

# Paired Exchange Results

## Quarterly Report

As of December 31, 2012

### *Future Directions in Paired Exchange*

The Premier Paired Exchange Symposium of The Year

Friday April 19th 2013

New York City

*See enclosed brochure for more details*



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## Message From the Founder

2012 was another record year for NKR with 226 exchange transplants completed. This represents a 29% increase in NKR facilitated transplants over 2011 and accounts for approximately half of all U.S. exchange transplants (OPTN reports 441 completed in 2011 and 378 completed from January through September of 2012).

December, was our biggest month ever with the completion of 37 exchange transplants in a single month... 50% more than NKR facilitated during the entire year of 2008 (our first year of operations). The week before Christmas was also a record month with 17 transplants completed in a single week.

In this report, we present for the first time, several new charts including matching efficiency and match conversion rates. These two charts demonstrate the enormous volume of match offers and cross matches that are required to facilitate our rapidly growing number of transplants (1,623 individual matches offered resulted in 226 transplants). The low conversion rates represent a significant opportunity to increase match efficiency through the utilization of the donor pre-select function, exploratory cross matching and requests for additional donor information. All of these system features occur prior to an actual match offer, allowing for vast improvements in conversion rates. As conversion rates improve, there will be fewer match cancellations, less disappointment from swaps that fall apart and patients will be transplanted more quickly.

None of this success would be possible without the effort and dedication of the medical professionals at our Member Centers. Thank you - and keep up the great work.

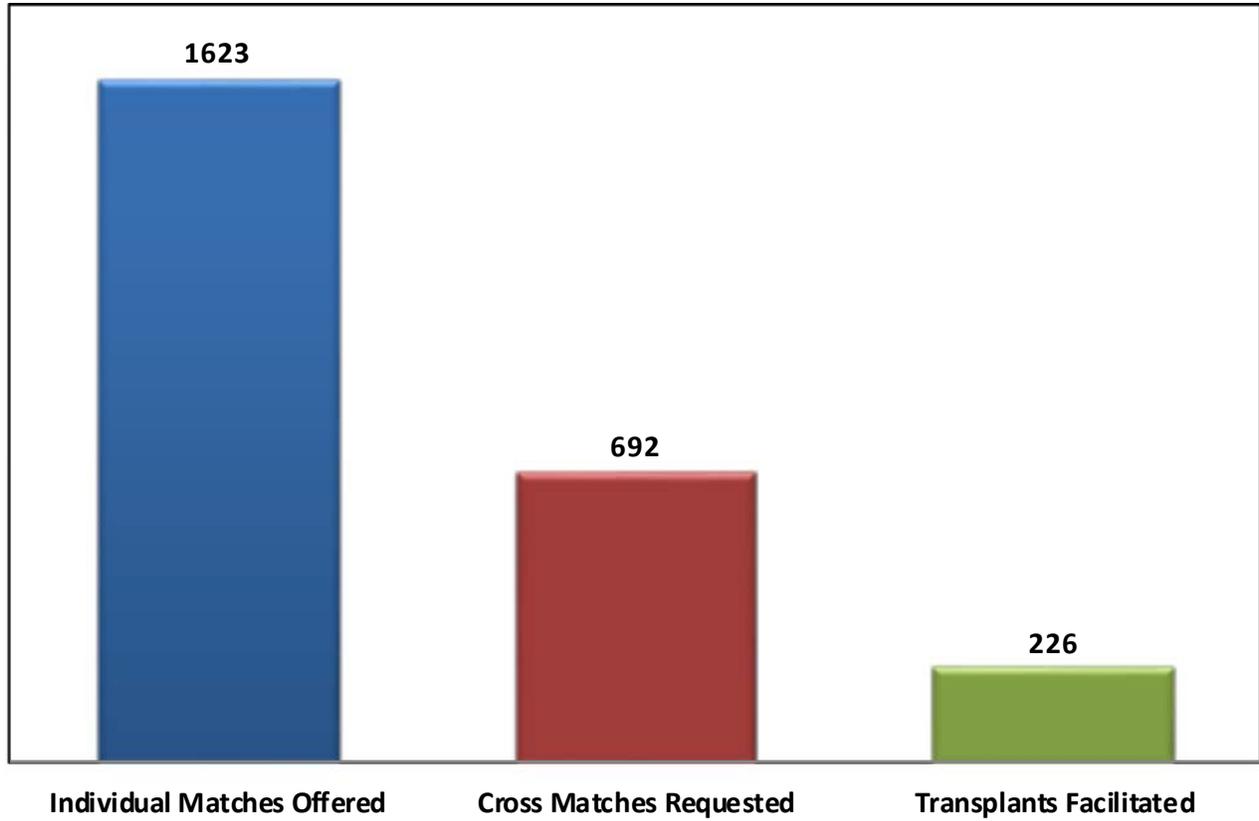
Sincerely

A handwritten signature in blue ink, appearing to read 'G. Hil'.

Garet Hil  
Founder & President  
National Kidney Registry

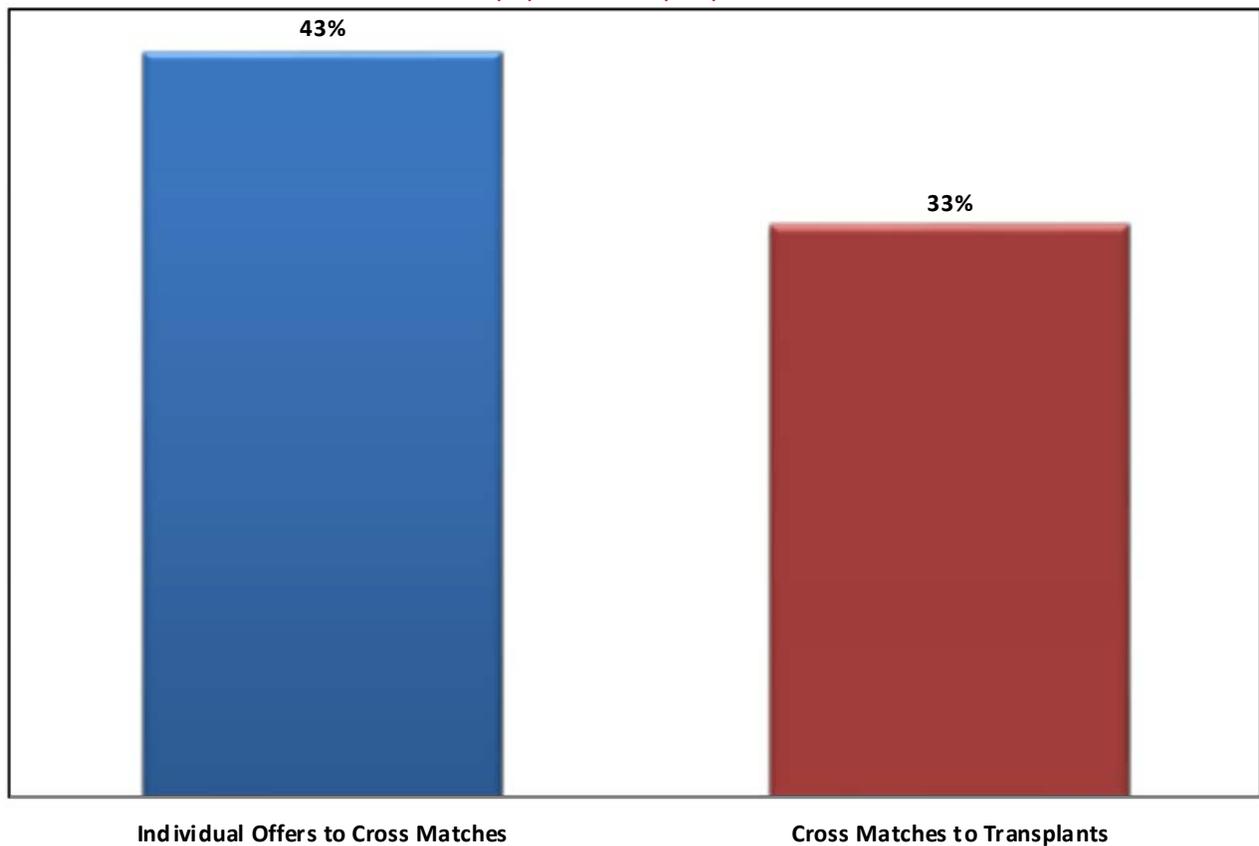
# Matching Efficiency

1/1/2012 - 12/31/2012

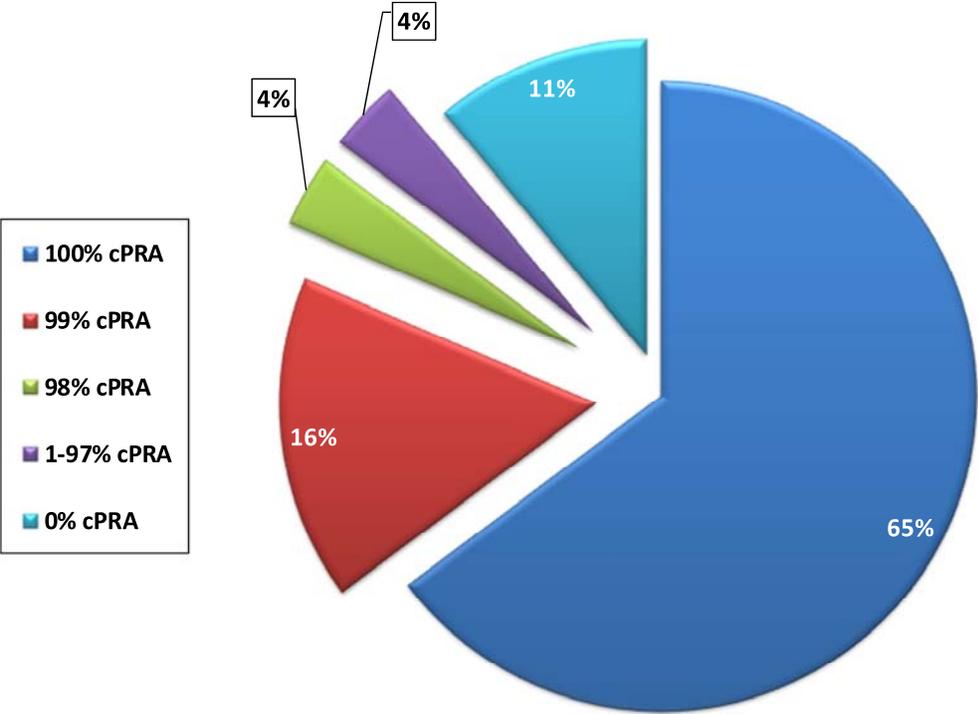


# Match Conversion Rates

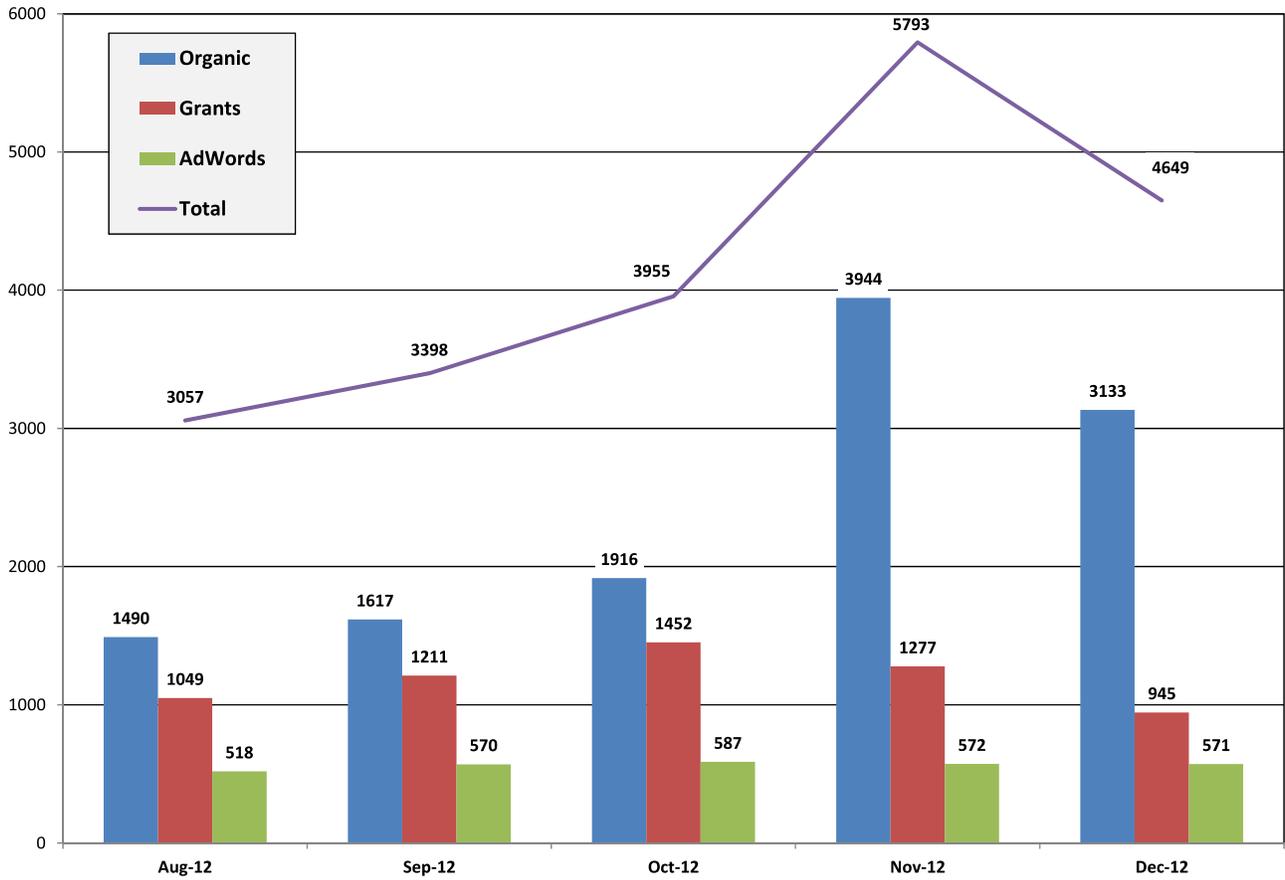
1/1/2012 - 12/31/2012



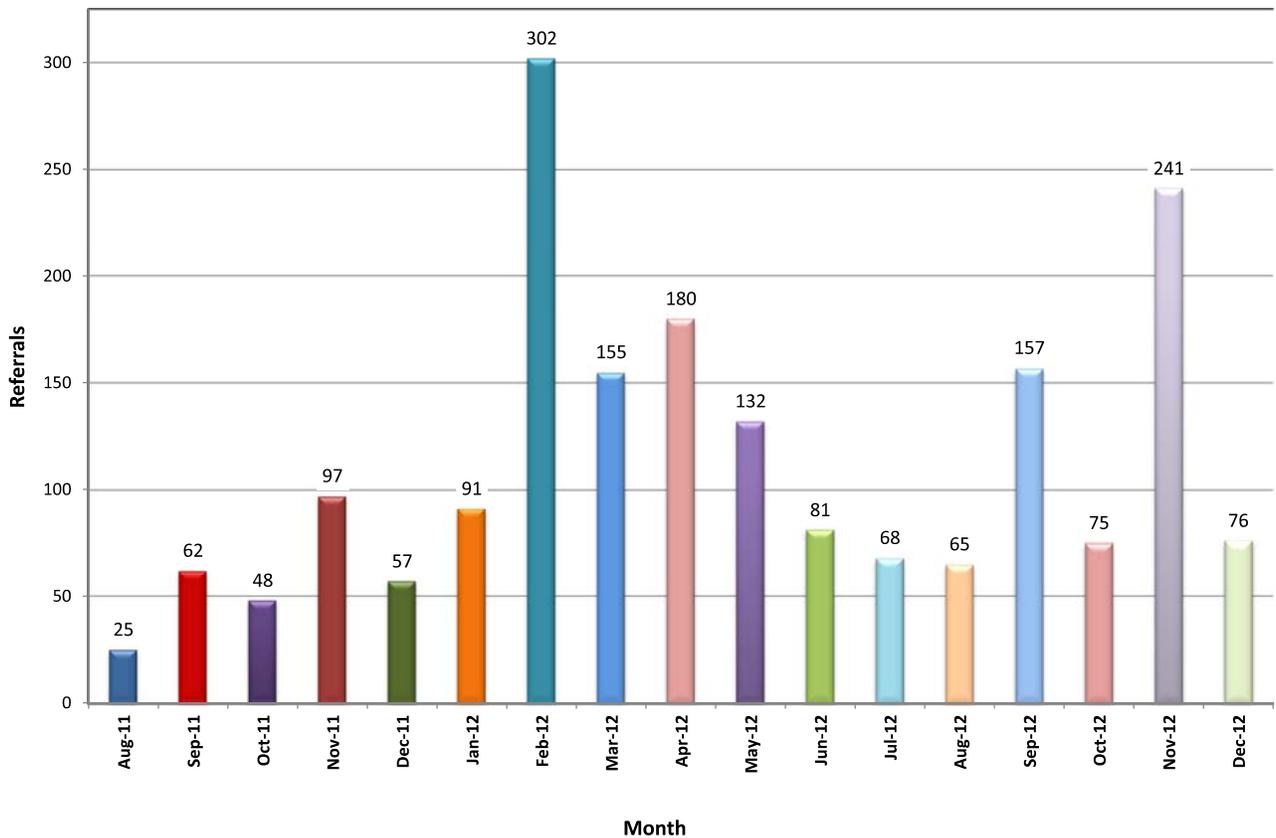
# Wait Times >1 Year by cPRA



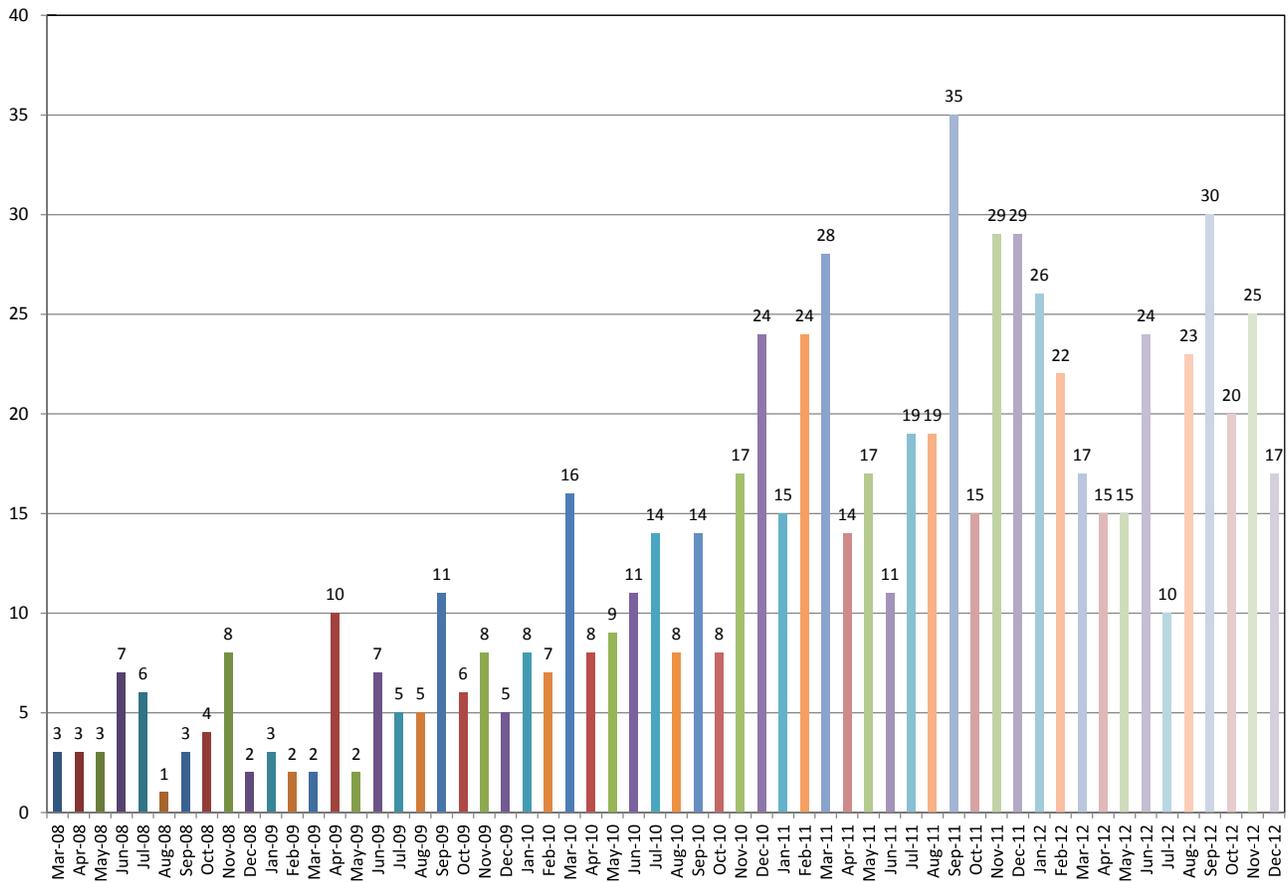
## Website Visits



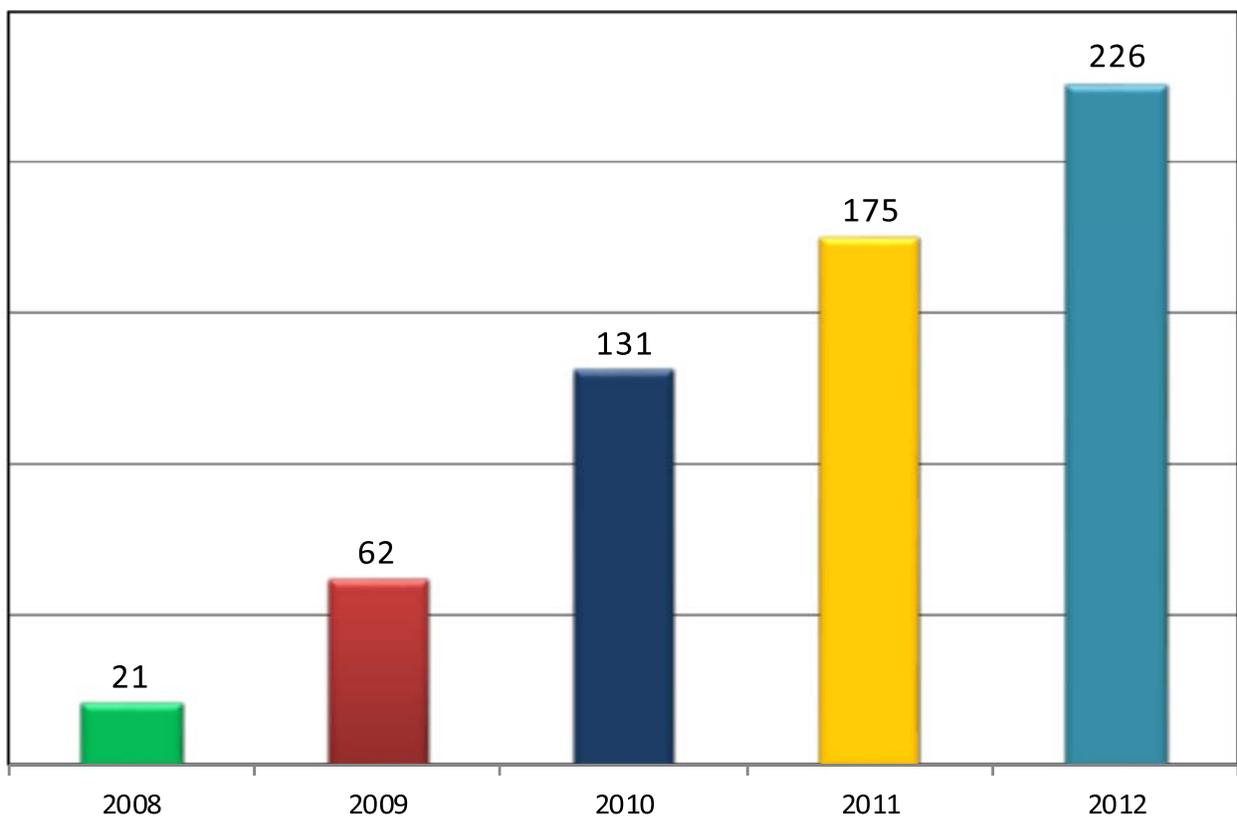
## NKR Patient Referrals



## New Pair Registrations Per Month

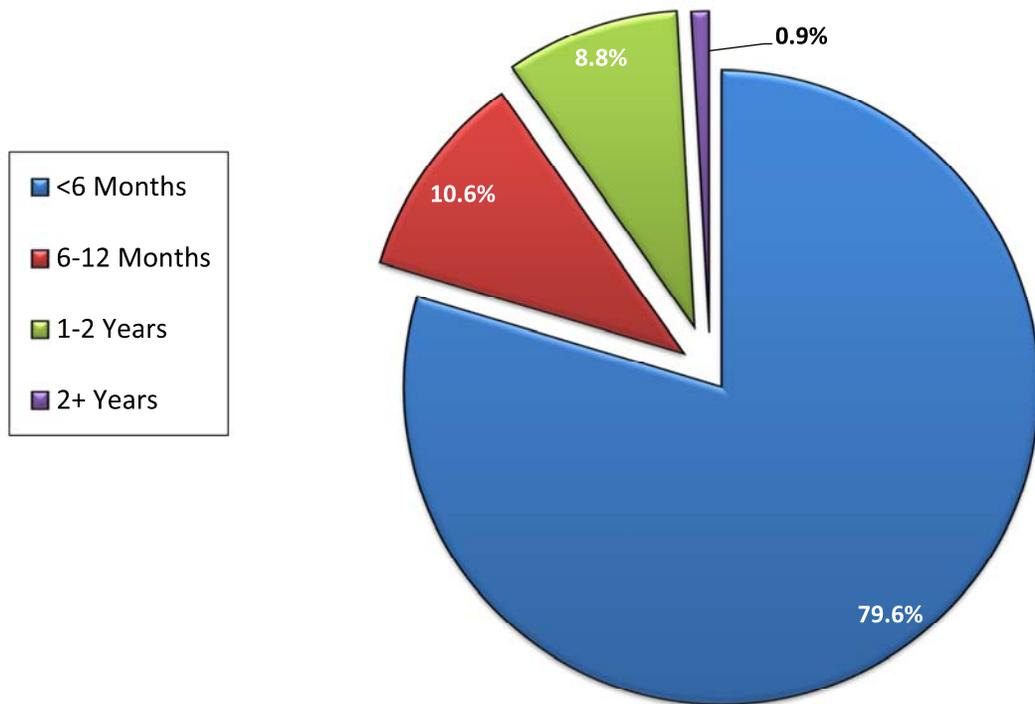


## Transplants Facilitated by Year

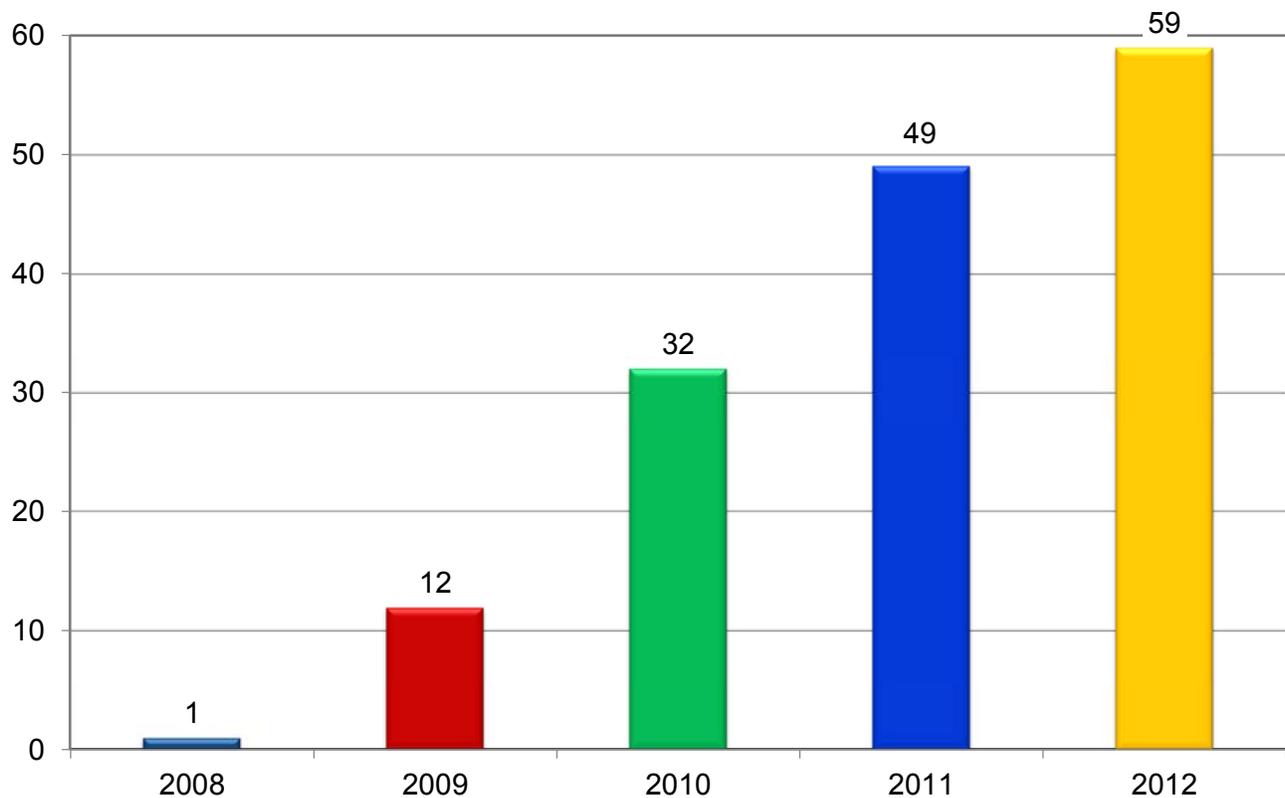


# 2012 Transplants by Wait Time

90% of transplanted patients waited < 12 months

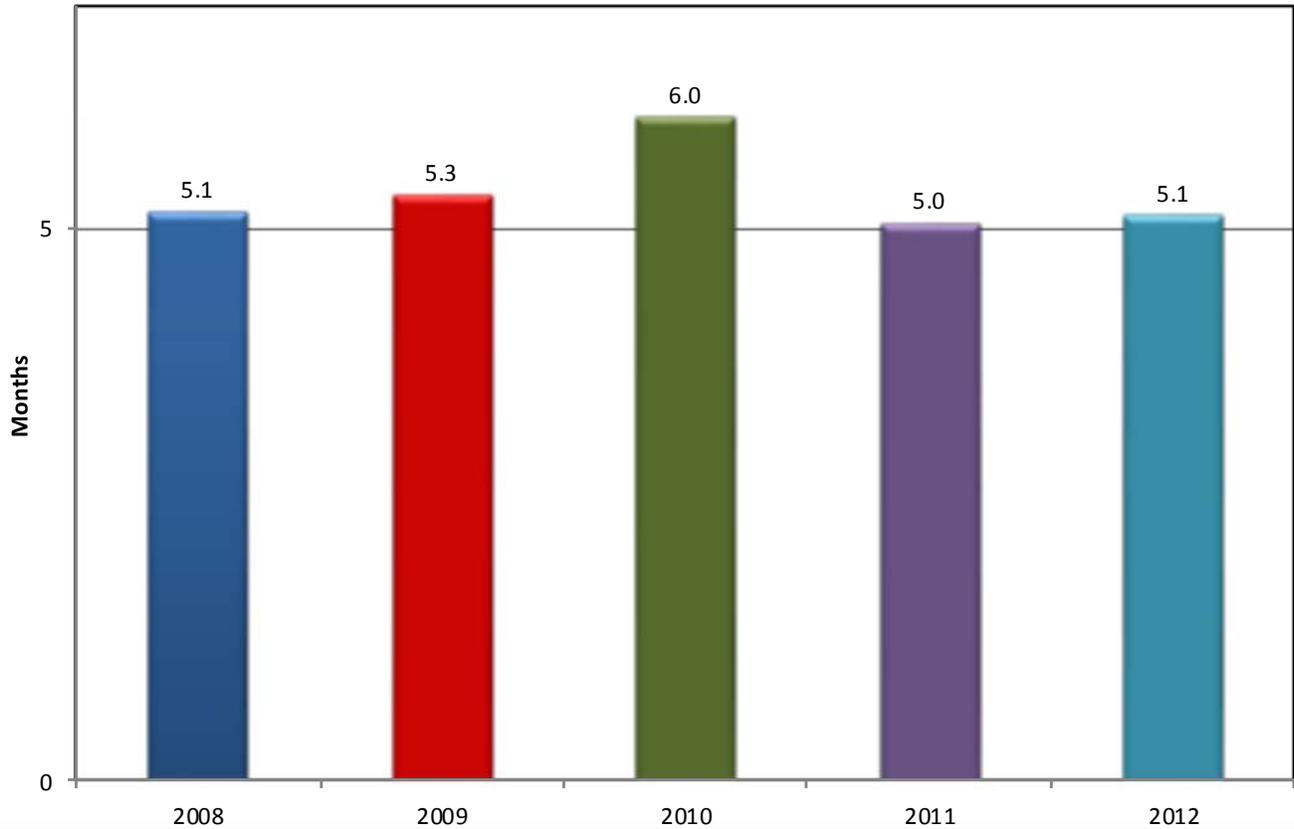


## Number of Transplanted Patients with cPRA >80%



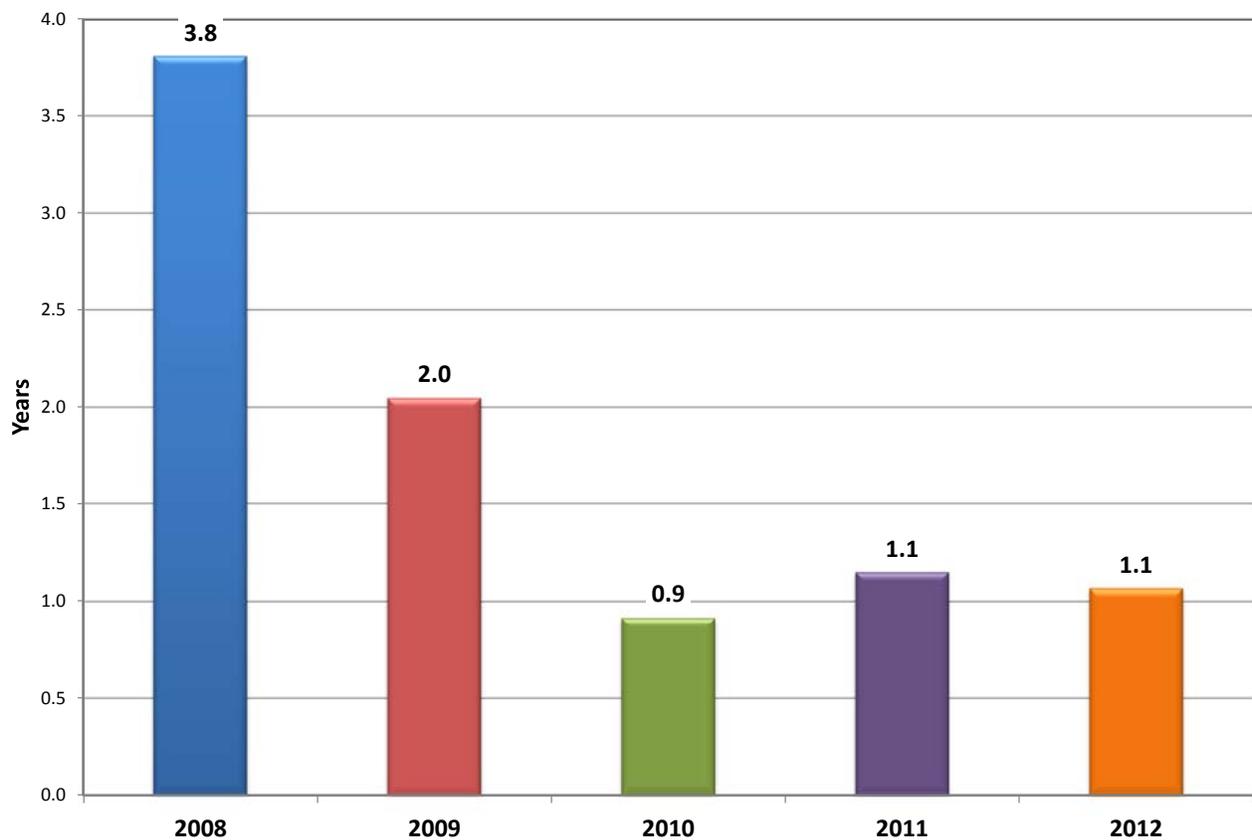
## Transplanted Patient Average Wait Time

The average of the actual wait times of patients transplanted during the year  
(wait time = transplant date – enrollment date)



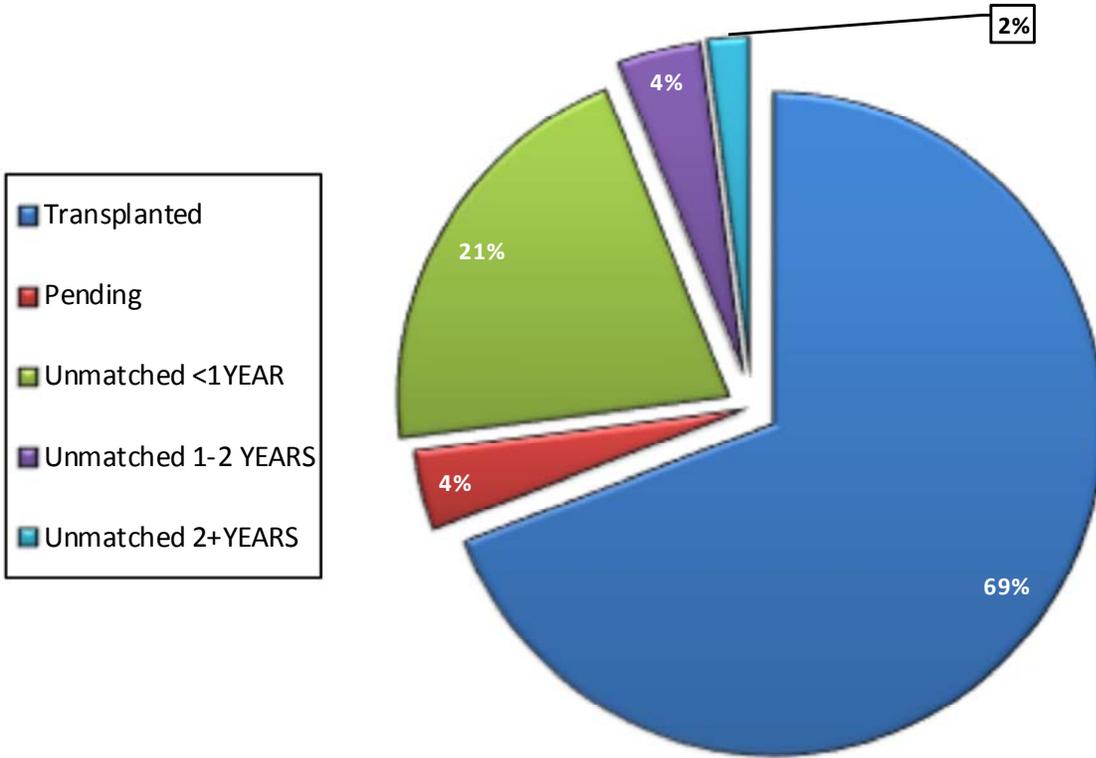
## Enrolled Patient Average Wait Time

Ending unmatched patient pool/annual transplant run rate

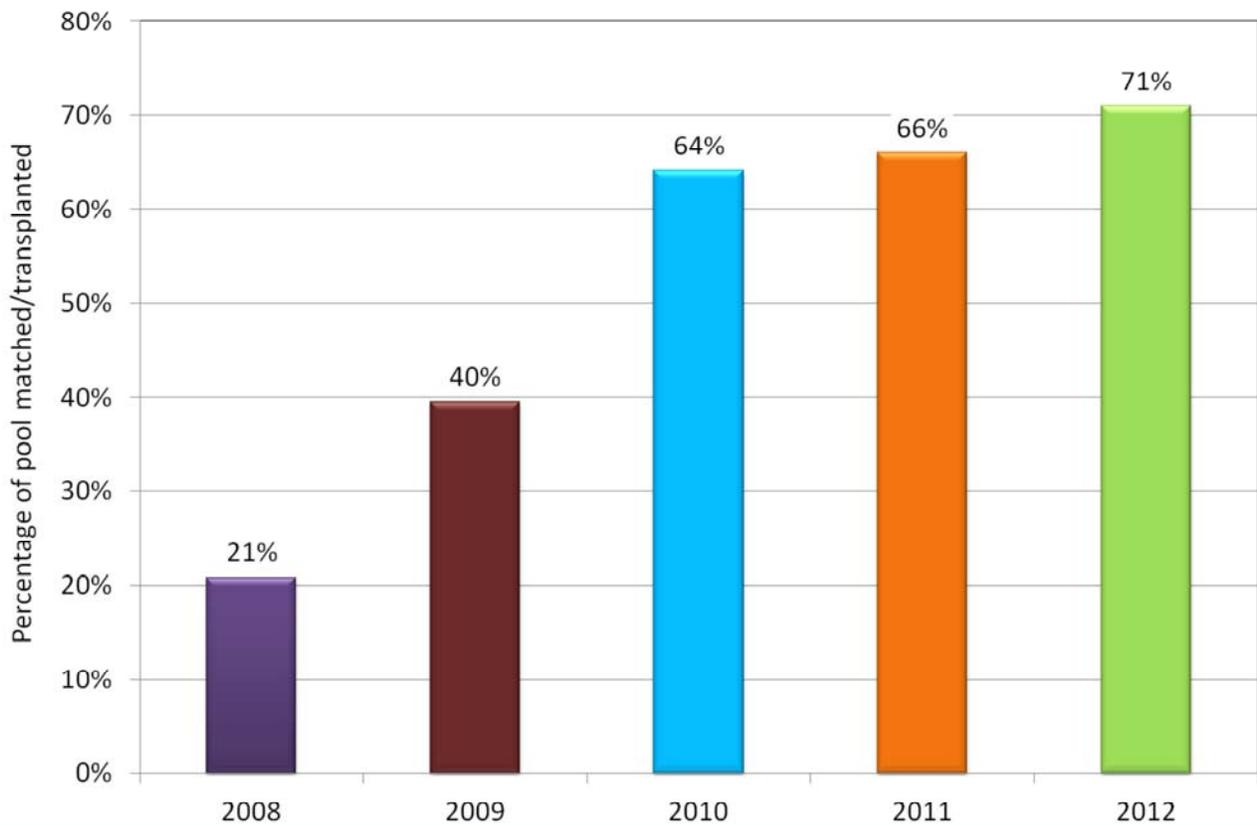


# Cumulative Pool Distribution by Status

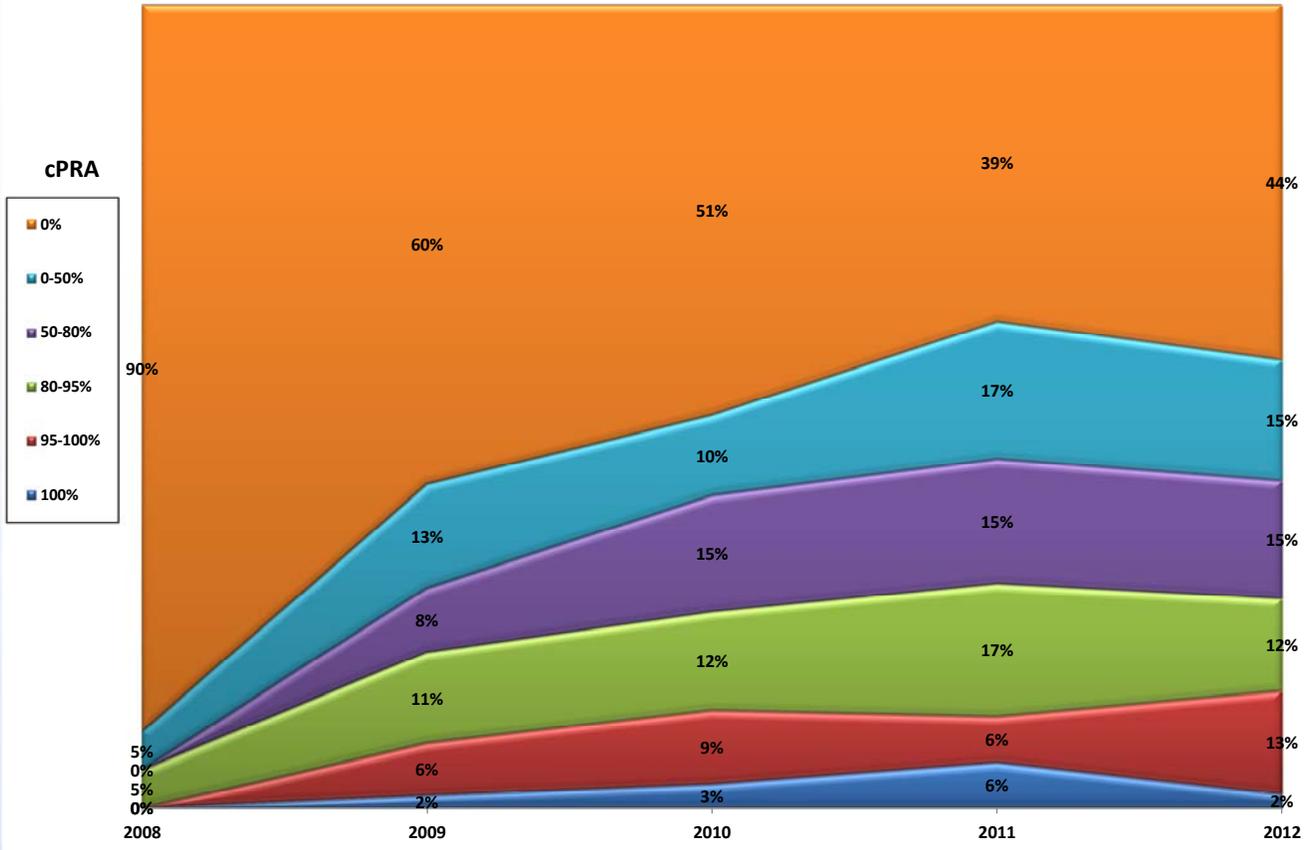
As of 12/31/2012



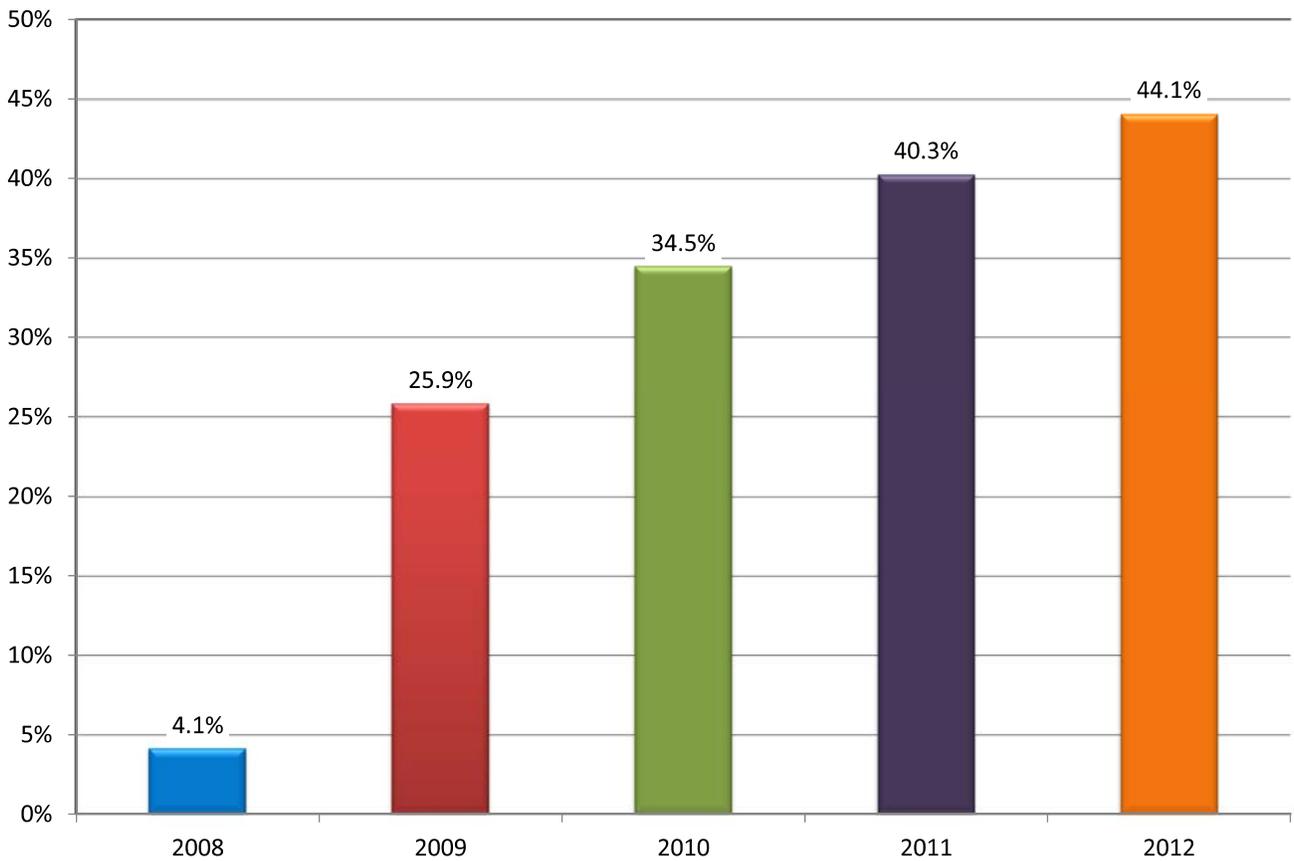
# Cumulative Pool Transplanted by Year



# Transplanted Patients by Year by cPRA

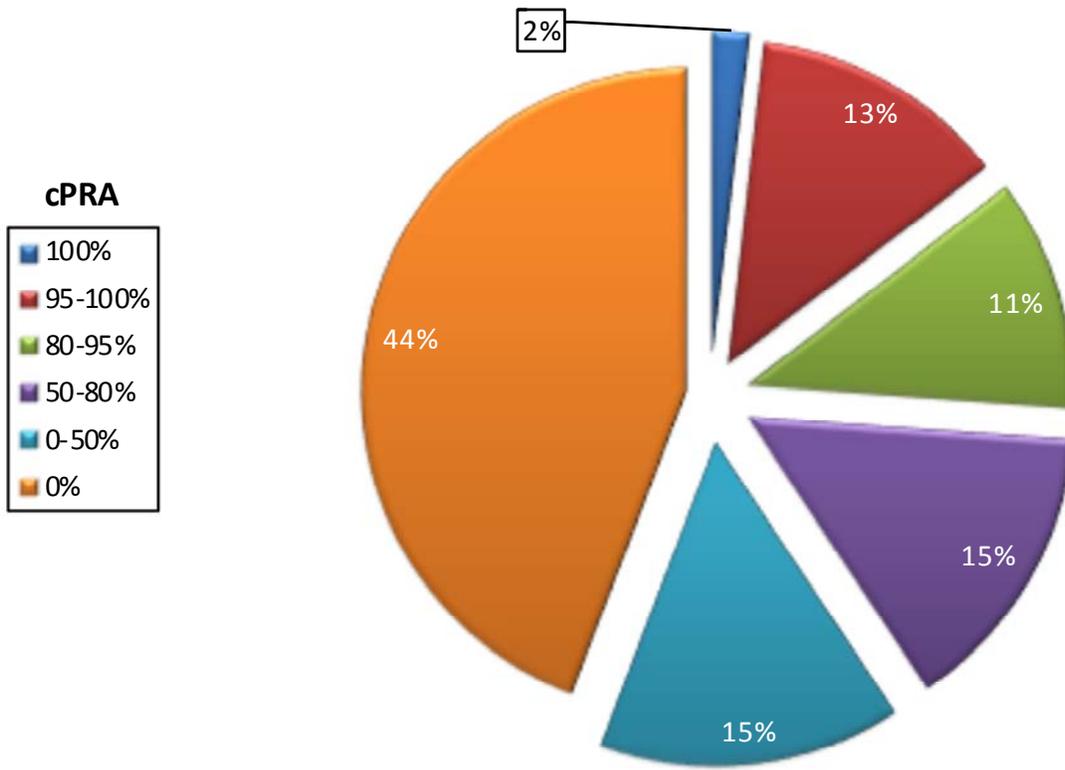


# Average cPRA of Transplanted Patients by Year



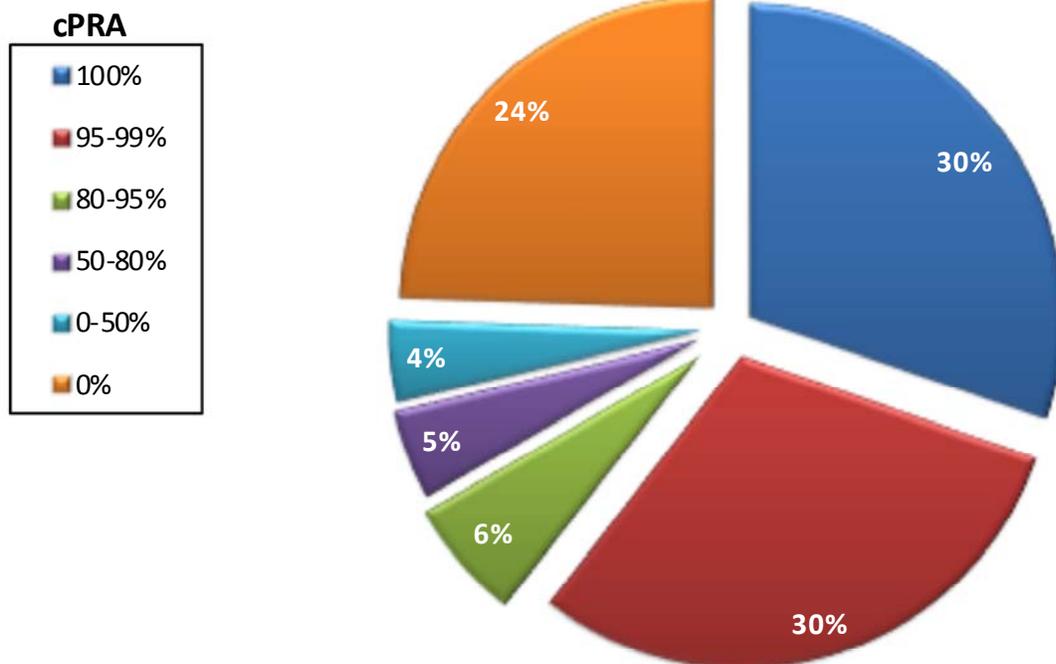
# Transplants by cPRA

26% of transplanted patients >80% cPRA  
1/1/2012 - 12/31/2012



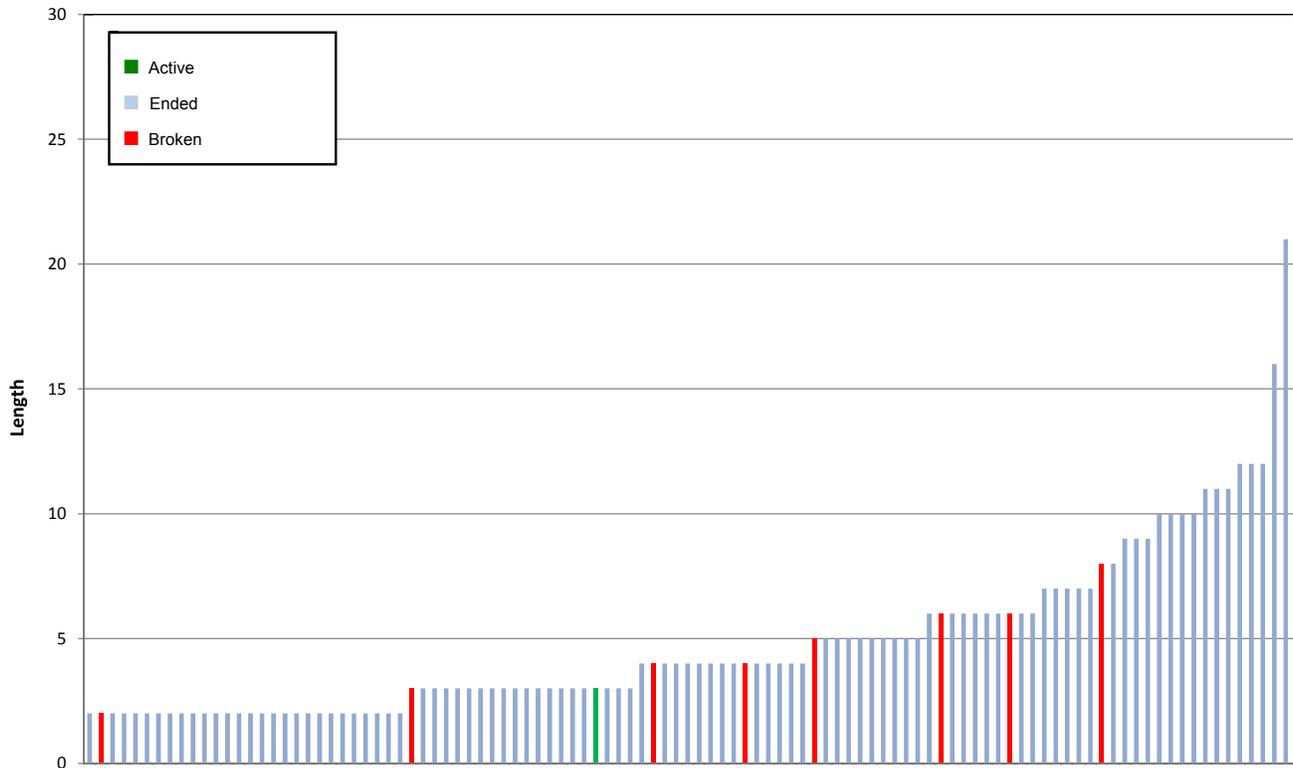
# Pool Composition by cPRA

As of 12/31/2012



# Chain Lengths

## For Chains Greater Than 1 Deep

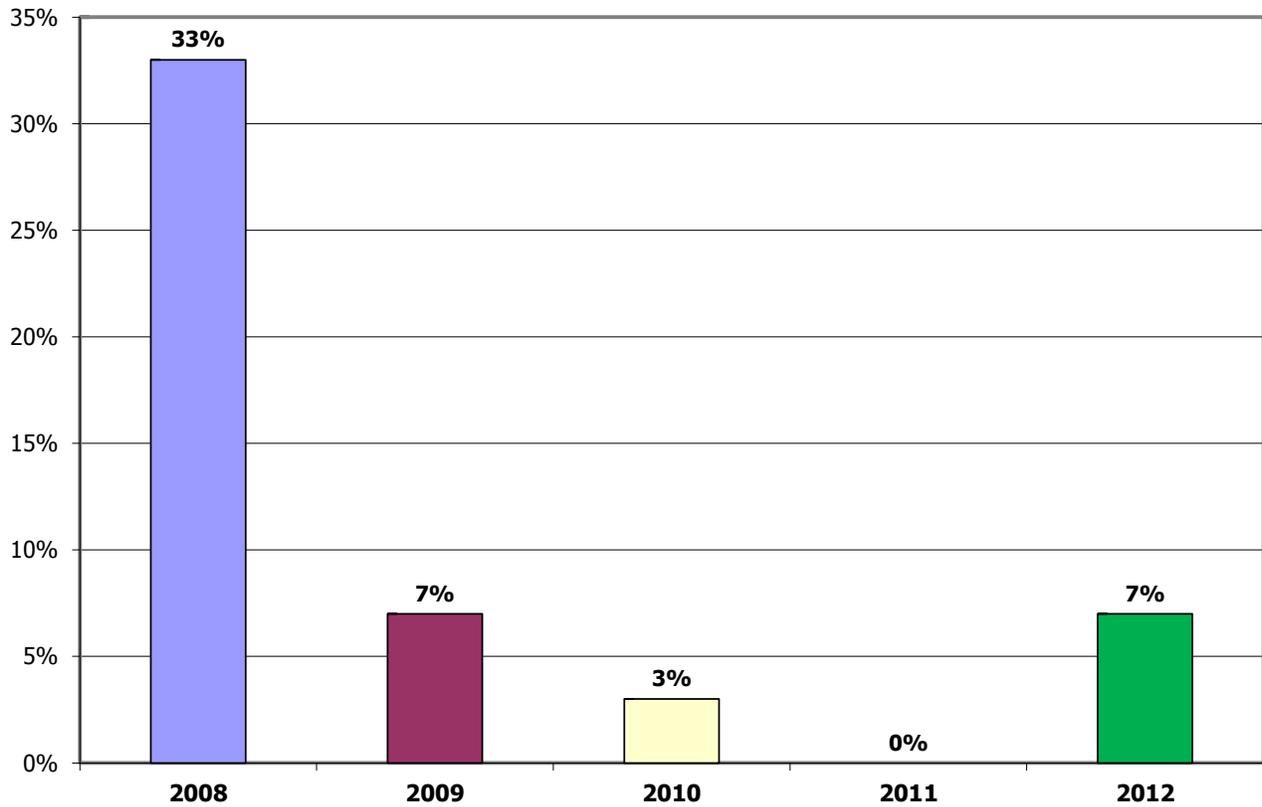


\* Three broken chains <1 deep not shown

## Summary of Broken Chains

#	Reason Given	Center	Date
1	Job Issues/ long wait time/ many failed XMs	Cornell	5/1/2008
2	No Reason	Cornell	8/21/2008
3	No Reason	CPMC	11/19/2008
4	Two cancelled swaps/ long wait time	UTMC	6/9/2009
5	Medical	UCSF	11/10/2009
6	Medical	UCLA	3/16/2010
7	Second nuclear GFR test < 80 (79 down from 82)	AGH	9/16/2010
8	No Reason	MethodistTX	2/3/2012
9	No Reason	UCSF	4/4/2012
10	Medical	UCLA	6/28/2012
11	Medical/Surgical	Washington	11/5/2012

## Broken Chains by Year - Summary



## Broken Chains by Year - Detail

<b>Year</b>	<b># Bridge Donors</b>	<b># Broken Chains</b>	<b>% Broken Per Year</b>
2008	9	3	33%
2009	29	2	7%
2010	61	2	3%
2011	75	0	0%
2012	54	4	7%
<b>Total Bridge Donors</b>	<b>228</b>	<b>11</b>	

# NKR Program Statistics

		2008	2009	2010	2011	2012
1	Transplants Facilitated	21	62	131	175	226
2	Ending Unmatched Patient Pool	80	127	120	201	241
3	Cumulative Transplants	21	83	214	389	614
4	Cumulative Patient Pool	101	210	334	590	805
5	Percent of Pool Transplanted (Paired Recipients)	21%	40%	64%	66%	71%
6	Enrolled Patient Average Wait Time	3.8	2.0	0.9	1.1	1.1
7	Transplanted Patient Average Wait Time	5.1	5.3	6.0	5.0	5.1
8	Average cPRA of Transplanted Patients	4.1%	25.9%	34.5%	40.3%	44.1%
9	Number of Transplants Completed by cPRA					
10	100%	0	1	4	10	4
11	95-100%	0	4	12	10	29
12	80-95%	1	7	16	29	26
13	50-80%	0	5	19	27	33
14	0-50%	1	8	13	30	34
15	0%	19	37	67	69	100
16	Sub-total	21	62	131	175	226
17	Percent of Transplants Completed by cPRA					
18	100%	0%	2%	3%	6%	2%
19	95-100%	0%	6%	9%	6%	13%
20	80-95%	5%	11%	12%	17%	12%
21	50-80%	0%	8%	15%	15%	15%
22	0-50%	5%	13%	10%	17%	15%
23	0%	90%	60%	51%	39%	44%
24	Sub-total	100%	100%	100%	100%	100%
25	Number of Transplanted Patients with cPRA >80%	1	12	32	49	59
26	Percent of Transplanted Patients with cPRA >80%	5%	19%	24%	28%	26%
27	Number of Unmatched Patients by cPRA (12/31/2012)					
28	100%					73
29	95-99%					73
30	80-95%					15
31	50-80%					11
32	0-50%					10
33	0%					59
34	Sub-total					241
35	Percent of Unmatched Patients by cPRA (12/31/2012)					
36	100%					30%
37	95-99%					30%
38	80-95%					6%
39	50-80%					5%
40	0-50%					4%
41	0%					24%
42	Sub-total					100%
43	Number of Transplants Completed by Wait Time (12/31/2012)					
44	< 6 months	21	42	74	106	180
45	6-12 months	0	10	14	19	24
46	1-2 years	0	4	15	14	20
47	2+ years	0	0	2	2	2
48	Sub-total	21	56	105	141	226
49	Percent of Transplants Completed by Wait Time (12/31/2012)					
50	< 6 months	100.0%	75.0%	70.5%	75.2%	79.6%
51	6-12 months	0.0%	17.9%	13.3%	13.5%	10.6%
52	1-2 years	0.0%	7.1%	14.3%	9.9%	8.8%
53	2+ years	0.0%	0.0%	1.9%	1.4%	0.9%
54	Sub-total	100%	100%	100%	100%	100%
55	Total Chains Started	3	8	28	38	54
56	Total Loops Completed	0	3	2	3	12
57	Number of broken chains	3	2	2	0	4
58	Bridge donors held	9	29	61	75	54
59	Percent of broken chains	33%	7%	3%	0%	7%

# Medical Board

**Yolanda Becker, MD**  
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Professor of Surgery  
Director, Kidney and Pancreas Program  
University of Chicago

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NKR Immunogenetics Director  
Professor, Department of Pathology at UCLA  
Director of Clinical Research, UCLA Immunogenetics Center  
Chair NKR Histocompatibility Committee

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New York Presbyterian Hospital/Cornell University Medical Center  
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Ronald Reagan UCLA Medical Center  
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Kidney Transplant Recipient  
Public Member

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Chief, Division of Pediatric Nephrology  
New York Presbyterian Hospital/Cornell University Medical Center  
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Chief Transplantation, Surgical Director Kidney & Pancreas Program  
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Associate Professor of Surgery Cornell University

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California Pacific Medical Center

**Debbie Mast,**  
*Palo Alto, CA*

Database Administrator/Financial Manager  
Solid Organ Transplant/VAD Program  
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# Medical Board

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Ronald Reagan UCLA Medical Center

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Lucile Packard Children's Hospital

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Virginia Transplant Center  
Henrico Doctors' Hospital

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*Schenectady, NY*

Good Samaritan Donor  
Public Member

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*Washington, DC*

Nephrologist & Transplant Physician  
Former Chief Medical Officer Centers for Medicare & Medicaid

**Jeffrey Veale, MD**  
*Los Angeles, CA*

Director Donor Exchange Program & Surgeon  
Ronald Reagan UCLA Medical Center  
Assistant Professor, David Geffen School of Medicine at UCLA

# Member Centers

Allegheny General Hospital	Pittsburgh	PA
Barnes-Jewish Hospital	St. Louis	MO
Brigham and Women's Hospital	Boston	MA
California Pacific Medical Center	San Francisco	CA
Cedars-Sinai Medical Center	Los Angeles	CA
Centura Porter Adventist Hospital	Denver	CO
Children's Hospital of Pittsburgh	Pittsburgh	PA
Christ Hospital of Cincinnati	Cincinnati	OH
Christiana Care Health System	Newark	DE
Cleveland Clinic	Cleveland	OH
Crozer-Chester Medical Center	Upland	PA
Dartmouth-Hitchcock MC	Lebanon	NH
Emory Transplant Center	Atlanta	GA
Fletcher Allen Health Care	Burlington	VT
Froedtert	Milwaukee	WI
Indiana University Health Transplant	Indianapolis	IN
Intermountain Medical Center	Murray	UT
Keck Medical Center of USC	Los Angeles	CA
Lahey Clinic	Burlington	MA
Lankenau Medical Center	Wynnewood	PA
Loma Linda Medical Center	Loma Linda	CA
Loyola University Medical Center	Maywood	IL
Lucile Packard at Stanford	Palo Alto	CA
Massachusetts General Hospital	Boston	MA
Medical College of Virginia Hospitals	Richmond	VA
Medical University of South Carolina	Charleston	SC
Methodist Specialty Hospital San Antonio	San Antonio	TX
Methodist Transplant Center	Houston	TX
Methodist University Transplant-TN	Memphis	TN
Mount Sinai Medical Center	New York	NY
Newark Beth Israel Medical Center	Newark	NJ
New York-Presbyterian Columbia	New York	NY
NYP-Weill Cornell Living Donor Kidney Center	New York	NY

# Member Centers

Ohio State University Medical Center	Columbus	OH
Our Lady of Lourdes	Haddon Heights	NJ
Pinnacle Health Systems	Harrisburg	PA
Riverside Community Hospital Transplant Center	Riverside	CA
Robert Wood Johnson University Hospital	New Brunswick	NJ
Rush University Medical Center	Chicago	IL
Saint Barnabas Medical Center	Livingston	NJ
Seattle Children's	Seattle	WA
Sentara Norfolk General Hospital	Norfolk	VA
Sharp Memorial Hospital	San Diego	CA
St. Joseph Hospital	Orange	CA
St. Luke's Transplant Center	New York	NY
St. Vincent Medical Center	Los Angeles	CA
Stanford University Medical Center	Palo Alto	CA
Starzl Transplantation Institute/UPMC	Pittsburgh	PA
Tampa General Hospital	Tampa	FL
Thomas Jefferson University Hospital	Philadelphia	PA
UC Davis Medical Center	Sacramento	CA
UCLA Medical Center	Los Angeles	CA
UCSF Medical Center	San Francisco	CA
University of Chicago Medicine	Chicago	IL
University of Cincinnati Hospital	Cincinnati	OH
University of Maryland Medical Center	Baltimore	MD
University of Pennsylvania Hospital	Philadelphia	PA
University of Rochester Medical Center	Rochester	NY
University of Utah Medical Center	Salt Lake City	UT
University of Washington Medical Center	Seattle	WA
University of Wisconsin, Madison	Madison	WI
Virginia Transplant Center	Richmond	VA
Walter Reed National Military MC	Bethesda	MD
Yale New Haven Hospital	New Haven	CT



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[www.kidneyregistry.org](http://www.kidneyregistry.org)

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