

Causes of Kidney Allograft Loss and Death in the United States, 2000-2010

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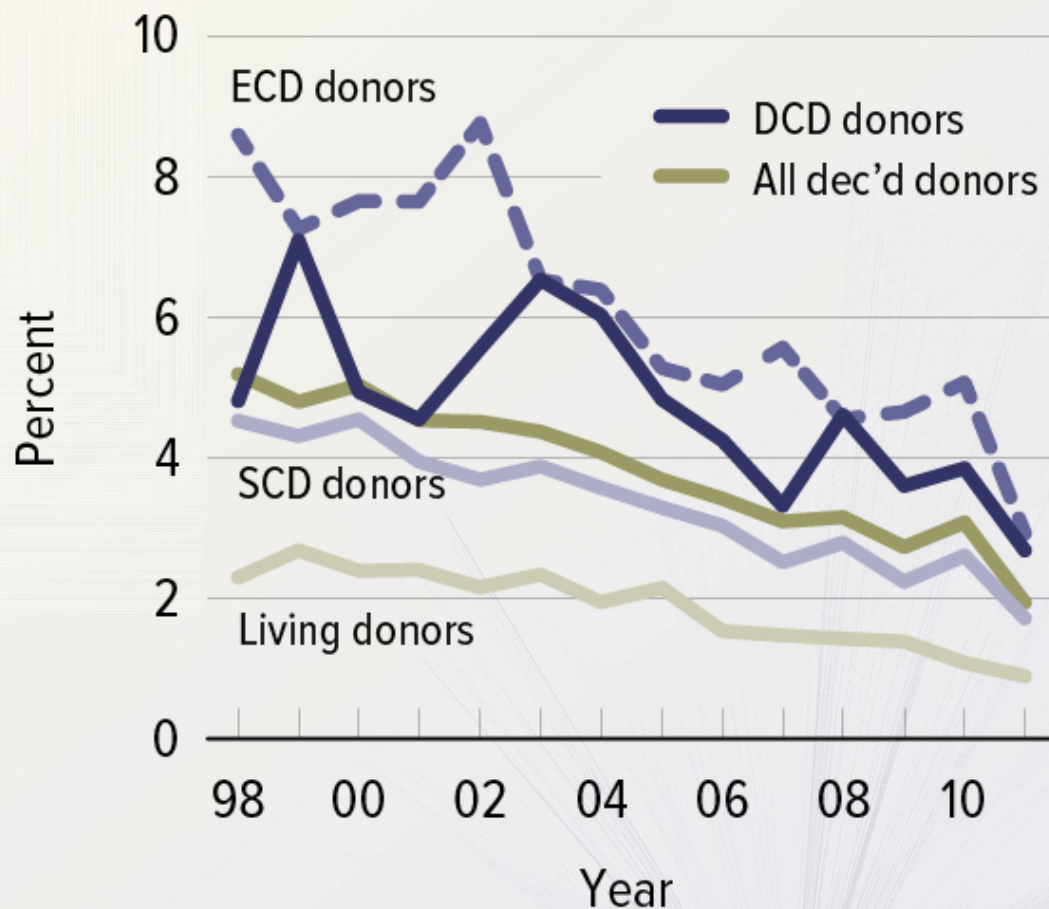
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My presentation does not include discussion of off-label or investigational use.

I do not intend to reference unlabeled/unapproved uses of drugs or products in my presentation.

Death-censored graft failure within 90 days among adult kidney transplant recipients.

2011 SRTR/OPTN Annual Data Report: KI 6.1.



Motivation

We sought to describe:

- causes of kidney graft failure and death with function by time posttransplant.
- whether causes of immediate GF differed by donor quality (living, SCD, ECD, DCD).
- Time trends in causes of graft loss and death with function in the 2000s.

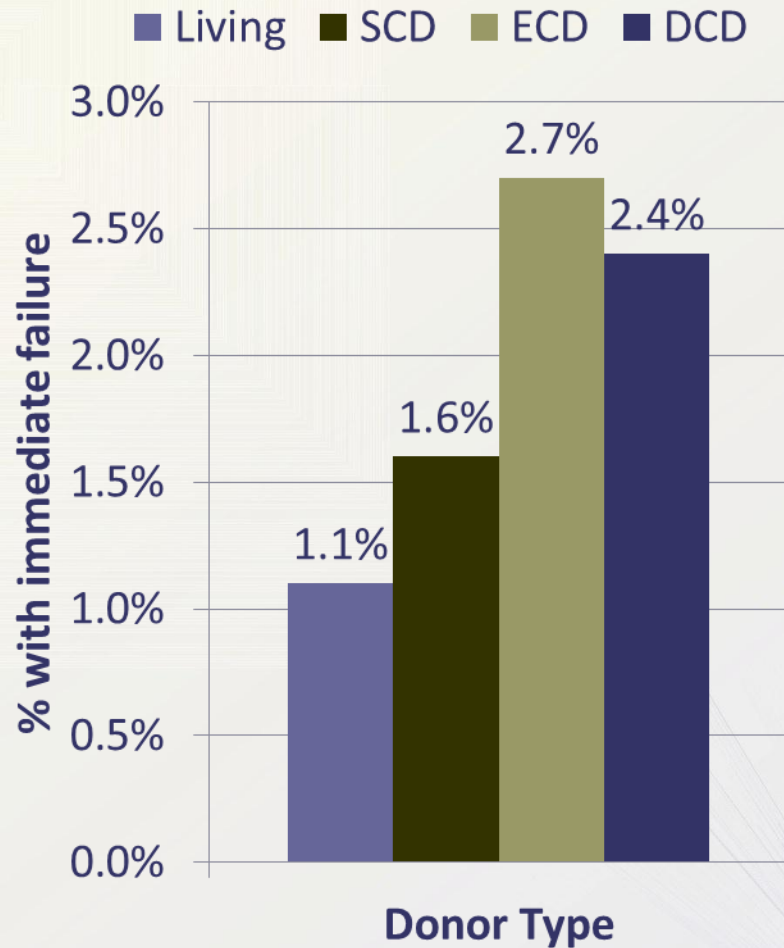
Brief Methods

- Kidney-alone transplants performed in 2000-2010 with follow-up through 10/31/11 were included (N=170,301).
- Graft failures and deaths were identified using OPTN and CMS reports as well as SSA-identified deaths.
- Deceased donors were classified into mutually exclusive groups:
 - DCD
 - ECD (non-DCD)
 - SCD (non-DCD, non-ECD)
- “Immediate” failures were defined as those reported as being discharged alive from the transplant hospitalization but without a functioning graft.
- Trends were compared within two eras: 2000-2004 and 2005-2010.

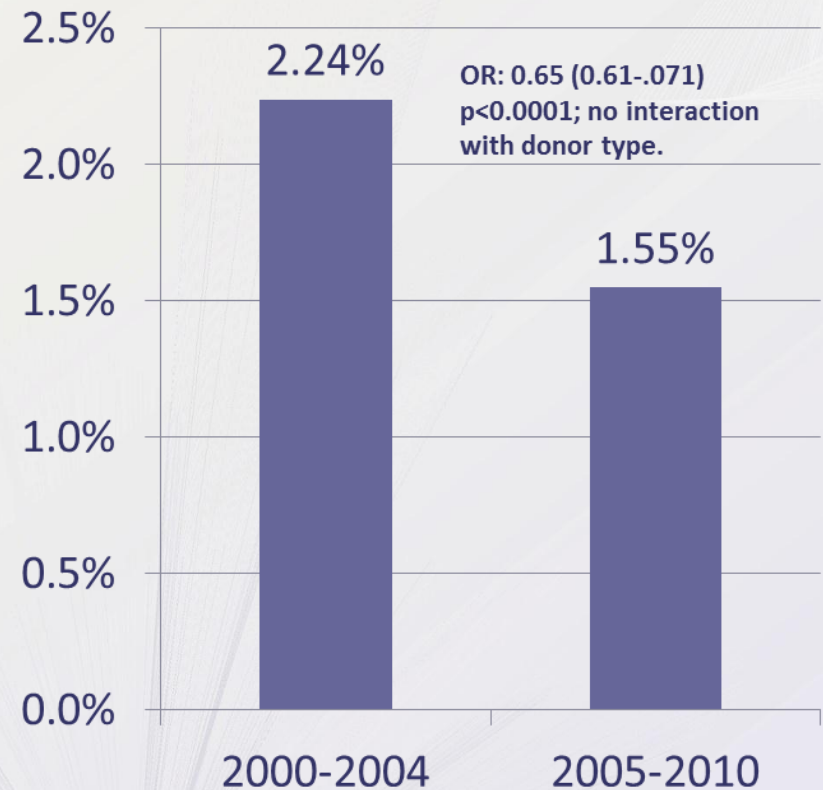
Causes of immediate graft failures (in patients discharged alive) were reported as:

- Hyperacute Rejection
- Acute rejection
- Primary Failure
- Graft Thrombosis
- Infection
- Surgical complications
- Urological complications
- Recurrent disease
- Chronic Rejection
- Other

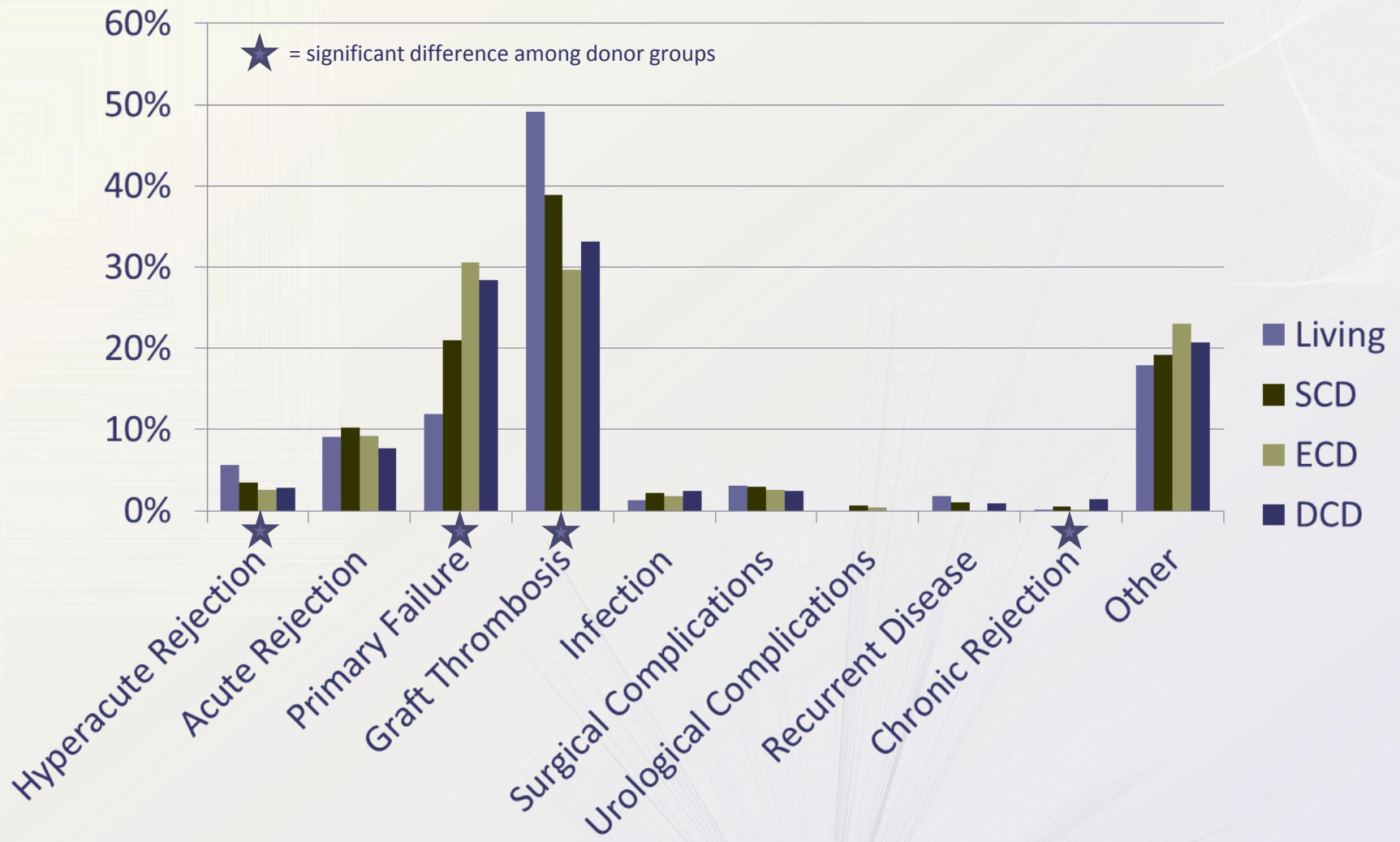
Immediate Graft Failures, by donor type



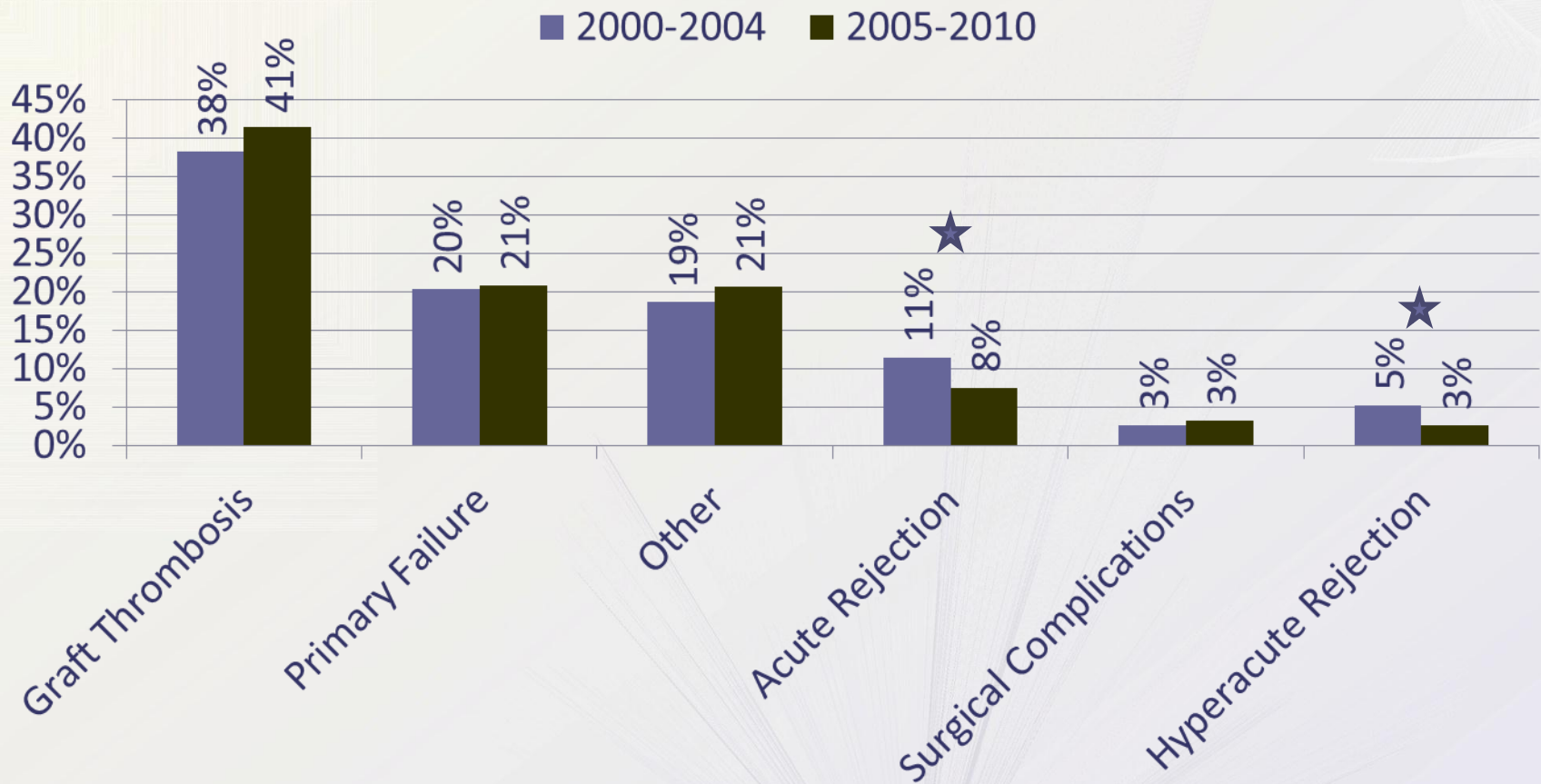
Improvement in Immediate Failure Rate During 2000's



Reported Causes of Immediate Failure



Trends in reported causes of immediate failure



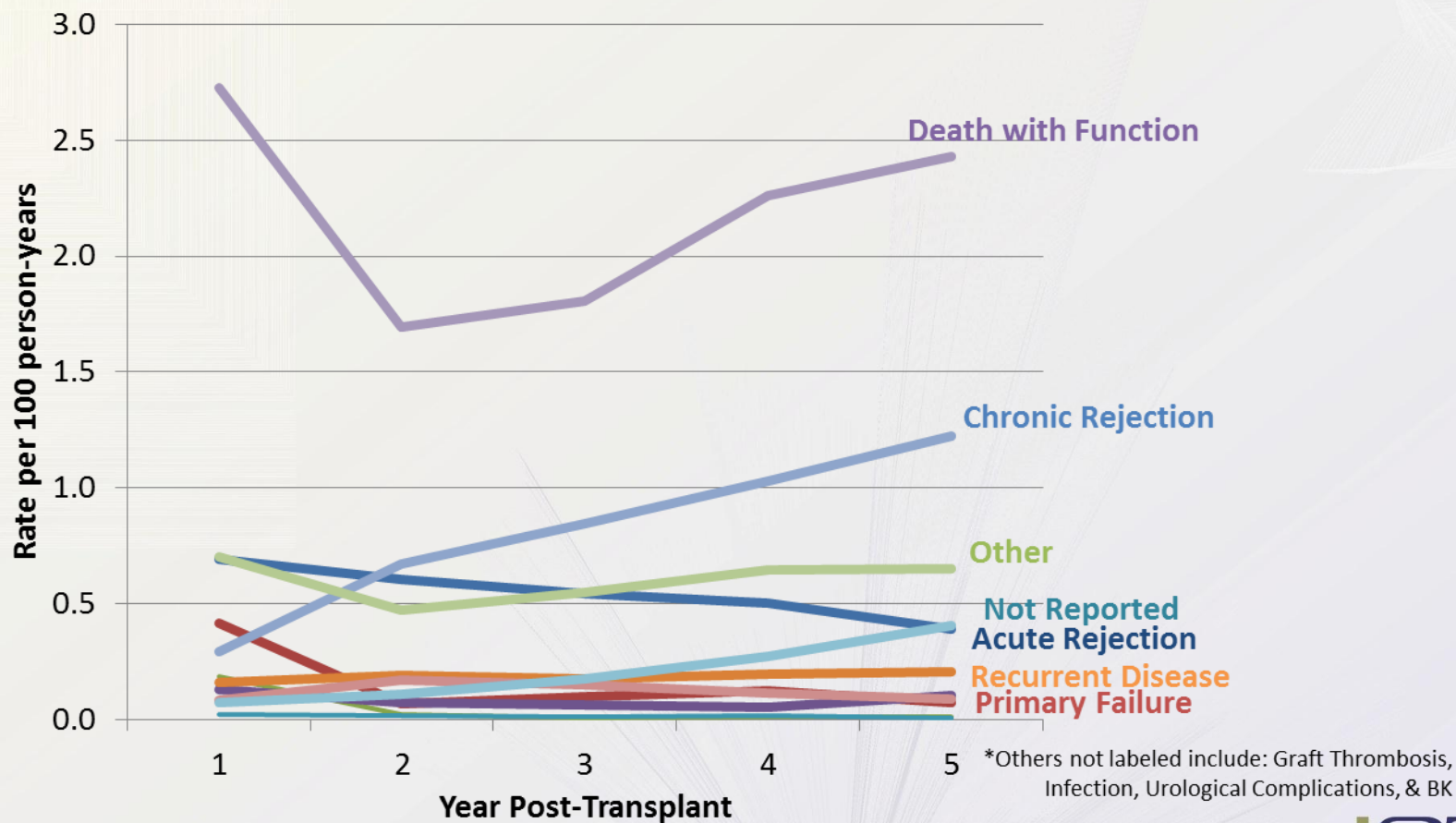
Trends in causes of immediate graft failures: 2005-2010 vs. 2000-2004 (reference group)

adjusted for donor type and deceased donor quality



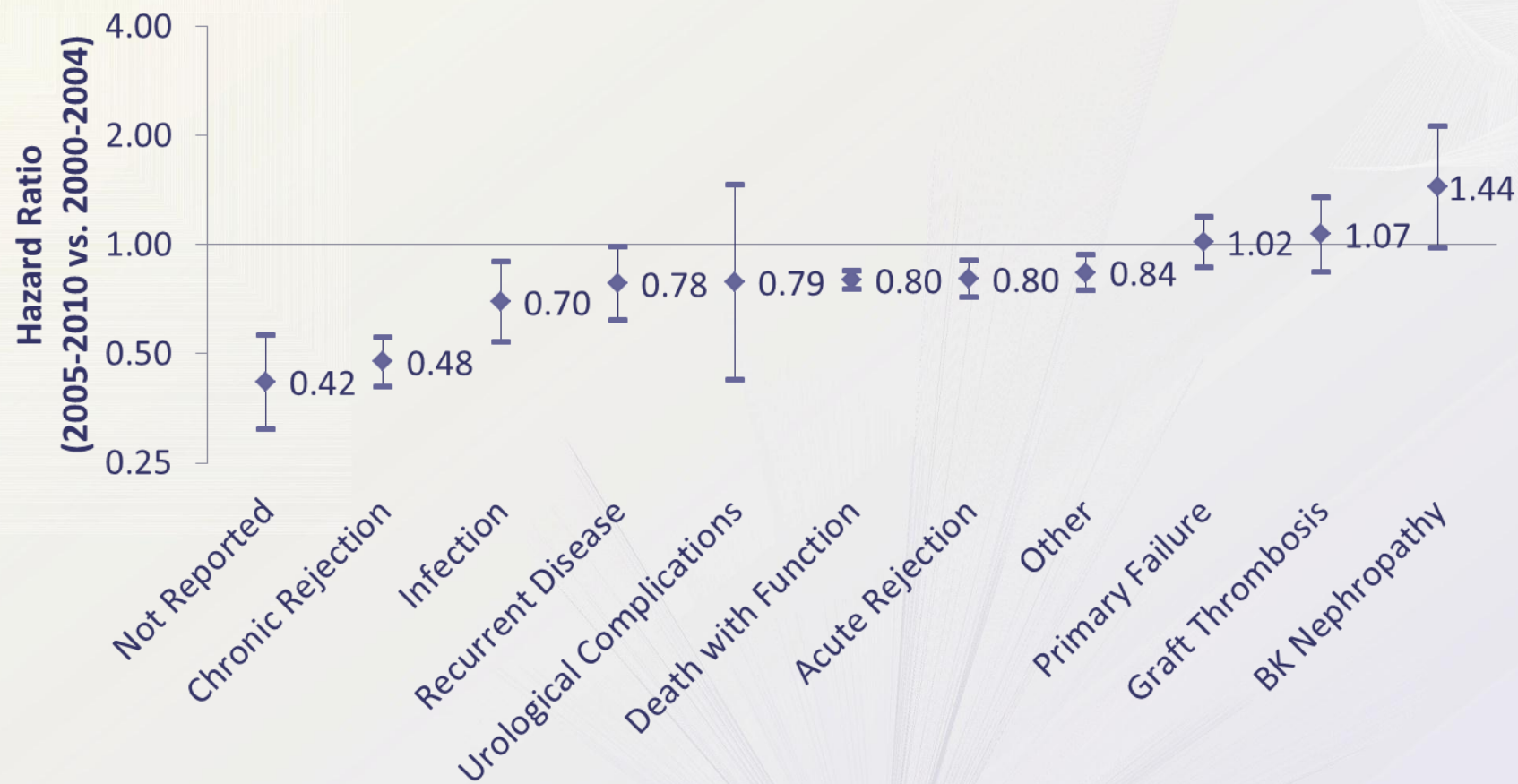
Cause-Specific Graft Failure Rates 2005-2010

(recipients who were discharged with function)



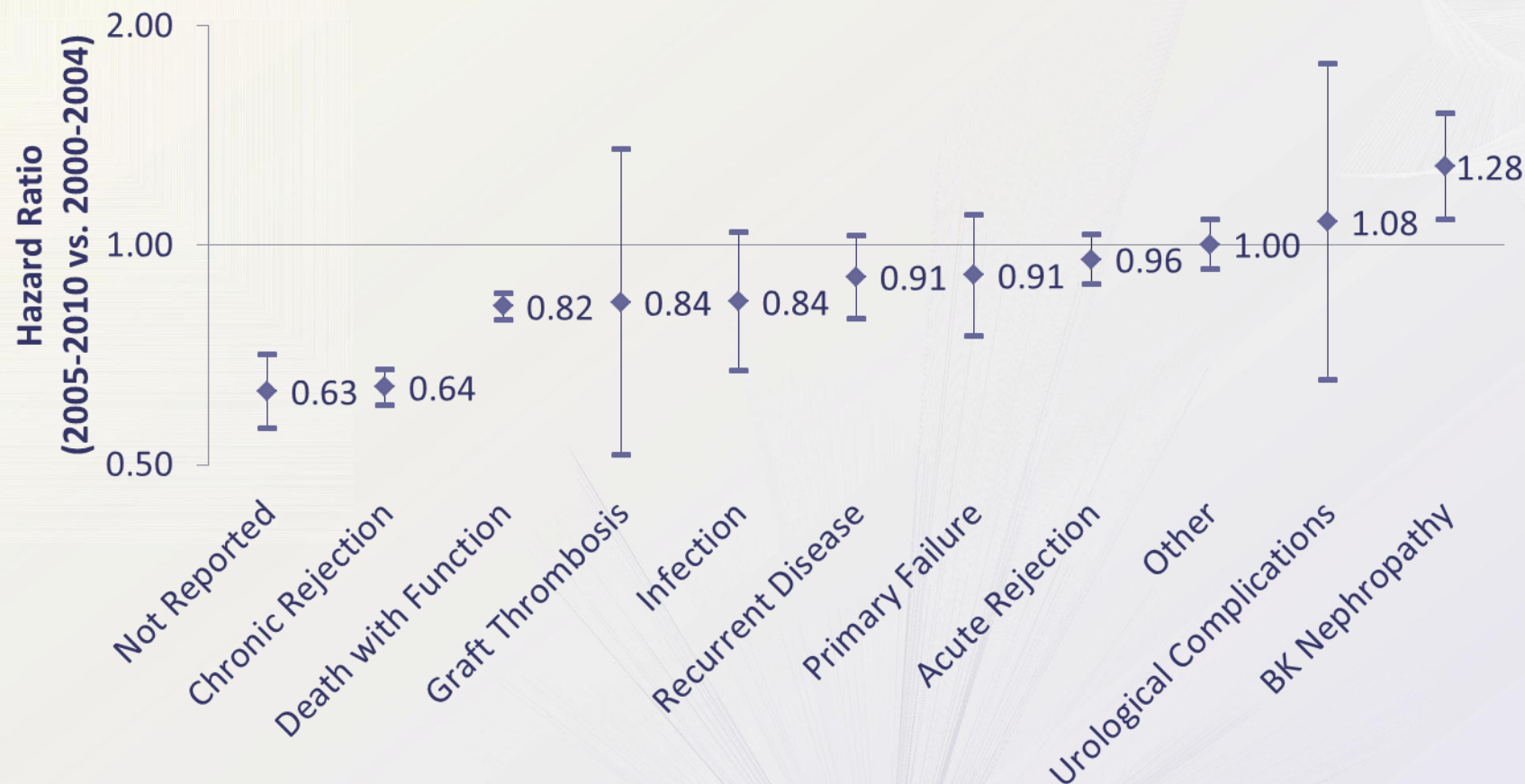
Trends in causes of first-year graft failures: 2005-2010 vs. 2000-2004 (reference group)

adjusted for donor type and deceased donor quality

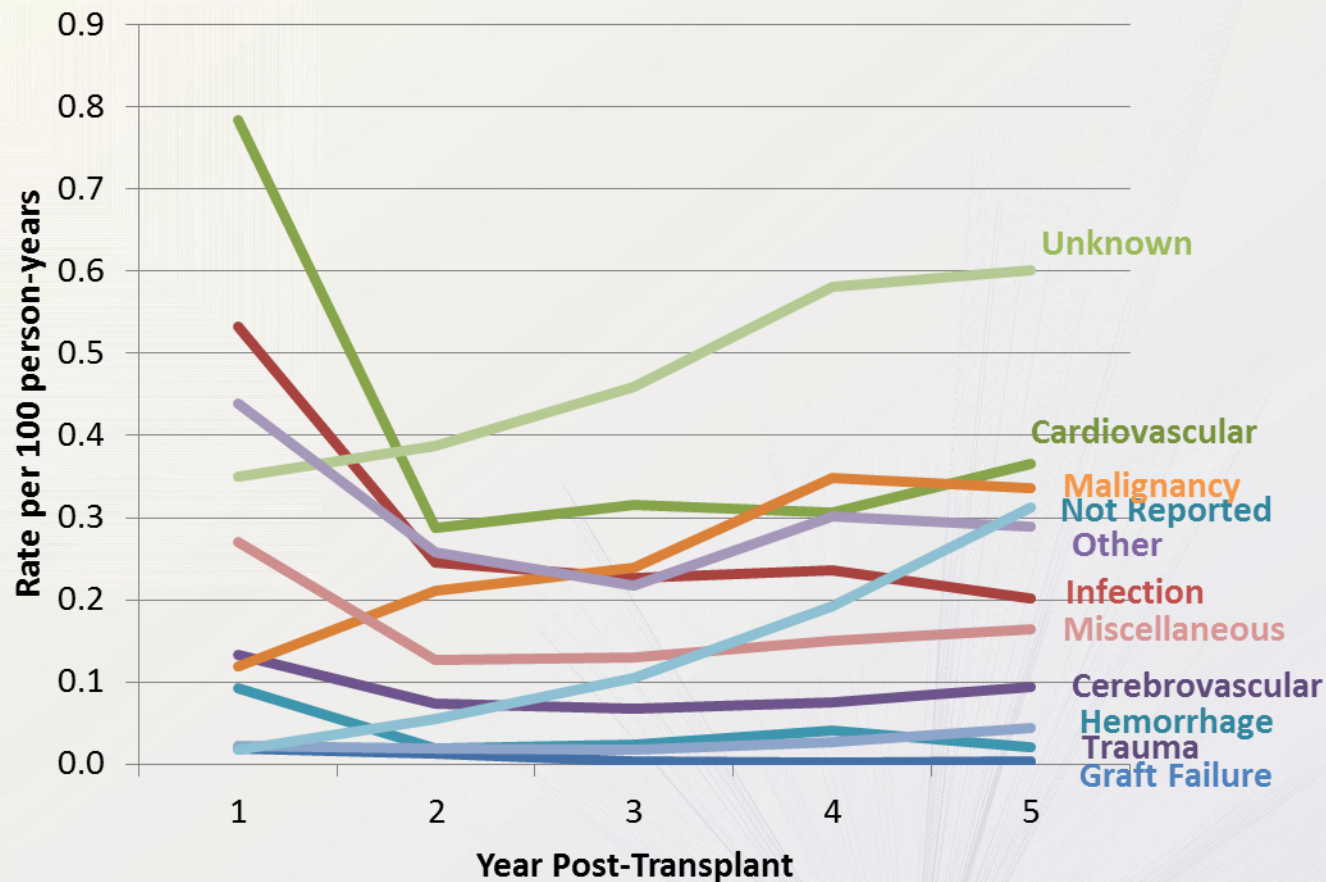


Trends in causes of graft failures during years 2-5: 2005-2010 vs. 2000-2004 (reference group)

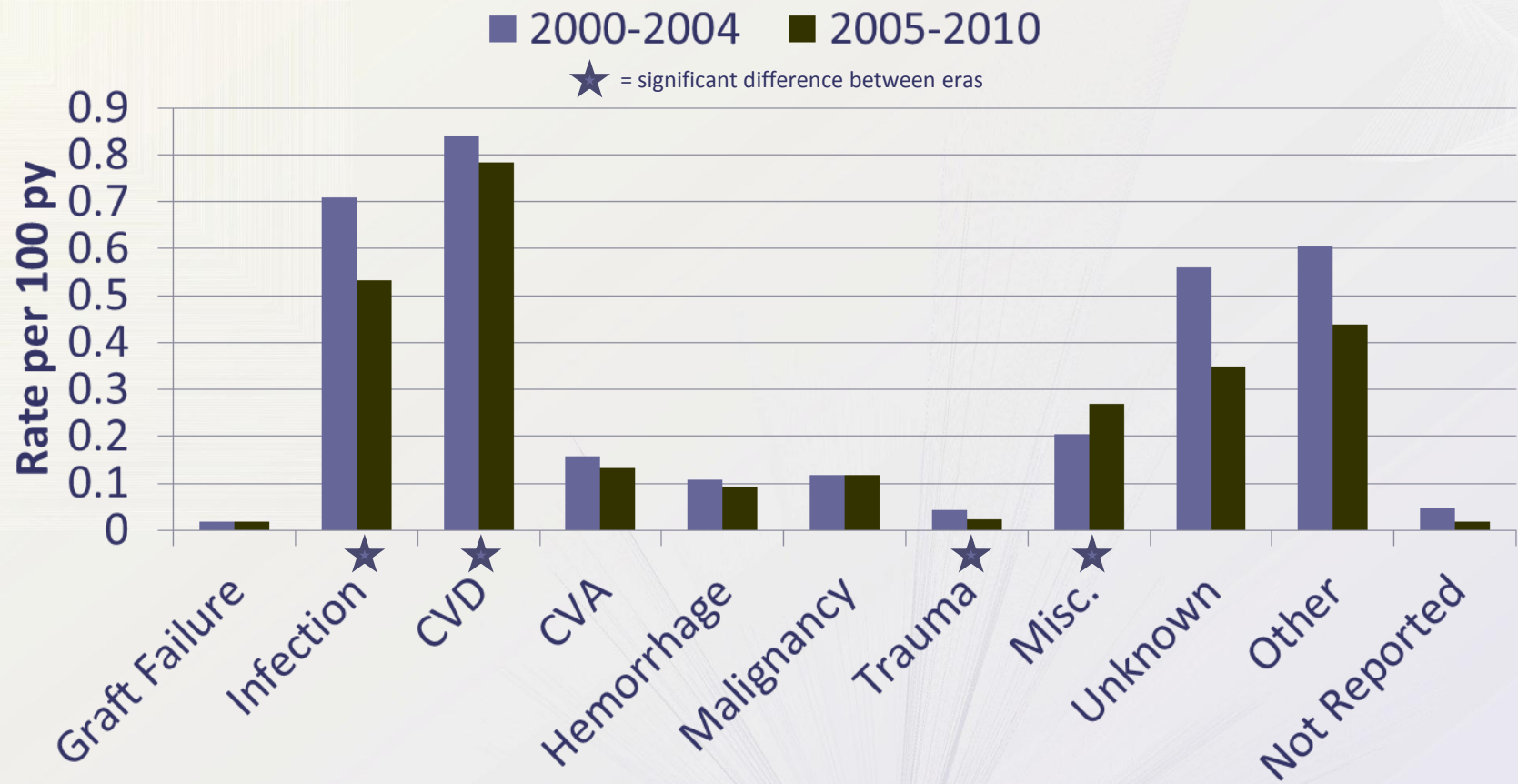
adjusted for donor type and deceased donor quality



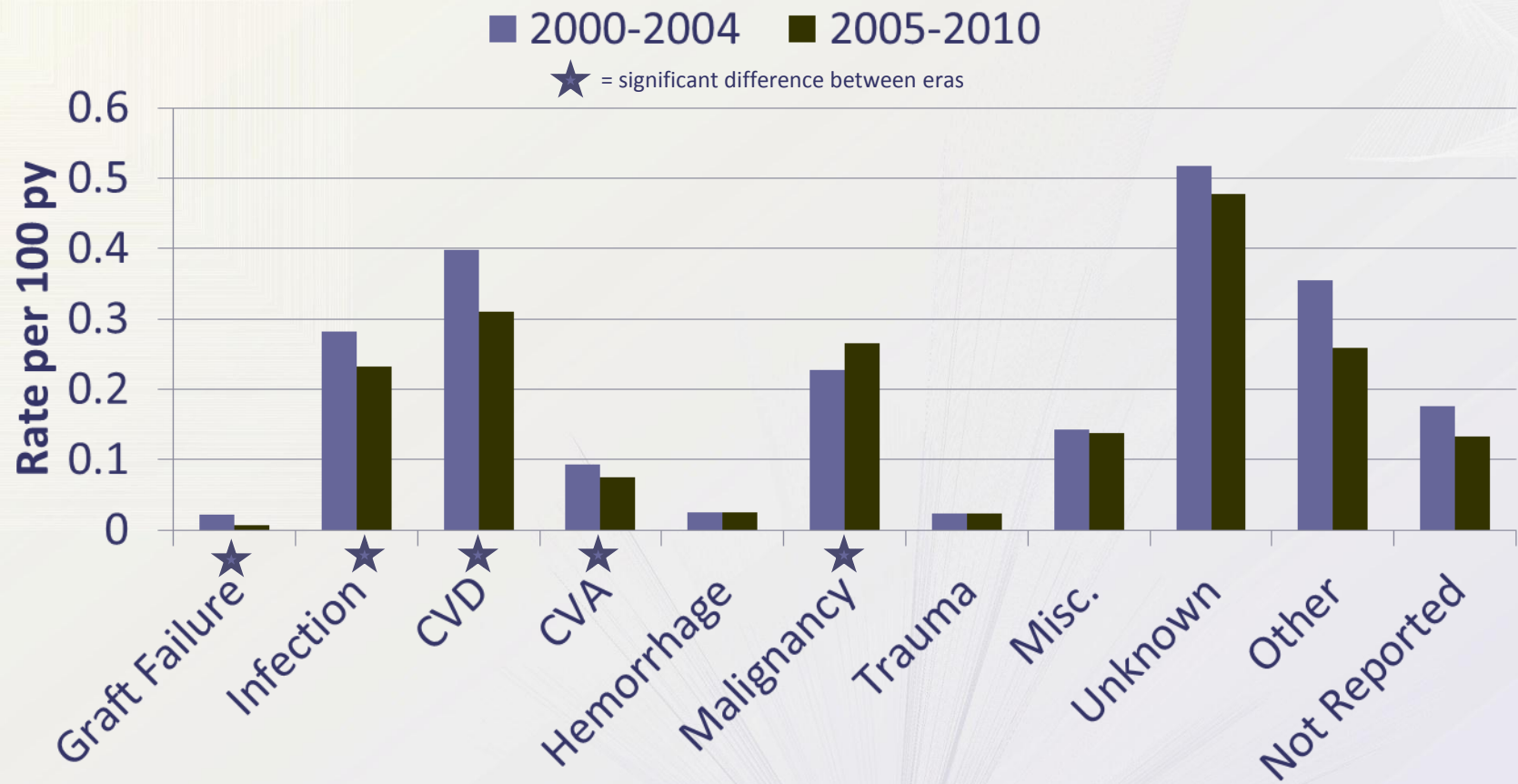
Cause-Specific Rates of Death with Function 2005-2010



Trends in Reported Causes of Death with Function During Year 1 Posttransplant



Trends in Reported Causes of Death with Function During Years 2-5 Posttransplant



Conclusions

- DWF was more common than GF.
- Acute rejection (AR) was the most frequent cause of GF during year 1, but AR declined in the most recent era [Odds Ratio (OR) 0.80 for 2005-10 vs. 2000-04, $p < 0.05$].
- During years 2-5 posttransplant, chronic rejection was most common cause of graft failure and declined significantly in the most recent era (OR 0.48, $p < 0.05$).
- Cardiovascular disease was the most common cause of DWF during year 1, but unknown cause became most common during years 2-5.
- In conclusion, rates of immediate GF have improved and GF due to rejection is less common in the most recent era.