



# SECTION 7

## Deceased Donor Heart Donation

### SUMMARY

This section summarises heart donation activity from deceased donors in 2016, compared with previous years.

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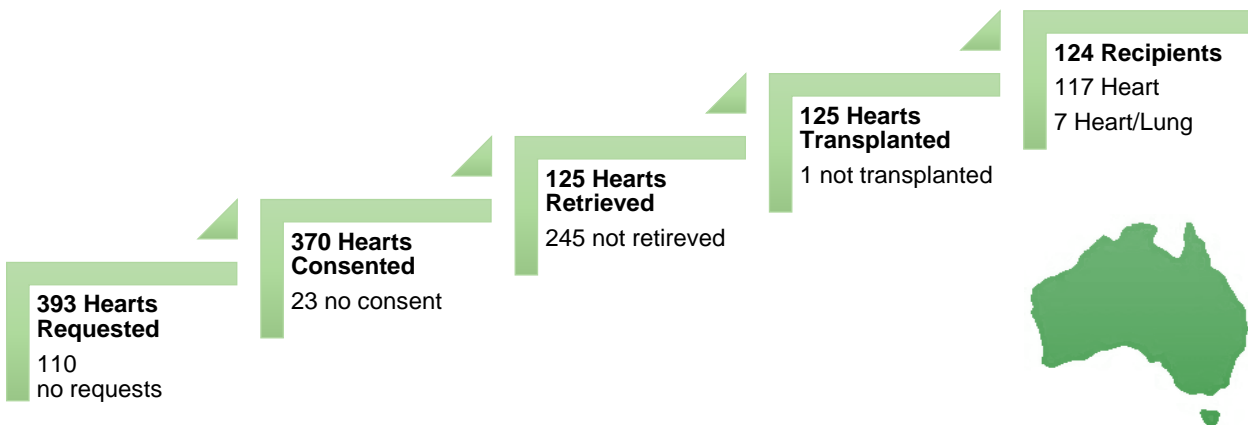
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## Heart Donation

Of the 503 deceased organ donors in 2016 in Australia, 125 (24.8%) were heart donors. From these heart donors there were 124 heart transplant recipients (5.1 pmp). This was an increase of 30.5% in the total number of heart transplants compared with 2015 (95). Of these 124 heart transplant recipients, seven received heart/double lung transplants and one received a combine heart/kidney transplant.

Figures 7.1 and 7.2 show the outcomes of requests for heart donation in Australia and New Zealand for 2016 respectively.

**Figure 7.1 Outcomes of Request for Heart Donation from Actual Donors in Australia 2016**



In New Zealand, there donors 50 donors (81.9%) who consented to heart donation. From these consented donors, 11 hearts were retrieved and transplanted in 2016. One recipient received a combine heart/liver transplant and another received a combine heart/kidney transplant.

There was an overall decrease of one in the total number of heart transplant recipients (11) in 2016 compared to the previous year. Of the 11 recipients, one received a combined heart/liver transplant and one underwent a combine heart/kidney transplant procedure. There were no heart /lung transplants in 2016.

**Figure 7.2 Outcomes of Request for Heart Donation from Actual Donors in New Zealand 2016**

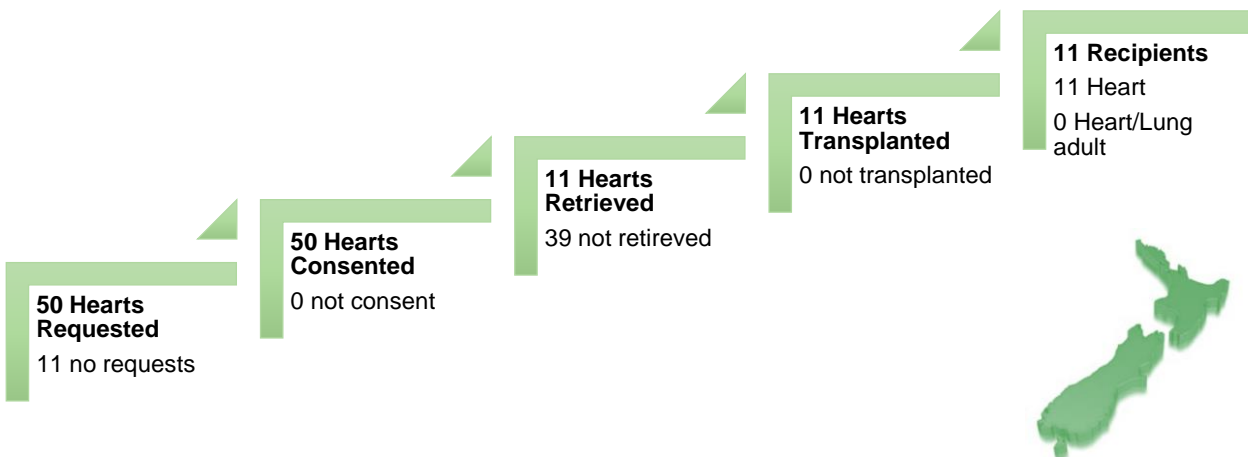
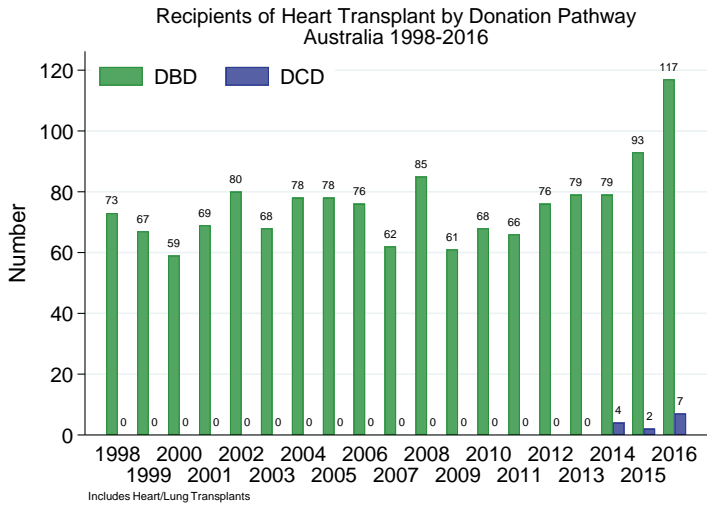
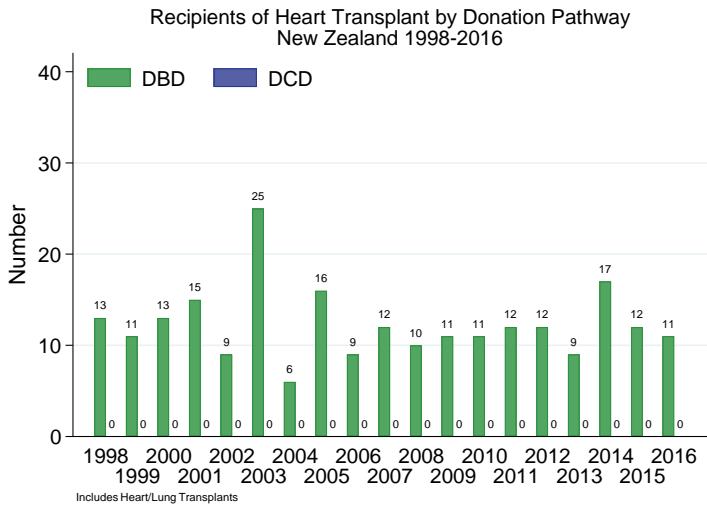


Figure 7.3 to 7.5 show the number of heart transplants by donation pathway and the number of heart recipients by jurisdiction. Figure 7.3 particularly shows an increase in DCD Hearts from 2014 to 2016, and DBD hearts from 2009 to 2016 in Australia. There were no hearts donated from DCD donors in New Zealand in 2016 (Figure 7.4)

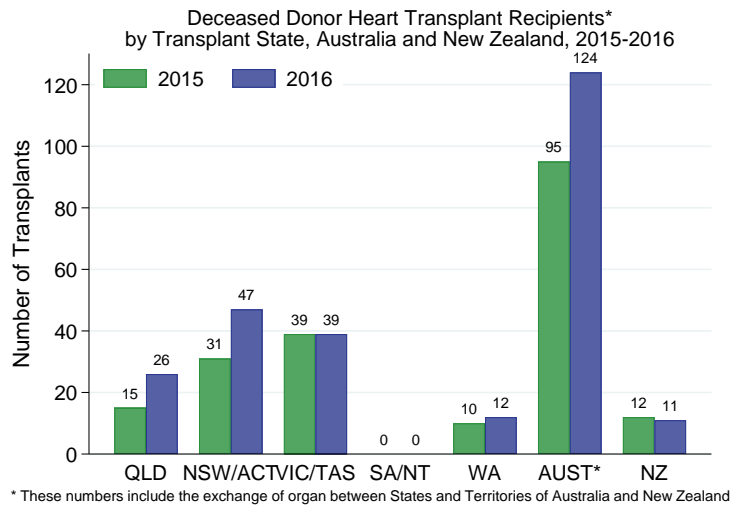
**Figure 7.3 Hearts Transplanted by Donation Pathway - Australia, 1998 - 2016**



**Figure 7.4 Hearts Transplanted by Donation Pathway - New Zealand, 1998 - 2016**



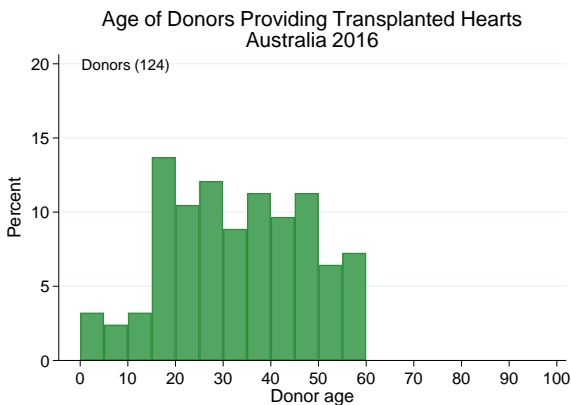
**Figure 7.5 Deceased Donor Heart Transplant Recipients by State, Australia & New Zealand, 2015 vs 2016**



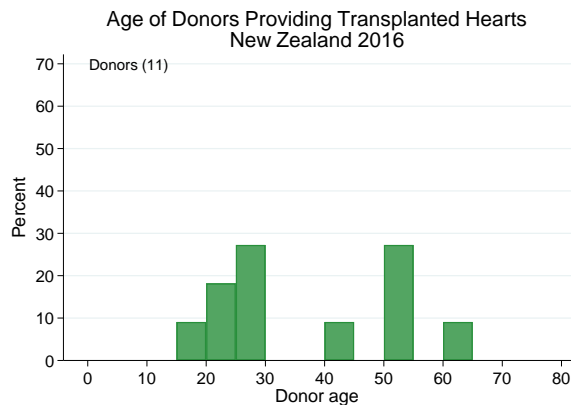
## Age of Heart Donors

The age distribution of donors providing transplanted hearts for Australia and New Zealand is shown in Figures 7.6 and 7.7 respectively.

**Figure 7.6 Age of Donors Providing Transplant Hearts, Australia, 2016**



**Figure 7.7 Age of Donors Providing Transplant Hearts, New Zealand, 2016**



## Donor Heart Function

In Australia, 97 (78%) donors with hearts retrieved had a normal ECG and 108 (86.4%) had a normal echocardiogram, prior to heart donation. In New Zealand, 10 out of the 11 heart donors had a normal ECG and normal echocardiogram.

## Hearts Not Retrieved

In 2016, there were 245 hearts not retrieved from Australian donors and 39 not retrieved from New Zealand donors.

For Australia, the main reason was due to the heart not being medically suitable (96), followed by no suitable recipient for the heart (64). In New Zealand, there were 18 non-retrieved hearts due to not being medically suitable and 2 due to donation after cardiac death.

**Table 7.1 Reasons for Heart Not Retrieved in 2016**

Reason	Australia	New Zealand
Logistics	7	0
Not Medically Suitable	96	18
Surgically Unsuitable	0	0
Trauma to Organ	2	0
No Suitable Recipients	64	13
Age of Donor	47	6
DCD Donor	13	2
Consent Withdrawn	11	0
Others	5	0
<b>Total</b>	<b>245</b>	<b>39</b>

## Hearts Retrieved and Not utilised

Table 7.3 tabulates the reasons Hearts were not used after retrieval for the purpose of transplantation since 2012.

**Table 7.2 Reasons Heart Retrieved and Not Utilised for Organ Transplantation in Australia (New Zealand), 2012 - 2016**

	Logistics	Not Medically Suitable	Not Surgically Suitable	No Suitable Recipients	Other	Total
<b>2012</b>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>2013</b>	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	1 (0)
<b>2014</b>	0 (0)	2 (0)	0 (0)	0 (0)	0 (0)	2 (0)
<b>2015</b>	1 (0)	4 (0)	0 (0)	1 (0)	1 (0)	7 (0)
<b>2016</b>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

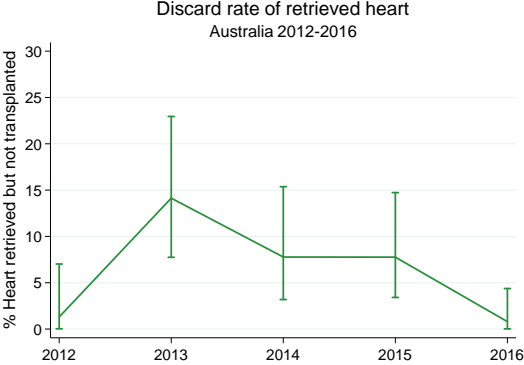
Figures 7.8 and 7.9 show the non-utilisation rate of retrieved hearts - the proportion of Hearts that were retrieved for the purpose of solid organ transplantation, but not ultimately transplanted into a recipient (either due to absence of suitable recipients, or the Heart being found to be medically or surgically unsuitable after retrieval).

In Australia, the non-utilisation rate of Hearts has decreased from 0.5% in 2011 to 7.9% in 2014. In 2015, this fell to just under 6.5%.

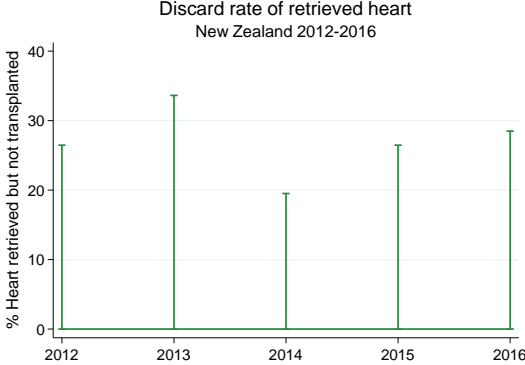
In new Zealand, all hearts retrieved for transplantation have been successfully transplanted.

**Figure 7.8 Non-Utilisation Rate of Retrieved Hearts,      Figure 7.9 Non-Utilisation Rate of Retrieved Hearts,**

**Australia, 2012-2016**



**New Zealand, 2012-2016**



## Outcome of Heart Donation

The outcome of heart donation activity in Australia and New Zealand throughout the donation pathway is shown in tables 7.3 and 7.4 respectively.

**Table 7.3 Outcome of Request for Heart Donation in Australia, 2012-2016**

	2012	2013	2014	2015	2016
<b>Total Donors</b>	<b>354</b>	<b>391</b>	<b>378</b>	<b>435</b>	<b>503</b>
No Request for Heart Donation	96	121	99	129	110
Request for Heart Donation	258	270	279	306	393
Consent Not Given	11	13	30	25	23
Consent Given	247	257	249	281	370
Heart Not Retrieved	170	165	159	178	245
Heart Retrieved	77	92	90	103	125
Heart not used	0	1	2	7	0
Heart used for Research	1	12	5	1	1
<b>Total Heart Transplanted</b>	<b>76</b>	<b>79</b>	<b>83</b>	<b>95</b>	<b>124</b>
Recipients Transplanted	76	79	83	95	124
(Heart/Lung Transplanted)	4	2	4	2	7
Heart Discard Rate	1.30%	14.13%	7.78%	7.77%	0.80%
Heart Utilised Rate	<b>98.70%</b>	<b>85.87%</b>	<b>92.22%</b>	<b>92.23%</b>	<b>99.20%</b>

**Table 7.4 Outcome of Request for Heart Donation in New Zealand, 2012-2016**

	2012	2013	2014	2015	2016
<b>Total Donors</b>	<b>38</b>	<b>36</b>	<b>46</b>	<b>53</b>	<b>61</b>
No Request for Heart Donation	8	16	17	13	11
Request for Heart Donation	30	20	29	40	50
Consent Not Given	2	1	2	1	0
Consent Given	28	19	27	39	50
Heart Not Retrieved	16	10	10	27	39
Heart Retrieved	12	9	17	12	11
Heart not used	0	0	0	0	0
Heart used for Research	0	0	0	0	0
<b>Total Heart Transplanted</b>	<b>12</b>	<b>9</b>	<b>17</b>	<b>12</b>	<b>11</b>
Recipients Transplanted	12	9	17	12	11
(Heart/Lung Transplanted)	0	0	1	0	0
Heart Discard Rate	0%	0%	0%	0%	0%
Heart Utilised Rate	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



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