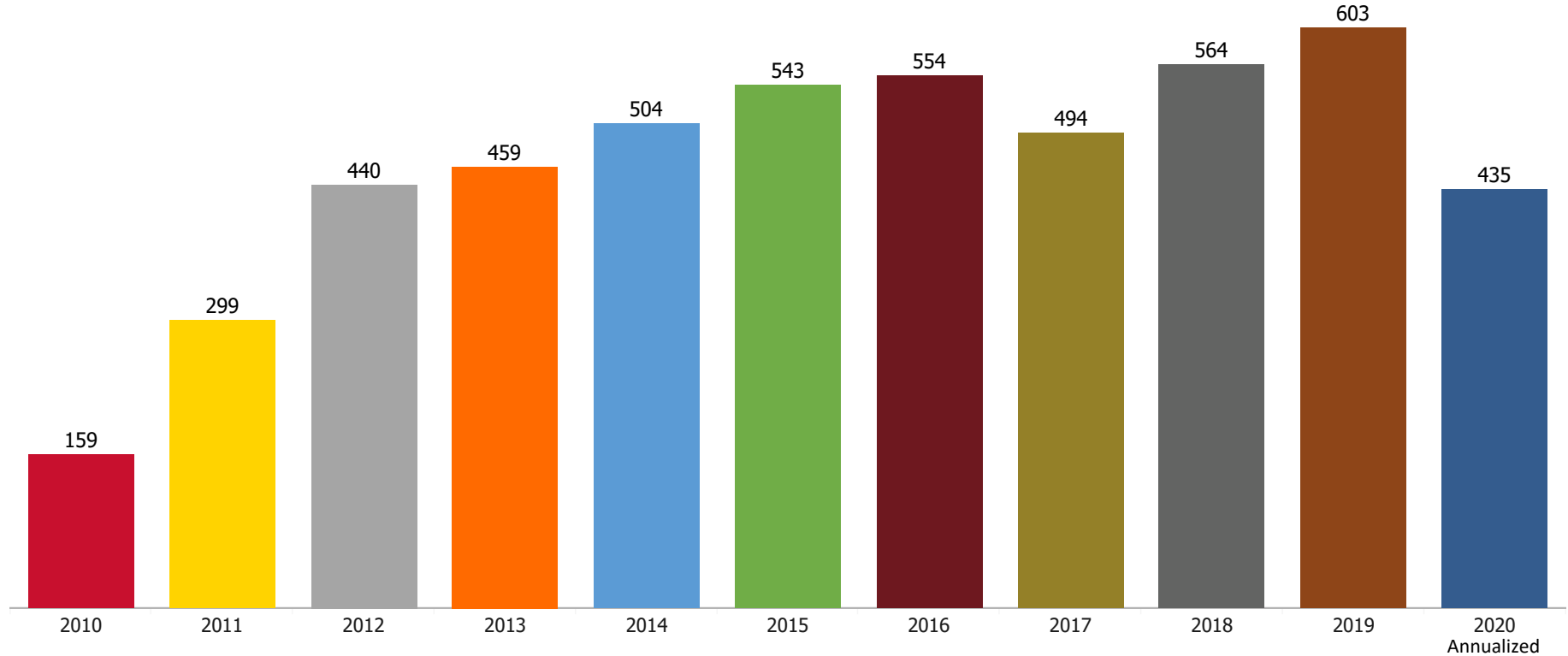
As of 7/8/2020



# Failure Rates

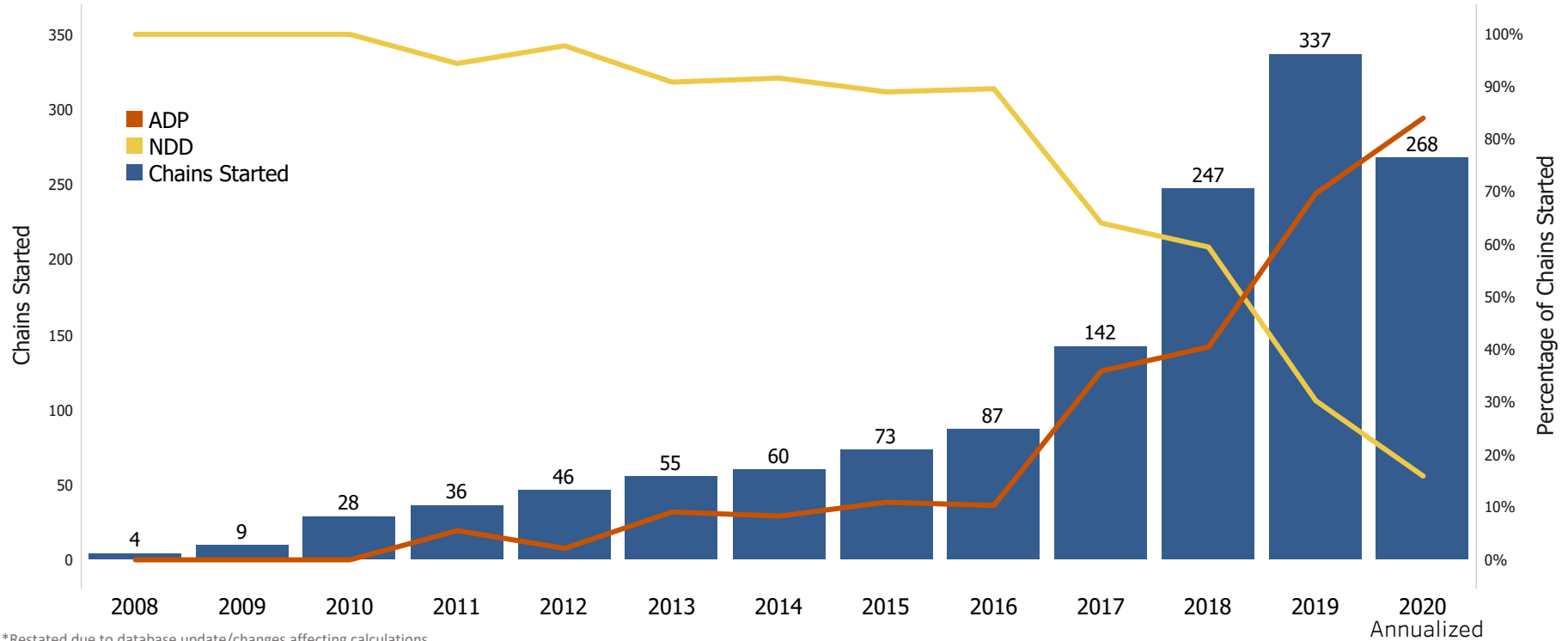


# New Exportable Pairs





# Chains Started



\*Restated due to database update/changes affecting calculations  
As of 7/7/2020 10:31:00



# Chain and Loop Statistics

Swap Type	Swap Status	Count	Mean Length	Transplants
Chain	Ended	1,231	3.00	3,691
	Broken	28	3.75	105
	Active	5	1.40	7
	Total	1,264	3.01	3,803
Loop	Ended	132	2.33	307
	Active	0	0	0
	Total	132	2.33	307
Total		1,396	2.94	4,110

As of 7/6/2020 11:14:59



# Advanced Donation Programs (ADP) Summary

Type	Cases	Additional TXPs	80%+ cPRA TXPs Facilitated	95%+ cPRA TXP Facilitated
Standard Voucher	282	614	129	67
Family Voucher	181	420	85	41
Swap Saver	59	132	38	16
RTSF	14	59	16	8
Total	536	1225	268	132

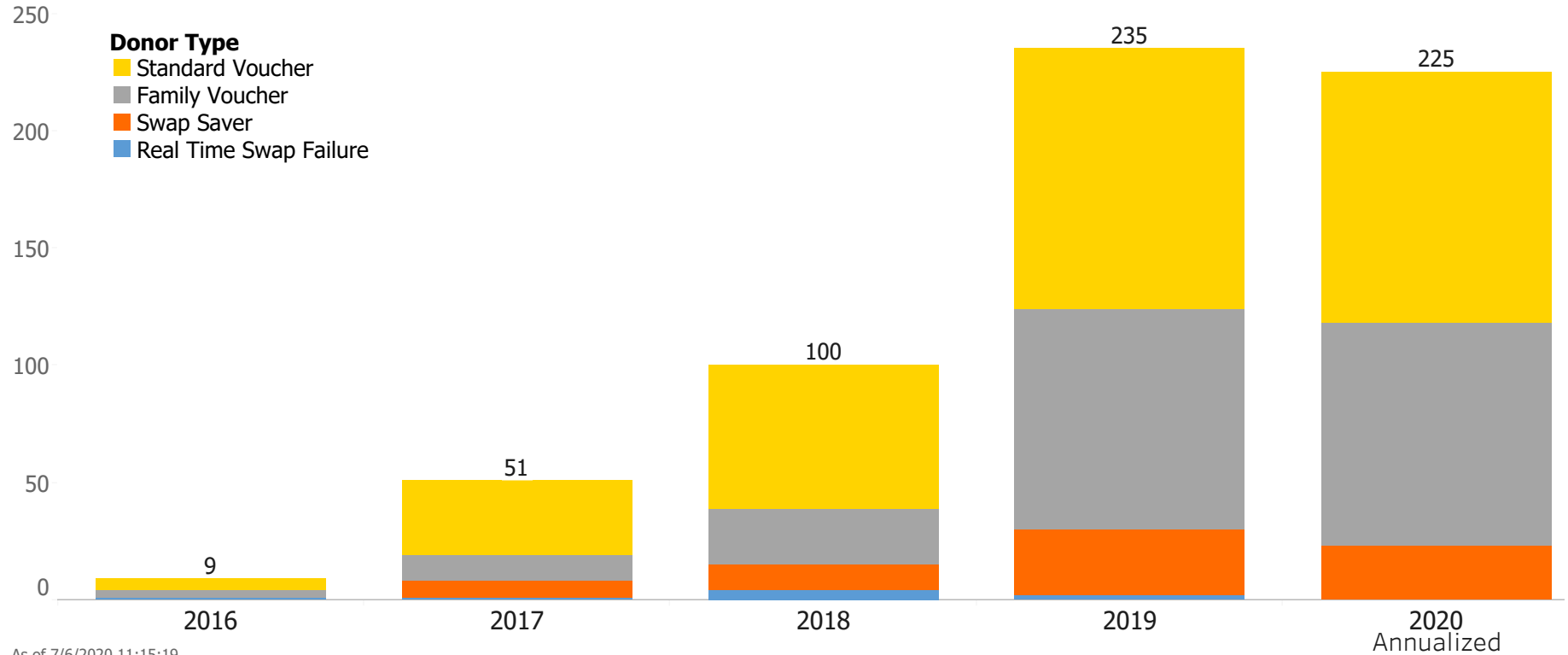
As of 7/6/2020 12:56:02

(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)



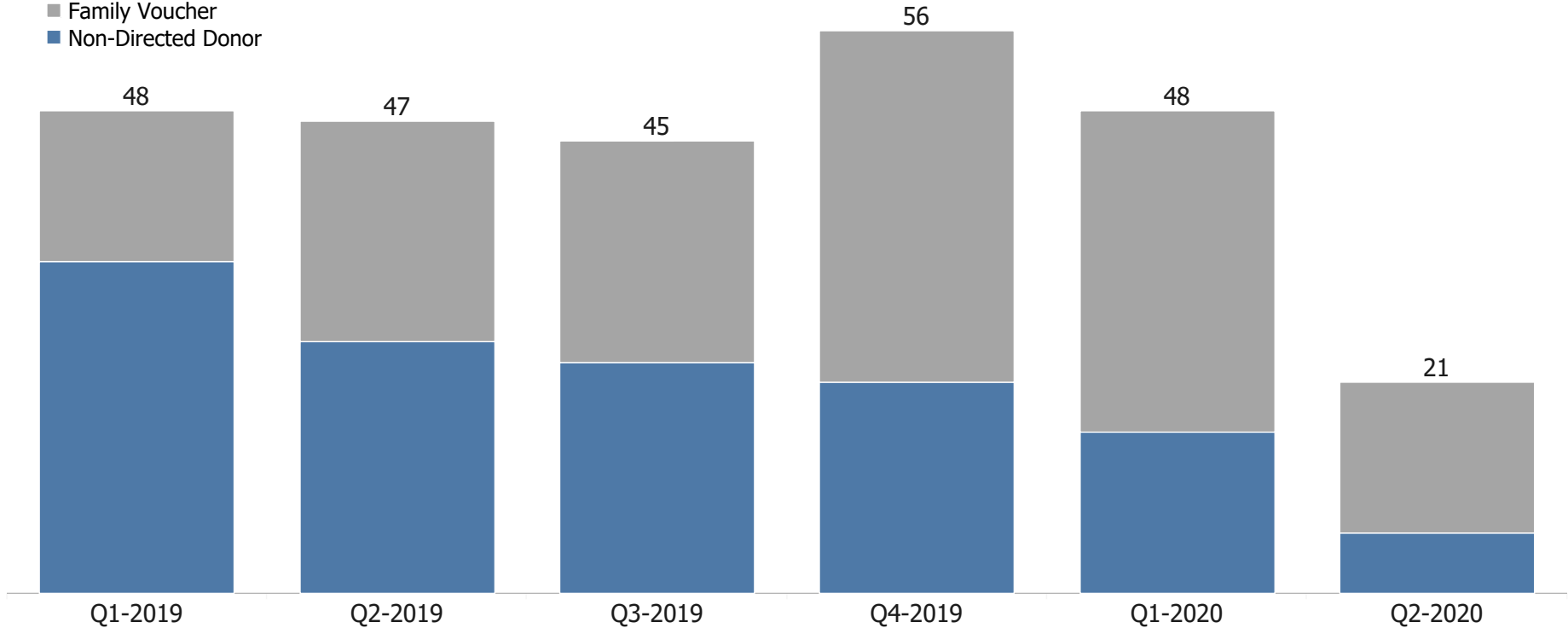
As of 7/6/2020 11:15:19



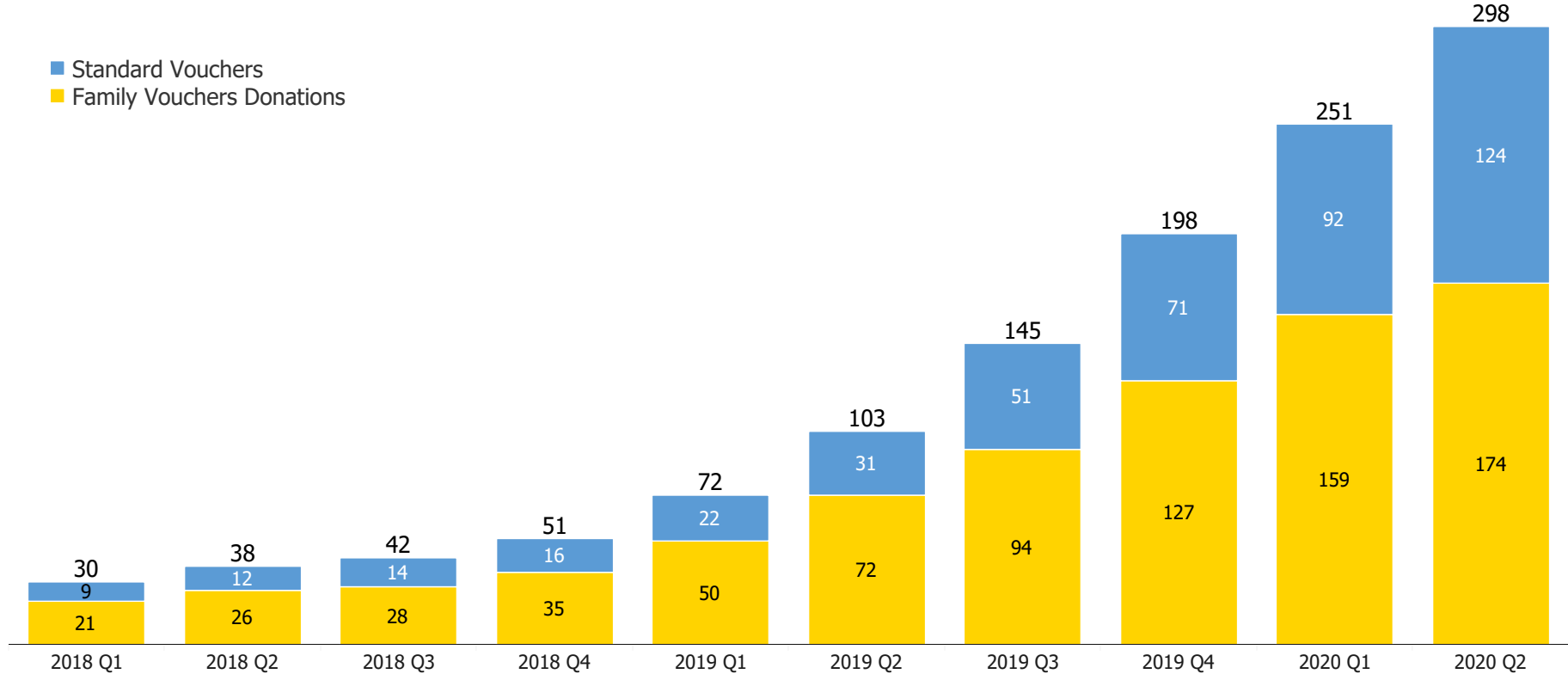
# Family Voucher + NDD Chain Starts

## Donor Type

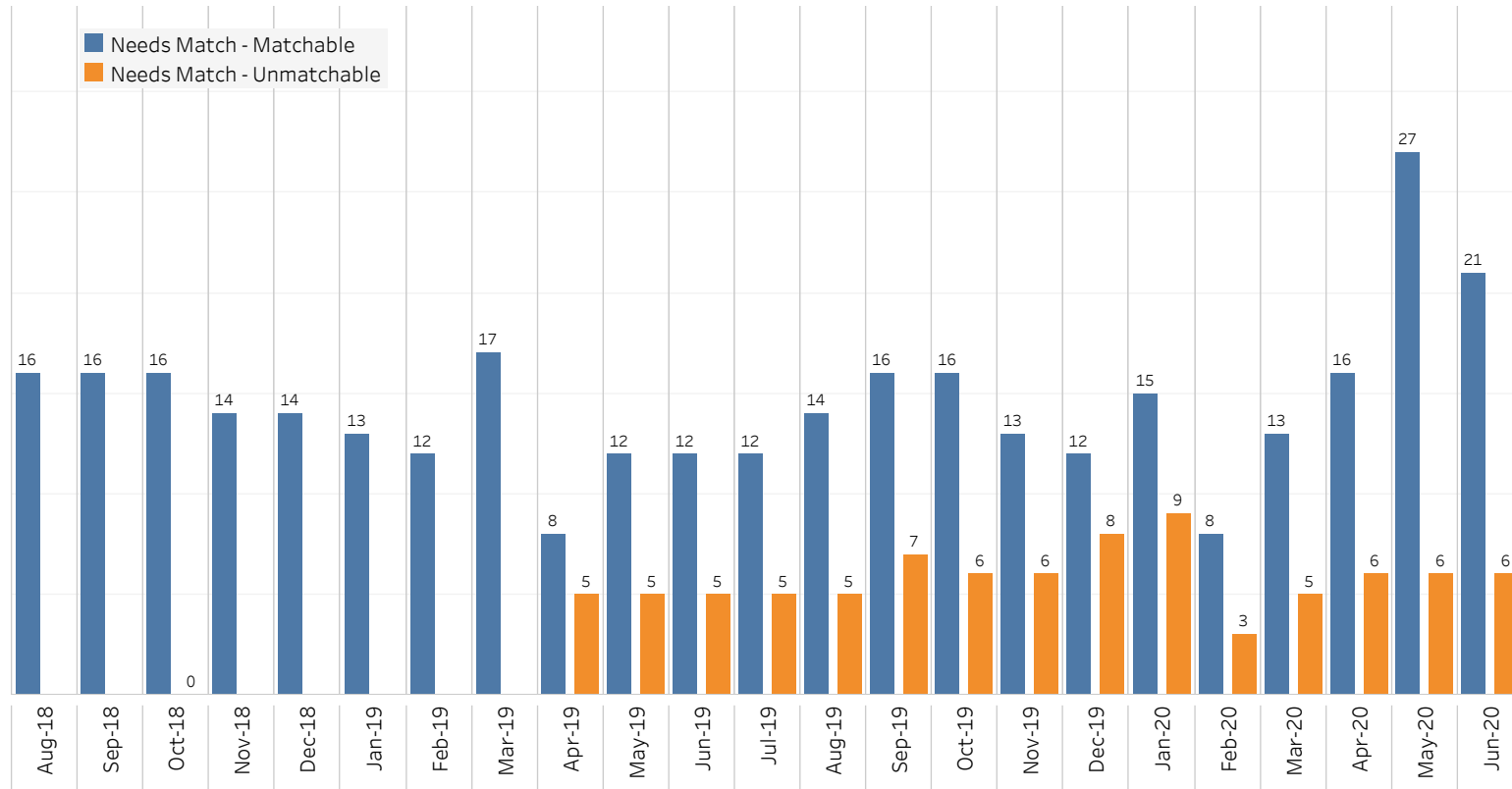
- Family Voucher
- Non-Directed Donor



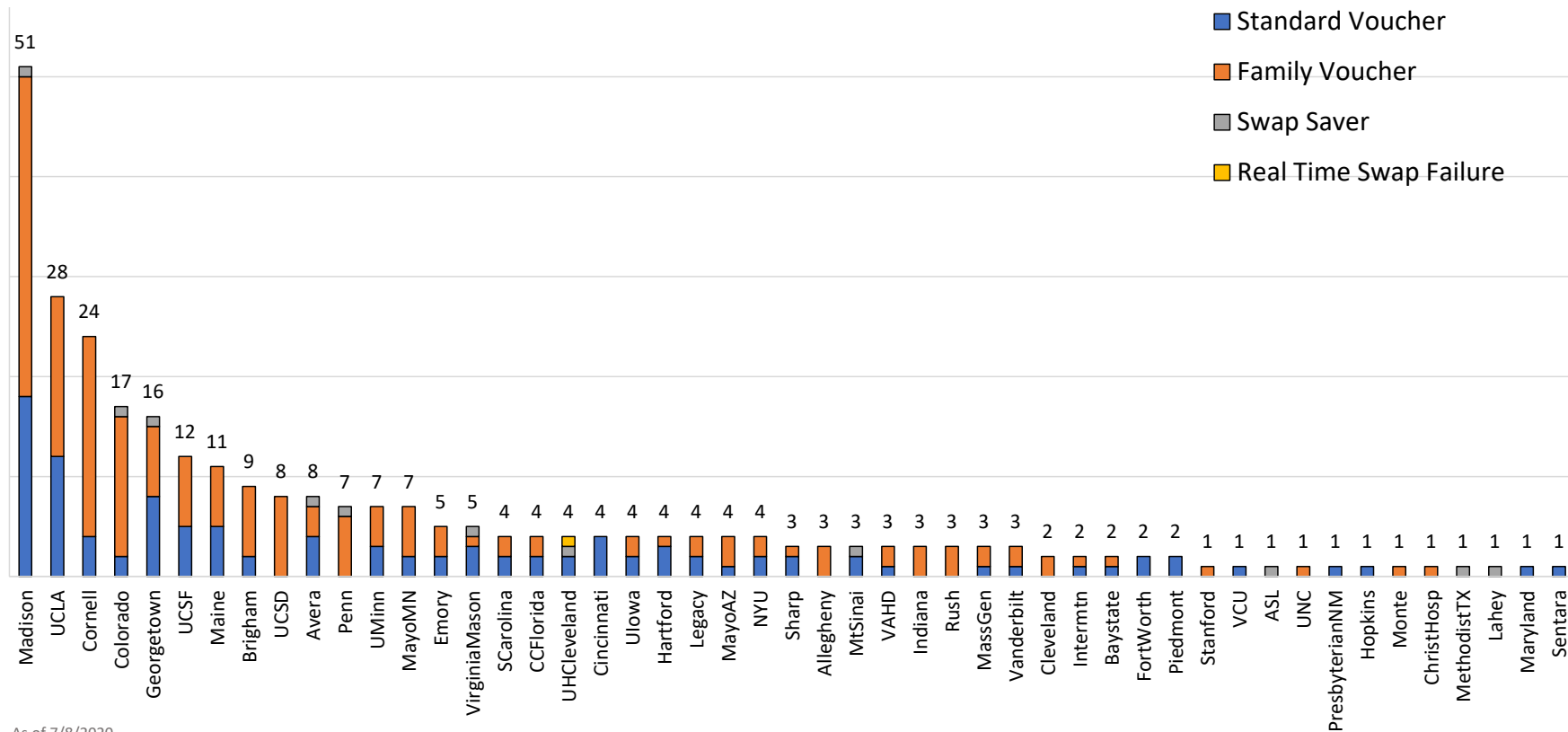
# Outstanding ADP Voucher Holders



# Active Voucher Liabilities



# Voucher Liabilities by Center & Type



As of 7/8/2020

