



# **East of Scotland Renal Transplantation Service**

## **Annual Report**

### **The Royal Infirmary of Edinburgh**

**1<sup>st</sup> April 2010 to 31<sup>st</sup> March 2011**

**April 2011**

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## Introduction

2010 has seen a further increase in Renal Transplant Activity, with an increasing focus on promoting living donor grafts. In order to improve the process of living donor and recipient assessment a multi-disciplinary team meeting is now held fortnightly. This meeting, designed to address specific clinical concerns arising from this group of donor/patient pairs, has input from renal physicians, transplant surgeons, Co-ordinators, Transfusion Medicine and H&I. This has enabled us to better identify issues which might prove to be relative or absolute contraindications to living donor transplantation, plan regimes for desensitization for a small but significant group of patients receiving higher risk (ABO or HLA incompatible) grafts and appropriately refer pairs for paired/pooled programmes. Improving input from and discussion with referring teams by linking in to the monthly MDT meeting (video-linked with referring units) would enhance the quality of patient care for those being considered for listing. We are conscious (or confident) that any conflicts of interest are appropriately managed within this system.

Further expansion of ABO and HLA incompatible programmes will demand agreements to provide adequate resources to reflect the increased dialysis support, longer inpatient length of stay, plasma exchange and other treatments as part of desensitization required for these grafts. This is being addressed through a more detailed bottom-up costing of transplants to reflect the different types of graft (DBD grafts, DCD grafts, living donor transplantation, living donor transplantation with desensitization), which will hopefully make the costs more transparent to all units.

The quality of outcome data still needs to be strengthened. Some outcome data is still provided by NHSBT, but further data on graft function, acute rejection rates, adverse events eg CMV infection, polyoma virus infection, malignancies is still incomplete and will rely on a comprehensive system of data collection being set up involving all units in a practical and deliverable way. This remains an aspiration.

As the unit approaches its 1000<sup>th</sup> kidney transplant since being located at the Royal Infirmary of Edinburgh, renal transplantation has probably never been stronger in South East Scotland. Financial and organizational challenges in the next few years will require the continued development of a lean and efficient service with close team working with other stakeholders.

Dr Caroline Whitworth  
Prof Steve Wigmore

## Nursing Report

The nursing establishment remains unchanged with no vacancies, staff retention is not an issue.

Due to the success of the Scottish Patient Safety Programme rollout and compliance, our Band 7 has been seconded 2 days per week to disseminate best practise within RIE site.

The High Dependency Unit has joined with the Critical Care Directorate formal accredited education programme.

### **Serious adverse Events- Complaints**

Two formal complaints have been received both are in the process of resolution by the Patient Liaison Team. We continue to receive compliments in the form of verbal acknowledgement, cards and E-mail.

### **Infection Control**

We have had two incidents of *Clostridium difficile* since April, both of these have been investigated using root cause analysis and have been due to the unavoidable use of antibiotics.

We have also had two incidents of *Staphylococcus* bacteraemia, both have been MSSA's. Again using root cause analysis, one of them was thought to be caused by poor skin integrity, the other was an unproven source of infection.

### **Hand Hygiene**

Both areas continue to demand high standards and we have maintained circa 93-95%.

Morag Murdoch  
Clinical Nurse Manager

## Renal Recipient Transplant Co-ordinator's Report

2010/11 has been a busy year for the renal recipient transplant co-ordinators. The number of organ offers, especially kidney pancreas, continues to increase. The first islet transplant in Scotland was carried out. This has had a big impact on our on call service, as the time from receiving the organ offer until the recipient has the islet infusion, can take three days. This potentially means that three different co-ordinators are involved in the process.

Our service has two fully-funded renal recipient co-ordinators in Edinburgh, one renal recipient transplant co-ordinator in Ninewells (0.5 funding, not secure), 1.5 fully funded pancreas/islet recipient transplant co-ordinators covering Scotland. The service still has one seconded renal transplant co-ordinator post vacant.

The interim arrangements that are in place for our on-call to allow us to comply with the European Working Time Directive mean that it can be difficult to keep up-to-date with our daytime activities.

Activity in the nurse-led post-renal transplant clinics continues to increase. The increase in outpatient activity is shown in Figures 1-3.

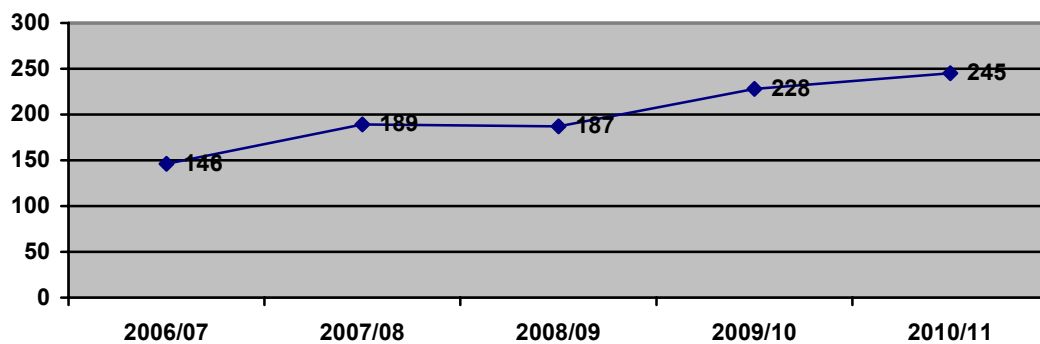


Fig 1. Royal Infirmary of Edinburgh nurse-led clinic

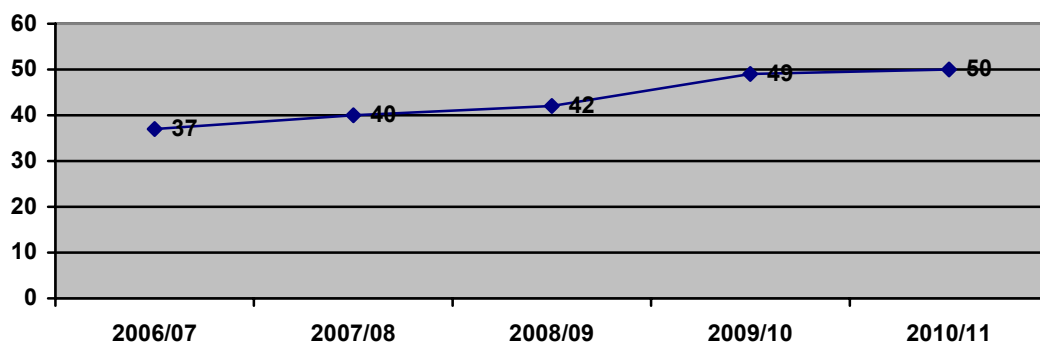


Fig 2. St John's Hospital outreach nurse-led clinic

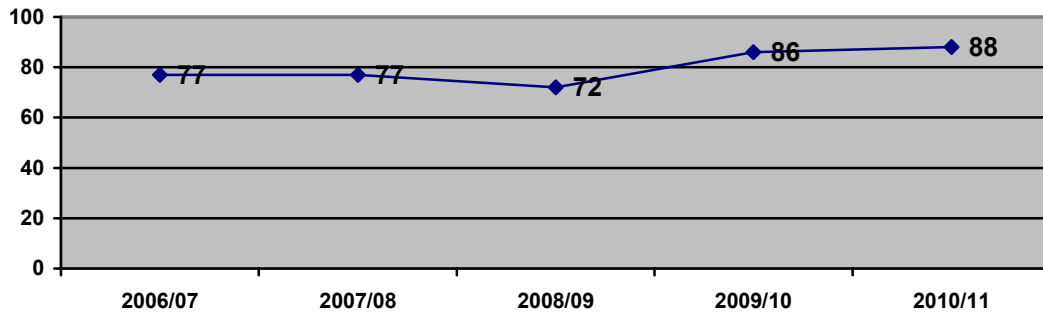


Fig 3. Queen Margaret Hospital and Victoria Hospital Kirkcaldy nurse-led clinics

## Living Donor Kidney Transplantation

There were 28 living donor transplants carried out between 1<sup>st</sup> April 2010 and 31<sup>st</sup> March 2011.

3 grafts have failed and 1 recipient died with a functioning graft. All other grafts are functioning.

3 transplants were pre-emptive, 17 haemodialysis and 8 peritoneal dialysis patients.

### Live Donor Transplant by recipient centre.

| Aberdeen | Dundee | Lothian | Fife | Highlands |
|----------|--------|---------|------|-----------|
| 8        | 5      | 12      | 3    | 0         |

### Paired exchange and altruistic donors

The national paired/pooled programme continues to offer transplants to otherwise sensitized or blood group incompatible patients. Edinburgh patients benefited from successful matches with Belfast and Guys hospital, all grafts are functioning.

The altruistic programme has begun to have an impact with 22 patients donating nationally. The altruistic programme in Edinburgh has been involved since its inception. The team has carried out 5 altruistic donor nephrectomies, all grafts are functioning and donors have recovered well. Three further altruistic donors are currently being assessed.

### ABO i

One further ABO incompatible transplant has been performed in the period. The donor, blood group B donating to blood group O recipient. The recipient has a functioning graft. A further ABO incompatible transplant is planned for early June 2011.

### Laparoscopic nephrectomy

There were 26 laparoscopic donor nephrectomies performed with one converted to open. Only one donor had planned open surgery. There were 22 left nephrectomies and 6 right.

### **Graft survival**

#### **One and five year graft survival following living donor kidney transplant – adults only, at Edinburgh**

| Survival period | Year of transplant | No. in analysis | Survival | 95% confidence int. |
|-----------------|--------------------|-----------------|----------|---------------------|
| One year        | 2003 - 2007        | 84              | 96%      | 89 – 99%            |
| Five years      | 1999 - 2003        | 68              | 91%      | 81 – 96%            |

### **Patient survival**

#### **One and five year patient survival following first living donor kidney transplant – adults only, at Edinburgh**

| Survival period | Year of transplant | No. in analysis | Survival | 95% confidence int. |
|-----------------|--------------------|-----------------|----------|---------------------|
| One year        | 2003 - 2007        | 72              | 99%      | 90 – 100%           |
| Five years      | 1999 - 2003        | 63              | 93%      | 83 – 97%            |

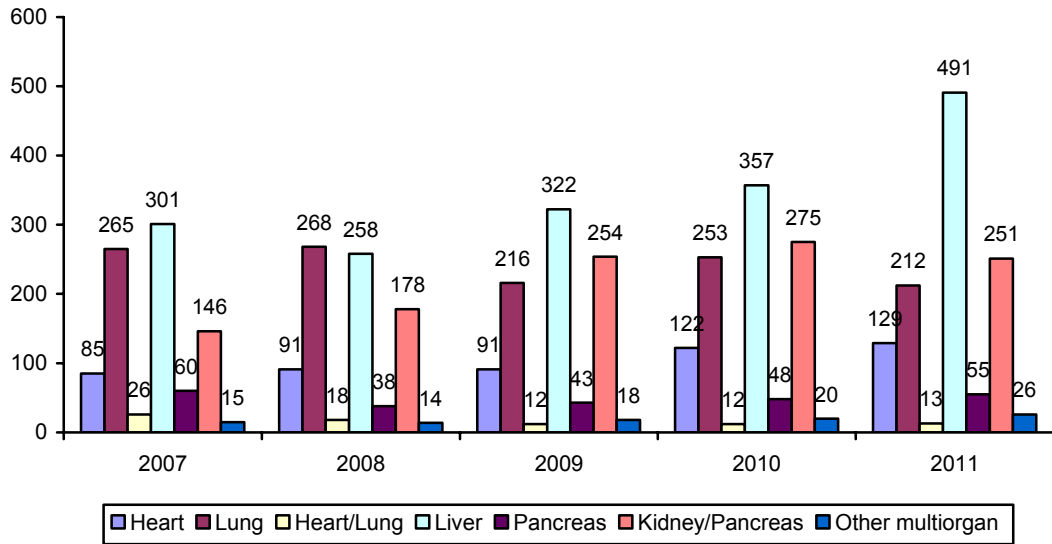
### **Future**

The challenge we face in Edinburgh is to raise the number of living donor transplants in line with national figures. The wide geographical area covered and the increasing complexities of ABO incompatible and paired/pooled exchange demands time and resource for the programme.

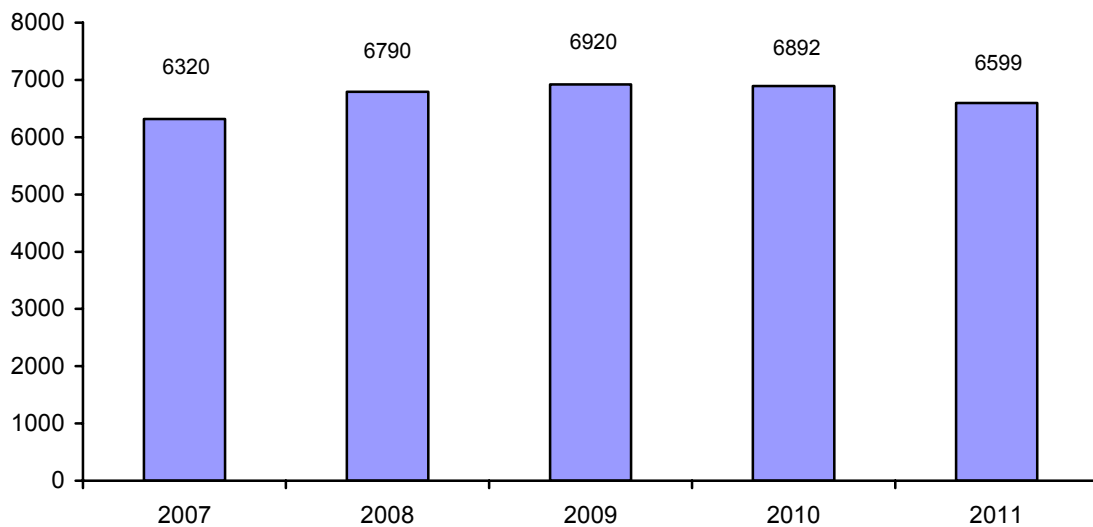


## Waiting List and Renal Transplant Statistics

### UK active waiting list at 31 March – all organs (except kidney) 2007 to 2011



### UK waiting list as at 31 March – kidney-only (active) 2007 to 2011

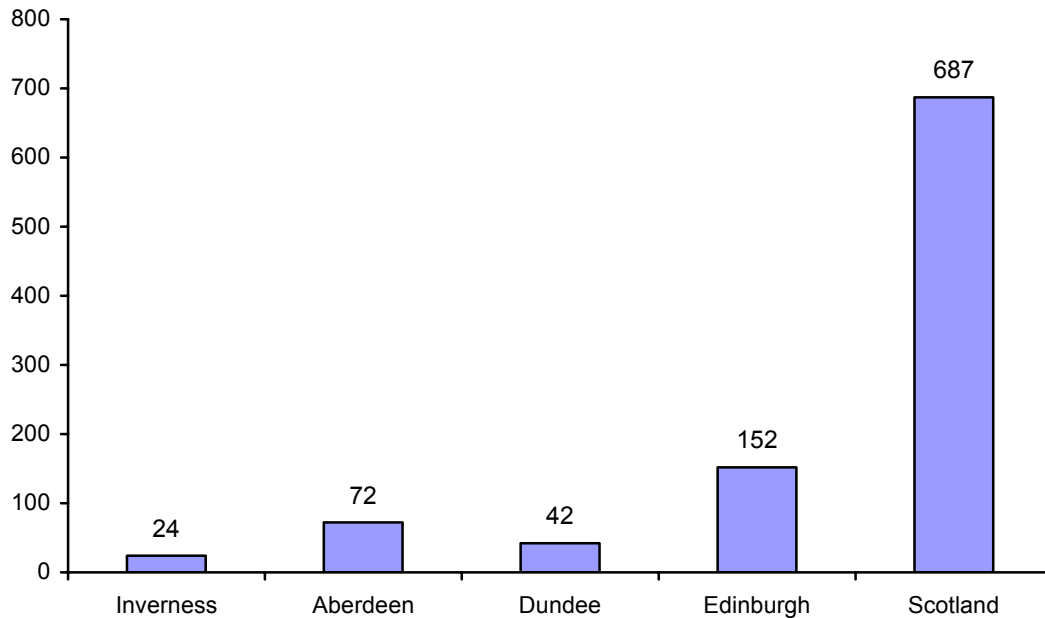


**Total number of kidney patients on the waiting list for East of  
Scotland\*  
as at 31 March, 2007 to 2011**

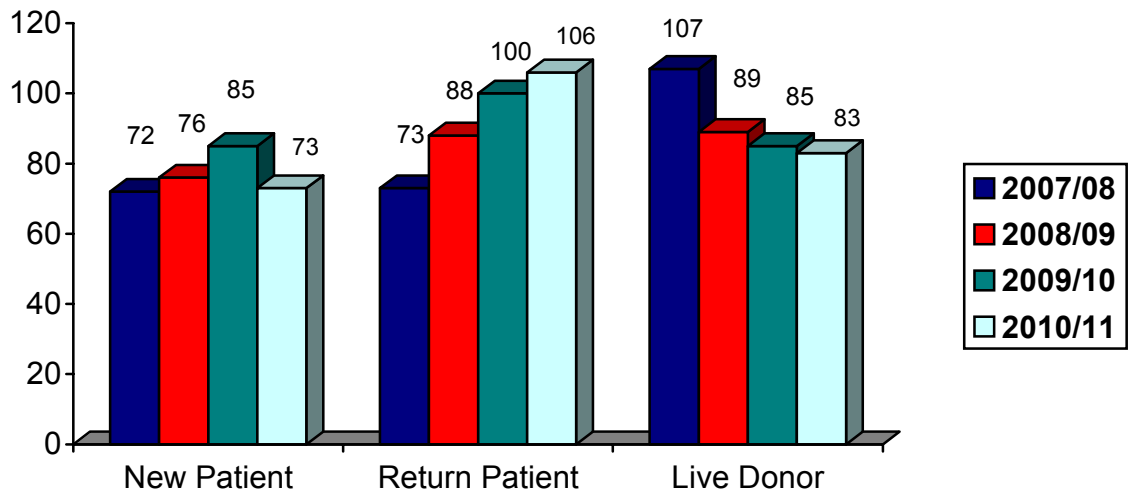
|             | <b>Edinburgh</b> | <b>Dundee</b> | <b>Aberdeen</b> | <b>Inverness</b> | <b>Scotland</b> |
|-------------|------------------|---------------|-----------------|------------------|-----------------|
| <b>2007</b> | 209              | 64            | 76              | 45               | 601             |
| <b>2008</b> | 193              | 50            | 86              | 43               | 775             |
| <b>2009</b> | 158              | 50            | 84              | 43               | 725             |
| <b>2010</b> | 167              | 51            | 75              | 22               | 703             |
| <b>2011</b> | 152              | 42            | 72              | 24               | 687             |

\* Excludes kidney/pancreas patients

## Total number of kidney patients on the waiting list for East of Scotland as at 31 March 2011

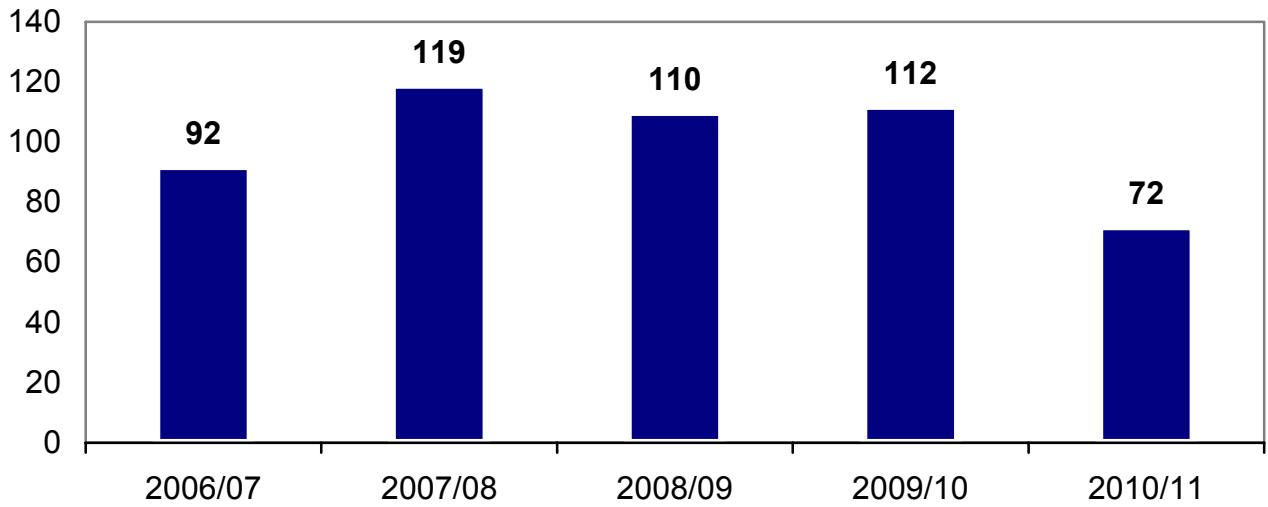


## Edinburgh transplant assessment clinic appointments



Clinics run by both surgeon and co-ordinator

**Patients added to the Edinburgh waiting list  
April 2006 to March 2011**



\* Includes 1 liver/kidney 2010/11

**Numbers died or removed from Edinburgh's kidney waiting  
list during April 2010 - March 2011**

| Dialysis centre | Died on list | Removed from list |
|-----------------|--------------|-------------------|
| Inverness       | 1            | -                 |
| Aberdeen        | 3            | 1                 |
| Edinburgh       | 3            | 7                 |
| Dundee          | 1            | -                 |
| Total           | 8            | 8                 |

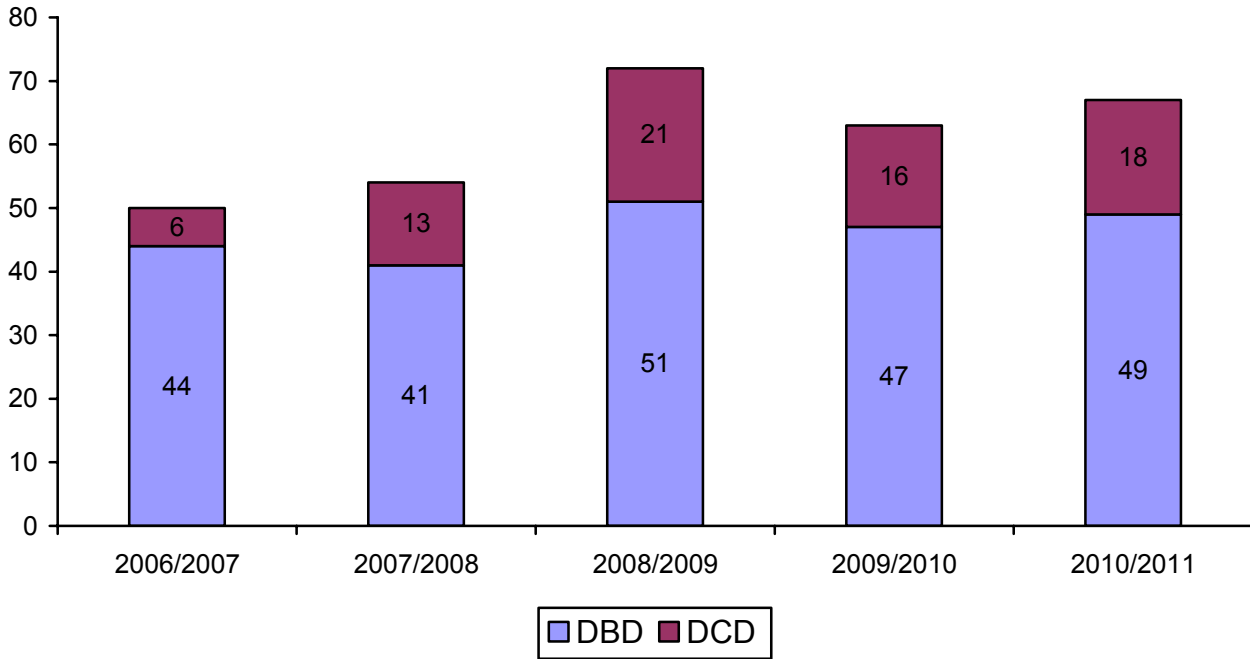
## Donor statistics

### Deceased solid organ donors in Scotland April 2006 – March 2011

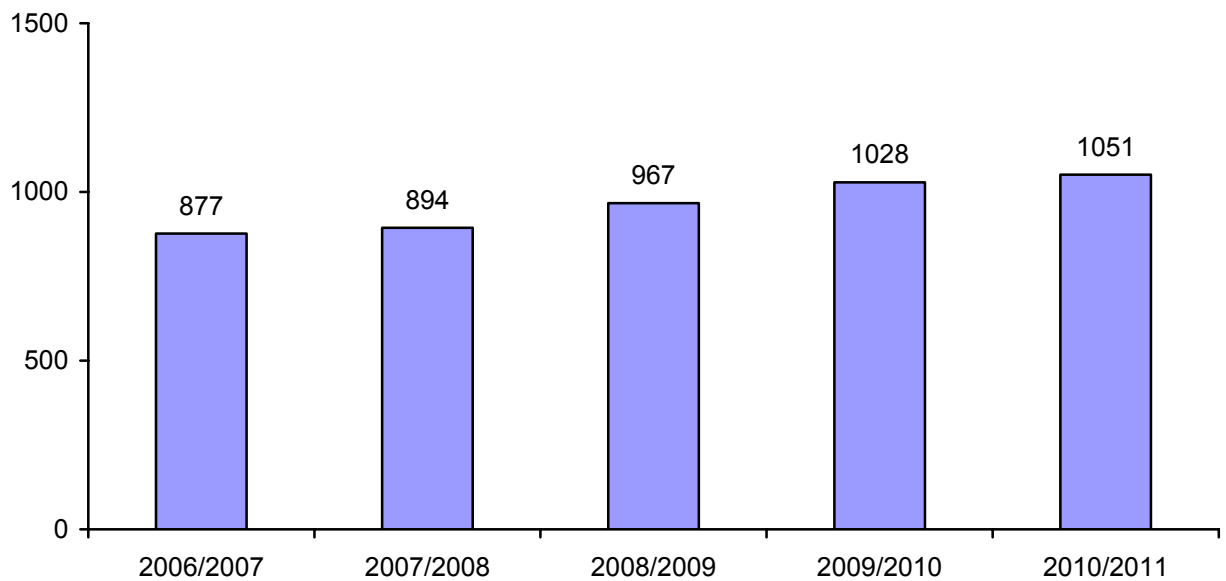
| <i>Donating hospital</i> | Solid organ donors |                  |                  |                  |                  |
|--------------------------|--------------------|------------------|------------------|------------------|------------------|
|                          | <i>2006/2007</i>   | <i>2007/2008</i> | <i>2008/2009</i> | <i>2009/2010</i> | <i>2010/2011</i> |
| Kilmarnock               | 0                  | 2                | 3                | 1                | 2                |
| Ayr                      | 0                  | 0                | 1                | 3                | 0                |
| Borders                  | 1                  | 1                | 0                | 0                | 0                |
| Greenock                 | 0                  | 1                | 1                | 0                | 0                |
| Paisley                  | 2                  | 1                | 6                | 1                | 3                |
| Kirkcaldy                | 1                  | 0                | 2                | 0                | 0                |
| Dunfermline              | 0                  | 1                | 1                | 5                | 3                |
| Glasgow                  | 12                 | 10               | 19               | 16               | 13               |
| Inverness                | 2                  | 7                | 1                | 2                | 2                |
| Aidrie                   | 0                  | 0                | 0                | 0                | 1                |
| Wishaw                   | 2                  | 1                | 0                | 2                | 1                |
| East Kilbride            | 3                  | 1                | 2                | 3                | 0                |
| Aberdeen                 | 3                  | 4                | 6                | 5                | 4                |
| Edinburgh                | 14                 | 19               | 20               | 18               | 27               |
| Dundee                   | 2                  | 1                | 7                | 2                | 6                |
| Livingstone              | 1                  | 1                | 2                | 0                | 2                |
| Perth                    | 1                  | 1                | 0                | 2                | 1                |
| Falkirk                  | 0                  | 0                | 0                | 0                | 0                |
| Stirling                 | 3                  | 1                | 0                | 1                | 1                |
| Dumfries and Galloway    | 3                  | 2                | 1                | 2                | 1                |
| <b><i>Scotland</i></b>   | <b>50</b>          | <b>54</b>        | <b>72</b>        | <b>63</b>        | <b>67</b>        |

## Donor statistics (continued)

Table below shows proportion of DBD versus DCD deceased donors in Scotland April 2006 to March 2011



## UK and Ireland figures for deceased solid organ donors 1<sup>st</sup> April 2006 to 31<sup>st</sup> March 2011



## Donor statistics (continued)

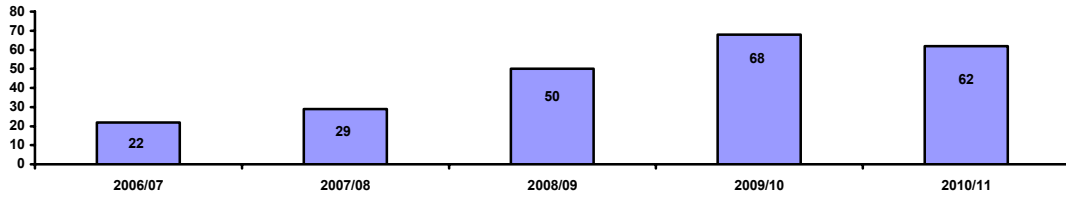
### UK and Ireland figures for deceased solid organ donors 1<sup>st</sup> April 2010 – 31<sup>st</sup> March 2011

| <b>Donor Type</b> | <b>England</b> | <b>Scotland</b> | <b>Wales</b> | <b>N Ireland</b> | <b>Republic of Ireland*</b> | <b>Total</b> |
|-------------------|----------------|-----------------|--------------|------------------|-----------------------------|--------------|
| <b>DBD</b>        | 511            | 49              | 39           | 38               | 43                          | 680          |
| <b>DCD</b>        | 324            | 18              | 27           | 2                | 0                           | 371          |
| <b>Total</b>      | 835            | 67              | 66           | 40               | 43                          | 1051         |

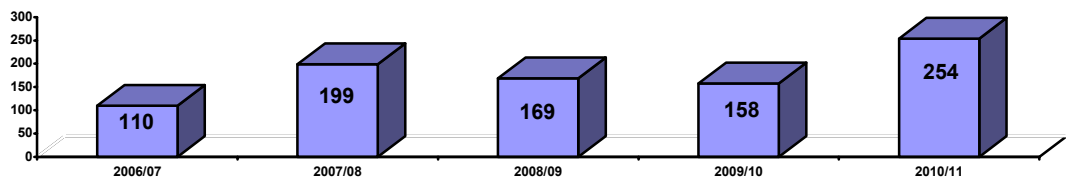
\*Data for Republic of Ireland not complete

# Kidney transplant statistics

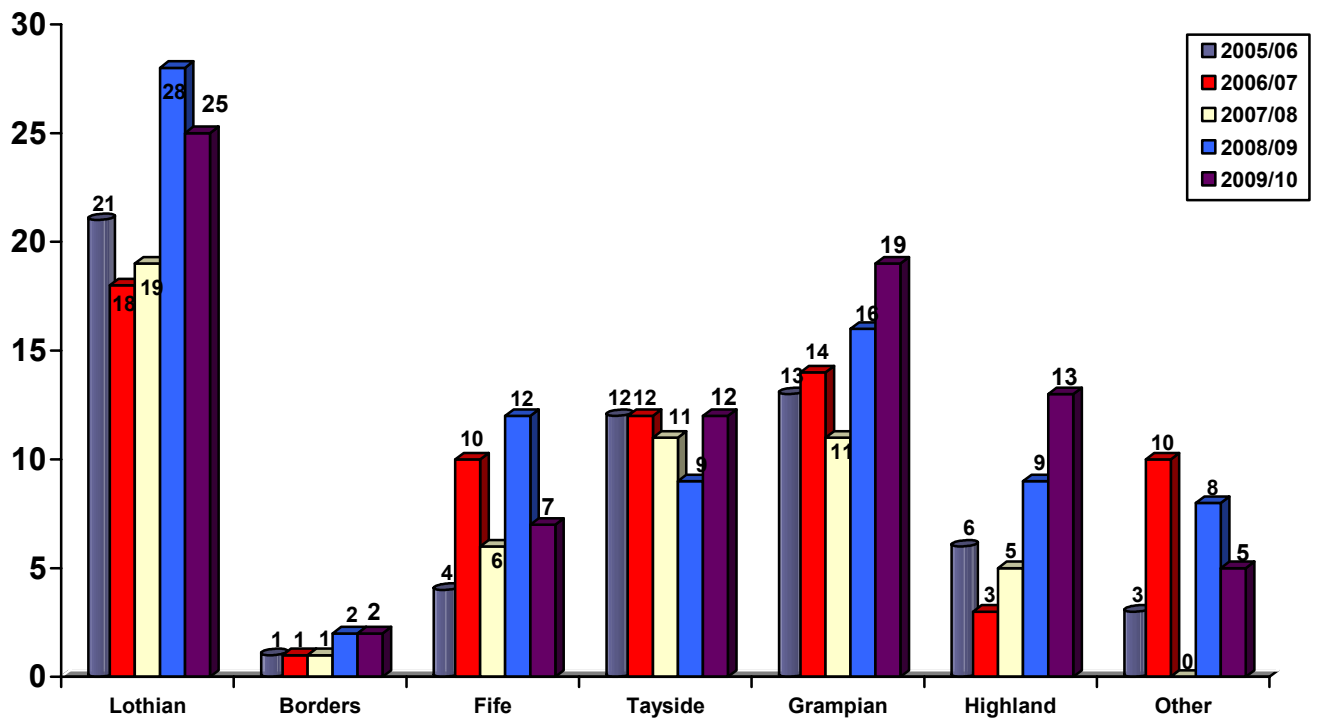
## Kidney transplant offers declined



## Kidney/pancreas transplant offers declined



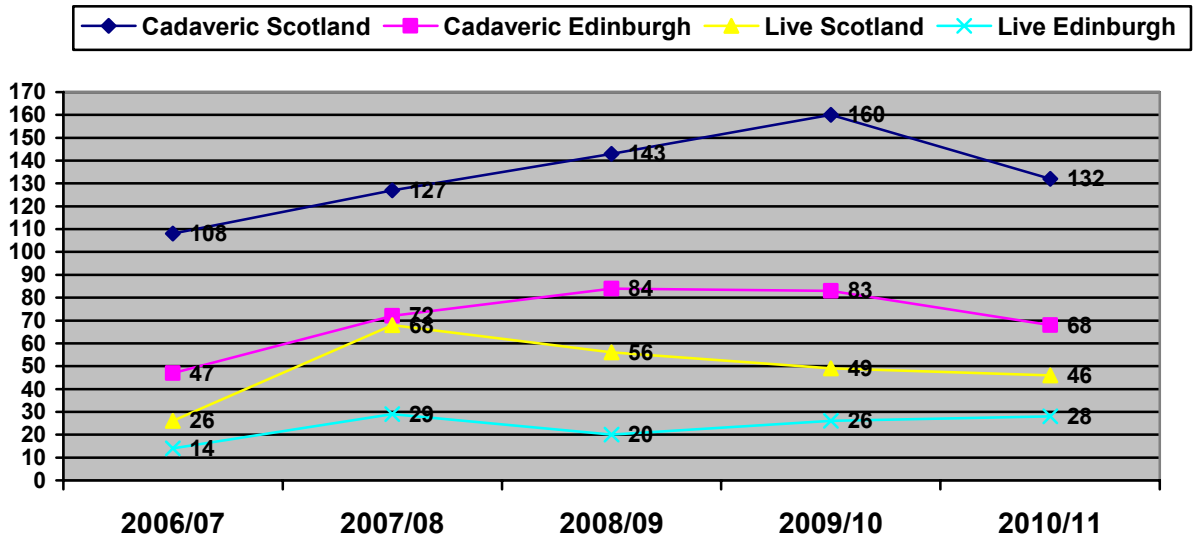
## Deceased donor kidney transplants by region April 2006 to March 2011





## Kidney transplant statistics (continued)

### Number of kidney transplants carried out in Edinburgh and Scotland April 2006 – March 2011

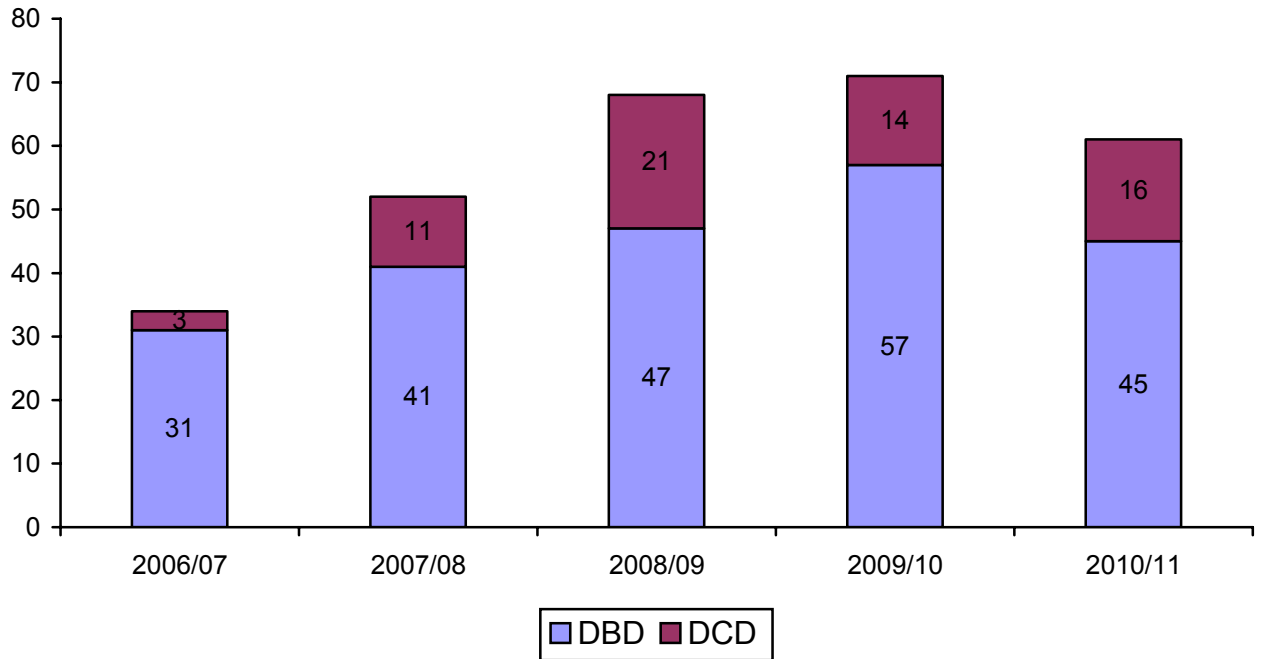


Edinburgh cadaveric 09/10 includes 12 SPK, 1 liver/kidney, 71 kidney  
Edinburgh live 09/10 includes two altruistic donors

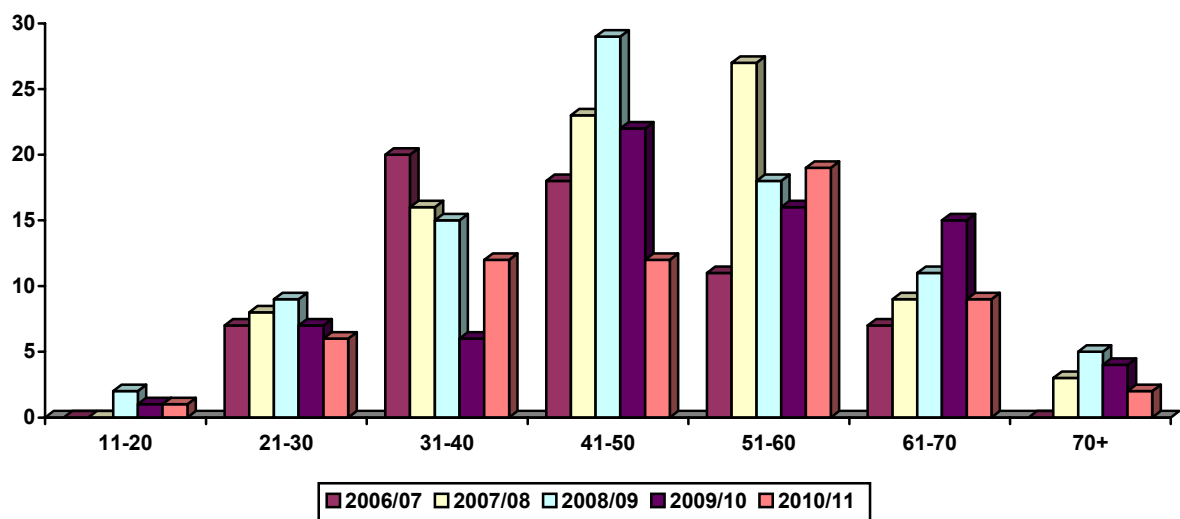
Edinburgh cadaveric 10/11 includes 6 SPK, 1 liver/kidney, 61 kidney  
Edinburgh live 10/11 includes two 'paired/pooled' donors

## Kidney transplant statistics (continued)

### Proportion of DBD versus DCD kidney transplants in East of Scotland April 2006 to March 2011



### Deceased donor kidney transplant recipient age group 2006 to 2011



## Number of DR mismatches for all renal transplants

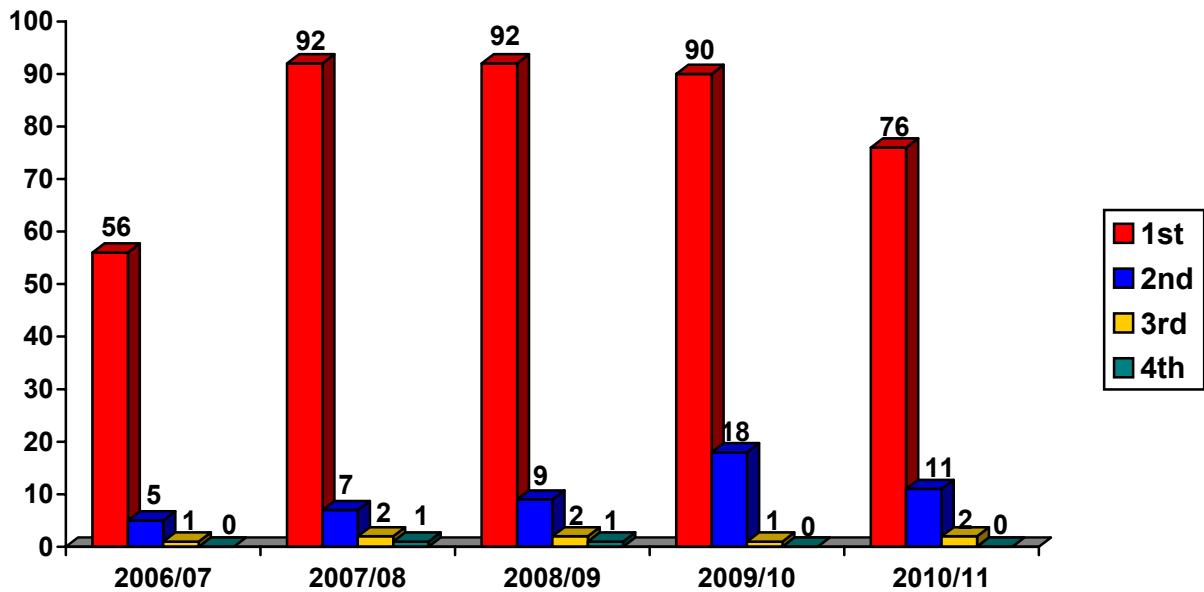
|                 | <b>0</b> | <b>1</b> | <b>2</b> |
|-----------------|----------|----------|----------|
| <b>2006/07*</b> | 25       | 27       | 10       |
| <b>2007/08</b>  | 34       | 56       | 12       |
| <b>2008/09</b>  | 50       | 41       | 13       |
| <b>2009/10</b>  | 44       | 57       | 8        |
| <b>2010/11</b>  | 44       | 38       | 7        |

\*2006/07 – one result unknown

## Dialysis treatment prior to deceased donor kidney transplant

|                | <b>Hospital<br/>haemodialysis</b> | <b>CAPD /<br/>APD</b> | <b>Pre-dialysis</b> | <b>Home<br/>haemodialysis</b> |
|----------------|-----------------------------------|-----------------------|---------------------|-------------------------------|
| <b>2006/07</b> | 44                                | 13                    | 5                   | 0                             |
| <b>2007/08</b> | 54                                | 35                    | 12                  | 0                             |
| <b>2008/09</b> | 61                                | 20                    | 7                   | 0                             |
| <b>2009/10</b> | 58                                | 21                    | 4                   | 0                             |
| <b>2010/11</b> | 40                                | 18                    | 1                   | 2                             |

**All kidney patients transplanted showing graft number  
April 2006 to March 2011**



**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 – adults only, at Edinburgh**

| Survival period | Year of transplant | No. in analysis | Survival rate | 95% confidence int. |
|-----------------|--------------------|-----------------|---------------|---------------------|
| 1 year          | 2003 – 2007        | 145             | 92%           | 87 – 96%            |
| 5 years         | 1999 - 2003        | 205             | 83%           | 77 – 87%            |

**One and five year patient survival estimates following first deceased kidney only transplant – adults only, at Edinburgh**

| Survival period | Year of transplant | No. in analysis | Survival rate | 95% confidence int. |
|-----------------|--------------------|-----------------|---------------|---------------------|
| 1 year          | 2003 – 2007        | 145             | 98%           | 93 – 99%            |
| 5 years         | 1999 - 2003        | 205             | 86%           | 80 – 90%            |

## **Kidney transplant statistics (continued)**

### **Length of stay for all kidney transplant patients from 1 April 2010 to 31 March 2011**

|       |              |
|-------|--------------|
| Range | 5 to 45 days |
| Mean  | 11.9 days    |

## 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.

