



**NATIONAL KIDNEY REGISTRY**<sup>®</sup>  
FACILITATING LIVING DONOR TRANSPLANTS

# Outcomes Report

Q1 2025

Published on 4/9/25 • National Data Cutoff of 12/31/24

# Message from the Founder & CEO

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The National Kidney Registry (NKR) facilitates living donor kidney transplants for approximately half of the country's most highly sensitized patients (> 80% cPRA). These highly sensitized patients, transplanted through NKR swaps, have a **38% lower** 3-year death-censored graft failure rate compared to other highly sensitized patients who are not transplanted through the NKR. This data indicates that all highly sensitized patients should consider participating in an NKR swap to find a better match and achieve a better transplant outcome.

Our Kaplan-Meier eplet matching analysis shows a **538% higher** hazard of de novo DSA formation for unsensitized medium/high eplet mismatched kidney transplants at 3 years post-transplant. Patients who received a low eplet mismatched kidney had a significantly lower rate of de novo DSA formation, which is the precursor of rejection and graft failure. This data indicates that all patients with a compatible donor should consider participating in an NKR swap to find a low eplet mismatched donor to reduce their risk of de novo DSA formation and premature graft failure.

These innovations that are improving graft half-life would not have been possible without the guidance of our Medical Board and the many hardworking professionals at our 100+ Member Centers.

Sincerely,

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

**Garet Hil**

Founder & CEO

National Kidney Registry

# Methods

1. Outcome analyses were prepared by the Center for Surgical and Transplant Applied Research (CSTAR) directed by Dr. Dorry Segev (NYU)
2. These data rely on a validated linkage of the National Kidney Registry (NKR) and SRTR transplant registries
3. P-values  $<0.05$  are considered statistically significant

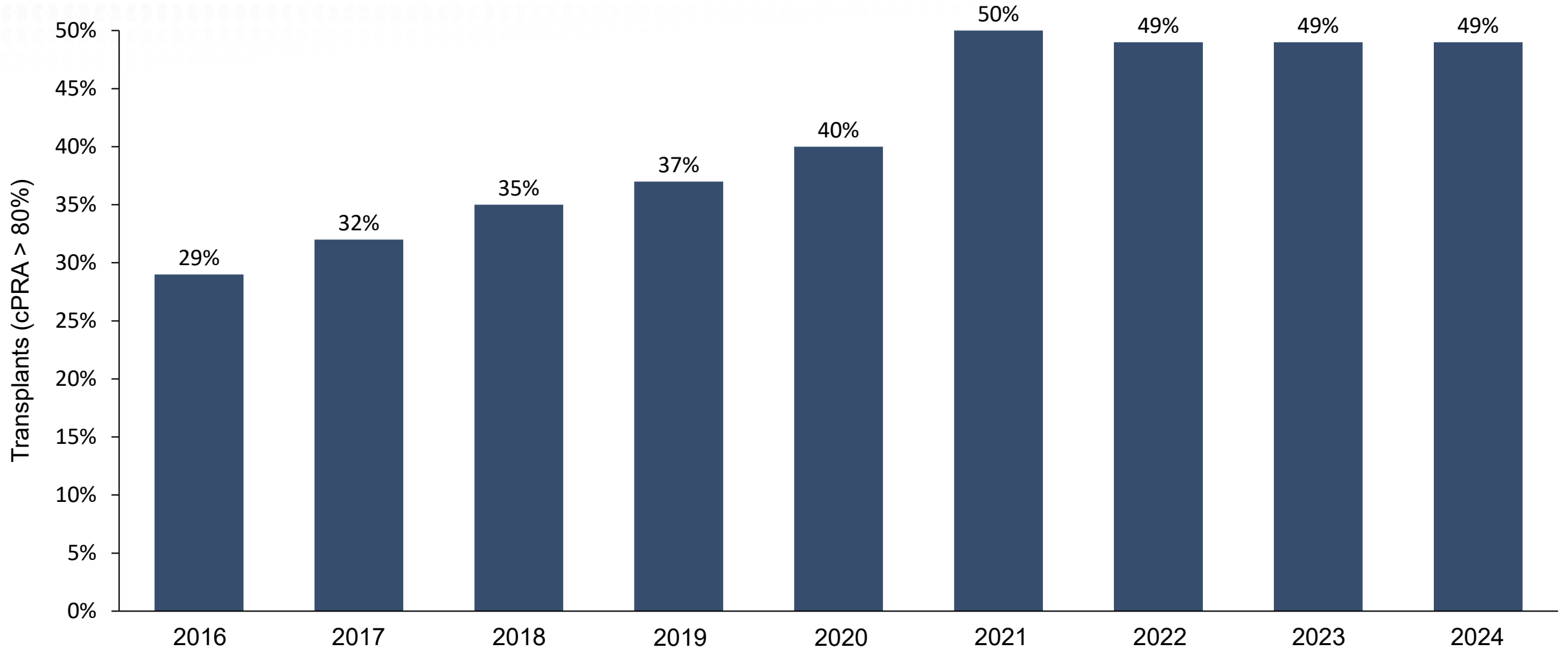


# Overview

1. Highly sensitized patients, transplanted through NKR swaps, have a **38% lower** 3-year death-censored graft failure rate compared to other highly sensitized patients who are not transplanted through the NKR
2. Our Kaplan-Meier analysis shows a **538% higher** hazard of de novo DSA formation at 3 years in unsensitized kidney transplants with medium/high eplet mismatches. Upgrading to low eplet mismatches reduces the likelihood of rejection and graft failure
3. The NKR results above are driving improved graft half-life for NKR-facilitated transplants

# NKR's Share Of Highly Sensitized U.S. Living Donor Transplants

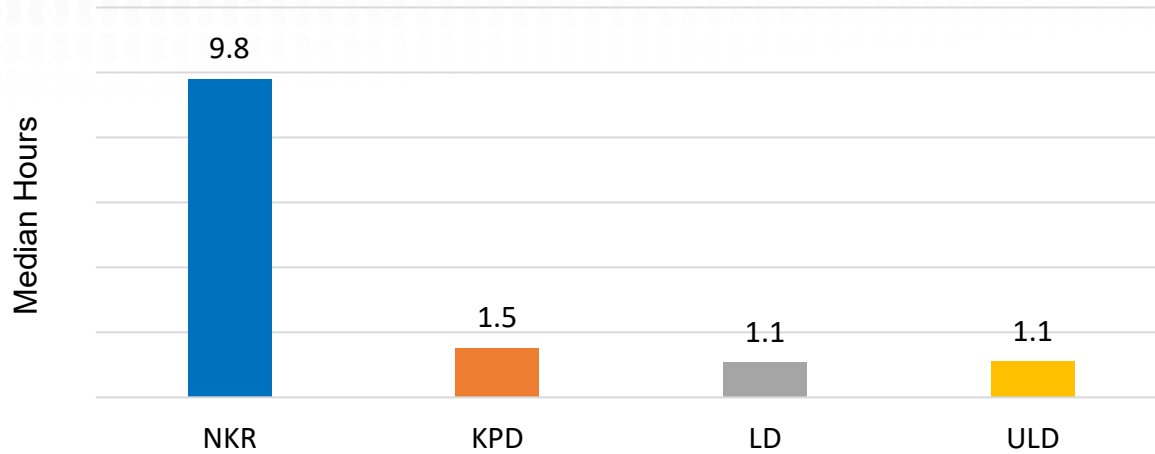
Patients with cPRA > 80%



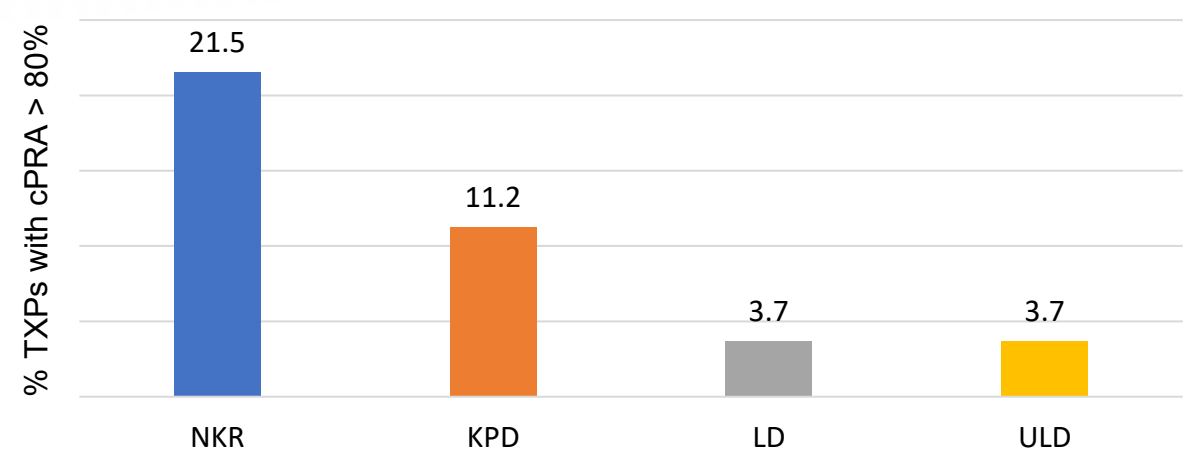
*cPRA > 80. Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
Kaplan-Meier GS Rates for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
SRTR data as of August 2024 (<https://www.srtr.org/>)*

# Case Mix: Better Outcomes Despite Harder-to-Match Cases

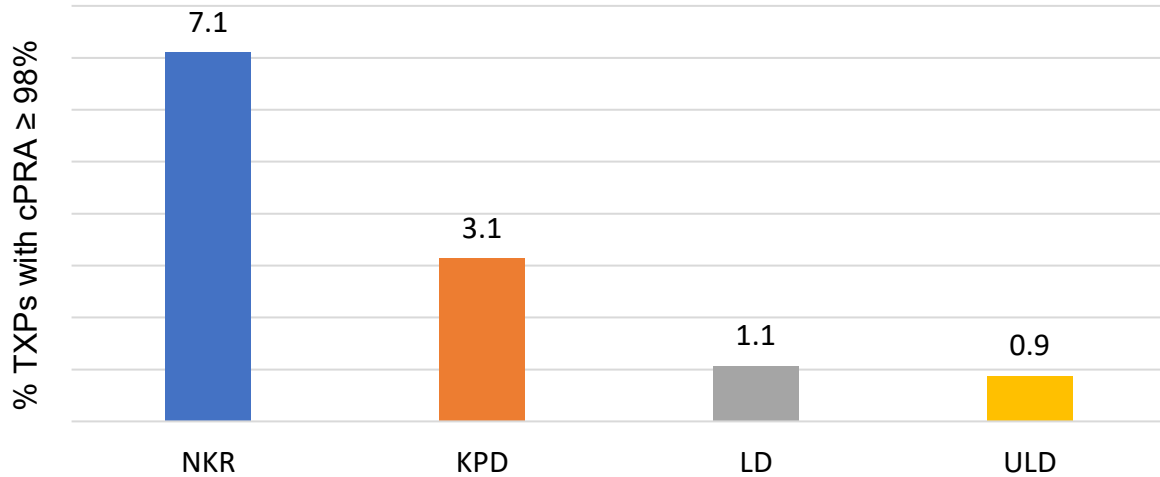
### More Cold Ischemic Time



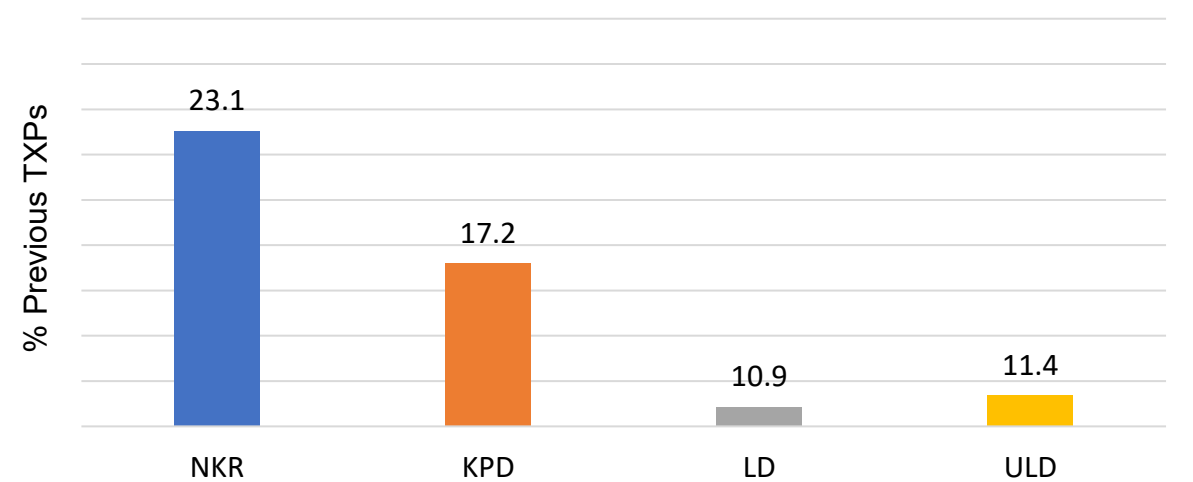
### More Highly Sensitized Patients



### More Hypersensitized Patients



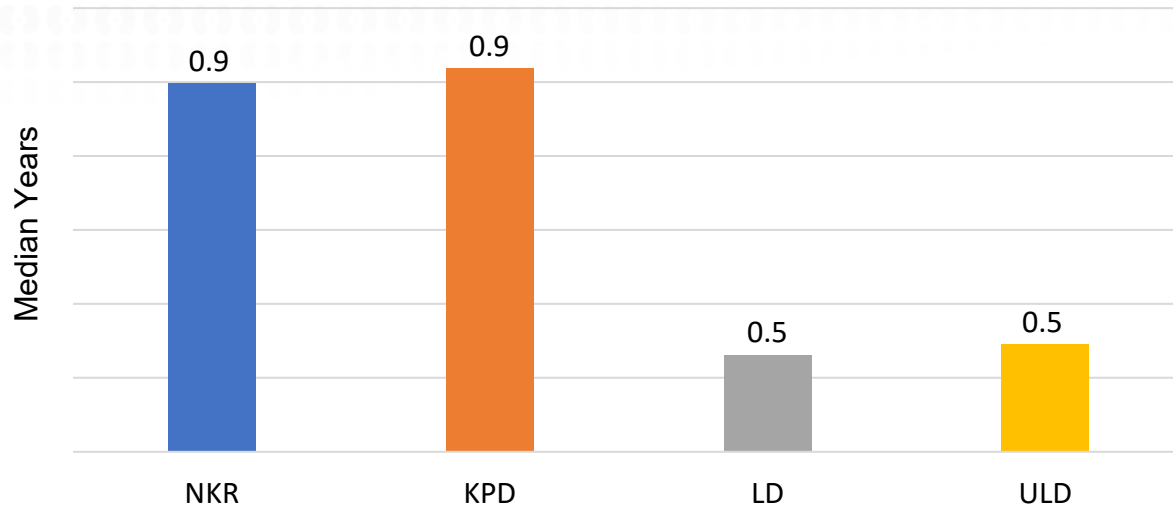
### More Retransplants



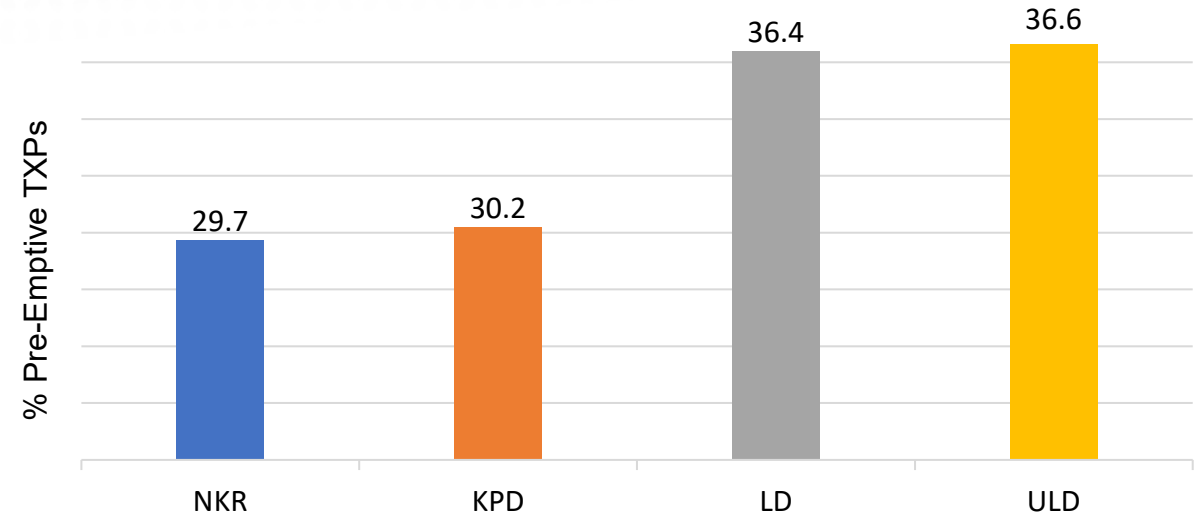
Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
Proportions for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
SRTR data as of January 2025 (<https://www.srtr.org/>)

# Case Mix: Better Outcomes Despite Higher Risk Cases

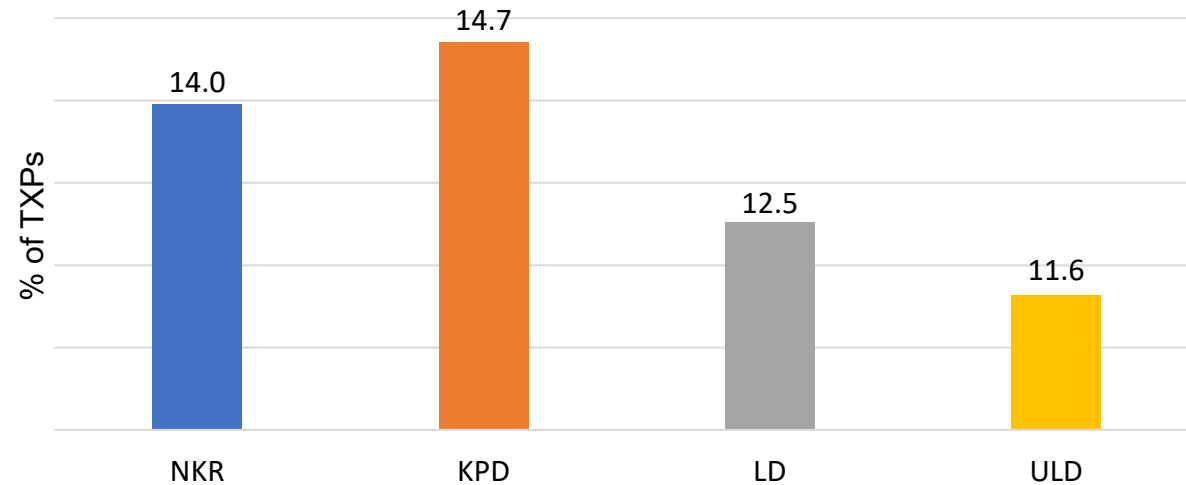
### Time on Dialysis



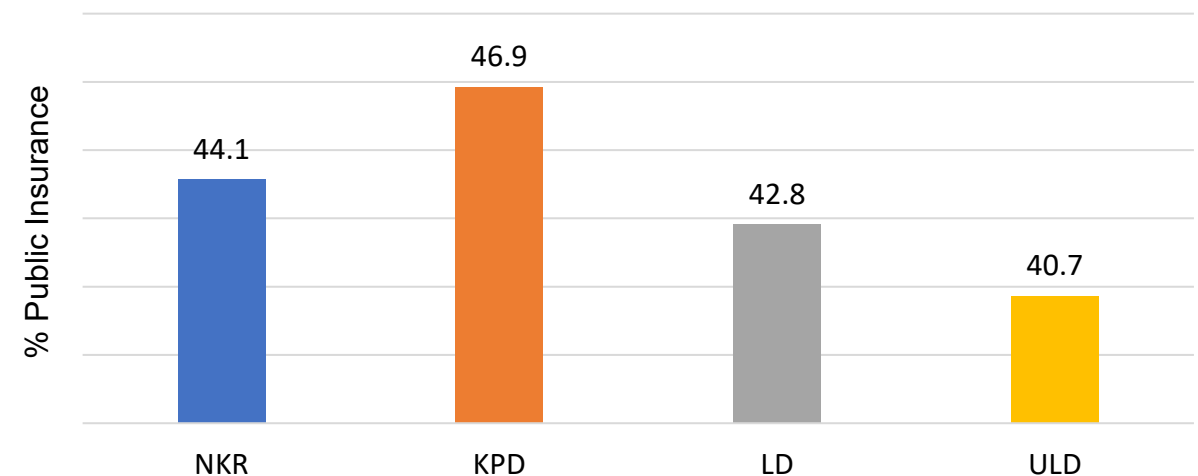
### Fewer Preemptive Transplants



### African American Patients

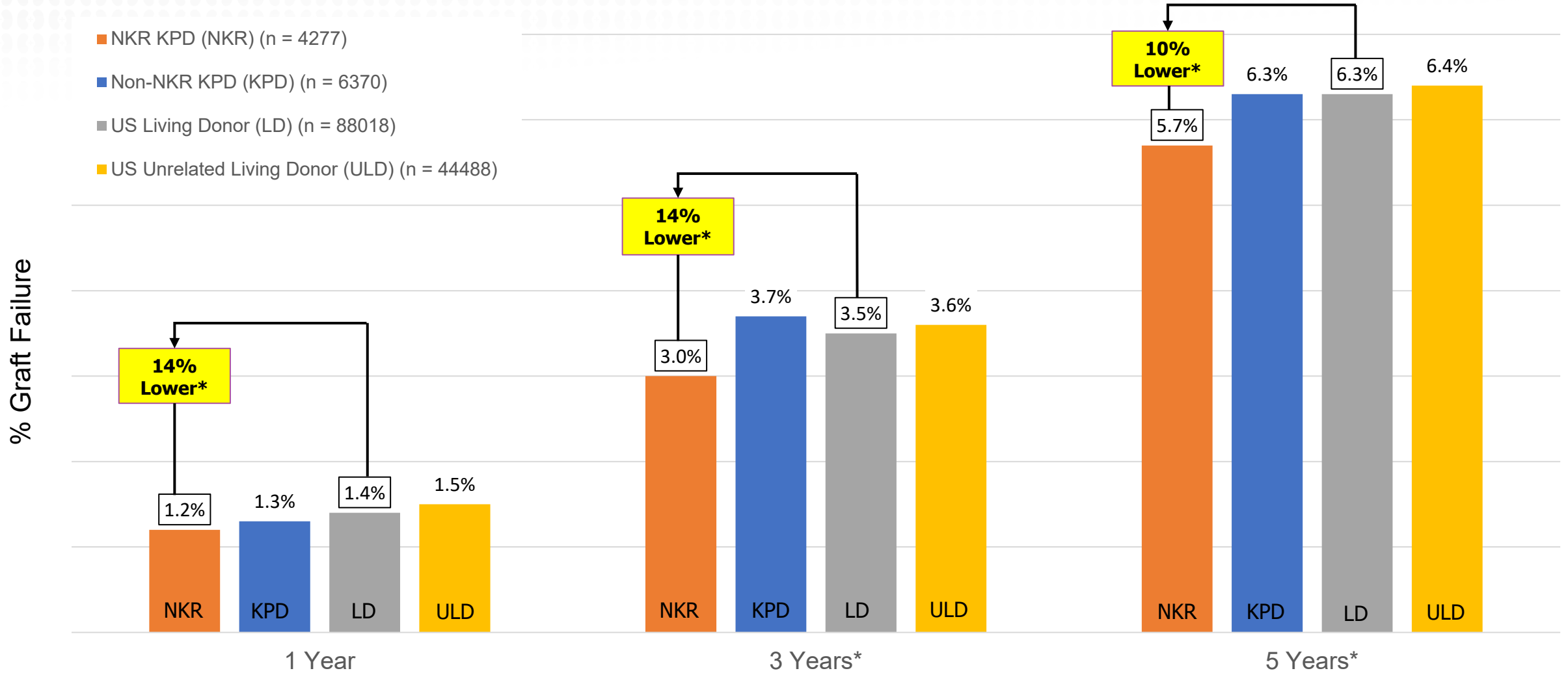


### Patients with Public Insurance



Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
Proportions for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
SRTR data as of January 2025 (<https://www.srtr.org/>)

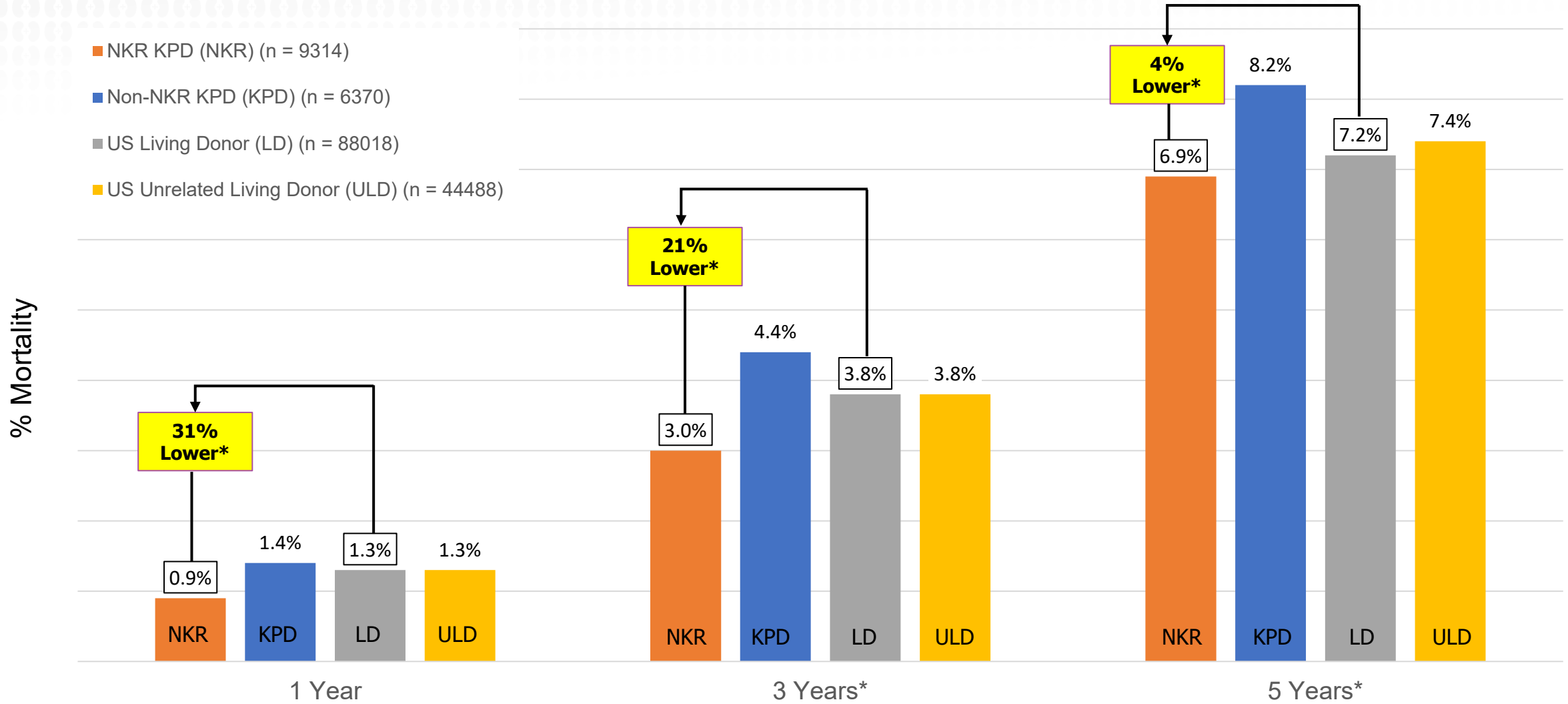
# Death-Censored Graft Failure Comparisons



Excludes CHIP. Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
 Kaplan-Meier GS Rates for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
 SRTR data as of January 2025 (<https://www.srtr.org/>)



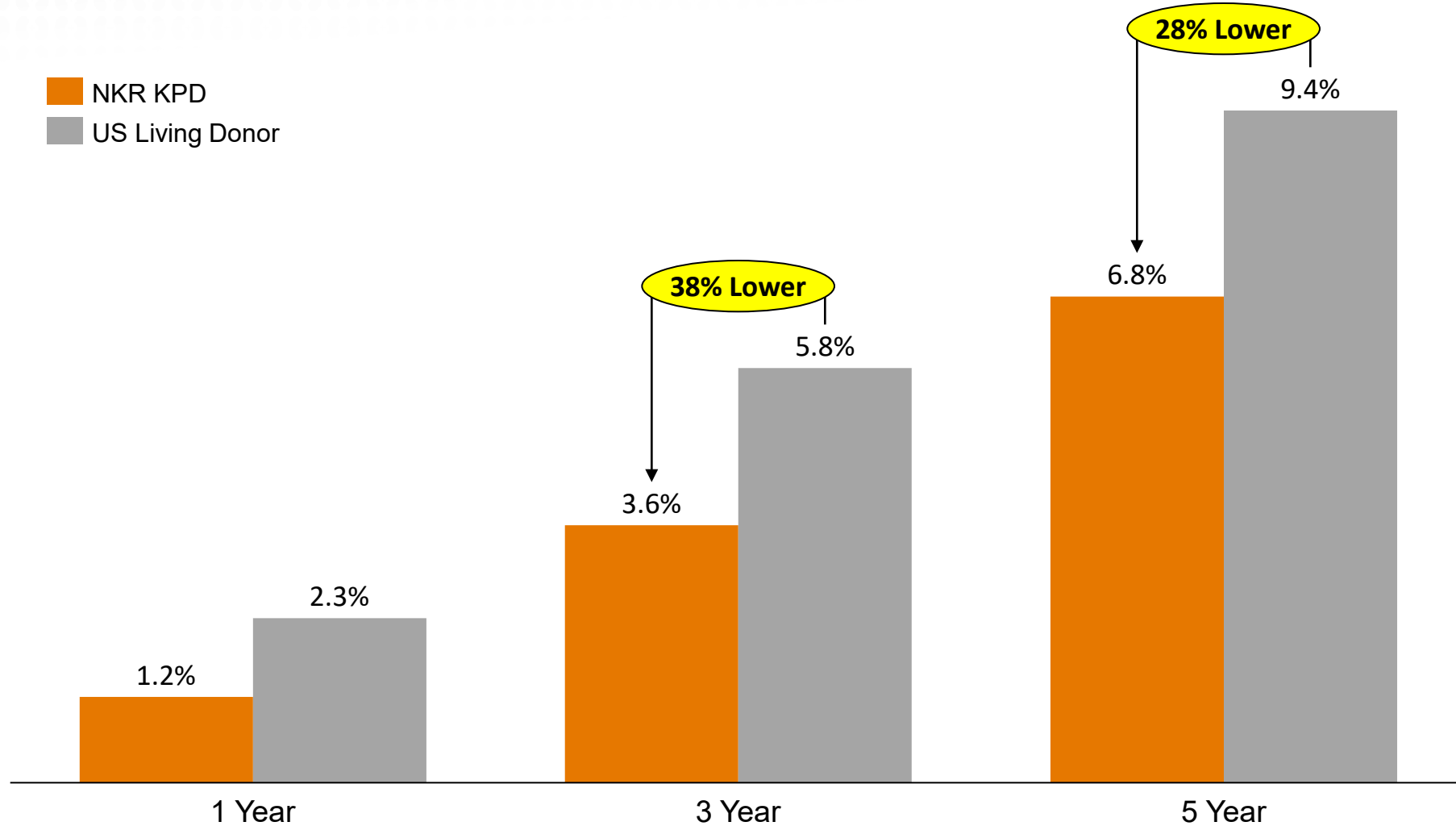
# Patient Mortality Rate Comparisons



Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
 Kaplan-Meier GS Rates for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
 SRTR data as of January 2025 (<https://www.srtr.org/>)

# Death-Censored Graft Failure Comparisons (cPRA > 80% )

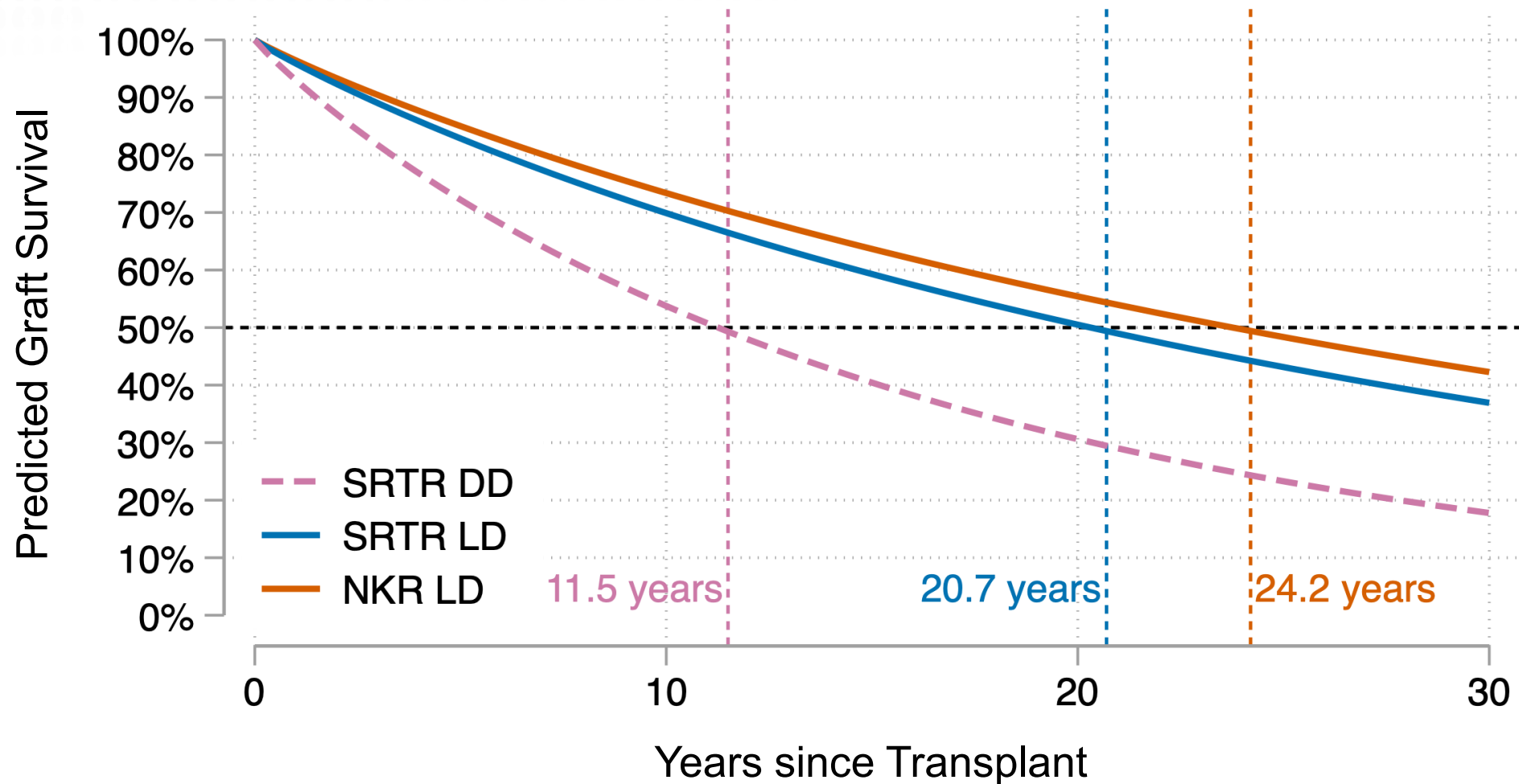
NKR-Facilitated Highly Sensitized Transplants Achieve Significantly Lower 3- and 5-Year Graft Failure Rates



*cPRA > 80. Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
Kaplan-Meier GS Rates for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
SRTR data as of January 2025 (<https://www.srtr.org/>)*

# Projected Allograft Half-life Comparisons

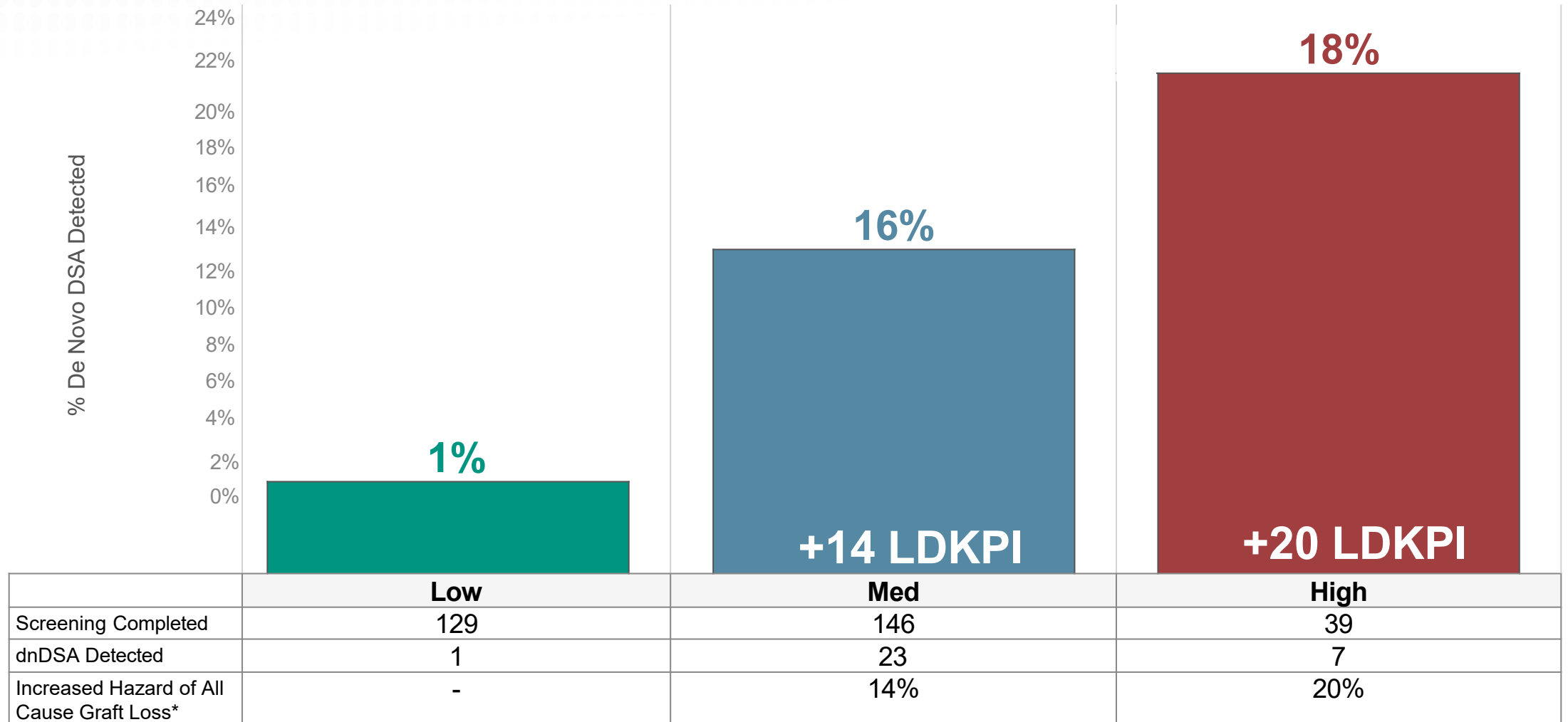
Innovations Drive Improved All Cause Graft Survival Projections



*Excludes NKR to waitlist recipients. Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
Transplants Study Period: 01/2008-12/2024 (SRTR) with follow-up censored at earlier of event, last day of follow-up, or 12/31/2024  
Predictions are based on a Weibull model for the outcome of all-cause graft loss (ACGL)  
Model adjusted for group and transplant year*

# Kidney for Life Initiative Success

## 1-Year Antibody Screening – Unsensitized Recipients



Data provided by [www.kidneyregistry.org](http://www.kidneyregistry.org) administrative database as of 1/1/2025

LDKPI data courtesy of NYU CSTAR (Segev & Massie). LDKPI data pending further validation

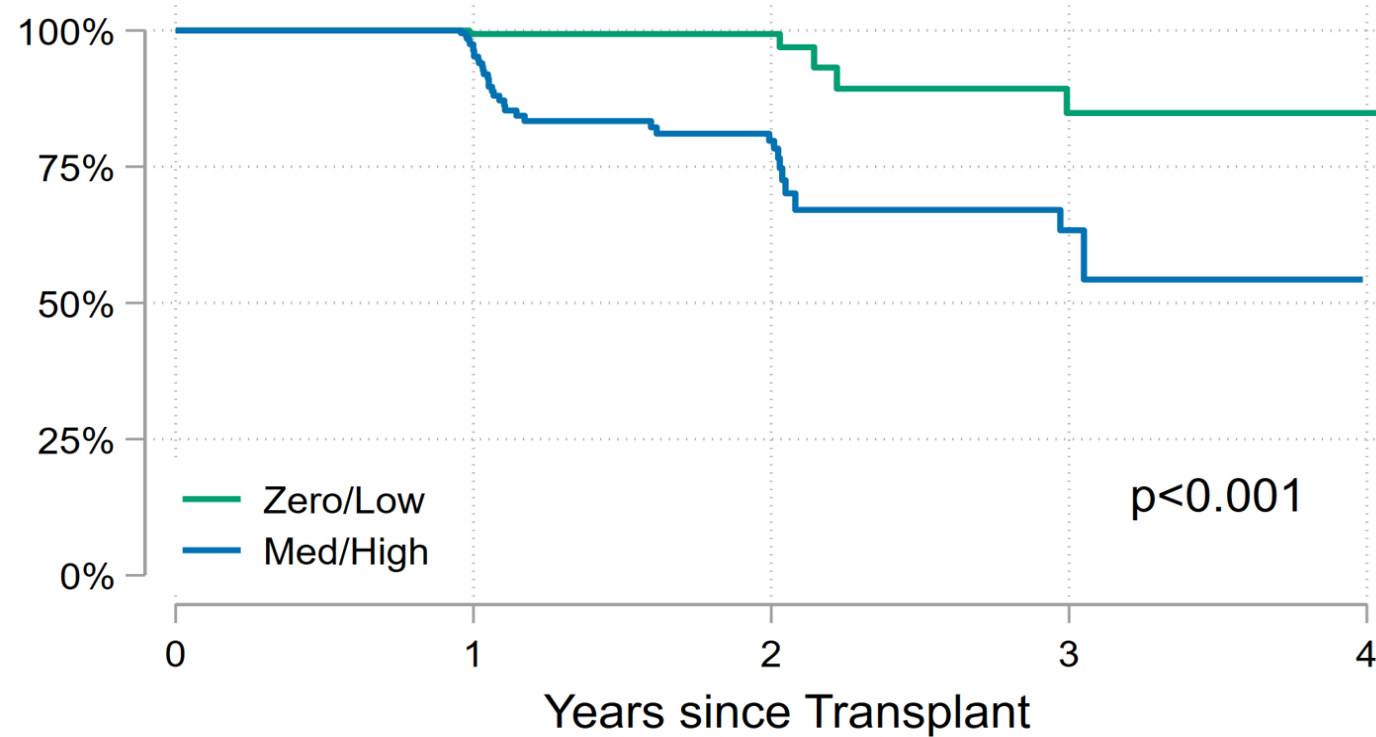
\*LDKPI data are based on the definition provided by [Massie AB, Leanza J, Fahmy LM, et al. A Risk Index for Living Donor Kidney Transplantation. Am J Transplant. 2016 Jul;16\(7\):2077-84](#)

To learn more about the Kidney for Life Initiative, please visit the website at <https://www.kidneyforlife.org>

# Kidney for Life Initiative Success

Hazard of Developing De Novo DSA is 538% Higher in Medium/High Eplet Mismatch Group

Cox Proportional Hazards  
HR = **6.38**

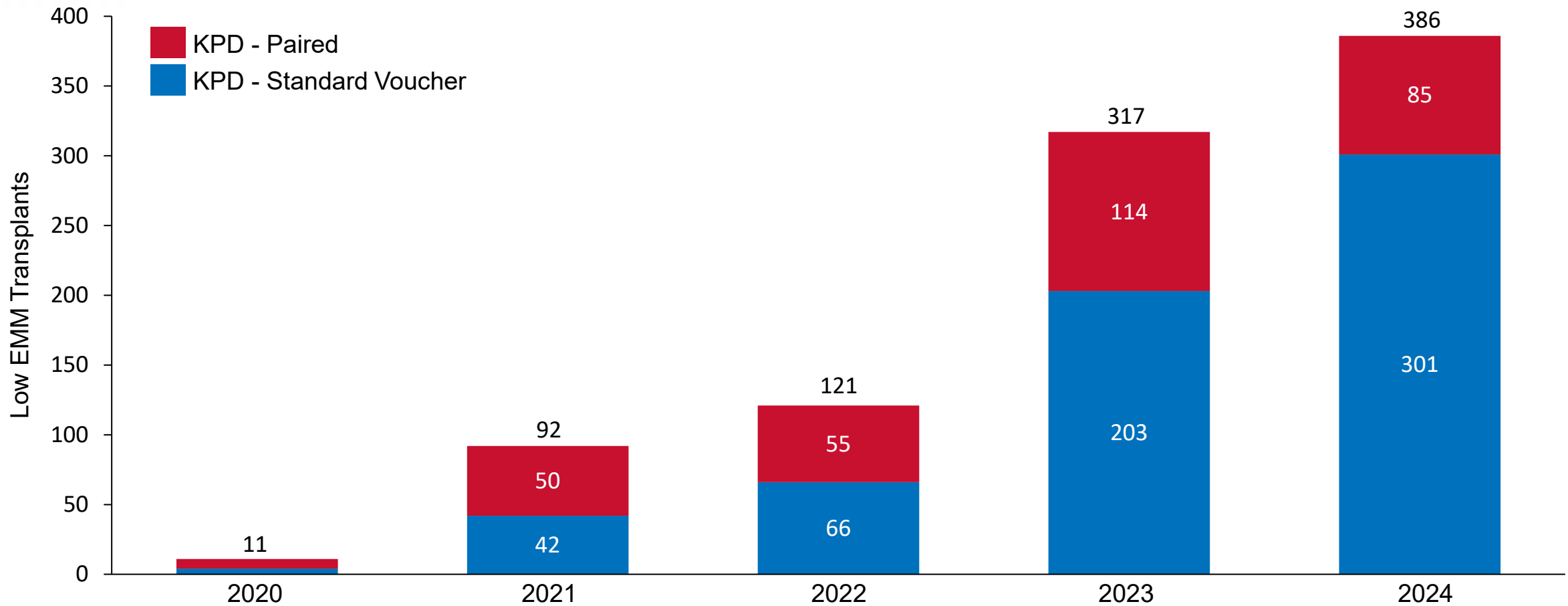


<b>Zero/Low</b>	Number at Risk	162	144	50	17	1
	De Novo DSA	1	0	4	0	-
<b>Med/High</b>	Number at Risk	205	168	57	15	0
	De Novo DSA	7	20	7	1	-

DR/DQ dnDSA-Free Survival (cPRA = 0). Data provided by [www.kidneyregistry.org](http://www.kidneyregistry.org) administrative database as of 2/6/2025  
Kaplan-Meier provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dorry Segev)  
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# NKR-Facilitated Low Eplet Mismatch Transplants

Low Eplet Mismatch Transplants Continue to Grow Year-Over-Year



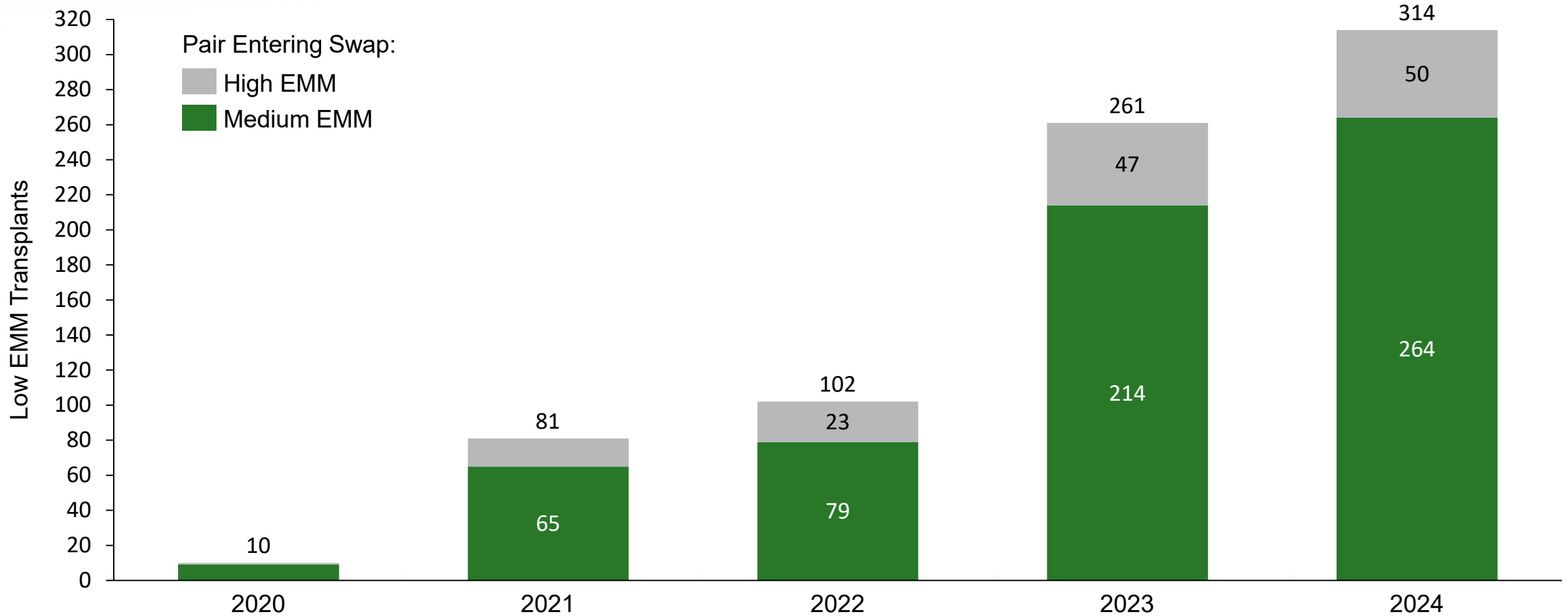
Data provided by [www.kidneyregistry.org](http://www.kidneyregistry.org) administrative database as of 12/31/2024

Compatible and incompatible pairs. NKR transplants exclude waitlist chain end

To learn more about the Kidney for Life Initiative, please visit the website at <https://www.kidneyforlife.org>

# NKR-Facilitated Low Eplet Mismatch Transplants

Compatible and Incompatible Pairs Who Upgraded to a Better Match in an NKR Swap



Data provided by [www.kidneyregistry.org](http://www.kidneyregistry.org) administrative database as of 12/31/2024

NKR transplants exclude waitlist chain end. Includes standard voucher and paired recipients. EMM = Eplet Mismatch

To learn more about the Kidney for Life Initiative, please visit the website at <https://www.kidneyforlife.org>

# Appendix

Better Outcomes For Highly Sensitized Transplants (cPRA > 80% )

## Sensitized (> 80% cPRA) Patient Outcome Data

Type	1 Year	3 Year	5 Year	7 Year	7 Year Differential	NKR 7 Year Advantage
NKR KPD	1.20%	3.60%	6.80%	10.80%	2.70%	20%
US Living Donor	2.30%	5.80%	9.40%	13.50%	4.40%	29%
US Unrelated Living Donor	2.50%	5.90%	10.60%	15.20%	3.40%	24%
Non-NKR KPD	1.80%	6.00%	9.90%	14.20%	2.70%	20%

## NKR's Share Of Highly Sensitized Living Donor Transplants

Type	2016	2017	2018	2019	2020	2021	2022	2023	2024
US Living Donor	241	245	268	272	238	232	220	257	170
NKR KPD	70	78	94	101	95	116	108	127	83
NKR's Share as %	29%	32%	35%	37%	40%	50%	49%	49%	49%

*cPRA > 80. Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
Cumulative Incidence Rates for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
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# Appendix

Death-Censored Graft Failure	(n)	1 Year*	3 Year*	5 Year*	7 Years
NKR KPD (NKR)	9,314	1.2%	3.0%	5.7%	9.0%
Non-NKR KPD (KPD)	6,370	1.3%	3.7%	6.3%	9.5%
US Living Donor (LD)	88,018	1.4%	3.5%	6.3%	9.4%
US Unrelated Living Donor (ULD)	44,488	1.5%	3.6%	6.4%	9.5%

Patient Mortality	(n)	1 Year*	3 Year*	5 Year*	7 Years
NKR KPD (NKR)	9,314	0.9%	3.0%	6.9%	11.6%
Non-NKR KPD (KPD)	6,370	1.4%	4.4%	8.2%	13.2%
US Living Donor (LD)	88,018	1.3%	3.8%	7.2%	11.8%
US Unrelated Living Donor (ULD)	44,488	1.3%	3.8%	7.4%	12.2%

\*Statistically significant

Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dorry Segev)  
 Cumulative Incidence Rates for Transplants Study Period: 02/2008-9/2024 with follow-up through 12/31/2024  
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# Appendix

Characteristics	NKR KPD	Non-NKR KPD	US Living Donor	US Unrelated Living Donor
Median (IQR) Cold Ischemia Time	9.8	1.5	1.1	1.1
% cPRA 80+	21.5	11.2	3.7	3.7
% cPRA 98+	7.1	3.1	1.1	0.9
% Previous Transplant	23.1	17.2	10.9	11.4
Median Years on Dialysis	0.9	0.9	0.5	0.5
% Preemptive Transplant	29.7	30.2	36.4	36.6
% African American	14.0	14.7	12.5	11.6
% Public Insurance	44.1	46.9	42.8	40.7

Provided courtesy of CSTAR, Department of Surgery, NYU Grossman School of Medicine (Director: Dr. Dorry Segev)  
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