

# Paired Exchange Results Quarterly Report

As of September 30, 2012

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## Message From the Founder

We continue to witness rapid growth in the number of transplants we are facilitating along with expanding interest from new transplant centers who would like to begin actively participating in our program.

We are currently on track to surpass 200 transplants this year which is roughly equal to the total transplants facilitated in our first three years (2008-2010). Even with this unprecedented growth, we believe that anything less than 1,000 transplants per year is unacceptable. Why? Because our best Member Centers are seeing paired exchange transplants make up 20% - 35% of their living donor volume, and if you apply these percentages to the total living donor volume in the United States (6,000) the math indicates that we need to be facilitating at least 1,000 transplants annually to appropriately serve this ESRD patient population.

Over the past quarter, we have made significant improvements in the adoption of the donor pre-select functionality with most centers now consistently above a 95% review rate. As a result of this higher pre-select review rate, we are seeing fewer failed match offers and continued reduction in average time to transplant, which is now under five months. Consistent with this trend, 80% of our transplanted patients are now successfully matched and transplanted in under six months. This improved matching performance, driven by the adoption of the donor pre-select functionality, is allowing us to provide more reliable and predictable service to patients.

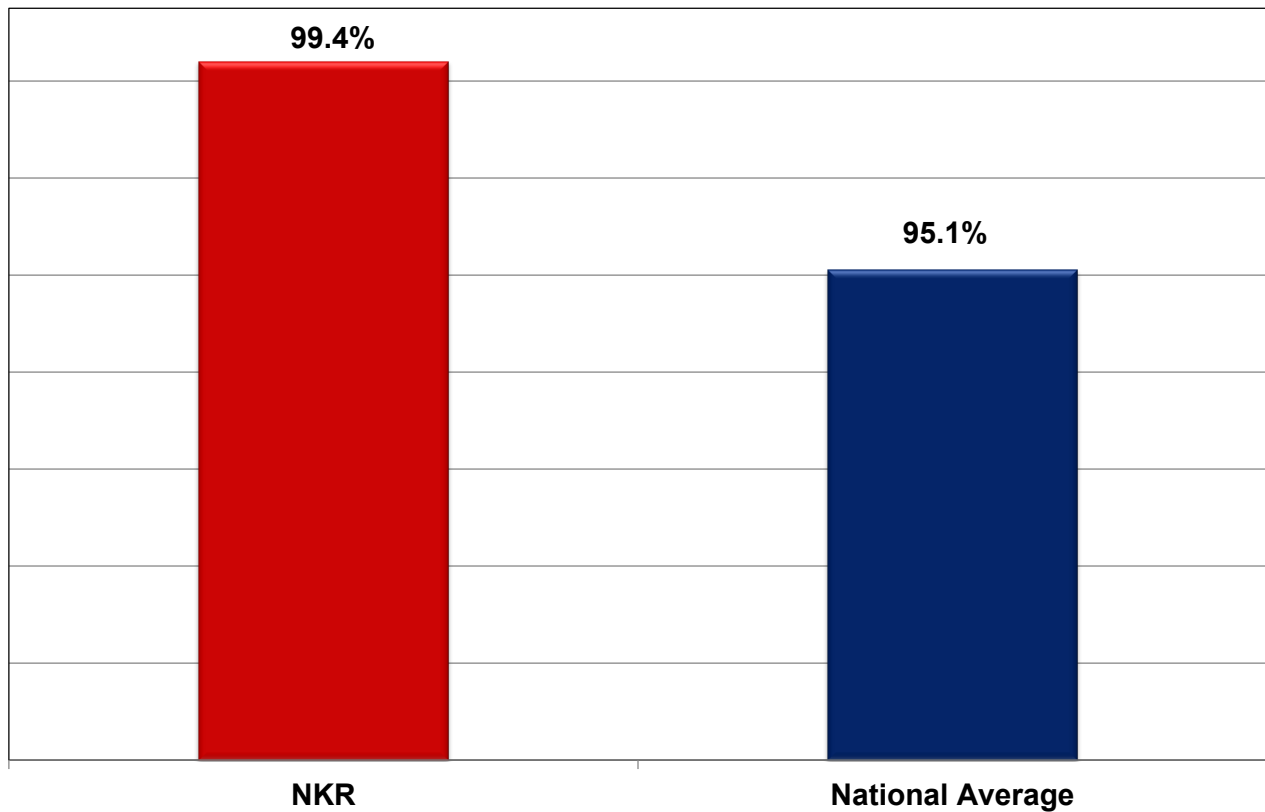
None of this success would be possible without the effort and dedication of the medical professionals at our Member Centers. Thank you - and keep up the great work.

Sincerely

A handwritten signature in blue ink, appearing to be 'G Hil', with a stylized flourish at the end.

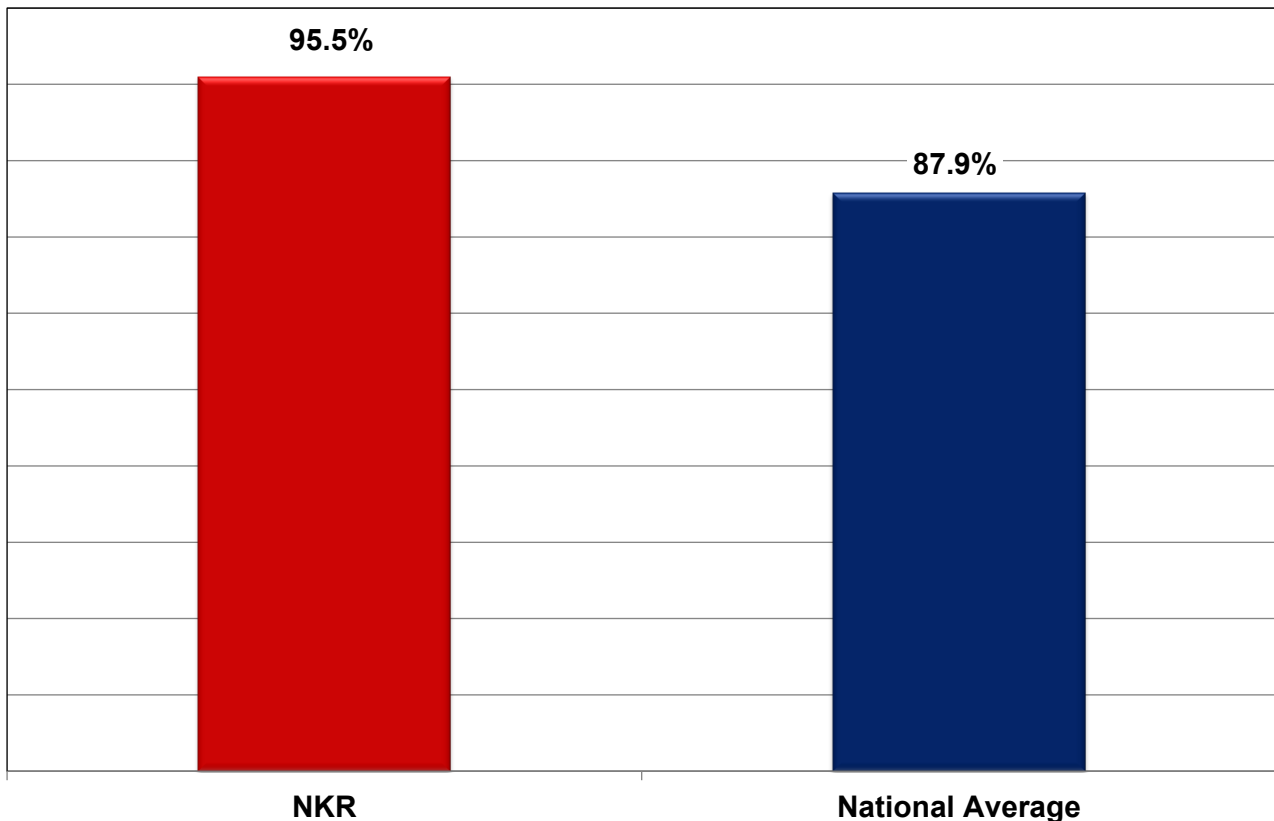
Garet Hil  
Founder & President  
National Kidney Registry

## Graft Survival – 1 Year



\*NKR as reported by member centers , national average as reported by OPTN 7/13/2012

## Graft Survival – 3 Year



\*NKR as reported by member centers , national average as reported by OPTN 7/13/2012

## Graft Survival - Detail

	1 Year	3 Year
<b>NKR</b>	99.4%	95.5%
<b>National Average</b>	95.1%	87.9%

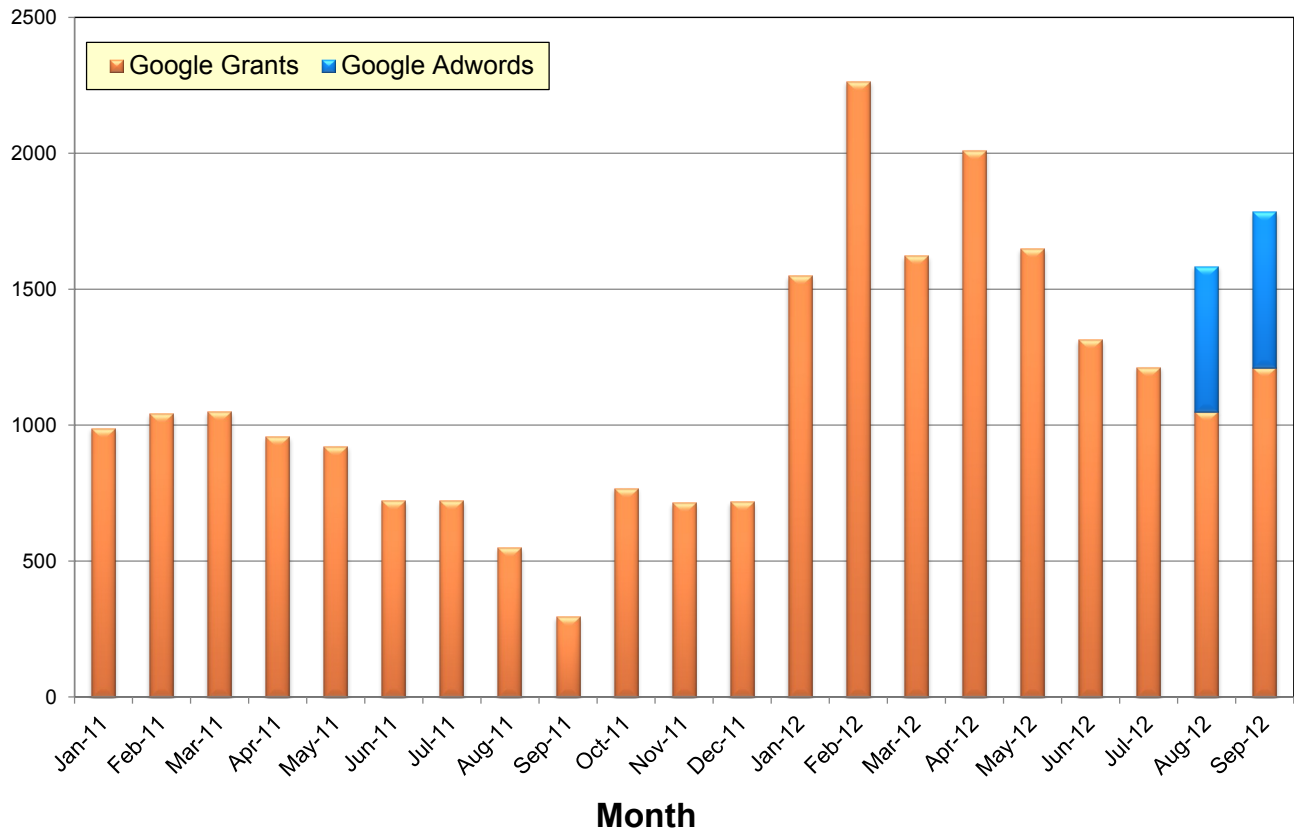
\*NKR as reported by member centers , national average as reported by OPTN 7/13/2012

## Grafts Not Surviving - Detail

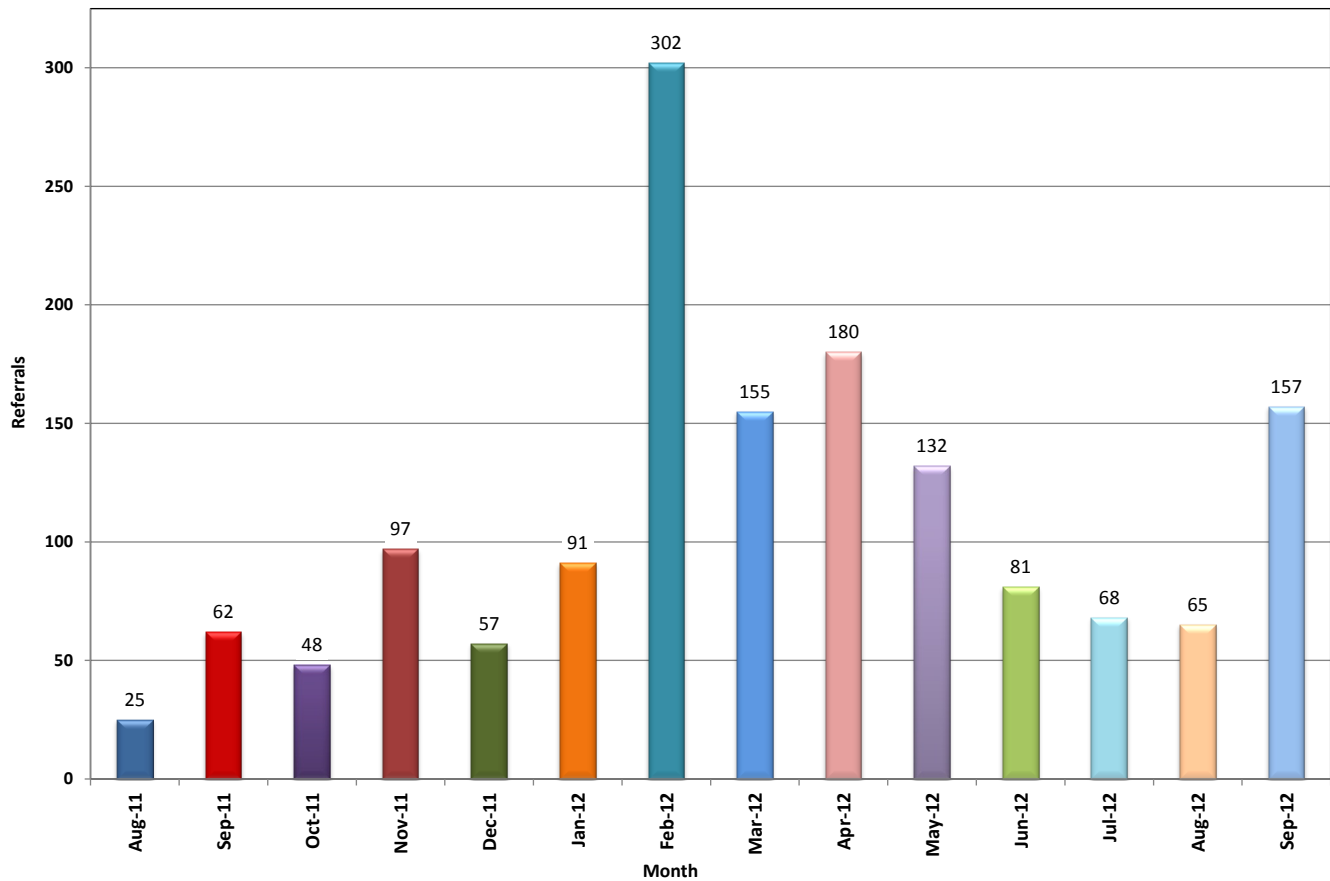
<i>Xplant Date</i>	<i>Chain #</i>	<i>Clust #</i>	<i>Pos #</i>	<i>cPRA</i>	<i>NKR Reg Date</i>	<i>CHIP?</i>	<i>DGF?</i>	<i>1 Mo Creat</i>	<i>6 Mo Creat</i>	<i>1 Year Creat</i>	<i>Date Failed</i>	<i>Reason</i>	<i>Years Graft Survived</i>
3/12/09	9	1	2	0	10/3/08	no	no	1.3	1.3	1.6	8/24/10	Non Compliance	1.5
6/26/09	10	4	1	0	1/17/09	no	no	1.4	1.4	35.6	2/11/10	Non Compliance	0.6
3/18/10	61	1	1	46	3/7/10	no	no	1.6	1.6	19.4	3/20/11	Non Compliance	1.0
9/27/10	61	4	3	0	4/20/10	no	no	1.66	1.46	1.32	11/1/11	Other	1.1
10/5/10	88	1	2	50	5/11/10	yes	no	0.3	4.94	5.38	11/14/10	Renal vein thrombosis	0.1
1/6/11	92	1	5	0	12/14/10	yes	yes	3.63	0	0	2/20/12	Non Compliance	1.1
6/28/11	126	1	2	74	3/14/11	no	no	2.3	6.3	0	11/17/12	Recurrent disease	0.5
10/4/11	130	1	2	65	9/13/11	no	yes	5.29	10.7	0	*3/6/12	PGNF	N/A

\*Date recorded

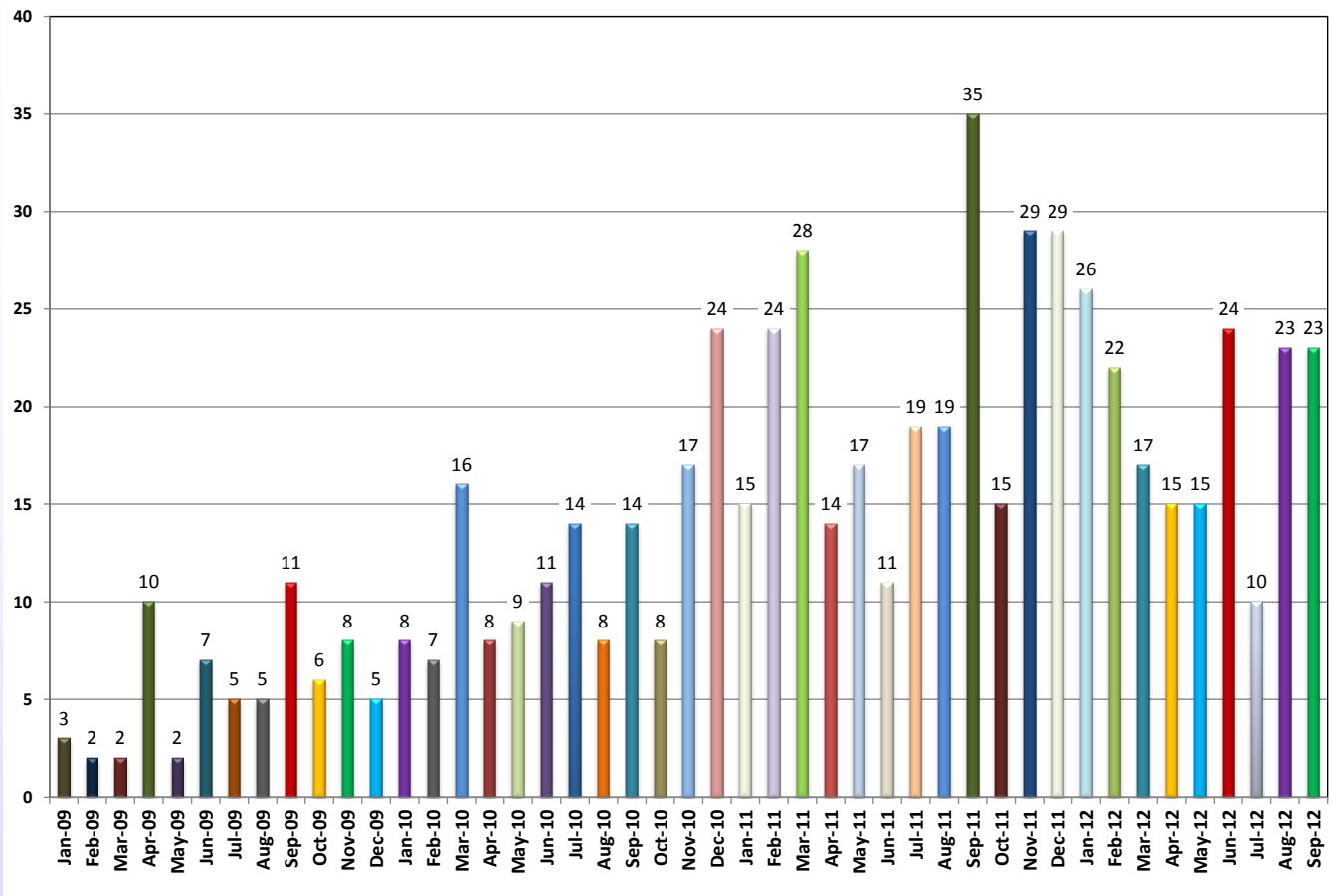
## Website Visits



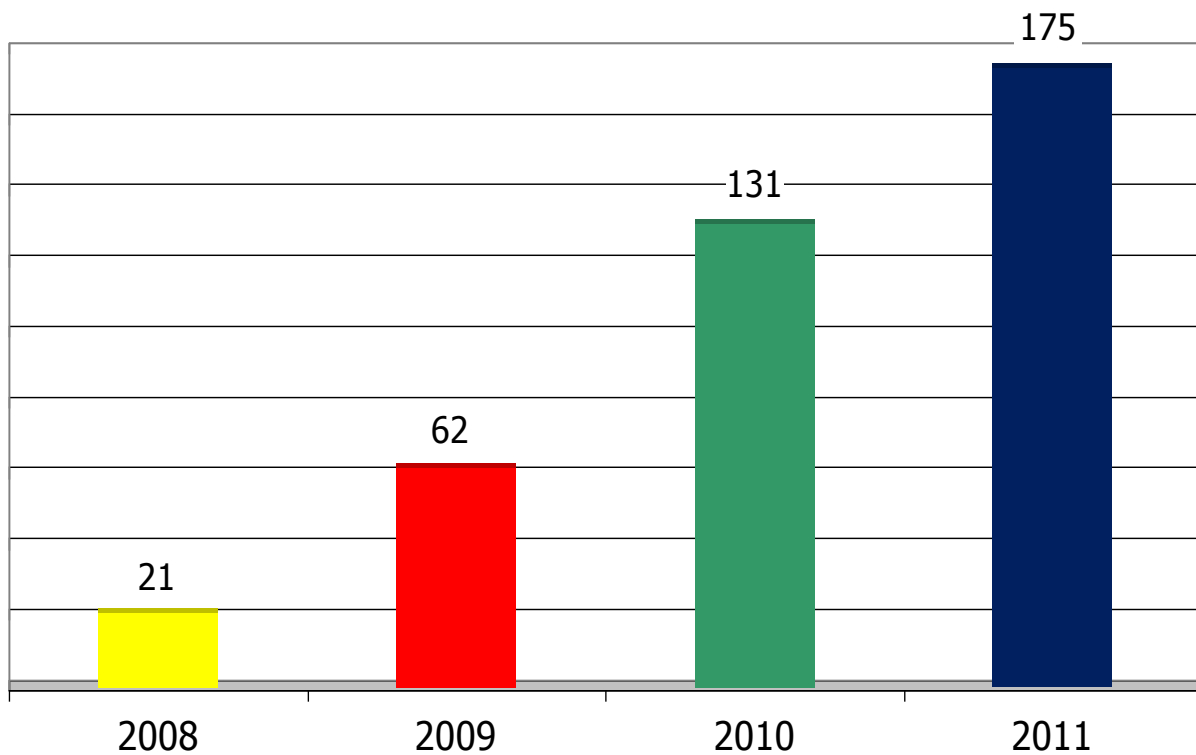
## NKR Patient Referrals



## New Pair Registrations Per Month

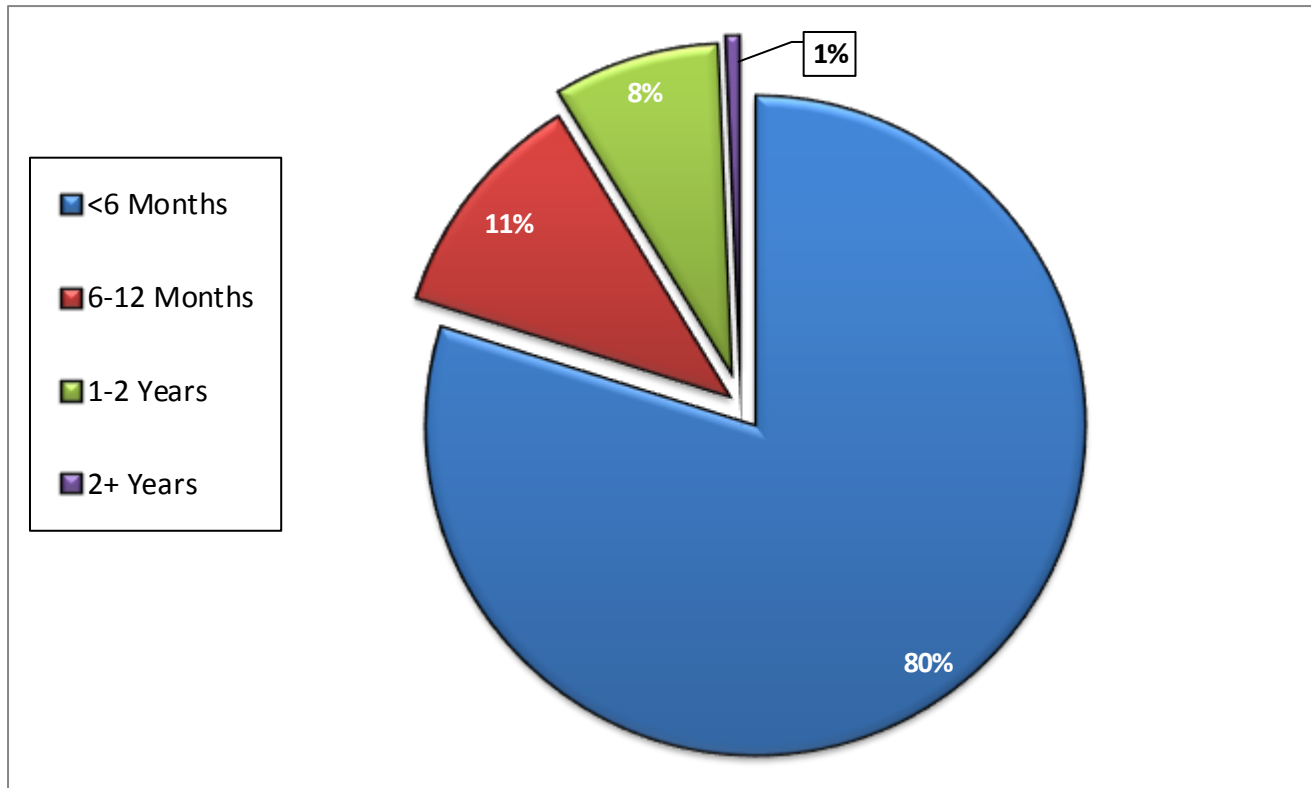


## Transplants Facilitated by Year

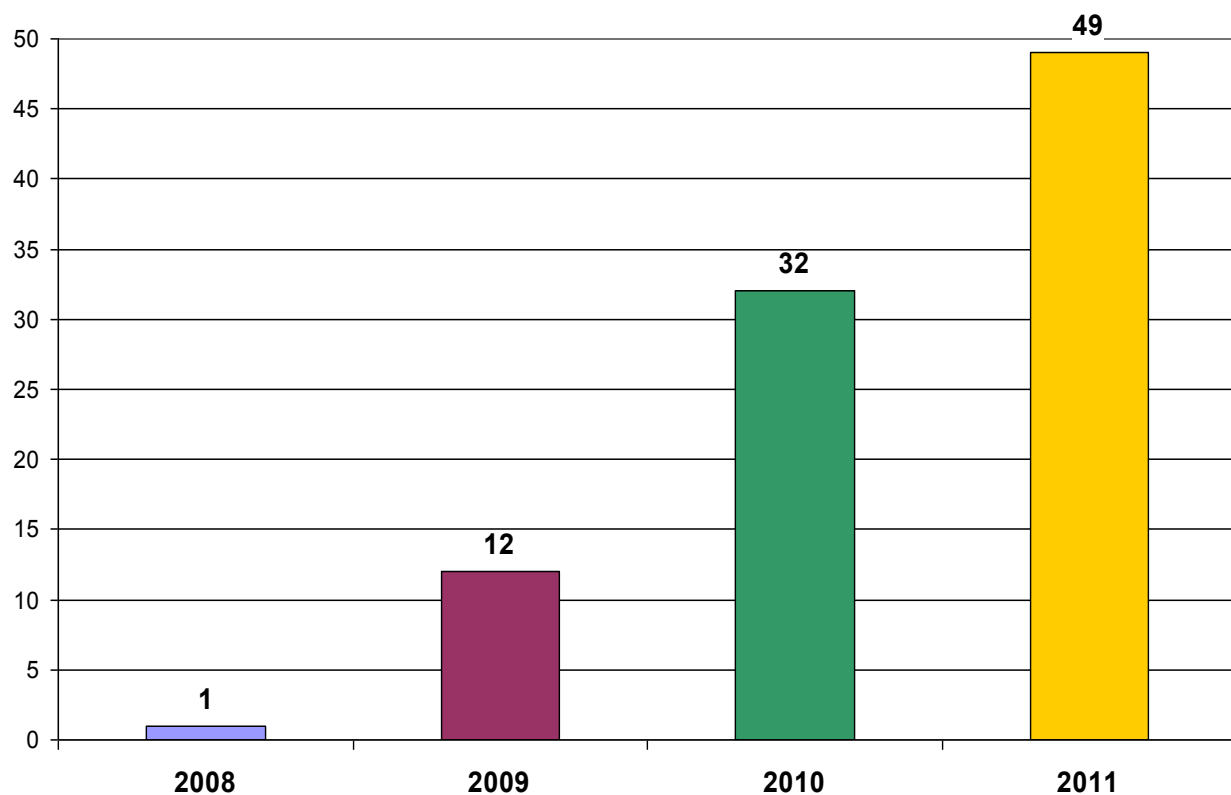


## 2012 Transplants by Wait Time

91% of transplanted patients waited < 12 months



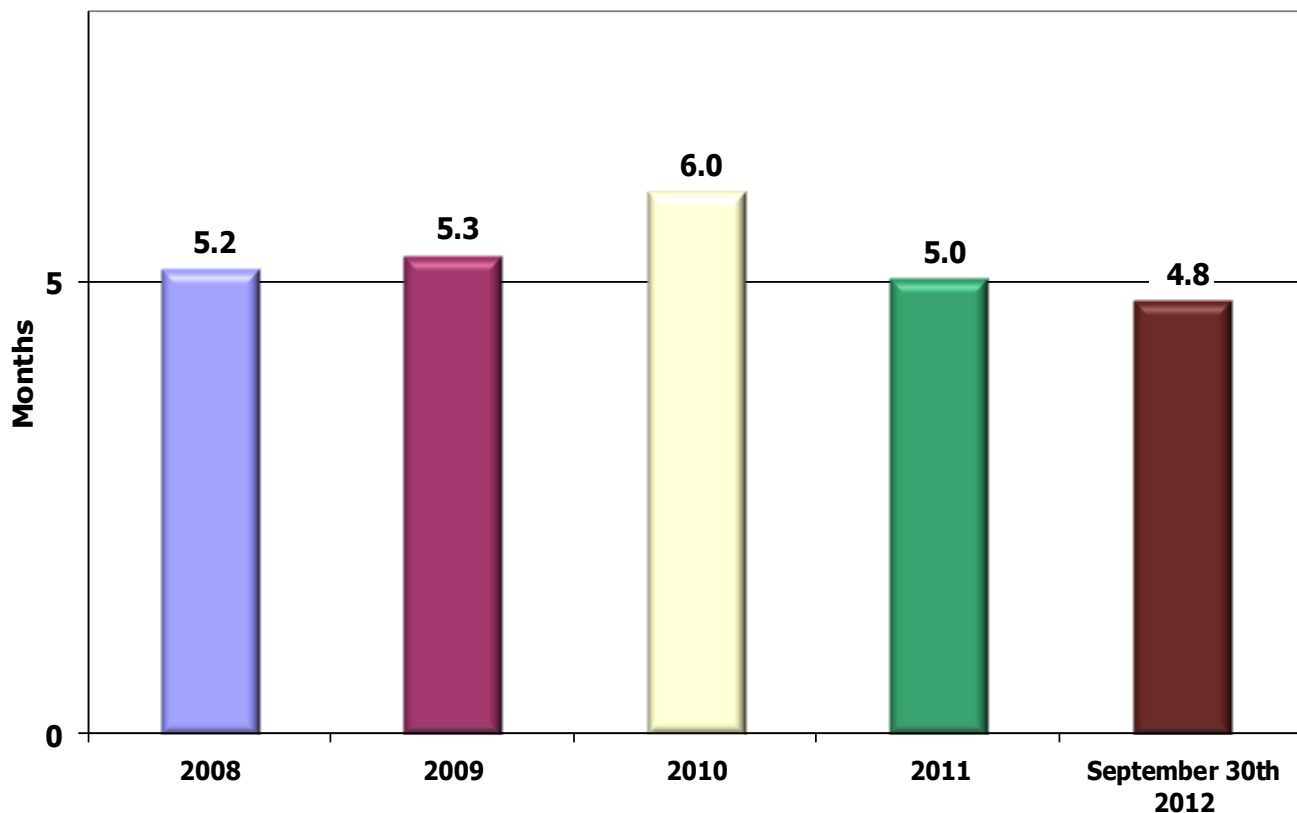
## Number of Transplanted Patients with cPRA >80%





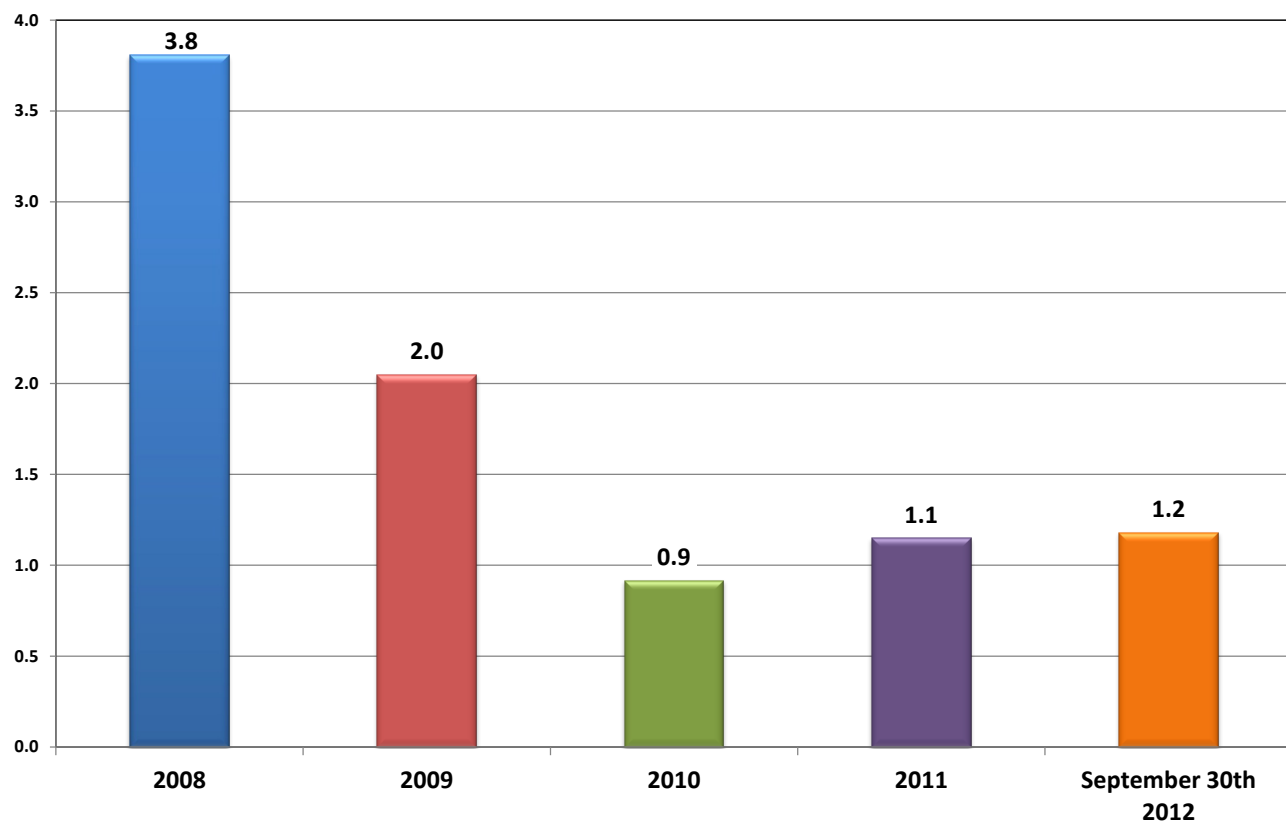
## Transplanted Patient Average Wait Time

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



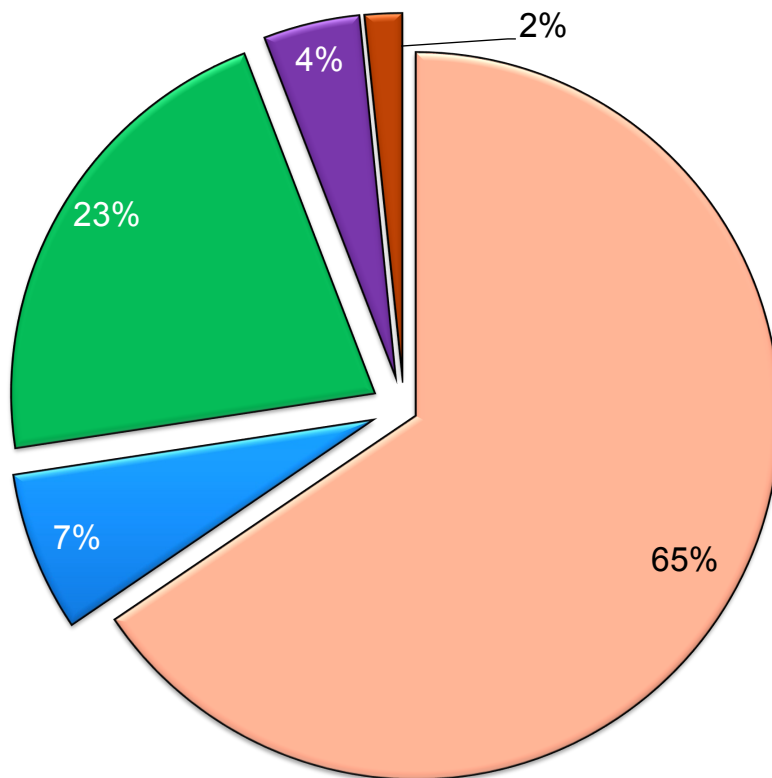
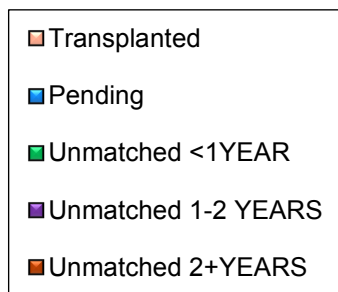
## Enrolled Patient Average Wait Time

Ending unmatched patient pool/annual transplant run rate



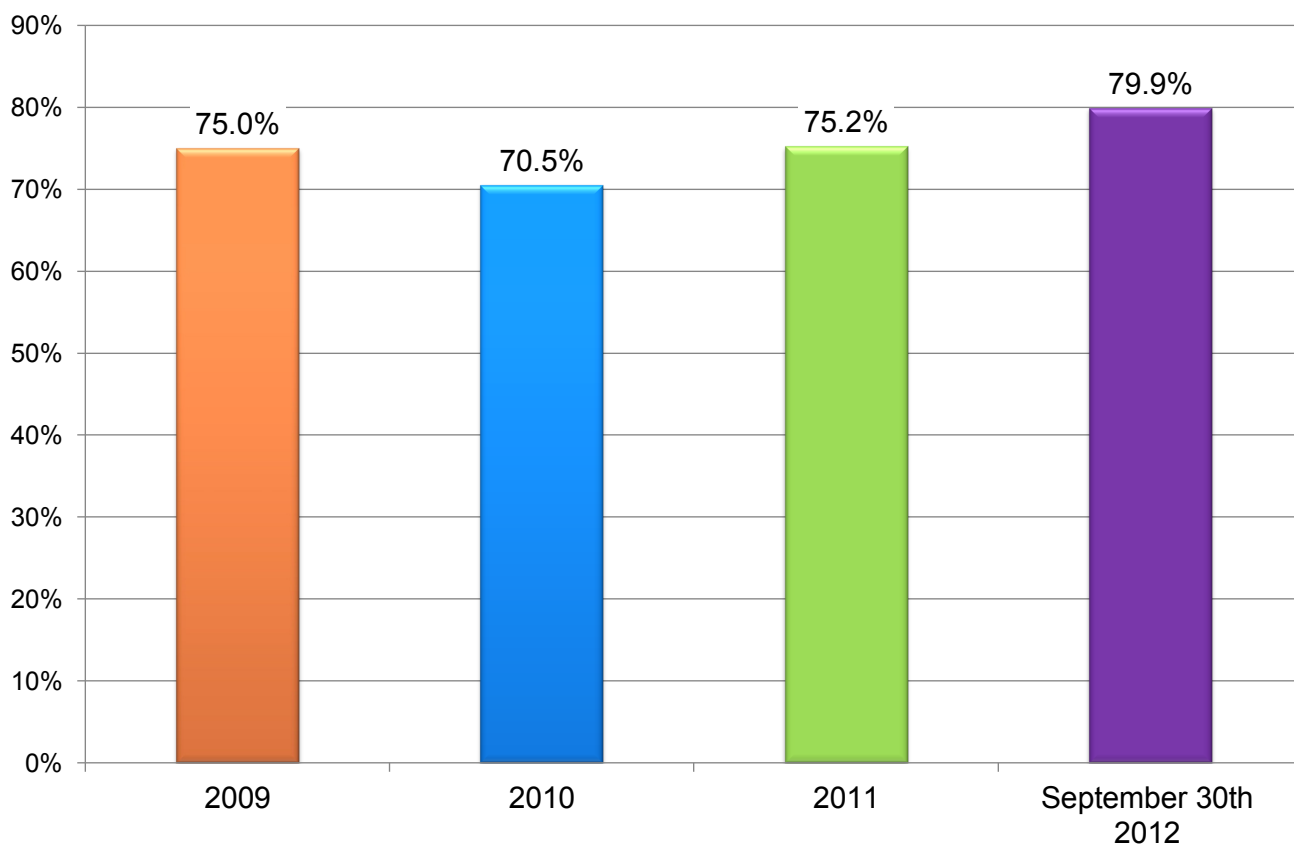
# Cumulative Pool Distribution by Status

As of 9/30/2012

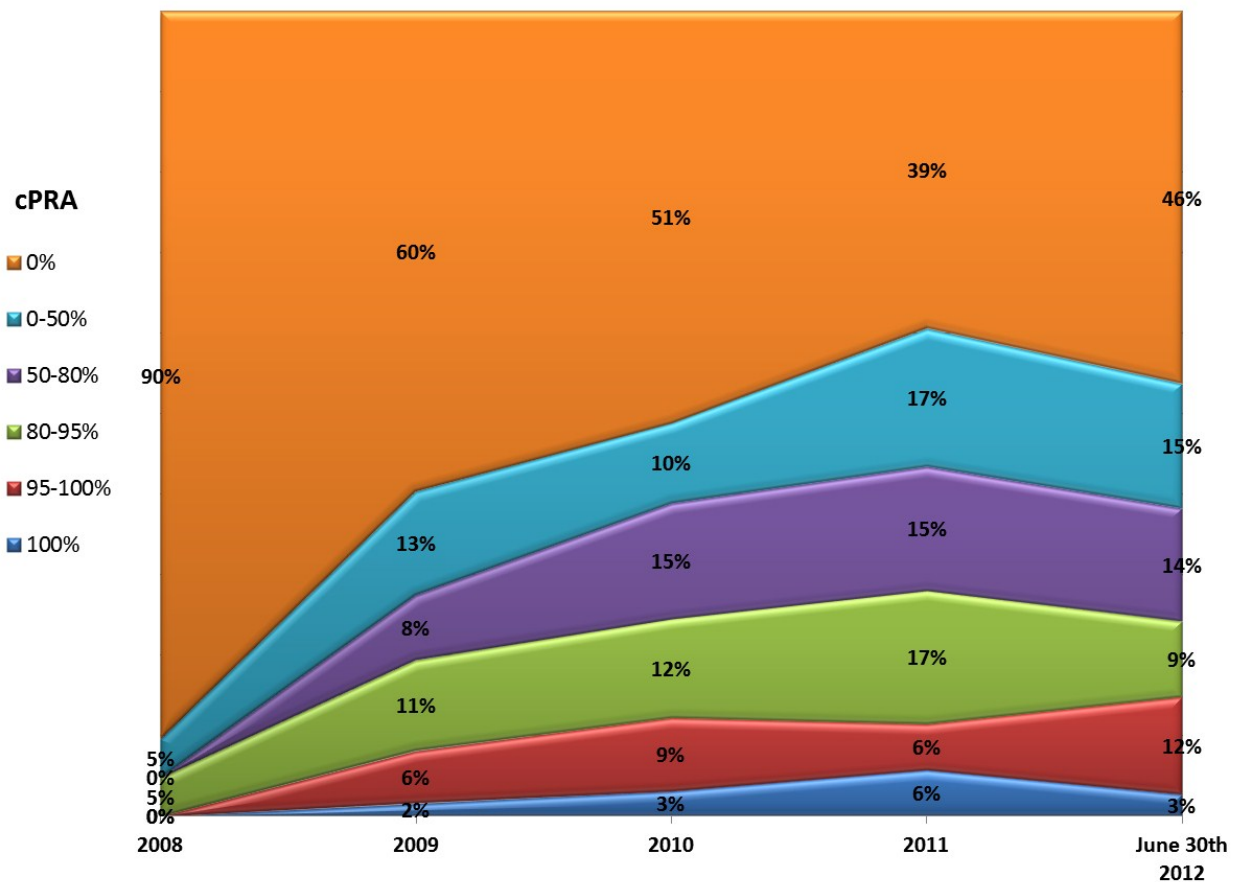


## Percent of Patients Transplanted in < 6 Months

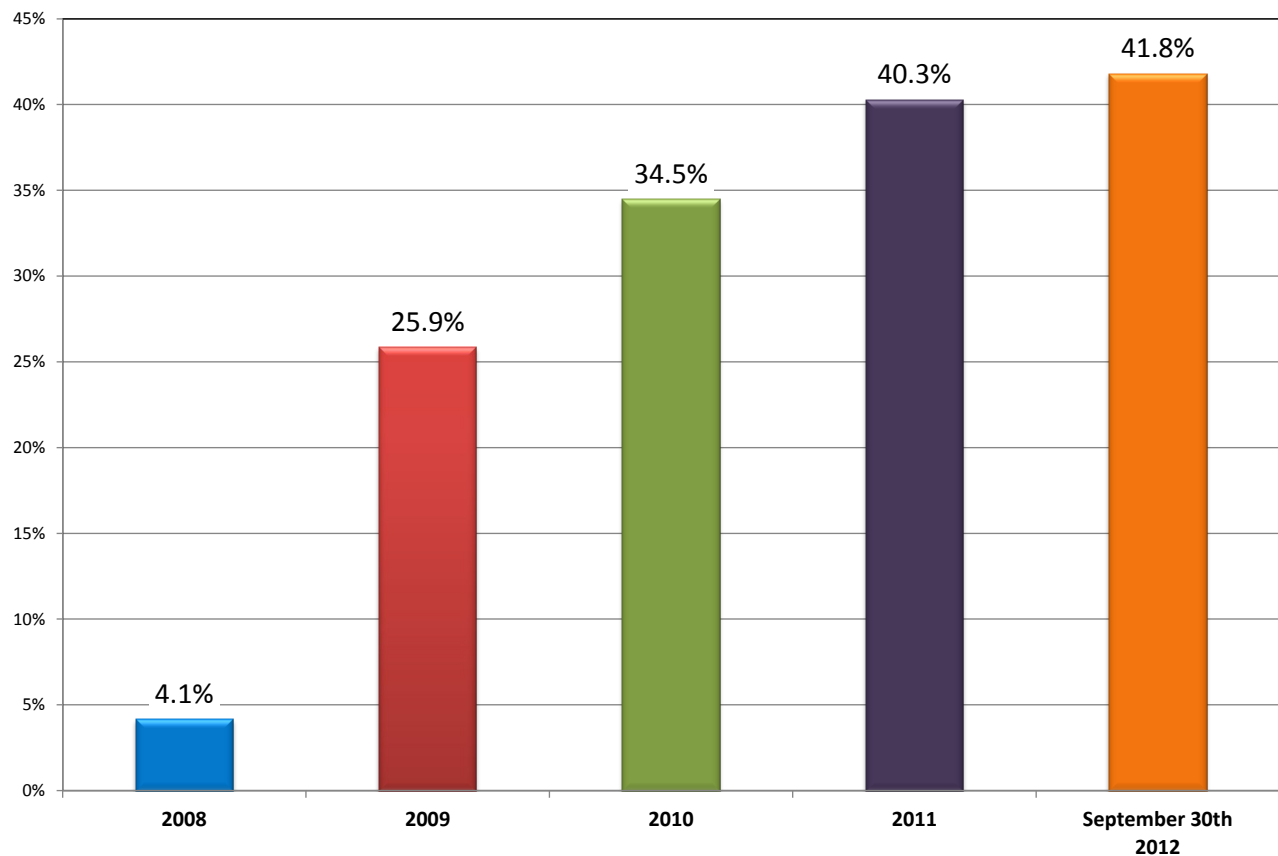
Number of transplants facilitated in < 6 months / Total transplants for same year



## Transplanted Patients by Year by cPRA



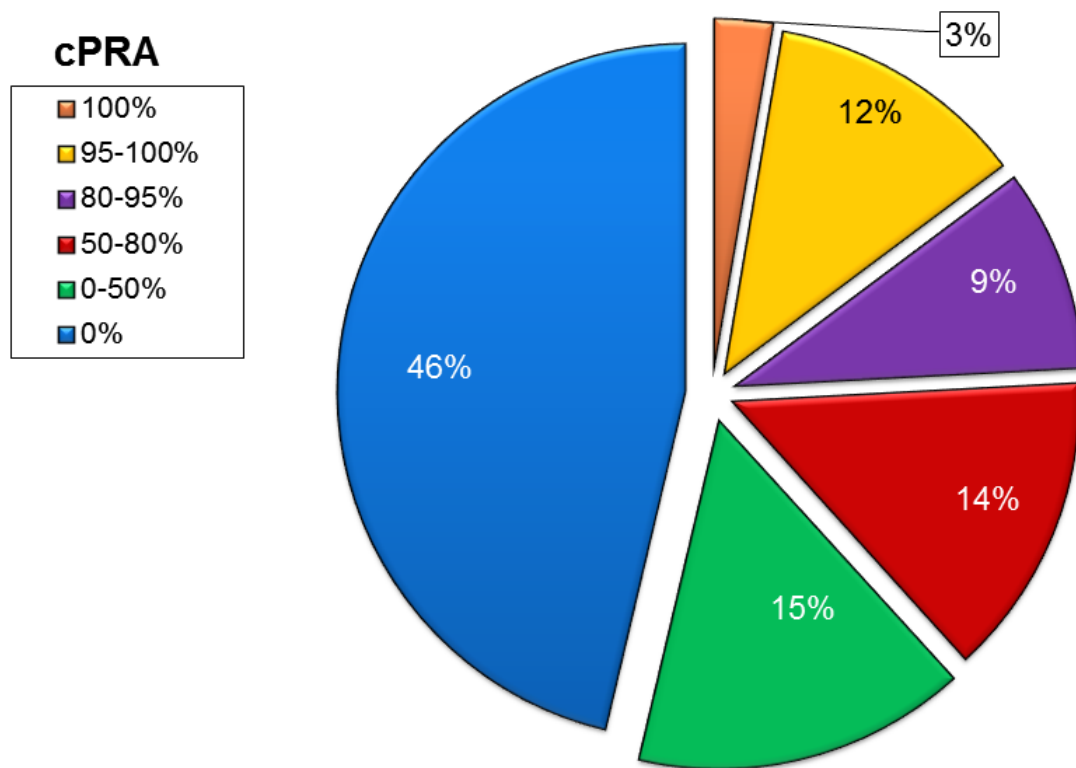
## Average cPRA of Transplanted Patients by Year



## Transplants by cPRA

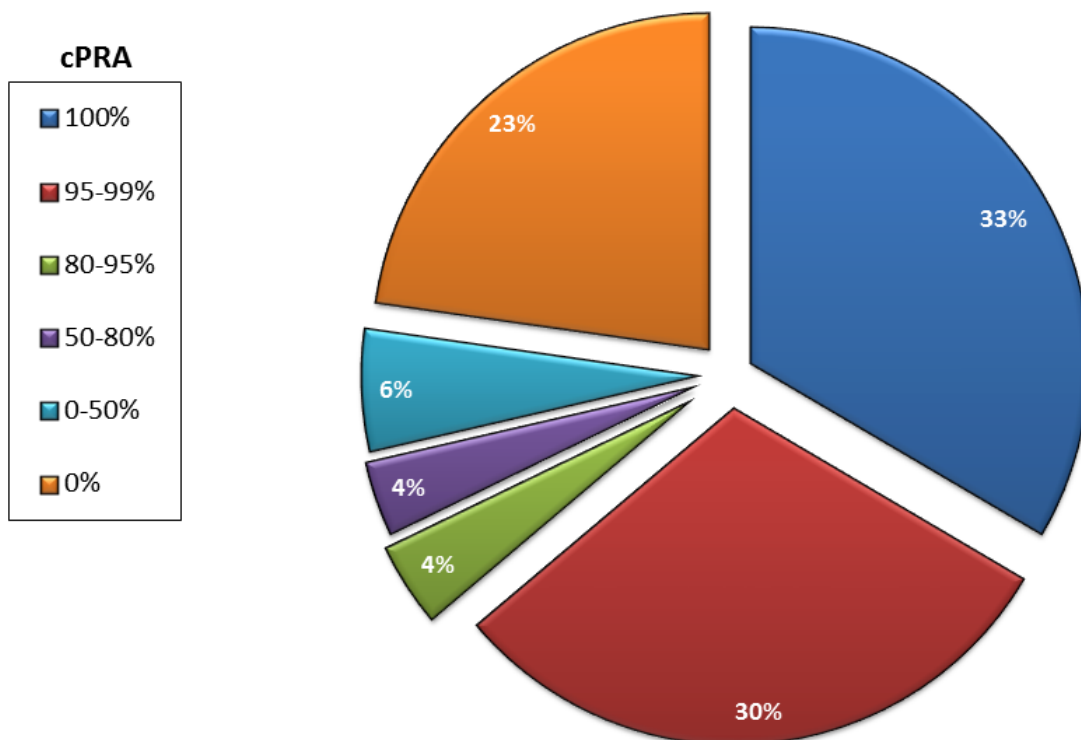
24% of transplanted patients >80% cPRA

1/1/2012 - 9/30/2012



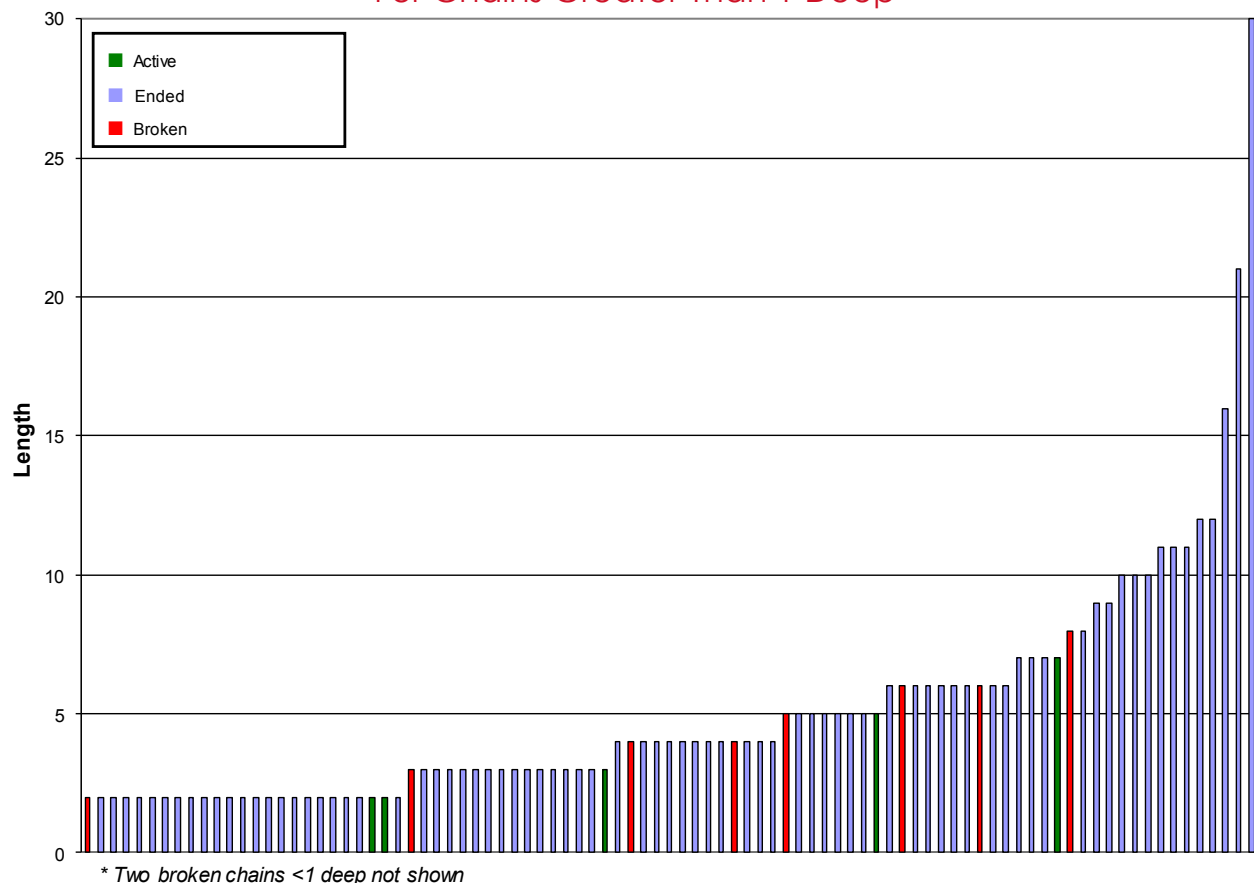
## Pool Composition by cPRA

As of 9/30/2012



## Chain Lengths

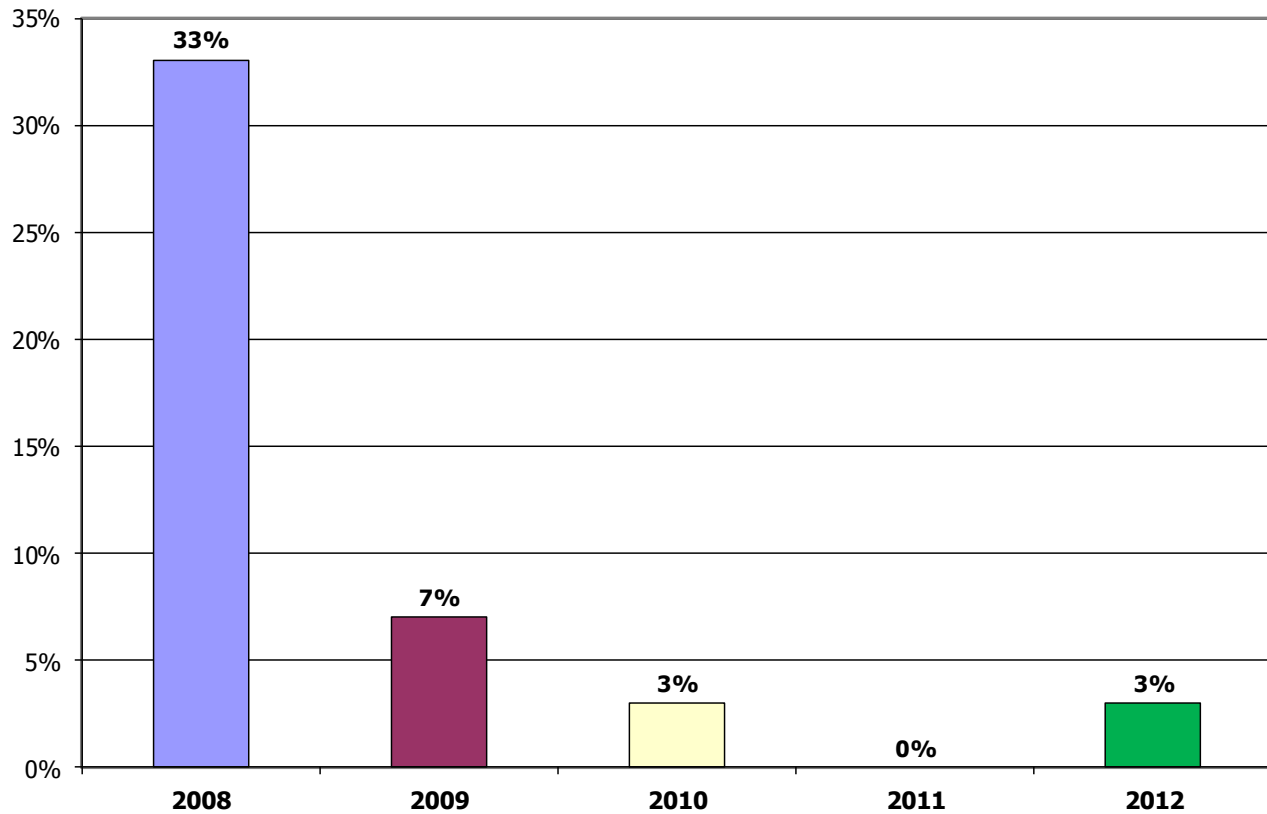
For Chains Greater Than 1 Deep



## Summary of Broken Chains

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

## Broken Chains by Year - Summary



## Broken Chains by Year - Detail

<i>Year</i>	<i># Bridge Donors</i>	<i># Broken Chains</i>	<i>% Broken Per Year</i>
2008	9	3	33%
2009	29	2	7%
2010	61	2	3%
2011	75	0	0%
2012 (Est.)	100	3	3%
<b>Total Bridge Donors</b>	<b>274</b>	<b>10</b>	

# NKR Program Statistics

		2008	2009	2010	2011	September 30th 2012
1	Transplants Facilitated	21	62	131	175	149
2	Transplants Facilitated ( <i>Prior 12 Months</i> )					190
3	Ending Unmatched Patient Pool	80	127	120	201	224
4	Cumulative Transplants	21	83	214	389	538
5	Cumulative Patient Pool	101	210	334	590	744
6	Percent of Pool Transplanted	21%	40%	64%	66%	72%
7	Enrolled Patient Average Wait Time	3.8	2.0	0.9	1.1	1.2
8	Transplanted Patient Average Wait Time	5.1	5.3	6.0	5.0	4.8
9	Average cPRA of Transplanted Patients	4.1%	25.9%	34.5%	40.3%	41.8%
10	Number of Transplants Completed by cPRA					
11	100%	0	1	4	10	4
12	95-100%	0	4	12	10	18
13	80-95%	1	7	16	29	14
14	50-80%	0	5	19	27	21
15	0-50%	1	8	13	30	23
16	0%	19	37	67	69	69
17	Sub-total	21	62	131	175	149
18	Percent of Transplants Completed by cPRA					
19	100%	0%	2%	3%	6%	3%
20	95-100%	0%	6%	9%	6%	12%
21	80-95%	5%	11%	12%	17%	9%
22	50-80%	0%	8%	15%	15%	14%
23	0-50%	5%	13%	10%	17%	15%
24	0%	90%	60%	51%	39%	46%
25	Sub-total	100%	100%	100%	100%	100%
26	Number of Transplanted Patients with cPRA >80%	1	12	32	49	36
27	Percent of Transplanted Patients with cPRA >80%	5%	19%	24%	28%	24%
28	Number of Unmatched Patients by cPRA (9/30/2012)					
29	100%					75
30	95-99%					68
31	80-95%					9
32	50-80%					8
33	0-50%					13
34	0%					51
35	Sub-total					224
36	Percent of Unmatched Patients by cPRA (9/30/2012)					
37	100%					33%
38	95-99%					30%
39	80-95%					4%
40	50-80%					4%
41	0-50%					6%
42	0%					23%
43	Sub-total					100%
44	Number of Transplants Completed by Wait Time (9/30/2012)					
45	< 6 months	21	42	74	106	119
46	6-12 months	0	10	14	19	17
47	1-2 years	0	4	15	14	12
48	2+ years	0	0	2	2	1
49	Sub-total	21	56	105	141	149
50	Percent of Transplants Completed by Wait Time (9/30/2012)					
51	< 6 months	100.0%	75.0%	70.5%	75.2%	79.9%
52	6-12 months	0.0%	17.9%	13.3%	13.5%	11.4%
53	1-2 years	0.0%	7.1%	14.3%	9.9%	8.1%
54	2+ years	0.0%	0.0%	1.9%	1.4%	0.7%
55	Sub-total	100%	100%	100%	100%	100%
56	Total Chains Started	3	8	28	38	41
57	Total Loops Completed	0	3	2	3	4
58	Number of broken chains	3	2	2	0	3
59	Bridge donors held ( <i>2012 is estimated</i> )	9	29	61	75	100
60	Percent of broken chains	33%	7%	3%	0%	3%

# Medical Board

**Yolanda Becker, MD**  
*Chicago, IL*

Professor of Surgery  
Director, Kidney and Pancreas Program  
University of Chicago

**Michael Cecka, PhD**  
*Los Angeles, CA*

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

**Marian Charlton, RN**  
*New York, NY*

Chief Transplant Coordinator  
New York Presbyterian Hospital/Cornell University Medical Center  
Chair NKR Operations Committee

**Gabriel Danovitch, MD**  
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Medical Director UCLA Kidney & Pancreas Program  
Ronald Reagan UCLA Medical Center  
Professor, David Geffen School of Medicine at UCLA

**Howard Gebel, PhD**  
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Professor Department of Pathology  
Co-Director, Histocompatibility and Molecular Immunogenetics Lab  
Emory University Hospital

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*Los Angeles, CA*

Kidney Transplant Recipient  
Public Member

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Chief, Division of Pediatric Nephrology  
New York Presbyterian Hospital/Cornell University Medical Center  
Associate Professor of Clinical Pediatrics Cornell University

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New York Presbyterian Hospital/Cornell University Medical Center  
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**Debbie Mast,**  
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Database Administrator/Financial Manager  
Solid Organ Transplant/VAD Program  
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# Medical Board

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High Risk & Living Donor Exchange Transplant Coordinator  
Kidney and Pancreas Transplant Program  
Ronald Reagan UCLA Medical Center

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Chair, NKR Research Committee  
Assistant Professor of Surgery  
Stanford University Medical Center  
Lucile Packard Children's Hospital

**John Milner, MD**  
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Associate Professor of Surgery Loyola  
Director of Living Donor and Chain/Paired Exchange Transplantation  
Loyola University Medical Center

**Marie Morgieovich, APN**  
*Livingston, NJ*

Transplant Nurse Practitioner, Living Donor Institute  
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**David Serur, MD**  
*New York, NY*

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Associate Professor Medicine & Surgery Cornell University  
Attending Physician & Surgeon New York Presbyterian Hospital

**Helen Spicer, RN**  
*Richmond, VA*

Director, Kidney Transplant Services  
Virginia Transplant Center  
Henrico Doctors' Hospital

**Angela Stimpson,**  
*Schenectady, NY*

Good Samaritan Donor  
Public Member

**Barry Straube, MD**  
*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
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
Ohio State University Medical Center	Columbus	OH

# Member Centers

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)

800-936-1627