



Chapter 1

Organ Donation in Australia and New Zealand



2015
ANZOD Registry
Annual Report

Data to 31-Dec-2014



Organ Donation

Actual Deceased Donors

Australian and New Zealand donor figures include all donors consented for organ and tissue donation who went to the operating theatre for the purpose of organ or tissue retrieval for transplantation. This is consistent with international reporting (World Health Organisation - Human Organ and Tissue Transplantation. http://www.who.int/ethics/topics/human_transplant/en/).

The deceased organ donors per million population (dpmp) figures in Australia dropped to 16.1 dpmp in 2014, from 16.9 dpmp in 2013. In New Zealand, the rate rose to 10.2 dpmp in 2014, from 8.1 dpmp in 2013.

In Australia, there remains variation in organ donation rates between jurisdictions (Table 1.1). In 2014, rates varied from 12.6 dpmp in New South Wales to 28.6 dpmp in the Northern Territory.

For Australia, there were 378 actual deceased organ donors in 2014. Of those donors, 370 donors had at least one organ retrieved; and 361 resulted in at least one organ transplanted.

For New Zealand, there were 46 actual deceased organ donors in 2014. Of those donors, 43 had at least one organ retrieved; and 41 resulted in at least one organ transplanted.

Table 1.1

Number of Actual Deceased Donors** by State/Country 2010 - 2014					
() Donors Per Million Population					
	2010	2011	2012	2013	2014
Queensland	49 (11.1)	67 (15)	78 (17.1)	77 (16.6)	71 (15)
New South Wales*	87 (12.6*)	77 (11*)	88 (12.4*)	102 (14.2*)	92 (12.6*)
ACT*	10 (17.4*)	8 (13.7*)	12 (20.2*)	6 (10*)	11 (18.1*)
Victoria	98 (17.9)	107 (19.3)	92 (16.3)	110 (19.2)	117 (20)
Tasmania	10 (19.7)	6 (11.7)	15 (29.3)	8 (15.6)	9 (17.5)
South Australia	31 (19)	35 (21.3)	29 (17.5)	34 (20.4)	36 (21.4)
Northern Territory	2 (8.7)	4 (17.3)	8 (33.9)	7 (28.9)	7 (28.6)
Western Australia	22 (9.6)	33 (14)	32 (13.1)	47 (18.7)	35 (13.6)
Australia	309 (14)	337 (15.1)	354 (15.6)	391 (16.9)	378 (16.1)
New Zealand	41 (9.5)	38 (8.7)	38 (8.7)	36 (8.1)	46 (10.2)

** 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 the surgery or after removal of organs.

* NSW population excludes residents of the NSW Southern Area Health Service (included in ACT population)

Population Data - June 2014 as released by ABS in December 2014 refer to methodology section of this report for detail.

Organ Donation



The variation, since 1998, in the number of actual deceased donors between Australian state and territories is shown in figure 1.1. The number actual deceased donors per million population, from 2010, is shown in Figure 1.2

Figure 1.1

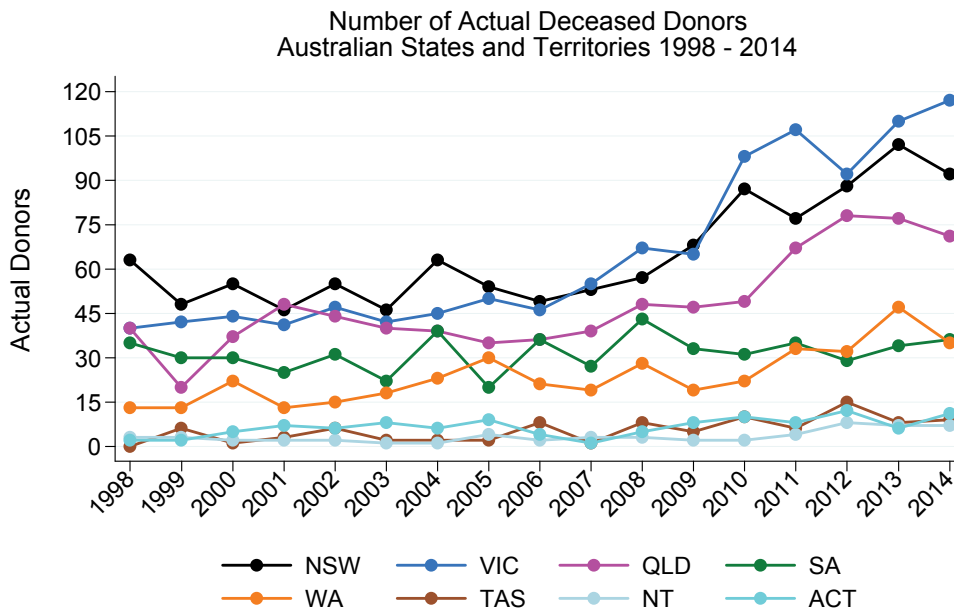
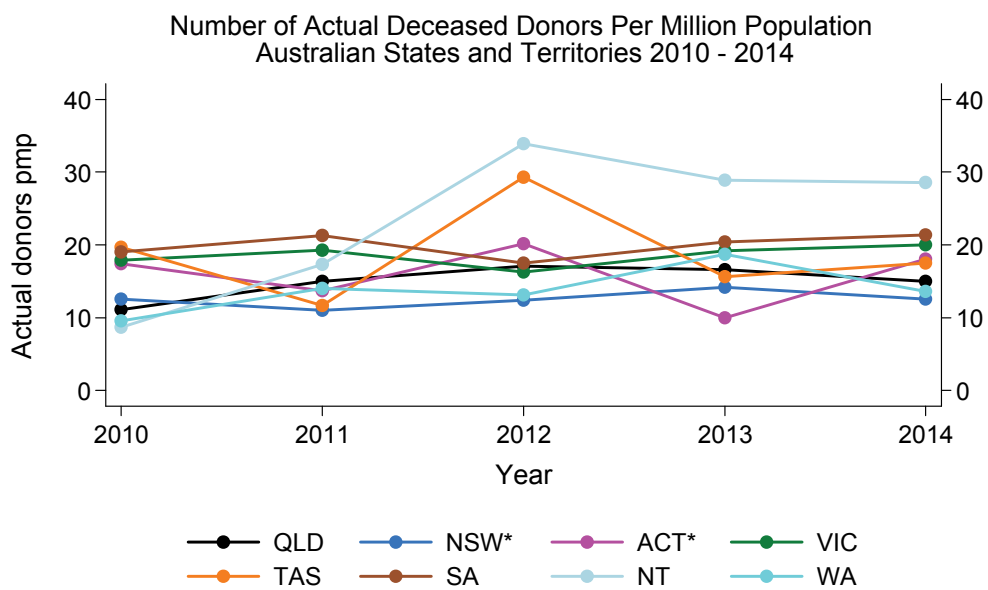


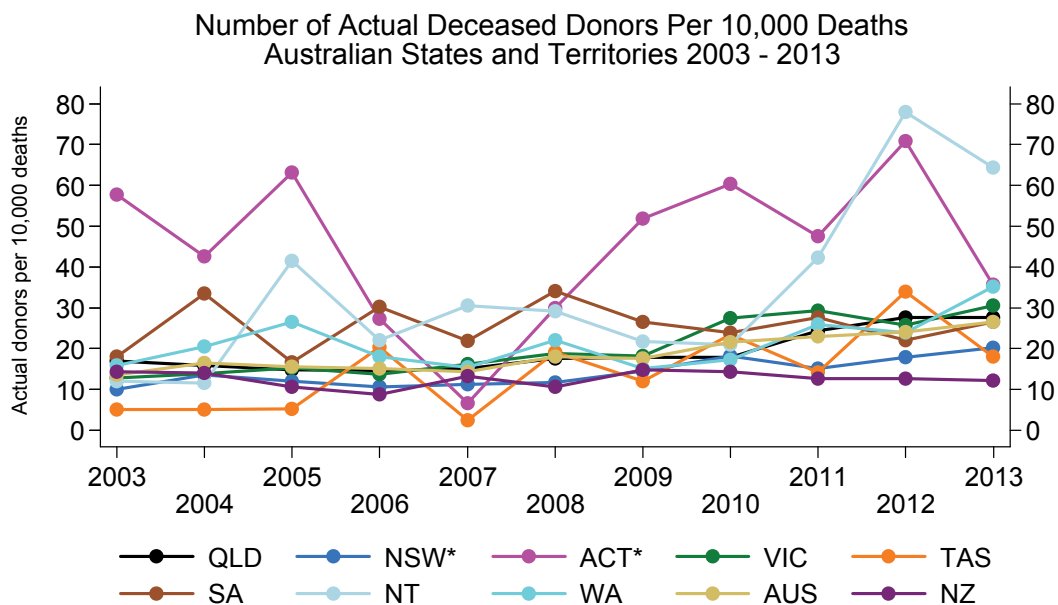
Figure 1.2



* NSW population excludes residents of the NSW Southern Area Health Service.
* ACT population includes residents of the NSW Southern Area Health Service.

There has been a steady decline in overall death rates among most ages in Australia over recent years. In many respects, using the number of deaths as the denominator to illustrate organ donation outcomes may be a more logical comparator. Rates for various jurisdictions using this metric are shown in Figure 1.3 and Table 1.2.

Figure 1.3



* NSW and ACT values are not adjusted for the NSW Southern Area Health Service, as death data were not available
 Australian data on deaths 2013 was the latest release at the time of this publication.
 Australian Bureau of Statistics - Deaths 3302.0 and Statistics New Zealand

Table 1.2

Actual Deceased Donors per 10,000 Deaths Aged < 75 Years, 2010 - 2013 () is the % Deaths < 75 years as a proportion of all deaths*										
Year	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
2009	46 (39%)	42 (34%)	134 (39%)	55 (33%)	33 (36%)	82 (32%)	28 (77%)	39 (39%)	50 (35%)	39 (38%)
2010	47 (39%)	54 (34%)	166 (36%)	86 (32%)	67 (35%)	76 (32%)	28 (75%)	45 (38%)	62 (35%)	38 (38%)
2011	65 (38%)	46 (33%)	132 (36%)	91 (32%)	40 (35%)	89 (31%)	57 (75%)	68 (38%)	67 (34%)	34 (37%)
2012	74 (37%)	54 (33%)	213 (33%)	84 (31%)	101 (34%)	73 (30%)	103 (76%)	64 (37%)	71 (34%)	34 (37%)
2013	72 (38%)	61 (33%)	92 (39%)	98 (31%)	51 (35%)	84 (32%)	89 (73%)	93 (38%)	77 (34%)	33 (37%)

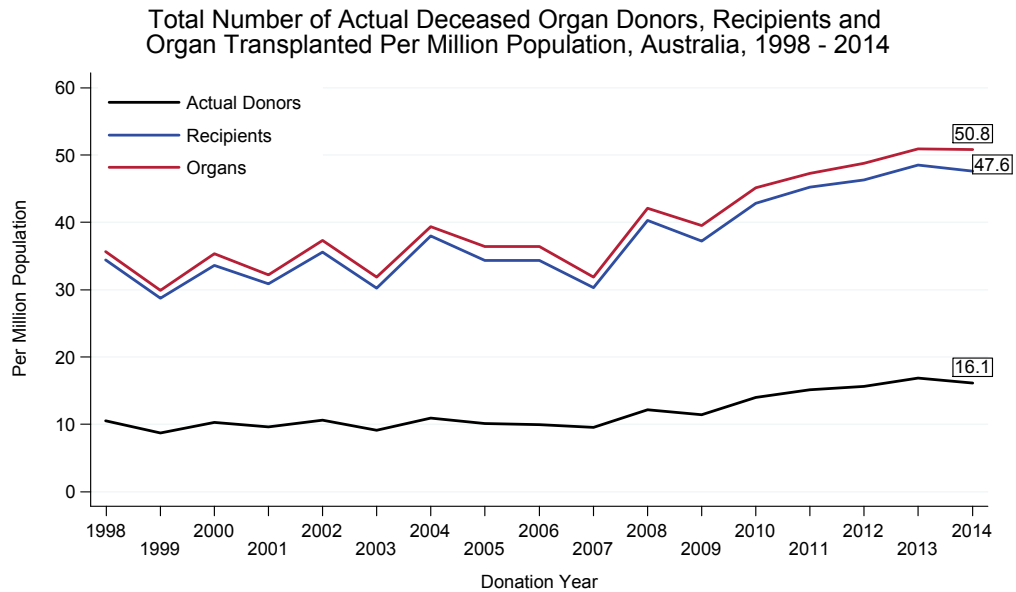
*The number of actual donors is compared to the number of deaths that are aged less than 75 years.
 Australian Bureau of Statistics - Deaths 3302.0 and Statistics New Zealand

Organ Donation



Figure 1.4 represents the number of actual deceased organ donors, transplant recipients and organ transplants as per million population over time.

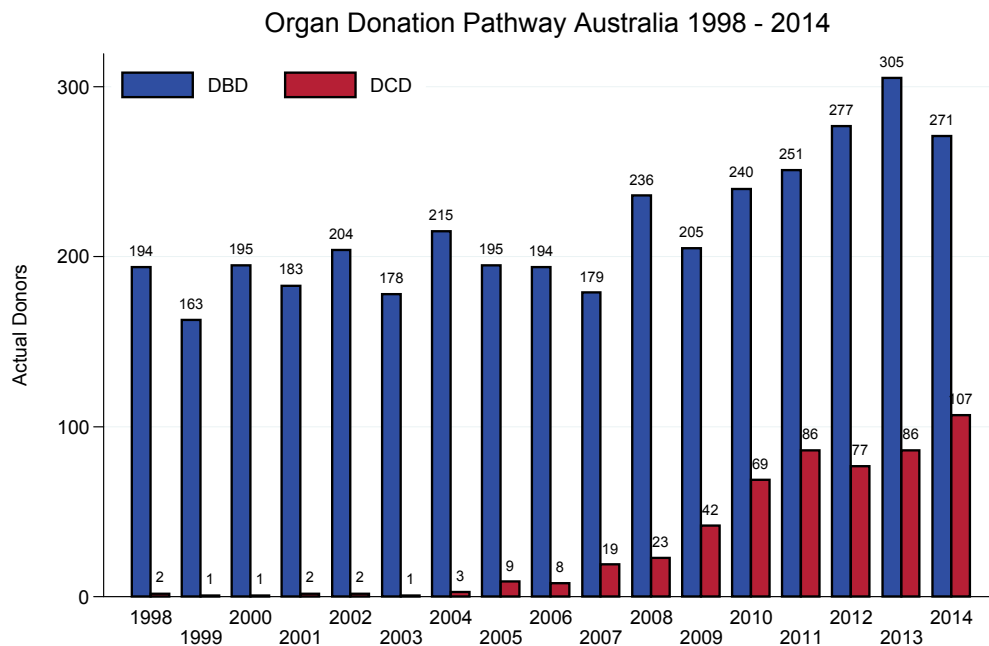
Figure 1.4



Organ Donation Pathway - Australia

Much of the increase in donor numbers has arisen from changes in rates of donors after circulatory death (DCD), demonstrated in Figure 1.5.

Figure 1.5





Organ Donation

Overview - Australia and New Zealand

Table 1.3

Australia Overview

Population (million)	23.5
Actual Deceased Organ Donors - both DBD & DCD included (pmp)	378 (16.1)
Kidney Tx Recipients from deceased donors- includes all combinations (pmp)	637 (27.1)
Liver Tx Recipients from deceased donors- includes all combinations (pmp)	237 (10.1)
Heart Tx Recipients from deceased donors- includes all combinations (pmp)	79 (3.4)
Heart-Lung Tx Recipients from deceased donors- includes all combinations (pmp)	4 (.2)
Lung Tx Recipients from deceased donors- includes all combinations (pmp)	159 (6.8)
Pancreas Tx Recipients from deceased donors- includes all combinations (pmp)	44 (1.9)
Pancreas Islet Tx Recipients from deceased donors- includes all combinations (pmp)	10 (.4)
Intestine Tx Recipients from deceased donors- includes all combinations (pmp)	1 (0)
TOTAL number of Transplanted Recipients (pmp)^	1117 (47.6)
TOTAL number of Organs Transplanted (pmp)*	1193 (50.8)
(pmp) per million population	

Table 1.4

New Zealand Overview

Population (million)	4.5
Actual Deceased Organ Donors - both DBD & DCD included (pmp)	46 (10.2)
Kidney Tx Recipients from deceased donors (pmp)	66 (14.7)
Liver Tx Recipients from deceased donors (pmp)	35 (7.8)
Heart Tx Recipients from deceased donors (pmp)	17 (3.8)
Lung Tx Recipients from deceased donors (pmp)	20 (4.5)
Pancreas Tx Recipients from deceased donors (pmp)	2 (.4)
TOTAL number of Transplanted Recipients (pmp)^	134 (29.8)
TOTAL number of Organ Transplanted (pmp)*	141 (31.4)
(pmp) per million population	

* The total number of transplanted organs differs from total number of transplant recipients as each organ, with the exception of double-lung, is counted as a single organ transplant.

^ The total number of recipients includes all combinations of multi-organ transplants as a single count of transplantation.

Note: Further information on organ transplants can be found in Chapter 5 - Organ Data.



Organ Transplants

Table 1.5

Number of Organ Transplants in 2014 by State / Country of Donation (pmp) in Australia and New Zealand										
Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
Kidney	130	154	20	202	17	61	12	63	659 (28.1)	67 (14.9)
Liver	48	50	9	64	8	29	4	25	237 (10.1)	35 (7.8)
Heart	14	11	4	31	1	9	1	8	79 (3.4)	17 (3.8)
Heart/Lung	2	1	0	1	0	0	0	0	4 (0.2)	0 (0.0)
Lung	27	34	4	53	5	18	5	13	159 (6.8)	20 (4.5)
Pancreas	4	11	5	13	2	5	0	4	44 (1.9)	2 (0.4)
Pancreas Islets	1	2	0	5	1	0	0	1	10 (0.4)	0 (0.0)
Intestine	1	0	0	0	0	0	0	0	1 (0.0)	0 (0.0)
Total	227	263	42	369	34	122	22	114	1193 (50.8)	141 (31.4)

^ includes 615 single kidneys, 17 double adult kidneys and five enbloc kidneys in Australia
 * includes 65 single kidneys, zero double adult kidneys and 1 en-bloc kidneys in New Zealand
 + includes 207 whole liver, 30 split liver and zero cut down liver in Australia
 ++ includes 21 whole liver, six spilt liver and zero cut down liver in New Zealand

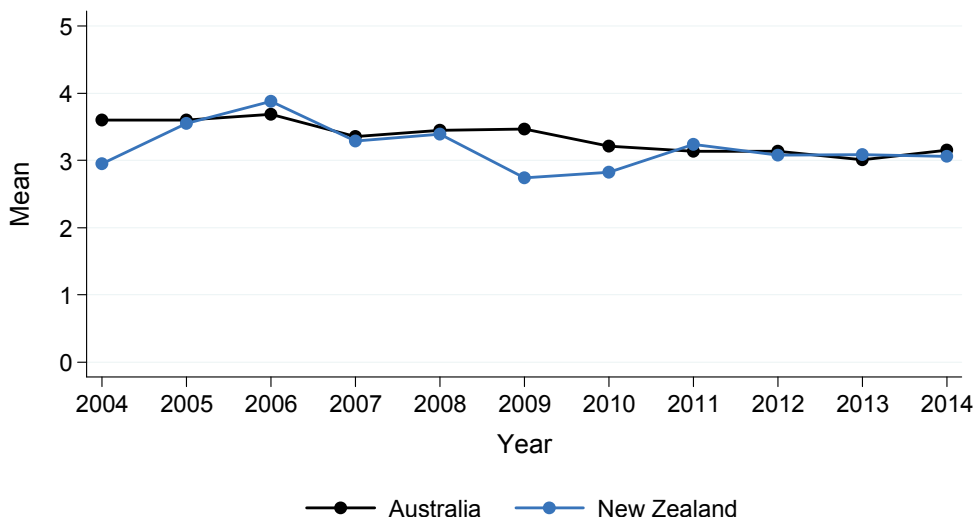
The number of organs transplanted per donor is calculated by the number of organs retrieved from actual donors for the purpose of transplantation and subsequently transplanted, divided by the number of actual donors

The number of organs transplanted per donor each year from 2004-2014 in Australia and New Zealand is shown in Figure 1.6.

The number of transplant organs per donor across Australia ranged from 3.8 organ transplants in the ACT to 2.9 in NSW.

Figure 1.6

Number of Organ Transplants per Donor 2004 - 2014





Organ Donation

Figure 1.7 shows the organ-specific transplant rates for Australia over the period 1998 - 2014 (i.e. organ transplants per million population).

Figure 1.7

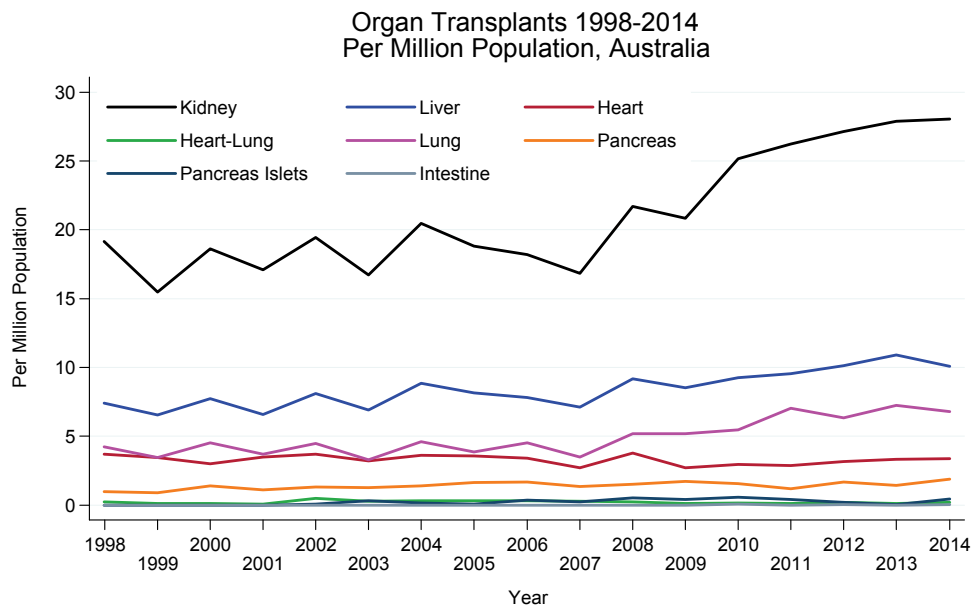
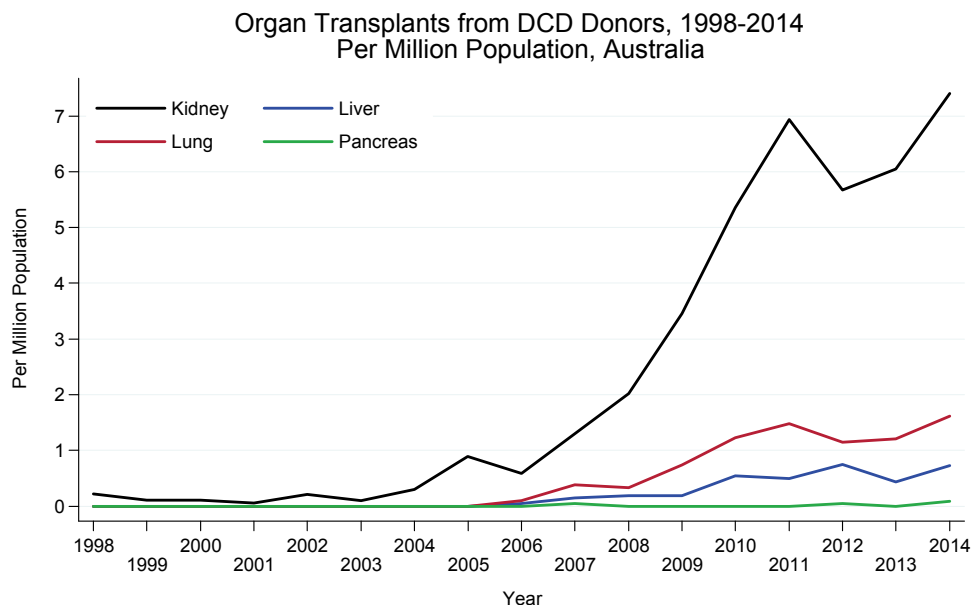


Figure 1.8 shows the corresponding rates for donation after circulatory death. Transplantation of organs from DCD has contributed to a significant increase in the rate of kidney transplantation.

Figure 1.8





Location of Deceased Donors

The number of deceased donors reported are based on the State/Territory and country location in which the donor died. Supplement 1 shows a more detailed breakdown of the number of donors by retrieval hospital.

Table 1.6 details the number and proportion of donors in Australia by remoteness category. Overseas refers to donors who usually reside outside of Australia and New Zealand. The ABS standardised remoteness structure known as the Accessibility/Remoteness Index of Australia (ARIA) is used. (<http://www.abs.gov.au/websitedbs/D3310114.nsf/home/remoteness+structure#Anchor2b>).

Table 1.6

Location of Deceased Donors 2010 - 2014									
Postcode	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST
Major Cities of Australia	186 (55%)	321 (73%)	29 (62%)	369 (71%)	1 (2%)	113 (68%)	2 (7%)	123 (73%)	1144 (65%)
Inner Regional Australia	87 (26%)	86 (20%)	15 (32%)	129 (25%)	28 (58%)	20 (12%)	1 (4%)	21 (13%)	387 (22%)
Outer Regional Australia	57 (17%)	25 (6%)	2 (4%)	22 (4%)	15 (31%)	26 (16%)	18 (64%)	10 (6%)	175 (10%)
Remote Australia	2 (1%)	3 (1%)	0 (0%)	0 (0%)	3 (6%)	3 (2%)	4 (14%)	9 (5%)	24 (1%)
Very Remote Australia	4 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1%)	2 (7%)	2 (1%)	10 (1%)
Overseas	5 (1%)	6 (1%)	1 (2%)	3 (1%)	1 (2%)	1 (1%)	1 (4%)	3 (2%)	21 (1%)
Total	341	441	47	523	48	165	28	168	1761

In the last five years (2010-2014) there have been 21 deceased donors who were visitors to Australia. In 2014, there were six donors who were visitors from overseas, two donated from Queensland and Western Australia respectively and one each from New South Wales and the Northern Territory.

There were no donors identified as overseas visitors reported in New Zealand in 2014.

The Registry does not consider organs donated in Australia and transplanted in New Zealand as an overseas donor for New Zealand, nor organs donated in New Zealand and transplanted in Australia as an overseas donor for Australia.

