

## ORGANS REQUESTED

The requests for specific organs in Australia in 2007 from 198 organ donors were: kidneys 97%, liver 95%, heart 81%, lungs 80% and pancreas 84%.

From the 28 New Zealand donors in 2007, the requests for specific organs were: kidneys 97%, liver 100%, heart 87%, lungs 84% and pancreas 68%.

## MULTIPLE ORGAN RETRIEVAL

There were 31 (15.5%) of Australian donors in 2007 who donated solid organs, who had a single organ retrieved shown in Figure 48. Kidney only donation occurred in 25 cases.

Six donors in Australia went to theatre, but no solid organs were retrieved.

New Zealand had six single organ donors in 2007, five donating kidneys and one donating a liver.

In Australia and New Zealand respectively, 82% and 84 % of donors had two or more organs retrieved for the purposes of transplantation.

**Figure 48**

Multiple Organ Retrieval 2002 - 2007												
Number of Organs	Australia						New Zealand					
	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007
Single	19%	17%	15%	17%	11%	15.5%	13%	7%	13%	14%	8%	16%
Two	24%	27%	27%	22%	23%	23%	42%	28%	43%	34%	24%	40%
Three	24%	20%	22%	17%	23%	23%	29%	25%	27%	21%	44%	26%
Four	23%	26%	23%	32%	23%	20%	13%	35%	10%	28%	12%	18%
Five	8%	8%	12%	10%	18%	15.5%	0%	5%	0%	3%	12%	0%
No organs	<1%	2%	1%	2%	1%	3%	3%	0%	7%	0%	0%	0%

**Figure 49**

State by State Comparison of Multiple Organ Retrieval 2007										
Number of Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Single	7 (18%)	13 (25%)	0 (0%)	7 (13%)	0 (0%)	1 (4%)	0 (0%)	3 (16%)	<b>31 (15.5%)</b>	<b>6 (16%)</b>
Two	15 (38%)	11 (21%)	0 (0%)	6 (11%)	1 (100%)	7 (26%)	0 (0%)	4 (21%)	<b>45 (23%)</b>	<b>15 (40%)</b>
Three	6 (15%)	10 (19%)	1 (100%)	13 (23%)	0 (0%)	11 (41%)	1 (33%)	3 (16%)	<b>45 (23%)</b>	<b>10 (26%)</b>
Four	8 (21%)	3 (5%)	0 (0%)	17 (31%)	0 (0%)	5 (18%)	1 (33%)	6 (32%)	<b>40 (20%)</b>	<b>7 (18%)</b>
Five	1 (3%)	15 (28%)	0 (0%)	12 (22%)	0 (0%)	1 (4%)	1 (33%)	2 (10%)	<b>31 (15.5%)</b>	<b>0 (0%)</b>
No organs	2 (5%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	2 (7%)	0 (0%)	1 (5%)	<b>6 (3%)</b>	<b>0 (0%)</b>
<b>Total</b>	<b>39</b>	<b>53</b>	<b>1</b>	<b>55</b>	<b>1</b>	<b>27</b>	<b>3</b>	<b>19</b>	<b>198</b>	<b>38</b>

NB: 2 kidneys = 1 organ, 2 lungs = 1 organ  
On occasions when only one kidney is retrieved, this is also defined as one organ

## ORGAN RECIPIENTS TRANSPLANTED

Australia and New Zealand both had 3.3 organ recipients per donor used for transplantation in 2007, as shown in Figure 50.

The mean number of recipients transplanted per donor each year for 1997-2007 in Australia and New Zealand is shown in Figure 49.

The number of recipients transplanted is used for this calculation, rather than the number of organs.

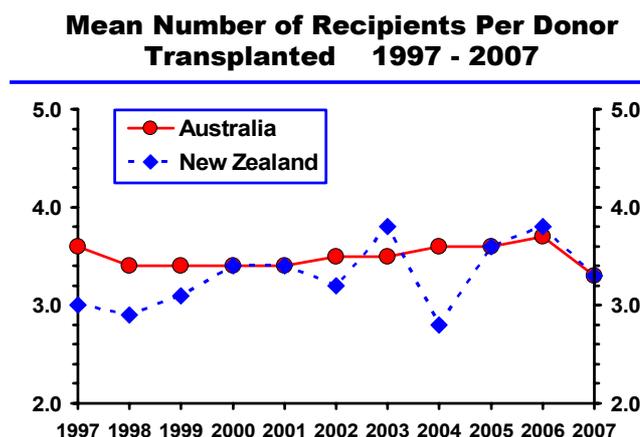
The ACT had the highest number of organs transplanted, 4.0 per donor, followed by New South Wales and Victoria both 3.5, Western Australia 3.4, Queensland 3.2, the Northern Territory 3.0, South Australia 2.8 and Tasmania 2.0 per donor.

These figures exclude tissue transplantation.

**Figure 50**

Organ Recipients Transplanted per Donor 2007										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
No. Organs Transplanted	123	186	4	192	2	76	9	65	<b>657</b>	<b>125</b>
No. of Donors	39	53	1	55	1	27	3	19	<b>198</b>	<b>38</b>
<b>Mean per Donor</b>	<b>3.2</b>	<b>3.5</b>	<b>4.0</b>	<b>3.5</b>	<b>2.0</b>	<b>2.8</b>	<b>3.0</b>	<b>3.4</b>	<b>3.3</b>	<b>3.3</b>

**Figure 51**



**Figure 52**

Organs Transplanted by Donor State in Australia and New Zealand 2007										
Organs Transplanted	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Kidney	71	90	2	93	2	45	6	33	<b>342</b>	<b>65</b>
Liver	21	28	1	34	0	17	2	15	<b>118</b>	<b>29</b>
Liver (Left)	4	8	0	2	0	1	1	0	<b>15</b>	<b>3</b>
Liver (Right)	3	8	0	2	0	1	0	0	<b>14</b>	<b>2</b>
Heart	10	14	0	20	0	5	0	6	<b>56</b>	<b>12</b>
Heart/Lungs	1	3	1	0	0	1	0	1	<b>6</b>	<b>0</b>
Lungs	9	20	0	23	0	5	0	7	<b>65</b>	<b>13</b>
Lung (Left)	0	1	0	3	0	0	0	0	<b>4</b>	<b>0</b>
Lung (Right)	0	1	0	3	0	0	0	0	<b>4</b>	<b>0</b>
Pancreas	4	10	0	11	0	0	0	3	<b>28</b>	<b>1</b>
Pancreas Islets	0	3	0	1	0	1	0	0	<b>5</b>	<b>0</b>
<b>Total</b>	<b>123</b>	<b>186</b>	<b>4</b>	<b>192</b>	<b>2</b>	<b>76</b>	<b>9</b>	<b>65</b>	<b>657</b>	<b>125</b>

## EXCHANGE OF ORGANS

The number of organs that were sent and received between Australian States and New Zealand in 2007 and 2006 is shown in Figure 53.

A balance is maintained between Australian regions for the allocation of kidneys. For this purpose Victoria/Tasmania, South Australia/Northern

Territory and New South Wales/Australian Capital Territory (ACT) are considered Regions.

This is achieved by the National Organ Matching System (NOMS) in which all Australian Regions participate. There is no monitoring of State balance for the allocation of other organs.

**Figure 53**

<b>Exchange of Organs Between States and New Zealand 2007 (2006)</b>									
<b>Organs Transplanted</b>	<b>Exchange</b>	<b>Kidneys</b>	<b>Liver <sup>+</sup></b>	<b>Heart</b>	<b>Heart/Lungs <sup>*</sup></b>	<b>Lungs #</b>	<b>Pancreas</b>	<b>Islets</b>	<b>Total <sup>*</sup></b>
Queensland	Sent	9 (19)	10 (3)	2 (2)	0 (0)	10 (6)	4 (5)	0 (0)	<b>35 (35)</b>
	Received	8 (9)	10 (5)	5 (5)	1 (1)	10 (4)	0 (0)	0 (0)	<b>36 (26) *</b>
New South Wales	Sent	12 (20)	6 (6)	3 (5)	0 (1)	8 (8)	0 (1)	0 (0)	<b>29 (43) *</b>
	Received	19 (35)	13 (19)	7 (8)	0 (1)	18 (28)	9 (17)	1 (1)	<b>67 (111) *</b>
ACT	Sent	2 (6)	1 (3)	0 (2)	0 (0)	2 (4)	0 (1)	0 (0)	<b>5 (16)</b>
Victoria	Sent	7 (17)	10 (10)	2 (2)	0 (2)	4 (2)	2 (4)	0 (1)	<b>25 (42) *</b>
	Received	7 (29)	12 (10)	5 (14)	0 (1)	16 (33)	0 (3)	0 (0)	<b>40 (92) *</b>
Tasmania	Sent	2 (14)	0 (6)	0 (3)	0 (0)	0 (8)	0 (2)	0 (0)	<b>2 (33)</b>
South Australia	Sent	6 (11)	7 (12)	5 (9)	1 (0)	10 (26)	0 (5)	1 (0)	<b>32 (63) *</b>
	Received	11 (22)	6 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>17 (22)</b>
Northern Territory	Sent	6 (4)	2 (0)	1 (1)	0 (0)	0 (2)	0 (0)	0 (0)	<b>9 (7)</b>
Western Australia	Sent	7 (11)	2 (4)	2 (4)	0 (0)	4 (6)	3 (2)	0 (0)	<b>18 (27)</b>
	Received	6 (7)	1 (6)	1 (2)	0 (0)	2 (2)	0 (0)	0 (0)	<b>10 (17)</b>
<b>New Zealand</b>	Sent	0 (0)	8 (8)	3 (1)	0 (0)	8 (5)	0 (0)	0 (0)	<b>19 (14)</b>
	Received	0 (0)	4 (12)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>4 (12)</b>

+ Number of recipients of livers # Total number of lungs (not recipients) excludes heart/lungs  
\* Total includes two lungs from each heart/lungs transplant

**Figure 54**

<b>Summary of Organs Transplanted in Australia from New Zealand Donors 1989 - 2007</b>					
<b>Year</b>	<b>Kidneys</b>	<b>Liver <sup>+</sup></b>	<b>Heart</b>	<b>Lungs <sup>*</sup></b>	<b>Total</b>
1989	0	1	0	0	<b>1</b>
1990	0	7	0	0	<b>7</b>
1991	0	11	0	0	<b>11</b>
1992	3	24	0	0	<b>27</b>
1993	0	16	0	0	<b>16</b>
1994	4	21	0	2	<b>27</b>
1995	0	21	5	9	<b>35</b>
1996	1	23	1	4	<b>29</b>
1997	2	22	2	2	<b>28</b>
1998	4	16	3	8	<b>31</b>
1999	2	7	1	2	<b>12</b>
2000	0	7	0	4	<b>11</b>
2001	0	2	0	4	<b>6</b>
2002	0	5	2	8	<b>15</b>
2003	0	5	3	13	<b>21</b>
2004	1	7	2	4	<b>14</b>
2005	4	5	3	5	<b>17</b>
2006	0	8	1	5	<b>14</b>
2007	0	8	3	8	<b>19</b>
<b>Total</b>	<b>21</b>	<b>216</b>	<b>26</b>	<b>78</b>	<b>341</b>

+ Number of recipients of livers \* Total number of lungs (not recipients)

New Zealand organs are sent to Australia when there are no suitable recipients in New Zealand.

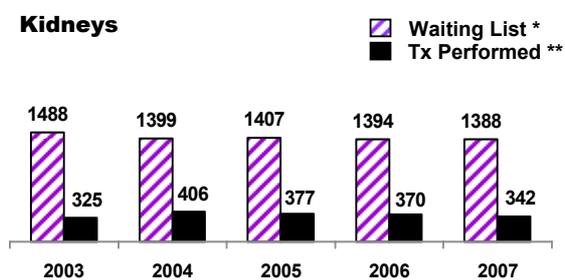
Liver transplantation commenced in New Zealand in February 1998, prior to this time, all livers were sent to Australia.

## KIDNEY DONATION

Figure 55 shows the number of Australian and New Zealand patients waiting for a kidney transplant and the number of deceased donor transplants performed for each year from 2003-2007.

**Figure 55**

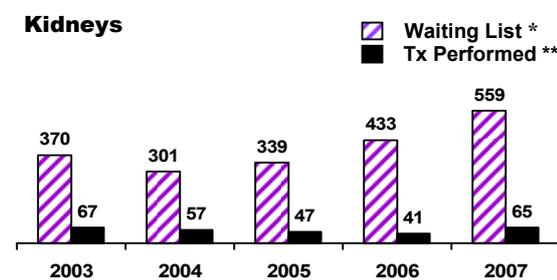
**Waiting List vs Deceased Donor Transplants  
Australia 2003 - 2007**



\* Source: NOMS (National Organ Matching System)

\*\* Includes kidneys sent from New Zealand

**Waiting List vs Deceased Donor Transplants  
New Zealand 2003 - 2007**

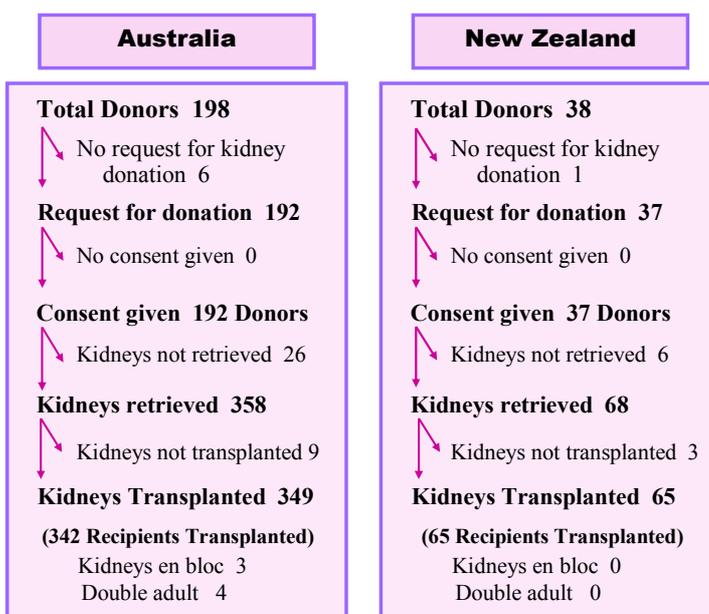


\* Source of Waiting List – NZ Donor Coordinators

\*\* Not included kidneys sent to Australia: 2004 (1) 2005 (4)

**Figure 56**

### Outcome of Request for Kidney Donation 2007



Refer to Appendices for reasons kidneys were not requested, not retrieved and not transplanted



**Figure 60**

<b>Regional Outcome of Requests for Kidney Donation 1989 - 2007</b>										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
<b>Total Donors</b>	<b>753</b>	<b>1163</b>	<b>87</b>	<b>854</b>	<b>63</b>	<b>495</b>	<b>40</b>	<b>324</b>	<b>3779</b>	<b>555</b>
Requested	751	1149	87	840	62	487	39	321	<b>3736</b>	<b>550</b>
Consented	751	1146	87	839	62	487	39	321	<b>3732</b>	<b>550</b>
Retrieved	1460	2202	168	1624	122	927	78	617	<b>7198</b>	<b>1051</b>
Transplanted *	1416	2131	161	1551	113	876	74	593	<b>6915</b>	<b>999</b>
	(14) (2x)	(9) (3x)	(2)	(7) (1x)	(2)	(5) (13x)	(1x)	(5) (3x)	<b>(44) (23x)</b>	<b>(3) (5x)</b>
* Recipients ( ) En bloc (x) Double Adult ** New Zealand 1993 - 2007										

## DONOR KIDNEY FUNCTION

### TERMINAL LEVELS OF SERUM CREATININE

#### AUSTRALIA

In 2007, 16% of Australian donors had a terminal serum creatinine concentration of  $\geq 125 \mu\text{mol/L}$  (shown in Figure 61) and 15% had a terminal serum urea concentration of  $\geq 9 \text{ mmol/L}$ .

#### NEW ZEALAND

There were no donors in New Zealand with a terminal serum creatinine concentration of  $\geq 125 \mu\text{mol/L}$  and 6% with terminal serum urea concentration of  $\geq 9 \text{ mmol/L}$  in 2007.

**Figure 61**

<b>Terminal Serum Creatinine Levels 2002 - 2006</b>												
Creatinine ( $\mu\text{mol/L}$ )	Australia						New Zealand					
	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007
00-99	76%	75%	72%	75%	77%	73%	80%	82%	75%	59%	74%	85%
100-124	12%	12%	14%	13%	10%	11%	7%	9%	19%	23%	10.5%	15%
125-149	4%	3%	5%	5%	6%	8%	13%	3%	0%	9%	10.5%	0%
150-174	3%	4%	1.5%	2%	2%	2%	0%	6%	3%	9%	5%	0%
175-199	1%	1%	1.5%	1%	1%	1%	0%	0%	0%	0%	0%	0%
200-224	2%	1%	1%	2%	<1%	0%	0%	0%	3%	0%	0%	0%
225-249	<1%	1%	2%	0%	1%	1%	0%	0%	0%	0%	0%	0%
>250	<1%	3%	3%	2%	3%	4%	0%	0%	0%	0%	0%	0%

## REASONS KIDNEYS WERE UNUSABLE

### KIDNEY BIOPSY AT RETRIEVAL

There were 25 donors (14%) who had a biopsy of the kidneys taken at retrieval in 2007 in Australia and 22 donors (61%) in New Zealand.

Since 2000, there have been 13% (197) biopsies from 1510 kidney donors in Australia and 34% (92) from 267 kidney donors in New Zealand.

The reasons for kidneys that were unusable and the donor age are shown in Figures 62 and 63.

**Figure 62**

		<b>Reasons Kidneys Unused 2002 - 2007</b>					
		2002	2003	2004	2005	2006	2007
<b>Australia</b>	Renal disease in donor	2	5	2	5	6	5
	Cancer in donor	0	2	2	1	1	0
	Anatomical	0	10	0	1	0	0
	Surgical	1	1	1	0	3	0
	Trauma	0	2	0	2	0	0
	Recipient problems	0	0	0	0	1	1
	Hepatitis B Core Antibody	0	0	0	2	0	0
	Surgeons not available	0	0	1	0	0	0
	Hepatitis C Nat Positive	0	0	0	0	0	1
	High risk donor	0	0	0	0	0	1
	Recent asymptomatic peritonitis	0	0	0	0	0	1
<b>Total</b>	<b>3</b>	<b>10</b>	<b>6</b>	<b>11</b>	<b>11</b>	<b>9</b>	
<b>New Zealand</b>	Renal disease in donor	1	3	3	3	1	3
	Cancer in donor	0	2	0	0	0	0
	Surgical	0	1	0	0	0	0
	Recipient unsuitable	0	0	0	1	0	0
	<b>Total</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>3</b>

**Figure 63**

		<b>Donor Age of Unused Kidneys 2002 - 2007</b>									
		<b>Age Groups</b>								<b>Total</b>	
		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74		75-84
<b>Australia</b>	2002	0	0	0	0	1	0	0	2	0	<b>3</b>
	2003	0	0	3	0	0	2	1	4	0	<b>10</b>
	2004	0	1	0	0	0	2	1	0	2	<b>6</b>
	2005	0	0	0	2	2	3	2	2	0	<b>11</b>
	2006	0	0	0	2	0	1	3	2	2	<b>11</b>
	2007	0	0	0	3	1	2	0	2	1	<b>9</b>
<b>New Zealand</b>	2002	0	0	0	0	0	0	1	0	0	<b>1</b>
	2003	0	1	2	0	0	0	1	2	0	<b>6</b>
	2004	0	0	0	1	0	0	2	0	0	<b>3</b>
	2005	0	0	0	0	0	1	3	0	0	<b>4</b>
	2006	0	0	0	0	0	0	1	0	0	<b>1</b>
	2007	0	0	0	0	0	1	0	2	0	<b>3</b>

## KIDNEY PERFUSION METHODS

Where kidneys were perfused with only one solution, Ross (67%), HTK(26%) and UW (7%) were the solutions used in Australia in 2007.

In New Zealand UW (56%) and HTK (44%) were the solutions used (Figure 64).

UW was used as the second perfusion solution in 98% of cases and Ross (2%), in Australia in 2007 (Figure 65).

**Figure 64**

<b>Kidney Perfusion with Only One Solution 2002 - 2007</b>												
	<b>Australia</b>						<b>New Zealand</b>					
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Ross	14	12	6	24	16	18	2	0	2	4	0	0
UW	4	10	2	4	0	2	66	72	61	49	42	36
HTK	0	8	14	23	38	7	0	0	0	0	0	28
Hartman's	0	0	2	0	0	0	0	0	0	0	0	0
Celsior	0	0	0	0	2	0	0	0	0	0	0	0
<b>Total</b>	<b>18</b>	<b>30</b>	<b>24</b>	<b>51</b>	<b>56</b>	<b>27</b>	<b>68</b>	<b>72</b>	<b>63</b>	<b>53</b>	<b>42</b>	<b>64</b>

**Figure 65**

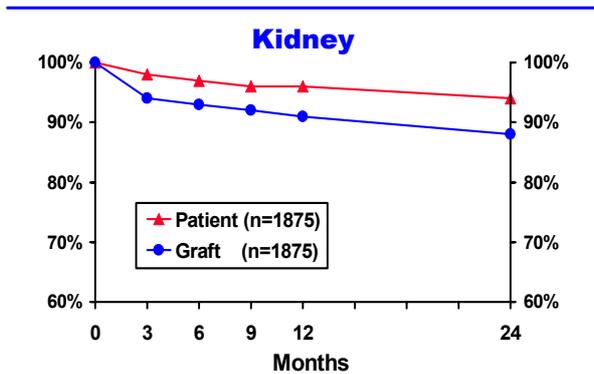
<b>Second Perfusion Solution - Kidneys 2002 - 2007</b>												
	<b>Australia</b>						<b>New Zealand</b>					
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Ross	54	37	42	0	4	8	0	0	0	0	0	0
UW	296	267	344	338	323	320	2	1	2	2	0	4
HTK	4	0	0	2	2	0	0	0	0	0	0	0
Collins	8	6	0	0	0	0	0	0	0	0	0	0
Hartman's	0	0	2	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>362</b>	<b>310</b>	<b>388</b>	<b>340</b>	<b>329</b>	<b>328</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>4</b>

## KIDNEY TRANSPLANT OUTCOME

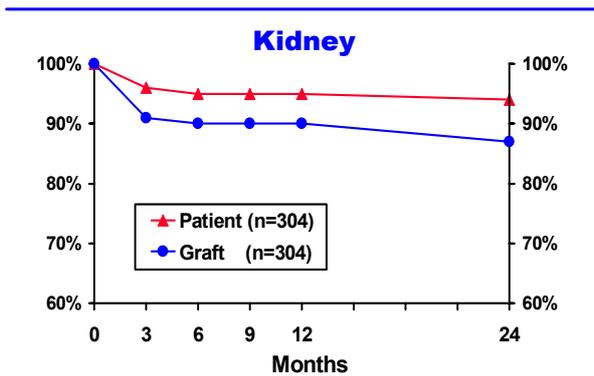
Figure 66 shows the patient and graft outcome for kidney transplants performed over the preceding five years in Australia and New Zealand.

**Figure 66**

**Primary Deceased Patient and Graft Survival  
Australia 2001 - 2006**

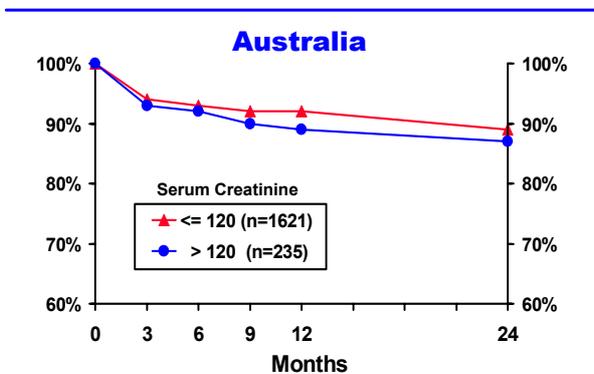


**Primary Deceased Patient and Graft Survival  
New Zealand 2001 - 2006**



**Figure 67**

**Primary Deceased Kidney Graft Survival  
Terminal Serum Creatinine 2001 - 2006**



This data has been provided by the ANZDATA (Australia and New Zealand Dialysis and Transplant) Registry and further information on kidney transplant outcome is available from their website - [www.anzdata.org.au](http://www.anzdata.org.au)

## LIVER DONATION

There were 181 liver transplants performed in 2007, 151 in Australia and 30 in New Zealand.

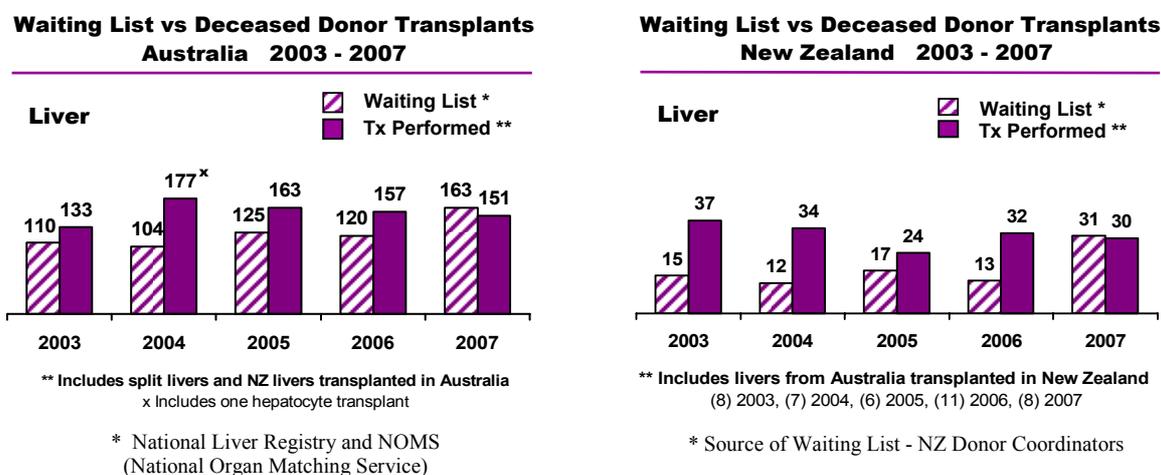
Three whole livers and one split liver were donated from Australia and transplanted into New Zealand recipients and eight livers donated from New Zealand were transplanted into Australian recipients.

There were 133 Australian donors, who provided 147 recipients with transplanted livers and 32 New Zealand donors provided livers for 34 recipients.

Thirty two transplants were performed using the “split” liver technique [transplanting one liver into two recipients]

- \* 9 Royal Prince Alfred Hospital, NSW
- \* 8 The Children’s Westmead, NSW
- \* 3 Princess Alexandra Hospital, Queensland
- \* 4 Royal Children’s, Victoria
- \* 3 Royal Children’s, Queensland
- \* 1 Austin Hospital, Victoria
- \* 1 Flinders Medical Centre, South Australia
- \* 3 Auckland Hospital, New Zealand

**Figure 68**



**Figure 69**

### Outcome of Request for Liver Donation 2007



\* Includes split livers and number of recipients

Recipients transplanted, refers to outcome of livers donated in Australia or New Zealand

Refer to Appendices for reasons livers were not requested, not retrieved and not transplanted

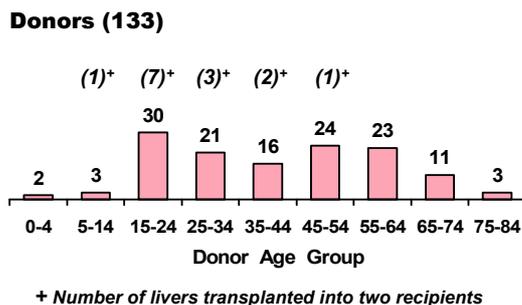
**Figure 70**

Age of Donors Providing Transplanted Livers 2002 - 2007											
	Year	Age Groups									Total
		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	
Australia	2002	5	11 (1+)(1*)	39 (4+)	14 (1+)	28	27 (3+)	17	6	1	<b>148</b>
	2003	2	8	30 (3+)	9 (1+)	20 (1+)	32 (2+)	16 (1+)	6	5 (1*)	<b>128</b>
	2004	1	4 (1+)(1#)	37 (1+)	29 (3+)	20 (3+)	31 (5+)	30	10	2	<b>164</b>
	2005	3	7 (1+)	24 (2+)	18 (2+)	27 (3+)	39 (3+) (2*)	20	12	3	<b>153</b>
	2006	0	9	31 (4+)	19 (2+)	21 (1+)	33 (1*)	27 (1+)	12	1	<b>153</b>
	2007	2	3 (1+)	30 (7+)	21 (3+)	16 (2+)	24 (1+)	23	11	3	<b>133</b>
New Zealand	2002	0	3 (1*)	5 (1+) (1*)	2	9	7	3	1	0	<b>30</b>
	2003	0	1	11 (1+)	4 (1+) (1*)	8 (1+)	1	5	0	1	<b>31</b>
	2004	1	0	9	4	3 (1+) (1*)	5	11	1	1	<b>35</b>
	2005	0	0	3 (1+)	3	5 (1*)	6 (1+)	4	0	0	<b>21</b>
	2006	0	1	6 (3+)	5 (1+)	6	2	3	1	0	<b>24</b>
	2007	0	1	4	1	6	9 (1+) (1*)	9 (1+)	2	0	<b>32</b>

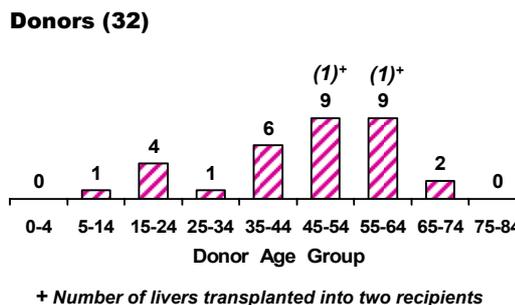
+ One liver transplanted into two recipients      \* One liver split and used for one patient only      # Hepatocytes transplanted

**Figure 71**

**Age of Donors Providing Transplanted Livers - Australia 2007**



**Age of Donors Providing Transplanted Livers - New Zealand 2007**



**Figure 72**

**Liver Transplants by Transplant State Australia and New Zealand 2006 - 2007**



## PERFUSION OF LIVERS

### Australia

University of Wisconsin (UW) solution was used as the final perfusion for 98% and HTK for 2% of all livers. The initial flush solution was either Ross, Hartmann's, Saline or HTK solution. There were three livers perfused with UW only.

### New Zealand

University of Wisconsin solution only was used for 17 and HTK for 13 of the 32 livers retrieved. Two livers had Hartmann's Ross as the initial perfusion, followed by UW.

**Figure 73**

<b>Regional Outcome of Requests for Liver Donation 1989 - 2007</b>										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
<b>Total Donors</b>	<b>753</b>	<b>1163</b>	<b>87</b>	<b>854</b>	<b>63</b>	<b>495</b>	<b>40</b>	<b>324</b>	<b>3779</b>	<b>555</b>
Requested	743	1060	84	775	55	436	35	290	<b>3478</b>	<b>496</b>
Consented	733	1037	79	752	52	426	335	280	<b>3394</b>	<b>493</b>
Retrieved	561	729	61	545	43	318	23	210	<b>2490</b>	<b>412</b>
Transplanted *	583	749	66	497	41	307	21	204	<b>2468</b>	<b>409</b>

\* Refers to number of recipients - use of split liver and hepatocytes  
\*\* New Zealand 1993 - 2007

## REASONS LIVERS WERE UNUSED AFTER RETRIEVAL

The liver is only retrieved when a compatible recipient has been identified. Figure 74 shows reasons the liver was not able to be transplanted into the identified recipient. The use of the liver (and other organs) for research purposes requires specific permission from the most senior available next of kin.

**Figure 74**

<b>Reasons Livers Were Unused 2002 - 2007</b>		2002	2003	2004	2005	2006	2007
<b>Australia</b>	Biopsy - Fatty	3	3	2	2	5	3
	Disease	1	1	1	3	2	3
	Anatomical	1	1	0	0	0	0
	Surgical	0	0	0	0	1	0
	Research	2	2	0	0	0	0
	Cancer in Donor	0	0	1	0	1	0
	Recipient Issue	1	1	3	1	1	0
	Perfusion Abnormality	0	0	0	0	0	1
<b>Total</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>10</b>	<b>7</b>	
<b>New Zealand</b>	Biopsy - Fatty	0	2	0	0	0	0
	Cancer in Donor	0	1	0	0	0	0
	Disease	0	0	0	1	0	0
	Recipient Issue	1	0	0	0	0	0
	<b>Total</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>

**Figure 75**

<b>Donor Age of Unused Livers 2002 - 2007</b>		<b>Age Groups</b>									<b>Total</b>
<b>Year</b>	<b>00-04</b>	<b>05-14</b>	<b>15-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65-74</b>	<b>75-84</b>		
<b>Australia</b>	2002	0	0	1	0	1	3	3	0	0	<b>8</b>
	2003	0	0	0	1	2	0	1	3	0	<b>7</b>
	2004	0	0	0	0	0	2	3	1	1	<b>7</b>
	2005	0	0	0	0	0	2	3	1	0	<b>6</b>
	2006	0	0	0	0	1	1	4	2	2	<b>10</b>
	2007	0	1	0	0	0	1	3	1	1	<b>7</b>
<b>New Zealand</b>	2002	0	0	0	0	1	0	0	0	0	<b>1</b>
	2003	0	0	0	0	0	2	0	1	0	<b>3</b>
	2004	0	0	0	0	0	0	0	0	0	<b>0</b>
	2005	0	0	0	0	0	0	1	0	0	<b>1</b>
	2006	0	0	0	0	0	0	0	0	0	<b>0</b>
	2007	0	0	0	0	0	0	0	0	0	<b>0</b>

## DONOR LIVER FUNCTION

The results of the serum tests for liver function for 142 Australian and 32 New Zealand donors in 2007, who had livers retrieved, is shown below.

There were 73% (103 donors) in Australia and 34% (11 donors) in New Zealand who had all five tests performed.

Figure 76 shows the number of donors whose liver function was above the normal range.

**Figure 76**

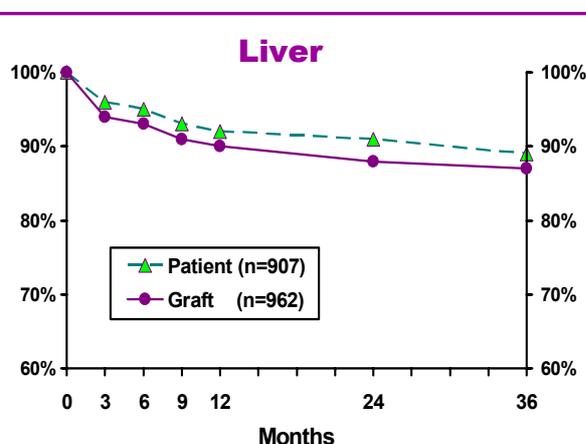
<b>Number of Donors with Liver Function Tests above Normal Range 2007</b>						
Liver Function Tests	Australia			New Zealand		
	Donors with value recorded *	Above Normal	Maximum recorded 1989-2007	Donors with value recorded *	Above Normal	Maximum recorded 1993-2007
Alanine Transaminase ALT > 40 u/L	142	38 (27%)	1240 (1107) x	24	7 (29%)	393 (357) x
Aspartate Transaminase AST > 40 u/L	111	51 (46%)	1480 (728)	23	10 (43%)	461 (406)
Gamma Glutamol Transferase GGT > 60 u/L	139	20 (14%)	750 (309)	21	4 (19%)	226 (130)
Alkaline Phosphatase > 116 u/L	136	16 (12%)	422 (328)	30	1 (3%)	264 (133)
Total Bilirubin > 20 umol/L	141	18 (13%)	121 (121)	30	1 (3%)	61 (61)

\* Not all donors have all tests  
x (2007) Maximum

## LIVER TRANSPLANT OUTCOME

**Figure 77**

**Deceased Patient and Graft Survival  
Australia 2002 - 2006**



Source: Australia and New Zealand Liver Transplant Registry

## CARDIO-THORACIC ORGAN DONATION

### AUSTRALIA

In 2007 Australia performed 56 heart transplants, six heart/lung, 65 double and eight single lung transplants.

The first perfusion fluid of choice for heart retrieval was crystalloid cardioplegia. The first perfusion fluid for lung retrieval was Pneumoplegia (40%) and Perfadex (39%). Saline followed by Cardioplegia was used in 9% and Celsior in 6% of lung retrievals.

#### ECG AND ECHOCARDIOGRAM

Eighty percent (60 heart donors) had a normal ECG. Seventy seven percent (58 heart donors) had an echocardiogram.

### NEW ZEALAND

New Zealand performed twelve heart and thirteen double lungs in 2007.

Three hearts and four double lungs were sent for transplantation in Australia.

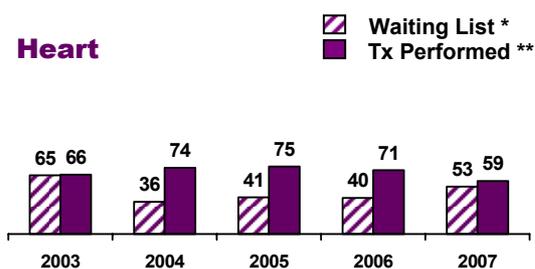
The first perfusion fluid for heart retrieval was crystalloid cardioplegia, with perfadex used for eleven lung donors, cardioplegia and pneumoplegia for one donor and pneumoplegia only for another donor.

#### ECG AND ECHOCARDIOGRAM

All twelve heart donors had a normal ECG and an echocardiogram.

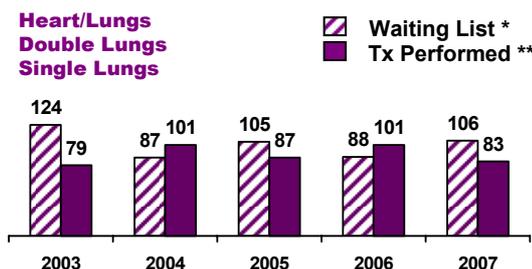
**Figure 78**

**Waiting List vs Deceased Transplants  
Australia 2003 - 2007**



\*\* Includes hearts sent from New Zealand

**Waiting List vs Deceased Transplants  
Australia 2003 - 2007**

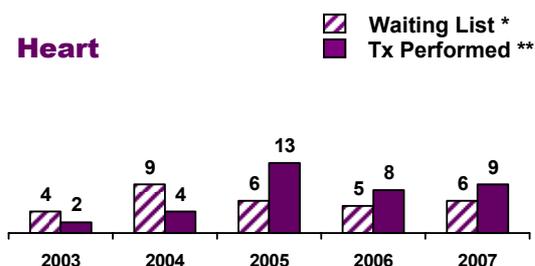


\*\* Includes lungs sent from New Zealand

\* The Cardio-Thoracic Registry

**Figure 79**

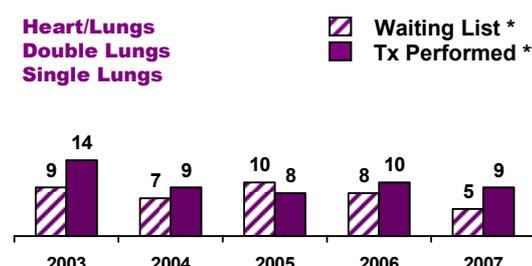
**Waiting List vs Deceased Transplants  
New Zealand 2003 - 2007**



\* Source of waiting list - NZ Donor Coordinators

\*\* Not included hearts sent to Australia  
2003 (3), 2004 (2), 2005 (3), 2006 (1), 2007 (3)

**Waiting List vs Deceased Transplants  
New Zealand 2003 - 2007**



\* Source of waiting list - NZ Donor Coordinators

\*\* Not included number of lungs sent to Australia  
2003 (9), 2004 (3), 2005 (3), 2006 (3), 2007 (4)