

2013 ANNUAL REPORT

Kidney Transplantation

Royal Prince Alfred Hospital

Transplantation Services

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Summary

This is the tenth annual report of kidney transplant activity at Royal Prince Alfred Hospital (RPAH). RPAH provides the kidney transplant service for dialysis units at RPAH, Concord, Liverpool, Canberra, Dubbo, Wagga Wagga, Coffs Harbour, Moruya, Griffith Hospitals, and Noumea. Each year, two versions of this report are published, a clinician's version and a website version. The latter does not contain clinician specific data.

Highlights of the **2013** report are:

- 74 kidney transplants were performed, bringing the total at RPAH since 1967 to 2392.
- The number of living donor kidney transplants in 2013 was 35, up from 21 the year before. This included 7 ABO incompatible transplants and 4 kidneys sourced from the Australian Kidney Exchange program.
- The 12 month actuarial all patient and graft survival for patients transplanted in 2013, with a minimum 4 month follow up, was 98.7%.
- Pre-emptive kidney transplantation was only possible using a living donor kidney and was achieved in 26% of live donor recipients. 63% of live donor procedures were undertaken either before or within 1 year of recipients commencing dialysis.
- In contrast, 67% of the patients receiving a deceased donor kidney transplant waited more than 5 years after commencing dialysis. This is despite the progressive increase in deceased organ donation in NSW and Australia.
- The RPAH association with New Caledonia was strengthened by the commencement of deceased donor retrieval activity in Noumea. Seven Noumean recipients received either a living donor kidney or a deceased donor kidney retrieved from New Caledonia.
- The 5 year actuarial graft survival for ABO compatible living donor transplants (n=183) and ABO incompatible (n=46) is 95.4% and 95.6% respectively.
- Kidneys retrieved after circulatory death (DCD) have progressively decreased in number since 2011. All DCD recipients (n=8) required initial dialysis in 2013. All together, dialysis was required for 49% of the deceased donor kidney recipients.
- The actuarial patient and kidney graft survival by decades continues to improve.

This report was prepared by Bessie Berberovic, Pamela Dilworth, Lorraine Garry, Jane Mawson, Allyson Newman and Ainslie Mansell. Editorial assistance was provided by Richard Allen, Steve Chadban, Josette Eris, Kate Wyburn and Deborah Verran.

RPAH Kidney Transplant Team 2013

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David Robinson
Paul Sved

Arthur Vasilaris
James Wong
Charbel Sandroussi

Living Donor surgeon

Arthur Vasilaris

Physicians

Steve Chadban
David Gracey

Josette Eris

Kate Wyburn

Anaesthetists

Greg Lindsay

Robert Hackett

Gerald Wong

Psychiatrist

Kirsty Morris

Surgical Trainees

Carlo Pulitano
Roy Hopkins

Ali AlYami

Deepak Chhabra

Medical Trainees

Amali Mallawaarac
Mathini Jayabella

Rahul Sud
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Sanela Redzepagic
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Richard Waugh

Jim Raleigh

Kidney Transplant Coordinators

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Melissa McCrum

Ainslie Mansell

Allyson Newman

Nursing Team in Operating Suite

Kate Barraclough

Stan White

Jenny Watson

Inpatient Nurse Unit Manager

Susan Virtue

Clinical Nurse Educator

Linden Tabaranza

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Virginia Bielski
Jane Mawson
Amy Bisson

Georgia Lonergan
Ainslie Mansell
Rachel Catague

Allyson Newman
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Post Transplant Nurses

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Rachel Catague

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Pamela Dilworth

Gavin Lackey

Bessie Berberovic

Ambulatory Care - Reception

Rose Musumeci
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Dianne Kironomos

Grace Brennan

Administrative Support

Erin Farrell

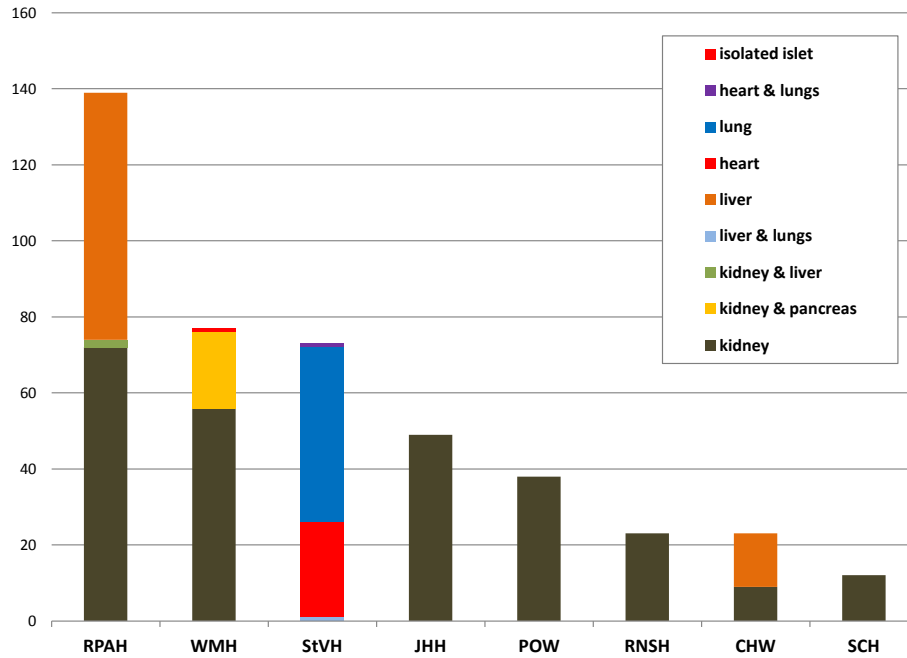
Manita Datt

Susan Doherty

NSW and National Transplant Activity

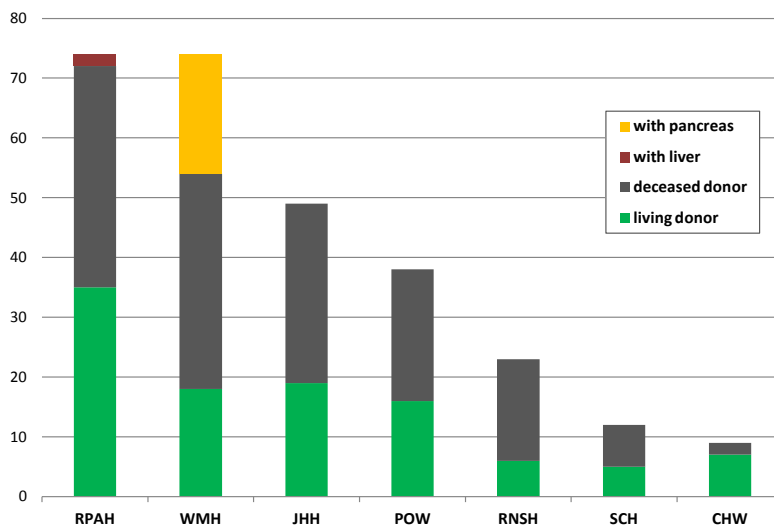
Solid organ and islet transplants in NSW in 2013

n = 434 recipients and 458 donor organs

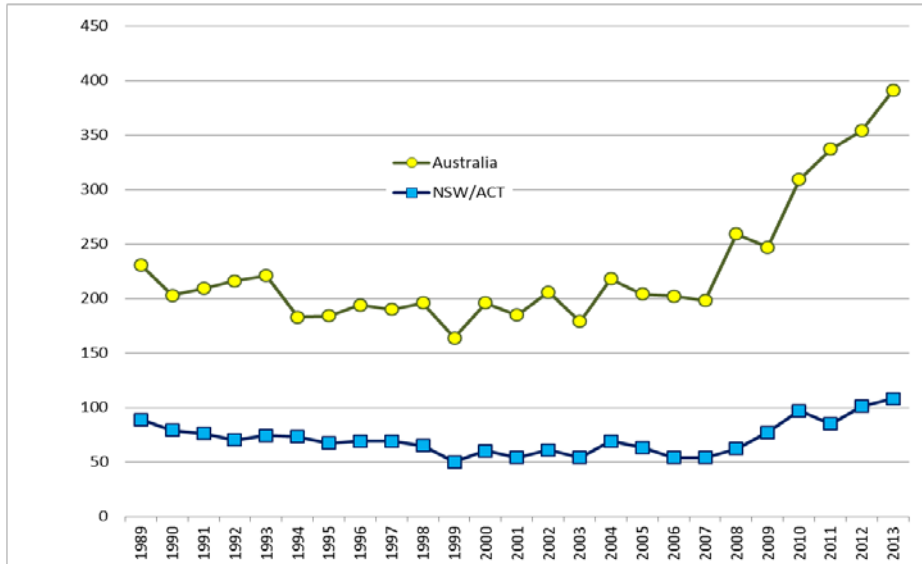


Kidney transplants in NSW in 2013

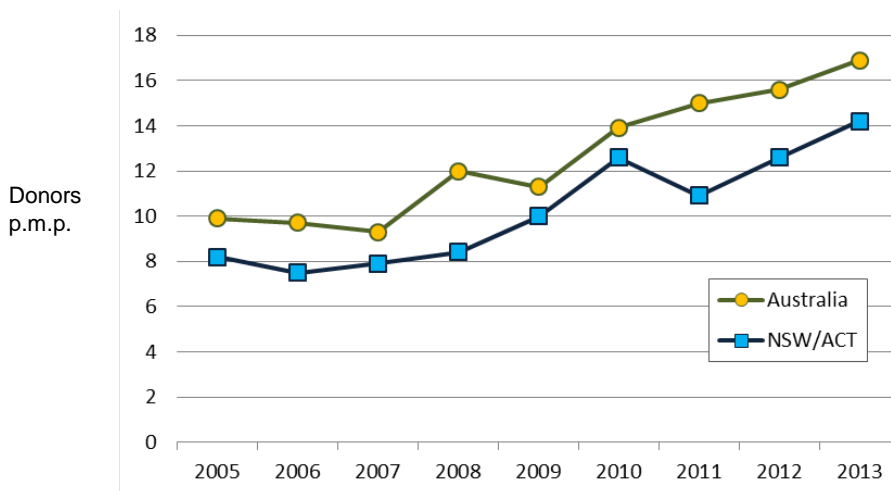
n = 279 kidneys transplanted



Deceased organ donation in Australia 1989 to 2013

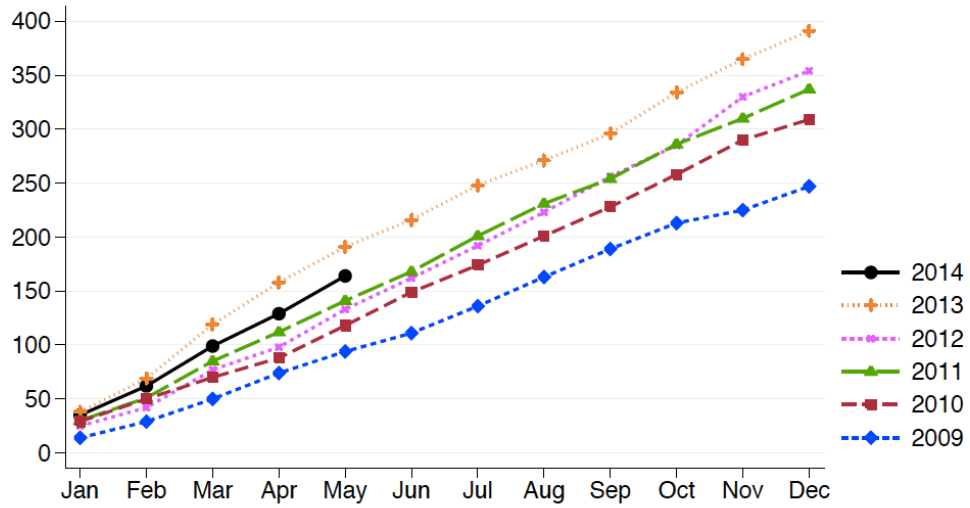


Deceased organ donor rates 2005 to 2013



Actual Donors (Cumulative Incidence) per Month

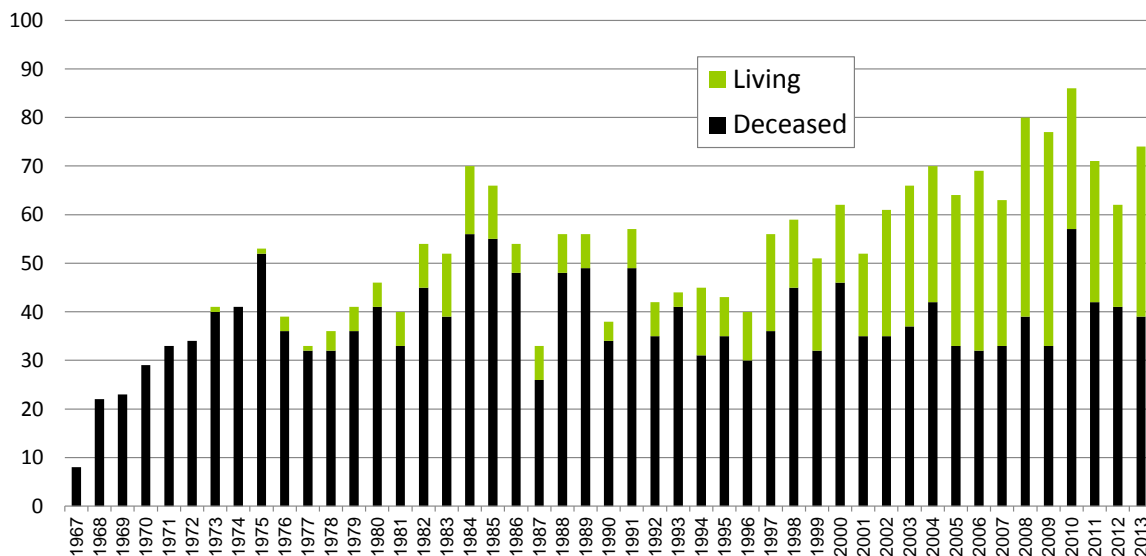
Australia



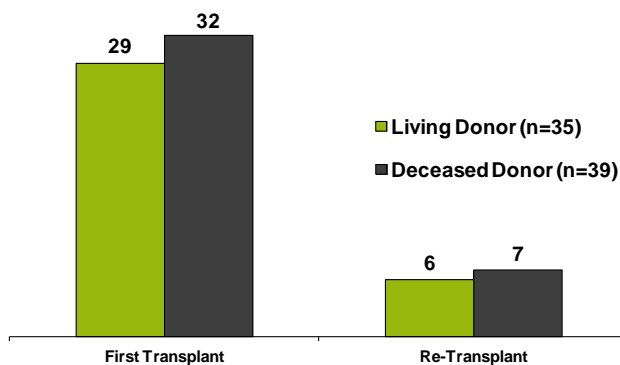
From ANZOD Registry, June 2014

RPAH Kidney Transplant Activity

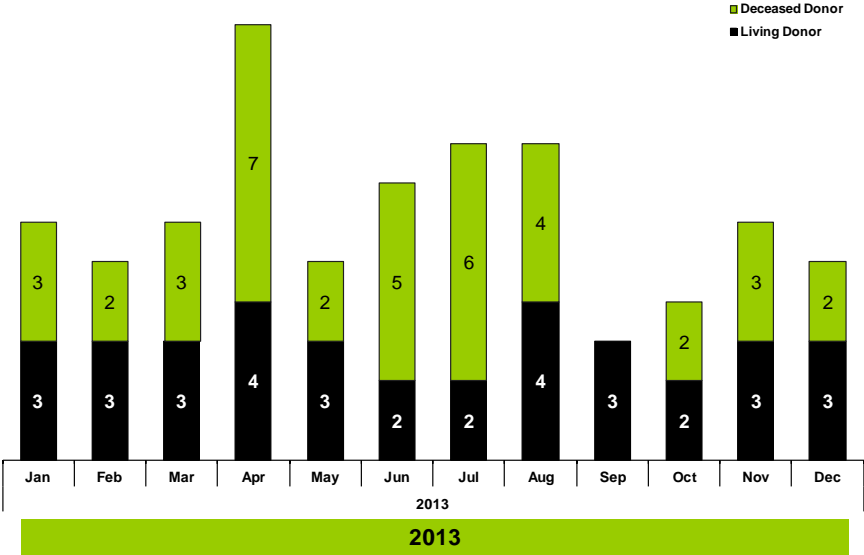
Kidney transplantation at RPAH - 1967 to 2013 (n=2392)



Kidney Transplantation at RPAH in 2013 (n=74)

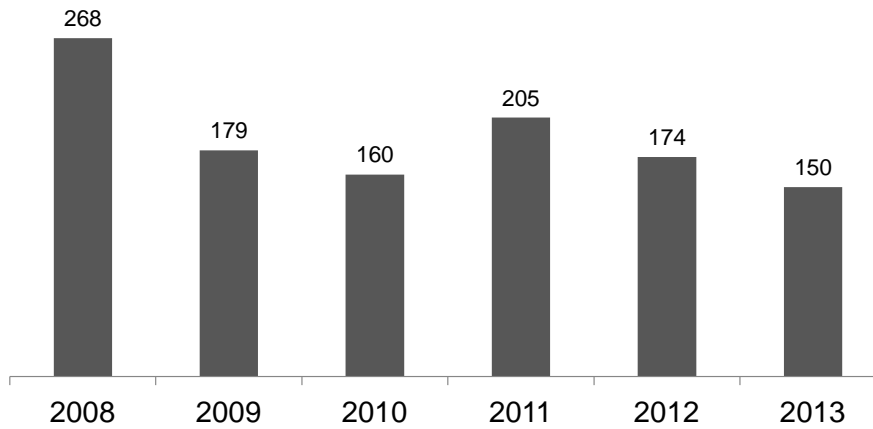


Monthly kidney transplant activity at RPAH - Jan 2013 to Dec 2013

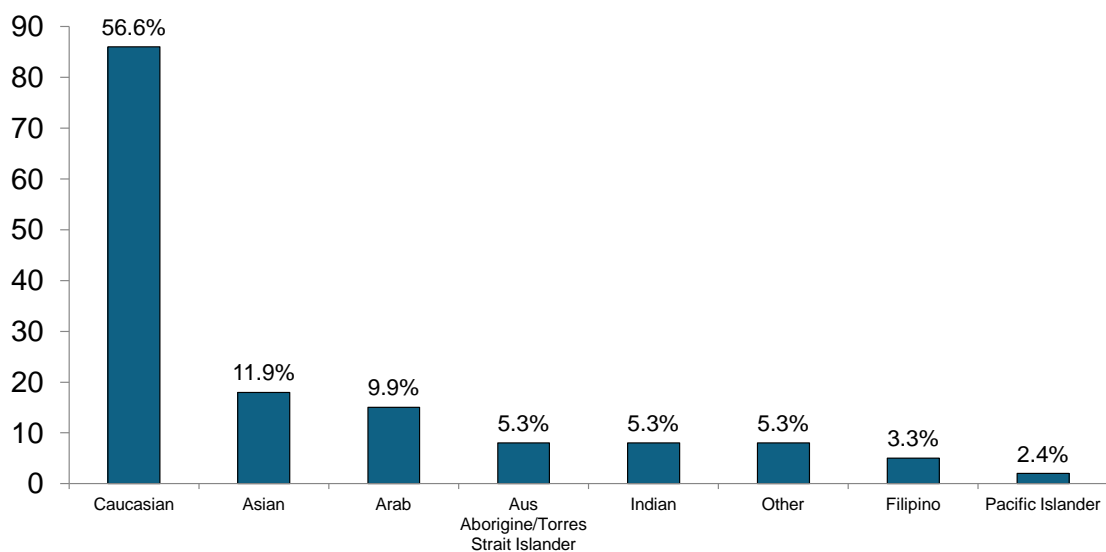


Waiting List

RPAH Patient Waiting List numbers at end of year

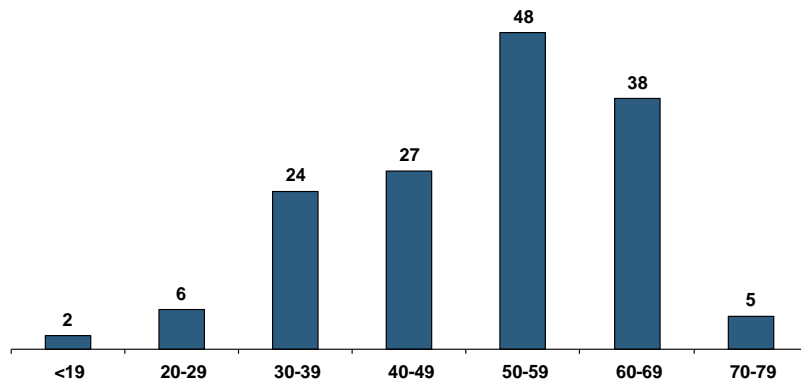


Ethnicity of patients on the waiting list % (n=150)



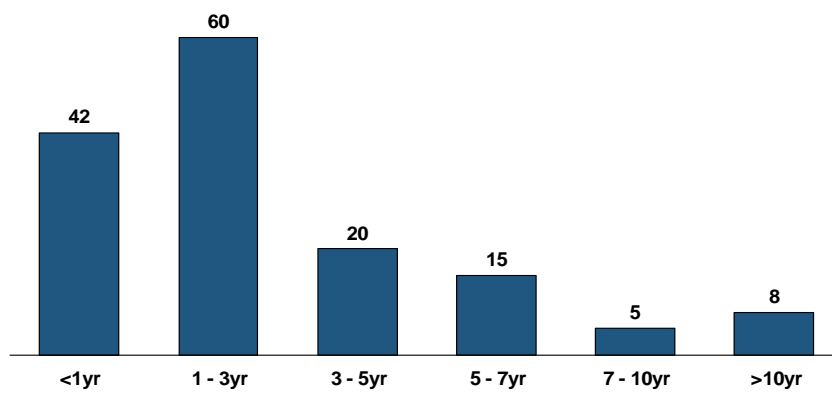
Age of patients on RPAH waiting list

as at Dec 31, 2013 (n=150)

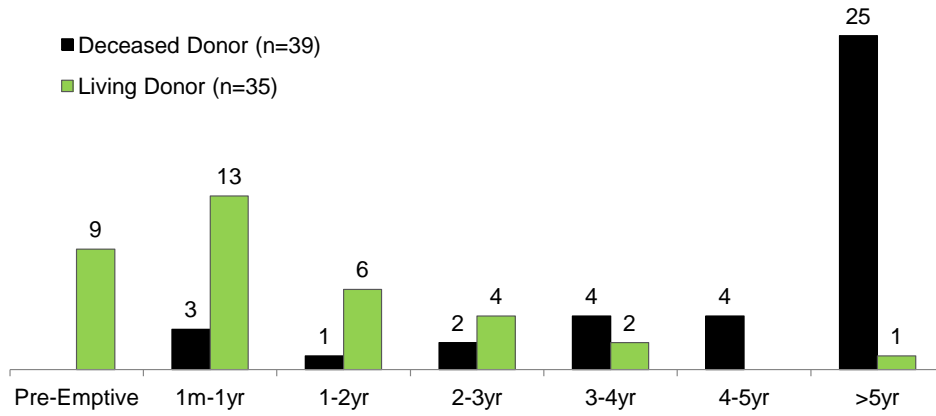


Time on waiting list for kidney transplant

as of Dec 31, 2013 (n=150)

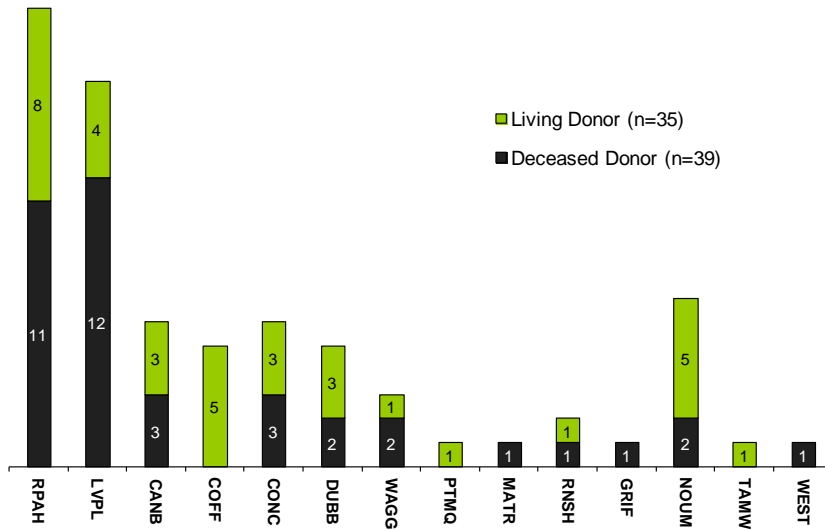


Waiting time for RPAH recipients of kidney transplants - 2013

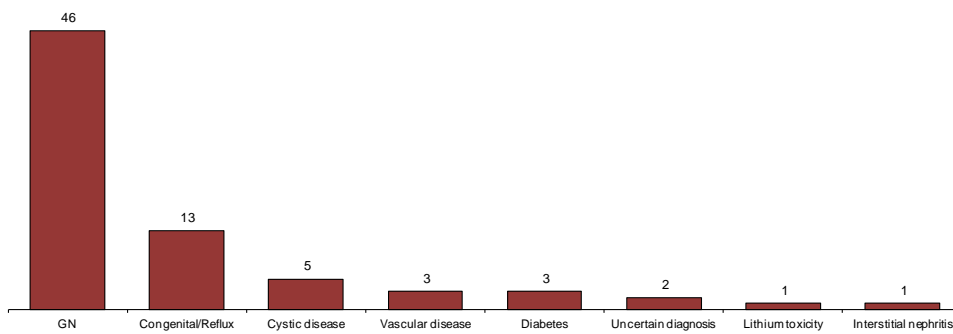


Recipient Demographics

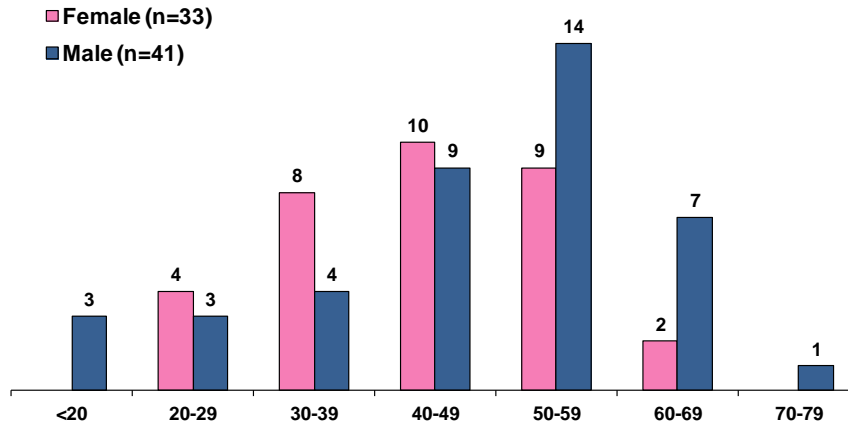
Recipient patient Referring Dialysis Centres - 2013



Primary Kidney Disease (n = 74)

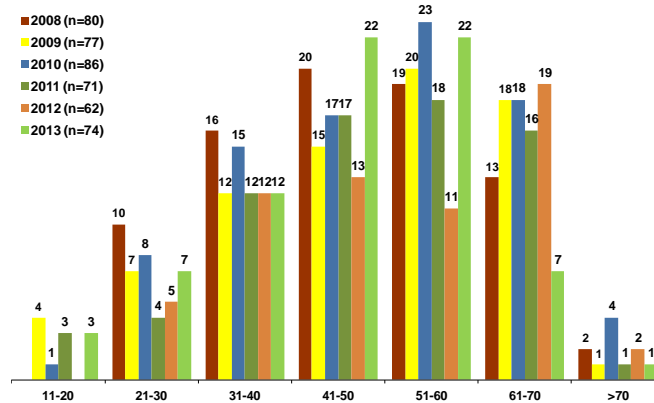


Recipient Age by Gender



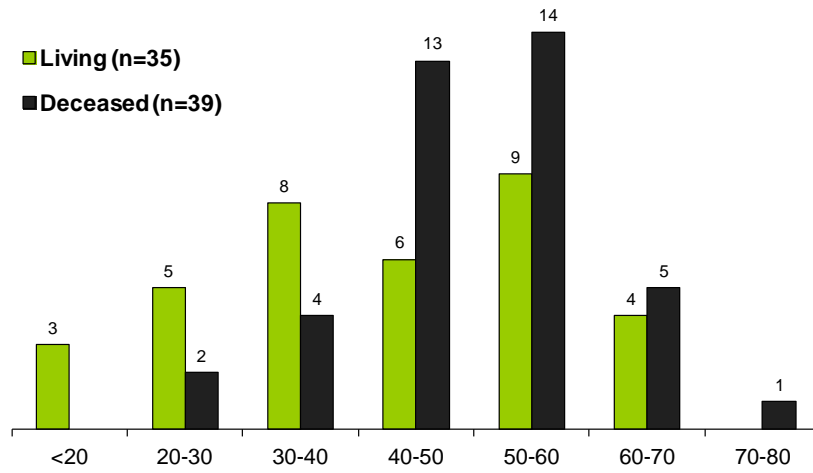
	Male	Female
Median	54	46
Mean	53	45

Recipient Age by Year - 2008 to 2013



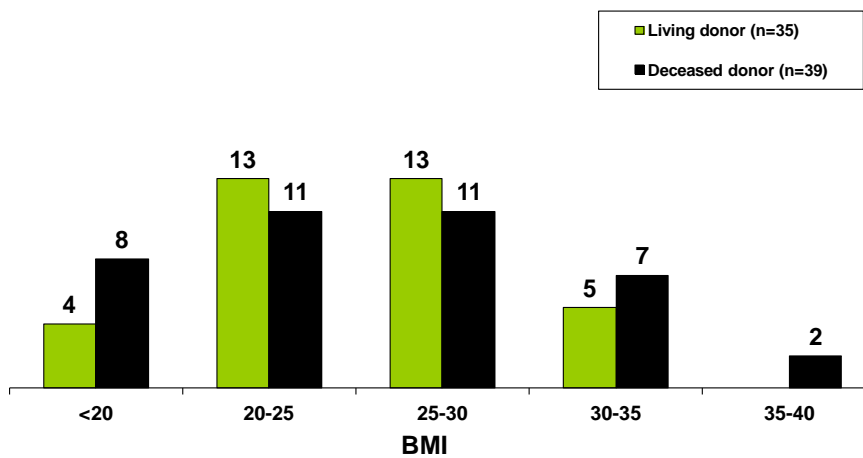
	2008	2009	2010	2011	2012	2013
Mean Age	48 ± 13	49 ± 15	50 ± 14	49 ± 14	50 ± 14	47 ± 13
Median Age	47	51	51	50	52	46

Recipient age by donor type

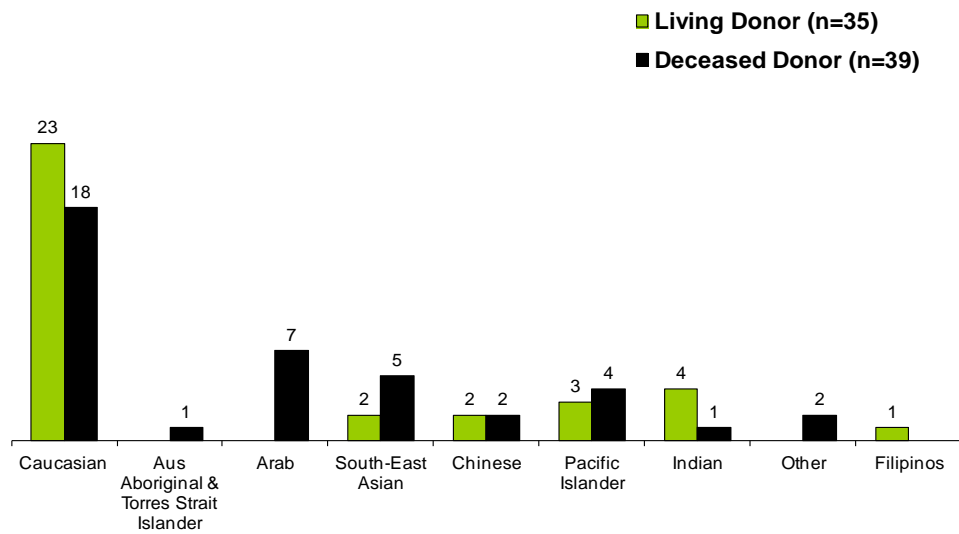


Age	Living donor	Deceased donor	
<50	22	19	p = ns
>50	13	20	p<0.001

Recipient BMI by Donor Type

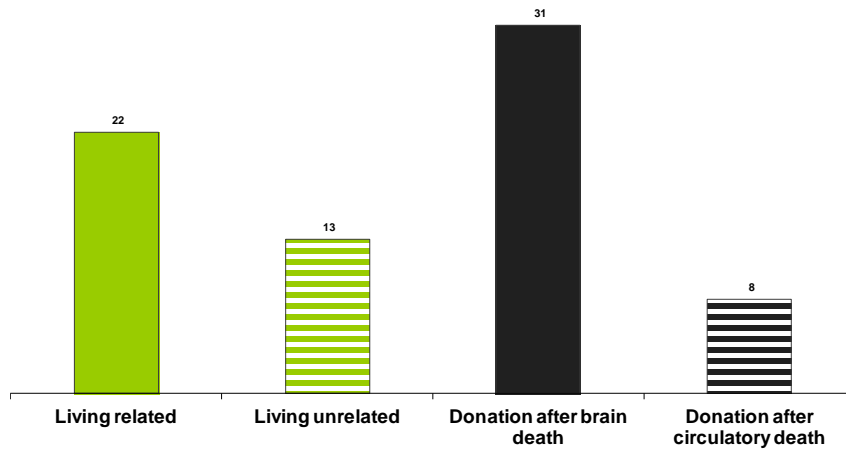


Ethnicity of transplant recipients (n = 74)



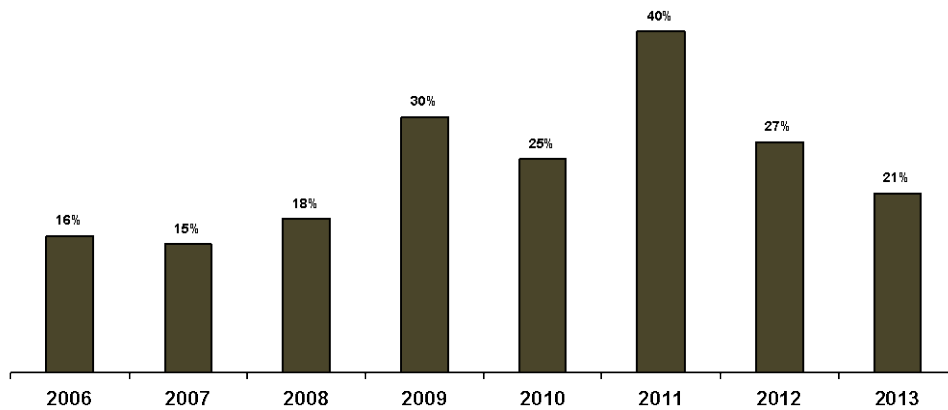
Kidney Donor Demographics

Kidney Donor Source

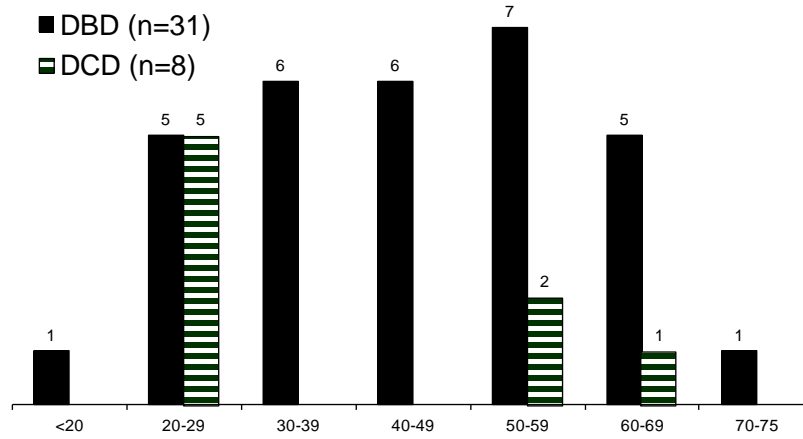


Donation after circulatory death (DCD)

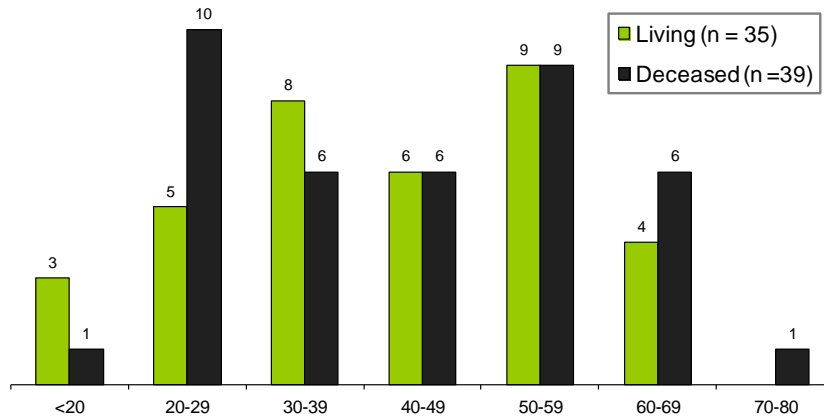
as percentage of yearly deceased donor transplants at RPAH 2006 - 2013



Donor Age of deceased donor kidneys (n=39)

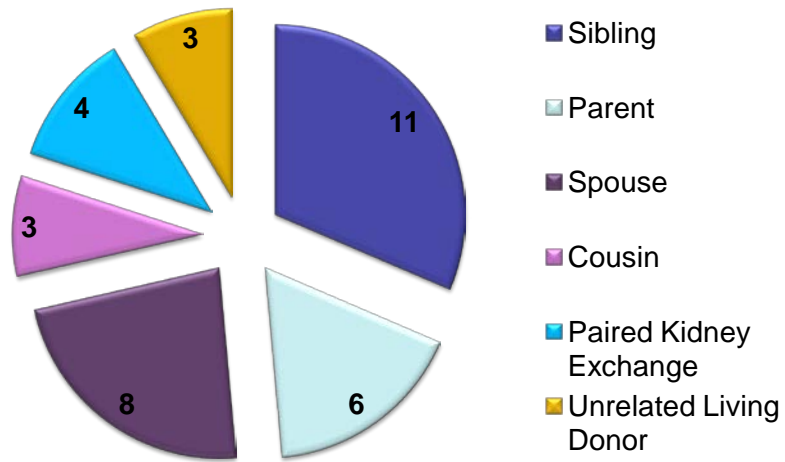


Donor Age

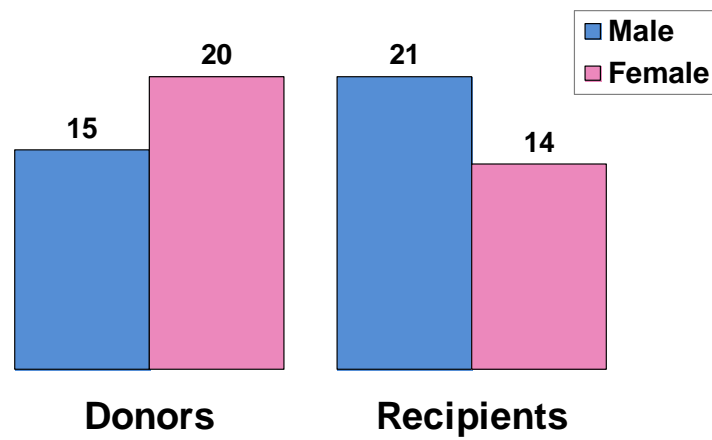


Living Donors	Median Age = 43	p<0.001
Deceased Donors	Median Age = 49.8	p<0.001

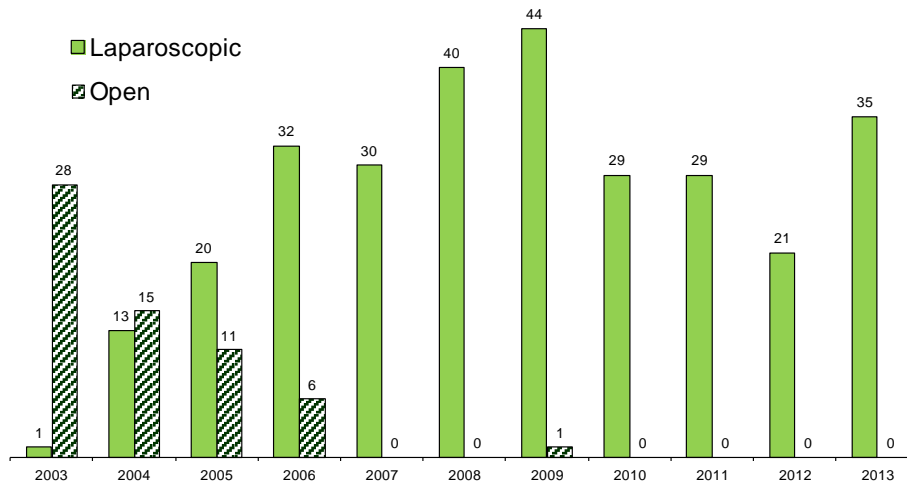
Relationship of living kidney donors – 2013 (n=35)



Gender of living kidney Donors & Recipients (n=35)

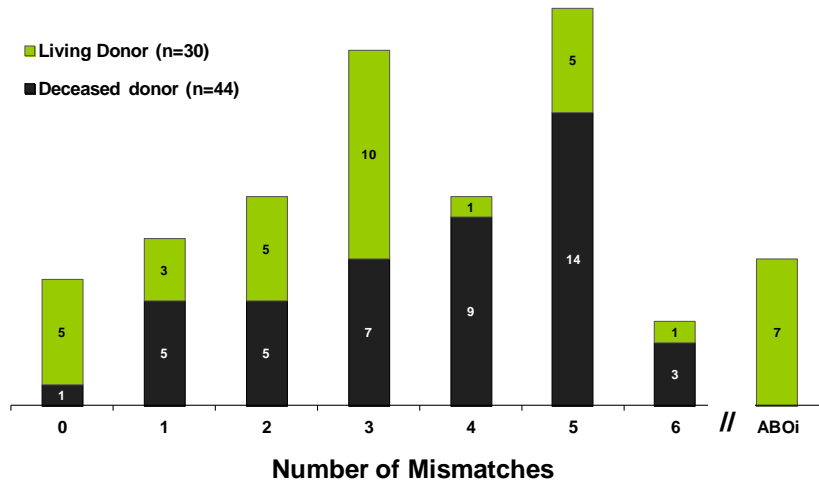


Living donor nephrectomy at RPAH - 2003 to 2013

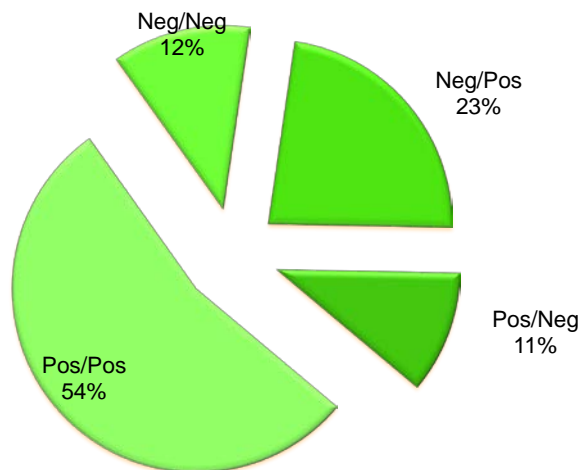


Transplant Demographics

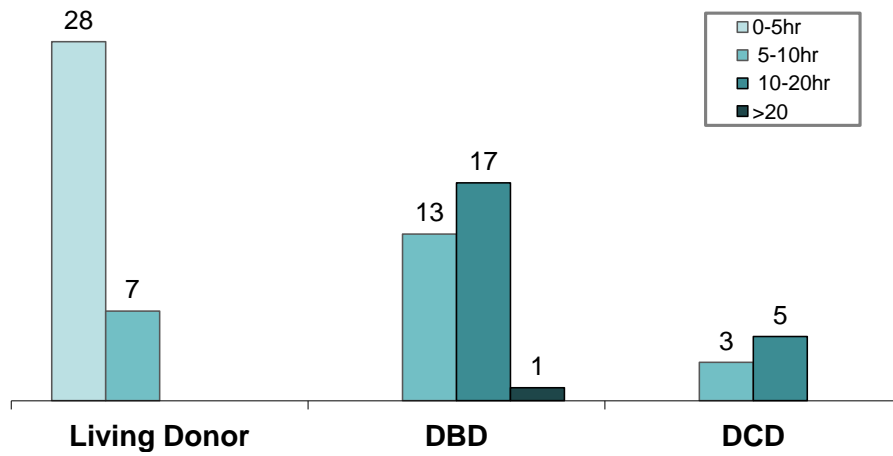
HLA Mismatches



CMV Donor/Recipient Matching n=74

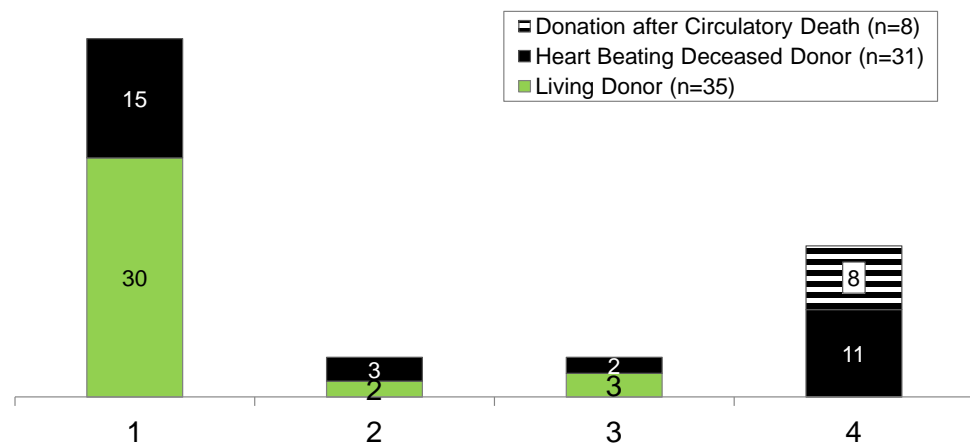


Total donor kidney transplant ischaemia time n=74



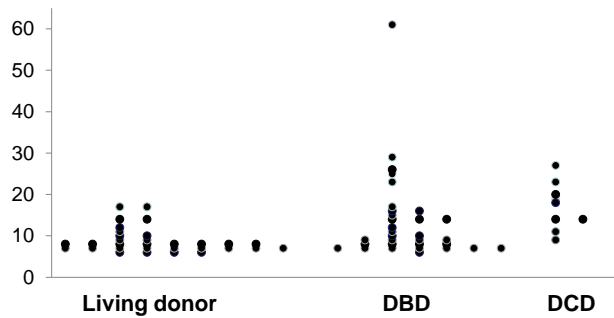
	LD	DBD	DCD
Mean Time	4.23 ± 1.55	10.85 ± 4.26	8.97 ± 1.50
Median Time	4.2	10.9	9.0

Initial Graft Function according to donor source



1. Spontaneous fall in se.creatinine by 10% within 24 hrs
2. Spontaneous fall in se.creatinine by 10% , first recorded between 25-72 hrs
3. Poor immediate function. No spontaneous fall in se.creatinine within 72 hrs; but no dialysis needed
4. No immediate function. No spontaneous fall (>10%) in se.creatinine; dialysis required within 72hrs

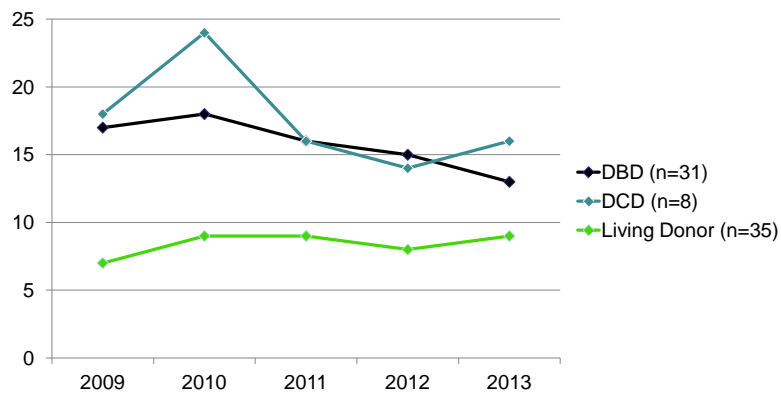
Initial bed days after transplantation n=74 patients



Initial bed days after transplantation

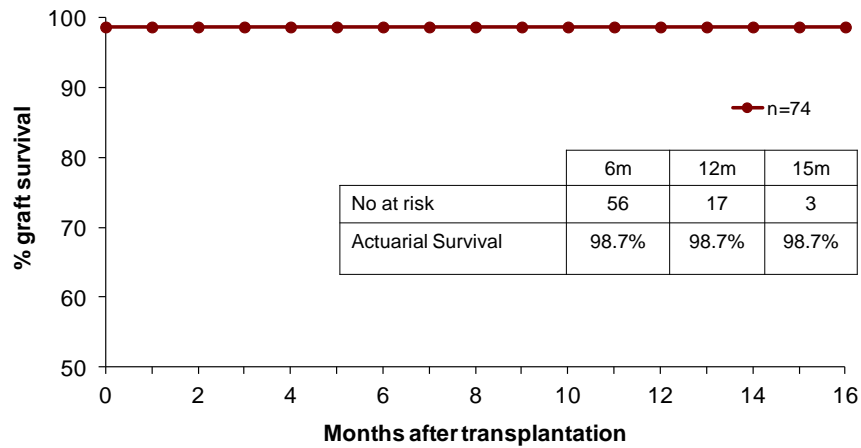
	Living Donor n=35					DBD n=31					DCD n=8				
	2009 (n=44)	2010 (n=29)	2011 (n=29)	2012 (n=21)	2013 (n=35)	2009 (n=23)	2010 (n=43)	2011 (n=25)	2012 (n=30)	2013 (n=31)	2009 (n=10)	2010 (n=14)	2011 (n=17)	2012 (n=11)	2013 (n=8)
Max	19	17	28	14	17	51	69	59	29	61	44	151	33	27	23
Min	5	5	5	6	6	6	6	6	6	6	6	8	7	8	9
Mean	7	9	9	8	9	17	18	16	15	13	18	24	16	14	16
Median	6	7	7	8	8	9	13	10	10	9	16	12	14	13	14

Mean of initial bed days after Transplantation 2009 - 2013

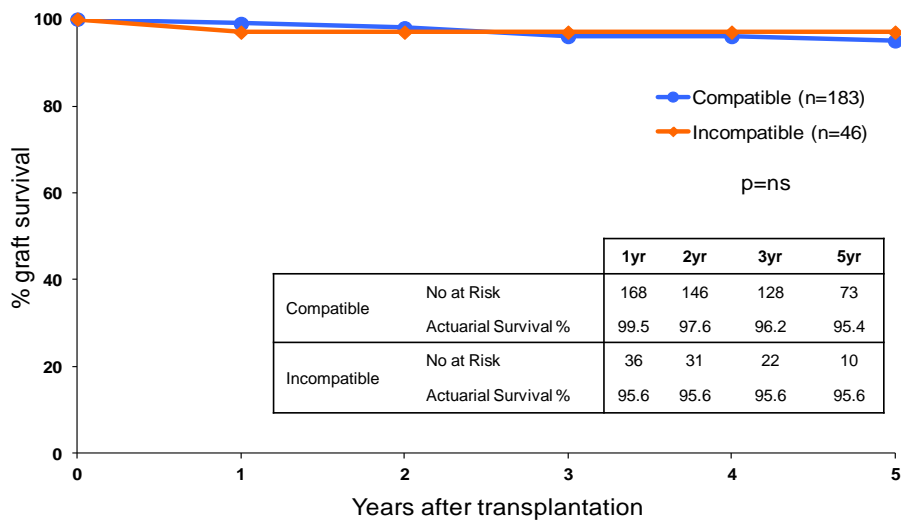


Patient and Graft Survival

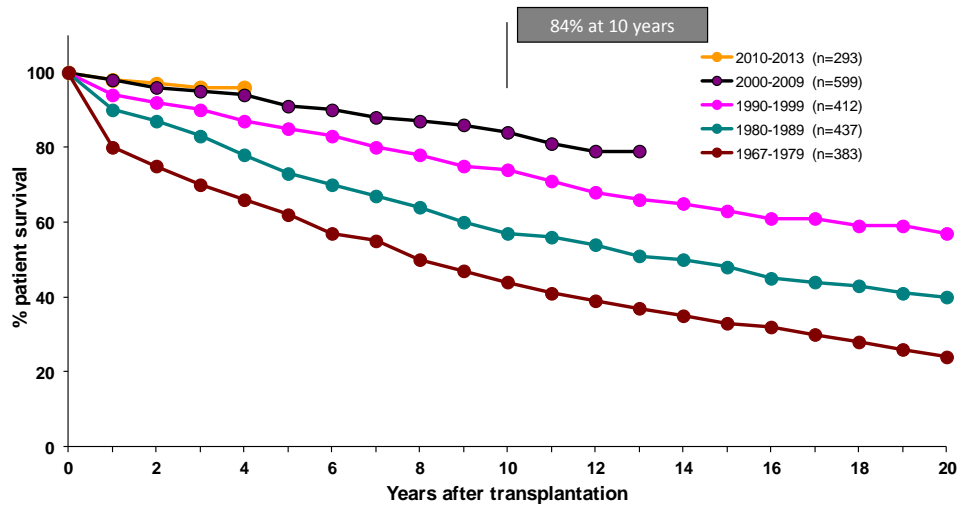
RPAH Actuarial Graft survival in 2013 = 98.7% at 16 months



Living Donor Graft Outcomes – 1st July 200 to 31 December 2013
ABO compatible *versus* ABO incompatible

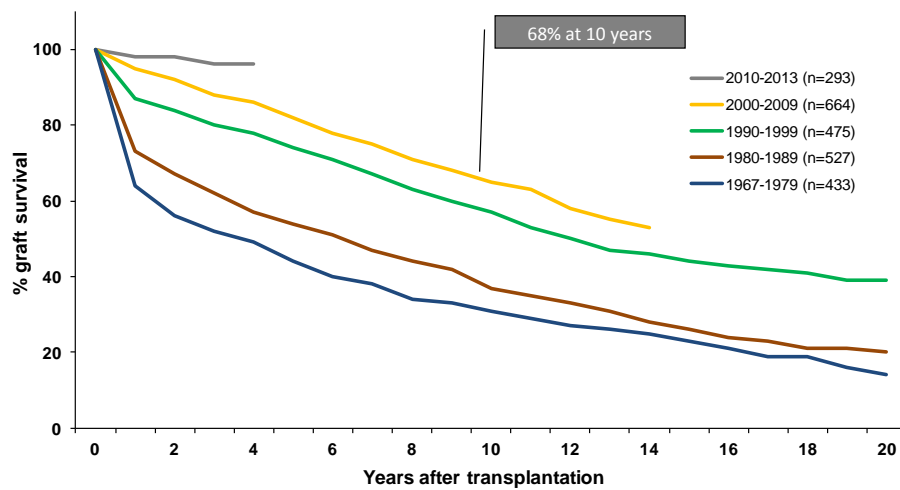


RPAH Actuarial Patient Survival by Decade



Source = RPAH database

RPAH Actuarial Graft Survival by Decade



Source = RPAH database