



SECTION 4

Deceased Organ Donor Profile

SUMMARY

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

Contents

- Suggested Citation2
- Donor Demographics.....3
- Donor Ethnic Origins5
- Donor Weight6
- Donor Medical Conditions7
- Diabetes7
- Cancer in Donor8
- Virology Screening8

Suggested Citation

ANZOD Registry. 2022 Annual Report, Section 4: Deceased Organ Donor Profile. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2022. Available at: www.anzdata.org.au

Donor Demographics

Table 4.1 contains a description of actual donors in Australia and New Zealand in 2021 compared to 2020. 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 2020 – 2021

Australian Donors	2020			2021		
	DBD	DCD	Total	DBD	DCD	Total
Gender						
Male	183 (56%)	97 (70%)	280 (60%)	147 (49%)	78 (63%)	225 (53%)
Female	142 (44%)	41 (30%)	183 (40%)	150 (51%)	46 (37%)	196 (47%)
Age						
0–4	5 (2%)	2 (1%)	7 (2%)	6 (2%)	2 (2%)	8 (2%)
5–14	8 (2%)	3 (2%)	11 (2%)	8 (3%)	2 (2%)	10 (2%)
15–24	34 (10%)	16 (12%)	50 (11%)	30 (10%)	15 (12%)	45 (11%)
25–34	43 (13%)	14 (10%)	57 (12%)	42 (14%)	13 (10%)	55 (13%)
35–44	55 (17%)	17 (12%)	72 (16%)	38 (13%)	12 (10%)	50 (12%)
45–54	76 (23%)	39 (28%)	115 (25%)	63 (21%)	28 (23%)	91 (22%)
55–64	48 (15%)	33 (24%)	81 (17%)	68 (23%)	41 (33%)	109 (26%)
65–74	51 (16%)	14 (10%)	65 (14%)	34 (11%)	10 (8%)	44 (10%)
75+	5 (2%)	-	5 (1%)	8 (3%)	1 (1%)	9 (2%)
BMI (kg/m2)						
Underweight (<18.5)	13 (4%)	6 (4%)	19 (4%)	21 (7%)	9 (7%)	30 (7%)
Normal (18.5–<25)	92 (28%)	57 (41%)	149 (32%)	89 (30%)	43 (35%)	132 (31%)
Overweight (25–<30)	129 (40%)	43 (31%)	172 (37%)	108 (36%)	36 (29%)	144 (34%)
Obese (>=30)	91 (28%)	32 (23%)	123 (27%)	79 (27%)	36 (29%)	115 (27%)
Blood Group						
A	123 (38%)	53 (38%)	176 (38%)	118 (40%)	36 (29%)	154 (37%)
AB	8 (2%)	2 (1%)	10 (2%)	8 (3%)	4 (3%)	12 (3%)
B	47 (14%)	12 (9%)	59 (13%)	34 (11%)	11 (9%)	45 (11%)
O	132 (41%)	61 (44%)	193 (42%)	130 (44%)	61 (49%)	191 (45%)
Not Collected	15 (5%)	10 (7%)	25 (5%)	7 (2%)	12 (10%)	19 (5%)
Ethnicity						
Australian Non-indigenous	233 (72%)	102 (74%)	335 (72%)	216 (73%)	96 (77%)	312 (74%)
Australian Indigenous	13 (4%)	3 (2%)	16 (3%)	13 (4%)	4 (3%)	17 (4%)
New Zealand European	6 (2%)	1 (1%)	7 (2%)	3 (1%)	2 (2%)	5 (1%)
New Zealand Māori	1 (0%)	2 (1%)	3 (1%)	2 (1%)	-	2 (0%)
Pacific Islander	3 (1%)	1 (1%)	4 (1%)	1 (0%)	1 (1%)	2 (0%)
European	21 (6%)	14 (10%)	35 (8%)	21 (7%)	10 (8%)	31 (7%)
North African and Middle Eastern	11 (3%)	2 (1%)	13 (3%)	3 (1%)	-	3 (1%)
Asian	29 (9%)	7 (5%)	36 (8%)	33 (11%)	7 (6%)	40 (10%)
American	2 (1%)	4 (3%)	6 (1%)	4 (1%)	2 (2%)	6 (1%)
Sub-Saharan African	6 (2%)	2 (1%)	8 (2%)	1 (0%)	2 (2%)	3 (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 2020 – 2021

New Zealand Donors	2020			2021		
	DBD	DCD	Total	DBD	DCD	Total
Gender						
Male	26(46%)	5(63%)	31 (48%)	30(50%)	4(67%)	34 (52%)
Female	30(54%)	3(38%)	33 (52%)	30(50%)	2(33%)	32 (48%)
Age						
0–4	-	-	-	2(3%)	-	2 (3%)
5–14	2(4%)	1(13%)	3 (5%)	1(2%)	-	1 (2%)
15–24	11(20%)	1(13%)	12 (19%)	9(15%)	1(17%)	10 (15%)
25–34	2(4%)	1(13%)	3 (5%)	7(12%)	1(17%)	8 (12%)
35–44	9(16%)	2(25%)	11 (17%)	6(10%)	-	6 (9%)
45–54	7(13%)	1(13%)	8 (13%)	14(23%)	3(50%)	17 (26%)
55–64	13(23%)	2(25%)	15 (23%)	13(22%)	1(17%)	14 (21%)
65–74	9(16%)	-	9 (14%)	7(12%)	-	7 (11%)
75+	3(5%)	-	3 (5%)	1(2%)	-	1 (2%)
BMI (kg/m2)						
Underweight (<18.5)	4(7%)	-	4 (6%)	4(7%)	-	4 (6%)
Normal (18.5–<25)	14(25%)	3(38%)	17 (27%)	20(33%)	2(33%)	22 (33%)
Overweight (25–<30)	16(29%)	2(25%)	18 (28%)	19(32%)	3(50%)	22 (33%)
Obese (>=30)	22(39%)	3(38%)	25 (39%)	17(28%)	1(17%)	18 (27%)
Blood Group						
A	16(29%)	1(13%)	17 (27%)	19(32%)	2(33%)	21 (32%)
AB	1(2%)	-	1 (2%)	2(3%)	-	2 (3%)
B	2(4%)	-	2 (3%)	5(8%)	1(17%)	6 (9%)
O	28(50%)	6(75%)	34 (53%)	27(45%)	1(17%)	28 (42%)
Not Collected	9(16%)	1(13%)	10 (16%)	7(12%)	2(33%)	9 (14%)
Ethnicity						
Australian Non-indigenous	-	-	-	1(2%)	-	1 (2%)
New Zealand European	43(77%)	7(88%)	50 (78%)	38(63%)	4(67%)	42 (64%)
New Zealand Māori	5(9%)	-	5 (8%)	6(10%)	1(17%)	7 (11%)
Pacific Islander	4(7%)	1(13%)	5 (8%)	1(2%)	-	1 (2%)
European	1(2%)	-	1 (2%)	2(3%)	-	2 (3%)
North African and Middle Eastern	-	-	-	1(2%)	-	1 (2%)
Asian	3(5%)	-	3 (5%)	7(12%)	1(17%)	8 (12%)
American	-	-	-	1(2%)	-	1 (2%)
Sub-Saharan African	-	-	-	3(5%)	-	3 (5%)

Donor Age and Gender

In Australia, the oldest donor was 80.0 years and the youngest was less than 1-year, with a mean age of 46.3 years. The majority (83.1%) of donors were aged between 15 and 64 years, with 12.6% aged 65 or older. In New Zealand, the oldest donor was 78.8 years, and the youngest donor was 1.2 years, with a mean age of 44.8 years. The majority (83.3%) of donors were aged between 15 and 64, with 12.1% 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 2013–2021

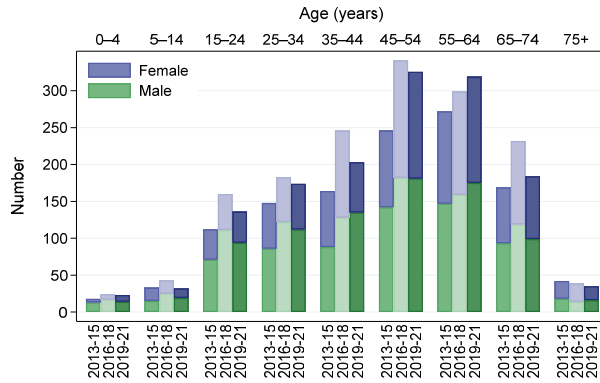
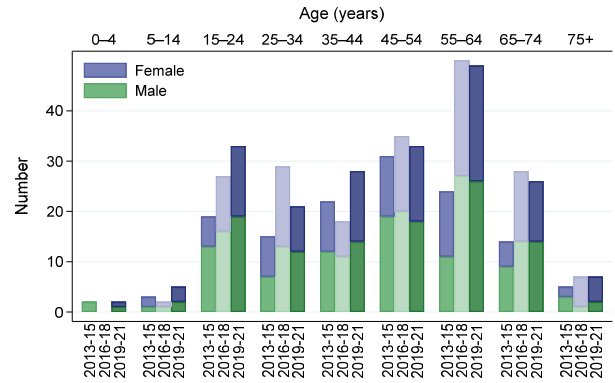


Figure 4.1.2 - Age and Gender of Actual Deceased Donors New Zealand 2013–2021



The median age for Australian male deceased donors in 2021 was 48.3 years and for Australian female deceased donors was 50.4 years. The median age for all Australian deceased donors in 2021 was 49.6 years. The median age for New Zealand male deceased donors in 2021 was 48.9 years and for New Zealand female deceased donors was 50.4 years. The median age for all New Zealand deceased donors in 2021 was 49.8 years (Figure 4.2).

Figure 4.2.1 - Age of Male and Female Actual Deceased Donors 2013–2021 Australia

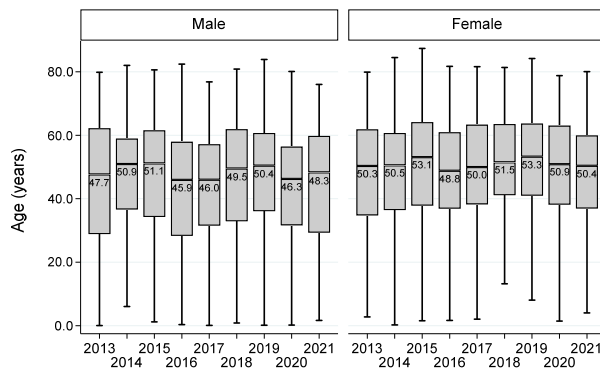
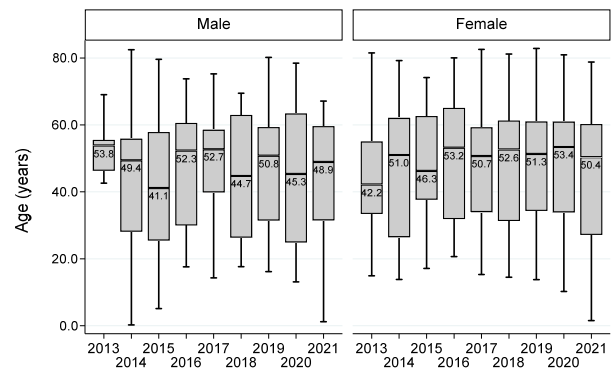


Figure 4.2.2 - Age of Male and Female Actual Deceased Donors 2013–2021 New Zealand



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, 2017–2021

Donor racial / ethnic origin*	Australia					New Zealand				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Australian Non-indigenous	385 (75%)	412 (74%)	405 (74%)	335 (72%)	312 (74%)	1 (1%)	-	-	-	1 (2%)
Australian Indigenous	12 (2%)	18 (3%)	16 (3%)	16 (3%)	17 (4%)	-	-	-	-	-
New Zealand European	5 (1%)	9 (2%)	15 (3%)	7 (2%)	5 (1%)	42 (58%)	43 (69%)	57 (77%)	50 (78%)	42 (64%)
New Zealand Māori	5 (1%)	2 (0%)	2 (0%)	3 (1%)	2 (0%)	7 (10%)	7 (11%)	6 (8%)	5 (8%)	7 (11%)
Pacific Islander	2 (0%)	2 (0%)	2 (0%)	4 (1%)	2 (0%)	4 (5%)	4 (6%)	2 (3%)	5 (8%)	1 (2%)
European	60 (12%)	49 (9%)	57 (10%)	34 (7%)	31 (7%)	11 (15%)	1 (2%)	3 (4%)	1 (2%)	2 (3%)
North African and Middle Eastern	3 (1%)	6 (1%)	2 (0%)	13 (3%)	3 (1%)	-	-	1 (1%)	-	1 (2%)
Asian	32 (6%)	48 (9%)	40 (7%)	36 (8%)	40 (10%)	4 (5%)	4 (6%)	4 (5%)	3 (5%)	8 (12%)
American	3 (1%)	5 (1%)	3 (1%)	6 (1%)	6 (1%)	1 (1%)	2 (3%)	1 (1%)	-	1 (2%)
Sub-Saharan African	3 (1%)	3 (1%)	6 (1%)	9 (2%)	3 (1%)	3 (4%)	1 (2%)	-	-	3 (5%)

*Ethnicity categories listed in Table 4.2 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

Donor Weight

The allocation of heart, lungs and livers are based in part on the matching of recipient and donor size and weight. In 2021 there were sixteen donors in Australia and two donors in New Zealand who weighed less than 40 kilograms. There were fifty-nine donors 100 kilograms and over in Australia and eleven donors in New Zealand. (Table 4.3)

Table 4.3 Actual Deceased Donor Weight in Kilograms 2017 – 2021

Country	Year	0–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90–99	100+	Total
AUSTRALIA	2017	8	6	4	8	41	91	97	102	80	73	510
	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
NEW ZEALAND	2017	0	0	0	1	5	13	19	13	11	11	73
	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

Donor Medical Conditions

Comorbid medical conditions are an important area in determining donor suitability, and one that has been changing over time. Table 4.4 lists the medical conditions of donors by jurisdiction for 2021 by donor type.

Table 4.4 Comorbid Medical Conditions of Actual Deceased Donors by Jurisdiction 2021 n (%)

Donor Type	Medical Condition	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
DBD	Diabetes Type I	2 (3%)	2 (2%)	-	4 (5%)	-	1 (3%)	-	-	9 (3%)	-
	Diabetes Type II	7 (11%)	7 (8%)	-	6 (8%)	-	3(9%)	-	1 (4%)	24 (8%)	3 (5%)
	Hypertension	17 (26%)	21 (25%)	1 (20%)	18 (24%)	-	9 (28%)	-	11 (39%)	77 (26%)	21 (35%)
	Smoking-Current	31 (47%)	35 (42%)	4 (80%)	35 (46%)	2 (50%)	13 (41%)	1 (50%)	9 (32%)	130 (44%)	15 (25%)
	Cancer	3 (5%)	7 (8%)	-	4 (5%)	-	4 (13%)	-	6 (21%)	24 (8%)	1 (2%)
	Total		66	84	5	76	4	32	2	28	297
DCD	Diabetes Type II	1 (4%)	3 (12%)	-	5 (15%)	-	2 (11%)	-	1 (6%)	12 (10%)	-
	Hypertension	3 (12%)	8 (32%)	-	8 (24%)	1 (33%)	5 (28%)	-	5 (31%)	30 (24%)	1 (17%)
	Smoking-Current	11 (44%)	8 (32%)	2 (67%)	10 (29%)	2 (67%)	3 (17%)	-	9 (56%)	45 (36%)	2 (33%)
	Cancer	-	2 (8%)	-	-	-	3 (17%)	-	-	5 (4%)	-
	Total		25	25	3	34	3	18	-	16	124
Total	Diabetes Type I	2 (2%)	2 (2%)	-	4 (4%)	-	1 (2%)	-	-	9 (2%)	-
	Diabetes Type II	8 (9%)	10 (9%)	-	11 (10%)	-	5 (10%)	-	2 (5%)	36 (9%)	3 (5%)
	Hypertension	20 (22%)	29 (27%)	1 (13%)	26 (24%)	1 (14%)	14 (28%)	-	16 (36%)	107 (25%)	22 (33%)
	Smoking-Current	42 (46%)	43 (39%)	6 (75%)	45 (41%)	4 (57%)	16 (32%)	1 (50%)	18 (41%)	175 (42%)	17 (26%)
	Cancer	3 (3%)	9 (8%)	-	4(4%)	-	7 (14%)	-	6 (14%)	29 (7%)	1 (2%)
	Total		91	109	8	110	7	50	2	44	421

Diabetes

There were two Australian Type II diabetic donors that did not have organs retrieved. The remaining thirty-four Australian Type II donors provided seventy-four organ and tissue grafts which were transplanted or stored. This included three double adult kidneys, thirty-seven single kidneys, eighteen livers, nine double lungs, two single lungs and five hearts. Nine Type I diabetic donors provided twenty-five organs that were transplanted: twelve single kidneys, five livers, four double lungs and four hearts.

In New Zealand, the three Type II diabetic donors provided one double adult kidney, three single kidneys, one double lung, one single lung and two livers which were transplanted.

Cancer in Donor

In Australia, twenty-nine actual donors had a history of cancer prior to donation. Of these donors, there were fourteen with skin only cancers, fourteen with non-skin only cancers and none with skin and non-skin cancers. For one donor their type of cancer was not reported.

In New Zealand, one donor had a history of cancer. Of these donors, there were one with skin only cancers and none with non-skin only cancers.

Virology Screening

Table 4.5 lists the cytomegalovirus (CMV) status of donors by country from 2016 to 2021.

Table 4.5 Cytomegalovirus (CMV IgG) Status of Actual Deceased Donors, 2016 – 2021

CMV IgG	Australia						New Zealand					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Positive	332	309	361	345	291	259	33	47	33	42	35	36
Negative	169	200	192	203	169	161	26	26	29	31	27	30
Not Done	2	1	1	0	2	1	2	0	0	1	2	0
Indeterminate	0	0	0	0	1	0	0	0	0	0	0	0
Not Reported	0	0	0	0	0	0	0	0	0	0	0	0
Total	503	510	554	548	463	421	61	73	62	74	64	66

Table 4.6 shows the Epstein-Barr Virus (EBV) status of donors from 2016 to 2021.

Table 4.6 Epstein-Barr Virus (EBV IgG) Status of Actual Deceased Donors, 2016 – 2021

EBV IgG	Australia						New Zealand					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Positive	462	459	511	488	425	393	53	63	53	64	52	57
Negative	38	48	41	54	30	24	6	5	3	9	10	6
Not Done	2	2	1	3	5	1	2	5	5	1	2	3
Indeterminate	1	1	1	2	3	2	0	0	1	0	0	0
Not Reported	0	0	0	1	0	1	0	0	0	0	0	0
Total	503	510	554	548	463	421	61	73	62	74	64	66

Table 4.7 shows the Hepatitis C Antibody status of donors from 2016 to 2021.

Table 4.7 Hepatitis C Antibody Status of Actual Deceased Donors (Anti-HCV), 2016 – 2021

Anti-HCV	Australia						New Zealand					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Positive	17	12	17	15	21	27	1	2	0	1	3	0
Negative	482	496	534	525	439	391	59	70	61	73	61	65
Not Done	4	2	3	8	3	3	1	1	1	0	0	1
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	503	510	554	548	463	421	61	73	62	74	64	66

Table 4.8 shows the Hepatitis B Core Antibody status of actual donors from 2016 to 2021.

Table 4.8 Hepatitis B Core Antibody Status of Actual Deceased Donors (Anti-HBcAb), 2016 - 2021

Anti-HBcAb	Australia						New Zealand					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Positive	19	22	26	25	28	29	7	11	5	7	9	5
Negative	473	475	517	515	421	385	54	62	57	67	55	61
Not Done	11	13	11	8	14	7	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	503	510	554	548	463	421	61	73	62	74	64	66

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 2016 to 2021.

Table 4.9 Hepatitis B Surface Antigen Status of Actual Deceased Donors (HBsAg), 2016 – 2021

HBsAg	Australia						New Zealand					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Positive	2	1	0	3	3	0	1	0	0	0	3	1
Negative	499	507	551	542	458	421	60	73	62	73	61	65
Not Done	2	1	3	3	2	0	0	0	0	1	0	0
Indeterminate	0	1	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	503	510	554	548	463	421	61	73	62	74	64	66