

Tricontinental Analyses Of Kidney Transplant Outcomes From Three National Registries

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ORIGINAL ARTICLE

AJT

Kidney transplant graft outcomes in 379 257 recipients on 3 continents

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Blood and Transplant



Background

- Evaluation of transplant outcomes across divergent national health care systems may create important opportunities to put local results into a global context
- Standardised comparisons of transplant outcomes in different parts of the world have been challenging to undertake and very infrequently performed

Aim

- Compare graft failure rates after kidney transplantation in the United States, the United Kingdom, and Australia/New Zealand using a commonly agreed cohort and definitions and patient-level data in a shared dataset

- First kidney only transplants over 27 years: 1988-2014
 - United States: Scientific Registry of Transplant Recipients
 - United Kingdom: NHS Blood and Transplant
 - Australia & New Zealand: Australia & New Zealand Dialysis & Transplant Registry
- Follow-up to 2014
- Cox models for graft failure (inc. death with function)
 - Short-term (1-year)
 - Long-term (conditional on 1-year survival)

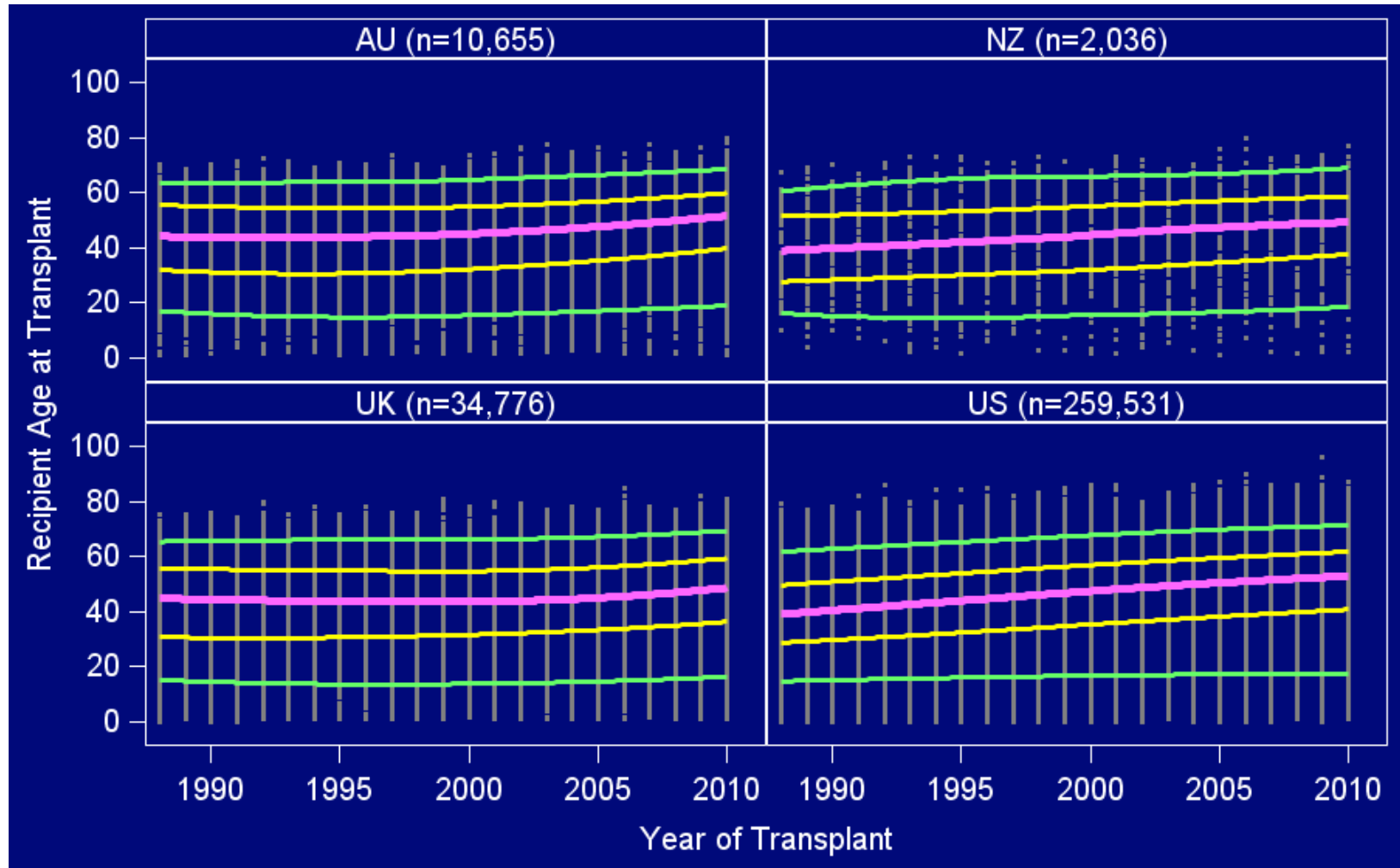
12 factors included in risk-adjustment:

- Recipient
 - age, sex, ethnicity, primary diagnosis
- Donor
 - age, sex, type (living/DBD/DCD), cause of death (trauma/other)
- Transplant
 - year of transplant, HLA-A+B+DR mismatches, ischaemia time

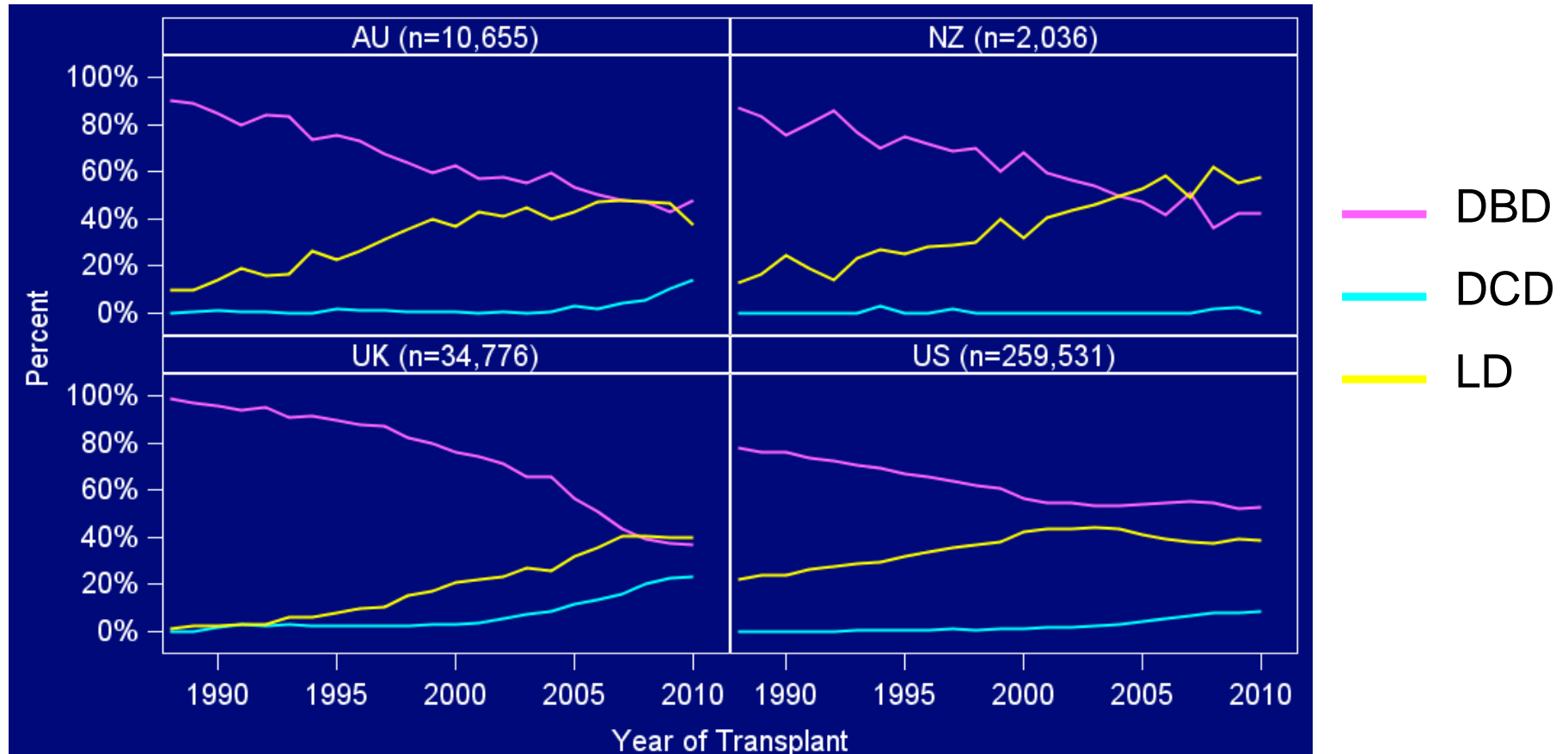
Characteristics of 379,257 Kidney Transplants

	US	UK	AU	NZ
Transplants (n)	318,423	44,781	13,582	2,471
Living donor (%)	36%	25%	33%	40%
Recipient age (median yrs)	48	46	48	46
Recipient male (%)	60%	62%	61%	62%
Recipient non-white (%)	44%	19%	16%	29%
Diabetes mellitus (%)	24%	6%	9%	11%

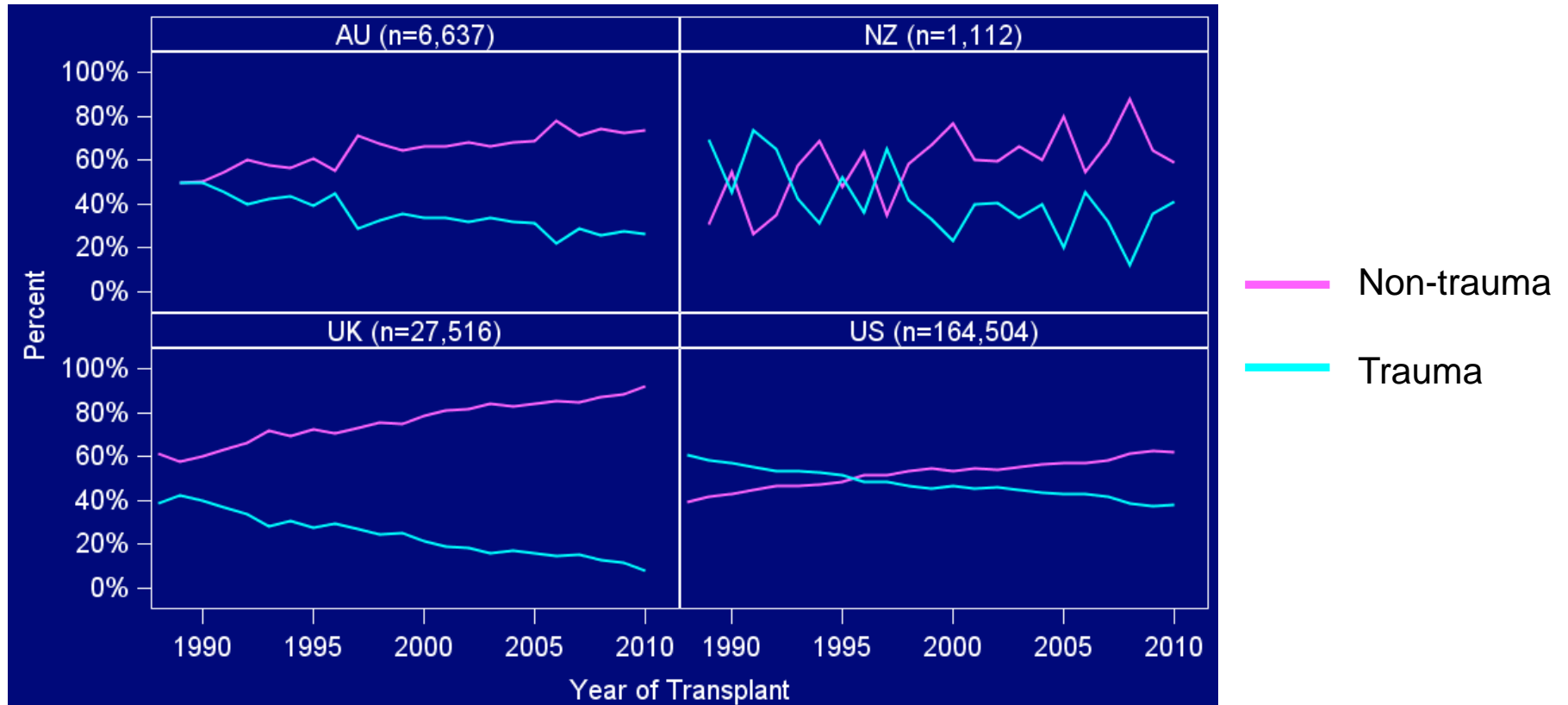
Recipient age



Donor source

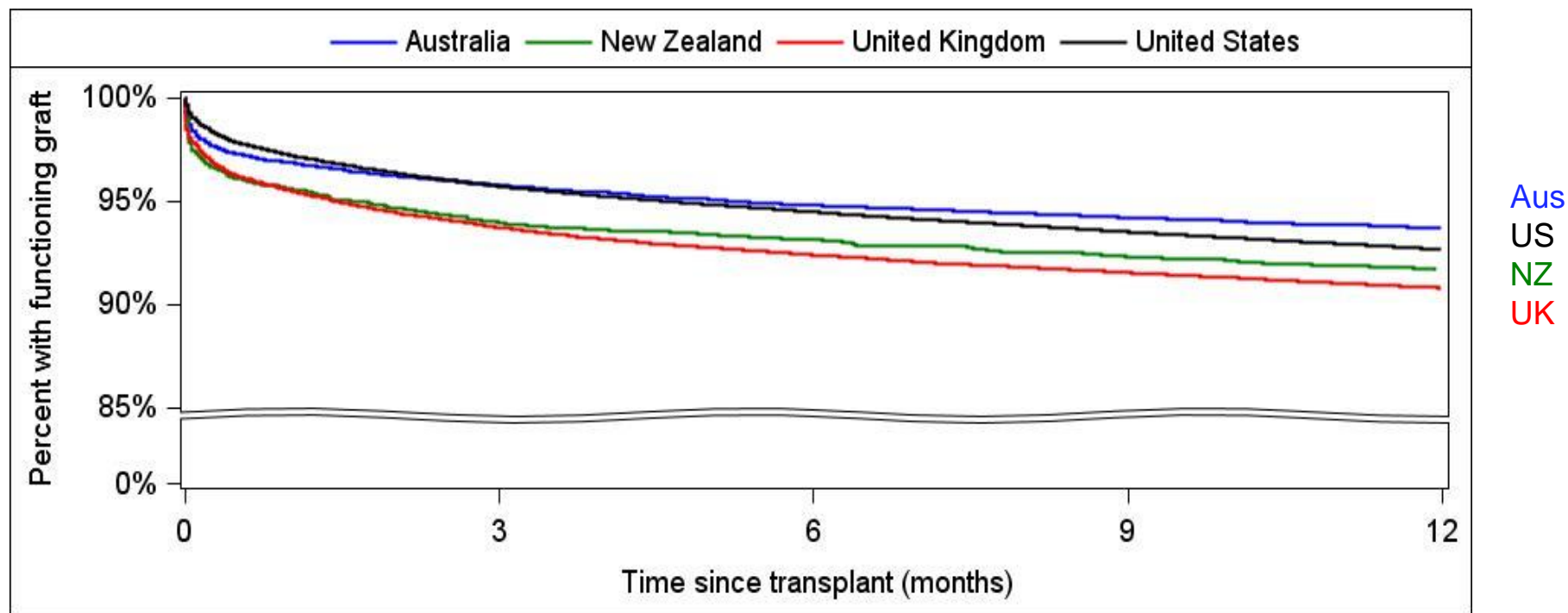


Cause of Death (Deceased Donor) *Blood and Transplant*



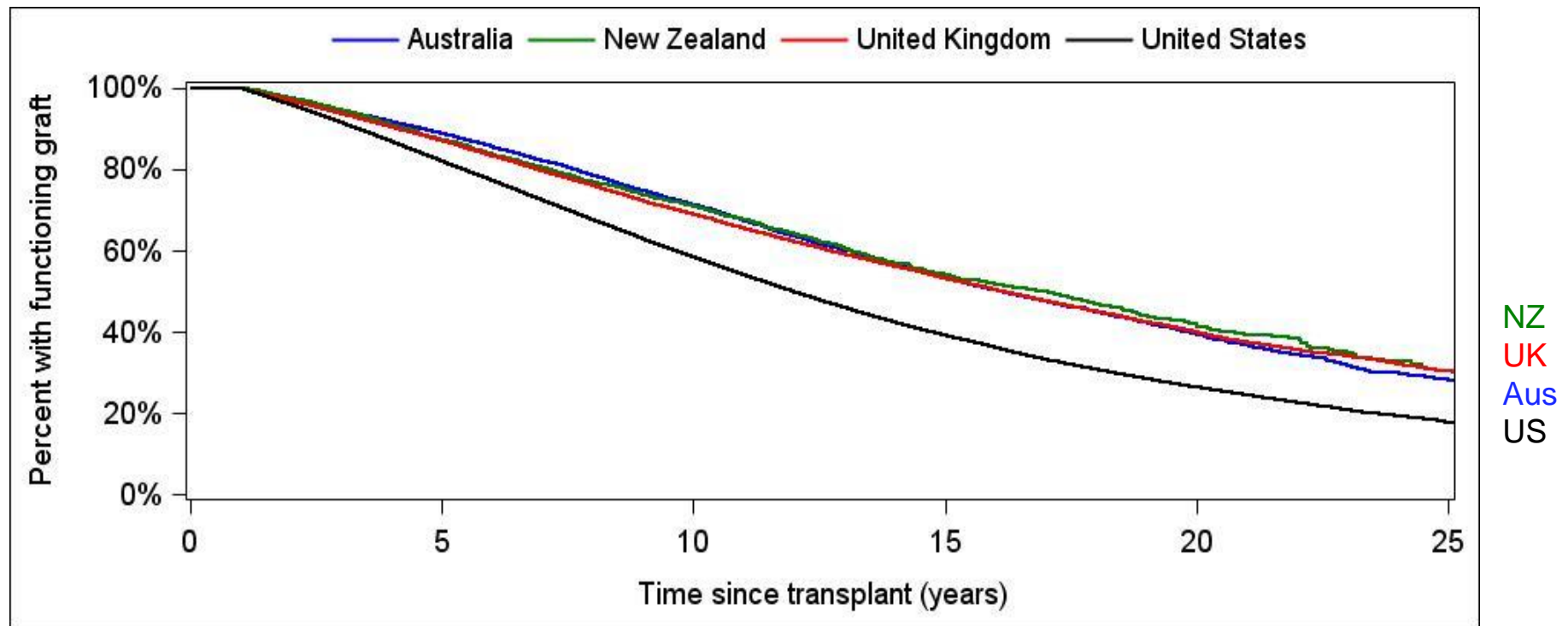
Deceased Donor Kidney Graft Survival

Short-term (12 months)

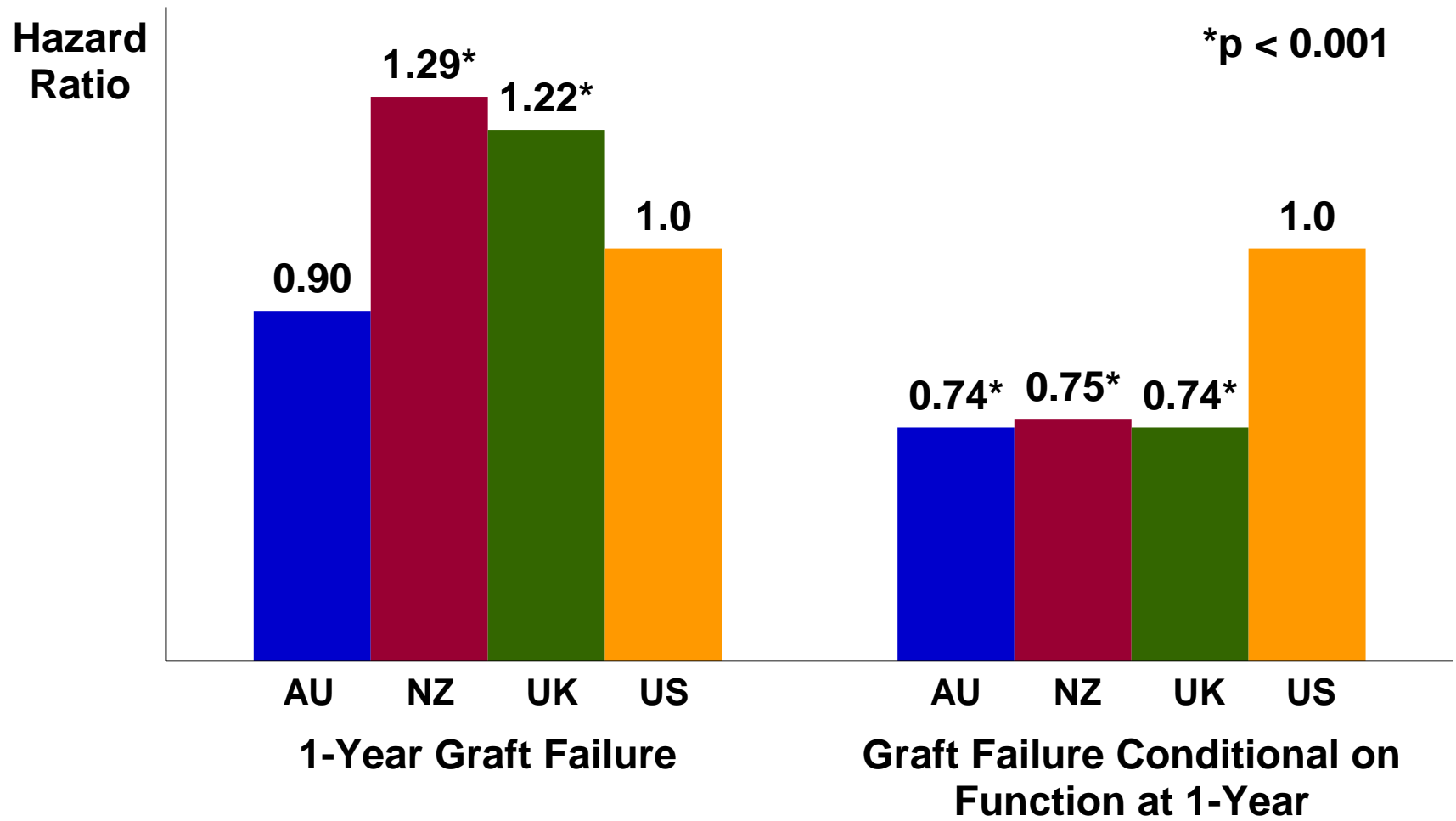


Deceased Donor Kidney Graft Survival

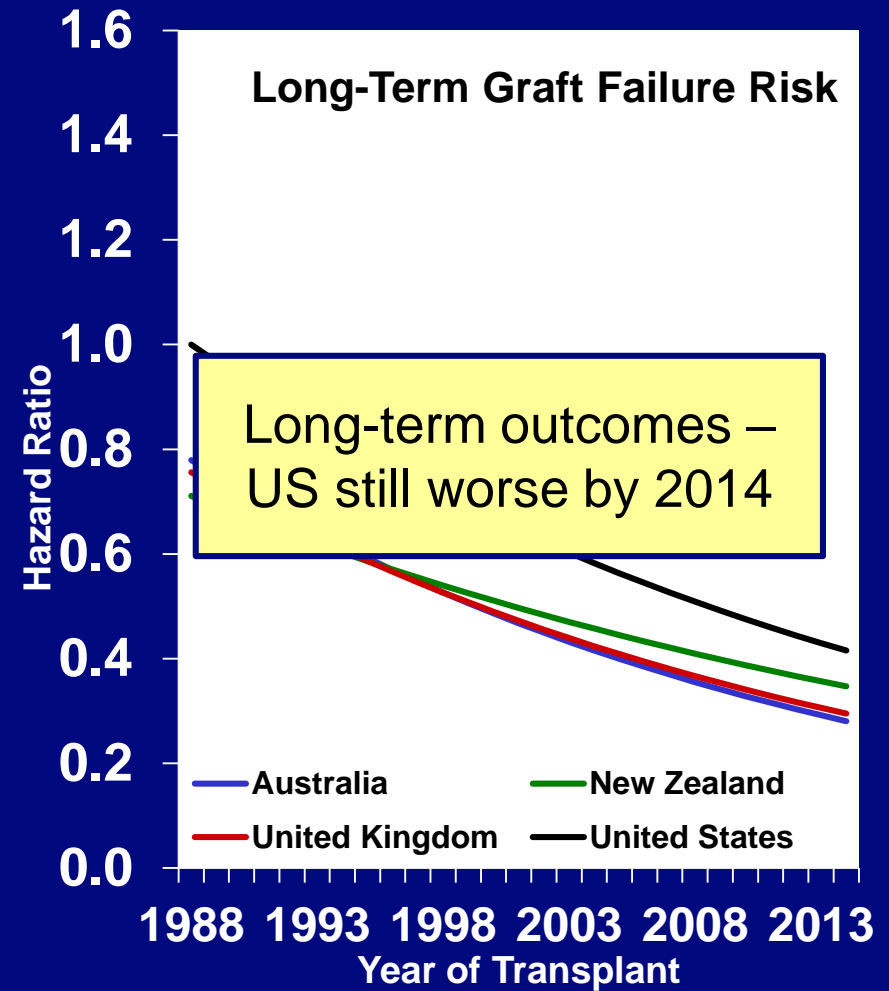
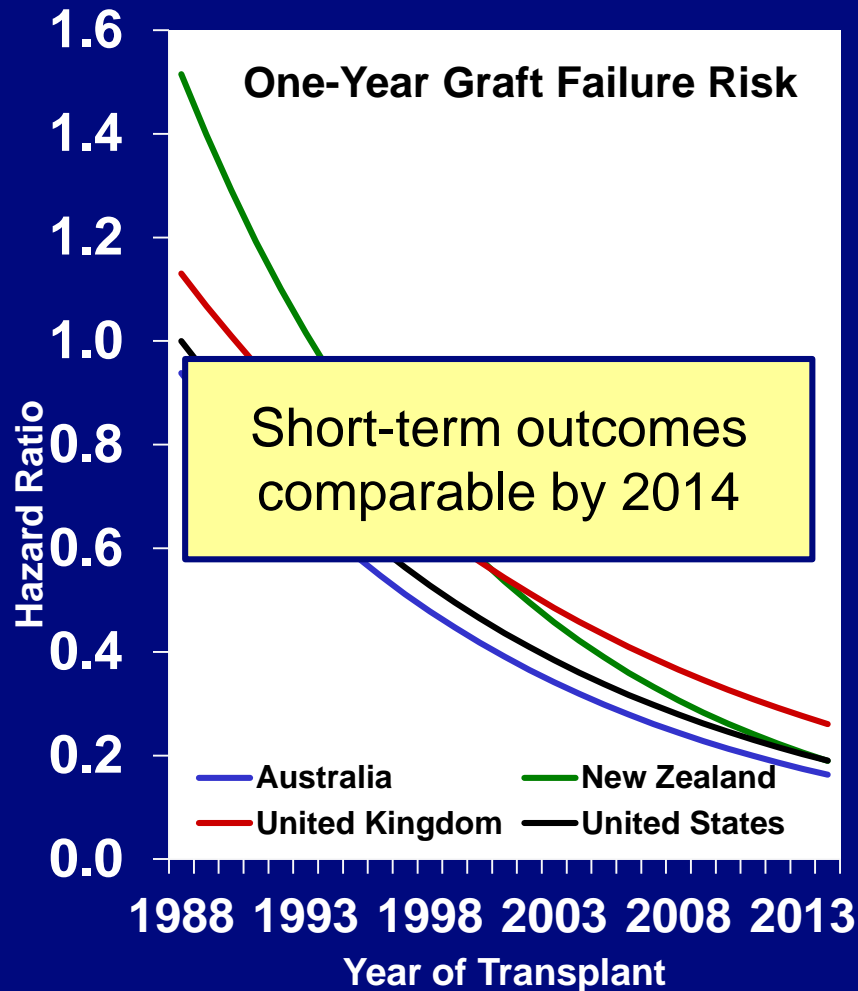
Long-term (conditional on function at 1 year)



Adjusted Risk of Graft Failure by Country



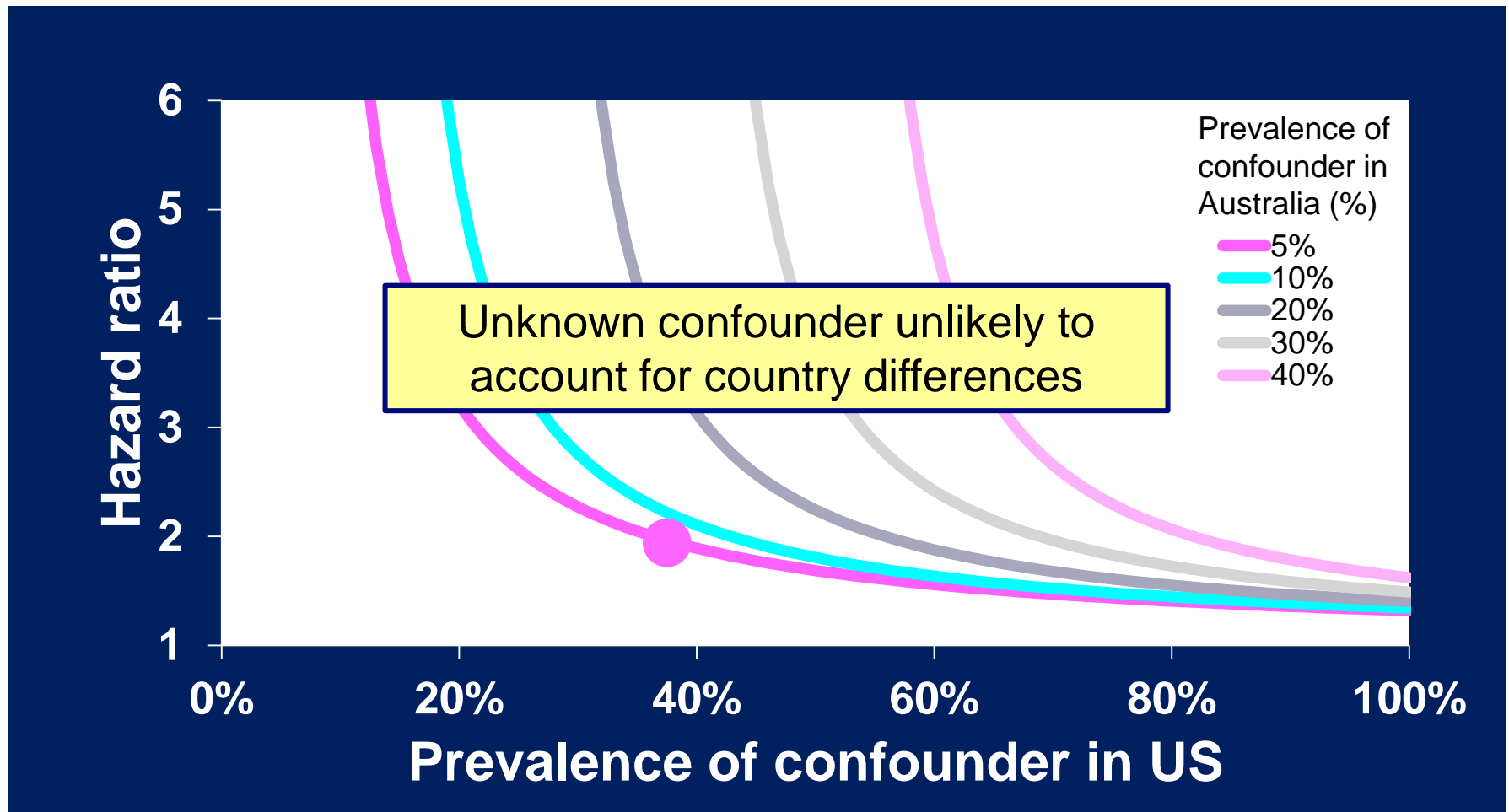
All Results Improved Over Time



Limitations

- Registry data may contain incomplete and/or inaccurate data
- Comorbidity burden may vary by country
- Time on dialysis prior to transplant (vintage) may vary by country
- Unmeasured factors, if present unequally across the four countries, could produce spurious associations of country with outcome

Is There a Mysterious Unmeasured Factor?



Discussion

- Comprehensive risk-adjusted analyses of data from three national registries highlight important differences in kidney transplant graft outcomes in US, UK, AUS and NZ
 - UK & NZ - poorer short-term outcomes – but equivalent by 2014
 - US poorer long-term outcomes throughout time period
- Are there disparate processes of care and/or practice patterns driving country-specific differences?
- Are differences in health care delivery systems and medical care financing disproportionately influencing long-term outcomes?

Acknowledgements



Blood and Transplant

Transplant units and other hospital staff and
Specialist Nurses for Organ Donation for provision
of data to the UK Transplant Registry



@NHSBT_Stats



Yes I donate
ORGAN DONATION