

Donor Profile





Donor Profile

This chapter contains description in more detail of organ donors in Australia 2012 compared to 2011 (Fig 4.1). Key observations are the gender discrepancy for

DCD donors (where there are greater numbers of males than females). There is a preponderance of Caucasian donors, and the distribution of blood groups (largely O and A follows).

Figure 4.1

Demographics of Deceased Donors in Australia 2011 - 2012						
	2011			2012		
	DBD	DCD	Total	DBD	DCD	Total
Gender						
Male	123 (49%)	62 (72%)	185 (55%)	144 (52%)	57 (74%)	201 (57%)
Female	128 (51%)	24 (28%)	152 (45%)	133 (48%)	20 (26%)	153 (43%)
Age						
0-4	2 (1%)	1 (1%)	3 (1%)	3 (1%)		3 (1%)
5-14	10 (4%)		10 (3%)	7 (3%)	1 (1%)	8 (2%)
15-24	23 (9%)	12 (14%)	35 (10%)	39 (14%)	10 (13%)	49 (14%)
25-34	29 (12%)	8 (9%)	37 (11%)	27 (10%)	5 (6%)	32 (9%)
35-44	26 (10%)	17 (20%)	43 (13%)	39 (14%)	12 (16%)	51 (14%)
45-54	57 (23%)	17 (20%)	74 (22%)	53 (19%)	22 (29%)	75 (21%)
55-64	62 (25%)	19 (22%)	81 (24%)	59 (21%)	21 (27%)	80 (23%)
65-74	33 (13%)	12 (14%)	45 (13%)	40 (14%)	6 (8%)	46 (13%)
75+	9 (4%)		9 (3%)	10 (4%)		10 (3%)
BMI (kg/m²)						
Underweight (<18.5)	11 (4%)	3 (3%)	14 (4%)	12 (4%)	1 (1%)	13 (4%)
Normal (18.5-<25)	101 (40%)	38 (44%)	139 (41%)	113 (41%)	32 (42%)	145 (41%)
Overweight(25-<30)	77 (31%)	27 (31%)	104 (31%)	97 (35%)	20 (26%)	117 (33%)
Obese(>=30)	61 (24%)	18 (21%)	79 (23%)	55 (20%)	24 (31%)	79 (22%)
Unknown	1 (0%)		1 (0%)			
Blood Group						
A	99 (39%)	33 (38%)	132 (39%)	107 (39%)	34 (44%)	141 (40%)
AB	8 (3%)	2 (2%)	10 (3%)	12 (4%)	3 (4%)	15 (4%)
B	19 (8%)	13 (15%)	32 (9%)	32 (12%)	3 (4%)	35 (10%)
O	125 (50%)	38 (44%)	163 (48%)	126 (45%)	37 (48%)	163 (46%)
Racial Origin						
Caucasian	239 (95%)	83 (97%)	322 (96%)	258 (93%)	73 (95%)	331 (94%)
Aboriginal	3 (1%)		3 (1%)	3 (1%)	1 (1%)	4 (1%)
Asian	8 (3%)	1 (1%)	9 (3%)	9 (3%)	1 (1%)	10 (3%)
Maori				4 (1%)		4 (1%)
Pacific Islander		1 (1%)	1 (0%)	1 (0%)	1 (1%)	2 (1%)
Other	1 (0%)	1 (1%)	2 (1%)	2 (1%)	1 (1%)	3 (1%)
Cause of Death						
CVA	140 (56%)	25 (29%)	165 (49%)	152 (55%)	22 (29%)	174 (49%)
Trauma (road)	24 (10%)	14 (16%)	38 (11%)	29 (10%)	9 (12%)	38 (11%)
Trauma (non-road)	23 (9%)	10 (12%)	33 (10%)	29 (10%)	8 (10%)	37 (10%)
Hypoxia-Anoxia	53 (21%)	24 (28%)	77 (23%)	52 (19%)	31 (40%)	83 (23%)
Cerebral Tumour	1 (0%)		1 (0%)	1 (0%)		1 (0%)
Other	10 (4%)	13 (15%)	23 (7%)	14 (5%)	7 (9%)	21 (6%)

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In New Zealand in 2012 there were no DCD donors. Reflecting greater heterogeneity in the racial origin of donors, there were more blood group B donors than in

Australia. There were a lower proportion of donors <25 years, compared with Australia, but similar proportion ≥65 years of age.

Figure 4.2

Demographics of Deceased Donors in New Zealand 2011 - 2012						
	2011			2012		
	DBD	DCD	Total	DBD	DCD	Total
NZ	Gender					
	Male	22 (61%)	2 (100%)	24 (63%)	17 (45%)	17 (45%)
	Female	14 (39%)		14 (37%)	21 (55%)	21 (55%)
	Age					
	5-14	2 (6%)	1 (50%)	3 (8%)	2 (5%)	2 (5%)
	15-24	9 (25%)		9 (24%)	3 (8%)	3 (8%)
	25-34	4 (11%)		4 (11%)	3 (8%)	3 (8%)
	35-44	4 (11%)		4 (11%)	9 (24%)	9 (24%)
	45-54	9 (25%)	1 (50%)	10 (26%)	10 (26%)	10 (26%)
	55-64	4 (11%)		4 (11%)	5 (13%)	5 (13%)
	65-74	4 (11%)		4 (11%)	4 (11%)	4 (11%)
	75+				2 (5%)	2 (5%)
	BMI (kg/m²)					
	Underweight (<18.5)	1 (3%)	1 (50%)	2 (5%)		
	Normal (18.5-<25)	15 (42%)	1 (50%)	16 (42%)	19 (50%)	19 (50%)
	Overweight(25-<30)	16 (44%)		16 (42%)	9 (24%)	9 (24%)
	Obese(≥30)	4 (11%)		4 (11%)	10 (26%)	10 (26%)
	Blood Group					
	A	12 (33%)		12 (32%)	9 (24%)	9 (24%)
	AB				2 (5%)	2 (5%)
	B	3 (8%)		3 (8%)	5 (13%)	5 (13%)
	O	21 (58%)	2 (100%)	23 (61%)	22 (58%)	22 (58%)
	Racial Origin					
	Caucasian	28 (78%)	2 (100%)	30 (79%)	28 (74%)	28 (74%)
	Asian	1 (3%)		1 (3%)	3 (8%)	3 (8%)
	Maori	3 (8%)		3 (8%)	6 (16%)	6 (16%)
	Pacific Islander	4 (11%)		4 (11%)	1 (3%)	1 (3%)
	Cause of Death					
CVA	18 (50%)		18 (47%)	15 (39%)	15 (39%)	
Trauma (road)	4 (11%)	2 (100%)	6 (16%)	4 (11%)	4 (11%)	
Trauma (non-road)	4 (11%)		4 (11%)	6 (16%)	6 (16%)	
Hypoxia-Anoxia	8 (22%)		8 (21%)	8 (21%)	8 (21%)	
Other	2 (6%)		2 (5%)	5 (13%)	5 (13%)	



AGE AND GENDER DISTRIBUTION IN AUSTRALIA AND NEW ZEALAND

In Australia in 2012, 16% (56 donors) were 65 years or older and 3% (ten donors) were aged 75 years or older. The oldest donor was 88.2 years and the youngest 1.5 years (Figure 4.9).

The mean age for donors in Australia in 2012, was 47.3 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.

Figure 4.3 - 4.8 shows donors according to age and gender in Australia and New Zealand for the years 2004-2006, 2007-2009 and 2010-2012.

Figure 4.3 Age and Gender of Deceased Donors Australia 2004-2012

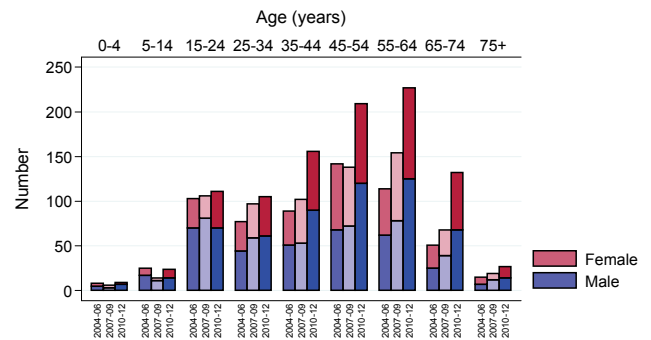


Figure 4.4 Age and Gender of Deceased Donors New Zealand 2004-2012

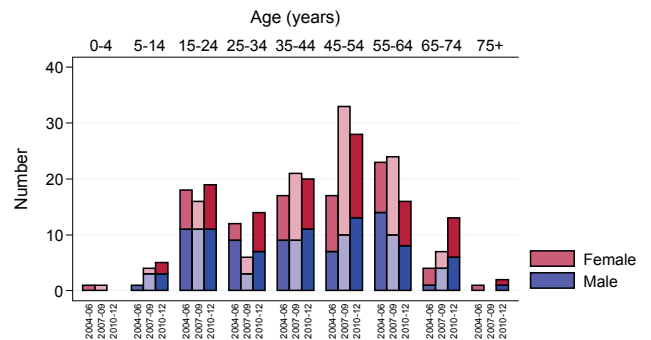


Figure 4.5 Age and Gender Donors After Brain Death Australia 2004-2012

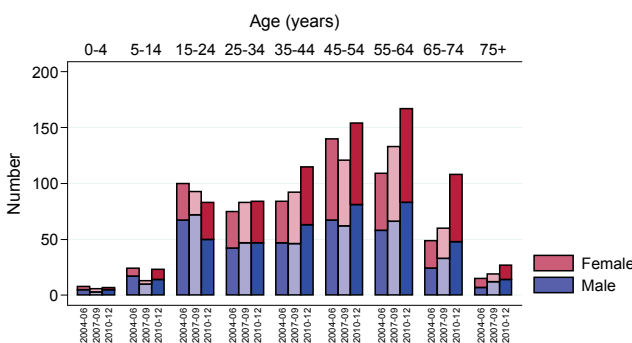


Figure 4.6 Age and Gender Donors After Cardiac Death Australia 2004-2012

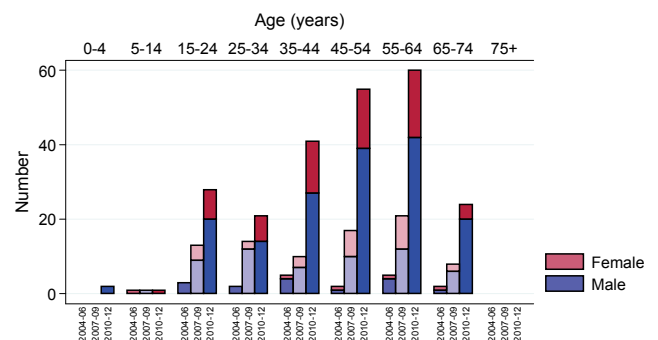


Figure 4.7 Age and Gender Donors After Brain Death New Zealand 2004-2012

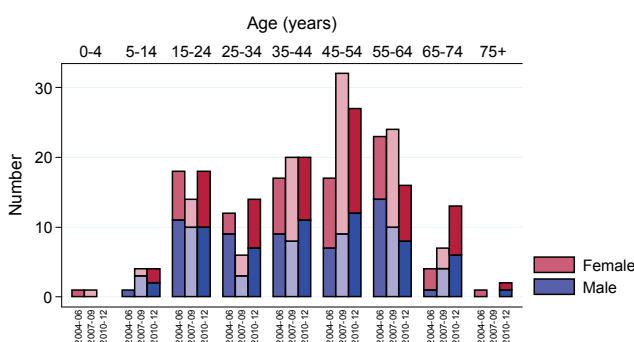
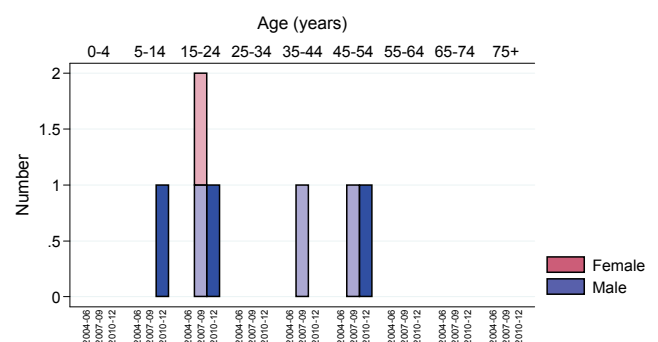


Figure 4.8 Age and Gender Donors After Cardiac Death New Zealand 2004-2012



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The mean age for the larger Australian States in 2012 ranged from 43.1 years in Queensland to 49.7 years in Victoria. If the smaller States and Territories are included the range was 42.9 years in Northern Territory to 61.1 years in Australian Capital Territory.

The median age for the larger Australian States in 2012 ranged from 43.8 years in Queensland to 53.5 years in Victoria. If the smaller States and Territories are included the range was 43.8 years in Queensland to 63.8 years in the Australian Capital Territory.

The median age for Australia in 2012 was 50.5 years, the highest since records began in 1989.

The median age for donors from 2004 to 2012 for each State by donor type (donation after brain death or cardiac death) are shown in Figures 4.14 to 4.21.

In New Zealand the median age increased from 44.0 years in 2011 to 49.2 years in 2012. There were two donors aged 75 years or over (up from zero in 2011) and no donors aged less than 5 years. The age range was between 14.8 years and 76.1 years.

Figure 4.9 Age of Male and Female Donors 2004-2012 Australia

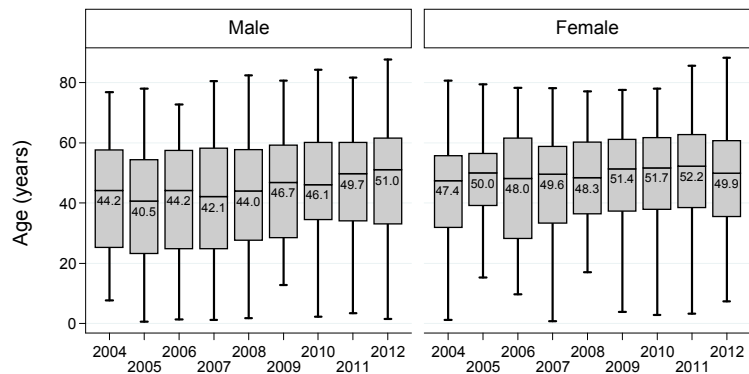
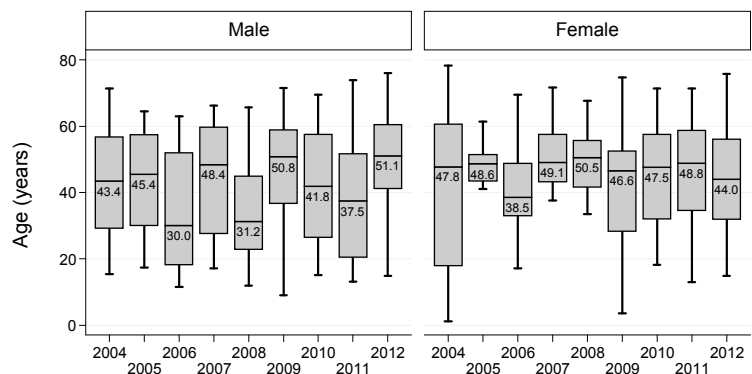


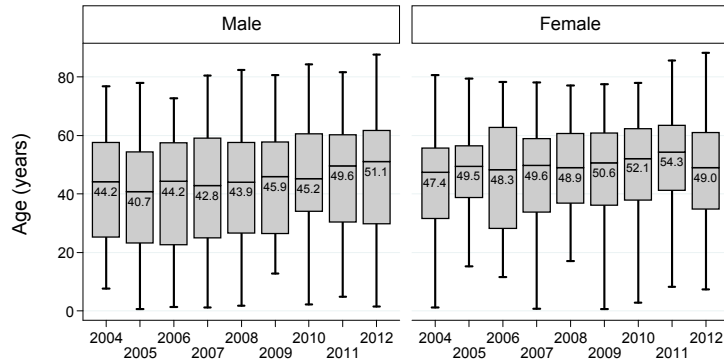
Figure 4.10 Age of Male and Female Donors 2004-2012 New Zealand





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Figure 4.11 Age of Male and Female Donors After Brain Death 2004-2012 Australia

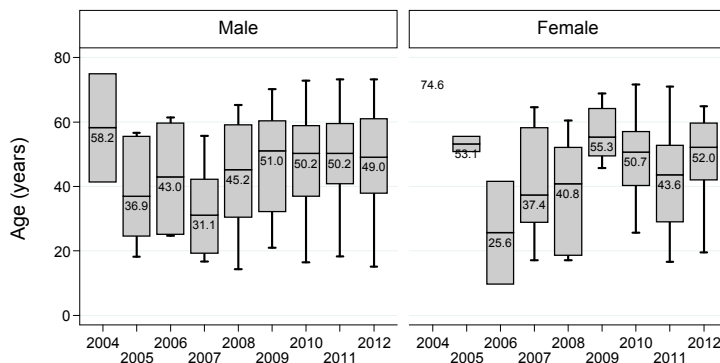


Age and gender of donors by donor type is shown per year from 2004 - 2012 in Figures 4.11 to 4.13.



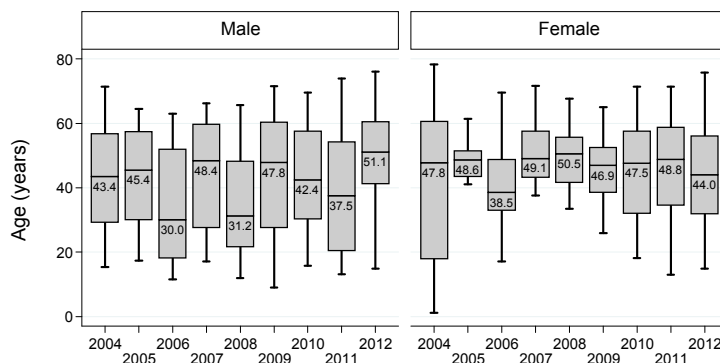
Figure 4.12

Age of Male and Female Donors After Cardiac Death 2004-2012 Australia



Figures 4.14 to 4.21 display donor age by donor type in each State.

Figure 4.13 Age of Male and Female Donors After Brain Death 2004-2012 New Zealand



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Figure 4.14 Age of Deceased Donors 2004-2012
Queensland

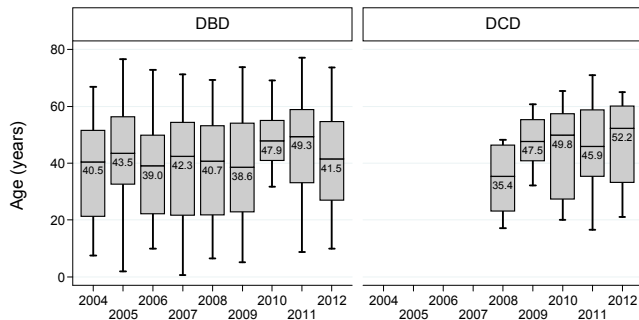


Figure 4.15 Age of Deceased Donors 2004-2012
Northern Territory

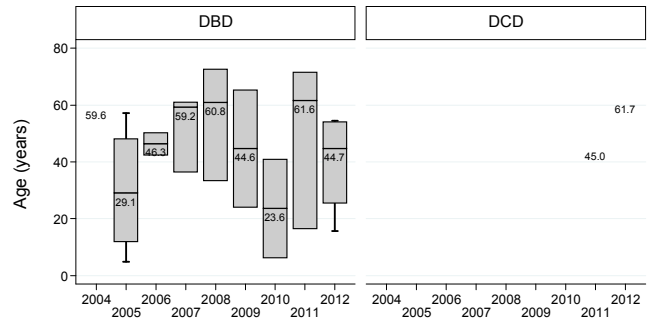


Figure 4.16 Age of Deceased Donors 2004-2012
Victoria

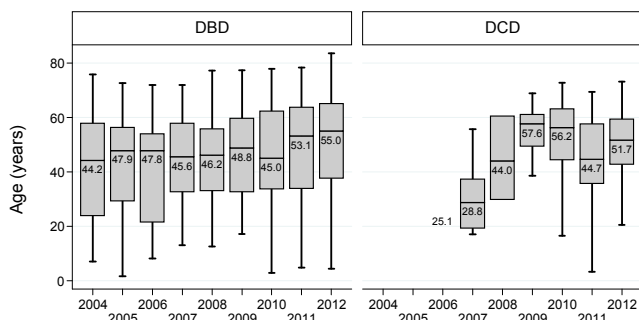


Figure 4.17 Age of Deceased Donors 2004-2012
New South Wales

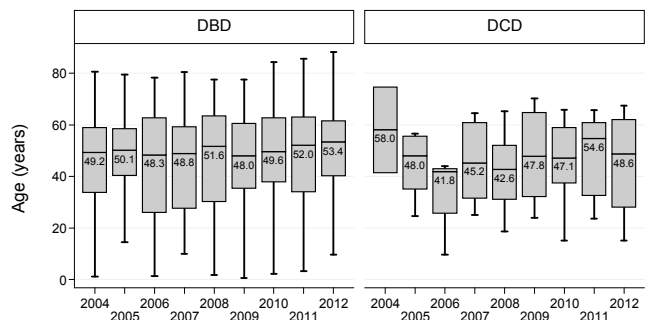


Figure 4.18 Age of Deceased Donors 2004-2012
Tasmania

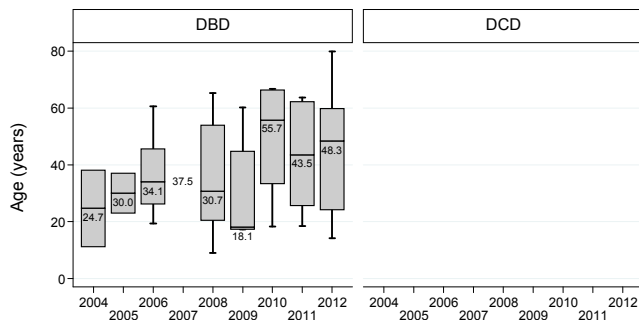


Figure 4.19 Age of Deceased Donors 2004-2012
Australian Capital Territory

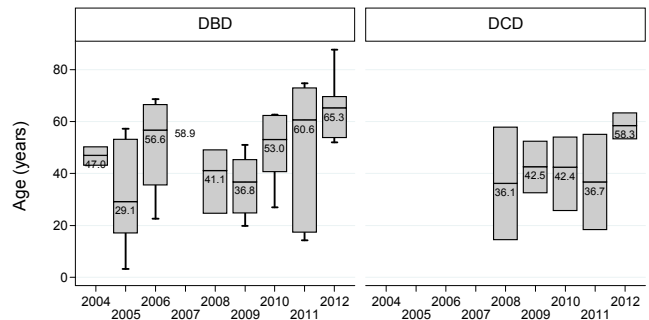


Figure 4.20 Age of Deceased Donors 2004-2012
South Australia

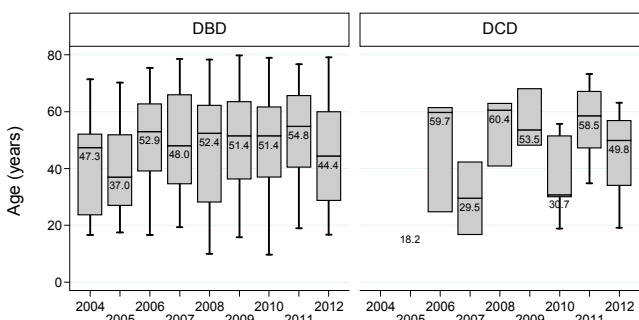
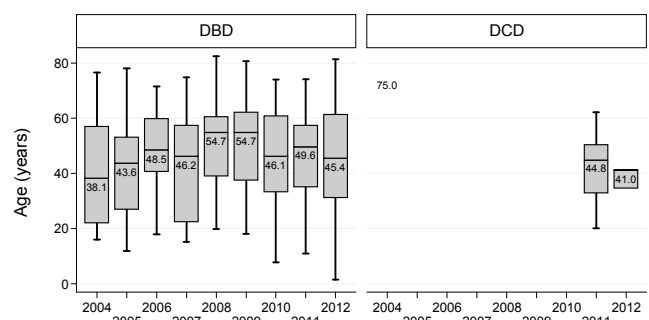


Figure 4.21 Age of Deceased Donors 2004-2012
Western Australia





Donor Profile

Donor gender in each State, Australia and New Zealand is shown in three year cohorts in Figures 4.22 to 4.25. Figures 4.23 to 4.25 also shows the gender distribution, taking into account the assessment criteria for donors.

Figure 4.22 Gender by State, Australia, New Zealand 2004-2012

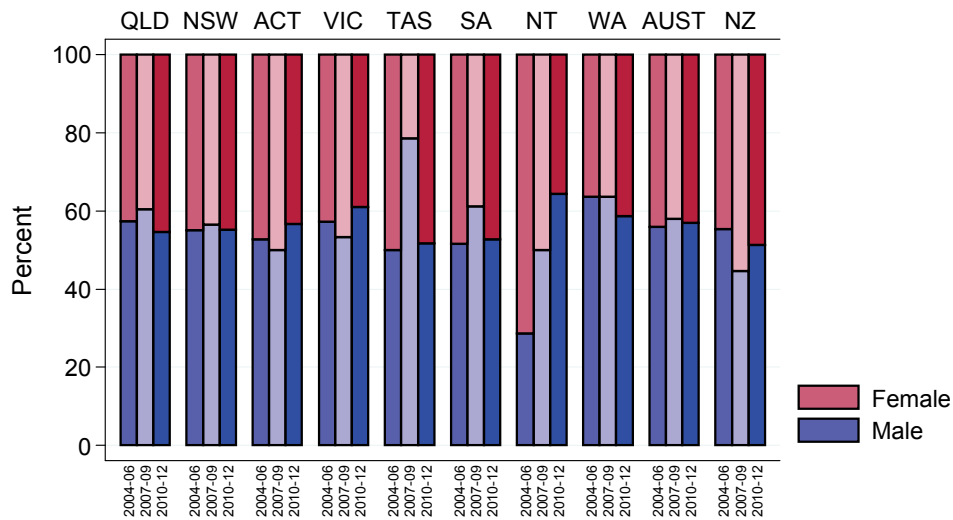


Figure 4.23 Gender by State, Australia, New Zealand Standard Criteria Donors 2004-2012

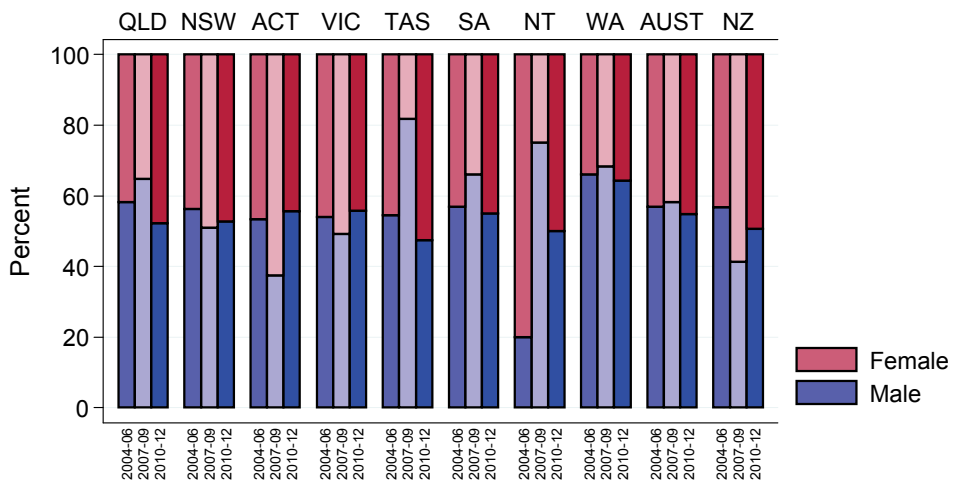




Figure 4.24 Gender by State, Australia, New Zealand Donors After Cardiac Death 2004-2012

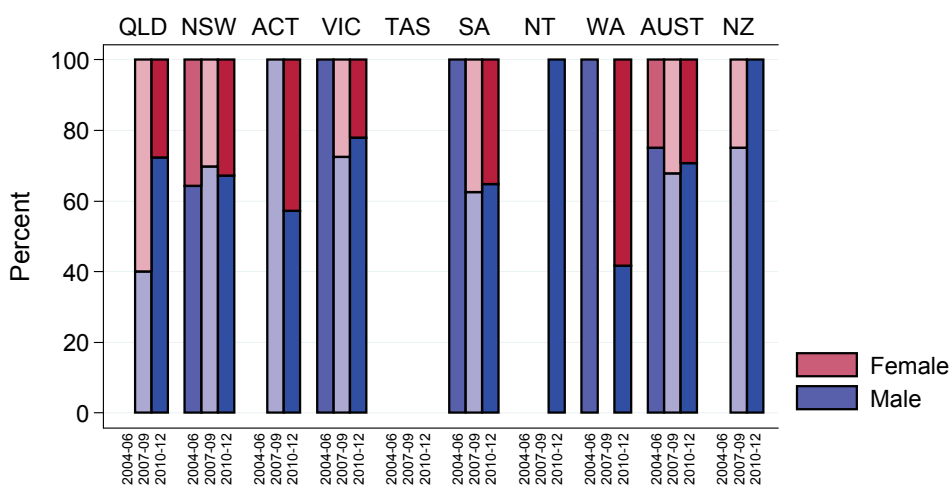
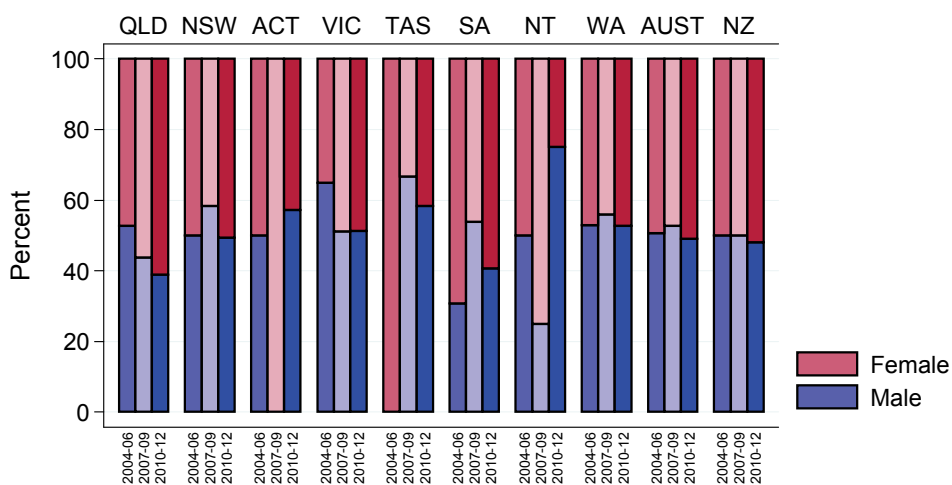
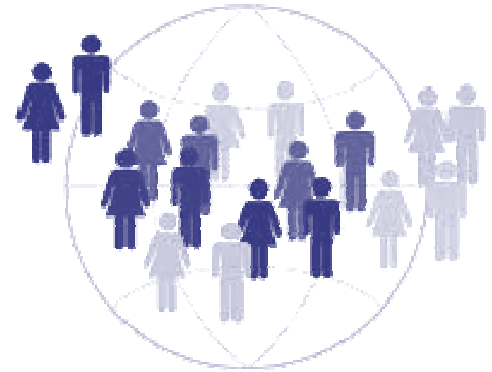


Figure 4.25 Gender by State, Australia, New Zealand Expanded Criteria Donors 2004-2012





Donor Profile



The Ethnic Origin of Donors has remained stable over the past 5 year, both in Australia and in New Zealand.

Figure 4.26

Ethnic Origin of Donors 2008 - 2012										
Donor racial/ ethnic origin	Australia					New Zealand				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Caucasian	234 (90%)	235 (95%)	289 (94%)	322 (96%)	331 (94%)	27 (87%)	35 (81%)	32 (78%)	30 (79%)	28 (74%)
Aboriginal	4 (2%)	2 (1%)	4 (1%)	3 (1%)	4 (1%)	-	-	-	-	-
Asian	19 (7%)	7 (3%)	15 (5%)	9 (3%)	10 (3%)	-	2 (5%)	3 (7%)	1 (3%)	3 (8%)
Maori	-	2 (1%)	-	-	4 (1%)	3 (10%)	5 (12%)	5 (12%)	3 (8%)	6 (16%)
Pacific Islander	1 (0%)	1 (0%)	-	1 (0%)	2 (1%)	1 (3%)	-	1 (2%)	4 (11%)	1 (3%)
Other	1 (0%)	-	1 (0%)	2 (1%)	3 (1%)	-	1 (2%)	-	-	-

The reporting of Donor's religious denomination has also remained stable over the past 5 year, with both Australia and New Zealand recording higher numbers not reported or "Unknown".

Figure 4.27

Religious Denomination of Donors 2008 - 2012										
Donor Religion	Australia					New Zealand				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Christian	47 (18%)	60 (24%)	99 (32%)	111 (33%)	110 (31%)	3 (10%)	1 (2%)	3 (7%)	7 (18%)	5 (13%)
Muslim	-	1 (0%)	-	-	1 (0%)	-	-	-	-	-
Buddhist	3 (1%)	3 (1%)	1 (0%)	1 (0%)	4 (1%)	-	-	-	-	-
Hindu	2 (1%)	-	2 (1%)	-	2 (1%)	-	-	-	-	-
Jewish	-	1 (0%)	1 (0%)	-	-	-	-	-	-	-
Other	1 (0%)	-	-	-	-	-	-	-	-	-
No religion	17 (7%)	35 (14%)	64 (21%)	75 (22%)	59 (17%)	-	-	-	-	-
Unknown	189 (73%)	147 (60%)	142 (46%)	150 (45%)	178 (50%)	28 (90%)	42 (98%)	38 (93%)	31 (82%)	33 (87%)



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DONOR WEIGHT

The allocation of heart, lungs and livers are based in part on the matching of recipient and donor size and weight. In 2012 there were six donors in Australia and no donors in New Zealand who weighed less than 40 kilograms.

Figure 4.28

Donor Weight 2008 - 2012												
		Kilograms										Total
		0-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100 +	
Australia	2008	1	1	4	3	18	33	63	71	30	35	259
	2009	2	2	0	3	11	45	56	56	35	37	247
	2010	2	5	4	2	20	43	62	70	53	48	309
	2011	3	4	1	6	31	59	73	74	48	38	337
	2012	2	4	0	7	23	73	70	85	44	46	354
New Zealand	2008	0	0	0	2	2	4	11	6	4	2	31
	2009	0	2	0	1	7	7	11	6	8	1	43
	2010	1	0	0	1	2	6	14	8	4	5	41
	2011	0	0	0	2	1	11	7	9	4	4	38
	2012	0	0	0	0	6	5	10	5	8	4	38

The distribution of BMI (body mass index) of Donors in Australia and New Zealand for 2012 are shown in Figures 4.29 and 4.30.

Figure 4.29 BMI of Donors - Australia

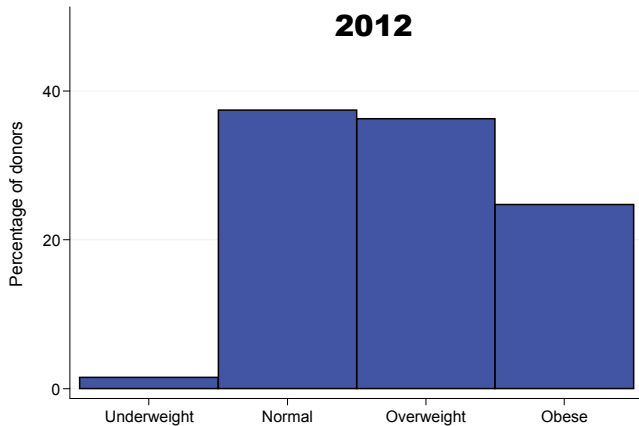
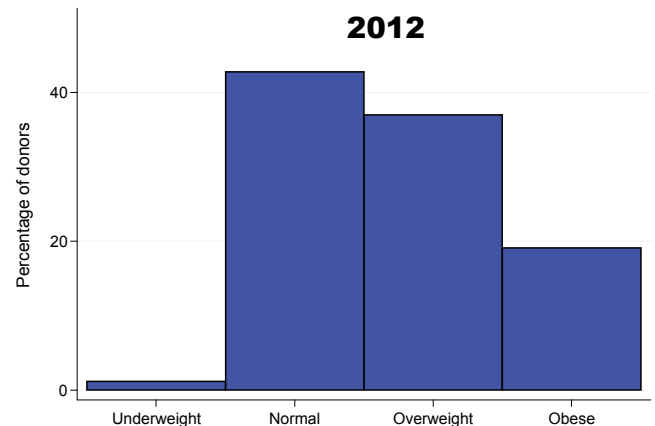


Figure 4.30 BMI of Donors - Australia





MEDICAL CONDITION OF DONORS

Figure 4.31

Medical Condition of Donors by Australian States 2012 (2011)											
Donor Type	Medical Condition	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
DBD	Diabetes Type I	2 (2)	0 (0)	0 (0)	1 (2)	1 (0)	1 (0)	0 (0)	0 (0)	5 (4)	1 (0)
	Diabetes Type II	3 (4)	12 (3)	3 (1)	2 (4)	2 (0)	1 (4)	0 (0)	1 (1)	24 (17)	1 (1)
	Hypertension	13 (10)	25 (18)	5 (3)	18 (25)	3 (2)	5 (7)	1 (1)	6 (3)	76 (69)	11 (7)
	Smoking - Current	34 (18)	26 (17)	2 (2)	20 (29)	3 (3)	6 (8)	2 (1)	12 (12)	105 (90)	17 (12)
	Cancer	3 (3)	2 (2)	0 (0)	2 (3)	0 (0)	1 (3)	0 (0)	2 (3)	10 (14)	0 (0)
DCD	Diabetes Type I	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)
	Diabetes Type II	0 (1)	1 (2)	0 (0)	4 (1)	0 (0)	0 (1)	0 (0)	0 (0)	5 (5)	0 (0)
	Hypertension	5 (6)	3 (6)	0 (0)	7 (6)	0 (0)	2 (2)	0 (0)	0 (1)	17 (21)	0 (0)
	Smoking - Current	8 (9)	4 (6)	0 (1)	13 (11)	0 (0)	1 (1)	0 (0)	1 (1)	27 (29)	0 (0)
	Cancer	0 (1)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (2)	1 (4)	0 (0)

DIABETES

There were six donors in Australia in 2012 with Type 1 and 29 with Type 2 diabetes; there was one Type 2 diabetic donor in New Zealand.

There were two diabetic Type 2 donor in in Australia who did not have organs retrieved (one due to disease in organ and the other due to malignancy).

There were six diabetic Type 1 donors (including one DCD donor) that provided eight kidneys, four livers, one heart, one double lung, one single lung and six cornea.

The 27 Type 2 donors (including five DCD donors) provided 36 kidneys, 11 livers, two hearts four double lungs, 23 corneas, three sets of heart valves, two bone donations and one tissue donation.

HYPERTENSION

A past history of hypertension was recorded in 26% (93 donors) in Australia and 29% (11 donors) in New Zealand in 2012 (Figure 4.31). Included in the 93 donors for Australia were 17 DCD donors with a past history of hypertension.

These donors provided Australia with 148 kidneys, 49 livers, two split livers, five hearts, two heart/lung, 25 double lungs, one pancreas, one pancreas islets, 92 corneas, 10 sets of heart valves, 10 bone and five tissue donations. Three of the 90 donors did not provide any organs; one due to infection and two due to disease in organ.

Donor Profile



In New Zealand, 11 donors provided nine kidneys, seven livers, one heart, four double lungs, eight corneas and one sets of heart valves. One donor did not have any organs retrieved due to disease.

SMOKING

In 2012, 37% (132) Australian donors were recorded as current smokers while in New Zealand, 45% (17 donors) were reported as current smokers.

CANCER IN DONOR

In Australia, 11 donors had a history of cancer prior to donation.

Australia (11 donors)

- * one donor had a lymphoma diagnosed intra-operatively and no organs were transplanted
- * one melanoma - Leg and hip (2002)
- * three squamous cell carcinomas - cervix (1997); shoulder (2009); rectum (1988)
- * two adenocarcinoma - breast (1989); appendix (2012)
- * one renal cell carcinoma - kidney (2012)
- * one lymphoma - kidney (2012) (no organs transplanted)
- * one dermatofibrosarcoma - abdominal cavity (2012)
- * two unknown - small intestine (1987); unknown site (unknown date)

There were 11 kidneys, six livers, two hearts, three double lungs and 13 corneas transplanted from 10 of these donors. One was a DCD donor.

New Zealand

In New Zealand, no donors in 2012 had a history of previous cancer.



VIROLOGY SCREENING

Figure 4.32

Cytomegalovirus (CMV) Status of Donors 2007 - 2012												
	Australia						New Zealand					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Negative	93	92	103	118	123	129	14	16	24	18	17	8
Positive	105	167	144	191	214	225	24	15	19	23	21	30
Total	198	259	247	309	337	354	38	31	43	41	38	38

Figure 4.33

Epstein-Barr Virus (EBV) Status of Donors 2007 - 2012												
	Australia						New Zealand					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Negative	54	62	76	97	16	0	0	0	3	6	7	4
Not done	12	18	14	14	28	33	5	3	3	2	4	1
Positive	132	179	157	198	293	321	33	28	37	33	27	33
Total	198	259	247	309	337	354	38	31	43	41	38	38

Not all Australian States require organ donors to be tested for EBV

HEPATITIS C ANTIBODY

There were seven Hepatitis C positive donors, five in Australia and two in New Zealand in 2012.

Of those positive donors in Australia, three were DBD donors. There was one kidney donor and five whole livers (no split livers).

There were three donors who were positive for both

HCV and HBV core antibodies, two of whom provided whole livers.

Of those positive donors, both were DBD donors.

There was one donor who was positive for both HCV and HBV core antibodies, and this donor provided a whole liver.

Figure 4.34

Hepatitis C Antibody Status of Donors 2007 - 2012												
	Australia						New Zealand					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Negative	194	254	242	307	330	349	37	30	43	41	37	36
Positive	4	5	5	2	7	5	1	1	0	0	1	2
Total	198	259	247	309	337	354	38	31	43	41	38	38



HEPATITIS B CORE ANTIBODY

The Registry commenced collection of Hepatitis B core antibody results in 1998.

A positive result was recorded for 4% (15) of Australian donors and 21% (8) of New Zealand donors in 2012.

Of those positive donors in Australia, 13 were DBDs. Of the 15 donors, there were 26 kidneys, eight whole

livers, two hearts, six double lungs, one pancreas, one pancreatic islets, and 5 corneas donated.

Of those positive donors in New Zealand, one was a DBD donor. Of the 8 donors, there were eight kidneys, six whole livers, 2 split livers one heart, three double lungs, four corneas, one heart valve and one tissue donated

Figure 4.35

Hepatitis B Core Antibody Status of Donors 2006 - 2011												
	Australia						New Zealand					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Negative	191	243	234	289	326	339	33	29	38	39	33	30
Positive	7	16	13	20	11	15	5	2	5	2	5	8
Total	198	259	247	309	337	354	38	31	43	41	38	38

HEPATITIS B SURFACE ANTIGEN

Since 1993, all donors in Australia and New Zealand have been negative for Hepatitis B surface antigen, excepting one donor in 2004 who was not tested.





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