

## ORGANS REQUESTED

The requests for specific organs in Australia in 2008 from 259 organ donors were: kidneys 99%, liver 95%, heart 82%, lungs 85% and pancreas 80%.

From the 31 New Zealand donors in 2008, the requests for specific organs were: kidneys 100%, liver 94%, heart 94%, lungs 90% and pancreas 71%.

## MULTIPLE ORGAN RETRIEVAL

There were 44 (17%) of Australian donors in 2008 who donated solid organs, who had a single organ retrieved, shown in Figure 48. Kidney only donation occurred in 35 cases.

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

New Zealand had six single organ donors in 2008, all six donating kidneys only.

In both Australia and New Zealand, 81% of donors had two or more organs retrieved for the purpose of transplantation.

Figure 48

Multiple Organ Retrieval 2003 - 2008												
Number of Organs	Australia						New Zealand					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
Single	17%	15%	17%	11%	15.5%	17%	7%	13%	14%	8%	16%	19%
Two	27%	27%	22%	23%	23%	23%	28%	43%	34%	24%	40%	23%
Three	20%	22%	17%	23%	23%	25%	25%	27%	21%	44%	26%	39%
Four	26%	23%	32%	23%	20%	20%	35%	10%	28%	12%	18%	16%
Five	8%	12%	10%	18%	15.5%	14%	5%	0%	3%	12%	0%	3%
No organs	2%	1%	2%	1%	3%	1%	0%	7%	0%	0%	0%	0%

Figure 49

State by State Comparison of Multiple Organ Retrieval 2008										
Number of Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Single	10 (21%)	6 (11%)	0 (0%)	11 (16.5%)	0 (0%)	10 (23%)	1 (33%)	6 (21%)	<b>44 (17%)</b>	<b>6 (19%)</b>
Two	13 (27%)	15 (26%)	2 (40%)	11 (16.5%)	2 (25%)	9 (21%)	1 (33%)	7 (25%)	<b>60 (23%)</b>	<b>7 (23%)</b>
Three	11 (23%)	16 (28%)	0 (0%)	17 (25.5%)	4 (50%)	11 (26%)	0 (0%)	5 (18%)	<b>64 (25%)</b>	<b>12 (39%)</b>
Four	10 (21%)	7 (12%)	3 (60%)	19 (28.5%)	1 (12.5%)	6 (14%)	0 (0%)	6 (22%)	<b>52 (20%)</b>	<b>5 (16%)</b>
Five	4 (8%)	10 (18%)	0 (0%)	9 (13%)	1 (12.5%)	6 (14%)	1 (33%)	4 (14%)	<b>35 (14%)</b>	<b>1 (3%)</b>
No organs	0 (0%)	3 (5%)	0 (0%)	0 (0%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	<b>4 (1%)</b>	<b>0 (0%)</b>
<b>Total</b>	<b>48</b>	<b>57</b>	<b>5</b>	<b>67</b>	<b>8</b>	<b>43</b>	<b>3</b>	<b>28</b>	<b>259</b>	<b>31</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 3.4 organs per donor used for transplantation in 2008 (Figure 50).

The number of organs transplanted per donor each year for 1998-2008 in Australia and New Zealand is shown in Figure 51.

The number of recipients transplanted per donor in Australia in 2008 was 3.3 compared to 3.2 in 2007.

The ACT had the highest number of organs transplanted; 4.0 per donor, followed by Queensland 3.7, New South Wales and Western Australia both 3.5, Victoria and Tasmania both 3.4, the Northern Territory 3.3 and South Australia 3.0.

These figures exclude tissue transplantation.

Figure 50

Organs Transplanted per Donor 2008										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
No. Organs Transplanted	177	201	20	231	27	127	10	99	892	105
No. of Donors	48	57	5	67	8	43	3	28	259	31
<b>Mean per Donor</b>	<b>3.7</b>	<b>3.5</b>	<b>4.0</b>	<b>3.4</b>	<b>3.4</b>	<b>3.0</b>	<b>3.3</b>	<b>3.5</b>	<b>3.4</b>	<b>3.4</b>

Double Lungs = one organ

Kidney-Pancreas, Kidney-Heart, Kidney-Liver, Heart/Lungs = two organs

Figure 51

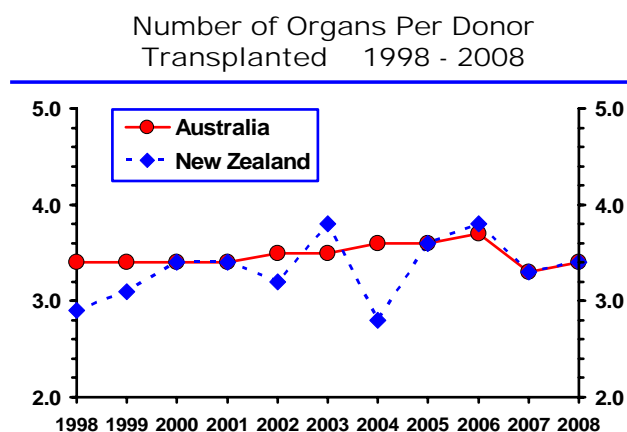


Figure 52

Organs Transplanted by Donor State in Australia and New Zealand 2008										
Organs Transplanted	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Kidney	96	100	10	121	13	68	6	45	459	53
Liver	28	34	2	36	4	30	1	25	160	21
Liver (Left)	4	6	1	5	1	1	0	0	18	2
Liver (Right)	5	6	1	3	1	1	0	0	17	1
Heart	20	17	0	19	3	8	1	12	80	10
Heart/Lungs	0	1	0	1	1	1	0	1	5	0
Lungs	19	26	5	28	1	11	1	7	98	14
Lung (Left)	1	1	0	3	0	0	0	3	8	0
Lung (Right)	0	1	0	1	0	0	0	2	4	0
Pancreas	3	7	1	10	3	5	0	3	32	4
Pancreas Islets	1	2	0	4	0	2	1	1	11	0
<b>Total</b>	<b>177</b>	<b>201</b>	<b>20</b>	<b>231</b>	<b>27</b>	<b>127</b>	<b>10</b>	<b>99</b>	<b>892</b>	<b>105</b>

## EXCHANGE OF ORGANS

The number of organs that were sent and received between Australian States and New Zealand in 2008 and 2007 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

Exchange of Organs Between States and New Zealand 2008 (2007)									
Organs Transplanted	Exchange	Kidneys	Liver <sup>+</sup>	Heart	Heart/Lungs <sup>*</sup>	Lungs #	Pancreas	Islets	Total <sup>*</sup>
Queensland	Sent	15 (9)	8 (10)	15 (2)	0 (0)	18 (10)	3 (4)	1 (0)	<b>60 (35)</b>
	Received	11 (8)	5 (10)	3 (5)	0 (1)	8 (10)	0 (0)	0 (0)	<b>27 (36) *</b>
New South Wales	Sent	19 (12)	5 (6)	4 (3)	0 (0)	4 (8)	0 (0)	0 (0)	<b>32 (29)</b>
	Received	48 (19)	15 (13)	14 (7)	0 (0)	33 (18)	13 (9)	3 (1)	<b>126 (67)</b>
ACT	Sent	10 (2)	4 (1)	0 (0)	0 (0)	10 (2)	1 (0)	0 (0)	<b>25 (5)</b>
Victoria	Sent	16 (7)	8 (10)	2 (2)	0 (0)	4 (4)	1 (2)	1 (0)	<b>32 (25)</b>
	Received	25 (7)	12 (12)	17 (5)	2 (0)	28 (16)	3 (0)	3 (0)	<b>94* (40)</b>
Tasmania	Sent	13 (2)	6 (0)	3 (0)	1 (0)	2 (0)	3 (0)	0 (0)	<b>30* (2)</b>
South Australia	Sent	14 (6)	13 (7)	8 (5)	1 (1)	22 (10)	5 (0)	2 (1)	<b>67* (32) *</b>
	Received	15 (11)	5 (6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>20 (17)</b>
Northern Territory	Sent	6 (6)	1 (2)	1 (1)	0 (0)	2 (0)	0 (0)	1 (0)	<b>11 (9)</b>
Western Australia	Sent	10 (7)	6 (2)	1 (2)	0 (0)	3 (4)	3 (3)	1 (0)	<b>24 (18)</b>
	Received	4 (6)	7 (1)	2 (1)	0 (0)	0 (2)	0 (0)	0 (0)	<b>13 (10)</b>
<b>New Zealand</b>	Sent	0 (0)	2 (8)	2 (3)	0 (0)	4 (8)	0 (0)	0 (0)	<b>8 (19)</b>
	Received	0 (0)	9 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>9 (4)</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

Summary of Organs Transplanted in Australia from New Zealand Donors 1989 - 2008					
Year	Kidneys	Liver <sup>+</sup>	Heart	Lungs <sup>*</sup>	Total
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>
2008	0	2	2	4	<b>8</b>
<b>Total</b>	<b>21</b>	<b>218</b>	<b>28</b>	<b>82</b>	<b>349</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.

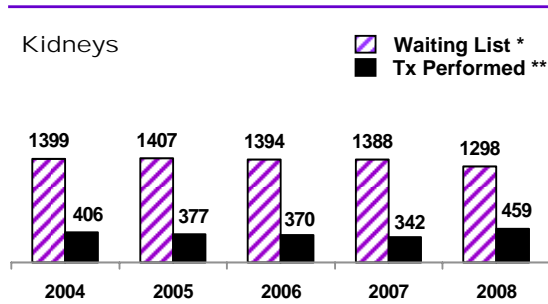
Liver transplantation commenced in New Zealand in February 1998, prior to this time, all livers were sent to Australia.

# 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 2004-2008.

Figure 55

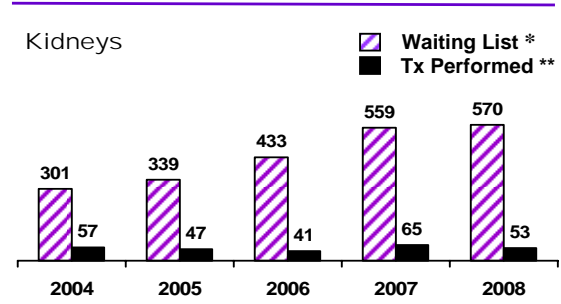
Waiting List vs Deceased Donor Transplants  
Australia 2004 - 2008



\* Source: NOMS (National Organ Matching System)

\*\* Includes kidneys sent from New Zealand

Waiting List vs Deceased Donor Transplants  
New Zealand 2004 - 2008

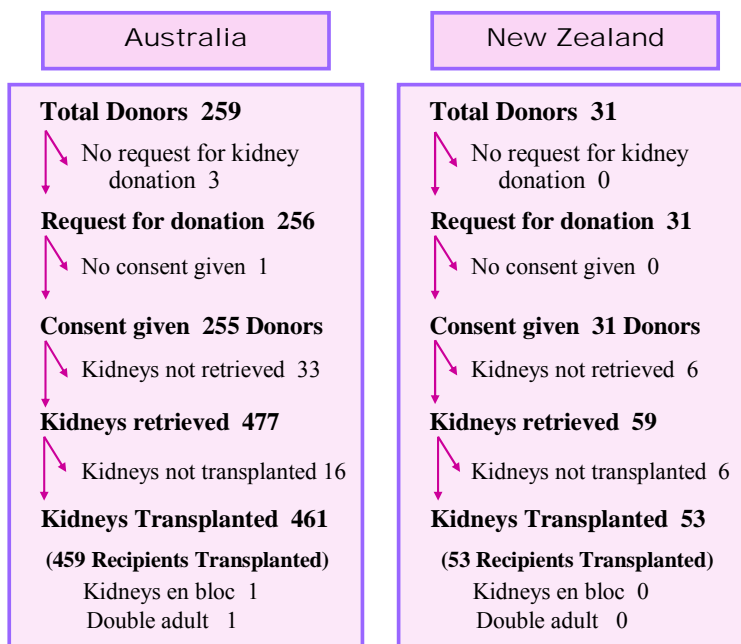


\* Source of Waiting List – NZ Donor Coordinators

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

Figure 56

## Outcome of Request for Kidney Donation 2008



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



Figure 60

Regional Outcome of Requests for Kidney Donation 1989 - 2008										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
<b>Total Donors</b>	<b>801</b>	<b>1220</b>	<b>92</b>	<b>921</b>	<b>71</b>	<b>538</b>	<b>43</b>	<b>352</b>	<b>4038</b>	<b>586</b>
Requested	799	1205	92	906	70	530	42	348	3992	581
Consented	799	1202	92	904	70	530	42	348	3987	581
Retrieved	1556	2305	178	1752	135	1001	84	664	7675	1110
Transplanted *	1512	2231	171	1672	126	944	80	638	7374	1052
	(14) (2x)	(10) (3x)	(2)	(7) (1x)	(2)	(5) (14x)	(1x)	(5) (3x)	(45) (24x)	(3) (5x)
* Recipients ( ) En bloc (x) Double Adult										
** New Zealand 1993 - 2008										

## DONOR KIDNEY FUNCTION

### TERMINAL LEVELS OF SERUM CREATININE

#### AUSTRALIA

In 2008, 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 6% (two donors) in New Zealand with a terminal serum creatinine concentration of  $\geq 125 \mu\text{mol/L}$  and 7% with terminal serum urea concentration of  $\geq 9 \text{ mmol/L}$  in 2008.

Figure 61

Terminal Serum Creatinine Levels 2003 - 2008												
Creatinine ( $\mu\text{mol/L}$ )	Australia						New Zealand					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
00-99	75%	72%	75%	77%	73%	72%	82%	75%	59%	74%	85%	87%
100-124	12%	14%	13%	10%	11%	12%	9%	19%	23%	10.5%	15%	7%
125-149	3%	5%	5%	6%	8%	4%	3%	0%	9%	10.5%	0%	3%
150-174	4%	1.5%	2%	2%	2%	4%	6%	3%	9%	5%	0%	3%
175-199	1%	1.5%	1%	1%	1%	2%	0%	0%	0%	0%	0%	0%
200-224	1%	1%	2%	<1%	0%	<1%	0%	3%	0%	0%	0%	0%
225-249	1%	2%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
>250	3%	3%	2%	3%	4%	5%	0%	0%	0%	0%	0%	0%

## REASONS KIDNEYS WERE UNUSABLE

### KIDNEY BIOPSY AT RETRIEVAL

There were 34 donors (14%) who had a biopsy of the kidneys taken at retrieval in 2008 in Australia and nine donors (29%) in New Zealand.

Since 2000, there have been 13% (231) biopsies from 1753 kidney donors in Australia and 34% (101) from 298 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

Reasons Kidneys Unused 2003 - 2008		2003	2004	2005	2006	2007	2008
<b>Australia</b>	Renal disease in donor	5	2	5	6	5	6
	Cancer in donor	2	2	1	1	0	3
	Anatomical	10	0	1	0	0	1
	Surgical	1	1	0	3	0	2
	Trauma	2	0	2	0	0	1
	Recipient problems	0	0	0	1	1	3
	Hepatitis B Core Antibody	0	0	2	0	0	0
	Surgeons not available	0	1	0	0	0	0
	Hepatitis C Nat Positive	0	0	0	0	1	0
	High risk donor	0	0	0	0	1	0
	Recent asymptomatic peritonitis	0	0	0	0	1	0
<b>Total</b>	<b>10</b>	<b>6</b>	<b>11</b>	<b>11</b>	<b>9</b>	<b>16</b>	
<b>New Zealand</b>	Renal disease in donor	3	3	3	1	3	6
	Cancer in donor	2	0	0	0	0	0
	Surgical	1	0	0	0	0	0
	Recipient unsuitable	0	0	1	0	0	0
	<b>Total</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>6</b>

Figure 63

Donor Age of Unused Kidneys 2003 - 2008		Age Groups									Total
		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	
<b>Australia</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>
	2008	0	0	1	1	0	5	4	3	2	<b>16</b>
<b>New Zealand</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>
	2008	0	0	0	0	0	2	2	2	0	<b>6</b>

## KIDNEY PERFUSION METHODS

Where kidneys were perfused with only one solution, HTK (57%), Ross (38%) and UW (5%) were the solutions used in Australia in 2008.

In New Zealand HTK was the only solution used (Figure 64).

UW was used as the second perfusion solution in 92% of cases, HTK (5%) and Ross (4%), in Australia in 2008 (Figure 65).

Figure 64

Kidney Perfusion with Only One Solution 2003 - 2008												
	Australia						New Zealand					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
Ross	12	6	24	16	18	16	0	2	4	0	0	0
UW	10	2	4	0	2	2	72	61	49	42	36	0
HTK	8	14	23	38	7	24	0	0	0	0	28	59
Hartman's	0	2	0	0	0	0	0	0	0	0	0	0
Celsior	0	0	0	2	0	0	0	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>24</b>	<b>51</b>	<b>56</b>	<b>27</b>	<b>42</b>	<b>72</b>	<b>63</b>	<b>53</b>	<b>42</b>	<b>64</b>	<b>59</b>

Figure 65

Second Perfusion Solution - Kidneys 2003 - 2008												
	Australia						New Zealand					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
Ross	37	42	0	4	8	16	0	0	0	0	0	0
UW	267	344	338	323	320	399	1	2	2	0	4	0
HTK	0	0	2	2	0	20	0	0	0	0	0	0
Collins	6	0	0	0	0	0	0	0	0	0	0	0
Hartman's	0	2	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>310</b>	<b>388</b>	<b>340</b>	<b>329</b>	<b>328</b>	<b>435</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>0</b>

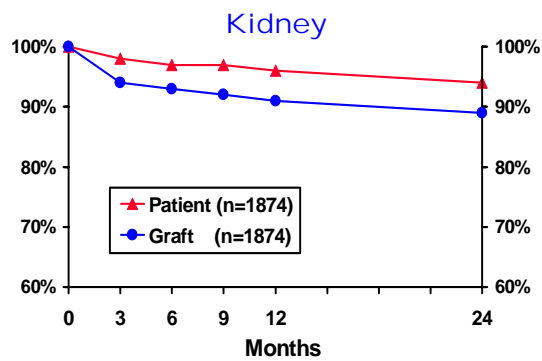


## KIDNEY TRANSPLANT OUTCOME

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 2002 - 2007



Primary Deceased Patient and Graft Survival  
New Zealand 2002 - 2007

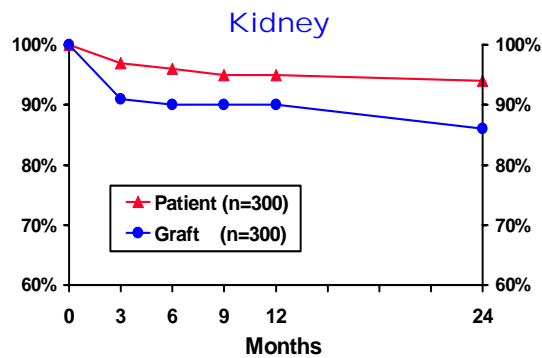
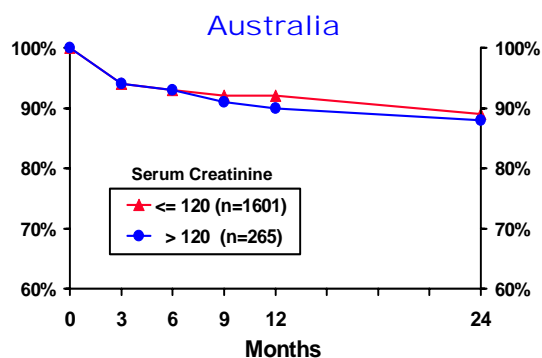


Figure 67

Primary Deceased Kidney Graft Survival  
Terminal Serum Creatinine 2002 - 2007



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 219 liver transplants performed in 2008, 188 in Australia and 31 in New Zealand.

Seven whole livers and two split livers were donated from Australia and transplanted into New Zealand recipients and two livers donated from New Zealand were transplanted into Australian recipients.

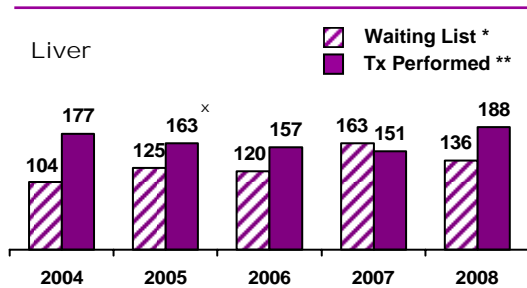
There were 179 Australian donors, who provided 195 recipients with transplanted livers and 23 New Zealand donors provided livers for 24 recipients.

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

- \* 8 Royal Prince Alfred Hospital, NSW
- \* 8 The Children’s Westmead, NSW
- \* 5 Royal Children’s, Victoria
- \* 3 Princess Alexandra Hospital, Queensland
- \* 3 Royal Children’s, Queensland
- \* 3 Austin Hospital, Victoria
- \* 1 Flinders Medical Centre, South Australia
- \* 4 Auckland Hospital, New Zealand
- \* 1 Starship Children’s, New Zealand

Figure 68

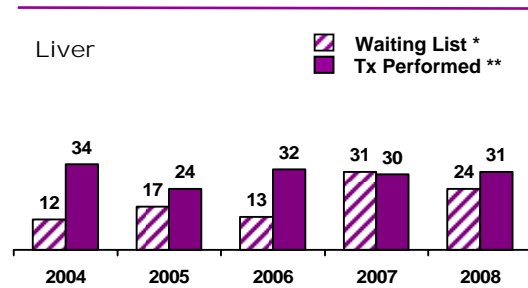
Waiting List vs Deceased Donor Transplants  
Australia 2004 - 2008



\*\* Includes split livers and NZ livers transplanted in Australia  
x Includes one hepatocyte transplant

\* National Liver Registry and NOMS (National Organ Matching Service)

Waiting List vs Deceased Donor Transplants  
New Zealand 2004 - 2008

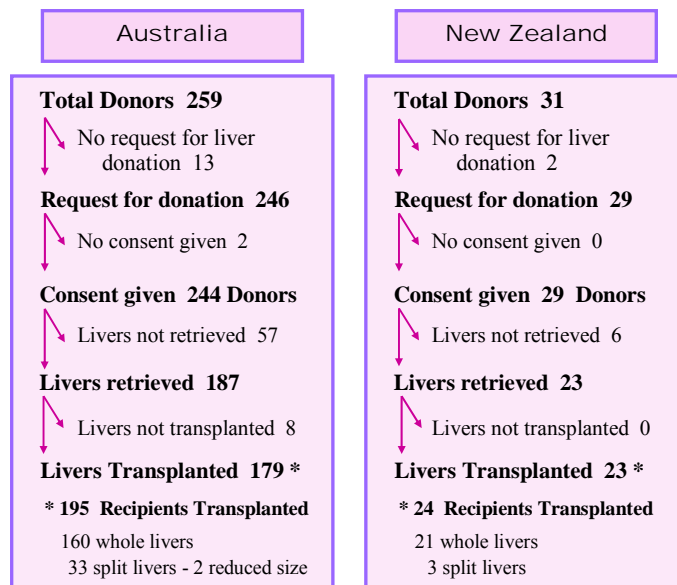


\*\* Includes livers from Australia transplanted in New Zealand (7) 2004, (6) 2005, (11) 2006, (8) 2007, (2) 2008

\* Source of Waiting List - NZ Donor Coordinators

Figure 69

Outcome of Request for Liver Donation 2008



\* 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 2003 - 2008											
		Age Groups									
	Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	Total
<b>Australia</b>	2003	2	8	30 (3+)	9 (1+)	20 (1+)	32 (2+)	16 (1+)	6	5 (1*)	128
	2004	1	4 (1+)(1#)	37 (1+) (2*)	29 (3+)	20 (3+)	31 (5+)	30	10	2	164
	2005	3	7 (1+)	24 (2+) (2*)	18 (2+)	27 (3+)	39 (3+) (2*)	20	12	3	153
	2006	0	9	31 (4+) (1*)	19 (2+) (1*)	21 (1+)	33 (1*)	27 (1+)	12	1	153
	2007	2	3 (1+)	30 (7+)	21 (3+) (1*)	16 (2+)	24 (1+)	23	11	3	133
	2008	2	4	29 (6+)	28 (4+) (1*)	32 (4+)	29 (2+)(2*)	37	13	5	179
<b>New Zealand</b>	2003	0	1	11 (1+)	4 (1+) (1*)	8 (1+)	1	5	0	1	31
	2004	1	0	9	4	3 (1+) (1*)	5	11	1	1	35
	2005	0	0	3 (1+)	3	5 (1*)	6 (1+)	4	0	0	21
	2006	0	1	6 (3+)	5 (1+)	6	2	3	1	0	24
	2007	0	1	4	1	6	9 (1+) (1*)	9 (1+)	2	0	32
	2008	0	1	4 (1+)	3 (1*)	5	5	3	2	0	23

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

Figure 71

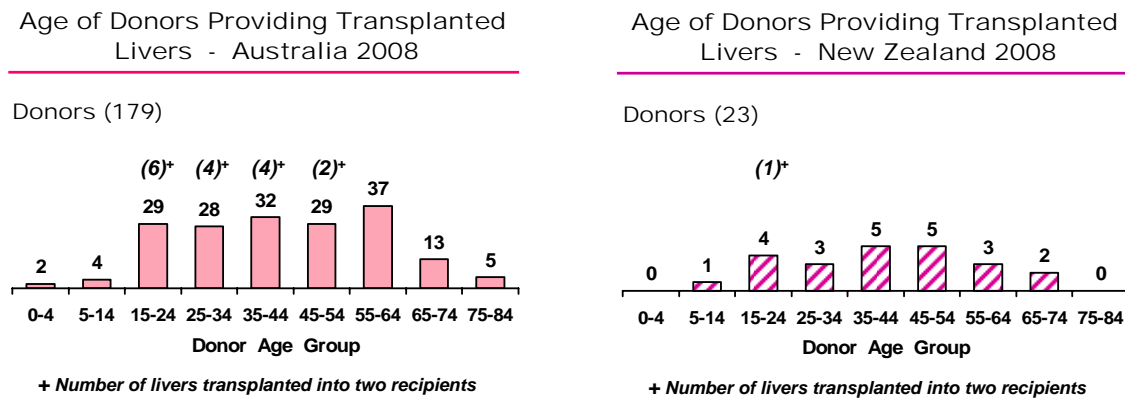


Figure 72

**Liver Transplants by Transplant State  
Australia and New Zealand 2007 - 2008**



**PERFUSION OF LIVERS**

**Australia**

University of Wisconsin (UW) solution was used as the final perfusion for 94% and HTK for 6% of all livers. The initial flush solution was either Ross, Hartmann's, Saline or HTK solution. There were seven livers perfused with HTK only and two livers perfused with UW only.

**New Zealand**

HTK was the only solution used for the 23 livers retrieved in 2008.

Figure 73

Regional Outcome of Requests for Liver Donation 1989 - 2008										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
<b>Total Donors</b>	<b>801</b>	<b>1220</b>	<b>92</b>	<b>921</b>	<b>71</b>	<b>538</b>	<b>43</b>	<b>352</b>	<b>4038</b>	<b>586</b>
Requested	786	1114	89	840	63	477	38	317	3724	525
Consented	776	1091	84	816	60	466	38	307	3638	522
Retrieved	594	770	64	592	48	350	24	235	2677	435
Transplanted *	620	795	70	541	47	339	22	229	2663	433

\* Refers to number of recipients - use of split liver and hepatocytes  
 \*\* New Zealand 1993 - 2008

## 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

Reasons Livers Were Unused 2003 - 2008							
		2003	2004	2005	2006	2007	2008
<b>Australia</b>	Biopsy - Fatty	3	2	2	5	3	4
	Disease	1	1	3	2	3	2
	Anatomical	1	0	0	0	0	0
	Surgical	0	0	0	1	0	0
	Research	2	0	0	0	0	0
	Cancer in Donor	0	1	0	1	0	1
	Packaging Problem	0	0	0	0	0	1
	Recipient Issue	1	3	1	1	0	0
	Perfusion Abnormality	0	0	0	0	1	0
<b>Total</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>10</b>	<b>7</b>	<b>8</b>	
<b>New Zealand</b>	Biopsy - Fatty	2	0	0	0	0	0
	Cancer in Donor	1	0	0	0	0	0
	Disease	0	0	1	0	0	0
	<b>Total</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

Figure 75

Donor Age of Unused Livers 2003 - 2008											
		Age Groups									Total
Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84		
<b>Australia</b>	2003	0	0	0	1	2	0	1	3	0	7
	2004	0	0	0	0	0	2	3	1	1	7
	2005	0	0	0	0	0	2	3	1	0	6
	2006	0	0	0	0	1	1	4	2	2	10
	2007	0	1	0	0	0	1	3	1	1	7
	2008	0	0	0	0	2	3	1	2	0	8
<b>New Zealand</b>	2003	0	0	0	0	0	2	0	1	0	3
	2004	0	0	0	0	0	0	0	0	0	0
	2005	0	0	0	0	0	0	1	0	0	1
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	0	0

## DONOR LIVER FUNCTION

The results of the serum tests for liver function for 187 Australian and 23 New Zealand donors in 2008, who had livers retrieved, is shown below.

There were 76% (143 donors) in Australia and 35% (eight 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

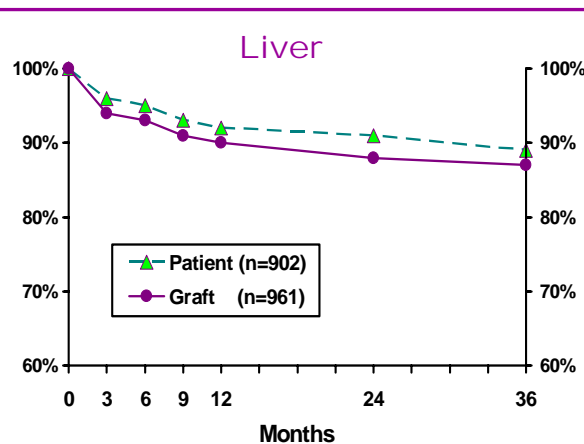
Number of Donors with Liver Function Tests above Normal Range 2008						
Liver Function Tests	Australia			New Zealand		
	Donors with value recorded *	Above Normal	Maximum recorded 1989-2008	Donors with value recorded *	Above Normal	Maximum recorded 1993-2008
Alanine Transaminase ALT > 40 u/L	187	66 (35%)	1240 (601) x	20	4 (20%)	393 (265) x
Aspartate Transaminase AST > 40 u/L	145	72 (50%)	1480 (1248)	14	3 (21%)	461 (399)
Gamma Glutamol Transferase GGT > 60 u/L	183	38 (21%)	750 (366)	16	4 (25%)	226 (90)
Alkaline Phosphatase > 116 u/L	187	16 (9%)	422 (230)	23	2 (9%)	264 (138)
Total Bilirubin > 20 umol/L	187	21 (11%)	121 (56)	23	5 (22%)	61 (45)

\* Not all donors have all tests  
x (2008) Maximum

## LIVER TRANSPLANT OUTCOME

Figure 77

Deceased Patient and Graft Survival  
Australia 2003 - 2007



Source: Australia and New Zealand Liver Transplant Registry

## CARDIO-THORACIC ORGAN DONATION

### AUSTRALIA

In 2008 Australia performed 82 heart transplants, five heart/lung, 100 double and twelve single lung transplants. This number includes two hearts and two double lungs donated from New Zealand.

The first perfusion fluid of choice for heart retrieval was crystalloid cardioplegia. The first perfusion fluid for lung retrieval was perfadex (39%) followed by pneumoplegia (25%), celsior (19%) and saline followed by cardioplegia or pneumoplegia was used in 11% of lung retrievals.

#### ECG AND ECHOCARDIOGRAM

Eighty percent (77 heart donors) had a normal ECG. Eighty six percent (83 heart donors) had an echocardiogram.

### NEW ZEALAND

New Zealand performed eight heart and twelve double lungs in 2008.

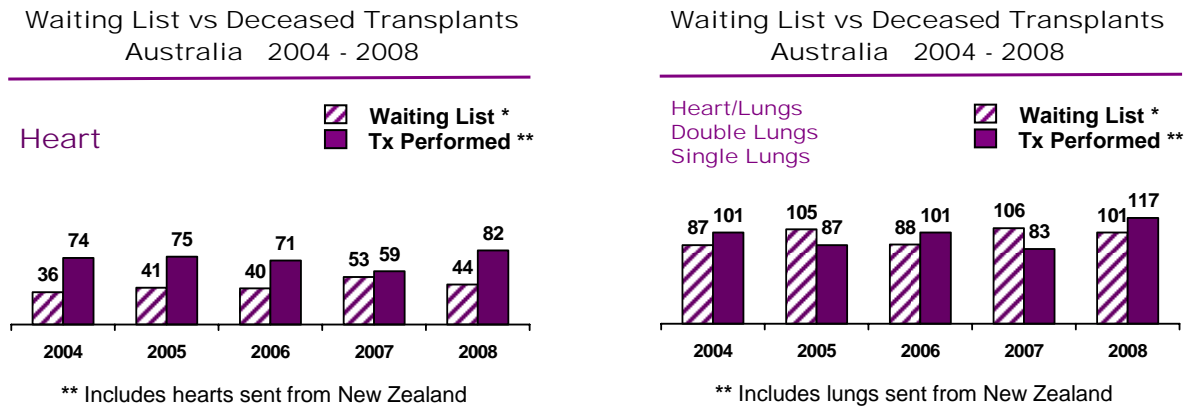
Two hearts and two double lungs were sent for transplantation in Australia.

The first perfusion fluid for heart retrieval was crystalloid cardioplegia, with perfadex used for twelve lung donors, cardioplegia and perfadex 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



\* The Cardio-Thoracic Registry

Figure 79

