NHS BLOOD AND TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE

PANCREAS ADVISORY GROUP

PANCREAS TRANSPLANT OUTCOME

INTRODUCTION

1 For information, national data on outcomes following vascularised pancreas transplantation are presented.

DATA & METHODS

2 Data were obtained from the UK Transplant Registry and include deceased donor simultaneous pancreas and kidney (SPK) and isolated pancreas transplants performed in the UK between 1 April 2012 and 31 March 2016. Transplants using pancreases from donors after brain death (DBD) and donors after circulatory death (DCD) are analysed separately.

3 Pancreas and kidney one, two and three year graft and patient survival are reported and presented in **Figures 1** to **5**. The survivor function was estimated using the Kaplan-Meier method. Graft survival is measured from date of transplant to graft failure, censoring for death with a functioning graft or, if functioning, the date of last known follow-up. Patient survival is measured from date of transplant to patient death, censoring for patients who were alive at their last known follow-up.

4 Between the time periods April 2012 - March 2014 cf. April 2014 - March 2016 there was a some evidence of a difference, although not significant at the 5% level, in pancreas graft survival following SPK transplants from DCD donors, p=0.08, but not from DBD donors, p=0.13. Three year pancreas graft survival following SPK transplant between April 2012 and March 2014 was 83% for DBD donors and 75% for DCD donors.

5 There was some evidence of a difference, although not significant at the 5% level, in pancreas graft survival following pancreas only transplants from DBD donors, but not from DCD donors between the time periods April 2012 - March 2014 cf. April 2014 - March 2016, p=0.06 and p=0.18 respectively.

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1 Simultaneous kidney/pancreas transplants - donor after brain death (DBD)

Figure 1 shows pancreas graft survival and kidney graft survival in recipients receiving their first simultaneous kidney/pancreas (SPK) transplant performed from donors after brain death, April 2012 - March 2014 and April 2014 - March 2016. Pancreas graft, kidney graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.1**. Results relate to adults only as there are no paediatric pancreas transplant recipients.

Figure 1 **Graft survival after first SPK transplant from donors after brain stem death, 1 April 2012 – 31 March 2016**

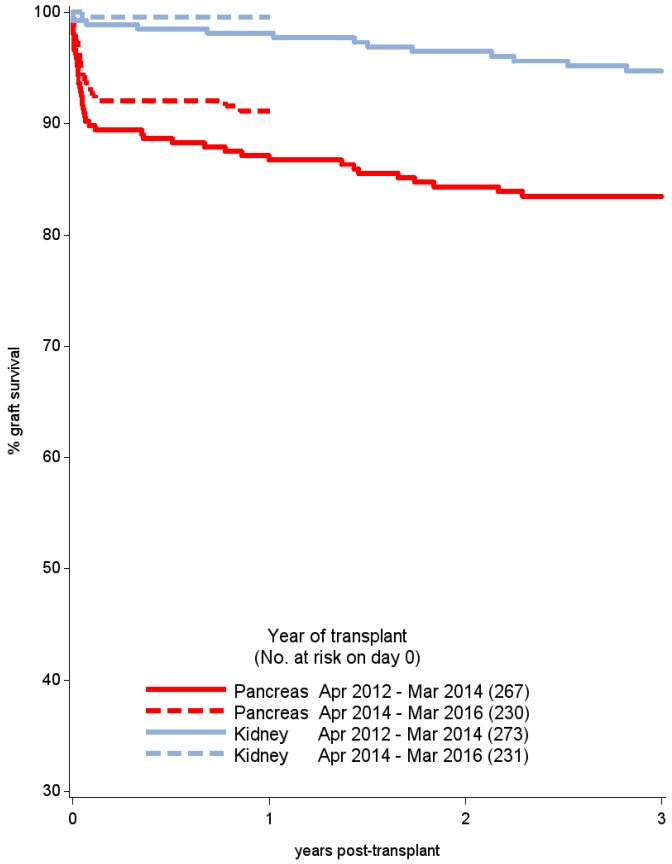

Table 1.1 **Graft and patient survival after first SPK transplant from a DBD, 1 April 2012 to 31 March 2016**

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval) One year	Two year	Three year
Pancreas graft survival (one year, p=0.13)				
Apr 2012 - Mar 2014	267	87 (82 - 90)	84 (79 - 88)	83 (78 - 87)
Apr 2014 - Mar 2016	230	91 (87 - 94)		
Kidney graft survival (one year, p=0.16)				
Apr 2012 - Mar 2014	273	98 (96 - 99)	96 (93 - 98)	95 (91 - 97)
Apr 2014 - Mar 2016	231	100 (97 - 100)		
Patient survival (one year, p=0.94)				
Apr 2012 - Mar 2014	269	96 (92 - 98)	95 (91 - 97)	91 (87 - 94)
Apr 2014 - Mar 2016	229	96 (92 - 98)		

2 Simultaneous kidney/pancreas transplants - donor after circulatory death (DCD)

Figure 2 shows pancreas graft survival and kidney graft survival in recipients receiving their first simultaneous kidney/pancreas (SPK) transplant performed from donors after circulatory death, April 2012 - March 2014 and April 2014 - March 2016. Pancreas graft, kidney graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.2**. Results are for adult patients only.

Figure 2 **Graft survival after first SPK transplant from donors after circulatory death, 1 April 2012 – 31 March 2016**

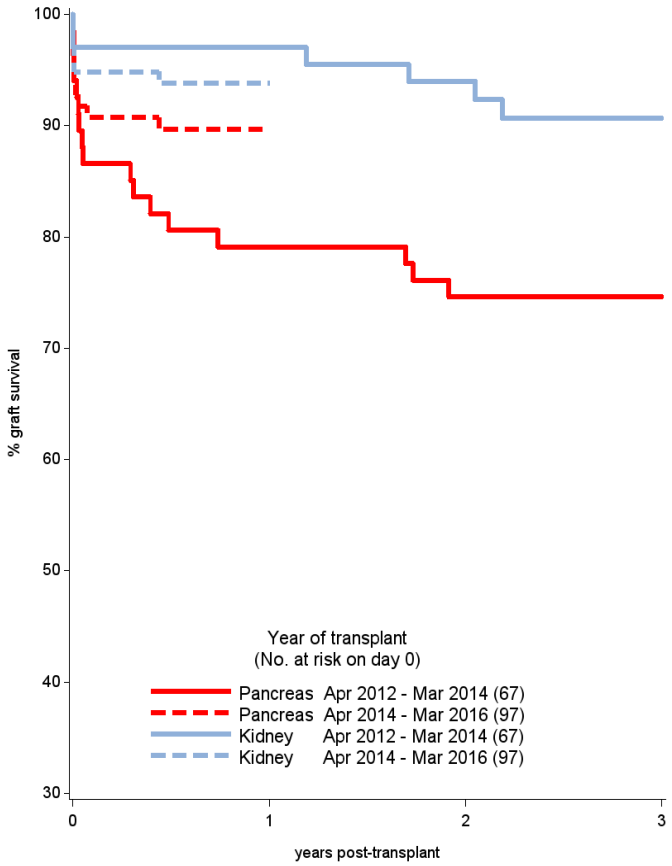

Table 1.2 **Graft and patient survival after first SPK transplant from a DCD, 1 April 2012 to 31 March 2016**

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval) One year		Two year		Three year	
Pancreas graft survival (one year, p=0.08)							
Apr 2012 - Mar 2014	67	79	(67 - 87)	75	(62 - 83)	75	(62 - 83)
Apr 2014 - Mar 2016	97	90	(82 - 94)				
Kidney graft survival (one year, p=0.36)							
Apr 2012 - Mar 2014	67	97	(89 - 99)	94	(85 - 98)	91	(80 - 96)
Apr 2014 - Mar 2016	97	94	(87 - 97)				
Patient survival (one year, p=0.77)							
Apr 2012 - Mar 2014	67	98	(89 - 100)	98	(89 - 100)	95	(84 - 98)
Apr 2014 - Mar 2016	97	99	(93 - 100)				

3 Pancreas only transplants – deceased donors

Figure 3 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from deceased donors, April 2012 - March 2014 and April 2014 - March 2016. Graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.3**. Results are for adult patients only.

Figure 3 **Graft survival after first pancreas only transplant from deceased donors, by donor type and year, 1 April 2012 – 31 March 2016**

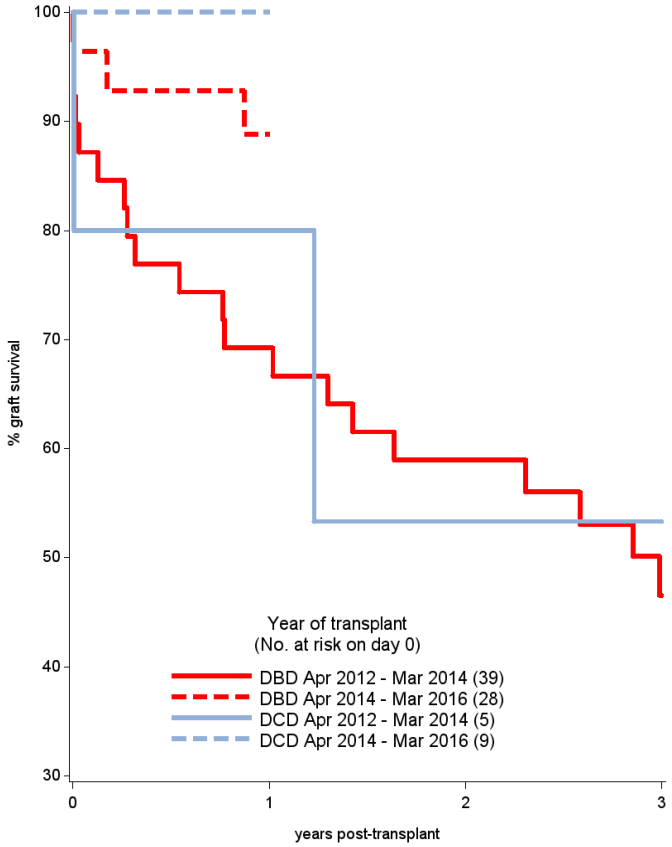

Table 1.3 **Graft and patient survival after first pancreas only transplant, 1 April 2012 to 31 March 2016**

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval) One year		Two year		Three year	
DBD Pancreas graft survival (one year, p=0.06)							
Apr 2012 - Mar 2014	39	69	(52 - 81)	59	(42 - 72)	47	(30 - 62)
Apr 2014 - Mar 2016	28	89	(69 - 96)				
DBD Patient survival (one year, p=0.82)							
Apr 2012 - Mar 2014	39	97	(80 - 100)	97	(80 - 100)	97	(80 - 100)
Apr 2014 - Mar 2016	28	96	(75 - 99)				
DCD Pancreas graft survival (one year, p=0.18)							
Apr 2012 - Mar 2014	5	80	(20 - 97)	53	(7 - 86)	53	(7 - 86)
Apr 2014 - Mar 2016	9	100	(-)				
DCD Patient survival (one year, p=0.18)							
Apr 2012 - Mar 2014	5	80	(20 - 97)	80	(20 - 97)	80	(20 - 97)
Apr 2014 - Mar 2016	9	100	(-)				

4 Pancreas only transplants by transplant type – deceased donors

Figure 4 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from deceased donors, 1 April 2012 – 31 March 2016. Graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.4**. Results are for adult patients only.

Figure 4 **Graft survival after first pancreas only transplant from deceased donors, by donor and transplant type, 1 April 2012 – 31 March 2016**

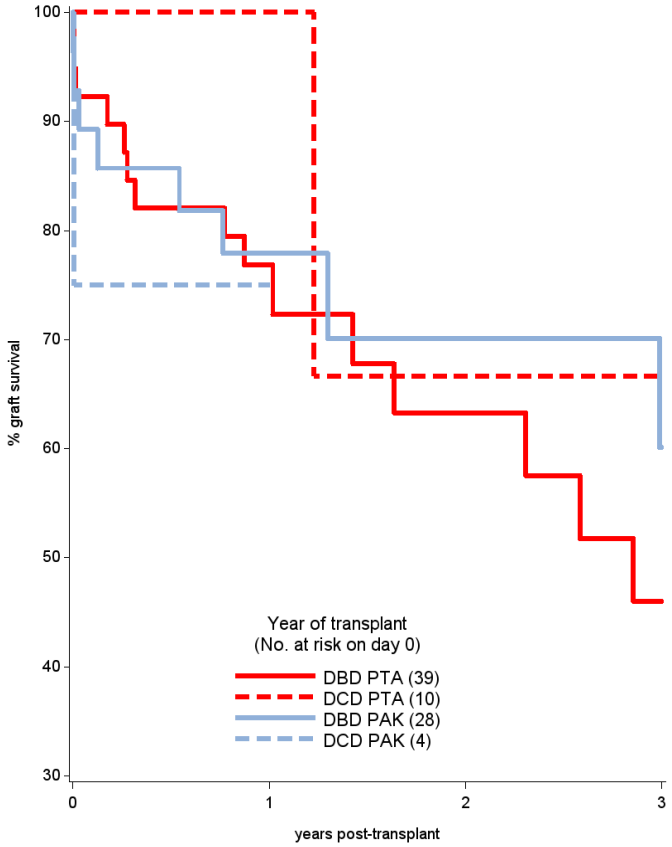

Table 1.4 **Graft and patient survival after first pancreas only transplant by transplant type, 1 April 2012 to 31 March 2016**

Transplant type	No. at risk on day 0	% Survival (95% confidence interval) One year		Two year		Three year	
DBD Pancreas graft survival (one year, p=0.98)							
PTA	39	77	(60 - 87)	63	(43 - 78)	46	(25 - 65)
PAK	28	78	(57 - 89)	70	(45 - 85)	60	(31 - 80)
DBD Patient survival (one year, p=0.8)							
PTA	39	97	(82 - 100)	97	(82 - 100)	97	(82 -100)
PAK	28	96	(74 - 99)	96	(74 - 99)	96	(74 - 99)
DCD Pancreas graft survival (one year, p=0.11)							
PTA	10	100	(-)	67	(5 - 95)	67	(5 - 95)
PAK	4	75	(13 - 96)	75	(13 - 96)	75	(13 - 96)
DCD Patient survival (one year, p=0.53)							
PTA	10	90	(47 - 99)	90	(47 - 99)	90	(47 - 99)
PAK	4	100	(-)	100	(-)	0	(-)

5 Pancreas after kidney transplants by kidney donor type – deceased donors

Figure 5 shows pancreas graft survival in recipients receiving their first pancreas after kidney transplant performed from deceased donors, 1 April 2012 – 31 March 2016. Graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.5**. Results are for adult patients only.

Figure 5 **Graft survival after deceased donor pancreas after kidney transplant by kidney donor type, 1 April 2012 – 31 March 2016**

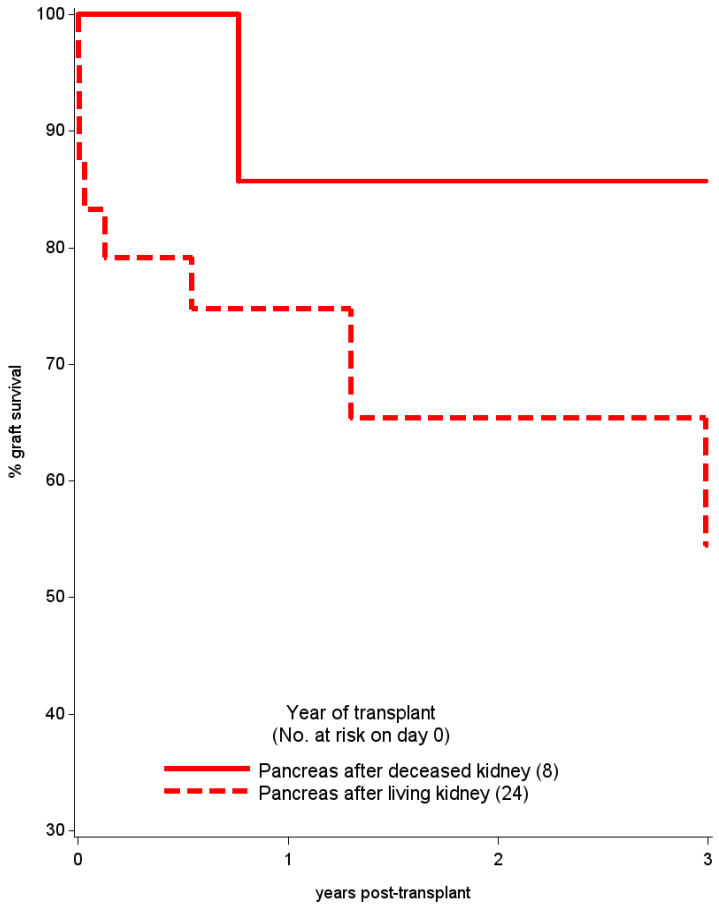

Table 1.5 **Graft and patient survival after first pancreas after kidney transplant, 1 April 2012 to 31 March 2016**

Transplant type	No. at risk on day 0	% Survival (95% confidence interval) One year		Two year		Three year	
Pancreas graft survival (one year, p=0.4)							
PADK	8	86	(33 - 98)	86	(33 - 98)	86	(33 - 98)
PALK	24	75	(52 - 88)	65	(38 - 83)	55	(25 - 77)
Patient survival							
PADK	8	100	(-)	100	(-)	100	(-)
PALK	24	95	(71 - 99)	95	(71 - 99)	85	(47 - 96)

PADK – pancreas after deceased kidney
PALK – pancreas after living kidney