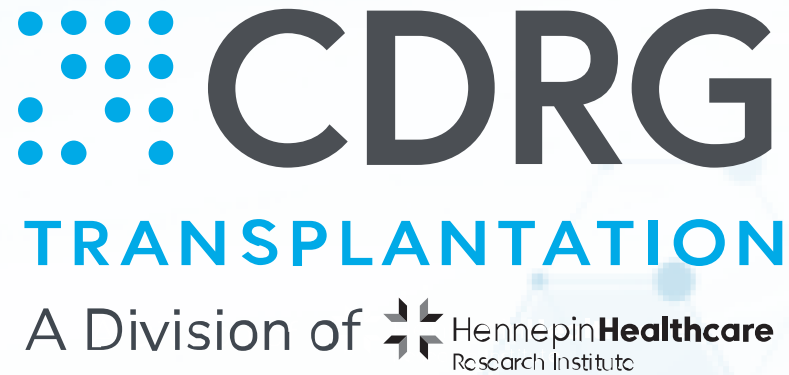




The Additional Dialysis Time That Would Eliminate the Posttransplant Survival Benefit of a Better Kidney Offer

Maria Masotti, PhD; Allyson Hart, MD, MS; Cory R. Schaffhausen, PhD

Chronic Disease Research Group, Hennepin Healthcare Research Institute, Minneapolis, MN, USA

Motivation

Question:
How does the posttransplant benefit of increasing kidney quality compare with the risk of accumulated dialysis time?



<https://www.srtr.org/tools/donation-and-transplant-system-explorer>

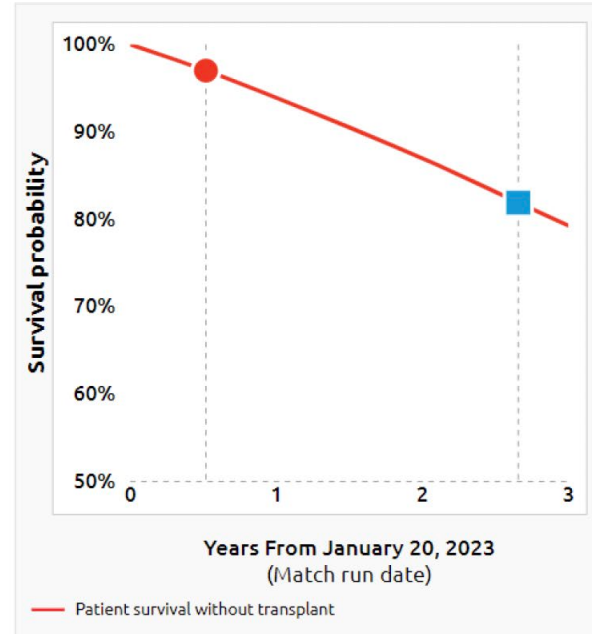
Predicted time to next offer

KDPI < 30

KDPI < 50

About half of patients like this can expect their next **KDPI < 30** offer in 6.3 months and have a 3% chance of dying.

% Similar Patients	50%	90%
Predicted time	6.3 months	2.7 years
Probability of death before next offer	3%	18%



What is this predicting?

*These predictions are intended to supplement, not replace, clinical judgment in making offer acceptance decisions.

<https://unos.org/technology/predictive-analytics>

Methods

Cohort Selection



- Retrospective cohort of deceased donor kidney recipients who were alive on Jan. 1, 2021, or underwent transplant Jan. 1, 2021–Dec. 31, 2023
- Excluding recipients who had transplant prior to Jan. 1, 2011, multiorgan recipients, and pediatric recipients
- Recipients followed from transplant date until the minimum of death, 5 years of follow-up, or Dec, 31, 2023

N = 118,679 ¹	
Dialysis Time at Tx, y	3.7 (1.5, 6.0)
Preemptive	12,149 (10%)
KDPI	46% (26%, 68%)
Unknown	8
Primary Diagnosis	
Diabetes Mellitus	35,663 (30%)
Glomerulonephritis	24,734 (21%)
Other	58,282 (49%)
¹ Median (Q1, Q3); n (%)	

Methods



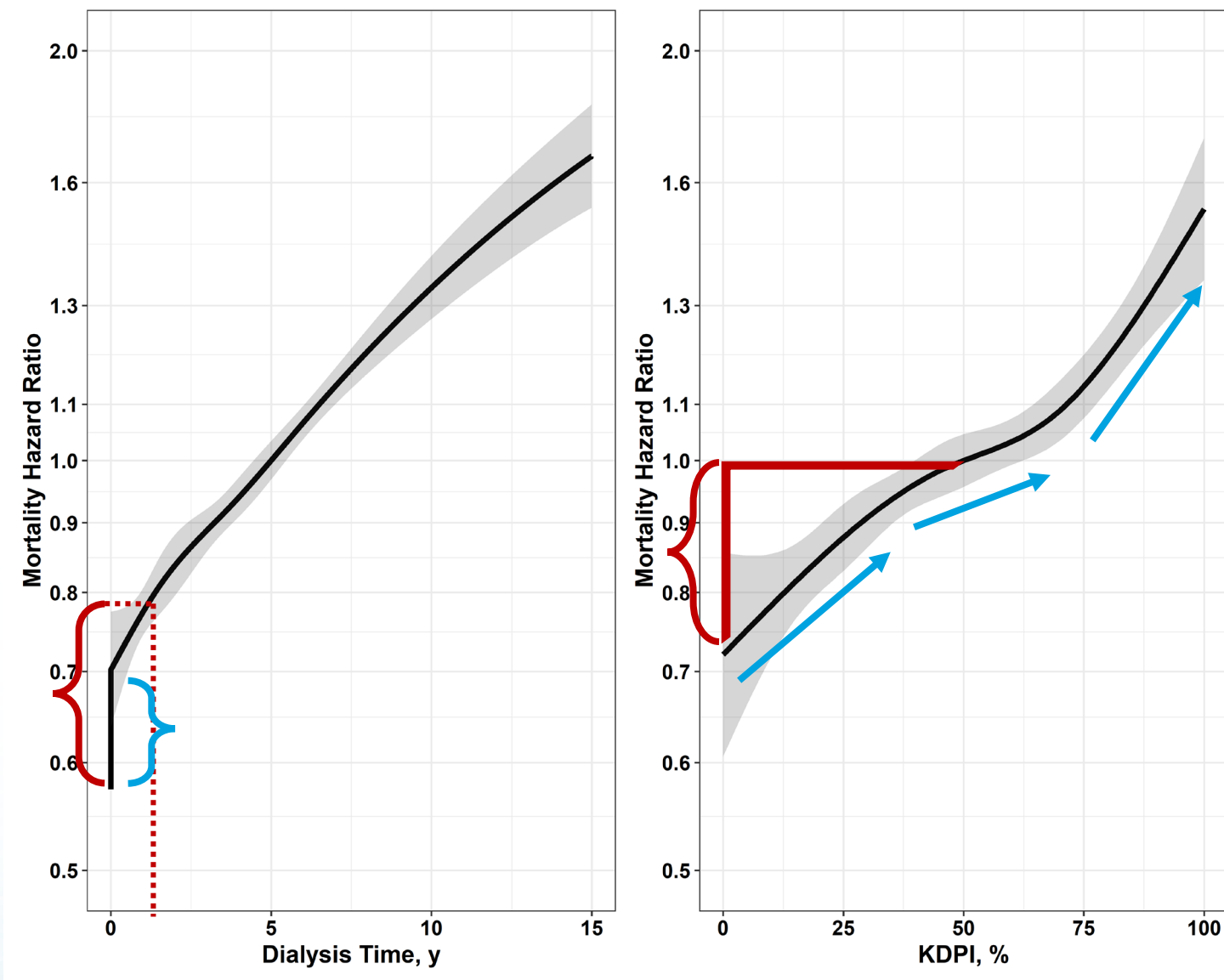
Statistical Modeling

- Cox proportional hazards models were used to study the effects of time on dialysis prior to transplant and the Kidney Donor Profile Index (KDPI) on posttransplant mortality.
- Model 1 contained no interactions, and Model 2 contained interactions for KDPI with diagnosis group (chosen via Akaike Information Criterion [AIC])
- Models were adjusted for relevant clinical and demographic variables.
- Continuous variables were modeled by natural cubic splines. Dialysis time modeled with a discontinuity at zero.

Adjusting Variables
Sex
Age
Race
Ethnicity
Primary diagnosis group
History of malignancy
Blood type
CPRA
Work for income
Education level
Primary payment type
Donor age

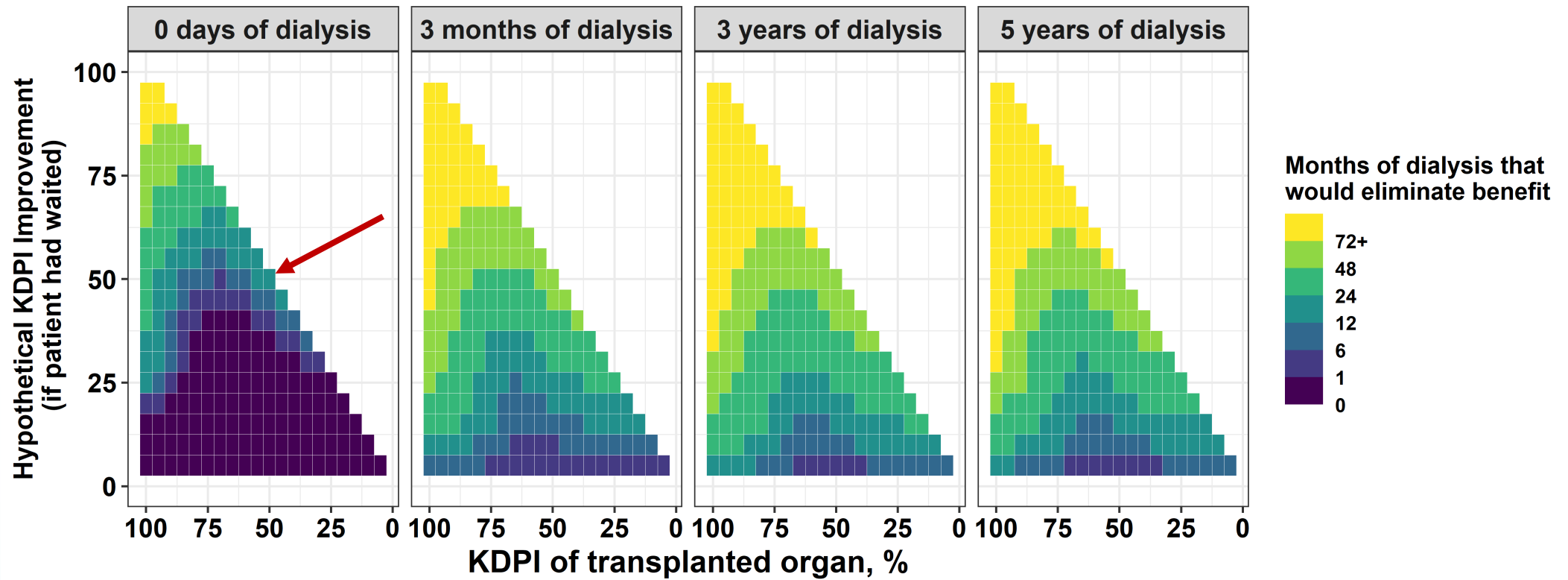
RESULTS

Model 1



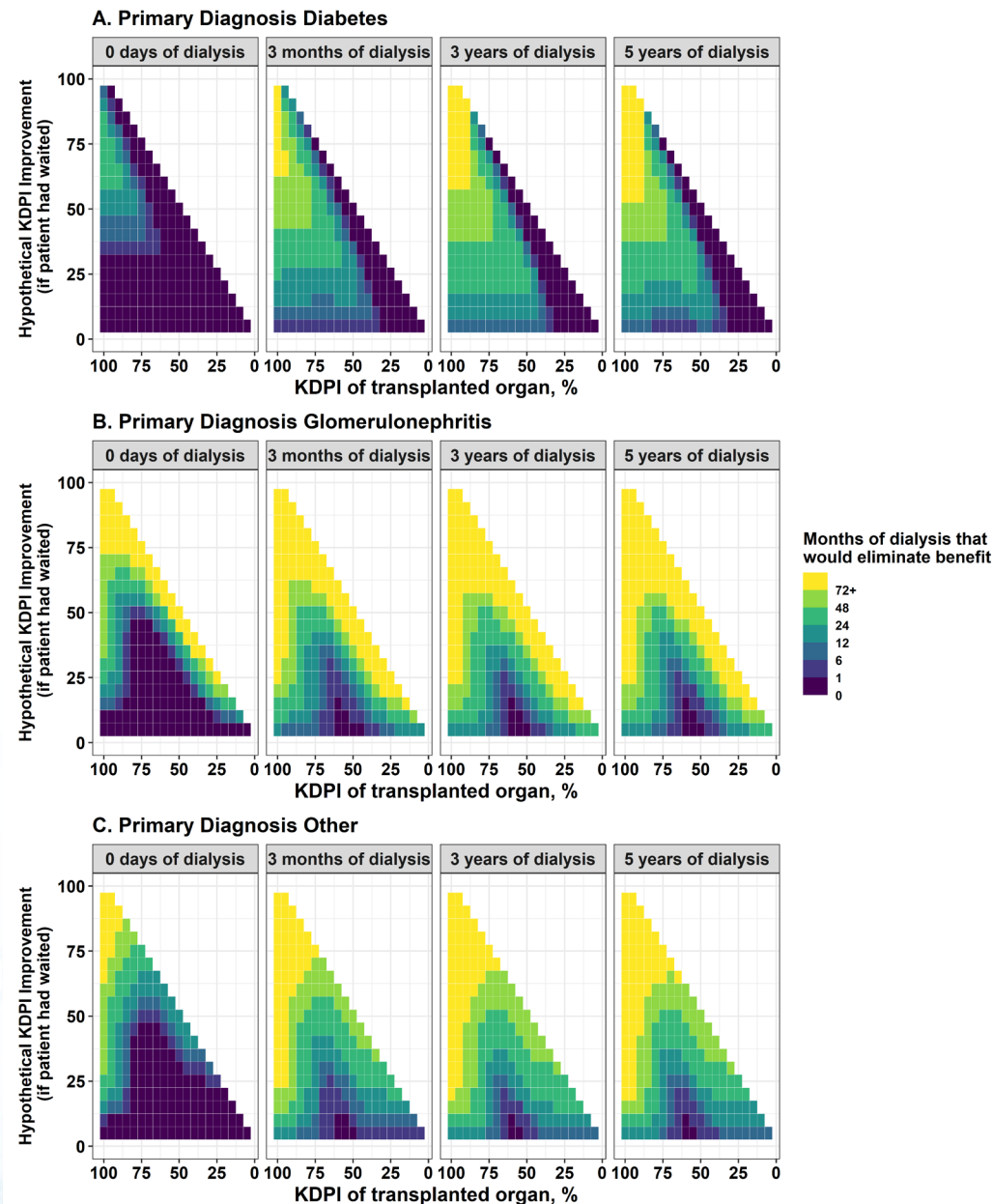
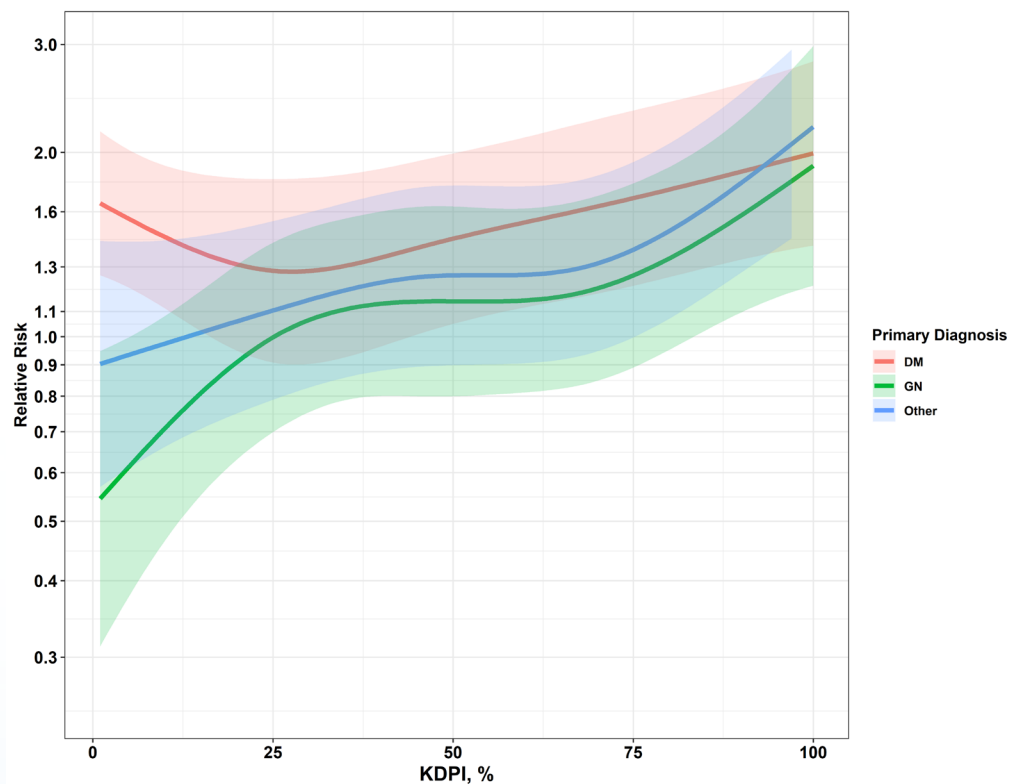
RESULTS

Model 1



RESULTS

Model 2



STAFF

Director Jon Snyder, PhD, MS

Deputy Director Allyson Hart, MD, MS

Program Manager Caitlyn Nystedt, MPH, PMP

Marketing & Comm. Mona Shater, MA
Amy Ketterer
Tonya Eberhard

Project Managers Bryn Thompson, MPH
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Chronic Disease Research Group

- Contact Us

Mail: CDRG@cdrg.org

Tel: 612.873.6200

Web: cdrg.org

Chronic Disease Research Group

914 South 8th St.

Suite S2.100

Minneapolis, MN 55404