

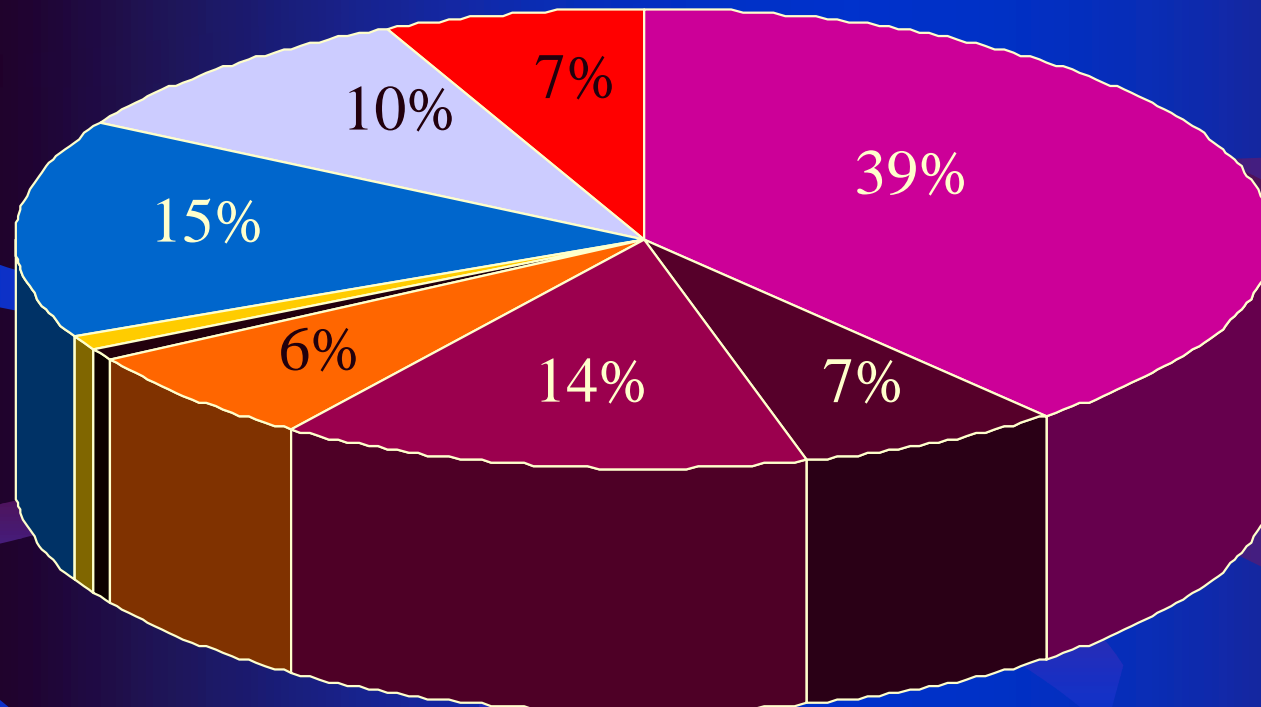
The Irish renal transplant registry; recipient demographics and outcomes.

*K.A. Abraham, P. O'Kelly, K. Tyrrell, V.
Frances, E Dunne, P. Cunningham, S.
Spencer, D. Hickey, J.J. Walshe, P.J.
Conlon on behalf of the National Renal
Transplant Registry, Beaumont Hospital,
Dublin 9.*

Irish renal transplant registry

- **2462** renal transplants 14.03.66 - 16.01.01
- **15.7%** more than 1 transplant
- Median age **20** in 1966 - **42** in 2000
- Over 65s **0** in 1966 - **8 %** in 2000
(2.2 % - 8 % in last decade)
- Male : Female ratio 64 : 36

Causes of ESRD



- GN
- DM
- Inh(ADPKD)
- BP
- Depot
- Obstr
- Pyelo
- Misc
- Unknown

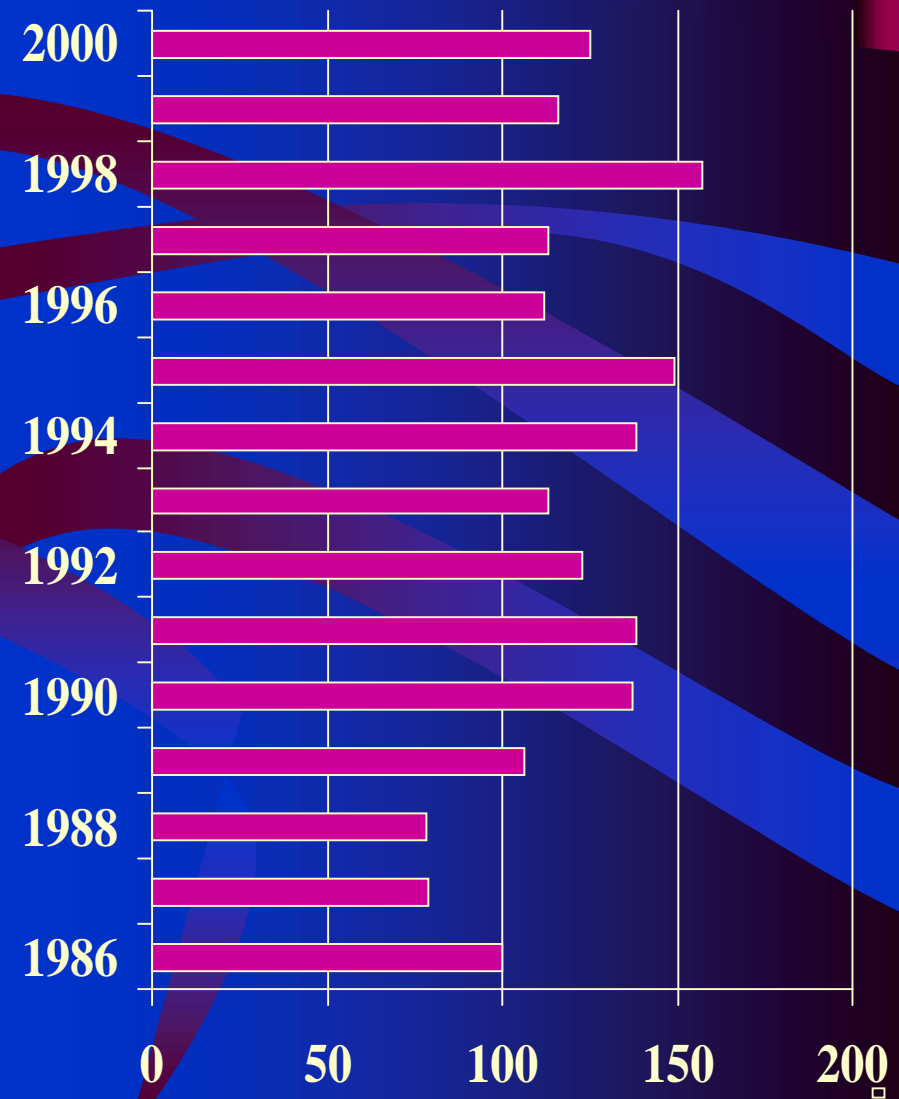
Prevalence of **Dialysis** - **226/** million

Prevalence of **Transplantation** - **323/** million

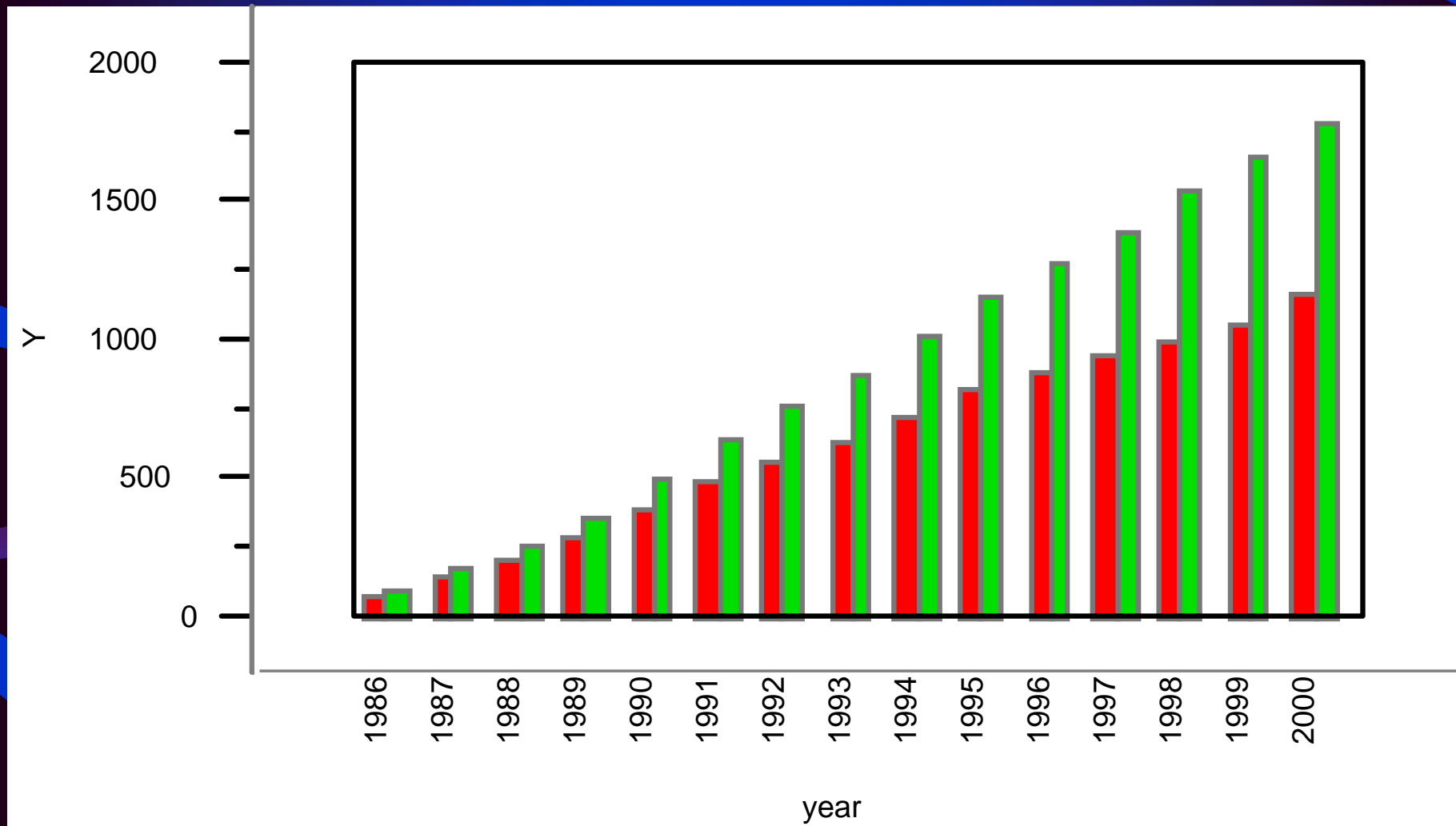
Prevalence of **ESRD** - **550/** million (US - **1190**)

Irish renal transplant registry

- Transplantation increased in the first 2 decades but has levelled off since 1990
- Mean - **136** transplants p.a. in last 15 years (range 114 - 158)
- **37.5** transplants per million population p.a.

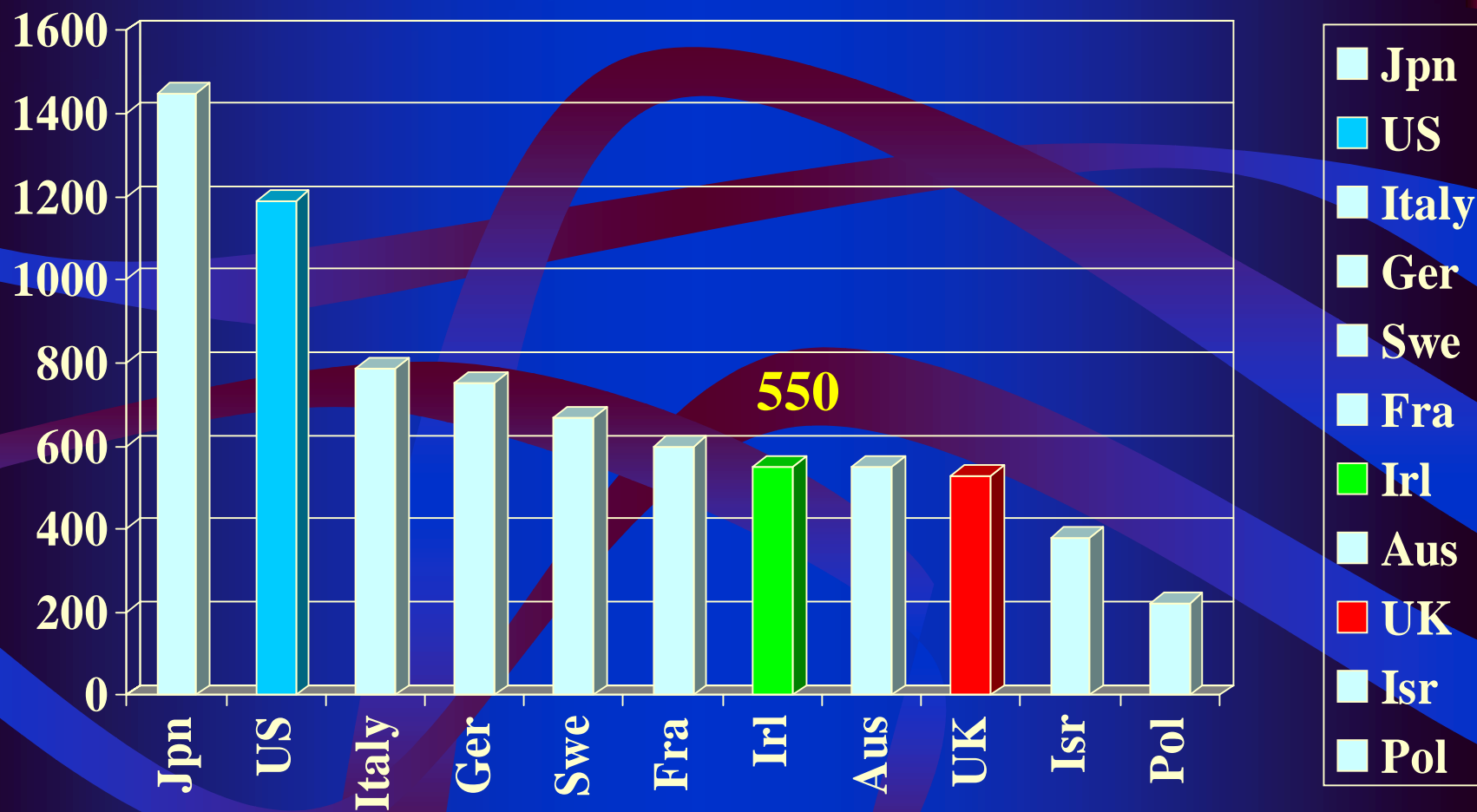


Transplant Activity



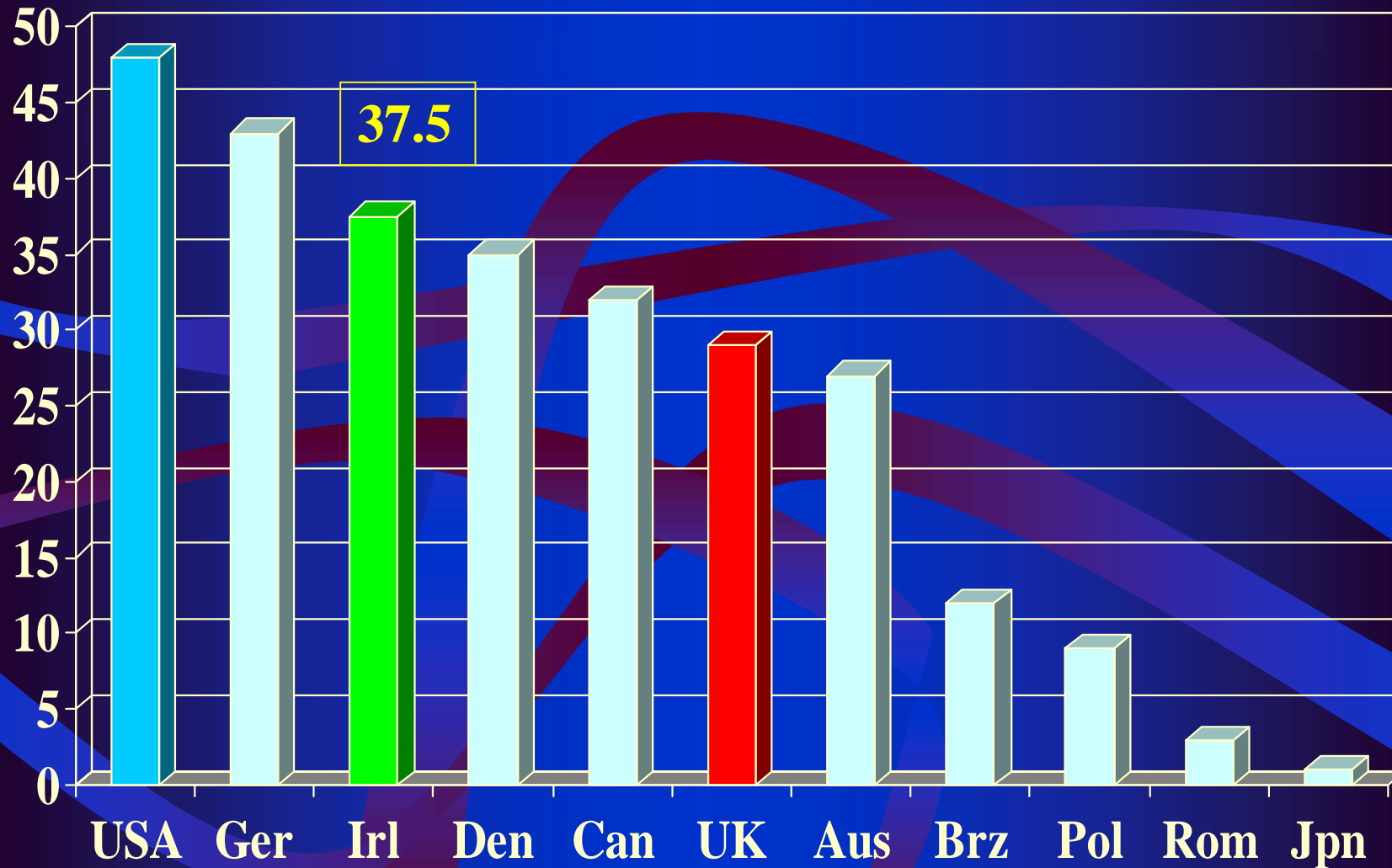
The cumulative number of functioning grafts (■) and transplants performed (■) between 1986 and 2000

Prevalence of ESRD - International Comparisons



Ireland 2000, rest 1998

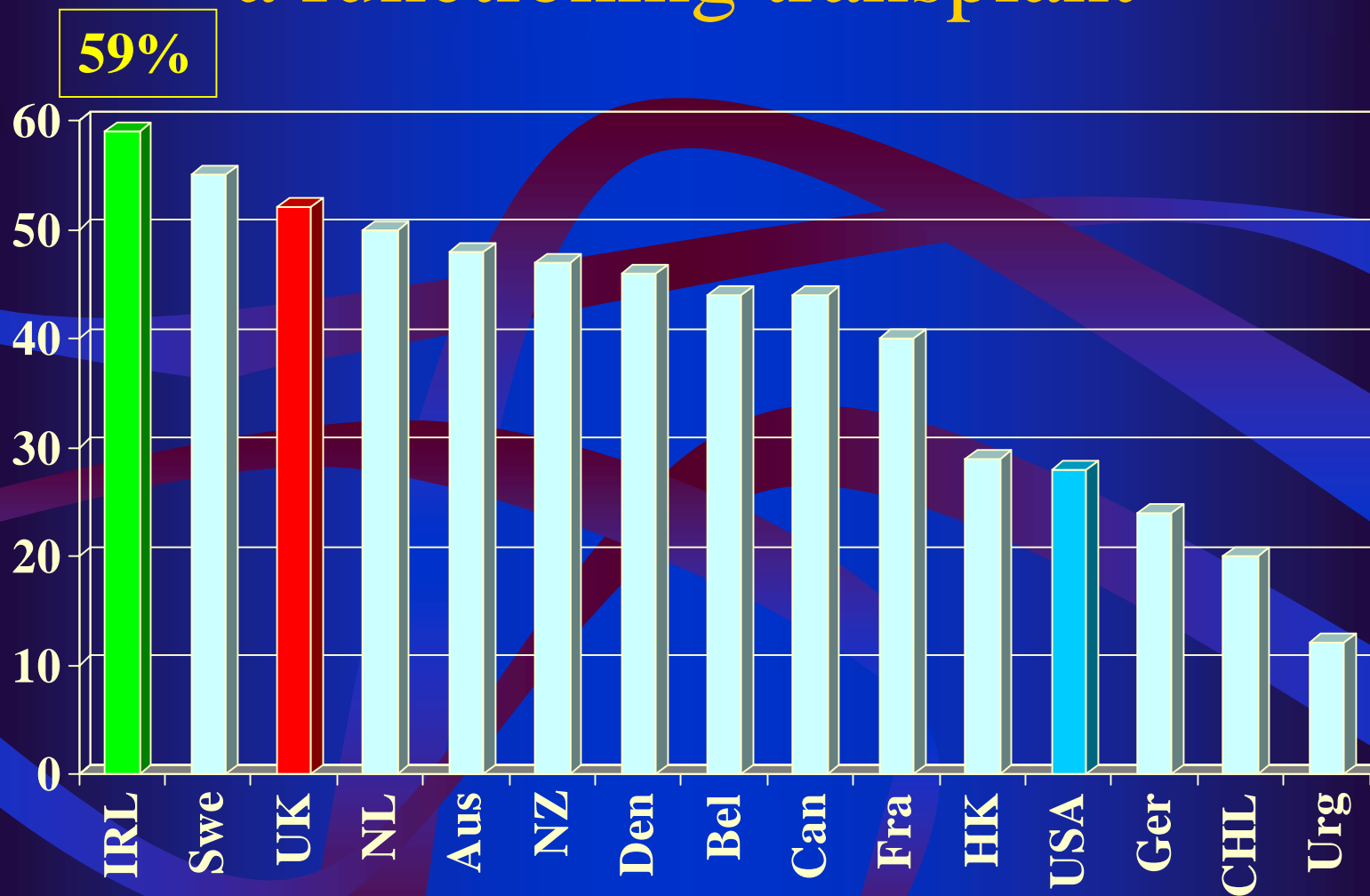
Transplantation Rates for Selected Countries



Renal Tx /million popn

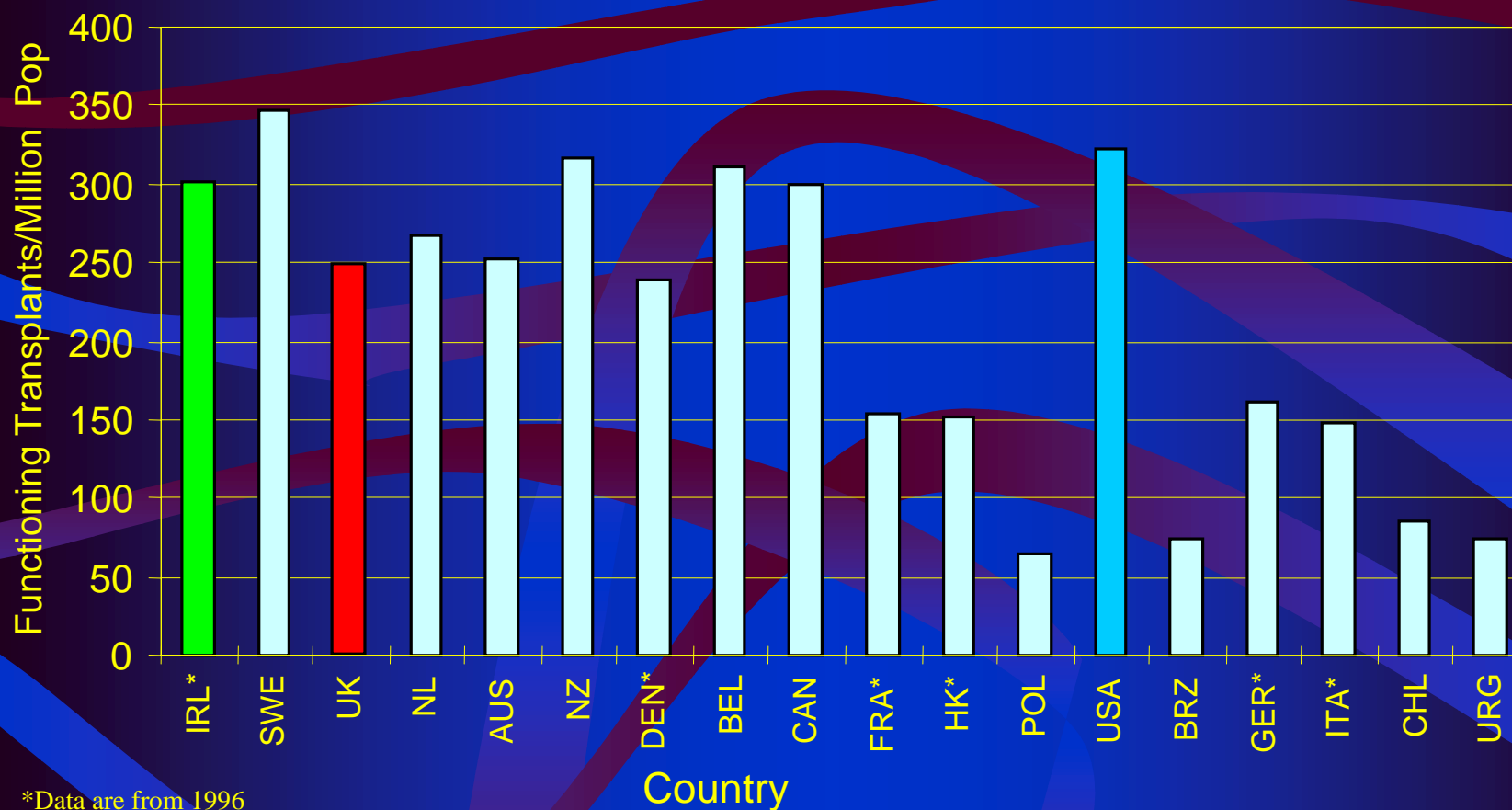
Ireland 1999, rest 1997

Percent of prevalent ESRD patients with a functioning transplant



Ireland 2000, rest 1997

Patients with a Functioning Transplant per million population, 1997



*Data are from 1996

Aims

- Assess patient survival
- Study renal graft survival
- Comparison with international figures.
- Have these parameters improved with time?
- Identify risk factors

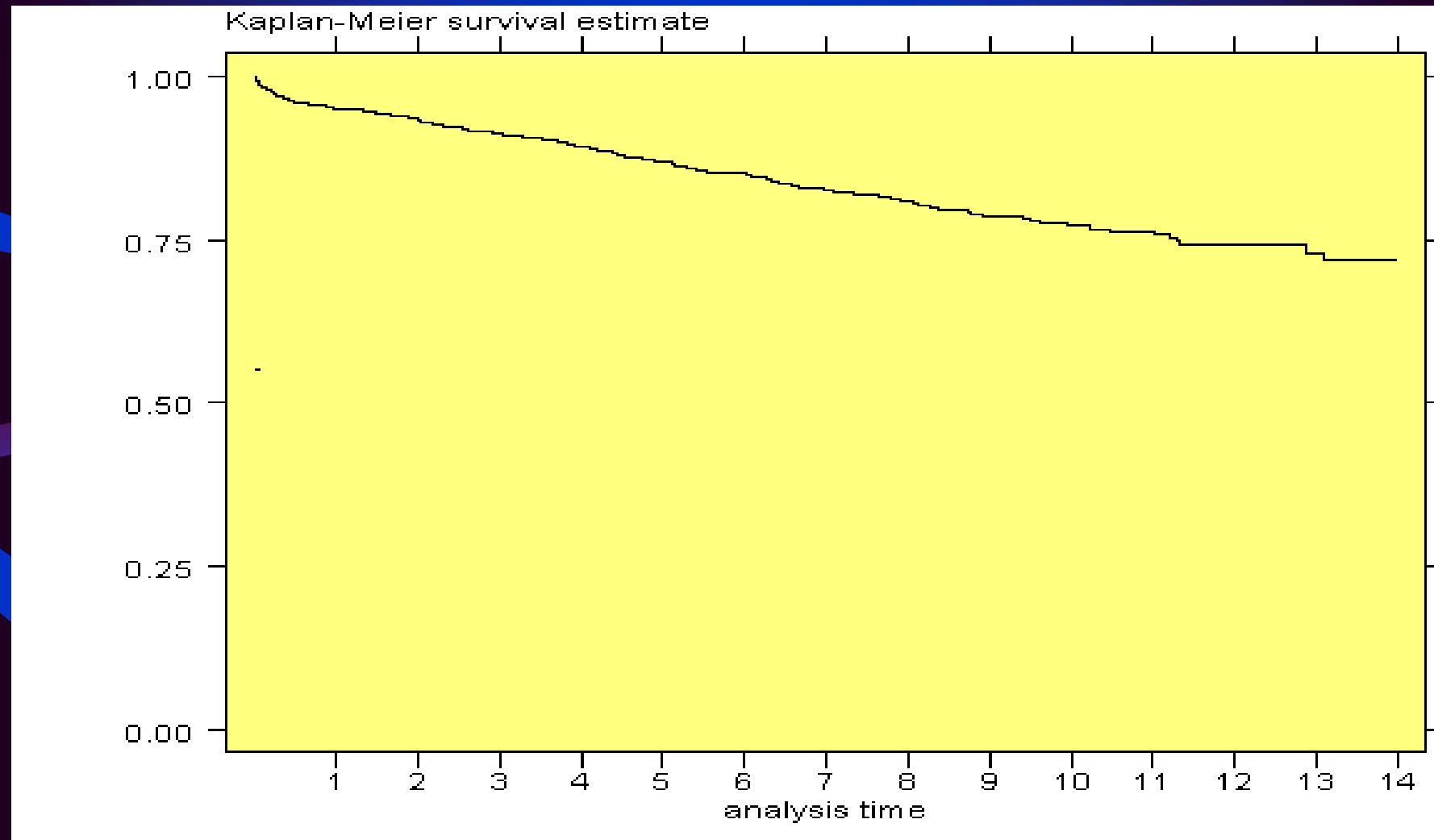
Methods

- Created a data bank from various sources
- All transplant recipients between 1986 and 1999
- followed till death or failure of latest graft
- Cox proportional hazards model and Kaplan-Meier survival curves
- JMP & Stata statistical programmes
- Eras for comparison: 1986-89, 90-94, 95-99

Results - 1

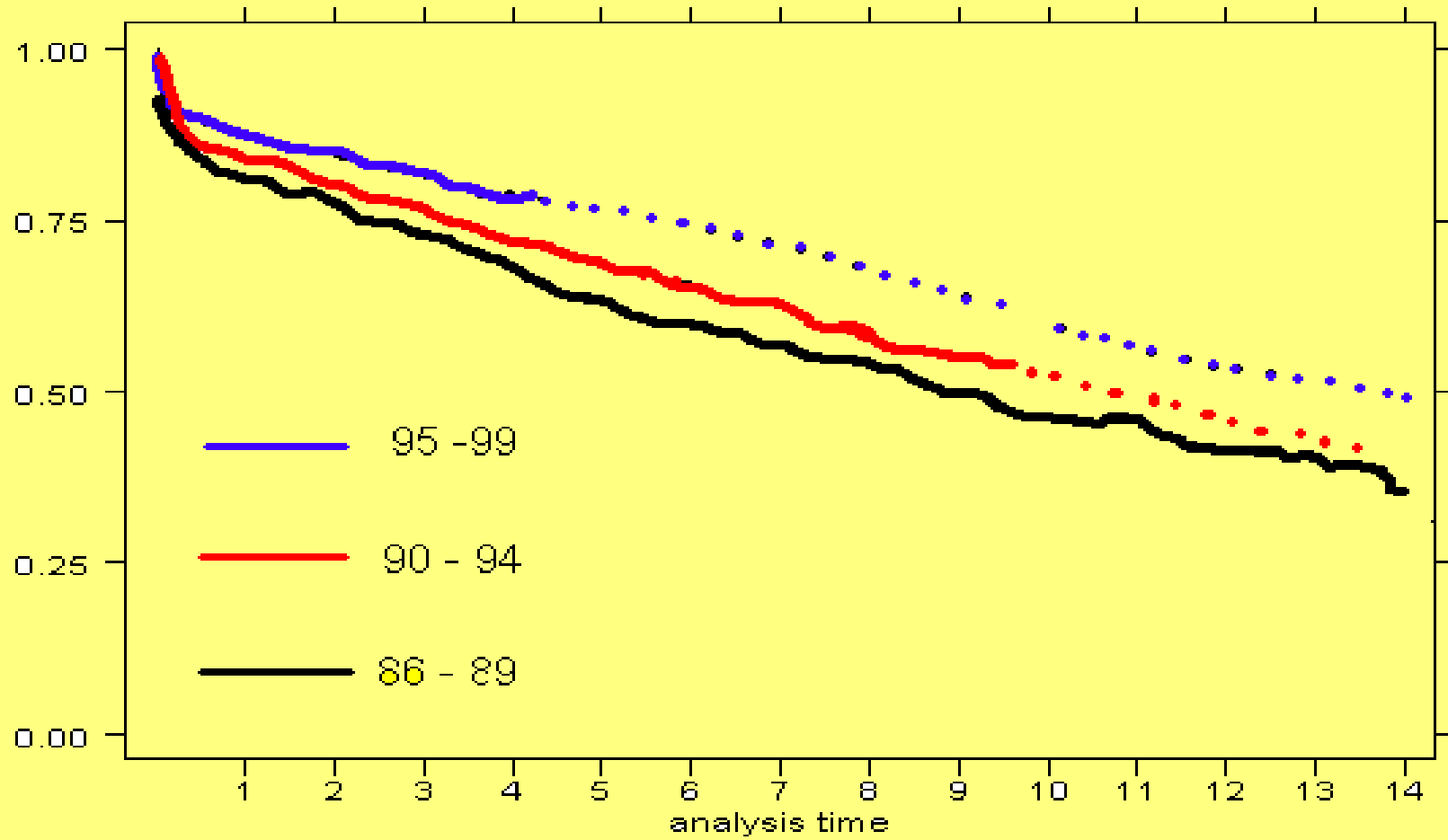
- 1659 transplants in 1490 patients
- Median age at first Transplant - **42** (2 - 76)
- Male : Female **64 : 36**
- Predicted time to failure - **10.5 yrs**
(95% C.I. 9.3 - 11.7)
- Median patient survival - **22.5 yrs**
(95% C.I. 18.6 - 26.1)

Patient survival

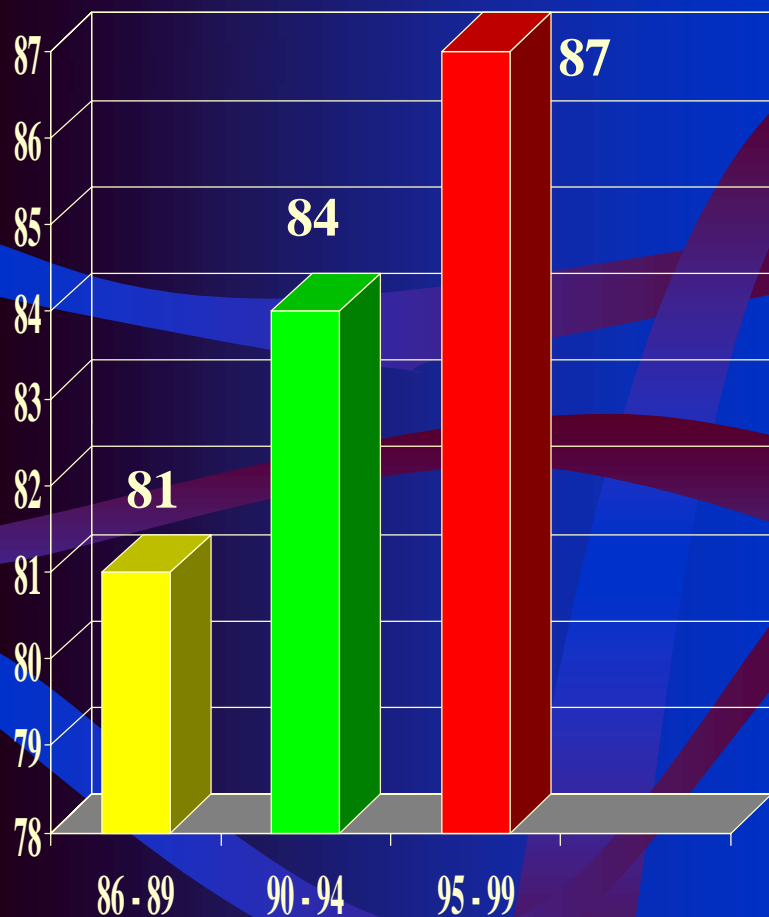


Graft survival

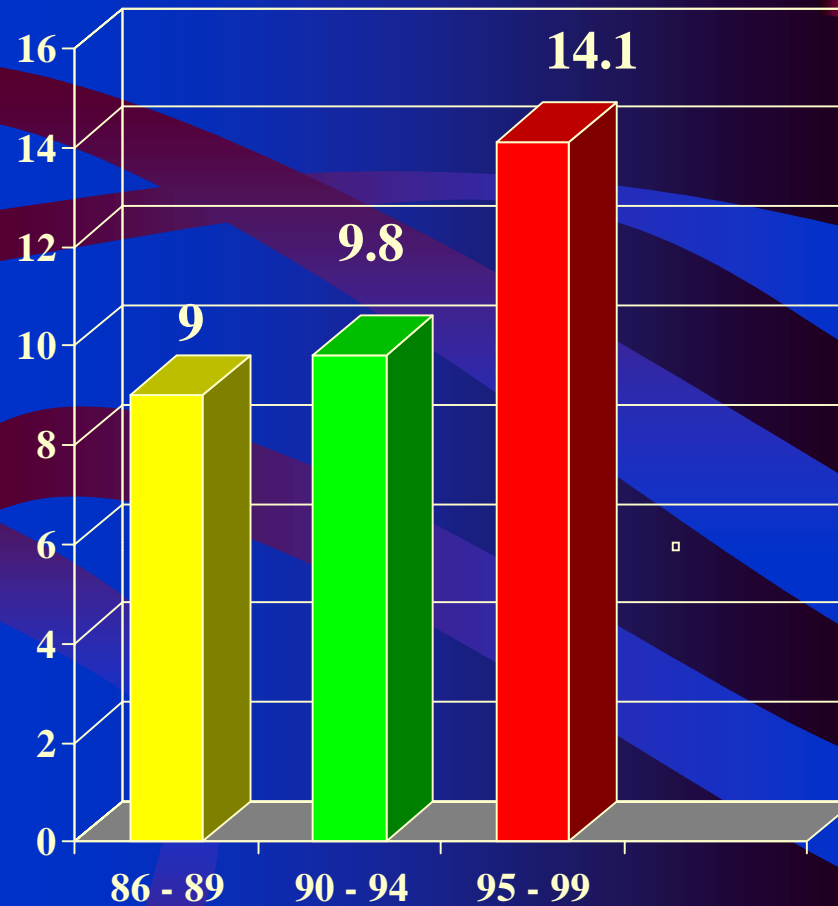
Kaplan-Meier survival estimates, by eragroup



Results - Graft survival

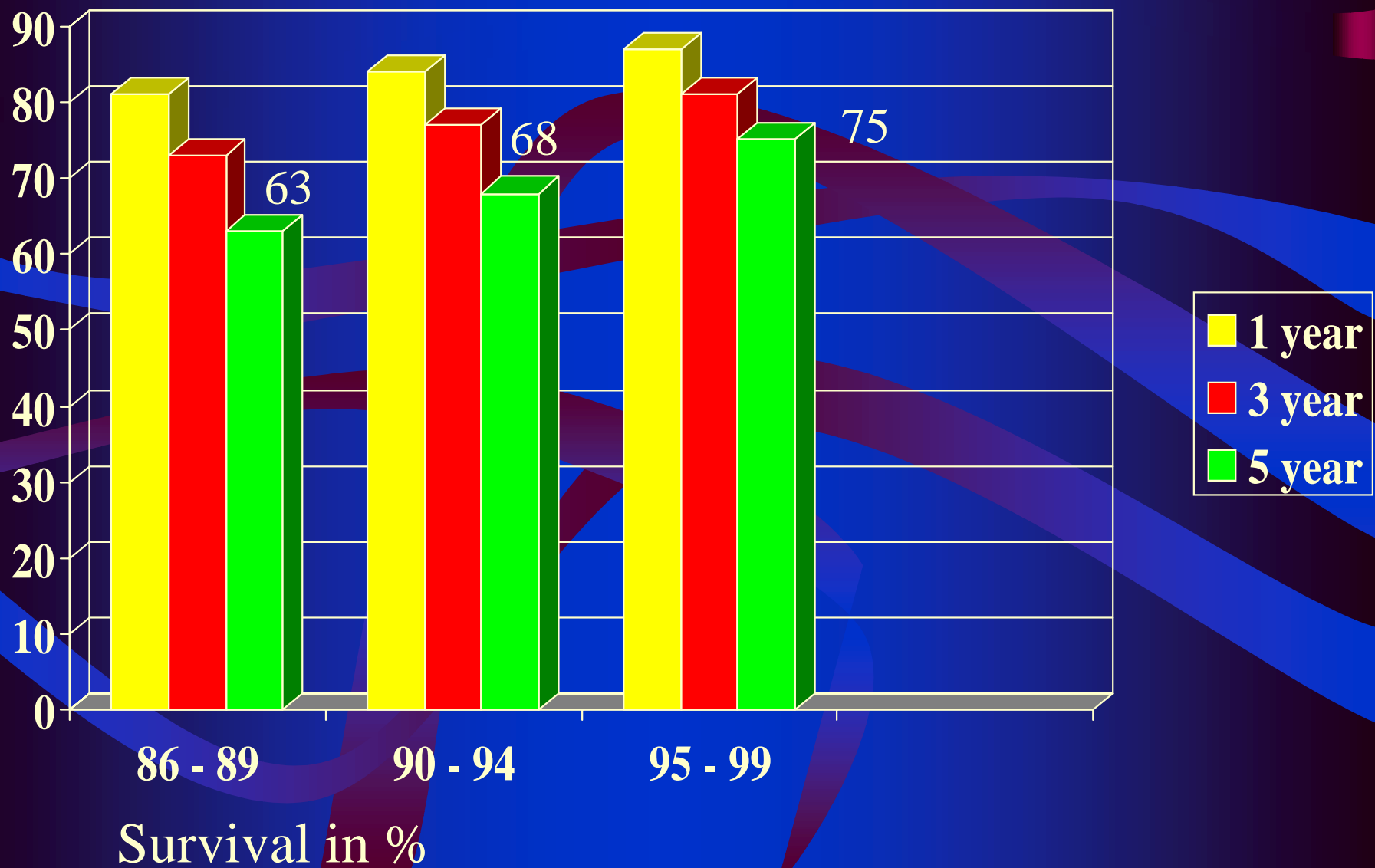


1 year graft survival %



Graft 1/2 life in years

1, 3 & 5 year graft survival



International Comparisons

| | UNOS - Hariharan et al* | Ireland |
|------------------------------|----------------------------|---------|
| 1 yr survival 1988 - % | 75.7 | 81 |
| 1 yr survival 1996 - % | 87.7 | 87 |
| Graft 1/2 life 1988 - yrs | 7.9 | 9 |
| Graft 1/2 life 1996 - yrs | 13.8 | 14.1 |

* N Engl J Med 2000; 342(9): 605 - 612

Results - Risk factors

| Variable | Hazard Ratio | p value | 95% C.I. |
|--|--------------|-------------|---------------|
| • <u>Era of transplant</u> | 0.813 | <u>.001</u> | 0.719 - 0.920 |
| • Recipient age | 1.005 | .114 | 0.999 - 1.010 |
| • Recipient sex | 1.036 | .557 | 0.879 - 1.269 |
| • <u>PRA %</u> | 1.210 | <u>.008</u> | 1.050 - 1.392 |
| • HLA mismatch | 0.927 | .455 | 0.763 - 1.129 |
| • <u>Transplant no.</u> (1 vs. 2 or more) | 1.280 | <u>.004</u> | 1.015 - 1.615 |
| • <u>CMV</u> | 1.793 | <u>.000</u> | 1.358 - 2.368 |
| • <u>Donor age</u> | 1.014 | <u>.000</u> | 1.008 - 1.020 |
| • <u>Donor sex</u> | 0.726 | <u>.003</u> | 0.587 - 0.896 |

Multivariate analysis (cox proportional hazard)

| Variable | Haz. Ratio | P value | 95% C.I. |
|-----------|------------|---------|-------------|
| Era | 1.54 | 0.004 | 1.14 - 2.07 |
| CMV + | 1.53 | 0.004 | 1.15 - 2.03 |
| Donor sex | 0.74 | 0.032 | 0.56 - 0.97 |
| Donor age | 1.02 | 0.000 | 1.01 - 1.03 |

Summary

- Short & long term improvement in graft survival
- Patient survival uniform in the 3 eras
- PRA, Transplant no., CMV +, - risk factors
- Donor factors- younger age, male sex - predict improved graft survival

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