



SECTION 7

Deceased Donor Heart Donation

SUMMARY

This section summarises heart donation activity from deceased donors in 2022, compared with previous years. The rate of hearts transplanted in 2021 was 4.5 pmp in Australia, and 3.1 pmp in New Zealand

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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 nine 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.

The impact of the COVID-19 pandemic continued to be felt across the health sector in 2022, causing a decrease in organ and tissue donation activity across the last 3 years. However, a small increase in organ donors and the number of people receiving transplants in 2022 points to early signs of recovery from the impacts of COVID-19.

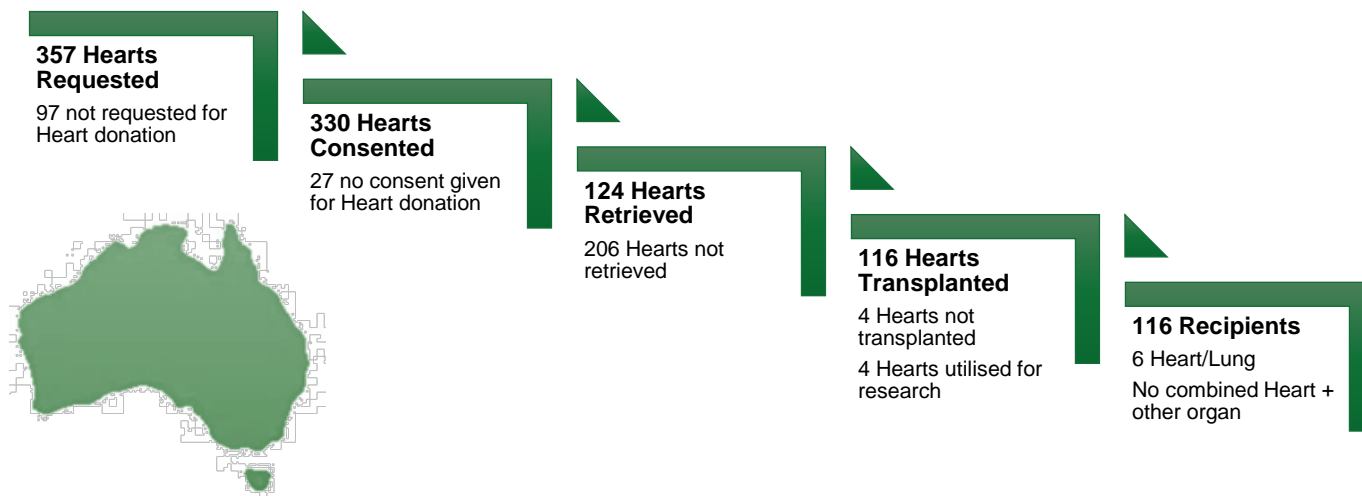
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Heart Donation

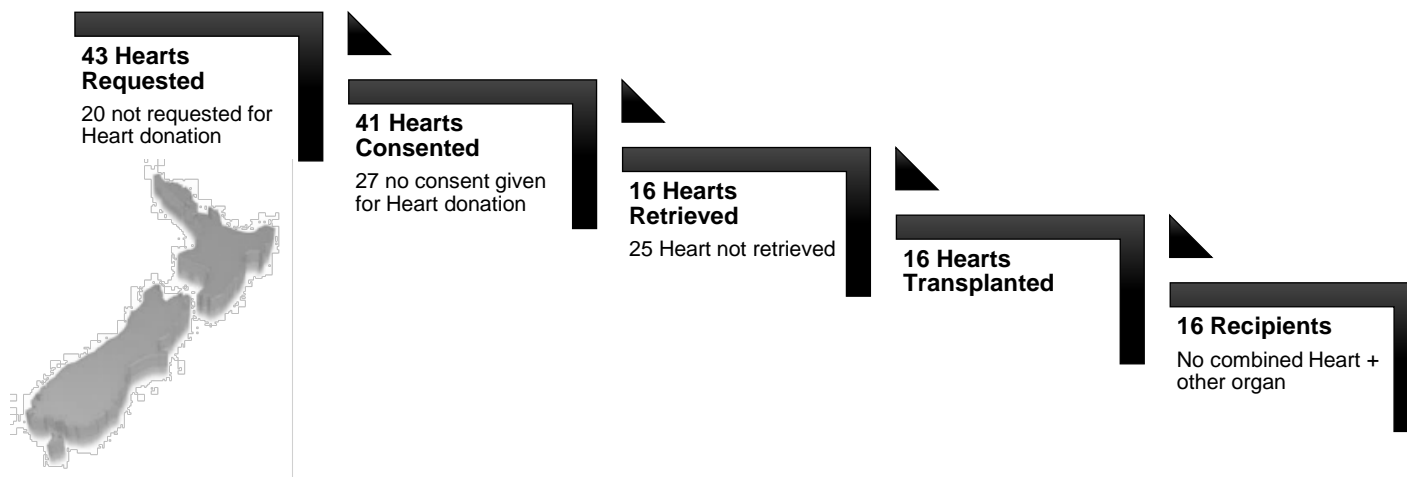
Of the 454 deceased organ donors in 2022 in Australia, 124 (27.3%) had hearts retrieved. From these heart donors, there were 116 heart transplant recipients (4.5 pmp). Of these 116 heart transplant recipients, 6 received heart/double lung transplants. Figure 7.1.1 shows the outcomes of requests for heart donation in Australia for 2022

Table 7.1.1 Outcomes of Request for Heart Donation from Actual Donors Australia 2022



In New Zealand, there were 41 donors (65.1%) who consented to heart donation. From these consented donors, 16 hearts were retrieved and 16 recipients received a heart transplant in 2022 (3.1 pmp). This was an increase of 14.3% in the total number of heart transplants compared with 2021 (14). Figure 7.1.2 shows the outcomes of requests for heart donation in New Zealand for 2022.

Table 7.1.2 Outcomes of Request for Heart Donation from Actual Donors New Zealand 2022



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 1998–2022

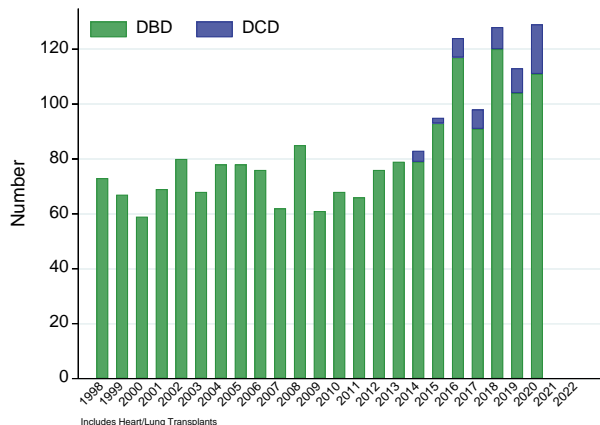


Figure 7.2.2 - Hearts Transplanted by Donation Pathway New Zealand 1998–2022

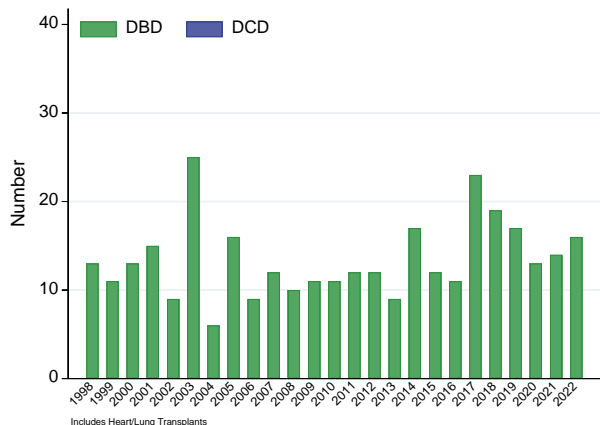
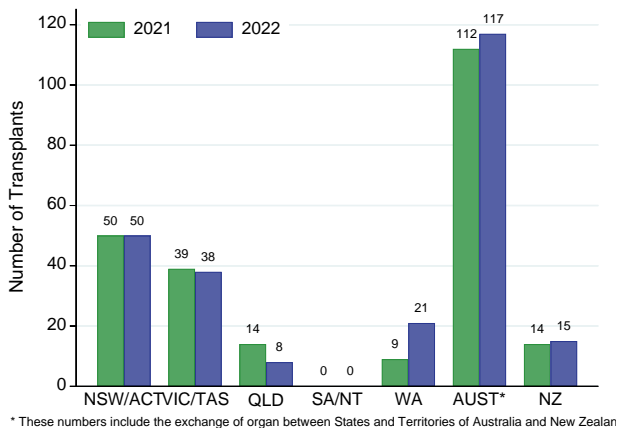


Figure 7.3 - Deceased Donor Heart Transplant Recipients* by Transplant State, Australia and New Zealand, 2021–2022



Age of Heart Donors

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

Figure 7.4.1 - Age of Donors Providing Retrieved Hearts Australia 2022

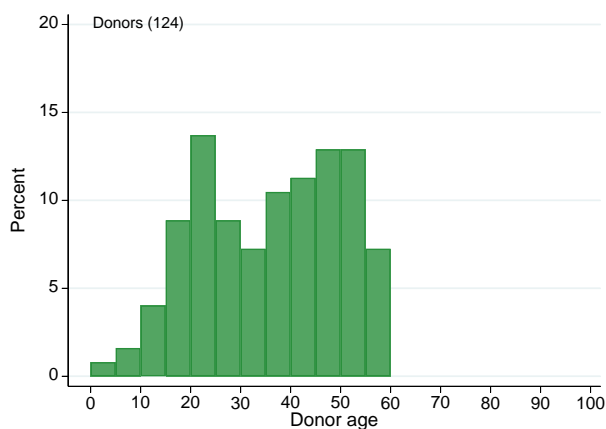
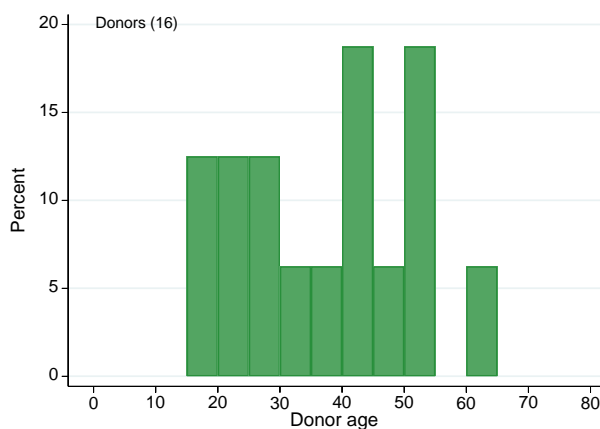


Figure 7.4.2 - Age of Donors Providing Retrieved Hearts New Zealand 2022



Donor Heart Function

In Australia, 90 (74.4%) donors with hearts retrieved had a normal ECG and 98 (81.0%) had a normal echocardiogram, prior to heart donation. In New Zealand, 16 out of the 16 heart donors had a normal ECG and 15 had a normal echocardiogram.

Hearts Not Retrieved

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

Table 7.1 Reasons for Heart Not Retrieved 2022

Reason	Australia	New Zealand
Intraoperative assessment	3	1
Post WCRS did not die in timeframe	0	0
Cardiac arrest prior to WCRS/X- Clamp	0	0
Surgical retrieval injury	0	0
Declined in offer process	121	17
Organ not offered - pathway	7	2
Organ not offered - age of donor	30	2
Organ not offered - not medically suitable	32	3
No consent from Coroner	13	0
Family withdrew consent	0	0
Total	206	25

Hearts Retrieved and Not Utilised for Transplantation

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 (either due to an absence of suitable recipients, or the heart being found to be medically or surgically unsuitable after retrieval). Organ donation for the purpose of research is excluded when calculating a specific organ's non-utilisation rate for transplantation.

In Australia, the non-utilisation rate of hearts was 3.3% in 2022. In New Zealand, the non-utilisation rate of hearts was 0.0% in 2022.

Figure 7.5.1 - Non-utilisation Rate of Retrieved Heart - Australia 2018–2022

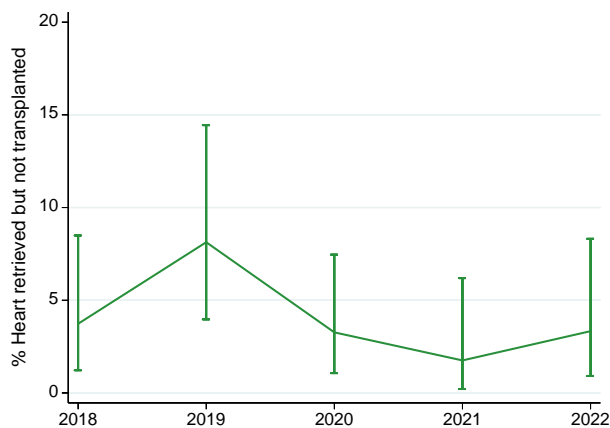


Figure 7.5.2 - Non-utilisation Rate of Retrieved Heart - New Zealand 2018–2022

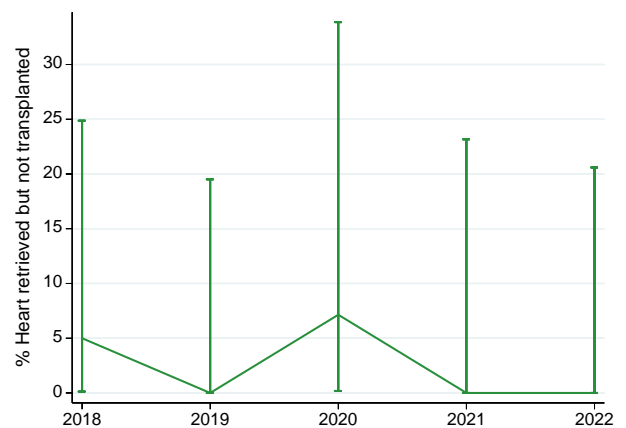


Table 7.2 tabulates the reasons hearts were not used for transplantation after retrieval for that purpose since 2021.

Table 7.2 Reasons Heart Retrieved & Not Utilised for Transplantation, 2021 – 2022

Country	Reason	2021	2022
Australia	Intraoperative assessment	0	2
	Assessment at transplant unit	1	2
	Surgical retrieval injury	0	0
	Other	1	0
	Total	2	4
New Zealand	Intraoperative assessment	0	0
	Assessment at transplant unit	0	0
	Surgical retrieval injury	0	0
	Other	0	0
	Total	0	0

Outcome of Heart Donation

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

Table 7.3.1 Outcome of Request for Heart Donation in Australia, 2018–2022

Outcome of Request	2018	2019	2020	2021	2022
Total Donors	554	548	463	421	454
Heart Requested for Donation	421	398	379	345	357
Heart Not Requested for Donation	133	150	84	76	97
Heart with Consent Given	390	367	354	325	330
Heart with Consent Not Given	31	31	25	20	27
Heart Retrieved	134	123	153	117	124
Heart Not Retrieved	256	244	201	208	206
Heart Transplanted	129	113	148	112	116
Heart Not Used	5	10	5	2	4
Heart Retrieved for Research*	0	0	0	3	4
Recipients Transplanted	129	113	148	112	116
Heart/Double Lung Procedures	7	3	6	4	6
Heart Non-Utilisation Rate	3.7%	8.1%	3.3%	1.8%	3.3%
Heart Utilisation Rate	96.3%	91.9%	96.7%	98.2%	96.7%

*Use for research primary intention of retrieval

Table 7.3.2 Outcome of Request for Heart Donation in New Zealand, 2018–2022

Outcome of Request	2018	2019	2020	2021	2022
Total Donors	62	74	64	66	63
Heart Requested for Donation	42	49	46	41	43
Heart Not Requested for Donation	20	25	18	25	20
Heart with Consent Given	41	49	46	41	41
Heart with Consent Not Given	1	0	0	0	2
Heart Retrieved	20	17	15	14	16
Heart Not Retrieved	21	32	31	27	25
Heart Transplanted	19	17	13	14	16
Heart Not Used	1	0	1	0	0
Heart Retrieved for Research*	0	0	1	0	0
Recipients Transplanted	19	17	13	14	16
Heart Non-Utilisation Rate	5.0%	0.0%	7.1%	0.0%	0.0%
Heart Utilisation Rate	95.0%	100.0%	92.9%	100.0%	100.0%

**Use for research primary intention of retrieval*