

# Chapter 1

## ***Organ Donation in Australia and New Zealand***



2016  
Annual Report  
*Data to 31-Dec-2015*

## 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/](http://www.who.int/ethics/topics/human_transplant/en/)).

The deceased organ donors per million population (dpmp) figures in Australia increased to 18.3 dpmp in 2015, from 16.1 dpmp in 2014. In New Zealand, the rate rose to 11.5 dpmp in 2015, from 10.2 dpmp in 2014.

In Australia, there remains variation in organ donation rates between jurisdictions (Table 1.1). In 2015, rates varied from 15.1 dpmp in Queensland to 24.7 dpmp in the South Australia.

For Australia, there were 435 actual deceased organ donors in 2015. Of those donors, 427 donors had at least one organ retrieved; and 418 resulted in at least one organ transplanted.

For New Zealand, there were 53 actual deceased organ donors in 2014. Of those donors, 50 had at least one organ retrieved; and all 50 resulted in at least one organ transplanted.

Table1.1

Number of Actual Deceased Donors** by State/Country 2011 - 2015 ( ) Donors Per Million Population					
	2011	2012	2013	2014	2015
Queensland	67 (15)	78 (17.1)	77 (16.6)	71 (15)	72 (15.1)
New South Wales*	77 (11*)	88 (12.4*)	102 (14.2*)	92 (12.6*)	127 (17.2*)
ACT*	8 (13.7*)	12 (20.2*)	6 (10*)	11 (18.1*)	13 (21.2*)
Victoria	107 (19.3)	92 (16.3)	110 (19.2)	117 (20)	126 (21.2)
Tasmania	6 (11.7)	15 (29.3)	8 (15.6)	9 (17.5)	9 (17.4)
South Australia	35 (21.3)	29 (17.5)	34 (20.4)	36 (21.4)	42 (24.7)
Northern Territory	4 (17.3)	8 (33.9)	7 (28.9)	7 (28.7)	4 (16.4)
Western Australia	33 (14)	32 (13.1)	47 (18.7)	35 (13.7)	42 (16.2)
Australia	337 (15.1)	354 (15.6)	391 (16.9)	378 (16.1)	435 (18.3)
New Zealand	38 (8.7)	38 (8.6)	36 (8.1)	46 (10.2)	53 (11.5)

(x) refers to donors retrieved by retrieval State (i.e. Albury-NSW donors retrieved by Victoria).  
 \*NSW population excludes residents of the NSW Southern Area Health Service (included in ACT population).  
 Population Data - June 2015. Please refer to methodology section of this report for detail.  
 \*\* 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.

# ORGAN DONATION SUMMARY

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 2011, is shown in Figure 1.2

Figure 1.1

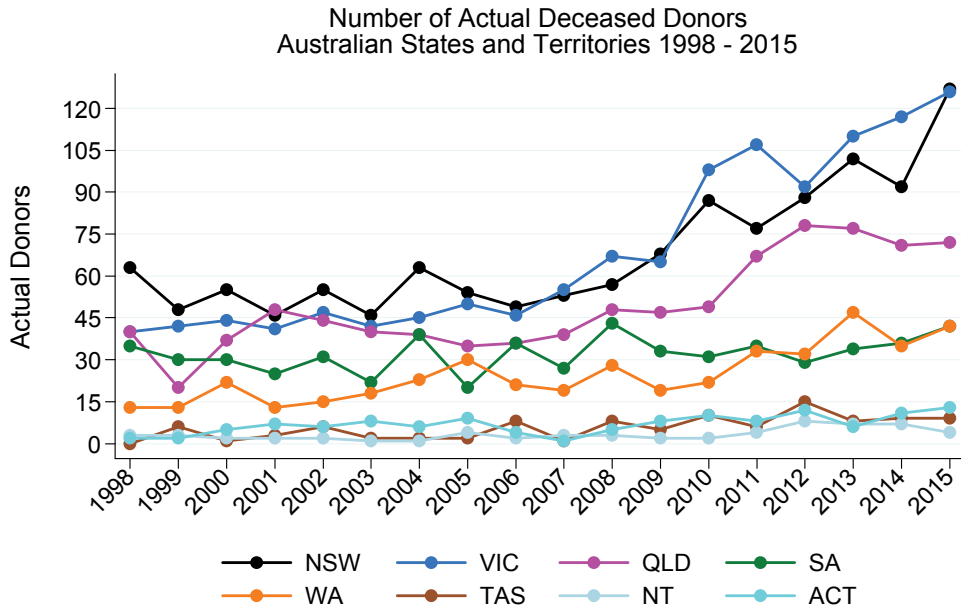
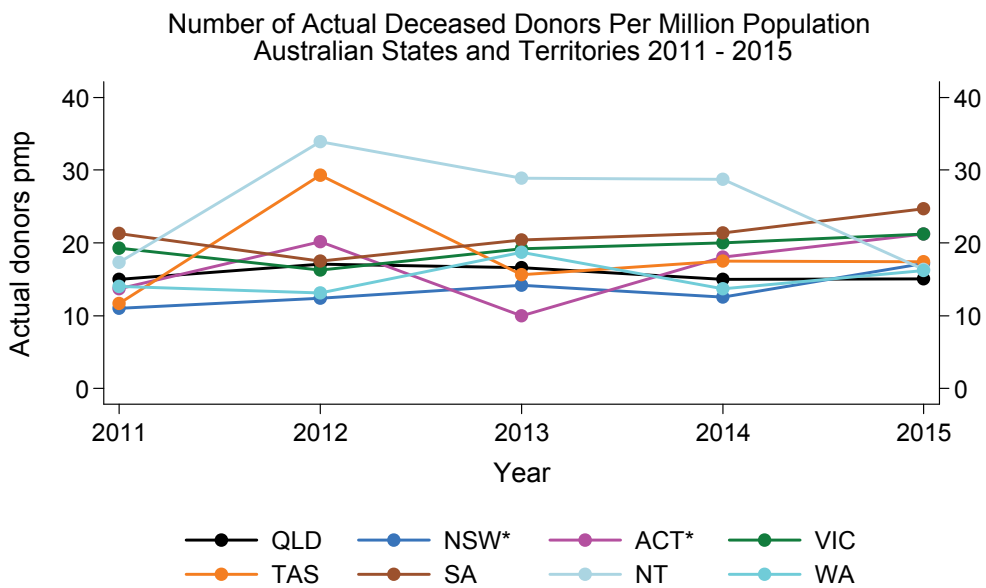


Figure 1.2



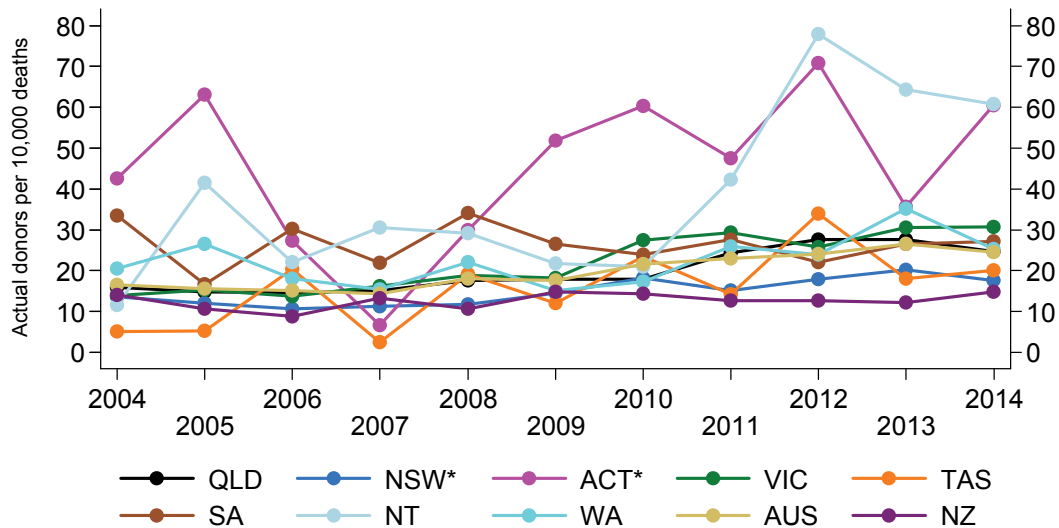
\* NSW population excludes residents of the NSW Southern Area Health Service.  
 \* ACT population includes residents of the NSW Southern Area Health Service.

# ORGAN DONATION SUMMARY

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

Number of Actual Deceased Donors Per 10,000 Deaths  
Australian States and Territories 2004 - 2014



\* NSW and ACT values are not adjusted for the NSW Southern Area Health Service, as death data were not available. Australian data on deaths 2014 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, 2011 - 2014  
( ) is the % Deaths < 75 years as a proportion of all deaths\*

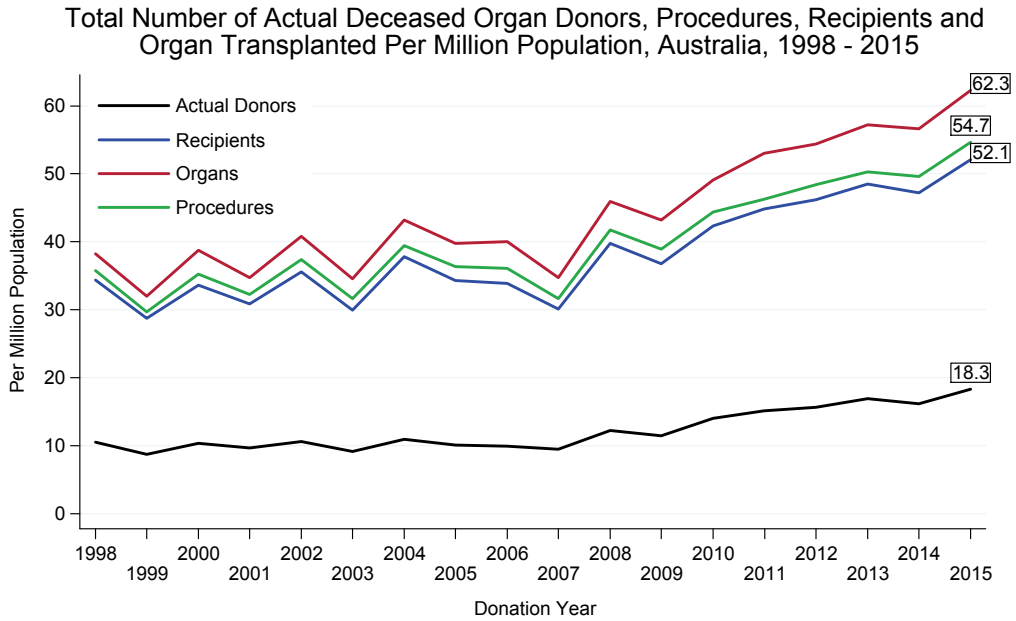
Year	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
2010	47 (39%)	54 (34%)	166 (36%)	86 (32%)	67 (35%)	76 (32%)	28 (75%)	45 (38%)	62 (35%)	38 (38%)
2011	65 (38%)	46 (33%)	132 (36%)	91 (32%)	40 (35%)	89 (31%)	57 (75%)	68 (38%)	67 (34%)	34 (37%)
2012	74 (37%)	54 (33%)	213 (33%)	84 (31%)	101 (34%)	73 (30%)	103 (76%)	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%)
2014	67 (37%)	53 (33%)	170 (36%)	95 (32%)	56 (36%)	89 (31%)	82 (74%)	67 (38%)	72 (34%)	41 (36%)

\*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. Australian data on deaths 2014 was the latest release at the time of this publication.

# ORGAN DONATION SUMMARY

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

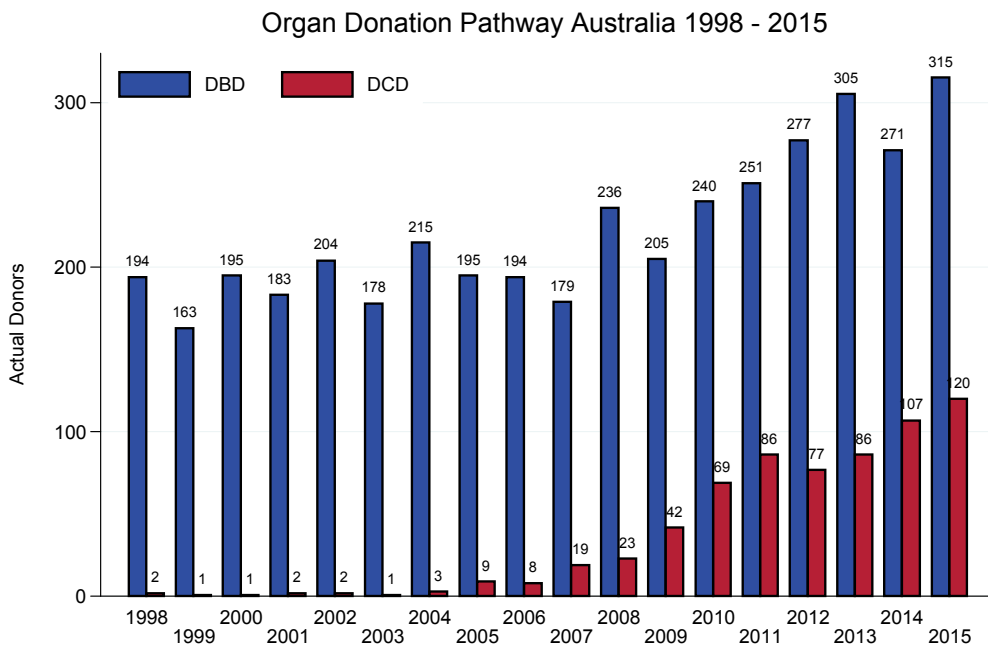
Figure 1.4



## 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



## Overview - Australia and New Zealand

**Table 1.3**

### Australia Overview

Population (million)	23.8
Actual Deceased Organ Donors - both DBD & DCD included (pmp)	435 (18.3)
Kidney Tx Recipients from deceased donors- includes all combinations (pmp)	703 (29.6)
Liver Tx Recipients from deceased donors- includes all combinations (pmp)	264 (11.1)
Heart Tx Recipients from deceased donors- includes all combinations (pmp)	95 (4)
Lung Tx Recipients from deceased donors- includes all combinations (pmp)	193 (8.1)
Pancreas Tx Recipients from deceased donors- includes all combinations (pmp)	45 (1.9)
Intestine Tx Recipients from deceased donors- includes all combinations (pmp)	1 (0)
TOTAL number of Transplanted Recipients (pmp)^	1239 (52.1)
TOTAL number of Organs Transplanted (pmp)*	1481 (62.3)
(pmp) per million population	

**Table 1.4**

### New Zealand Overview

Population (million)	4.6
Actual Deceased Organ Donors - both DBD & DCD included (pmp)	53 (11.5)
Kidney Tx Recipients from deceased donors (pmp)	73 (15.9)
Liver Tx Recipients from deceased donors (pmp)	46 (10)
Heart Tx Recipients from deceased donors (pmp)	12 (2.6)
Lung Tx Recipients from deceased donors (pmp)	25 (5.4)
Pancreas Tx Recipients from deceased donors (pmp)	3 (.7)
TOTAL number of Transplanted Recipients (pmp)^	154 (33.5)
TOTAL number of Organ Transplanted (pmp)*	179 (38.9)
(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 DONATION SUMMARY

## Organ Transplants

Table 1.5

Number of Organ Transplants in 2015 by State / Country of Donation (pmp) in Australia and New Zealand										
Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
Kidney	119	218	21	200	16	77	6	61	718 (30.2)	73 (15.9)
Liver	48	72	8	52	7	26	4	30	247 (10.4)	41 (8.9)
Heart	14	24	6	25	1	10	2	13	95 (4.0)	12 (2.6)
Lung	74	94	10	111	6	36	2	42	375 (15.8)	50 (10.9)
Pancreas	4	15	1	16	0	5	0	4	45 (1.9)	3 (0.7)
Intestine	0	0	0	1	0	0	0	0	1 (0.0)	0 (0.0)
Total	259	423	46	405	30	154	14	150	1481 (62.3)	179 (38.9)

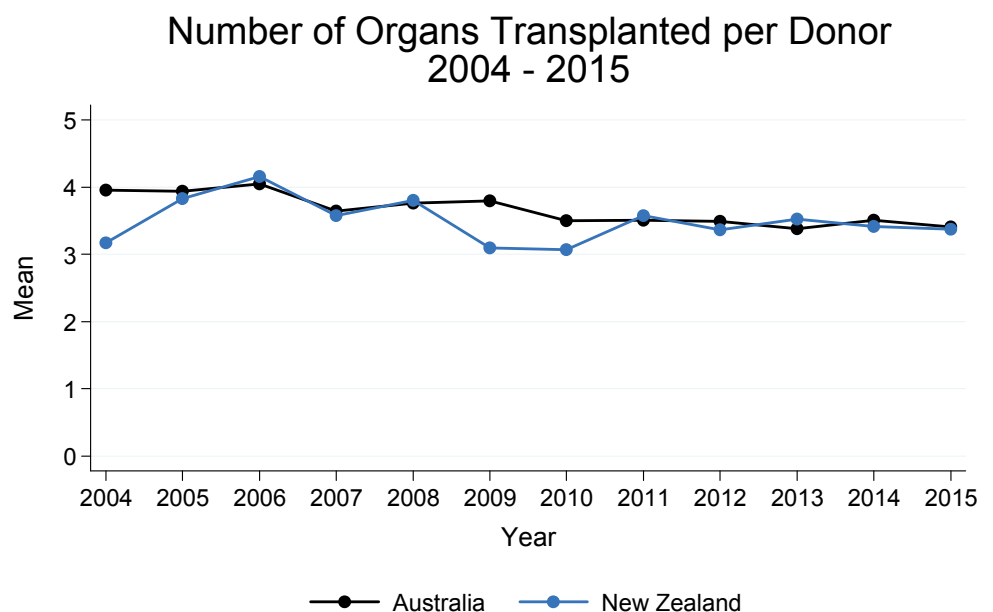
^ includes 718 single kidneys, 9 double adult kidneys and 6 enbloc kidneys in Australia  
 \* includes 73 single kidneys, zero double adult kidneys and zero en-bloc kidneys in New Zealand  
 + includes 247 whole liver, 34 split liver and 1 cut down liver in Australia  
 ++ includes 41 whole liver, 10 split 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 2004-2015 in Australia and New Zealand is shown in Figure 1.6.

The number of transplant organs per donor across Australia ranged from 3.7 organ transplants in SA to 3.2

Figure 1.6



# ORGAN DONATION SUMMARY

Figure 1.7 shows the organ-specific transplant rates for Australia over the period 1998 - 2015 (i.e. organ transplants per million population).

Figure 1.7

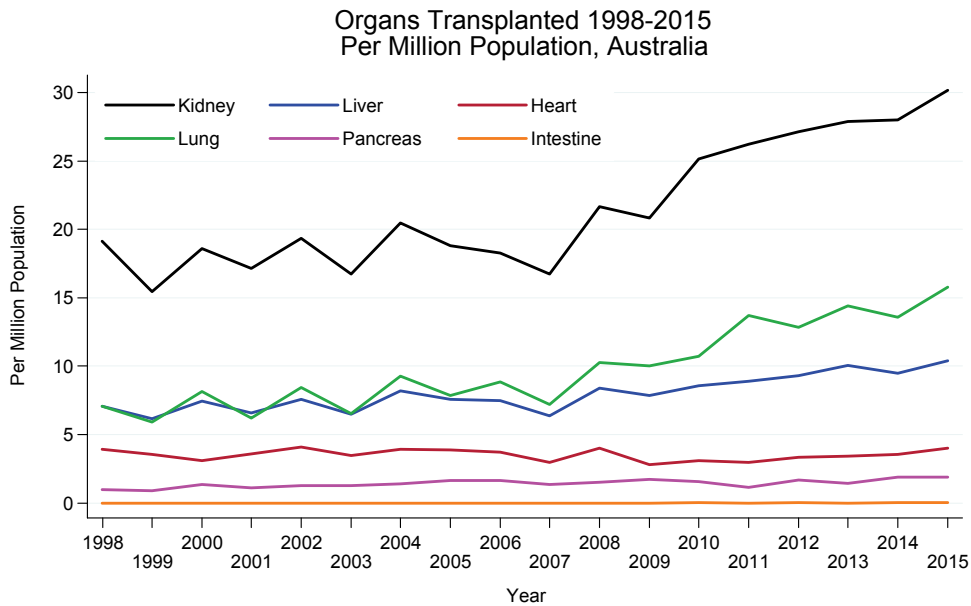
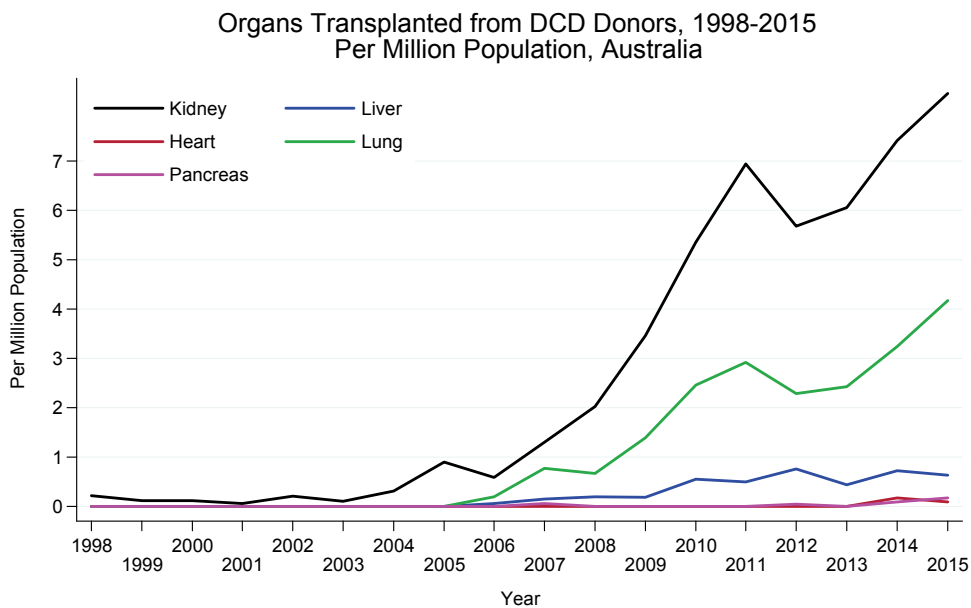


Figure 1.8 shows the corresponding rates for donation after circulatory death. Transplantation of organs from DCD has contributed to a significant increase in the rate of kidney transplantation.

Figure 1.8





# ORGAN DONATION SUMMARY

## 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 2011 - 2015									
Postcode	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST
Major Cities of Australia	200 (55%)	363 (75%)	33 (66%)	377 (69%)	0 (0%)	128 (73%)	2 (7%)	137 (73%)	1240 (66%)
Inner Regional Australia	92 (25%)	84 (17%)	14 (28%)	140 (25%)	30 (64%)	18 (10%)	1 (3%)	27 (14%)	406 (22%)
Outer Regional Australia	60 (16%)	25 (5%)	2 (4%)	27 (5%)	15 (32%)	22 (13%)	20 (67%)	12 (6%)	183 (10%)
Remote Australia	1 (<1%)	3 (1%)	0 (0%)	0 (0%)	1 (2%)	5 (3%)	4 (13%)	7 (4%)	21 (1%)
Very Remote Australia	5 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1%)	2 (7%)	2 (1%)	11 (1%)
Overseas	6 (2%)	7 (1%)	1 (2%)	6 (1%)	1 (2%)	1 (1%)	1 (3%)	3 (2%)	26 (1%)
Total	364	482	50	550	47	176	30	188	1887

In the last five years (2011-2015) there have been 26 deceased donors who were visitors to Australia. In 2015, there were twenty six donors who were visitors from overseas, seven donated from New South Wales, six from Queensland and Victoria, three from Western Australia and one each from the Australian Capital Territory, Tasmania, South Australia and the Northern Territory.

There were no donors identified as overseas visitors reported in New Zealand in 2015.

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.





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Australia and New Zealand Organ Donation Registry  
c-\ South Australia Health and Medical Research Institute (SAHMRI)  
North Terrace,  
Adelaide  
South Australia  
Australia

w: [www.anzdata.org.au](http://www.anzdata.org.au)

p: +61 8 8128 4758

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