



East of Scotland Renal Transplantation Service

Annual Report

The Royal Infirmary of Edinburgh

April 1st 2009 to March 31st 2010

November 2010

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Introduction

Kidney transplantation activity in the UK for the last two financial years is summarised in five tables in Section LAG(10)18, Appendix 1.

It will be noted that the trend of increasing registrations for kidney transplantation in the UK has slowed down. Indeed there has been a marginal decrease in the size of the (active) UK kidney transplantation waiting list between April 2009 and April 2010. Small but meaningful increases were observed in DCD (deceased cardiac death, i.e. non-heartbeating) transplants and living donor transplants in the last year. DBD (deceased brain death, i.e. heartbeating deceased donor) transplant numbers have remained unchanged.

In the East of Scotland the trends have been slightly different. Overall kidney transplantation activity increased by around 4%. The relative increases were greater in living donor transplantation and DBD transplantation, with a small decline in DCD transplants. The ongoing increase in activity is clearly very welcome and represents close to a 100% increase in kidney transplantation numbers in the East of Scotland over the last five years. As a natural consequence, workload for both inpatient and outpatient management of patients and for operating theatres has increased considerably.

This has raised concerns about the pressures on inpatient beds, theatres and outpatient clinic facilities. There has been a recent workshop to address these issues and highlight them with the Clinical Management Team with the aim of working towards a more sustainable programme. The benefits of increased transplantation are varied, not least for patients. We have also been able to offer transplantation training to Renal SpRs (specialist registrars) from both Aberdeen and Dundee, who in a three-month period are assured of a wide-range of exposure.

The Renal Transplant Unit aims to further promote living donor transplantation – an area where Edinburgh acknowledges relatively poor rates compared to other UK units. We performed 28 live donor nephrectomies and 26 transplants in 2009. There is a need to improve our processes for the living donor transplant programme. Part of this requires us to raise with patients the concept of living donation early and emphasise to them that a donor need not be a blood relative.

A parallel strategy is offering ABO (blood group) incompatible transplantation. This new initiative has started in the last year. The first graft was performed with a successful outcome. The programme involves close collaboration and input from SNBTS (Scottish National Blood Transfusion Service), Nephrology, Transplant Co-ordination and Transplant Surgery.

There is still a need, highlighted in last year's annual report, to capture sufficient data to enable accurate reporting of acute rejection rates; any changes in post-transplantation CMV (cyto megalovirus) rates as a consequence of agreed changes in the immunosuppression protocol; and graft outcome at one year.

We remain keen to move forward to establish the comprehensive collection of a defined data set which will give valid outcome data for all patients transplanted in Edinburgh. eHealth resource and support is needed to enable this. It was decided to try and utilise the Scottish

Renal Registry to avoid duplication of current data collection and ensure close to 100% data collection. This would be facilitated by a Scotland-wide renal eHealth system.

Immunosuppression protocol

At our most recent annual protocol review meeting, with representation from all contributing units, it was agreed to switch to a Tacrolimus, MMF (mycophenolate mofetil) and Prednisolone regime with anti-IL2 receptor antibody induction. To cover expected higher CMV infection rates, we agreed to broaden CMV prophylaxis to all D+ or R+ transplants and prolong duration of prophylaxis to six months. It was also decided to change the initial treatment for acute rejection (pulsed methylprednisolone) from 250mg X3 to 500mg X3.

Recipient Transplant Co-ordinators Report

Recipient transplant co-ordinators fulfil the following roles:

- Pre-Transplant assessment clinics and work-up
- On-call cover in the East of Scotland for kidney, and throughout Scotland for pancreas and islet cell transplants
- Daily support and education throughout hospital admission
- Pre-discharge information
- Nurse-led transplant clinics
- Outreach clinics
- MDT preparation and Education
- Local and national Audit
- First point of contact for patients and families and other units within Scotland
- Links with the media
- Promoting our service to other health boards and within co-ordination networks
- Protocol development.

Recipient transplant co-ordinator posts are divided as follows:

- 1 fully-funded renal recipient transplant co-ordinator in Edinburgh
- 1 seconded renal recipient transplant co-ordinator in Edinburgh (funding not secure)
- 1 seconded renal recipient transplant post (now vacant)
- 1 renal recipient transplant co-ordinator in Ninewells (0.5 funding not secure)
- 1.5 fully-funded pancreas/islet recipient transplant co-ordinators covering Scotland.

Activity in the nurse-led post-renal transplant clinics continue to increase and in some areas we have had to increase the number of clinics. We now run two outreach clinics in Fife, at Queen Margaret Hospital and the Victoria Hospital. The clinic in St John's is almost at capacity and we may have to look at increasing the sessions next year. The increase in outpatient activity is shown in Figures 1-3.

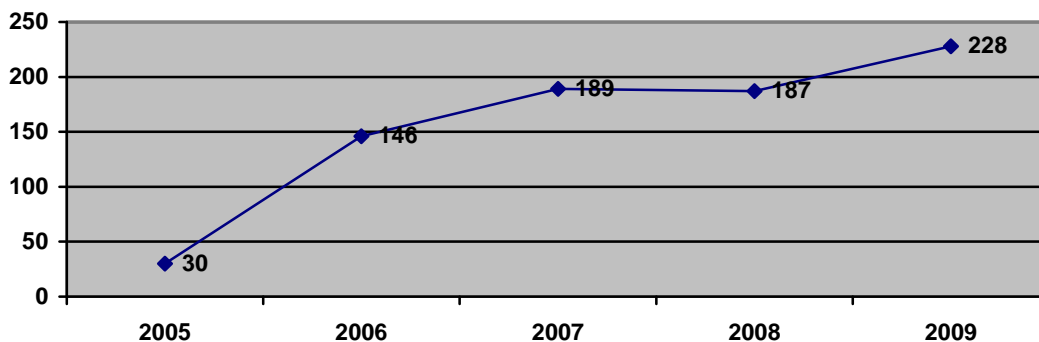


Fig 1. Royal Infirmary of Edinburgh nurse-led clinic

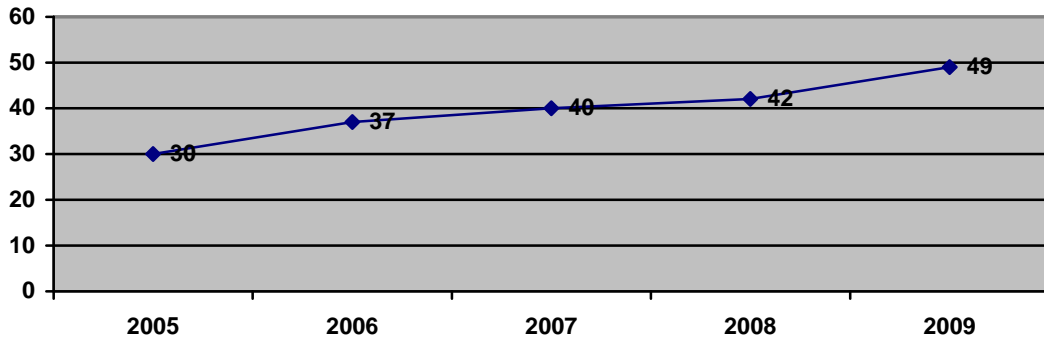


Fig 2. St John's Hospital outreach nurse-led clinic

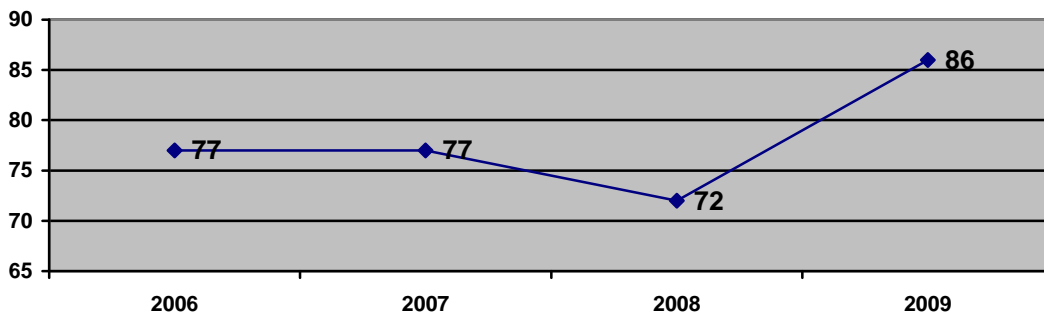


Fig 3. Queen Margaret Hospital and Victoria nurse-led clinic

Scottish Donor Co-ordination Service Report

2009/2010 has been another challenging and exciting year for our service.

We have doubled the number of donor co-ordinators within Scotland and recently our name has been changed to 'Specialist Nurses – Organ Donation' (SN-OD). We are now all employed by NHS Blood and Transplant (NHSBT).

This last year has seen all the specialist nurses become resident within their local hospitals:

Royal Infirmary of Edinburgh – Irene Young

St John's Hospital – Lesley Howard

Western General Hospital – Lesley Howard

Aberdeen Royal Infirmary – Carolyn Reid/Jane Wordie

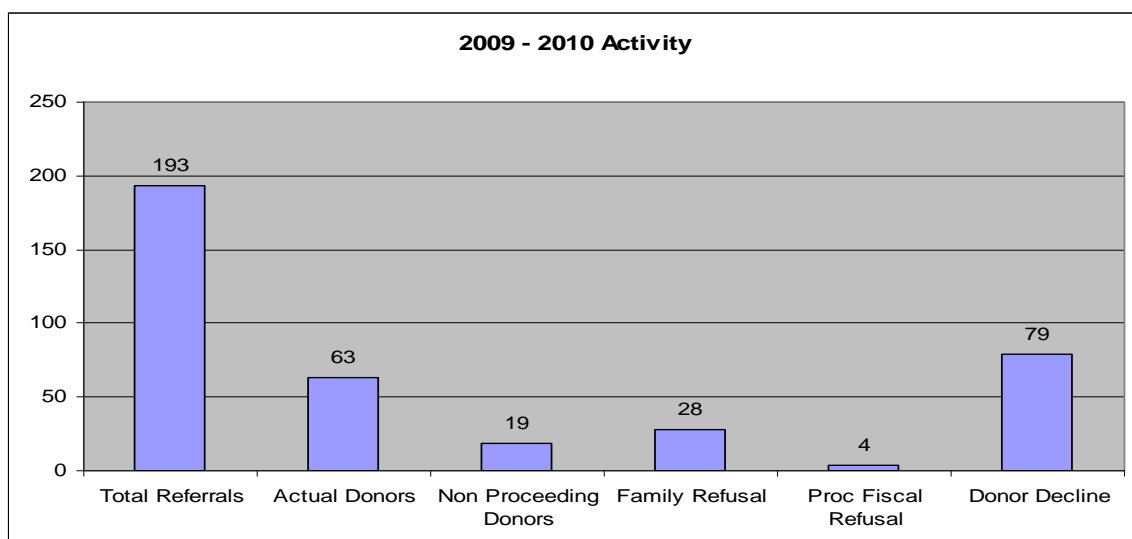
All Scottish donating hospitals have now appointed clinical leads in organ donation (CLODS) and are progressively working towards setting up the donation committees that will steer and monitor donation activity.

Recently, the Golden Jubilee Hospital in Glasgow has shown donor potential (level 3) and has therefore been added to the list, and they are going to appoint a clinical lead in the near future.

Over the last year, we have been training new specialist nurses and now have a fully competent team.

NHSBT has introduced a new form of receiving and reporting information, which, with the CLODS, will enable us to feedback comprehensive donation activity on a regular basis.

Over the last financial year we have seen a steady increase in organ donation activity, as detailed in the chart below:

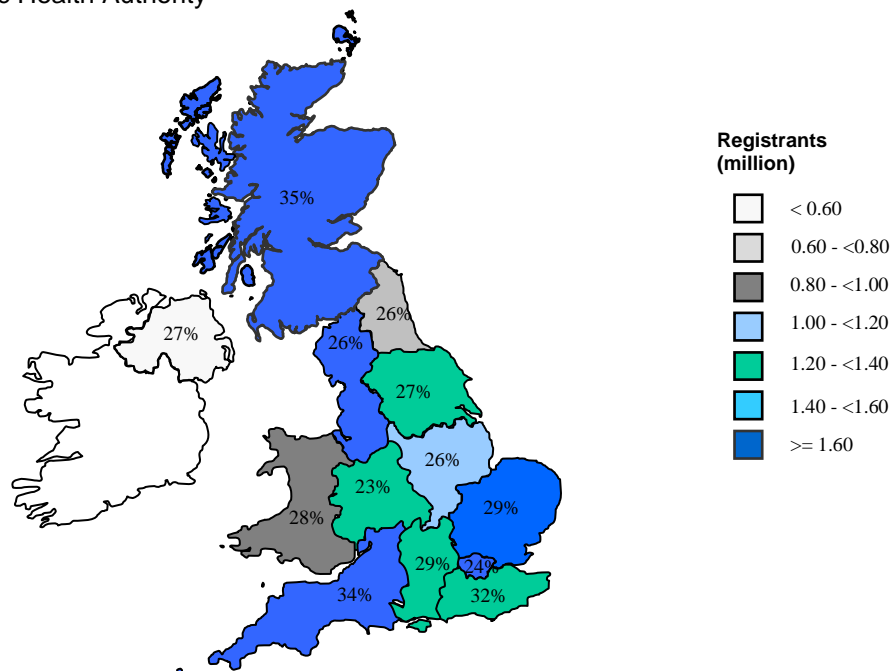


Scottish Donor Co-ordination Service Report (continued)

As you will see in Map 1, Scotland continues to do well with organ donation registration percentages:

Map 1

Proportion of population registered on the NHS Organ Donor Register by February 2010, by Strategic Health Authority



Future developments

It is hoped that we will be holding a “gathering” in Scotland later this year for all donor families.

The last year has been a very positive time involving a lot of progress with the SN-ODs, CLODS and all our donating hospitals.

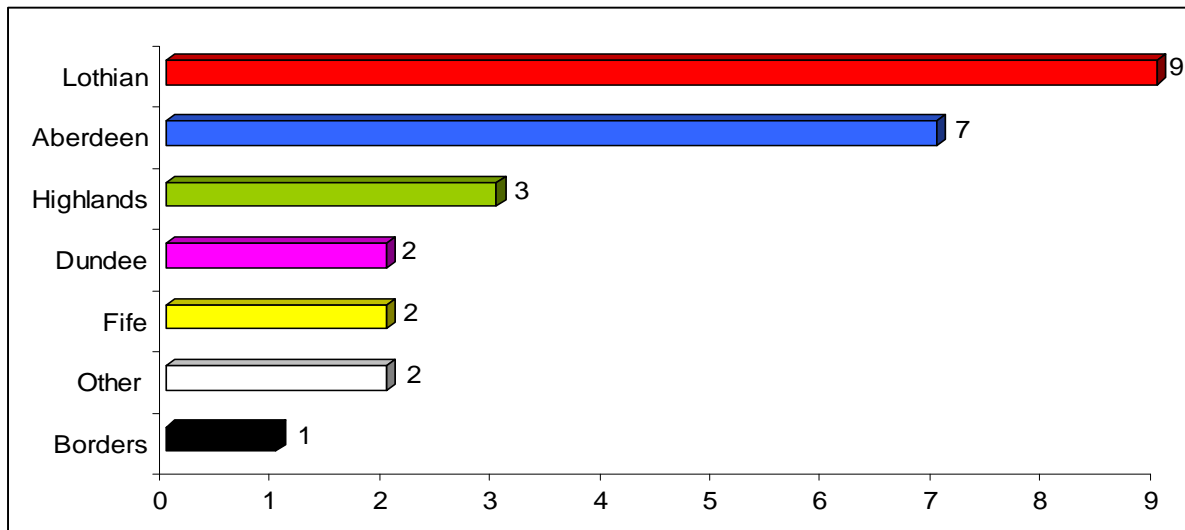
Liz Waite
Donor Transplant Co-ordinator Team Leader

Living Donor Kidney Transplantation

There were 26 living kidney donor transplants performed between April 1st 2009 and March 31st 2010. This represents a 30% increase from the previous year. In addition, two altruistic donor nephrectomies were performed and these kidneys were exported. All grafts are functioning.

Seventeen recipients of live donor transplants were on haemodialysis at the time of transplant, seven were on peritoneal dialysis and two transplants were pre-emptive.

Live donor transplant by recipient centre.



Paired exchange

The national paired/pooled programme continues to offer transplants to highly sensitised or blood group incompatible transplants. In the period January 2007 to July 2009, 253 patients enrolled into this scheme and 35% were matched with suitable live donors. Thirty-two living donor transplants were performed in the UK with exchange scheme live donors. This represents 1.8% of UK live donor transplants in 2008/2009.

Two Edinburgh patients were matched last year. In April, a match and exchange transplantation took place between Edinburgh and Oxford. In December, Edinburgh was one of the first centres involved in a successful three-way exchange.

Altruistic donation

The altruistic donation programme is beginning to have an impact nationally. Since its inception in July 2007 until August 2009, 23 altruistic donor transplants have been performed in the UK, representing 1.7% of all live donor transplants in 2008/2009.

In Edinburgh we have performed a total of five altruistic donor nephrectomies. Two have been carried out between 1st April 2009 and 31st March 2010.

Blood group incompatible transplants

Edinburgh performed its first blood group incompatible transplant in November 2009. This is a new development and a clinically demanding procedure requiring close co-operation between staff in H&I, SNBTS, Nephrology and Transplantation.

Laparoscopic nephrectomy

Twenty laparoscopic nephrectomies have been performed with one conversion to open. There have been seven open nephrectomies.

Transplant outcome

One- and five-year graft survival following first living donor kidney transplant

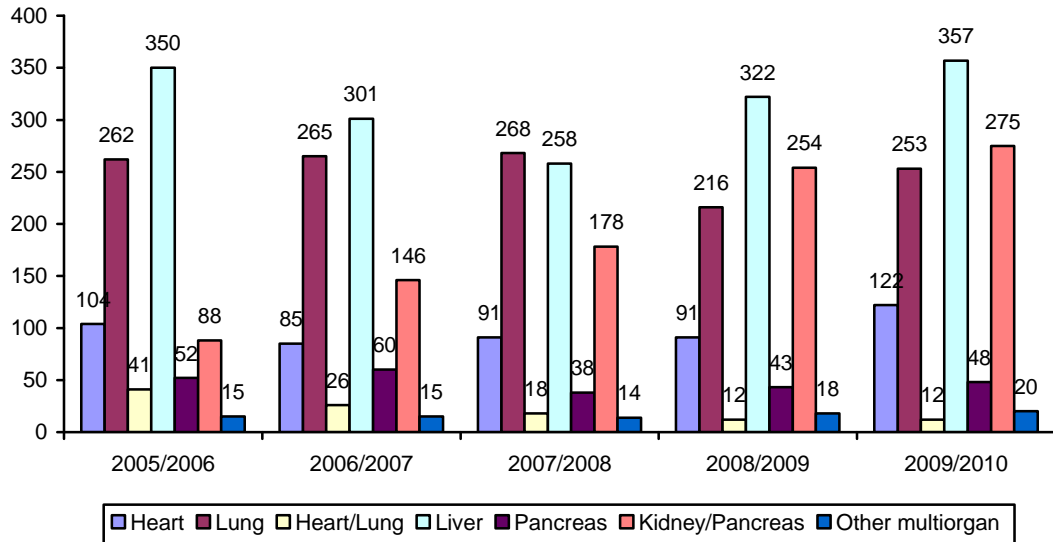
Survival period	Year of transplant	No. in analysis	Survival	95% confidence int.
One year	2002 - 2008	104	97.1%	91.3 – 99.1%
Five years	1997 - 2003	88	88.1%	79.1 – 93.4%

One- and five-year patient survival following first living donor kidney transplant

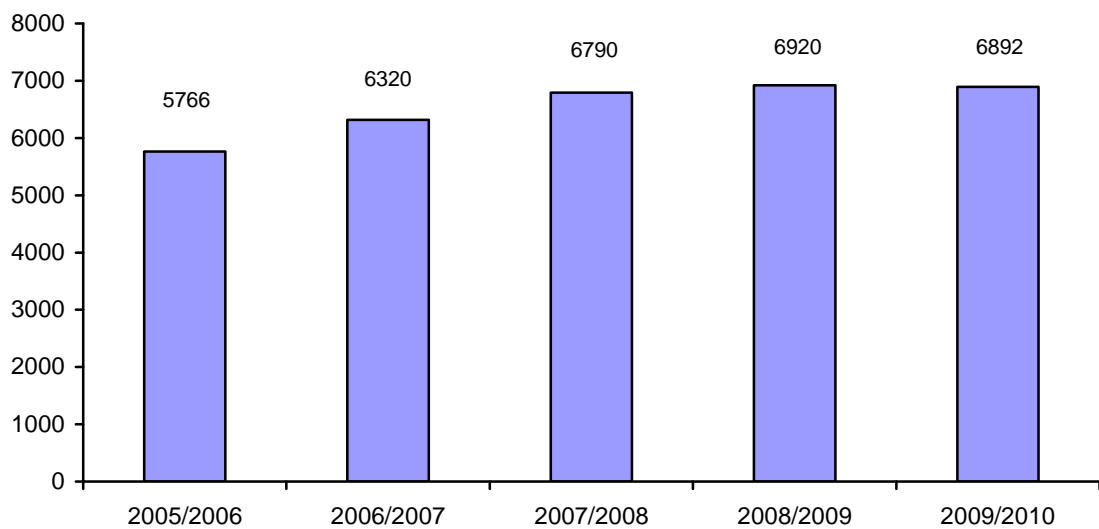
Survival period	Year of transplant	No. in analysis	Survival	95% confidence int.
One year	2002 – 2008	104	99.0%	93.2 – 99.9%
Five years	1997 - 2003	88	94.0%	86.2 – 97.5%

Waiting List and Renal Transplant Statistics

UK active waiting list – all organs (except kidney) 2006 to 2010



UK waiting list – kidney-only (active) 2006 to 2010

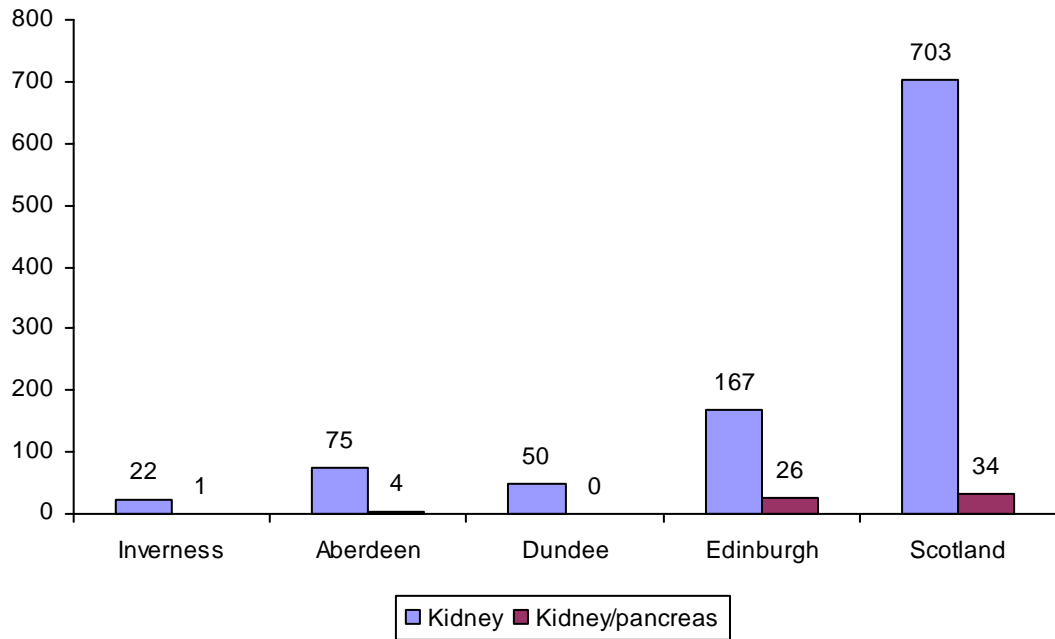


**Total number of kidney patients on the waiting list for East of
Scotland*
2005 to 2009**

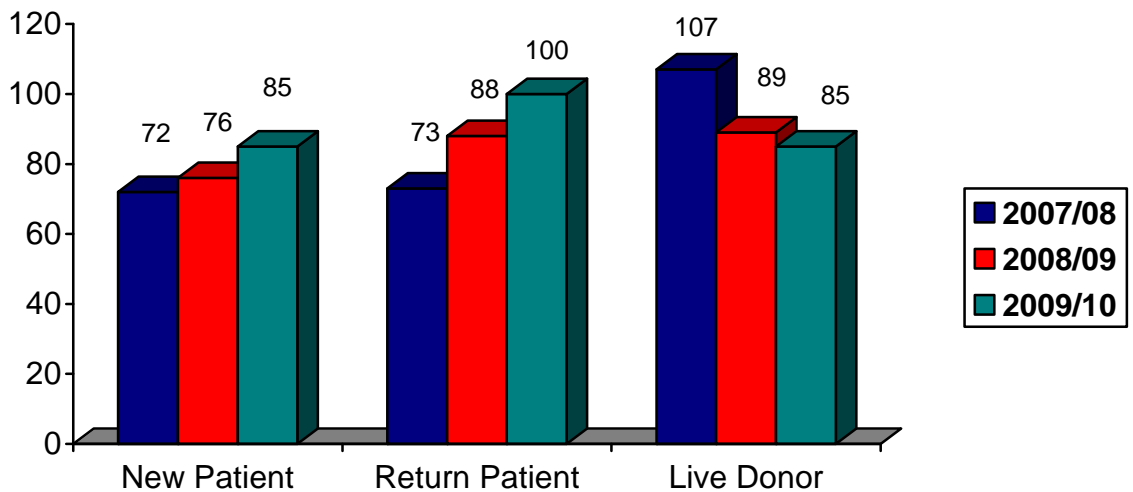
	Edinburgh	Dundee	Aberdeen	Inverness	Scotland
2005/06	205	64	72	42	566
2006/07	209	64	76	45	601
2007/08	193	50	86	43	775
2008/09	158	50	84	43	725
2009/10	167	75	51	22	703

*Excludes kidney/pancreas patients

Total number of patients on the waiting list for East of Scotland 2009 to 2010

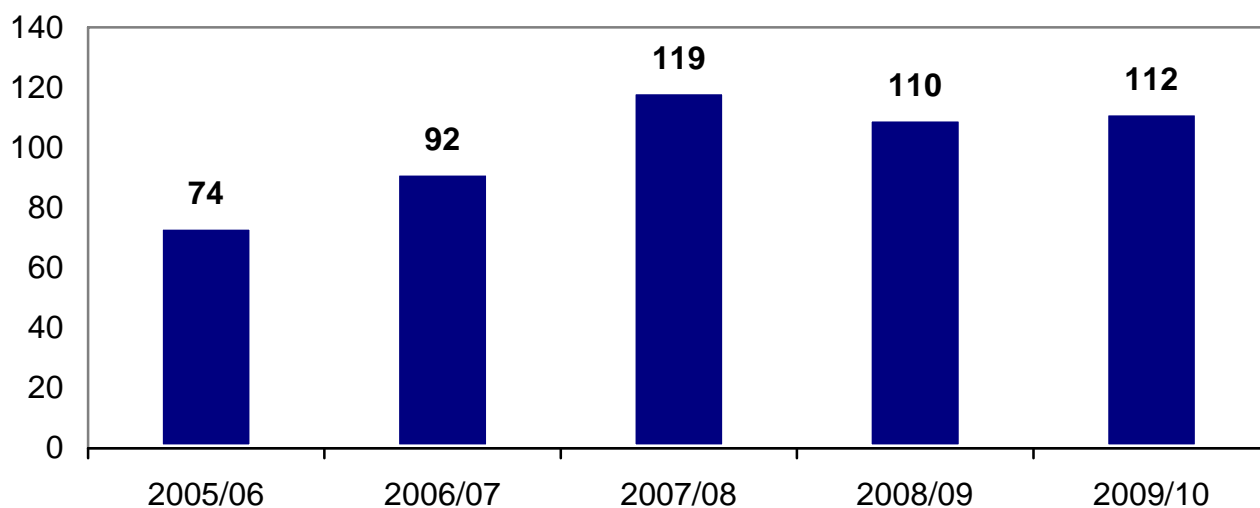


Edinburgh transplant assessment clinic appointments



These clinics are run by both surgeon and co-ordinator

**Patients added to the Edinburgh waiting list
2005 to 2009**



**Numbers died or removed from Edinburgh's kidney waiting
list during
April 2009 - March 2010**

Dialysis centre	Died on list	Removed from list
Inverness	4	3
Aberdeen	1	1
Edinburgh	6	15
Dundee	0	3
Total	11	22

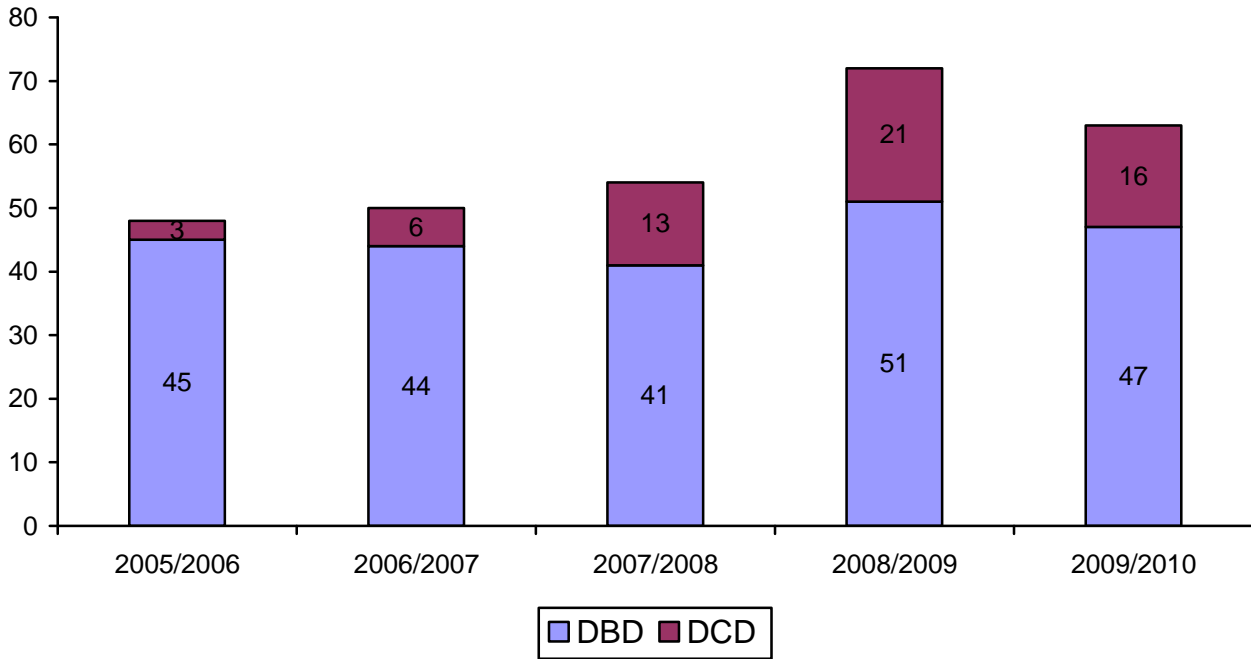
Donor statistics

Deceased solid organ donors in Scotland 2004 - 2009

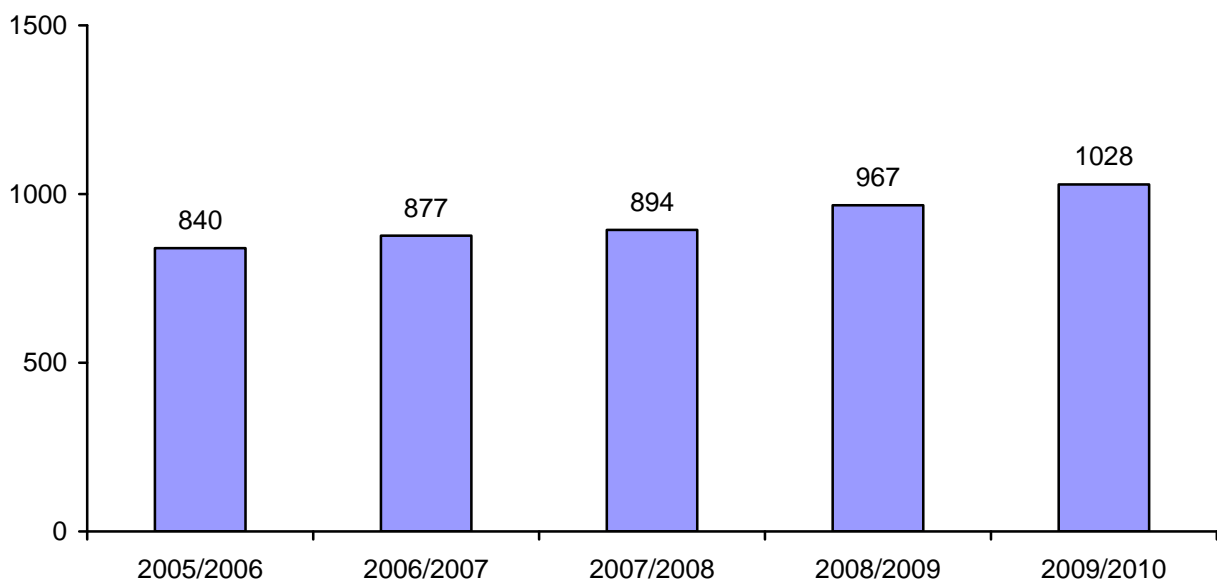
	Solid organ donors (per million population)				
	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Kilmarnock	1	0	2	3	1
Ayr	0	0	0	1	3
Borders	1	1	1	0	0
Greenock	0	0	1	1	0
Paisley	0	2	1	6	1
Kirkcaldy	2	1	0	2	0
Dunfermline	3	0	1	1	5
Glasgow	14	12	10	19	16
Inverness	0	2	7	1	2
Wishaw	0	2	1	0	2
East Kilbride	0	3	1	2	3
Aberdeen	10	3	4	6	5
Edinburgh	9	14	19	20	18
Dundee	4	2	1	7	2
Livingstone	0	1	1	2	0
Perth	0	1	1	0	2
Falkirk	1	0	0	0	0
Stirling	2	3	1	0	1
Dumfries and Galloway	1	3	2	1	2
Scotland	48	50	54	72	63

Donor statistics (continued)

Table below shows proportion of DBD versus DCD deceased donors in Scotland.



UK and Ireland figures for deceased solid organ donors 1st April 2005 to 31st March 2010



Donor statistics (continued)

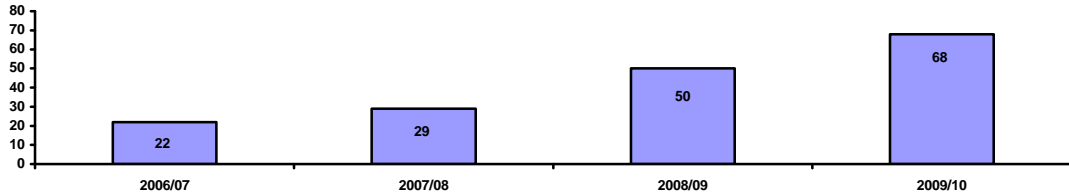
UK and Ireland figures for deceased solid organ donors 1st April 2009 – 31st March 2010

Donor Type	England	Scotland	Wales	N Ireland	Republic of Ireland*	Total
DBD	525	47	28	18	69	687
DCD	305	16	13	0	0	334
Total	830	63	41	18	69	1021

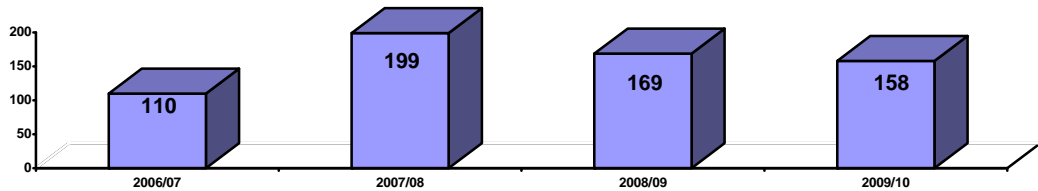
*Data for Republic of Ireland not complete

Kidney transplant statistics

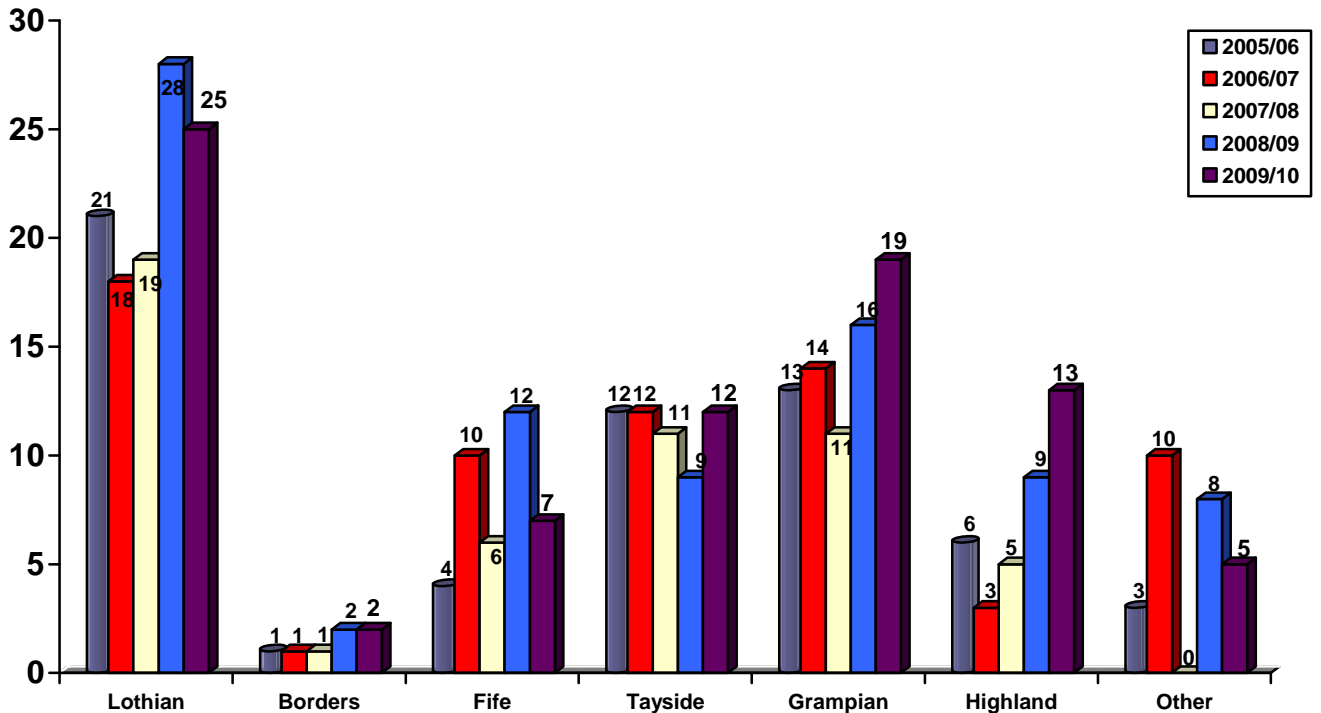
Kidney transplant offers declined



Kidney/pancreas transplant offers declined

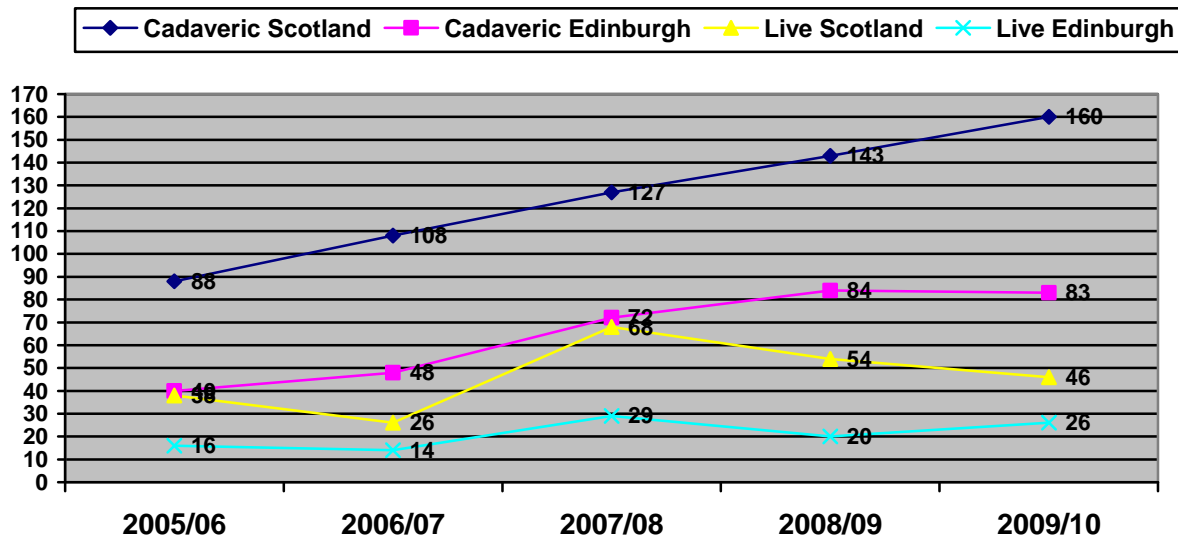


Deceased donor kidney transplants by region 2005 to 2009



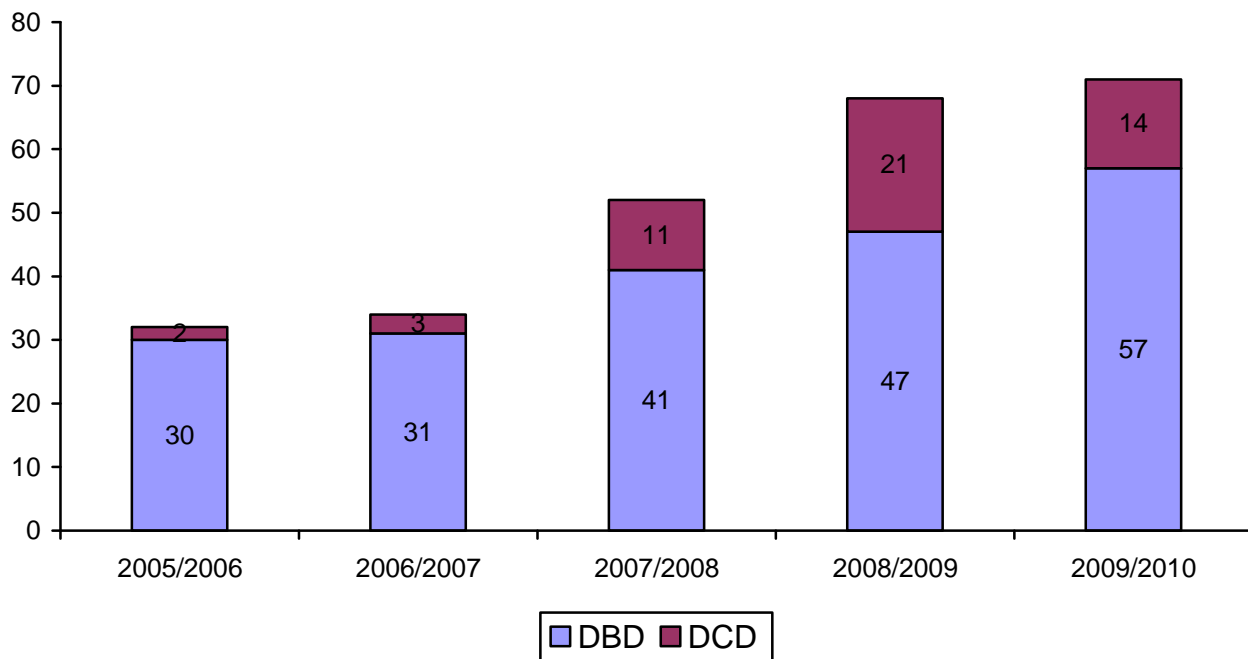
Kidney transplant statistics (continued)

Number of kidney transplants carried out in Edinburgh and Scotland 2005 – 2009



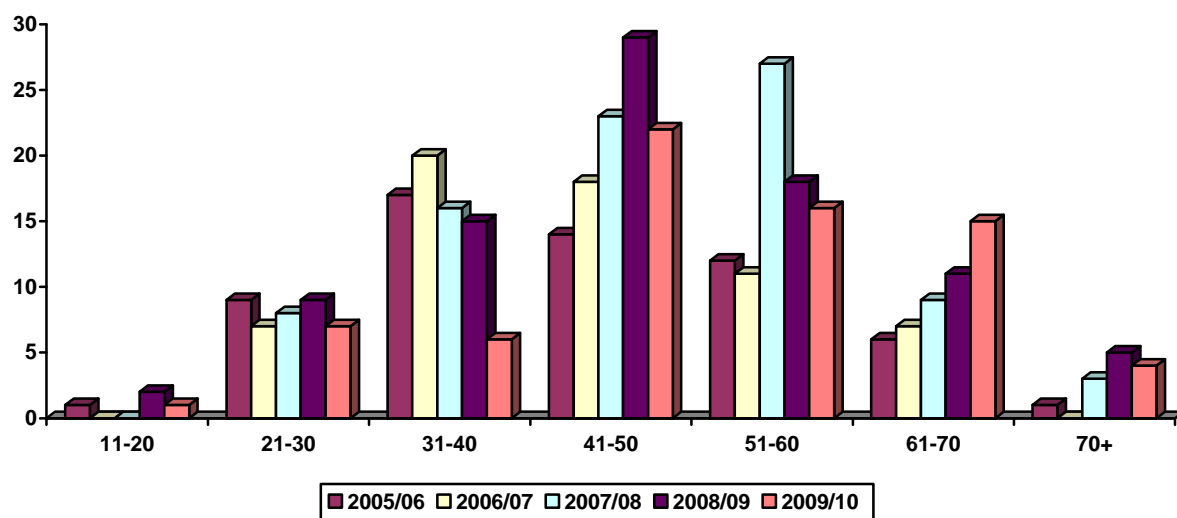
Edinburgh cadaveric 09/10 includes 12 SPK, 1 liver/kidney, 71 kidney
Edinburgh live 09/10 includes two altruistic donors

Proportion of DBD versus DCD kidney transplants in East of Scotland



Kidney transplant statistics (continued)

Deceased donor kidney transplant recipient age group 2005 to 2010



Number of DR mismatches for all renal transplants

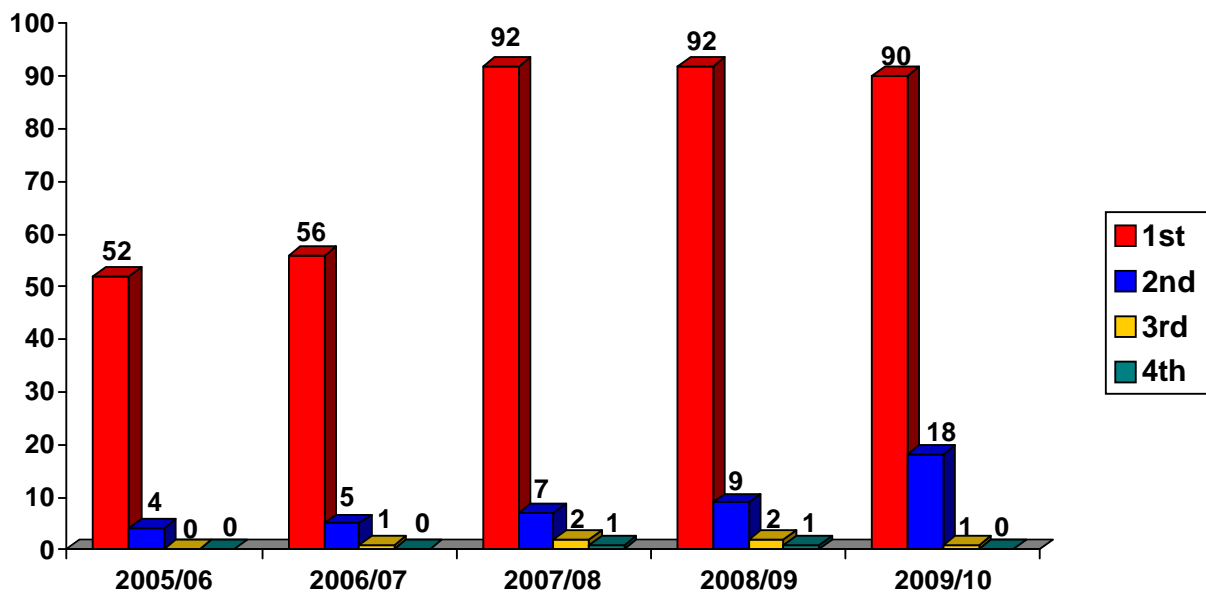
	0	1	2
2005/06	32	16	12
2006/07*	25	27	10
2007/08	34	56	12
2008/09	50	41	13
2009/10	44	57	8

*2006/07 – one result unknown

Dialysis treatment prior to deceased donor kidney transplant

	Hospital haemodialysis	CAPD / APD	Pre-dialysis	Home haemodialysis
2005/06	30	20	6	0
2006/07	44	13	5	0
2007/08	54	35	12	0
2008/09	61	20	7	0
2009/10	58	21	4	0

All kidney patients transplanted showing graft number 2005 to 2010



Kidney transplant statistics (continued)

One- and five-year kidney graft and patient survival deceased donor transplants

One- and five-year graft survival estimates following first deceased kidney-only transplant

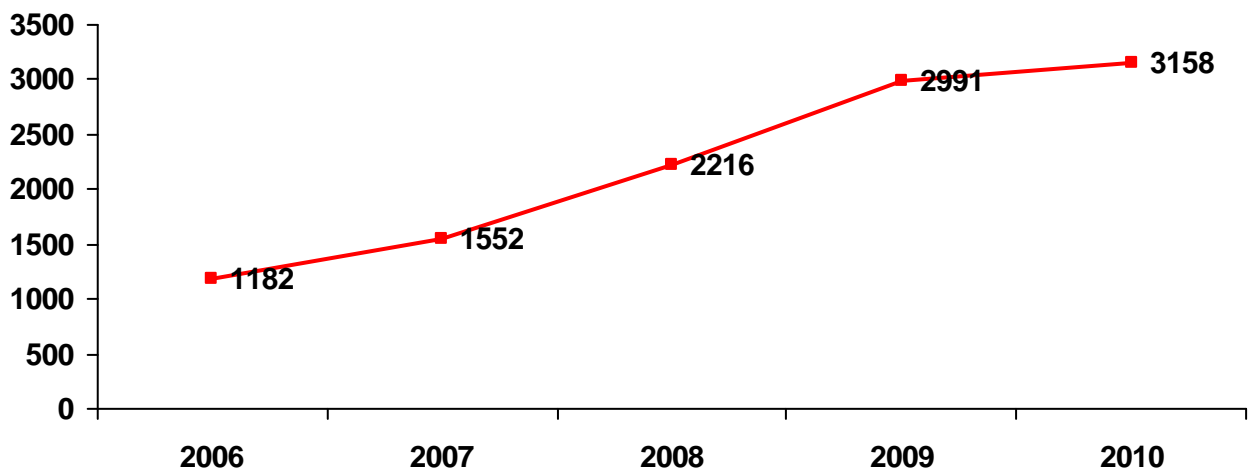
Survival period	Year of transplant	No. in analysis	Survival rate	95% confidence int.
1 year	2002 – 2008	304	94.0%	90.7 – 96.2%
5 years	1998 - 2004	215	85.1%	79.3 – 89.3%

One- and five-year patient survival estimates following first deceased kidney-only transplant

Survival period	Year of transplant	No. in analysis	Survival rate	95% confidence int.
1 year	2002 – 2008	304	97.6%	95.1 – 98.9%
5 years	1998 - 2004	215	83.2%	77.4 – 87.7%

Post-Transplant Outpatient Activity

The increase in kidney and kidney/pancreas transplant outpatient activity year on year is shown in the graph below. This consists of patients attending outpatient consultant clinics at the Royal Infirmary of Edinburgh, Borders General and St John's Hospital. The nurse-led annual review clinics also comprise of Queen Margaret Hospital and Victoria Kirkcaldy. This is expected to increase over the next five years with the expected increase in donor rates.



NHS BLOOD AND TRANSPLANT – ODT
LIVER ADVISORY GROUP

ACTIVITY REPORT – MARCH 2010

KIDNEY TRANSPLANTS

