



SECTION 7

Deceased Donor Heart Donation

SUMMARY

This section summarises heart donation activity from deceased donors in 2020, compared with previous years. The rate of hearts transplanted in 2020 was 5.8 pmp in Australia, and 2.6 pmp in New Zealand

Contents

Executive Summary	2
Suggested Citation	2
Age of Heart Donors.....	4
Donor Heart Function	5
Hearts Not Retrieved.....	5
Hearts Retrieved and Not Utilised for Transplantation.....	6
Outcome of Heart Donation.....	6

Executive Summary

Since its inception in 1989 in Australia and 1993 in New Zealand, the Australian and New Zealand Organ Donation Registry (ANZOD) continues to record and report on organ donation within Australia and New Zealand.

Data related to organ donation and transplantation activity is essential in identifying opportunities for improving the care of donors, informing on the quality of transplant organs and transplant recipient outcomes.

One organ donor can benefit a number of recipients suffering from end stage organ disease. One donor could donate up to 9 organs including, kidneys (left and right), liver (split left and right), heart, lungs (left and right), pancreas and intestine, improving the lives of people wait listed for an organ transplant.

Of importance for this reporting period was the emergence of COVID-19 that spread across the world, with the first reported case in Australia on 25th January 2020. Rapid evolution of the pandemic saw precautionary steps taken by the transplant sector which effected the organ donation programs in Australia and New Zealand. During the peak emergence of COVID-19 (late-March through to mid-May 2020) the COVID-19 National Transplantation and Donation Rapid Response Taskforce was established, comprised of members from the Transplantation Society of Australia and New Zealand (TSANZ) and Organ Tissue Authority (OTA). Recommendations from the Taskforce saw transplant programs for kidney, pancreas and islets transplants suspended and restrictions placed on liver, heart, lung, pediatric and multi-organ transplant programs to consider only recipients likely to die within four months if not transplanted. This was subject to case-by-case review of donor-recipient characteristics at a unit level. Limitations on movement of organs between states was also observed during this period due to challenges faced including border closures, flight restrictions and COVID-19 restrictions.

Consideration of the effect of the COVID-19 pandemic should be given when analysing the data included in this chapter.

Suggested Citation

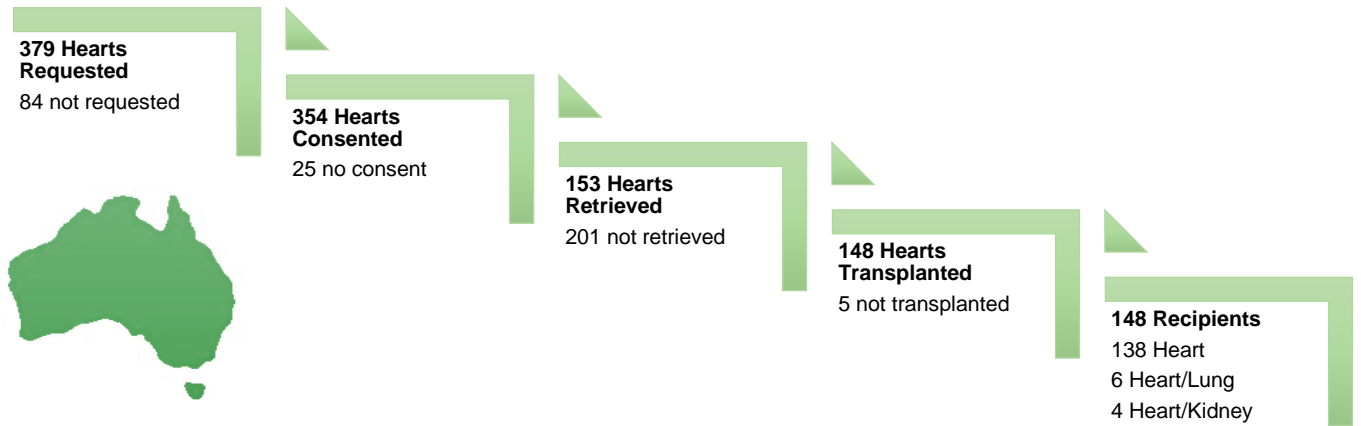
ANZOD Registry. 2021 Annual Report, Section 7: Deceased Donor Heart Donation. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2021. Available at: www.anzdata.org.au

Heart Donation

Of the 463 deceased organ donors in 2020 in Australia, 153 (33.0%) had their heart retrieved. From these heart donors there were 148 heart transplant recipients (5.8 pmp). Of these 148 heart transplant recipients, 6 received heart/double lung transplants and 4 received a combined heart/kidney transplant.

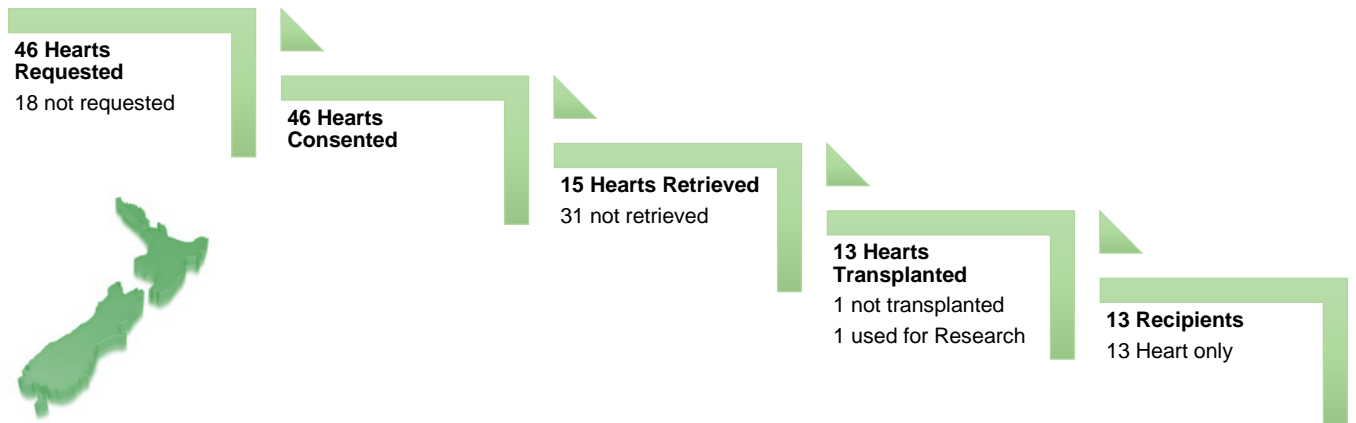
Figure 7.1.1 shows the outcomes of requests for heart donation in Australia for 2020.

Figure 7.1.1 Outcomes of Request for Heart Donation from Actual Donors in Australia 2020



In New Zealand, there were 46 donors (71.9%) who consented to heart donation in 2020. From these consented donors, 15 hearts were retrieved and 13 recipients received a heart transplant (2.6 pmp). This was a decrease of 23.5% in the total number of heart transplants compared with 2019 (17). There were no transplants of hearts combined with other organs in 2020.

Figure 7.1.2 Outcomes of Request for Heart Donation from Actual Donors in New Zealand 2019



Figures 7.2 and 7.3 show the number of hearts transplanted by donation pathway and the number of heart recipients by jurisdiction.

Figure 7.2.1 - Hearts Transplanted by Donation Pathway Australia 1998–2020

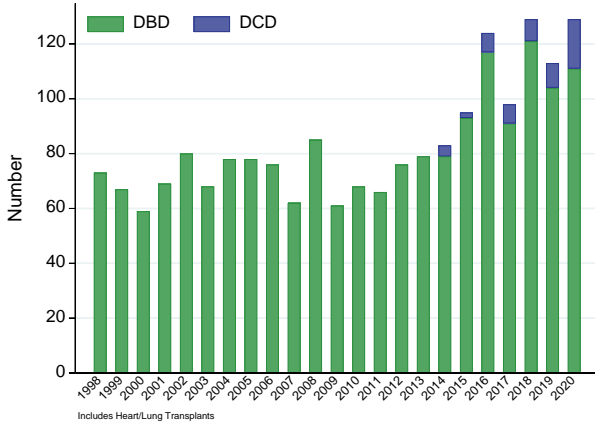


Figure 7.2.2 - Hearts Transplanted by Donation Pathway New Zealand 1998–2020

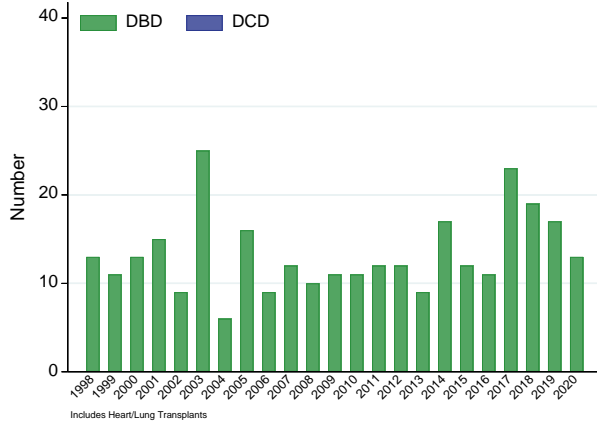
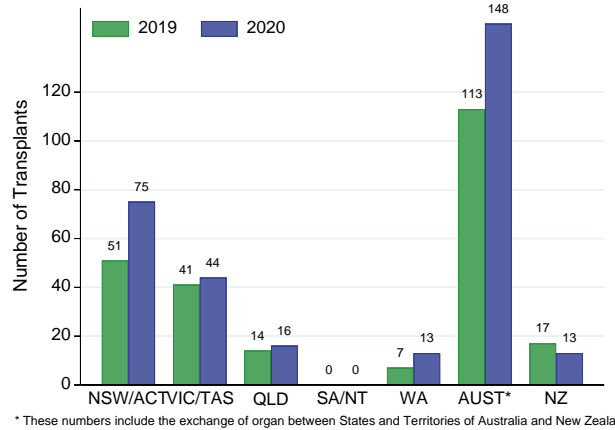


Figure 7.3 - Deceased Donor Heart Transplant Recipients* by Transplant State, Australia and New Zealand, 2019–2020



Age of Heart Donors

The age distribution of donors providing retrieved hearts for Australia and New Zealand is shown in Figure 7.4.

Figure 7.4.1 - Age of Donors Providing Retrieved Hearts Australia 2020

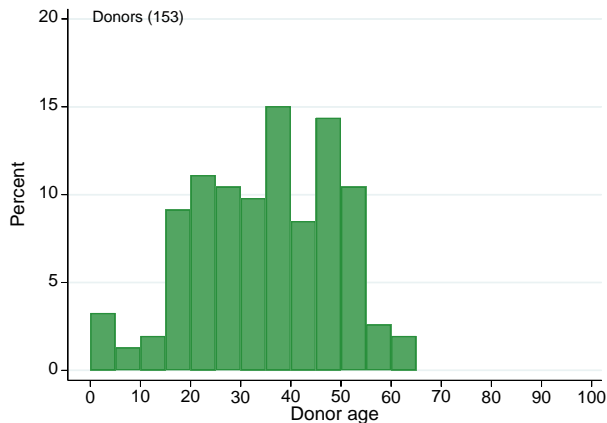
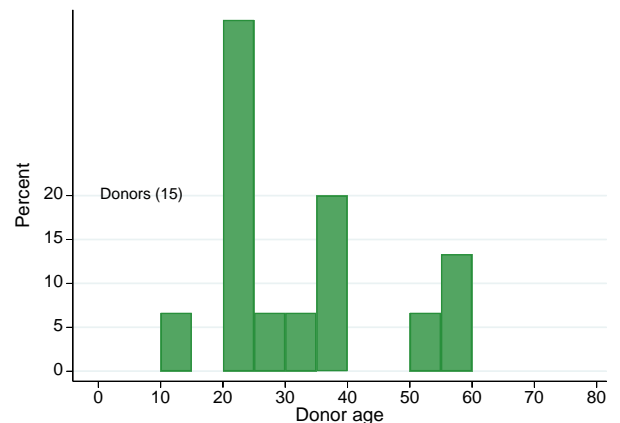


Figure 7.4.2 - Age of Donors Providing Retrieved Hearts New Zealand 2020



Donor Heart Function

In Australia, 110 (71.9%) donors with hearts retrieved had a normal ECG and 129 (84.3%) had a normal echocardiogram, prior to heart donation. In New Zealand, 14 out of the 15 heart donors had a normal ECG and 13 had a normal echocardiogram.

Hearts Not Retrieved

The reasons why a heart was not retrieved for organ transplantation are presented in Table 7.1.

Table 7.1 Reasons for Heart Not Retrieved 2020

Reason	Australia	New Zealand
Logistics	1	0
Not Medically Suitable	56	15
Surgically Unsuitable	1	0
Trauma to Organ	2	0
No Suitable Recipients	74	7
Age of Donor	45	6
DCD Donor	10	2
Consent Withdrawn	12	1
Others	0	0
Total	201	31

Figure 7.5 shows 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. This could be due to an absence of suitable recipients, or the heart being found to be medically or surgically unsuitable after retrieval.

Note: Organ donation for the purpose of research is excluded when calculating a specific organ's non-utilisation rate for transplantation.

Figure 7.5.1 - Non-utilisation Rate of Retrieved Heart - Australia 2016–2020

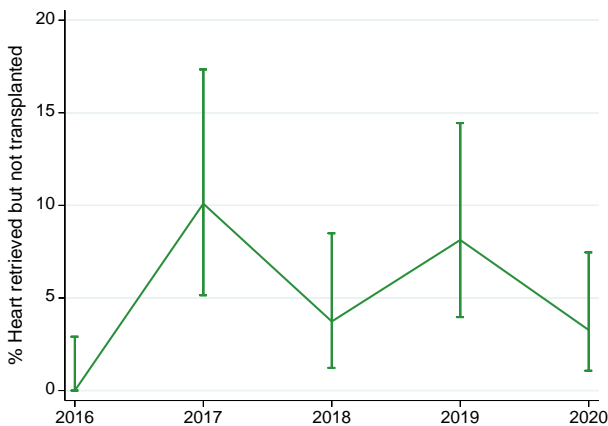
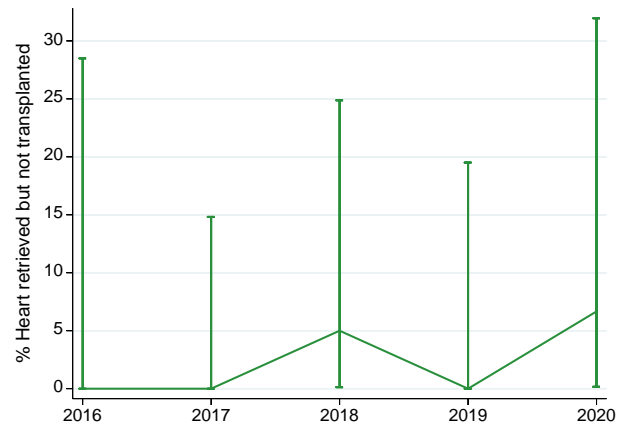


Figure 7.5.2 - Non-utilisation Rate of Retrieved Heart - New Zealand 2016–2020



In Australia, the non-utilisation rate of hearts retrieved for transplantation was 3.3% in 2020 and in New Zealand, the non-utilisation rate was 6.7% in 2020.

Hearts Retrieved and Not Utilised for Transplantation

Table 7.2 tabulates the reasons hearts were not used for transplantation after retrieval for that purpose since 2016.

Table 7.2 Reasons Heart Retrieved & Not Utilised for Transplantation, Australia (New Zealand) 2016–2020

Reason	2016	2017	2018	2019	2020
Logistics	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)
Not Medically Suitable	0 (0)	8 (0)	4 (0)	9 (0)	3 (1)
Not Surgically Suitable	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Trauma to Organ	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
No Suitable Recipients	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Recipient Issue	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Other	0 (0)	3 (0)	0 (0)	1 (0)	2 (0)
Total	0 (0)	11 (0)	5 (1)	10 (0)	5 (1)

Outcome of Heart Donation

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

Table 7.3.1 Outcome of Request for Heart Donation in Australia, 2016–2020

Outcome of Request	2016	2017	2018	2019	2020
Total Donors	503	510	554	548	463
Heart Requested for Donation	393	387	421	398	379
Heart Not Requested for Donation	110	123	133	150	84
Heart with Consent Given	370	358	390	367	354
Heart with Consent Not Given	23	29	31	31	25
Heart Retrieved	125	109	134	123	153
Heart Not Retrieved	245	249	256	244	201
Heart Transplanted	124	98	129	113	148
Heart Not Used	0	11	5	10	5
Heart Retrieved for Research and Not for Transplantation	1	0	0	0	0
Recipients Transplanted	124	98	129	113	148
Heart/Double Lung Procedures	7	5	7	3	6
Heart Non-Utilisation Rate	0.0%	10.1%	3.7%	8.1%	3.3%
Heart Utilisation Rate	99.2%	89.9%	96.3%	91.9%	96.7%

Table 7.3.2 Outcome of Request for Heart Donation in New Zealand, 2016–2020

Outcome of Request	2016	2017	2018	2019	2020
Total Donors	61	73	62	74	64
Heart Requested for Donation	50	49	42	49	46
Heart Not Requested for Donation	11	24	20	25	18
Heart with Consent Given	50	49	41	49	46
Heart with Consent Not Given	0	0	1	0	0
Heart Retrieved	11	23	20	17	15
Heart Not Retrieved	39	26	21	32	31
Heart Transplanted	11	23	19	17	13
Heart Not Used	0	0	1	0	1
Heart Retrieved for Research and Not for Transplantation	0	0	0	0	1
Recipients Transplanted	11	23	19	17	13
Heart Non-Utilisation Rate	0.0%	0.0%	5.0%	0.0%	6.7%
Heart Utilisation Rate	100.0%	100.0%	95.0%	100.0%	86.7%