

## CHAPTER 9

### ORGAN PROCUREMENT

(Data from the ANZOD Registry)

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## ORGAN DONORS IN AUSTRALIA AND NEW ZEALAND

(Summarised from the Australia and New Zealand Organ Donation Registry Report 2010)  
 For more detail please refer to Website: [www.anzdata.org.au/anzod/anzodwelcome.htm](http://www.anzdata.org.au/anzod/anzodwelcome.htm).

Figure 9.1

Number of Donors** by Retrieval State <sup>(x)</sup> 2005 - 2009 ( ) Donors Per Million					
	2005	2006	2007	2008	2009
Queensland	35 (9)	36 (9)	39 (9)	48 (11)	47 (11)
New South Wales + *	54 (8+) (8*)	49 (7+) (7*)	53 (8+) (8*)	57 (8+) (8*)	68 (10+) (10*)
ACT + *	9 (17+) (28*)	4 (7+) (12*)	1 (2+) (3*)	5 (9+) (14.5*)	8 (14+) (23*)
Victoria	50 (10)	46 <sup>(x)</sup> (9)	55 (11)	67 (13)	65 <sup>(x)</sup> (12)
Tasmania	2 (4)	8 (16)	1 (2)	8 (16)	5 (10)
South Australia	20 (13)	36 (23)	27 (17)	43 (27)	33 (20)
Northern Territory	4 (20)	2 (10)	3 (14)	3 (14)	2 (9)
Western Australia	30 (15)	21 (10)	19 (9)	28 (13)	19 (8.5)
<b>Australia</b>	<b>204 (10)</b>	<b>202 (10)</b>	<b>198 (9)</b>	<b>259 (12)</b>	<b>247 (11)</b>
<b>New Zealand</b>	<b>29 (7)</b>	<b>25 (6)</b>	<b>38 (9)</b>	<b>31 (7)</b>	<b>43 (11)</b>

(x) Refers to donors retrieved by retrieval State (ie Albury-NSW donors retrieved by Victoria)  
 + NSW population excludes residents of the NSW Southern Area Health Service (included in ACT population)  
 \* NSW population includes residents of the NSW Southern Area Health Service (excluded from ACT population)  
 Medical services from the ACT service the NSW Southern Area Health Region. Population data—June 2008 ABS 3101.0

\*\* This figure relates to the number of donors for whom the retrieval operation commenced for the purpose of transplantation. It includes donors who may have been deemed medically unsuitable at the time of surgery or after removal of organs.

Donor figures for Australia for 2009 include six donors who went to the operating theatre but organs were not retrieved. Four donors had disease of organs, one donor a suspected malignancy and one a definite malignancy. Two were DCD donors. A further donor donated corneas only. Donor (dpmp) figures in Australia improved from 9-10 (dpmp) between 2005 and 2007 to 12 (dpmp) in 2008 and 11 (dpmp) in 2009.

New Zealand had one donor whose organs or tissues were not retrieved due to disease. A further donor donated corneas only.

In 2009 there was a range between the States of 8.5 donors per million population (dpmp) in Western Australia to 20 dpmp in South Australia. The ACT had 23 dpmp when the NSW Southern Area Health Service population was excluded.

Figure 9.2

Donors per Million Population and Donors per Thousand Deaths ( ) Australian States - Australia and New Zealand 2004 - 2008										
Year	QLD	NSW *	ACT *	VIC	TAS	SA	NT	WA	AUST	NZ
2004	10 (1.6)	9 (1.4)	19 (4.2)	9 (1.4)	4 (0.5)	25 (3.4)	5 (1.1)	12 (2.1)	11 (1.6)	10 (1.4)
2005	9 (1.5)	8 (1.2)	28 (6.0)	10 (1.5)	4 (0.5)	13 (1.7)	20 (4.1)	15 (2.6)	10 (1.6)	7 (1.1)
2006	9 (1.5)	7 (1.1)	12 (2.7)	9 (1.3)	16 (2.0)	23 (3.0)	10 (2.1)	10 (1.8)	10 (1.5)	9 (0.9)
2007	9 (1.5)	8 (1.1)	3 (0.6)	11 (1.6)	2 (0.2)	17 (2.1)	14 (3.0)	9 (1.5)	9 (1.4)	9 (1.3)
2008	11 (1.7)	8 (1.2)	14.5 (3.0)	13 (1.9)	16 (1.9)	27 (3.4)	14 (2.9)	13 (2.2)	12 (1.8)	7 (1.1)

Figure 9.3

Donors per Thousand Deaths Aged < 75 years 2004 - 2008 ( ) Is the % Deaths < 75 years as a Proportion of all Deaths *										
Year	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
2004	4.0 (39%)	3.7 (35%)	10.1 (42%)	3.7 (34%)	1.4 (36%)	9.8 (34%)	1.4 (78%)	4.8 (40%)	4.3 (37%)	3.4 (48%)
2005	3.6 (39%)	3.2 (36%)	16.5 (36%)	4.4 (35%)	1.3 (37%)	4.8 (34%)	5.1 (78%)	6.3 (39%)	4.1 (37%)	2.7 (40%)
2006	3.8 (38%)	2.9 (34%)	7.0 (38%)	4.0 (33%)	5.6 (36%)	9.0 (32%)	2.8 (76%)	4.6 (39%)	4.1 (36%)	2.3 (39%)
2007	3.9 (38%)	3.0 (34%)	1.6 (40%)	4.9 (33%)	0.6 (35%)	5.9 (32%)	3.9 (77%)	3.9 (39%)	4.0 (35%)	3.4 (38%)
2008	4.7 (38%)	3.4 (33%)	8.1 (36%)	5.6 (33%)	5.5 (35%)	10.4 (31%)	3.9 (74%)	5.4 (38%)	5.0 (34%)	2.9 (38%)

\* The number of actual donors is compared to the number of deaths that are aged less than 75 years (Figure 9.3)  
 Australian Bureau of Statistics - Deaths 3302.0 and Statistics NZ

## DONOR PROFILE

### AGE AND GENDER DISTRIBUTION

In Australia in 2009, 13% (31 donors) were 65 years or older and 2% (four donors) were aged 75 years or older. The oldest donor was 80.6 years and the youngest 6.6 months (0.5 years).

Donor gender in each State, Australia and New Zealand is shown in five year cohorts in Figure 9.4.

The mean age for donors in Australia in 2009, was 45.9 years, the highest since records began in 1989. The mean age in 1989 was 32.4 years and the age range was between 16.5 months and 69.5 years.

The mean age for Australian States in 2009 ranged from 31.5 years in Tasmania to 50.7 years in South Australia.

The median age for Australia in 2009 was 48.3 years, the highest since records began in 1989.

In Australian States the median age ranged from 40.7 years in Queensland to 54.7 years in Western Australia in 2009. If the smaller States and Territories are included, the range was 18.1 years in Tasmania to 44.6 years in the Northern Territory.

The mean and median age for donors from 1991 to 2009 for each State are shown in three year cohorts in Figures 9.5 and 9.6.

In New Zealand the mean age increased from 46.2 years in 2008 to 48.3 years in 2009. The median age also increased from 44.4 years to 46.9 years.

Three donors were over 65 years of age and none over 75 years. The age range was between 3.6 years and 74.6 years.

Figure 9.4

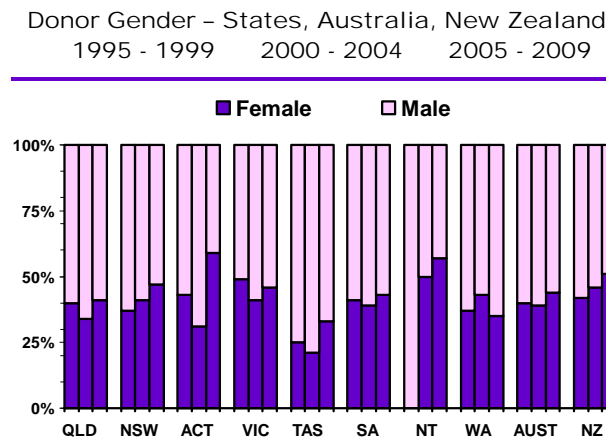


Figure 9.5

Australian States Mean Age of Donors								
Years	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
1989 - 1991	31.2	37.1	29.8	32.4	20.1	30.8	35.9	29.2
1992 - 1994	31.9	38.2	35.3	39.8	27.4	38.2	29.3	35.0
1995 - 1997	34.2	38.5	44.2	42.0	33.2	41.4	36.0	36.9
1998 - 2000	38.4	41.9	37.2	42.9	39.7	38.3	37.0	37.3
2001 - 2003	38.6	41.4	40.0	43.8	34.3	41.2	44.7	32.5
2004 - 2006	39.9	46.5	40.4	42.6	33.4	43.6	38.9	43.2
2007 - 2009	39.1	45.7	38.9	45.5	34.2	49.4	51.5	47.7

Figure 9.6

Australian States Median Age of Donors								
Years	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
1989 - 1991	31.5	38.9	30.4	28.4	17.3	28.9	31.8	28.8
1992 - 1994	31.7	40.1	27.2	40.7	25.1	38.6	27.9	33.6
1995 - 1997	37.5	38.4	45.9	45.5	33.9	45.4	35.5	39.4
1998 - 2000	40.3	43.6	37.2	46.4	42.6	42.4	32.8	44.7
2001 - 2003	40.5	42.9	37.9	48.8	21.4	44.7	47.6	31.8
2004 - 2006	42.2	48.3	45.8	46.9	34.0	47.2	42.4	44.6
2007 - 2009	40.8	48.2	40.6	47.4	30.7	51.5	60.0	52.9



## CAUSE OF DEATH - ALL DONORS

The cause of death for all organ donors in Australia since 1989 and for New Zealand since 1995 is shown in Figure 9.7.

In Australia and New Zealand, road trauma continues to be a reducing cause of death while cerebrovascular accident (CVA) has been increasing in Australia since 1989, although in New Zealand figures have remained relatively steady.

In the period 2003-2009, CVA accounted for 52% of donor deaths and road trauma 15%.

Figure 9.8 shows the cause of death by percentage in Australia and each Australian State from 2003 to 2009, and New Zealand from 2005 to 2009.

Figure 9.9 shows detailed cause of death by gender in Australia and New Zealand for 2009.

Figure 9.10 shows that CVA is the main cause of death in donors 55 years and older, 69% in Australia and 77% in New Zealand, whereas in the 15-34 year age group, trauma accounted for 45% of all deaths in Australia and 75% in New Zealand in 2009.

Figure 9.7

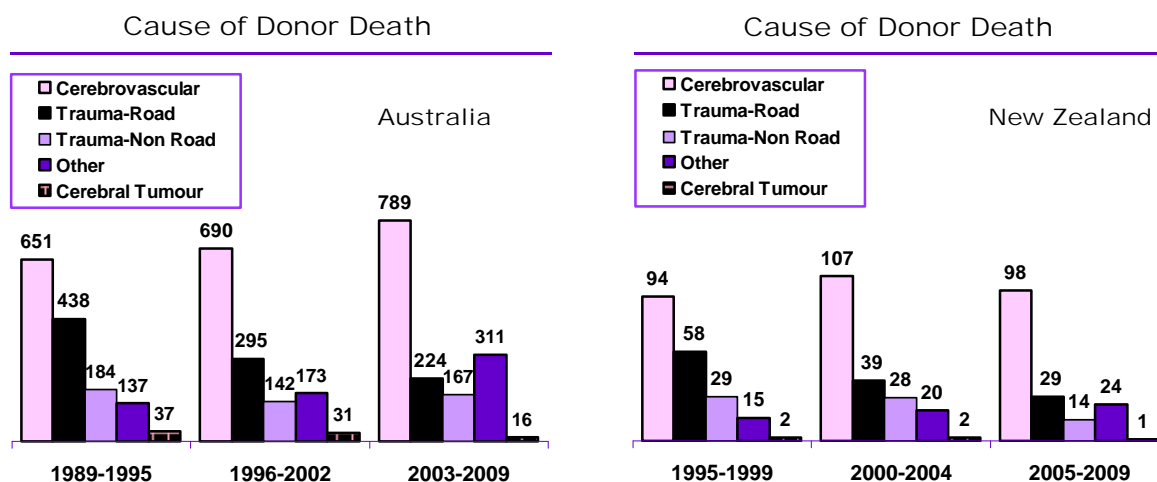


Figure 9.8

	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ *
CVA	45%	55%	49%	57%	39%	52%	62.5%	51%	52%	59%
Trauma (road)	21%	15%	22%	10%	14%	10%	25%	20%	15%	17%
Trauma (non-road)	14%	8%	15%	9%	22%	10%	12.5%	16%	11%	8%
Hypoxia-Anoxia	17%	17%	12%	19%	25%	25%	0%	8%	18%	10%
Cerebral Tumour	1%	1%	0%	1%	0%	1%	0%	3%	1%	1%
Other	2%	4%	2%	4%	0%	2%	0%	2%	3%	5%

\* NZ 2005 - 2009

Figure 9.9

Cause of Donor Death 2009							
Causes of Death		Australia			New Zealand		
		Male	Female	Total	Male	Female	Total
CVA	Cerebral Infarct	8	7	15	0	0	0
	Intracranial Haemorrhage	23	24	47	6	5	11
	Subarachnoid Haemorrhage	27	29	56	2	8	10
Road Trauma	Cyclist	0	0	0	1	0	1
	Motor Bike Accident	6	1	7	0	0	0
	Motor Vehicle Accident	10	2	12	2	3	5
	Pedestrian	5	4	9	3	0	3
	Other Road Accident	3	0	3	0	0	0
Other Trauma	Fall	11	2	13	4	0	4
	Felony / Crime - Assault	6	1	7	0	0	0
	Gunshot	4	1	5	0	0	0
	Other Accident	3	0	3	0	0	0
Hypoxia Anoxia	Anaphylaxis	0	1	1	0	0	0
	Asthma	1	2	3	0	0	0
	Brain Injury	0	1	1	0	0	0
	Carbon Monoxide	1	1	2	1	0	1
	Cardiac Arrest	18	11	29	1	2	3
	Choking	0	1	1	0	0	0
	Drowning	0	1	1	1	0	1
	Encephalopathy	0	1	1	0	0	0
	Hanging	4	3	7	0	2	2
	Overdose	5	1	6	0	1	1
	Post Epilepsy Fit	1	0	1	0	0	0
	Strangulation	1	0	1	0	0	0
Cerebral Tumour	Low Grade Glioma (Benign)	1	0	1	0	0	0
	Meningioma (Benign)	0	1	1	0	0	0
	Oligoastrocytoma (Malignant)	0	1	1	0	0	0
Other	Cerebral Abscess	0	1	1	0	0	0
	Cerebral Oedema	1	1	2	0	0	0
	Influenza	0	1	1	0	0	0
	Meningitis (Neisseria)	0	0	0	0	1	1
	Meningitis (Pneumococcal)	1	1	2	0	0	0
	Meningitis (Strep Pneumoniae)	1	0	1	0	0	0
	Meningitis (Streptococcal)	1	0	1	0	0	0
	Pulmonary Embolism	0	1	1	0	0	0
	Raised Intracranial Pressure	0	1	1	0	0	0
	Respiratory Failure	2	1	3	0	0	0
<b>Total</b>		<b>144</b>	<b>103</b>	<b>247</b>	<b>21</b>	<b>22</b>	<b>43</b>

Figure 9.10

Cause of Donor Death Related to Age Group 2009										
	Australia					New Zealand				
	Age Groups				Total	Age Groups				Total
	0-14	15-34	35-54	55 on		0-14	15-34	35-54	55 on	
CVA	1	11	46	60	118 (48%)	0	0	11	10	21 (49%)
Trauma (road)	3	18	4	6	31 (13%)	1	5	2	1	9 (21%)
Trauma (non-road)	0	11	9	8	28 (11%)	0	1	2	1	4 (9%)
Hypoxia-Anoxia	2	18	23	11	54 (22%)	2	1	4	1	8 (19%)
Cerebral Tumour	0	1	2	0	3 (1%)	0	0	0	0	0 (0%)
Other	0	6	5	2	13 (5%)	0	1	0	0	1 (2%)
<b>Total</b>	<b>6</b>	<b>65</b>	<b>89</b>	<b>87</b>	<b>247</b>	<b>3</b>	<b>8</b>	<b>19</b>	<b>13</b>	<b>43</b>



## DONATION AFTER CARDIAC DEATH DONORS

### Australia

The majority of organs are donated by heart-beating brain dead patients.

After a heart-beating donor is certified brain dead, they remain on the ventilator and the removal of organs may occur many hours later.

Donation after cardiac death (DCD) donors are defined as patients who are certified dead using the criterion of irreversible cessation of circulation.

As soon as cardiac death is confirmed the retrieval procedure is commenced in order to minimise warm ischaemic time.

Since 2005 there has been a steady increase in DCD donors each year, particularly in New South Wales, Victoria, Queensland and South Australia.

The total since 1989 is 131 donors for Australia and six donors for New Zealand, as shown in Figure 9.11.

The first multiorgan DCD was performed in South Australia in 2006.

In 2009 there were 42 DCD donors; 17 in Victoria, 15 in New South Wales, five in Queensland, three in South Australia and two in the Australian Capital Territory (ACT).

Mean age was 49.7 years and age range was 21 years to 70 years.

Causes of death in 2009 were hypoxia-anoxia (13), CVA (11), other trauma (8), road trauma (6), respiratory failure (3) and influenza (1).

Fifteen donors had two or more organs retrieved and transplanted, a further 22 donors had two kidneys transplanted, two donors had double lungs transplanted and one donor had a single kidney transplanted (two kidneys=one organ).

Only two of the 42 donors in 2009 did not have any organs transplanted or sent to the Tissue Bank due to disease of organs and malignancy found at retrieval.

The number and type of organs transplanted or sent to the Tissue Bank from 1989-2009 is shown for each State in Figure 9.12 and for Australia in Figure 9.13.

There were 14 intended DCD donors during 2009; nine did not proceed to cardiac standstill, two had consent withdrawn, two with positive serology and authority was not able to be obtained for one.

### New Zealand

There were two DCD donors in New Zealand in 2009. Four kidneys and one liver were transplanted.

Figure 9.11

Donation after Cardiac Death Donors 1989 - 2009										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	Aust	NZ
1989	0	0	0	1	0	1	0	0	2	-
1990	0	2	0	0	0	1	0	0	3	-
1991	0	2	0	0	0	0	0	0	2	-
1992	0	1	0	0	0	0	0	0	1	-
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	1	0	0	1	1
1995	0	3	0	1	0	0	0	0	4	0
1996	1	1	0	0	0	0	0	0	2	0
1997	0	2	0	0	0	1	0	0	3	1
1998	0	0	0	0	0	2	0	0	2	0
1999	1	0	0	0	0	0	0	0	1	0
2000	0	0	0	0	0	0	1	0	1	0
2001	0	1	0	1	0	0	0	0	2	0
2002	0	0	0	0	0	1	1	0	2	0
2003	0	1	0	0	0	0	0	0	1	0
2004	0	2	0	0	0	0	0	1	3	0
2005	0	8	0	0	0	1	0	0	9	0
2006	0	4	0	1	0	3	0	0	8	0
2007	0	8	0	9	0	2	0	0	19	0
2008	5	10	2	3	0	3	0	0	23	2
2009	5	15	2	17	0	3	0	0	42	2
<b>Total</b>	<b>12</b>	<b>60</b>	<b>4</b>	<b>33</b>	<b>0</b>	<b>19</b>	<b>2</b>	<b>1</b>	<b>131</b>	<b>6</b>

Figure 9.12

Donation After Cardiac Death Donors 1989 - 2009 Organs Transplanted or Sent to Tissue Bank in Australia																						
Donor State	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	Total
<b>Queensland</b>																						
Kidneys	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	10	8	22
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Cornea	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Bone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Heart Valves	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	2	7
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>12</b>	<b>35</b>
<b>New South Wales</b>																						
Kidneys	0	4	3	2	0	0	5	2	4	0	0	0	0	0	2	4	16	8	13	18	27	108
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	7
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	5	11
Cornea	0	2	0	0	0	0	0	2	0	0	0	0	2	0	0	4	10	2	8	8	4	42
Bone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Heart Valves	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	5	3	3	6	6	25
<b>Total</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>31</b>	<b>13</b>	<b>27</b>	<b>39</b>	<b>47</b>	<b>195</b>
<b>ACT</b>																						
Kidneys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Cornea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Heart Valves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>4</b>	<b>14</b>
<b>Victoria</b>																						
Kidneys	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	12	6	30	53
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1	7	14
(L) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
(R) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pancreas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Cornea	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	10	4	20	40
Bone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4
Heart Valves	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	1	2	8
Tissue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
<b>Total</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>35</b>	<b>16</b>	<b>64</b>	<b>128</b>
<b>South Australia</b>																						
Kidneys	2	0	0	0	0	0	0	0	1	4	0	0	0	2	0	0	2	4	2	5	6	28
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Cornea	2	2	0	0	0	2	0	0	2	0	0	0	0	2	0	0	0	2	0	0	4	16
Bone	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
Heart Valves	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
<b>Total</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>9</b>	<b>5</b>	<b>5</b>	<b>11</b>	<b>54</b>
<b>Northern Territory</b>																						
Kidneys	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4
<b>Western Australia</b>																						
Kidneys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
<b>Australian Total</b>	<b>9</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>10</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>2</b>	<b>10</b>	<b>33</b>	<b>25</b>	<b>67</b>	<b>85</b>	<b>138</b>	<b>432</b>

Figure 9.13

Donation after Cardiac Death Donors 1989 - 2009 Organs Transplanted or Sent to Tissue Bank in Australia																						
Organs	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	Total
Kidneys	4	4	3	2	0	0	7	4	5	4	2	2	1	4	2	6	18	12	27	43	75	225
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	4	12
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	7	14	31
(L) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
(R) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pancreas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Cornea	4	4	0	0	0	2	0	4	2	0	0	0	4	2	0	4	10	6	18	14	28	102
Bone	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	4	3	11
Heart Valves	0	1	0	0	0	0	0	2	1	0	1	0	1	0	0	0	5	3	8	12	11	45
Tissue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
<b>Total</b>	<b>9</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>10</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>2</b>	<b>10</b>	<b>33</b>	<b>25</b>	<b>67</b>	<b>85</b>	<b>138</b>	<b>432</b>



## ORGANS REQUESTED

The information relating to the request for organ donation refers only to those patients who become organ donors. If consent was sought and refused, the Registry has no record of these potential donors.

The difference between a request and a consent is a known objection by the donor or family refusal for the specific organ. Reasons for not requesting organs, not retrieving and not transplanting are documented for all of the specific organs.

For more detail please refer to Website: [www.anzdata.org.au](http://www.anzdata.org.au)

The requests for specific organs in Australia in 2009 from 247 organ donors were: kidneys 97%, liver 95%, heart 81%, lungs 82% and pancreas 85%.

From the 43 New Zealand donors in 2009, the requests for specific organs were: kidneys 100%, liver 100%, heart 79%, lungs 86% and pancreas 60%.

## MULTIPLE ORGAN RETRIEVAL

There were 43 (17%) of Australian donors in 2009 who donated solid organs, who had a single organ retrieved, shown in Figure 9.14. Kidney only donation occurred in 35 cases.

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

New Zealand had seven single organ donors in 2009, six donating kidneys and one donating a liver only.

In Australia 80% of donors and in New Zealand 79% of donors had two or more organs retrieved for the purpose of transplantation

Figure 9.14

Multiple Organ Retrieval 2004 - 2009												
Number of Organs	Australia						New Zealand					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
Single	15%	17%	11%	15.5%	17%	17%	13%	14%	8%	16%	19%	16%
Two	27%	22%	23%	23%	23%	20%	43%	34%	24%	40%	23%	35%
Three	22%	17%	23%	23%	25%	27%	27%	21%	44%	26%	39%	33%
Four	23%	32%	23%	20%	20%	19%	10%	28%	12%	18%	16%	9%
Five	12%	10%	18%	15.5%	14%	14%	0%	3%	12%	0%	3%	2%
No organs	1%	2%	1%	3%	1%	3%	7%	0%	0%	0%	0%	5%

Figure 9.15

State by State Comparison of Multiple Organ Retrieval 2009										
Number of Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Single	8 (17%)	13 (19%)	4 (50%)	8 (13%)	0 (0%)	6 (18%)	0 (0%)	4 (21%)	<b>43 (17%)</b>	<b>7 (16%)</b>
Two	14 (30%)	17 (25%)	1 (12.5%)	16 (25%)	0 (0%)	2 (6%)	0 (0%)	5 (26%)	<b>48 (20%)</b>	<b>15 (35%)</b>
Three	8 (17%)	15 (22%)	2 (25%)	15 (23%)	1 (20%)	12 (37%)	1 (50%)	6 (32%)	<b>67 (27%)</b>	<b>14 (33%)</b>
Four	13 (28%)	14 (20%)	1 (12.5%)	9 (14%)	1 (20%)	6 (18%)	1 (50%)	2 (10.5%)	<b>47 (19%)</b>	<b>4 (9%)</b>
Five	3 (6%)	6 (9%)	0 (0%)	14 (22%)	3 (60%)	7 (21%)	0 (0%)	2 (10.5%)	<b>35 (14%)</b>	<b>1 (2%)</b>
No organs	1 (2%)	4 (5%)	0 (0%)	2 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	<b>7 (3%)</b>	<b>2 (5%)</b>
<b>Total</b>	<b>47</b>	<b>69</b>	<b>8</b>	<b>64</b>	<b>5</b>	<b>33</b>	<b>2</b>	<b>19</b>	<b>247</b>	<b>43</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 2009 (Figure 9.16).

The number of organs transplanted per donor each year for 1999-2009 in Australia and New Zealand is shown in Figure 9.17.

The number of recipients transplanted per donor in Australia in 2009 was 3.2 compared to 3.3 in 2008.

Tasmania had the highest number of organs transplanted; 5.6 per donor, followed by Queensland and Western Australia 3.6, South Australia and the Northern Territory 3.5, Victoria 3.4, New South Wales 3.3 and the ACT 2.6

These figures exclude tissue transplantation.

Figure 9.16

Organs Transplanted per Donor 2009										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
No. Organs Transplanted	168	225	21	219	28	114	7	68	850	116
No. of Donors	47	69	8	64	5	33	2	19	247	43
<b>Mean per Donor</b>	<b>3.6</b>	<b>3.3</b>	<b>2.6</b>	<b>3.4</b>	<b>5.6</b>	<b>3.5</b>	<b>3.5</b>	<b>3.6</b>	<b>3.4</b>	<b>2.7</b>

Double Lungs = one organ

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

Figure 9.17

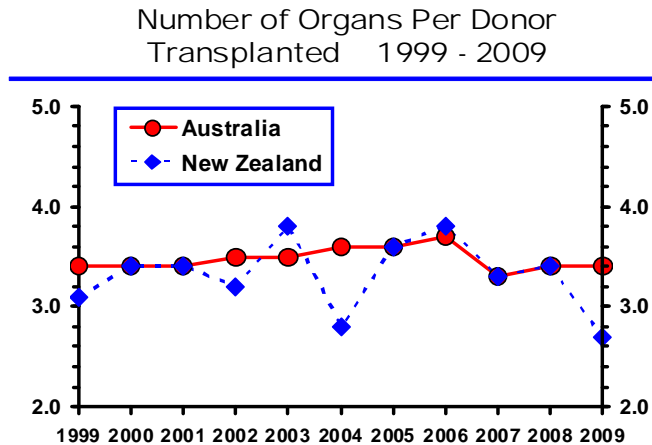


Figure 9.18

Organs Transplanted by Donor State in Australia and New Zealand 2009										
Organs Transplanted	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Kidney	87	120	13	119	10	56	4	37	446	54
Liver	29	40	4	35	3	27	2	15	155	33
Liver (Left)	6	6	0	1	2	1	0	0	16	0
Liver (Right)	5	6	0	1	1	1	0	0	14	0
Heart	15	12	1	14	3	9	0	5	59	11
Heart/Lungs	2	0	0	0	0	0	0	0	2	0
Lungs	18	32	2	30	3	11	1	4	101	15
Lung (Left)	1	0	0	2	1	0	0	2	6	1
Lung (Right)	2	0	0	2	1	0	0	0	5	0
Pancreas	3	8	1	11	4	5	0	5	37	2
Pancreas Islets	0	1	0	4	0	4	0	0	9	0
<b>Total</b>	<b>168</b>	<b>225</b>	<b>21</b>	<b>219</b>	<b>28</b>	<b>114</b>	<b>7</b>	<b>68</b>	<b>850</b>	<b>116</b>

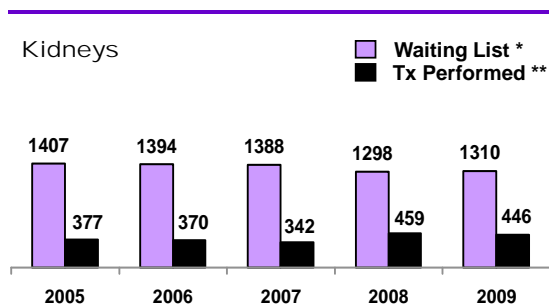


## KIDNEY DONATION

Figure 9.19 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 2005-2009.

Figure 9.19

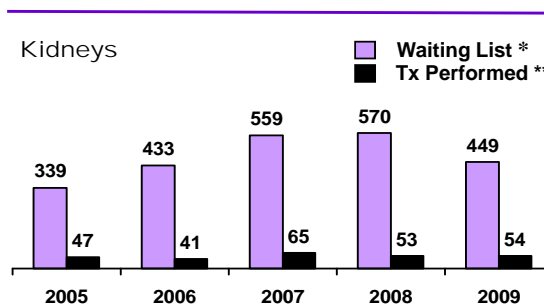
Waiting List vs Deceased Donor Transplants  
Australia 2005 - 2009



\* Source: NOMS (National Organ Matching System)

\*\* Includes kidneys sent from New Zealand

Waiting List vs Deceased Donor Transplants  
New Zealand 2005 - 2009

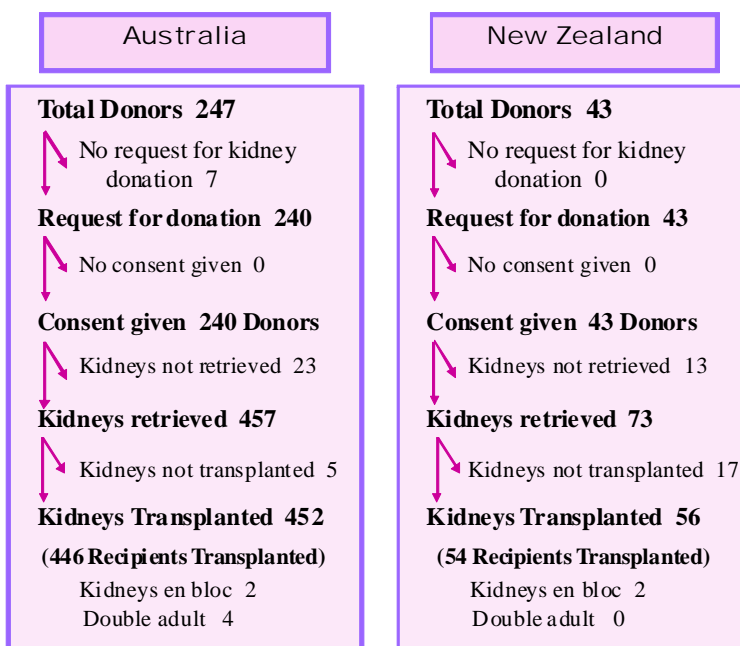


\* Source of Waiting List – NZ Donor Coordinators

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

Figure 9.20

### Outcome of Request for Kidney Donation 2009



Refer to Appendices for reasons kidneys were not requested, not retrieved and not transplanted  
For more detail please refer to Website: [www.anzdata.org.au/anzod/anzodwelcome.htm](http://www.anzdata.org.au/anzod/anzodwelcome.htm).