



SECTION 4

Deceased Organ Donor Profile

SUMMARY

This section provides a detailed description of organ donor demographic characteristics, including gender, age, ethnicity, and religion. This data also describes pre-existing medical conditions and virology screening assessed prior to deceased organ donation

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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.

Suggested Citation

ANZOD Registry. 2023 Annual Report, Section 4: Deceased Organ Donor Profile. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2023. Available at: www.anzdata.org.au

Donor Demographics

Table 4.1 contains a description of actual donors in Australia and New Zealand in 2022 and 2021. In Australia there continues to be more male than female donors. In both countries, there is a preponderance of blood groups O and A.

Table 4.1.1 Demography of Actual Deceased Donors in Australia 2021 – 2022

Australian Donors	2021			2022		
	DBD	DCD	Total	DBD	DCD	Total
Gender						
Male	147 (49%)	78 (63%)	225 (53%)	189 (56%)	82 (70%)	271 (60%)
Female	150 (51%)	46 (37%)	196 (47%)	148 (44%)	35 (30%)	183 (40%)
Age						
0–4	6 (2%)	2 (2%)	8 (2%)	2 (1%)	1 (1%)	3 (1%)
5–14	8 (3%)	2 (2%)	10 (2%)	17 (5%)	7 (6%)	24 (5%)
15–24	30 (10%)	15 (12%)	45 (11%)	35 (10%)	4 (3%)	39 (9%)
25–34	42 (14%)	13 (10%)	55 (13%)	32 (9%)	11 (9%)	43 (9%)
35–44	38 (13%)	12 (10%)	50 (12%)	50 (15%)	16 (14%)	66 (15%)
45–54	63 (21%)	28 (23%)	91 (22%)	83 (25%)	26 (22%)	109 (24%)
55–64	68 (23%)	41 (33%)	109 (26%)	69 (20%)	32 (27%)	101 (22%)
65–74	34 (11%)	10 (8%)	44 (10%)	41 (12%)	20 (17%)	61 (13%)
75+	8 (3%)	1 (1%)	9 (2%)	8 (2%)	-	8 (2%)
BMI (kg/m2)						
Underweight (<18.5)	21 (7%)	9 (7%)	30 (7%)	22 (7%)	7 (6%)	29 (6%)
Normal (18.5–<25)	89 (30%)	43 (35%)	132 (31%)	110 (33%)	34 (29%)	144 (32%)
Overweight (25–<30)	108 (36%)	36 (29%)	144 (34%)	120 (36%)	41 (35%)	161 (35%)
Obese (>=30)	79 (27%)	36 (29%)	115 (27%)	85 (25%)	35 (30%)	120 (26%)
Blood Group						
A	123 (41%)	41 (33%)	164 (39%)	131 (39%)	50 (43%)	181 (40%)
AB	8 (3%)	4 (3%)	12 (3%)	11 (3%)	4 (3%)	15 (3%)
B	34 (11%)	12 (10%)	46 (11%)	42 (12%)	13 (11%)	55 (12%)
O	132 (44%)	67 (54%)	199 (47%)	153 (45%)	50 (43%)	203 (45%)
Ethnicity						
Australian Non-indigenous	216 (73%)	96 (77%)	312 (74%)	245 (73%)	88 (75%)	333 (73%)
Australian Indigenous	13 (4%)	4 (3%)	17 (4%)	11 (3%)	2 (2%)	13 (3%)
New Zealand European	3 (1%)	2 (2%)	5 (1%)	7 (2%)	5 (4%)	12 (3%)
New Zealand Māori	2 (1%)	-	2 (0%)	1 (0%)	1 (1%)	2 (0%)
Pacific Islander	1 (0%)	1 (1%)	2 (0%)	3 (1%)	-	3 (1%)
European	21 (7%)	10 (8%)	31 (7%)	25 (7%)	10 (9%)	35 (8%)
North African and Middle Eastern	2 (1%)	-	2 (0%)	7 (2%)	-	7 (2%)
Asian	34 (11%)	7 (6%)	41 (10%)	34 (10%)	10 (9%)	44 (10%)
American	4 (1%)	2 (2%)	6 (1%)	1 (0%)	-	1 (0%)
Sub-Saharan African	1 (0%)	2 (2%)	3 (1%)	3 (1%)	1 (1%)	4 (1%)

*Ethnicity categories listed in Table 4.1 are based on the Australian Bureau of Statistics (ABS) and Stats NZ ethnicity classifications below:

Australian Non-indigenous: Oceanian - Australian

Australian Indigenous: Oceanian - Australian Aboriginal/Australian South Sea Islander/Torres Strait Islander

New Zealand European: Oceanian - New Zealand European

New Zealand Māori: Oceanian - New Zealand Māori

Pacific Islander: Oceanian - Melanesian and Papuan/Micronesian/Polynesian/Cook Islander/Fijian/Niuean/Samoan/Tongan/Tokelauan

European: North-West European, Southern, and Eastern European - Italian/Greek

North African and Middle Eastern: North African and Middle Eastern - Arab/Turkish

Asian: South-East Asian - Vietnamese/Filipino/Indonesian/Malay, North-East Asian - Chinese, Southern and Central Asian - Indian

American: North American, Hispanic North American, South American, Central American, Caribbean Islander

Sub-Saharan African: Sub-Saharan African

Table 4.1.2 Demography of Actual Deceased Donors in New Zealand 2021 – 2022

New Zealand Donors	2021			2022		
	DBD	DCD	Total	DBD	DCD	Total
Gender						
Male	30(50%)	4(67%)	34 (52%)	32(60%)	7(70%)	39 (62%)
Female	30(50%)	2(33%)	32 (48%)	21(40%)	3(30%)	24 (38%)
Age (years)						
0–4	2(3%)	-	2 (3%)	-	-	-
5–14	1(2%)	-	1 (2%)	1(2%)	-	1 (2%)
15–24	9(15%)	1(17%)	10 (15%)	8(15%)	1(10%)	9 (14%)
25–34	7(12%)	1(17%)	8 (12%)	5(9%)	1(10%)	6 (10%)
35–44	6(10%)	-	6 (9%)	10(19%)	2(20%)	12 (19%)
45–54	14(23%)	3(50%)	17 (26%)	11(21%)	3(30%)	14 (22%)
55–64	13(22%)	1(17%)	14 (21%)	8(15%)	3(30%)	11 (17%)
65–74	7(12%)	-	7 (11%)	7(13%)	-	7 (11%)
75+	1(2%)	-	1 (2%)	3(6%)	-	3 (5%)
BMI (kg/m²)						
Underweight (<18.5)	4(7%)	-	4 (6%)	1(2%)	1(10%)	2 (3%)
Normal (18.5–<25)	20(33%)	2(33%)	22 (33%)	18(34%)	7(70%)	25 (40%)
Overweight (25–<30)	19(32%)	3(50%)	22 (33%)	18(34%)	2(20%)	20 (32%)
Obese (>=30)	17(28%)	1(17%)	18 (27%)	16(30%)	-	16 (25%)
Blood Group						
A	19(32%)	2(33%)	21 (32%)	22(42%)	2(20%)	24 (38%)
AB	2(3%)	-	2 (3%)	-	-	-
B	5(8%)	1(17%)	6 (9%)	3(6%)	1(10%)	4 (6%)
O	27(45%)	1(17%)	28 (42%)	23(43%)	5(50%)	28 (44%)
Not Collected	7(12%)	2(33%)	9 (14%)	5(9%)	2(20%)	7 (11%)
Ethnicity						
Australian Non-indigenous	1(2%)	-	1 (2%)	-	-	-
New Zealand European	38(63%)	4(67%)	42 (64%)	32(60%)	9(90%)	41 (65%)
New Zealand Māori	6(10%)	1(17%)	7 (11%)	5(9%)	-	5 (8%)
Pacific Islander	-	-	-	3(6%)	-	3 (5%)
European	2(3%)	-	2 (3%)	4(8%)	-	4 (6%)
North African and Middle Eastern	1(2%)	-	1 (2%)	-	-	-
Asian	7(12%)	1(17%)	8 (12%)	6(11%)	-	6 (10%)
American	1(2%)	-	1 (2%)	2(4%)	-	2 (3%)
Sub-Saharan African	3(5%)	-	3 (5%)	1(2%)	1(10%)	2 (3%)
Other	1(2%)	-	1 (2%)	-	-	-

*Ethnicity categories listed in Table 4.1 are based on the Australian Bureau of Statistics (ABS) and Stats NZ ethnicity classifications below:

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American: North American, Hispanic North American, South American, Central American, Caribbean Islander

Sub-Saharan African: Sub-Saharan African

Donor Age and Gender

In Australia, the oldest donor was 84 years and the youngest was 1, with a mean age of 46.9 years. The majority (78.9%) of donors were aged between 15 and 64, with 15.2% aged 65 or older. In New Zealand, the oldest donor was 78 years, and the youngest donor was 14 years, with a mean age of 46 years. The majority (82.5%) of donors were aged between 15 and 64, with 15.9% aged 65 or older.

Figure 4.1 shows the trends in donor numbers for each age group and gender; while there has been growth in all age groups this is more marked in the older age groups.

Figure 4.1.1 - Age and Gender of Actual Deceased Donors Australia 2014–2022

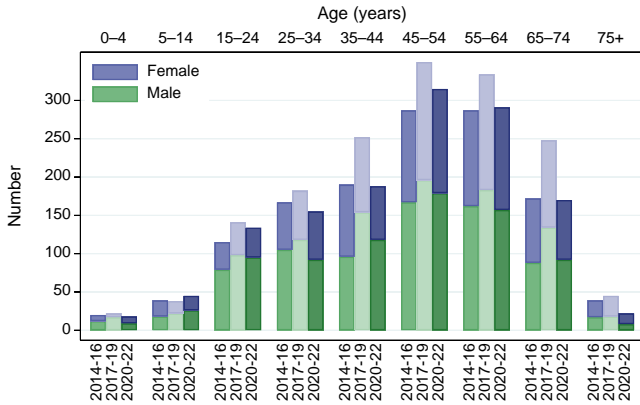
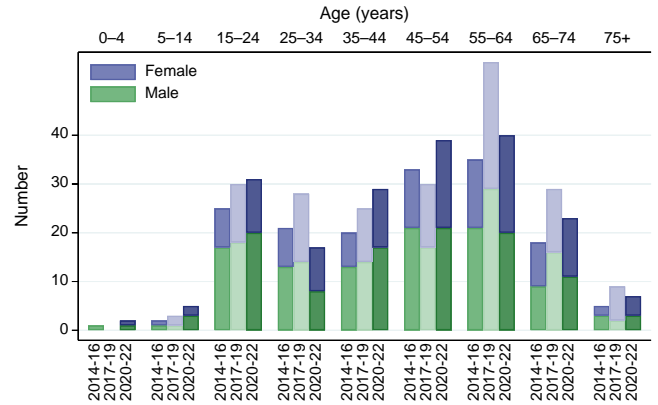


Figure 4.1.2 - Age and Gender of Actual Deceased Donors New Zealand 2014–2022



The median age for Australian male deceased donors in 2022 was 50.2 years and for Australian female deceased donors was 49.2 years. The median age for all Australian deceased donors in 2022 was 49.8 years. The median age for New Zealand male deceased donors in 2022 was 44.8 years and for New Zealand female deceased donors was 52.0 years. The median age for all New Zealand deceased donors in 2022 was 46.7 years (Figure 4.2).

Figure 4.2.1 - Age of Male and Female Actual Deceased Donors 2014–2022 Australia

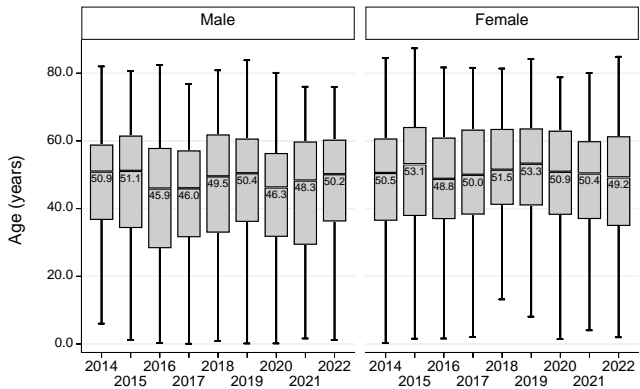
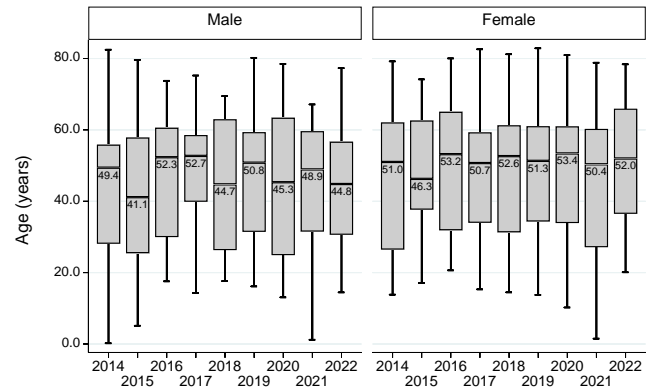


Figure 4.2.2 - Age of Male and Female Actual Deceased Donors 2014–2022 New Zealand



Donor Ethnic Origins

There have been no significant changes in the documented ethnicity of donors over the past five years in either Australia or New Zealand (Table 4.2).

Table 4.2 Ethnic Origin of Actual Deceased Donors, 2018–2022

Donor racial/ethnic origin*	Australia					New Zealand				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Australian Non-indigenous	412 (74%)	405 (74%)	335 (72%)	312 (74%)	333 (73%)	-	-	-	1 (2%)	-
Australian Indigenous	18 (3%)	16 (3%)	16 (3%)	17 (4%)	13 (3%)	-	-	-	-	-
New Zealand European	9 (2%)	15 (3%)	7 (2%)	5 (1%)	12 (3%)	43 (69%)	57 (77%)	50 (78%)	42 (64%)	41 (65%)
New Zealand Māori	2 (0%)	2 (0%)	3 (1%)	2 (0%)	2 (0%)	7 (11%)	6 (8%)	5 (8%)	7 (11%)	5 (8%)
Pacific Islander	2 (0%)	2 (0%)	4 (1%)	2 (0%)	3 (1%)	4 (6%)	2 (3%)	5 (8%)	-	3 (5%)
European	49 (9%)	57 (10%)	34 (7%)	31 (7%)	35 (8%)	1 (2%)	3 (4%)	1 (2%)	2 (3%)	4 (6%)
North African and Middle Eastern	6 (1%)	2 (0%)	13 (3%)	2 (0%)	7 (2%)	-	1 (1%)	-	1 (2%)	-
Asian	48 (9%)	40 (7%)	36 (8%)	41 (10%)	44 (10%)	4 (6%)	4 (5%)	3 (5%)	8 (12%)	6 (10%)
American	5 (1%)	3 (1%)	6 (1%)	6 (1%)	1 (0%)	2 (3%)	1 (1%)	-	1 (2%)	2 (3%)
Sub-Saharan African	3 (1%)	6 (1%)	9 (2%)	3 (1%)	4 (1%)	1 (2%)	-	-	3 (5%)	2 (3%)
Other	-	-	-	-	-	-	-	-	1 (2%)	-

*Ethnicity categories listed in Table 4.2 are based on the Australian Bureau of Statistics (ABS) and Stats NZ ethnicity classifications below:

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Australian Indigenous: Oceanian - Australian Aboriginal/Australian South Sea Islander/Torres Strait Islander

New Zealand European: Oceanian - New Zealand European

New Zealand Māori: Oceanian - New Zealand Māori

Pacific Islander: Oceanian - Melanesian and Papuan/Micronesian/Polynesian/Cook Islander/Fijian/Niuean/Samoan/Tongan/Tokelauan

European: North-West European, Southern, and Eastern European - Italian/Greek

North African and Middle Eastern: North African and Middle Eastern - Arab/Turkish

Asian: South-East Asian - Vietnamese/Filipino/Indonesian/Malay, North-East Asian - Chinese, Southern and Central Asian - Indian

American: North American, Hispanic North American, South American, Central American, Caribbean Islander

Sub-Saharan African: Sub-Saharan African

Donor Weight

The allocation of heart, lungs and livers is based in part on the matching of recipient and donor size and weight. In 2022 there were 18 donors in Australia and 0 donors in New Zealand who weighed less than 40 kilograms. There were 76 donors 100 kilograms and over in Australia and 12 donors in New Zealand. (Table 4.3)

Table 4.3 Actual Deceased Donor Weight in Kilograms 2018 – 2022

Country	Year	0–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90–99	100+	Total
AUSTRALIA	2018	4	2	5	15	36	113	113	98	69	99	554
	2019	10	3	0	11	42	74	114	111	73	110	548
	2020	7	2	3	6	27	75	107	94	65	77	463
	2021	7	5	4	11	26	74	80	92	63	59	421
	2022	4	8	6	7	41	72	83	80	77	76	454
NEW ZEALAND	2018	0	0	0	1	5	13	5	16	10	12	62
	2019	0	0	0	0	5	12	24	13	9	11	74
	2020	0	0	1	2	4	9	9	12	13	14	64
	2021	2	0	0	4	6	13	6	16	8	11	66
	2022	0	0	0	1	4	11	19	6	10	12	63

Donor Medical Conditions

Comorbid medical conditions are an important area in determining donor suitability and one that is changing over time. Table 4.4 lists the medical conditions of donors by jurisdiction for 2022 by donor type.

Table 4.4 Comorbid Medical Conditions of Actual Deceased Donors by Jurisdiction 2022 n (%)

Donor Type	Medical Condition	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
DBD	Diabetes Type I	2 (3%)	2 (2%)	1 (14%)	-	1 (6%)	-	-	1 (3%)	7 (2%)	-
	Diabetes Type II	1 (2%)	4 (4%)	-	8 (8%)	1 (6%)	5 (20%)	-	1 (3%)	20 (6%)	1 (2%)
	Hypertension	21 (35%)	23 (25%)	1 (14%)	31 (32%)	4 (22%)	8 (32%)	-	9 (24%)	97 (29%)	18 (34%)
	Smoking-Current	21 (35%)	32 (35%)	4 (57%)	34 (35%)	7 (39%)	13 (52%)	-	15 (41%)	126 (37%)	18 (34%)
	Cancer	5 (8%)	7 (8%)	1 (14%)	6 (6%)	1 (6%)	2 (8%)	-	7 (19%)	29 (9%)	3 (6%)
	Total		60	92	7	98	18	25	-	37	337
DCD	Diabetes Type I	-	-	-	-	-	1 (7%)	-	-	1 (1%)	1 (10%)
	Diabetes Type II	1 (6%)	2 (7%)	-	3 (7%)	-	2 (14%)	-	1 (17%)	9 (8%)	-
	Hypertension	4 (24%)	8 (27%)	1 (33%)	11 (24%)	-	2 (14%)	-	1 (17%)	27 (23%)	2 (20%)
	Smoking-Current	8 (47%)	11 (37%)	2 (67%)	19 (41%)	-	6 (43%)	1 (100%)	3 (50%)	50 (43%)	5 (50%)
	Cancer	1 (6%)	6 (20%)	-	4 (9%)	-	-	-	-	11 (9%)	-
	Total		17	30	3	46	-	14	1	6	117
Total	Diabetes Type I	2 (3%)	2 (2%)	1 (10%)	-	1 (6%)	1 (3%)	-	1 (2%)	8 (2%)	1 (2%)
	Diabetes Type II	2 (3%)	6 (5%)	-	11 (8%)	1 (6%)	7 (18%)	-	2 (5%)	29 (6%)	1 (2%)
	Hypertension	25 (32%)	31 (25%)	2 (20%)	42 (29%)	4 (22%)	10 (26%)	-	10 (23%)	124 (27%)	20 (32%)
	Smoking-Current	29 (38%)	43 (35%)	6 (60%)	53 (37%)	7 (39%)	19 (49%)	1 (100%)	18 (42%)	176 (39%)	23 (37%)
	Cancer	6 (8%)	13 (11%)	1 (10%)	10 (7%)	1 (6%)	2 (5%)	-	7 (16%)	40 (9%)	3 (5%)
	Total		77	122	10	144	18	39	1	43	454

Diabetes

There were 37 donors with diabetes in Australia in 2022. The 29 Australian Type II donors provided 57 organ and tissue grafts which were transplanted or stored. This included 2 double adult kidneys, 40 single kidneys, 6 livers, 7 double lungs, 1 single lung and 1 heart. The 8 Type I diabetic donors provided 23 organs that were transplanted; 9 single kidneys, 7 livers, 4 double lungs and 3 hearts.

In New Zealand, there were 2 donors with diabetes in 2022. The 1 Type II diabetic donor provided 2 single kidneys, 1 double lung, 1 heart and 1 liver which were transplanted. The 1 donor with Type 1 diabetes provided 1 single kidney, 0 livers and 0 double lungs.

Cancer in Donor

In Australia, 40 actual donors had a history of cancer prior to donation. Of these donors, there were 20 with skin-only cancers and 19 with non-skin-only cancers. 1 actual donor did not have organs retrieved.

In New Zealand, 3 donors had a history of cancer. Of these donors, there was 1 with skin-only cancers and 1 with non-skin-only cancers. 1 actual donor did not have organs retrieved.

Virology Screening

Table 4.5 lists the cytomegalovirus (CMV) status of donors by country from 2017 to 2022.

Table 4.5 Cytomegalovirus (CMV IgG) Status of Actual Deceased Donors, 2017 – 2022

CMV IgG	Australia						New Zealand					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
Positive	309	361	345	291	259	259	47	33	42	35	36	33
Negative	200	192	203	169	161	194	26	29	31	27	30	26
Not Done	1	1	0	2	1	0	0	0	1	2	0	4
Indeterminate	0	0	0	1	0	1	0	0	0	0	0	0
Not Reported	0	0	0	0	0	0	0	0	0	0	0	0
Total	510	554	548	463	421	454	73	62	74	64	66	63

Table 4.6 shows the Epstein-Barr Virus (EBV) status of donors from 2017 to 2022.

Table 4.6 Epstein-Barr Virus (EBV IgG) Status of Actual Deceased Donors, 2017 – 2022

EBV IgG	Australia						New Zealand					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
Positive	459	511	488	425	393	408	63	53	64	52	57	55
Negative	48	41	54	30	24	44	5	3	9	10	6	3
Not Done	2	1	3	5	1	1	5	5	1	2	3	3
Indeterminate	1	1	2	3	2	1	0	1	0	0	0	2
Not Reported	0	0	1	0	1	0	0	0	0	0	0	0
Total	510	554	548	463	421	454	73	62	74	64	66	63

Table 4.7 shows the Hepatitis C Antibody status of donors from 2017 to 2022.

Table 4.7 Hepatitis C Antibody Status of Actual Deceased Donors (Anti-HCV), 2017 – 2022

Anti-HCV	Australia						New Zealand					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
Positive	12	17	15	21	27	27	2	0	1	3	0	3
Negative	496	534	525	439	391	422	70	61	73	61	65	60
Not Done	2	3	8	3	3	5	1	1	0	0	1	0
Indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
Not Reported	0	0	0	0	0	0	0	0	0	0	0	0
Total	510	554	548	463	421	454	73	62	74	64	66	63

Table 4.8 shows the Hepatitis B Core Antibody status of actual donors from 2017 to 2022.

Table 4.8 Hepatitis B Core Antibody Status of Actual Deceased Donors (Anti-HBcAb), 2017 - 2022

Anti-HBcAb	Australia						New Zealand					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
Positive	22	26	25	28	29	26	11	5	7	9	5	11
Negative	475	517	515	421	385	415	62	57	67	55	61	52
Not Done	13	11	8	14	7	13	0	0	0	0	0	0
Indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
Not Reported	0	0	0	0	0	0	0	0	0	0	0	0
Total	510	554	548	463	421	454	73	62	74	64	66	63

Since 1993, all consented actual and intended donors in Australia and New Zealand have been tested for Hepatitis B surface antigen. Table 4.9 shows the status of actual donors from 2017 to 2022.

Table 4.9 Hepatitis B Surface Antigen Status of Actual Deceased Donors (HBsAg), 2017 – 2022

HBsAg	Australia						New Zealand					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
Positive	1	0	3	3	0	1	0	0	0	3	1	0
Negative	507	551	542	458	421	453	73	62	73	61	65	63
Not Done	1	3	3	2	0	0	0	0	1	0	0	0
Indeterminate	1	0	0	0	0	0	0	0	0	0	0	0
Not Reported	0	0	0	0	0	0	0	0	0	0	0	0
Total	510	554	548	463	421	454	73	62	74	64	66	63