

A thick, blue, wavy line that curves across the top of the slide, separating the header from the main content.

# **Overview of organ donation and transplantation**

**Rachel Johnson**

Statistics and Clinical Studies

NHS Blood and Transplant

# Organ Donation and Transplantation: the headlines

Subject	Speaker
<b>Cardiothoracic</b> organ transplantation	Sally Rushton
New <b>Kidney</b> Offering Scheme	Lisa Mumford
<b>Organ Utilisation</b>	Chris Callaghan
National <b>Organ Retrieval</b> Service	Kate Martin
Patient based <b>Liver</b> Offering Scheme	John O'Grady

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Patient based <b>Liver</b> Offering Scheme	John O'Grady
<b>Organ Donation</b> – <i>Quality in Donation</i>	Full session at 2pm today
<b>Pancreas and islet</b> session	Thurs pm

# Outline

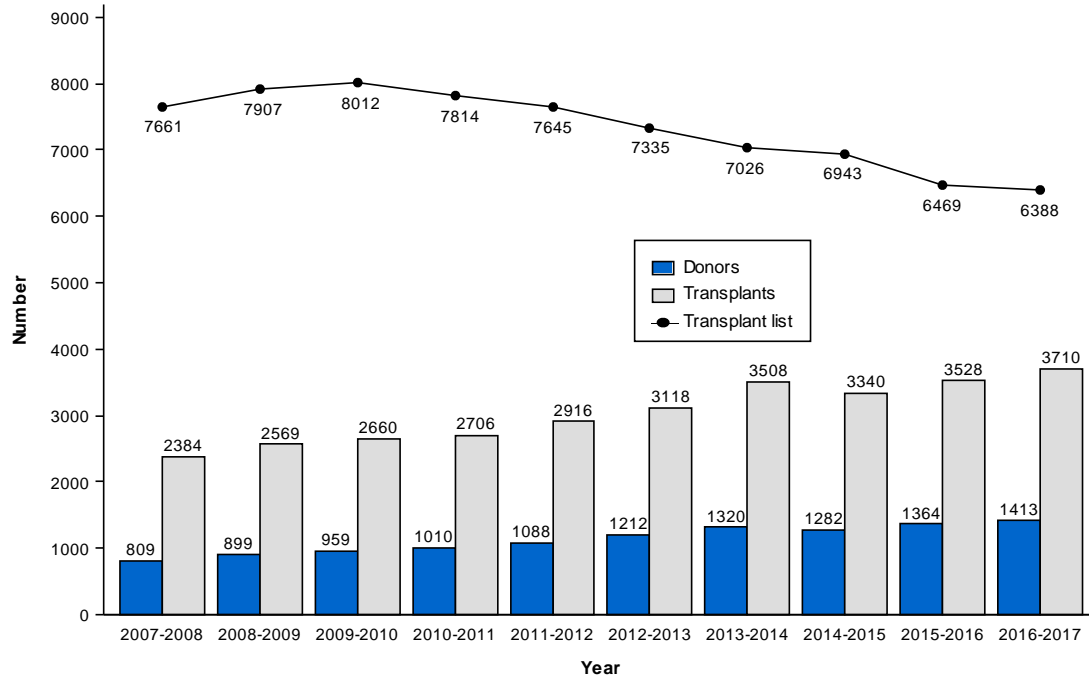
- Trends in deceased organ donors and transplants
- Living kidney donation - Non-directed altruistic donors
- The 'ODT Hub'
- Useful resources

# Trends in deceased organ donors and transplants

# Deceased donors and transplants

Highest number of deceased donors in the UK last year - 1413 - resulting in 3710 transplants

Figure 2.1 Number of deceased donors and transplants in the UK, 1 April 2007 - 31 March 2017, and patients on the active transplant list at 31 March

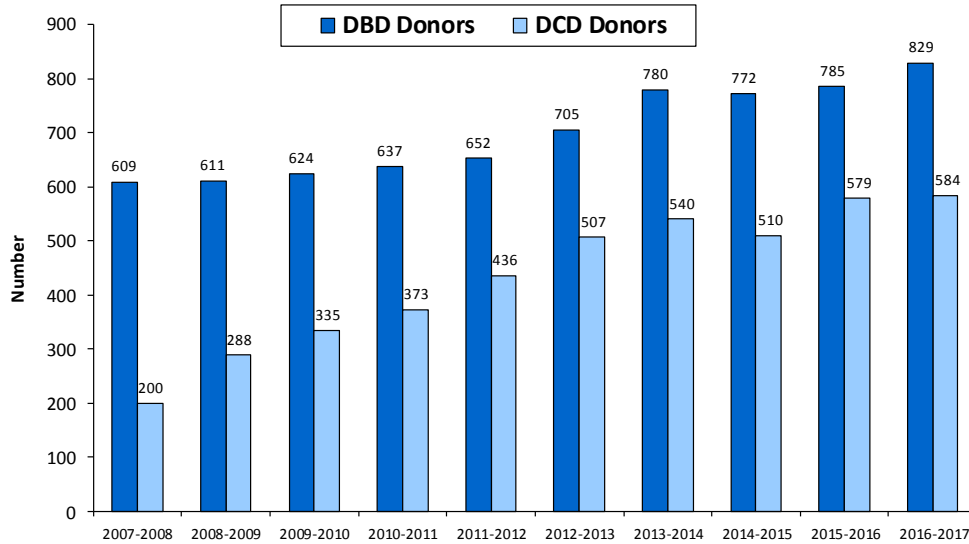


**Over the last ten years**

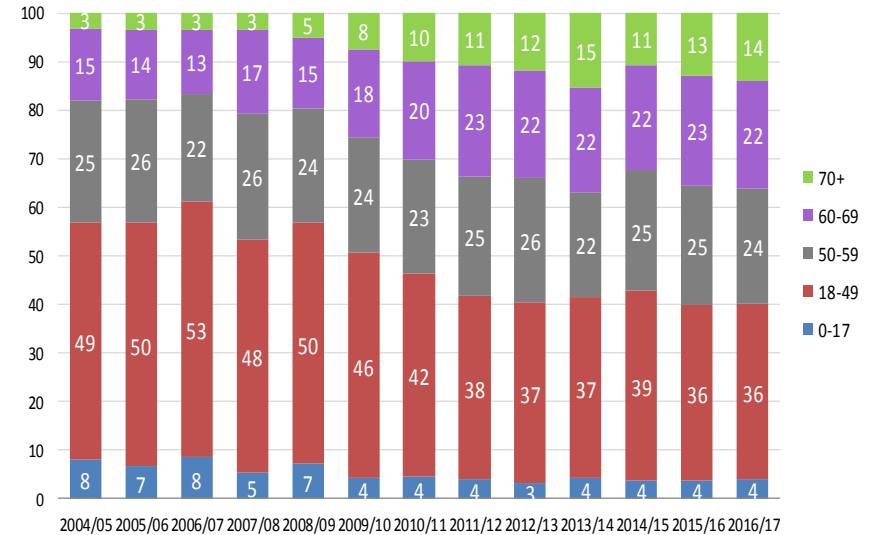
- 17% decrease in waiting lists
- 56% increase in transplants (all organs)
- 75% increase in deceased organ donors

# Deceased donors

## DBD vs DCD donors



## Age of deceased donors

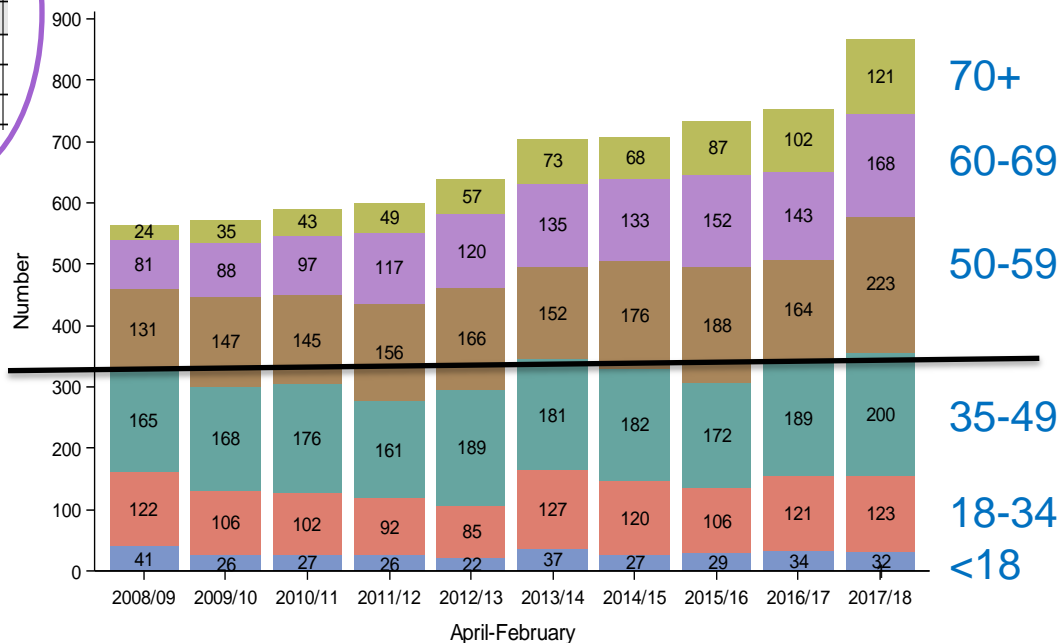


# Increase in deceased donors this year?

DONOR AND TRANSPLANT ACTIVITY			
	Current year (01.04.17 - 25.02.18)	Previous year (01.04.16 - 25.02.17)	% Change <sup>2</sup>
ORGAN DONORS			
Donors after brain death (DBD)	862	746	15.5
Donors after circulatory death (DCD)	553	534	3.6
Total deceased donors (DD)	1415	1280	10.5

Taken from the weekly statistics : [www.odt.nhs.uk](http://www.odt.nhs.uk)

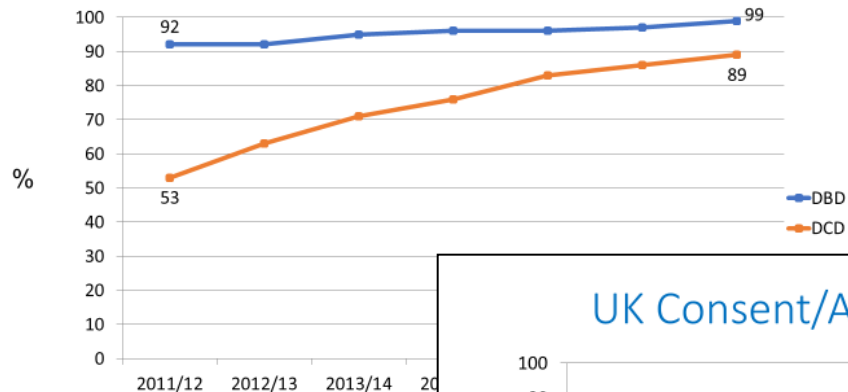
## DBD donor ages: April-February



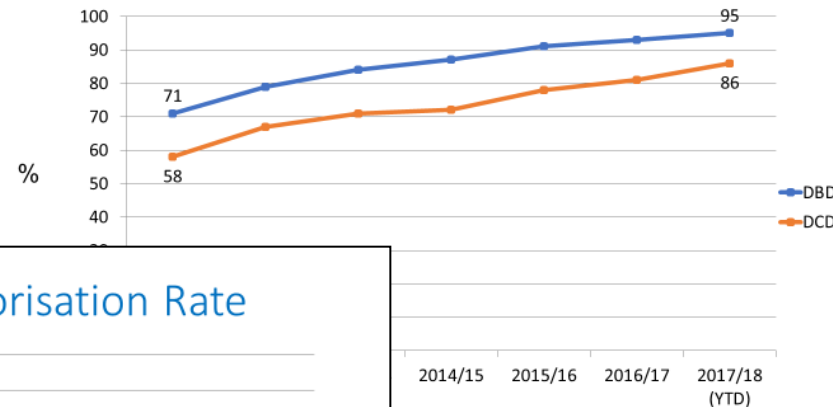


# Potential Donor Audit – recent trends

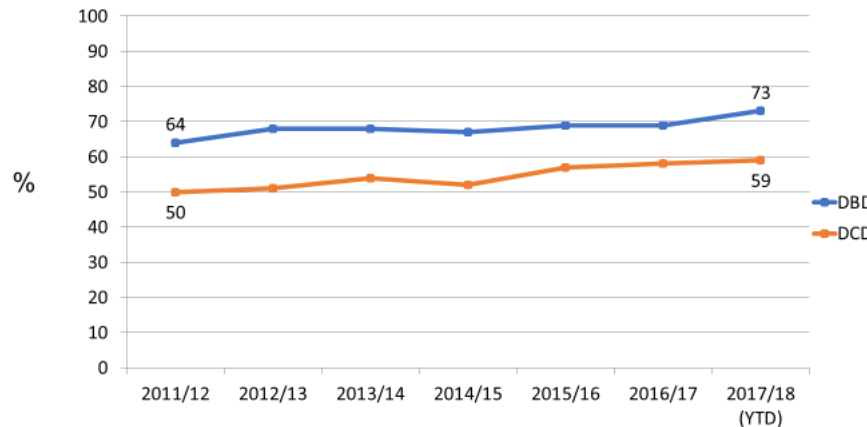
### UK Donor Referral Rate



### UK SNOD Presence Rate



### UK Consent/Authorisation Rate



YTD = end Jan

# What about transplant rates this year?

Kidney txs

DD 8%

LD 3%

SPK 11%

Pancreas 7%

P islets 42%

Liver txs 5%

Heart txs

Lung txs 15%

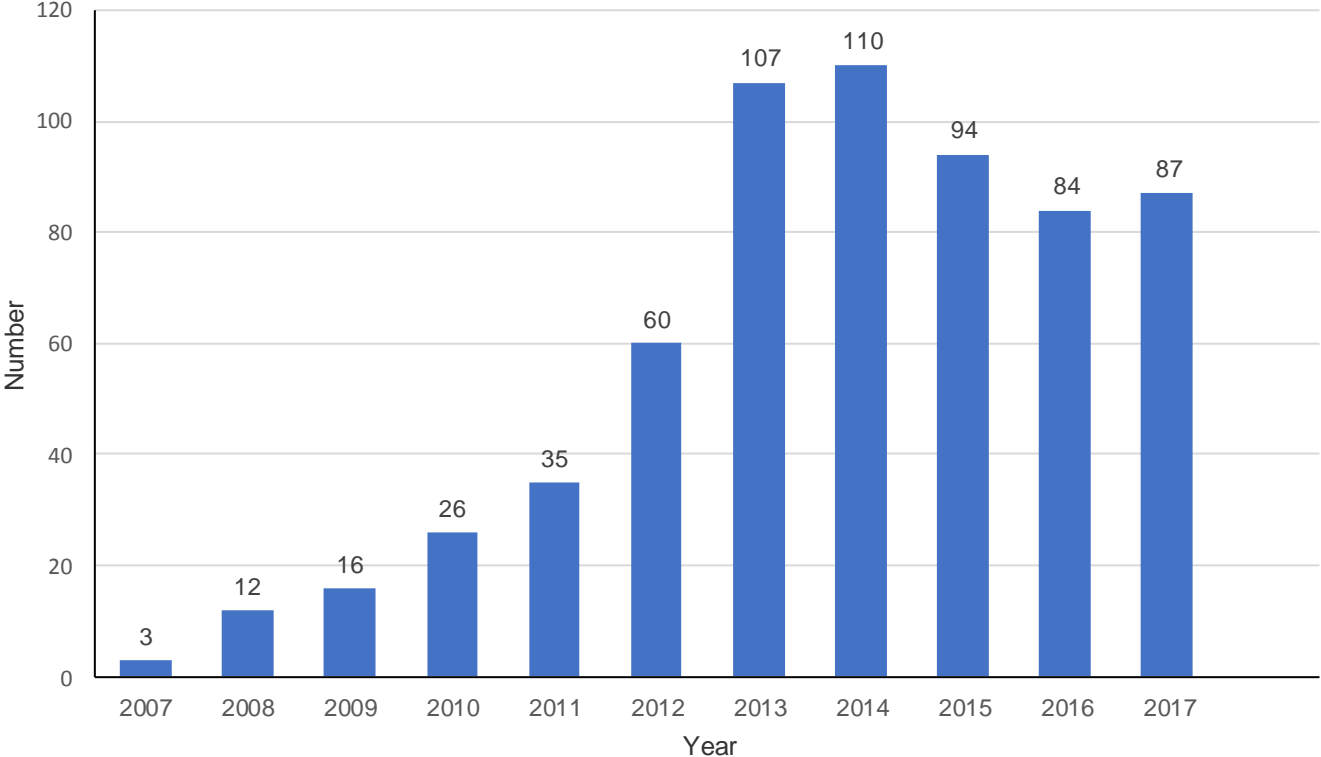
DONOR AND TRANSPLANT ACTIVITY				
	Current year (01.04.17 - 25.02.18)	Previous year (01.04.16 - 25.02.17)	% Change <sup>2</sup>	Previous full financial year (2016/2017)
<b>ORGAN TRANSPLANTS</b>				
<b>Deceased donors (DD)</b>				
Kidney	2115	1965	7.6	2164
Pancreas	15	14	7.1	17
Kidney/pancreas <sup>7</sup>	160	144	11.1	163
Pancreas islets	18	31	-41.9	33
Heart <sup>6</sup>	178	178	0	197
Lung(s)	180	157	14.6	176
Heart/lung	10	1		2
Liver/lobe <sup>8</sup>	890	847	5.1	935
Intestinal	19	15	26.7	16
Other (multi-organ)	21	14	50	16
Total DD transplants	3606	3366	7.1	3719
<b>Living donor (LD) - 1 mth in arrears<sup>4</sup></b>				
Kidney	808	833	-3	1011
Liver	26	23	13	31
Lung	0	0		0
Intestinal	1	0		0
Total LD transplants	835	856	-2.5	1042

Taken from the weekly statistics : [www.odt.nhs.uk](http://www.odt.nhs.uk)

# Living kidney donation – non-directed altruistic donors

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# Non-Directed Altruistic Kidney Donors (NDADs)

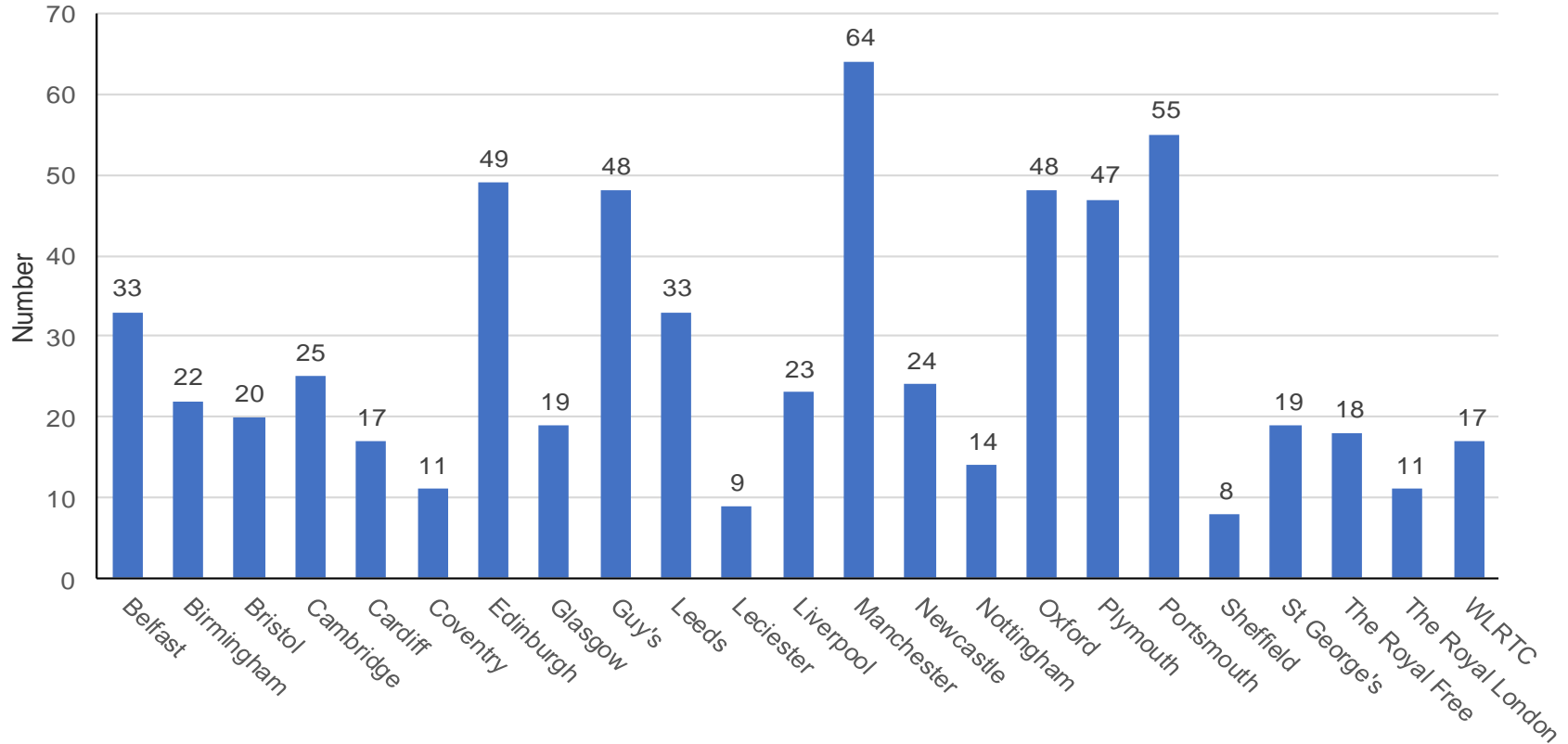


# Non-Directed Altruistic Kidney Donors

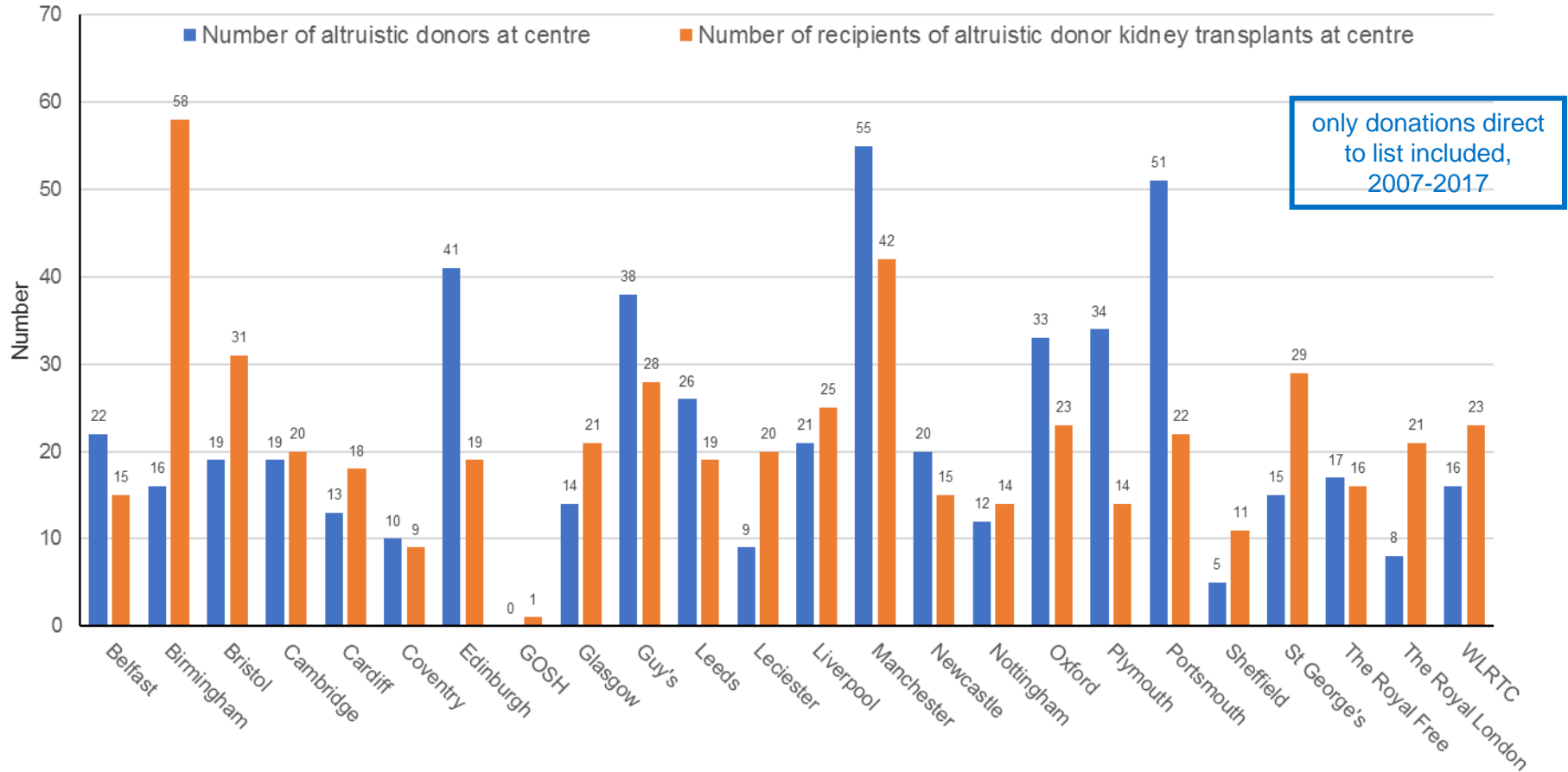
by donating hospital, 2007-2017



Blood and Transplant

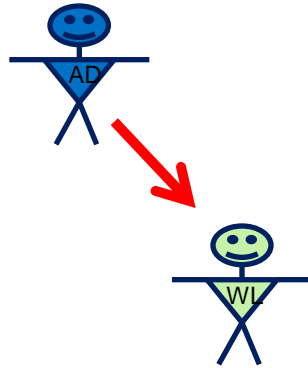


# NDADs - by donating hospital & receiving centre

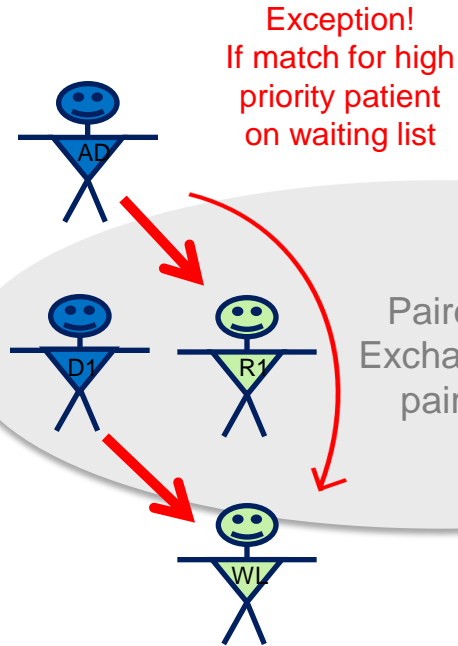


# Donation pathways

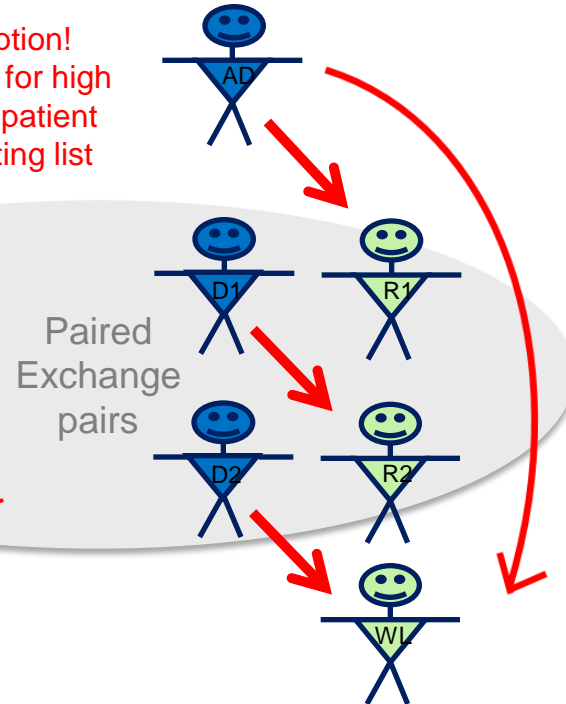
Direct to Waiting List  
2007



Short Chain  
2012

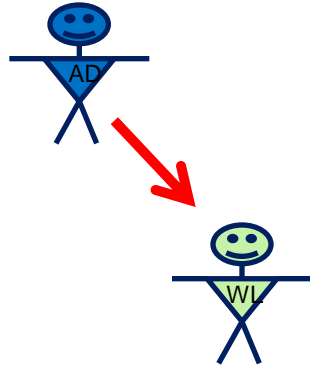


Long Chain  
2015

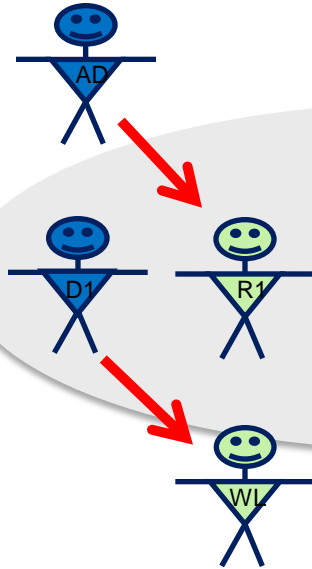


# Donation pathways

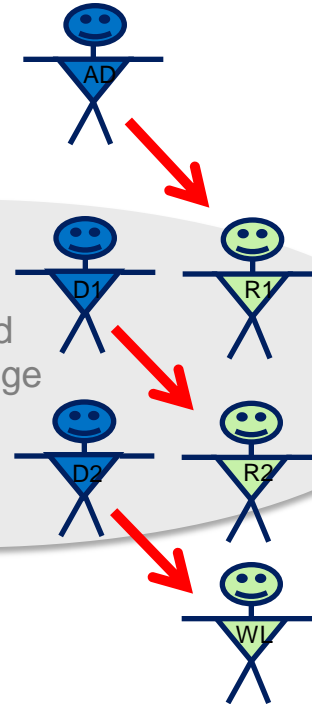
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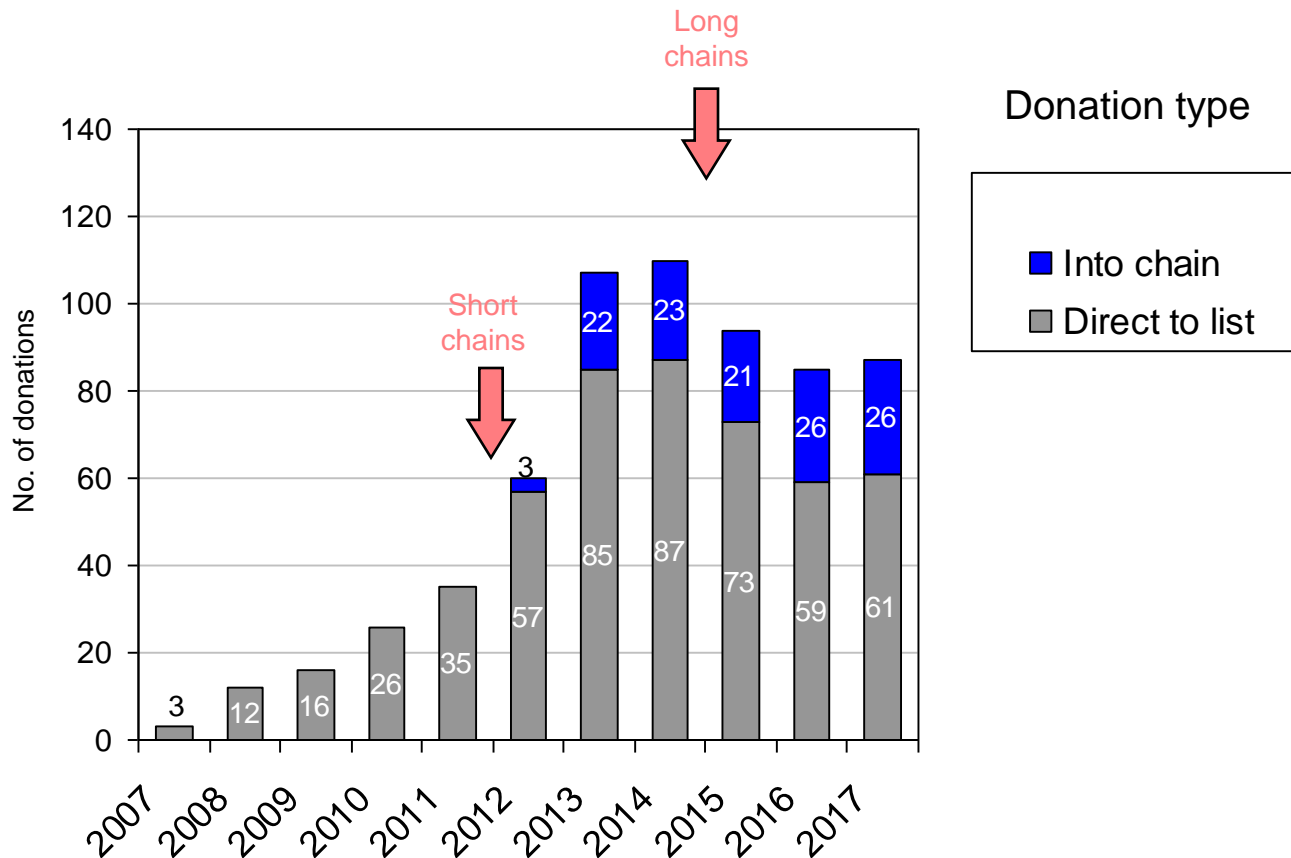


Paired  
Exchange  
pairs

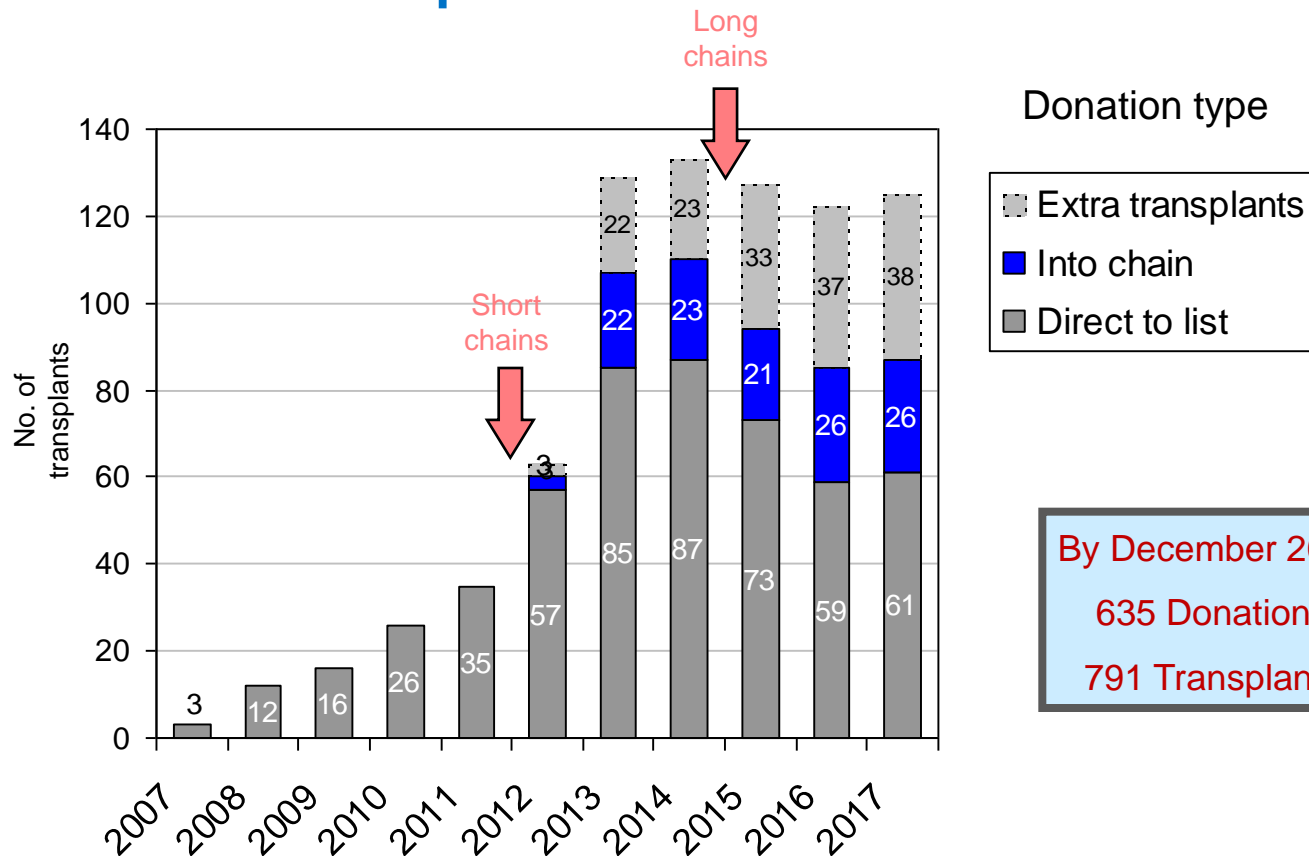
Default  
pathways  
from Jan  
2018



# Non-Directed Altruistic Kidney Donors



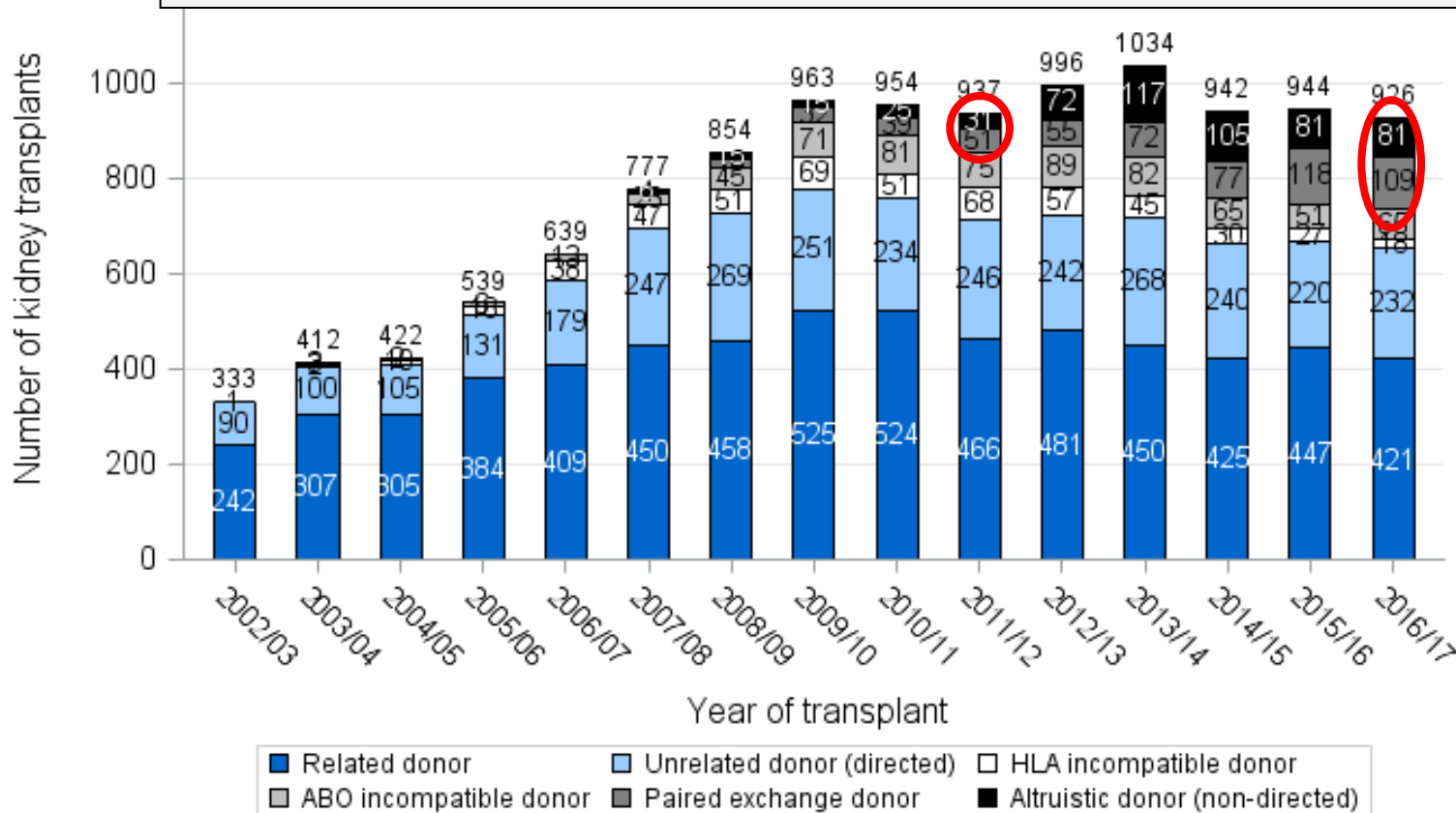
# Non-Directed Altruistic Kidney Donor Transplants



By December 2017:  
635 Donations  
791 Transplants

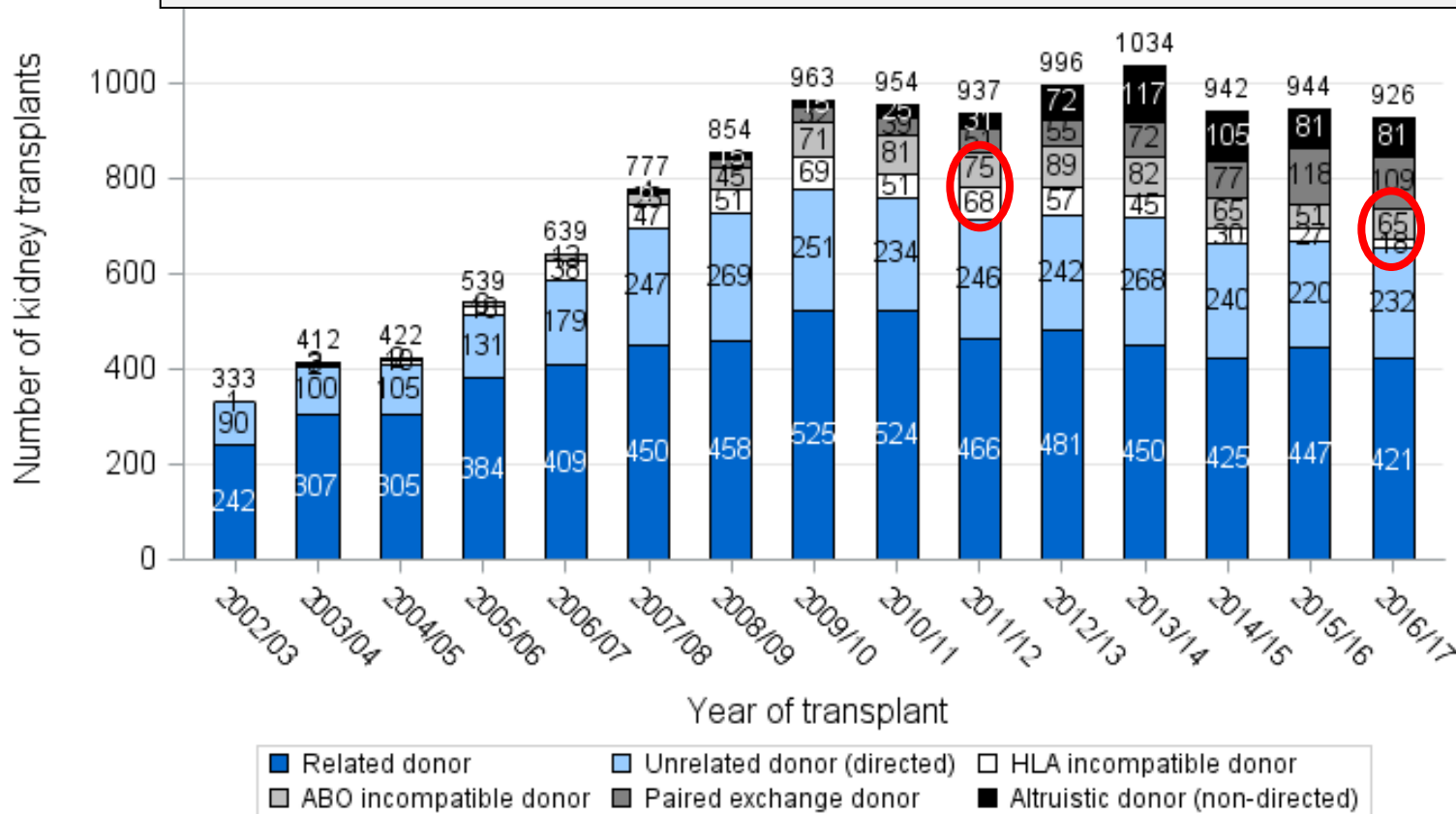
# Total Living Kidney Donor Transplants

Rise in both paired and altruistic living donor kidney transplants



# Total Living Kidney Donor Transplants

Fall in incompatible living donor kidney transplants



# The 'ODT Hub'

Transforming the organ donation and transplantation pathway

*MAKING IT SAFER, SIMPLER, SUPPORTIVE*

A decorative graphic at the bottom of the slide consisting of two overlapping blue waves. The top wave is a lighter shade of blue and curves upwards from left to right. The bottom wave is a darker shade of blue and curves downwards from left to right, creating a layered effect.

## So far we have....

- Safely implemented new heart and routine lung allocation schemes
  - Using new Hub IT platform
  - Automating processes – no more white board in Hub Operations (Duty Office)!
- Implemented Urgent and Super-urgent lung offering schemes
- Designed and developed a systematic donor assessment process for all referrals

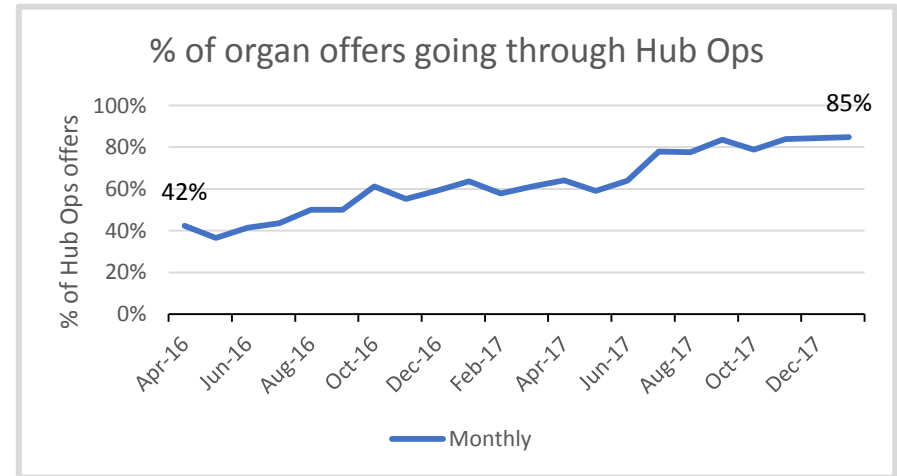
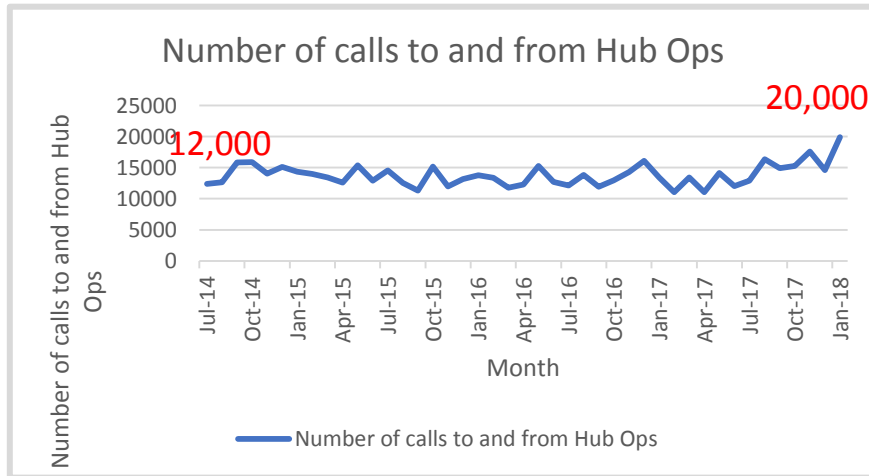
## We are now working on.....

- Final testing to implement a new national liver offering scheme
- Building and testing the new donor referral and assessment process – for national roll out in 2018
- Automating and simplify processes within Hub Operations

# 2018/19 plans for ODT Hub

Finalising Business Case but we expect to be working on:

- New kidney offering scheme
- New HTA-A and B forms (donor information and transplant confirmation)
- Ensuring capacity for increased workload





# Useful resources

# Resources – ODT website

[www.odt.nhs.uk](http://www.odt.nhs.uk)

The screenshot shows the NHS Blood and Transplant website. The top navigation bar includes links for 'Who we are', 'What we do', 'How we help', 'Get involved', 'Donate', 'Careers', and 'Media'. Below this is the 'ODT CLINICAL' header with a search bar. A main navigation menu contains 'Home', 'Deceased donation', 'Living donation', 'Retrieval', 'Transplantation', 'Statistics and reports', 'Information for patients', and 'ODT structure & standards'. The 'Statistics and reports' menu is open, listing: 'Annual Activity Report', 'Organ specific reports', 'Potential Donor Audit', 'ODT Performance Report', 'Annual NORS Report', 'Regional reports', 'Transplantation benchmarking', 'Slides and presentations', 'Access data', and 'Publications'. The 'Annual Activity Report' and 'Slides and presentations' items are circled in red. Below the navigation is a hero section with the text 'Organ Donation and Transplantation Matching world-class performance in organ donation and transplantation'. At the bottom, there are four promotional cards: 'Taking Organ Transplantation to 2020' with a 'View the strategy' link, 'Annual Activity Report' with a 'Download the report' link, 'Taking Organ Utilisation to 2020' with an 'ODT Hub Programme' link, and 'Tell us about an incident' with a 'Tell us about an incident' link.

# Resources – online tools

## Transplant 'tools'

- Relative Chance of Kidney Transplant (adult and paediatric)
- Calculated Reaction Frequency (cRF)
- Living donor kidney incompatible pairs
- Matchability calculator
- cRF calculator for living donors in KSS
- UKELD calculator

**2006 DBD Kidney Allocation Scheme**  
Relative Chance of Transplant Guide

Variable Please select  
Patient blood group Select  
Patient matchability Select  
Age at registration Select

Estimated proportion of patients transplanted, by years listed  
Figure representative of the selected patient type only

**Incompatible Pairs Living Donor**

Variable Select  
Recipient Blood Group Select  
Calculated Reaction Frequency Select  
Donor Blood Group Select  
ABO TX with willing Donor+ Select  
HLA TX with willing Donor+ Select  
Recipient Age Select

Disclaimer: The information is provided for information only. Low titre/Low DSA means acceptable matchability.  
Note: NLDKSS chance of transplant is based on current waiting list. Chances of transplant through the NLDKSS are higher.  
For a more accurate estimate of waiting time, please visit: [http://www.odt.nhs.uk/doc/chance\\_of\\_transplant](http://www.odt.nhs.uk/doc/chance_of_transplant)

**HLA Summary Statistics**  
Allows for defaulting of rare antigens

STEP (1) PATIENT BLOOD GROUP  
Blood group Select  
SENSITISATION  
Number of declared unacceptable antigens 0

STEP (2) HLA  
HLA-A  
HLA-A19 Split  
HLA-B  
HLA-DR


STEP (3) UN  
ADD PATIENT

**CALCULATING A UKELD SCORE FOR PATIENTS WITH END STAGE LIVER DISEASE**

Liver Unit Please select  
INR 0  
Serum Creatinine 0 μmol/l  
Serum Bilirubin 0 μmol/l  
Serum Sodium 0 mmol/l

PATIENT DETAILS AT REGISTRATION


UKELD score at registration Enter Data  
Reset Data



**NHS**  
Blood and Transplant

Tel: 01223 589088 Email: CTU@nhsbt.nhs.uk Web: www.nhsbt.nhs.uk/clinical-trials-unit Twitter: @nhsbt\_CTU


We are a fully registered CTU with the UKCRC. Our aim is to collaborate with researchers in the design, conduct, analysis and publication of clinical trials and other prospective studies, primarily in the fields of transfusion medicine, organ donation and transplantation, and tissue and stem cell transplantation.

**PITHIA** 

Does the introduction of a national pre-implantation biopsy histopathology service increase numbers, and improve outcomes, of kidney transplants performed in the UK. Funded by NIHR Research for patients benefit

**REPEAT**


A feasibility randomised controlled trial comparing restrictive versus liberal red cell transfusion strategies in children undergoing allogeneic haematopoietic stem cell transplant (HSCT). Funded by NHS Blood and Transplant

**ITOPS** 

Improving Transplant Opportunities for Patients who are Sensitised. Funded by Kidney Research UK

**REDJUVENATE**


Feasibility trial of Rejuvesol, RBC rejuvenating solution, in patients undergoing cardiac surgery. Funded by NIHR Programme grant

**RESTART** 


A cross-over trial comparing recovery and survival of manufactured RBCs with donated RBCs in healthy volunteers. Funded by NHS Blood and Transplant

**REAL**


A feasibility cross-over randomised controlled trial comparing restrictive versus liberal red cell transfusion strategies in adult patients with acute myeloid leukaemia receiving intensive chemotherapy. Funded by NHS Blood and Transplant

**DRIVE** 


A placebo-controlled single-blind, randomised feasibility trial of Desompression (DDAMP) in critical illness prior to procedures. Funded by NHS Blood and Transplant

**CRATP** 


A double blind, randomised controlled trial evaluating the safety and efficacy of haemostatic acid in patients with severe thrombocytopenia. Funded by NHS Blood and Transplant

**EVNP** 


Graft function and survival following transplant of kidneys preserved using cold storage alone vs cold storage plus 1 hour normothermic perfusion. Funded by NIHR Research for patients benefit

**CRYOSTAT-2** 


A multi-centre, randomised, controlled trial evaluating the effects of early administration of cryoprecipitate in adults with major traumatic haemorrhage. Funded by NIHR HTA

**REDD5** 


Red blood cell transfusion thresholds and QoL in REDD5 myelodysplastic syndromes: a pilot, feasibility study

**REDD5** 


A comparison of HLA epitope-matched with standard HLA-matched prophylactic platelet transfusions in raising the platelet count increment in alloimmunised thrombocytopenic patients with aplastic anaemia, myelodysplastic syndrome or acute myeloid leukaemia. Funded by NHS Blood and Transplant

**FRIT1** 

A multi-centre, randomised double blind, placebo controlled trial evaluating the effects of early administration of fibrinogen concentrate in adults with major traumatic haemorrhage.


**Pr\*GRES** 

PROspective GRanulocyte usage and outcomes in England/Europe. Funded by NHS Blood and Transplant



**PITHIA**

Pre-Implantation Trial of Histopathology In renal Allografts





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The PITHIA trial, being managed by NHS Blood and Transplant **Clinical Trials Unit**, will involve all UK adult renal transplant centres.

Chief Investigator: Mr Gavin Pettigrew  
 Funder: NIHR Research for Patient Benefit  
 Sponsor: Cambridge University Hospitals and the University of Cambridge

This trial will introduce a national digital histopathology service – the aim of which is to increase the proportion of kidneys from donors aged ≥60 which are transplanted.


Performing an urgent kidney biopsy will help to identify those kidneys which are suitable for transplantation and improve upon the current utilisation rate.

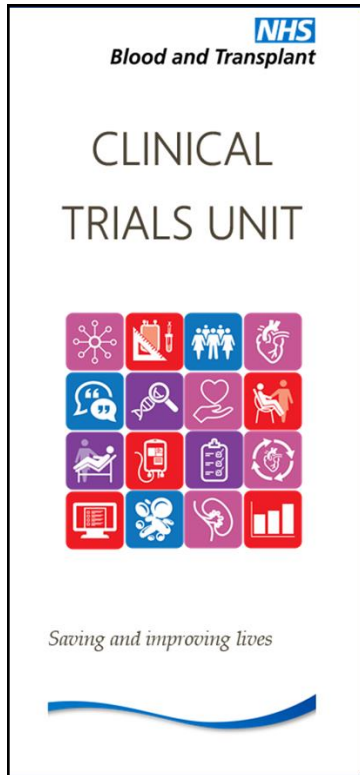


The trial is a stepped-wedge cluster randomised trial – every four months, a randomly-chosen group of centres will receive access to the histopathology service. By the end of the trial, all centres will have access.

Please visit [www.pithia.org.uk](http://www.pithia.org.uk), or follow the trial on Twitter to find out more:

 **@PITHIA\_trial**    [www.nhsbt.nhs.uk/clinical-trials-unit](http://www.nhsbt.nhs.uk/clinical-trials-unit)

# Resources – NHSBT Clinical Trials Unit



The logo for the NHSBT Clinical Trials Unit is enclosed in a black rectangular border. At the top left is the NHS logo with the text "Blood and Transplant" below it. In the center, the words "CLINICAL TRIALS UNIT" are written in a bold, sans-serif font. Below the text is a 4x4 grid of 16 colorful icons representing various medical and research concepts: a network diagram, a clipboard with a bar chart, a group of people, a heart, a speech bubble, a DNA helix, a hand holding a heart, a person in a chair, a person in a hospital bed, a stethoscope, a clipboard with a checklist, a heart with a pulse line, a computer monitor, a microscope, a heart with a pulse line, and a bar chart. At the bottom left, the tagline "Saving and improving lives" is written in a smaller font, with a blue wavy line underneath.

## Why use us?

- Knowledge of organ donation and transplantation
- Friendly, helpful and professional team
- Fully registered (with UK Clinical Research Collaboration)
- Access to UK Transplant Registry data:
  - Sample size calculations
  - Trial outcomes (cost effective)

## Contact:

Phone: 01223 588088

Email: [CTU@nhsbt.nhs.uk](mailto:CTU@nhsbt.nhs.uk)

Web: [www.nhsbt.nhs.uk/clinicaltrialsunit](http://www.nhsbt.nhs.uk/clinicaltrialsunit)

Twitter: @NHSBT\_CTU

Come and talk to us  
on our BTS stand!



# Summary

- Deceased donors & transplants set to hit record high again this year
- Non-directed altruistic donors making an increasingly valuable contribution to kidney transplantation
- The 'ODT Hub' – updating organ offering schemes and streamlining processes
- Useful resources – see [www.odt.nhs.uk](http://www.odt.nhs.uk) and come and see NHSBT Clinical Trials Unit today!

# Acknowledgements

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



@NHSBT\_Stats

@NHSBT\_CTU

[www.odt.nhs.uk](http://www.odt.nhs.uk)