

Supplemental Material

OPTN Eligible Death Criteria

Source: https://optn.transplant.hrsa.gov/media/1200/optn_policies.pdf

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For reporting purposes of DSA performance assessments, an eligible death for deceased organ donation is defined as the death of a patient who meets all the following characteristics:

- Is 75 years old or less
- Is legally declared dead by neurologic criteria according to state or local law
- Has body weight of 5 kg or greater
- Has a body mass index (BMI) of 50 kg/m² or less
- Has at least 1 kidney, liver, heart or lung that is deemed to meet the eligible data definition as defined below:
 - The kidney would initially meet the eligible data definition unless the donor meets any of the following criteria:
 - Greater than 70 years old
 - Age 50-69 years with history of type 1 diabetes for more than 20 years
 - Polycystic kidney disease
 - Glomerulosclerosis greater than or equal to 20% by kidney biopsy
 - Terminal serum creatinine greater than 4.0 mg/dL
 - Chronic renal failure
 - No urine output for 24 hours or longer
 - The liver would initially meet the eligible data definition unless the donor meets any of the following criteria:
 - Cirrhosis
 - Terminal total bilirubin greater than or equal to 4 mg/dL
 - Portal hypertension
 - Macrosteatosis greater than or equal to 50% or fibrosis greater than or equal to stage II
 - Fulminant hepatic failure
 - Terminal AST/ALT greater than 700 U/L
 - The heart would initially meet the eligible data definition unless the donor meets any of the following criteria:
 - Greater than 60 years old
 - 45 years old or older with a history of 10 or more years of HTN or 10 or more years of type 1 diabetes
 - History of coronary artery bypass graft (CABG)
 - History of coronary stent/intervention
 - Current or past medical history of myocardial infarction (MI)
 - Severe vessel diagnosis as supported by cardiac catheterization (that is more than 50 percent occlusion or 2+ vessel disease)
 - Acute myocarditis or endocarditis, or both

- Heart failure due to cardiomyopathy
- Internal defibrillator or pacemaker
- Moderate to severe single valve or 2-valve disease documented by echo or cardiac catheterization, or previous valve repair
- Serial echo results showing severe global hypokinesis
- Myxoma
- Congenital defects (surgically corrected or not)
- The lung would initially meet the eligible data definition unless the donor meets any of the following criteria:
 - Greater than 65 years old
 - Diagnosed with COPD
 - Terminal PaO₂/FiO₂ less than 250 mmHg
 - Asthma (with daily prescription)
 - Asthma is the cause of death
 - Pulmonary fibrosis
 - Previous lobectomy Multiple blebs documented on computed axial tomography (CAT) scan
 - Pneumonia as indicated on computed tomography (CT), X-ray, bronchoscopy, or cultures
 - Bilateral severe pulmonary contusions as per CT

If a deceased patient meets the above criteria they would be classified as an eligible death unless the donor meets any of the following criteria:

- The donor goes to the operating room with intent to recover organs for transplant and all organs are deemed not medically suitable for transplant
- The donor exhibits any of the following active infections (with a specific diagnosis):
 - Bacterial: tuberculosis, gangrenous bowel or perforated bowel or intra-abdominal sepsis
 - Viral: HIV infection by serologic or molecular detection, rabies, reactive hepatitis B surface antigen, retroviral infections including viral encephalitis or meningitis, active herpes simplex, varicella zoster, or cytomegalovirus viremia or pneumonia, acute epstein barr virus (mononucleosis), West Nile virus infection, or SARS. However, an HIV positive organ procured for transplantation into an HIV positive recipient at a transplant hospital that meets the requirements in Policy 15.7: Open Variance for the Recovery and Transplantation of Organs from HIV Positive Donors would still meet the requirements of an eligible death, according to the OPTN Final Rule.
 - Fungal: active infection with cryptococcus, aspergillus, histoplasma, coccidioides, active candidemia or invasive yeast infection
 - Parasites: active infection with trypanosoma cruzi (Chagas'), Leishmania, strongyloides, or malaria (plasmodium sp.)
 - Prion: Creutzfeldt-Jacob disease

The following are general exclusions:

- Aplastic anemia, agranulocytosis

- Current malignant neoplasms, except non-melanoma skin cancers such as basal cell and squamous cell cancer and primary CNS tumors without evident metastatic disease
- Previous malignant neoplasms with current evident metastatic disease
- A history of melanoma
- Hematologic malignancies: leukemia, Hodgkin's disease, lymphoma, multiple myeloma
- Active fungal, parasitic, viral, or bacterial meningitis or encephalitis
- No discernible cause of death

Supplemental Figures

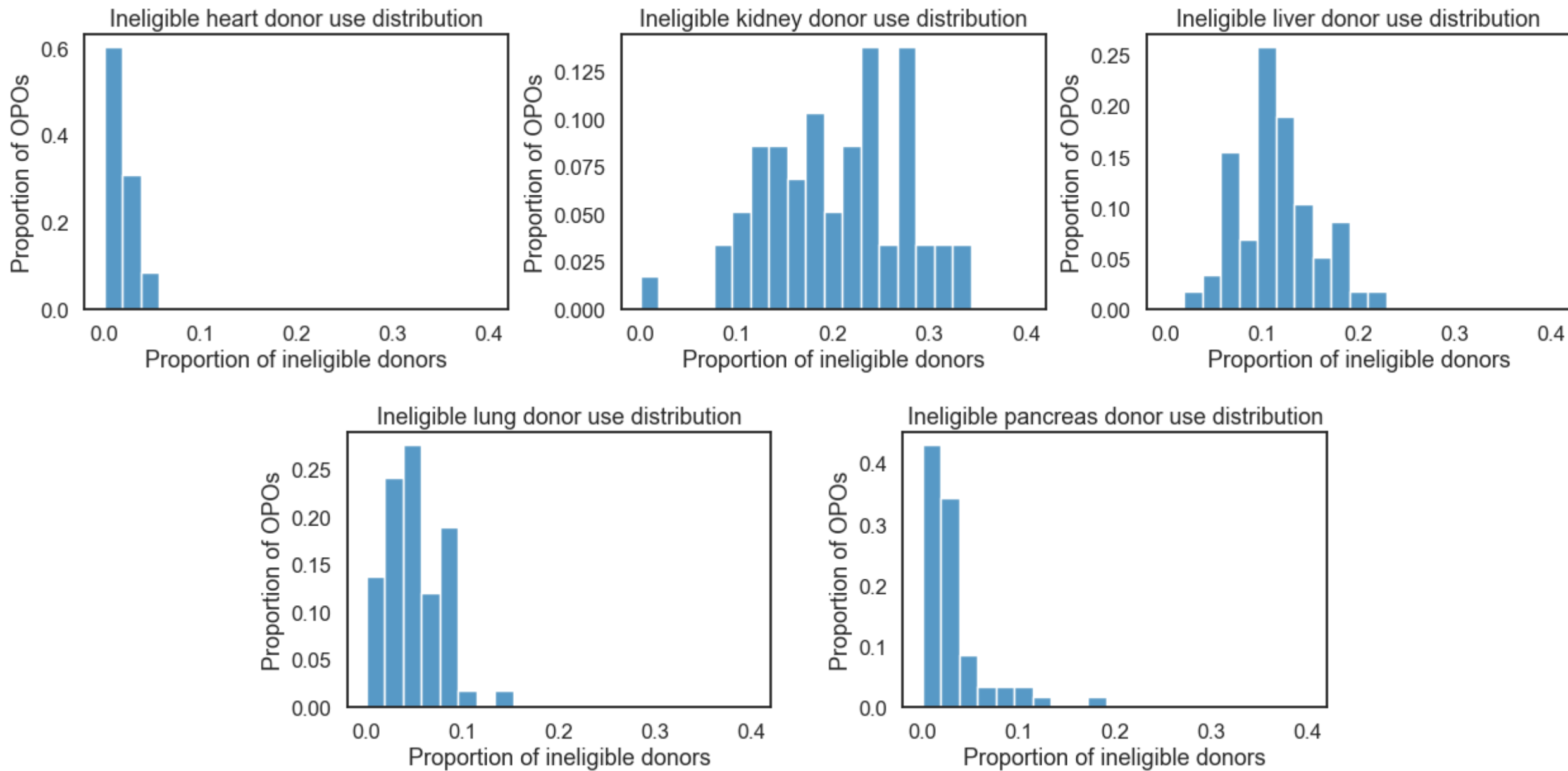


Figure S1: Histograms of ineligible donor use rates across OPOs, stratified by organ.

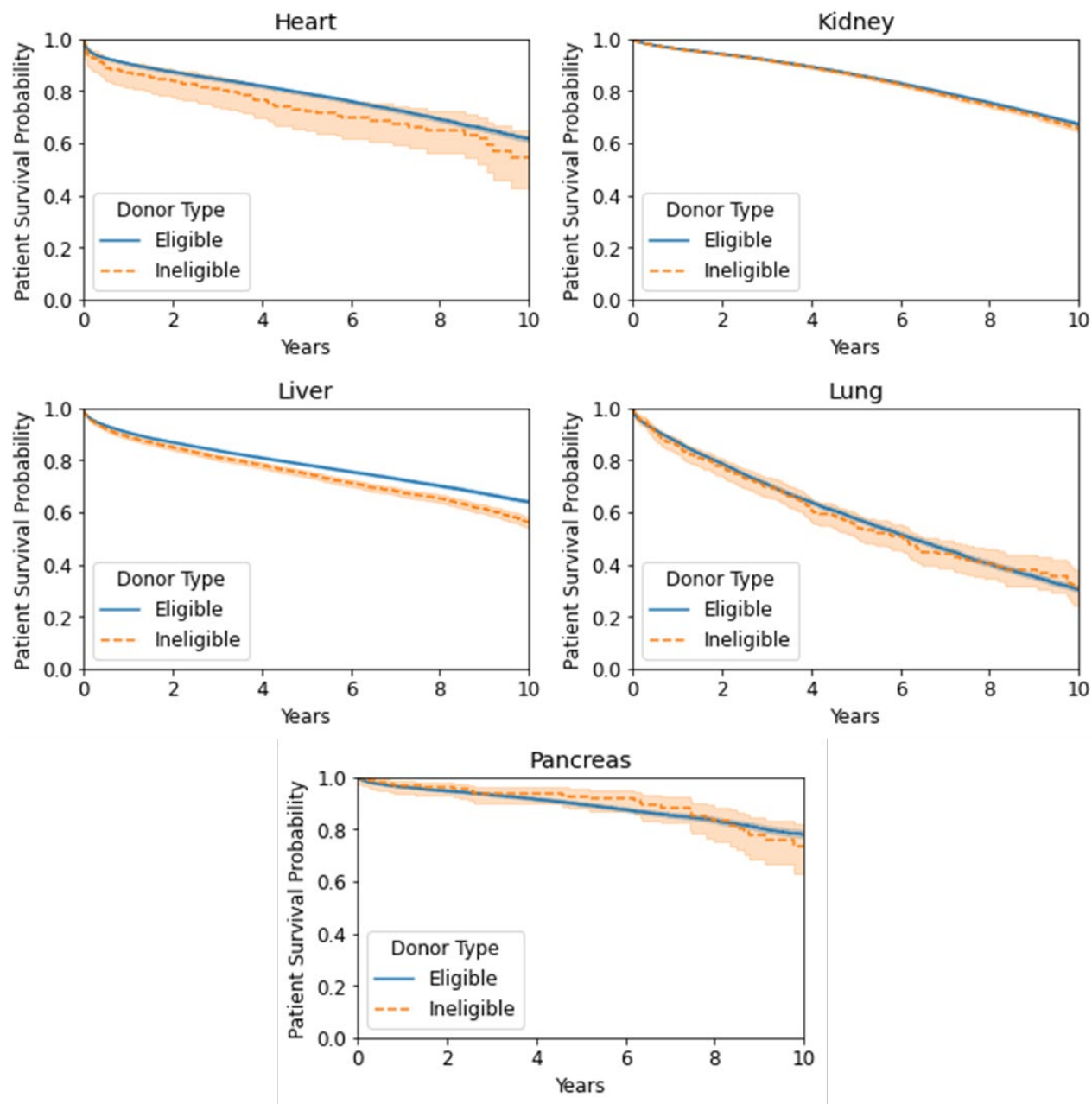


Figure S2: Kaplan Meier curves for posttransplant patient survival, stratified by organ type and donor eligibility.

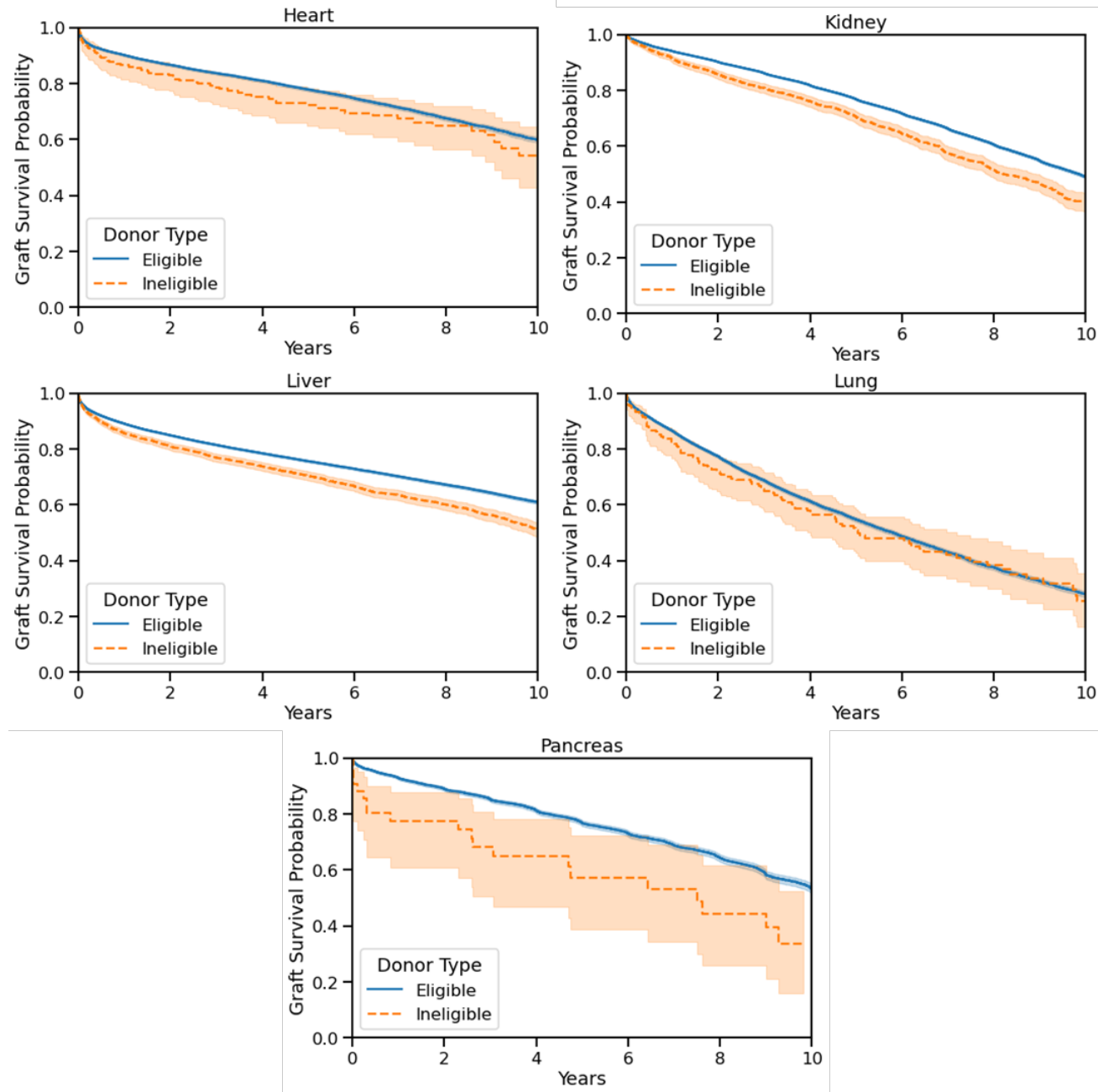


Figure S3: Kaplan Meier curves for posttransplant graft survival of deceased brain death donations, stratified by organ type and donor eligibility.

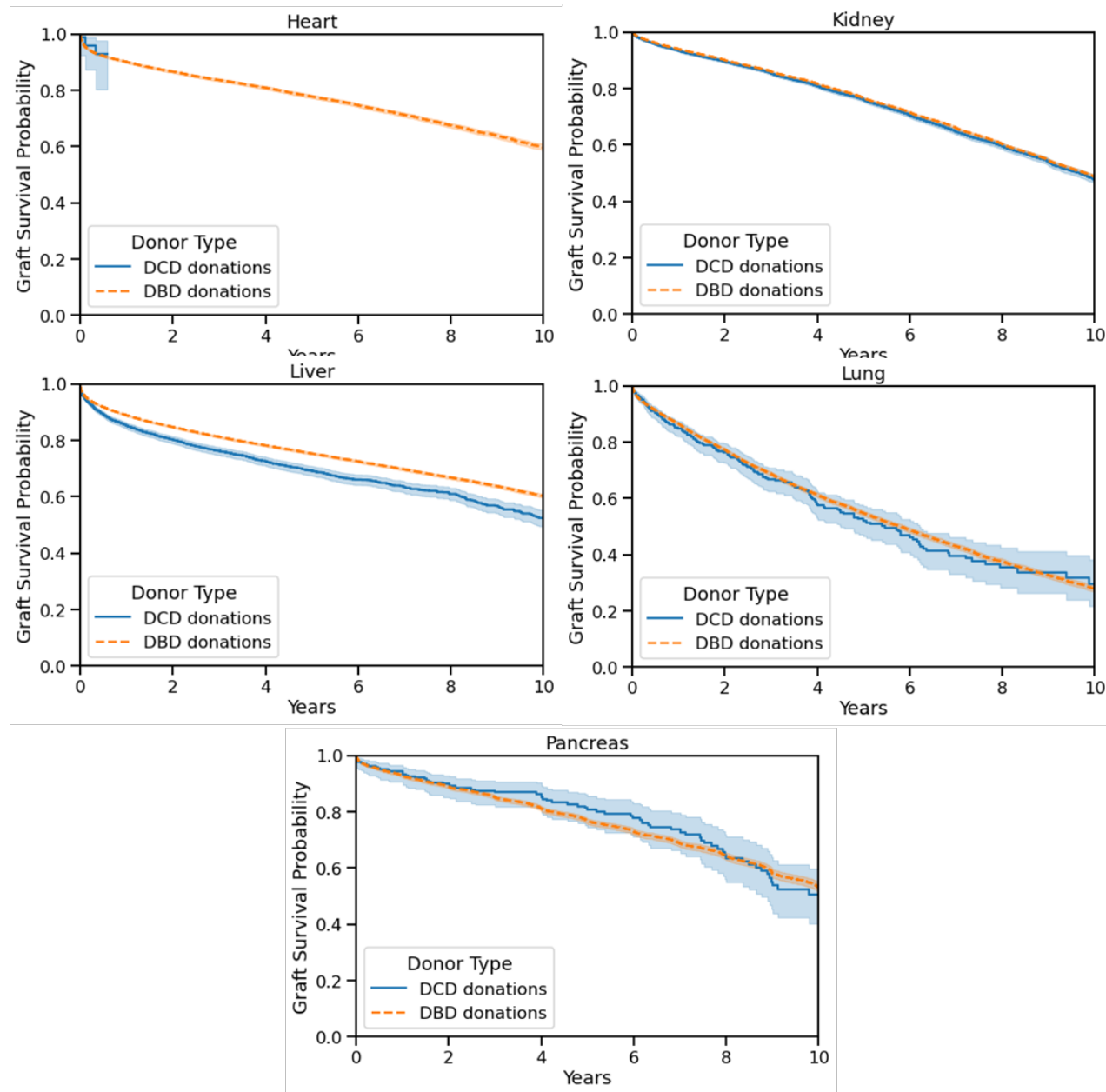


Figure S4: Kaplan Meier curves for posttransplant graft survival, stratified by organ type and donor death type (DCD: deceased cardiac death, DBD: deceased brain death).

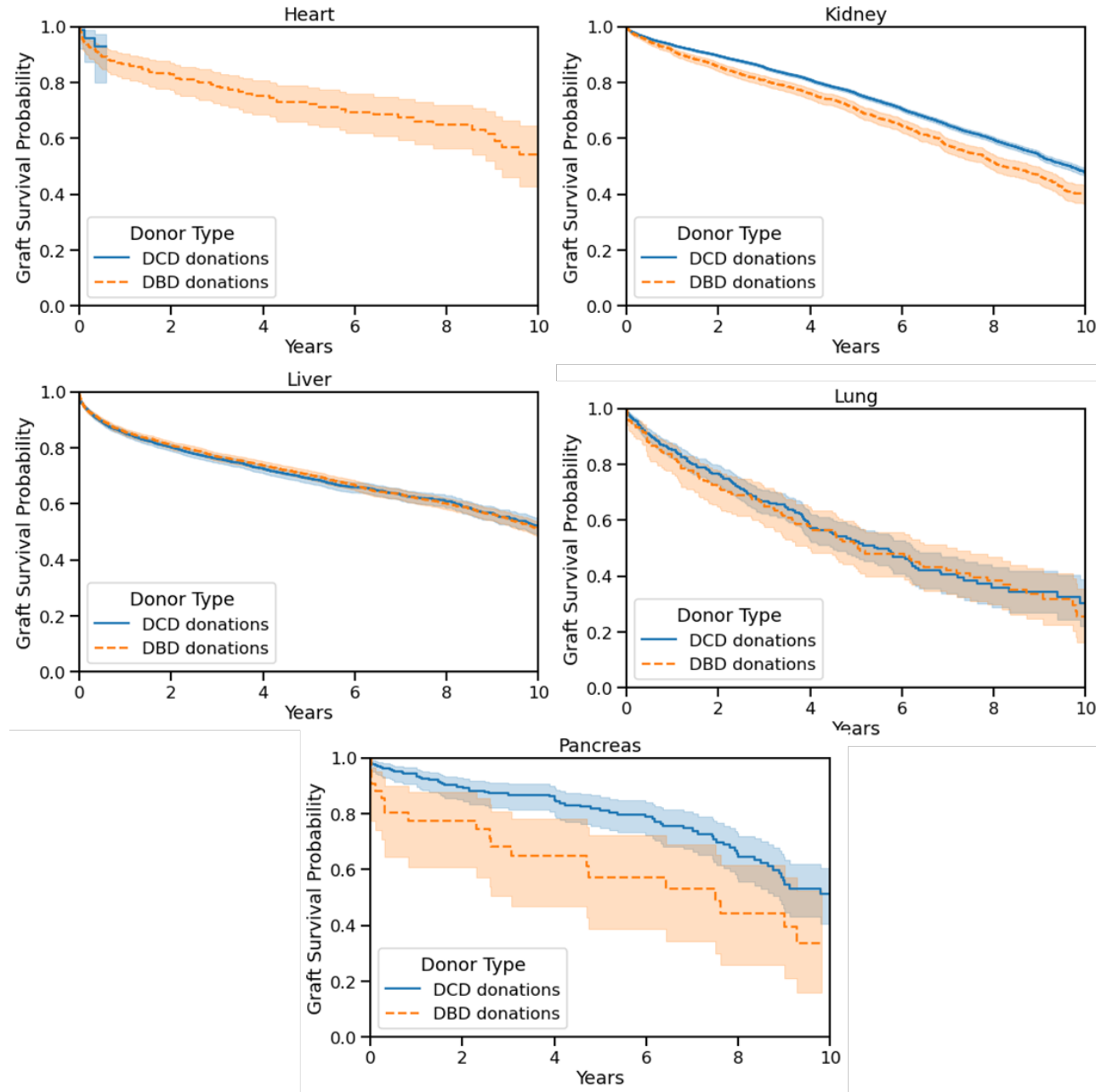


Figure S5: Kaplan Meier curves for post-transplant graft survival of ineligible donations, stratified by organ type and donor death type (DCD: deceased cardiac death, DBD: deceased brain death).

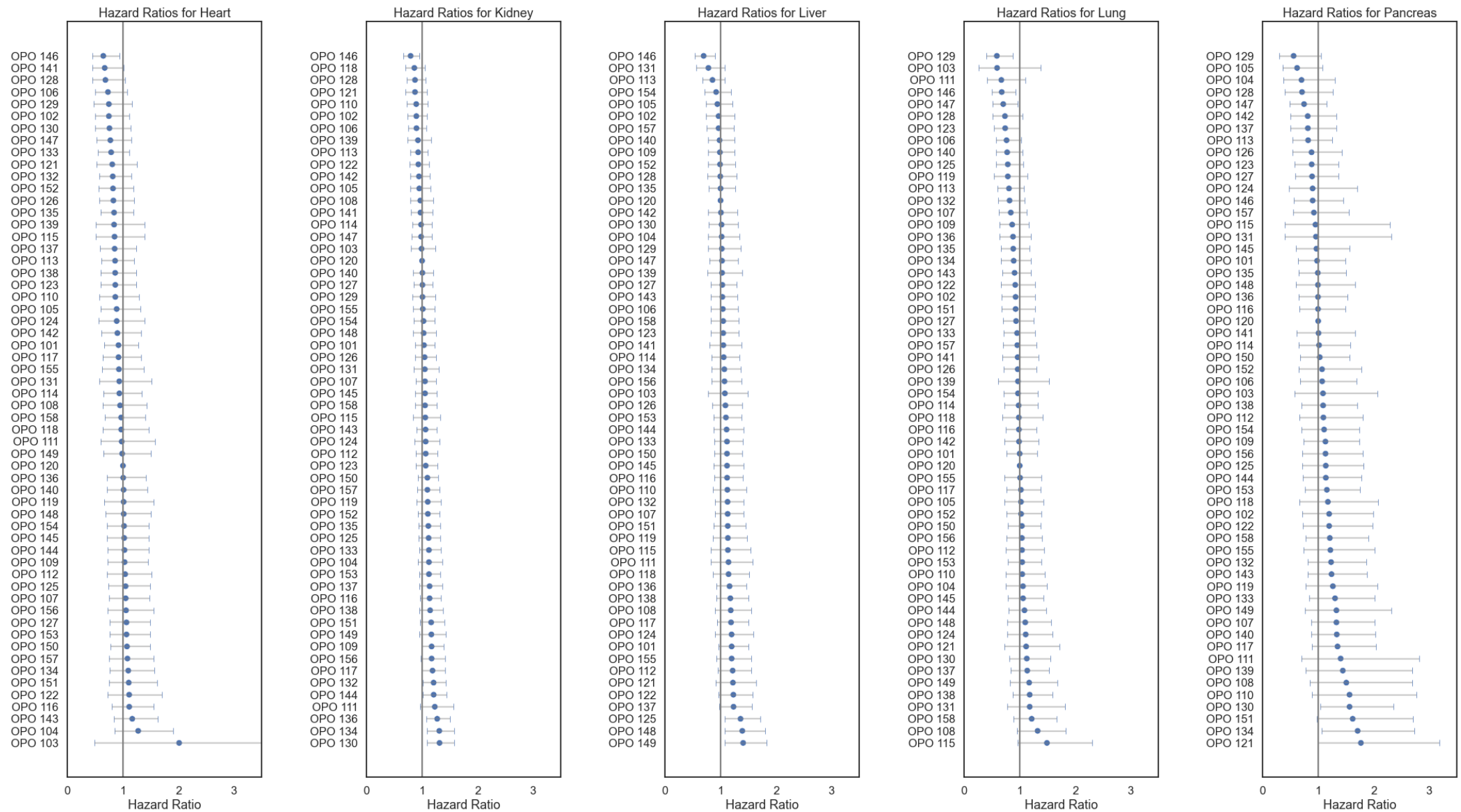


Figure S6: Hazard ratios calculated via Cox regression regarding the association of organ procurement organization (OPO) with graft survival after controlling for donor eligibility, as well as recipient age, ethnicity, sex, and BMI. OPO names have been deidentified using a randomly assigned 3-digit code. OPO 120 was randomly selected as the baseline OPO.

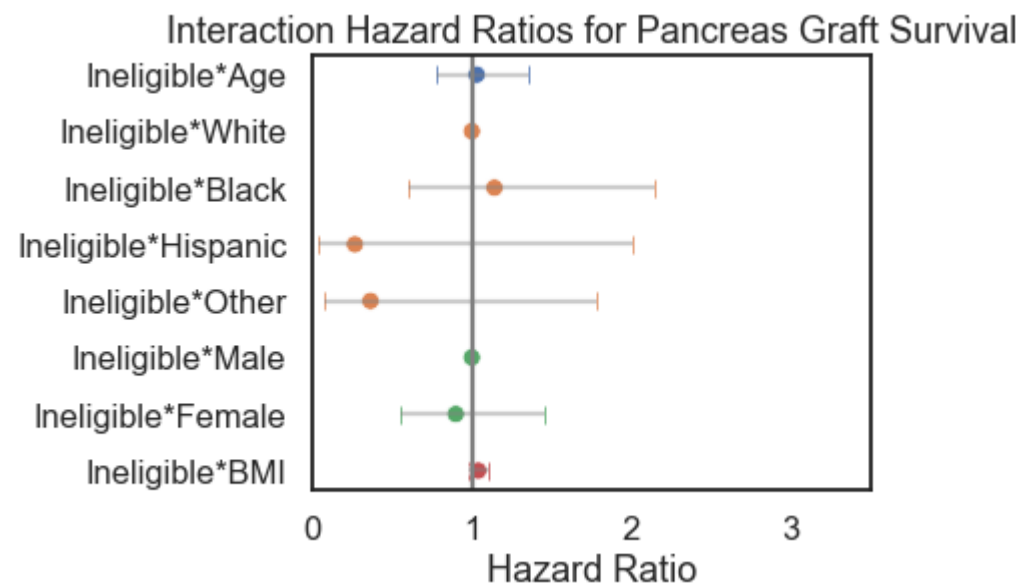
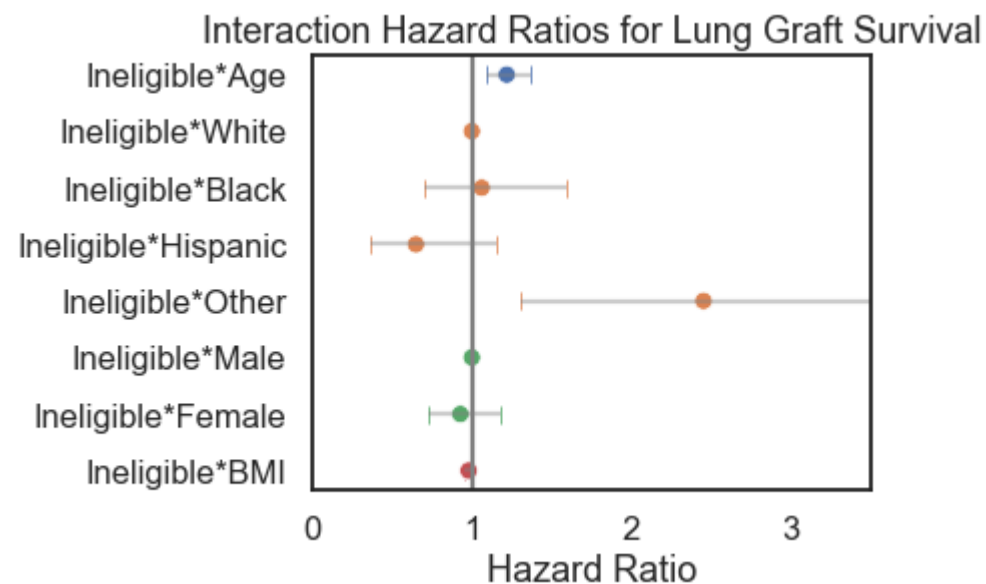
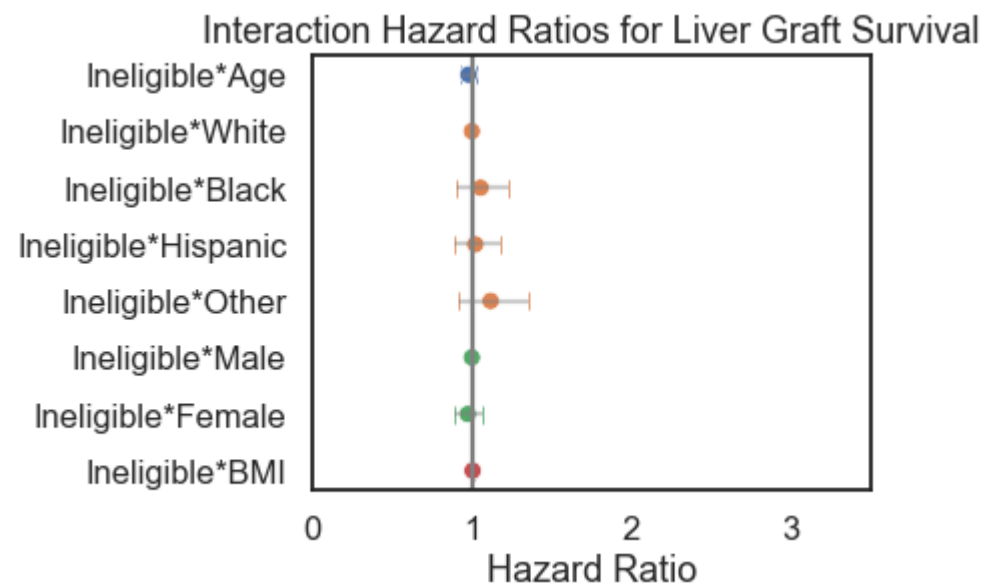
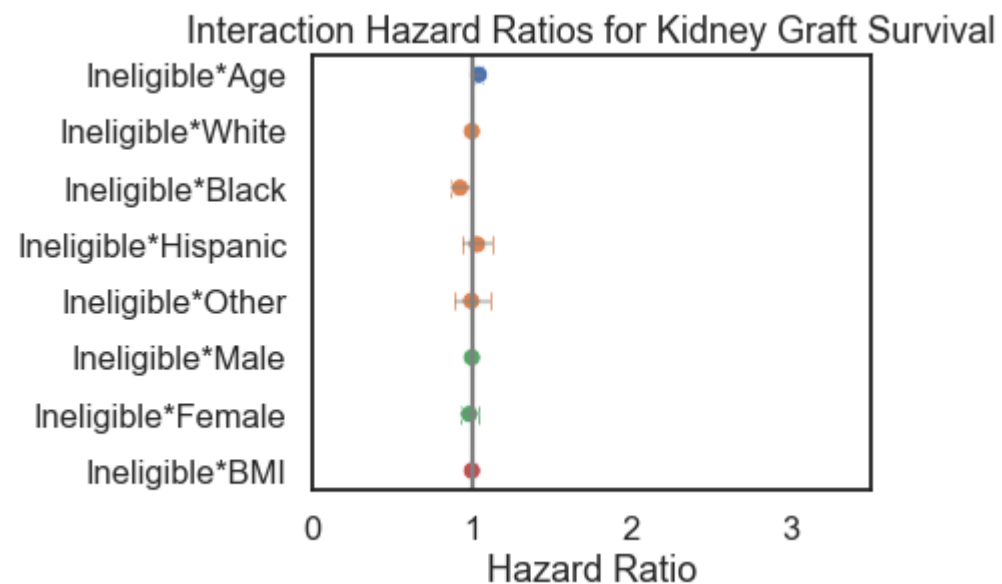


Figure S7: Selected hazard ratios calculated via Cox regression regarding the interaction effect of donor ineligibility with recipient age, ethnicity, sex, and BMI. Results are stratified by organ.