



SECTION 4

Deceased Organ Donor Profile

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

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EXECUTIVE SUMMARY

A broad range of people become organs donors after death, from various ethnic backgrounds, of all ages, and many with complex health histories. Co-morbidities including diabetes mellitus, hypertension and smoking are common in organ donors. A prior history of cured cancer, or current localised tumours do not preclude donation. The donor evaluation process includes testing for viral infections such as hepatitis, CMV and EBV. These do not contraindicate donation but may influence organ allocation, for example, through prioritising immune recipients. This section provides information about the characteristics of actual donors in Australia and New Zealand in 2023.

SUGGESTED CITATION

H Opdam, C Davies, K Marshall, G Irish 28th Report, Section 4: Deceased Organ Donor Profile. Australia and New Zealand Organ Donation Registry, Adelaide, Australia. 2024. Available at <https://www.anzdata.org.au/anzod/publications-2/annual-reports/>

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DONOR DEMOGRAPHICS

Table 4.1 contains a description of actual donors in Australia and New Zealand in 2023 compared to 2022. 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 2022 - 2023

Australian Donors	2022			2023		
	DNDD	DCDD	Total	DNDD	DCDD	Total
Gender						
Male	189 (56%)	82 (70%)	271 (60%)	181 (54%)	117 (65%)	298 (58%)
Female	148 (44%)	35 (30%)	183 (40%)	153 (46%)	62 (35%)	215 (42%)
Age (years)						
0-4	2 (1%)	1 (1%)	3 (1%)	5 (1%)	-	5 (1%)
5-14	17 (5%)	7 (6%)	24 (5%)	7 (2%)	2 (1%)	9 (2%)
15-24	35 (10%)	4 (3%)	39 (9%)	38 (11%)	9 (5%)	47 (9%)
25-34	32 (9%)	11 (9%)	43 (9%)	49 (15%)	19 (11%)	68 (13%)
35-44	50 (15%)	16 (14%)	66 (15%)	65 (19%)	28 (16%)	93 (18%)
45-54	83 (25%)	26 (22%)	109 (24%)	63 (19%)	41 (23%)	104 (20%)
55-64	69 (20%)	32 (27%)	101 (22%)	62 (19%)	48 (27%)	110 (21%)
65-74	41 (12%)	20 (17%)	61 (13%)	36 (11%)	31 (17%)	67 (13%)
75+	8 (2%)	-	8 (2%)	9 (3%)	1 (1%)	10 (2%)
BMI (kg/m²)						
Underweight (<18.5)	22 (7%)	7 (6%)	29 (6%)	21 (6%)	6 (3%)	27 (5%)
Normal (18.5-<25)	110 (33%)	34 (29%)	144 (32%)	103 (31%)	49 (27%)	152 (30%)
Overweight (25-<30)	120 (36%)	41 (35%)	161 (35%)	117 (35%)	63 (35%)	180 (35%)
Obese (≥30)	85 (25%)	35 (30%)	120 (26%)	93 (28%)	61 (34%)	154 (30%)
Blood Group						
A	131 (39%)	50 (43%)	181 (40%)	129 (39%)	67 (37%)	196 (38%)
AB	11 (3%)	4 (3%)	15 (3%)	8 (2%)	5 (3%)	13 (3%)
B	42 (12%)	13 (11%)	55 (12%)	37 (11%)	16 (9%)	53 (10%)
O	153 (45%)	50 (43%)	203 (45%)	160 (48%)	91 (51%)	251 (49%)
Ethnicity						
Australian Non-indigenous	245 (73%)	88 (75%)	333 (73%)	241 (72%)	151 (84%)	392 (76%)
Australian Indigenous	11 (3%)	2 (2%)	13 (3%)	12 (4%)	3 (2%)	15 (3%)
New Zealand European	7 (2%)	5 (4%)	12 (3%)	6 (2%)	-	6 (1%)
New Zealand Māori	1 (0%)	1 (1%)	2 (0%)	3 (1%)	2 (1%)	5 (1%)
Pacific Islander	3 (1%)	-	3 (1%)	-	-	-
European	25 (7%)	10 (9%)	35 (8%)	20 (6%)	2 (1%)	22 (4%)
North African and Middle Eastern	7 (2%)	-	7 (2%)	4 (1%)	1 (1%)	5 (1%)
Asian	34 (10%)	10 (9%)	44 (10%)	38 (11%)	19 (11%)	57 (11%)
American	1 (0%)	-	1 (0%)	5 (1%)	1 (1%)	6 (1%)
Sub-Saharan African	3 (1%)	1 (1%)	4 (1%)	5 (1%)	-	5 (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/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/Australian South Sea Islander/Cook Islands Māori

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

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Table 4.1.2
Demography of Actual Deceased Donors in New Zealand 2022 - 2023

New Zealand Donors	2022			2023		
	DNDD	DCDD	Total	DNDD	DCDD	Total
Gender						
Male	32 (60%)	7 (70%)	39 (62%)	32 (59%)	6 (60%)	38 (59%)
Female	21 (40%)	3 (30%)	24 (38%)	22 (41%)	4 (40%)	26 (41%)
Age (years)						
5-14	1 (2%)	-	1 (2%)	-	-	-
15-24	8 (15%)	1 (10%)	9 (14%)	11 (20%)	-	11 (17%)
25-34	5 (9%)	1 (10%)	6 (10%)	14 (26%)	-	14 (22%)
35-44	10 (19%)	2 (20%)	12 (19%)	9 (17%)	1 (10%)	10 (16%)
45-54	11 (21%)	3 (30%)	14 (22%)	7 (13%)	2 (20%)	9 (14%)
55-64	8 (15%)	3 (30%)	11 (17%)	9 (17%)	4 (40%)	13 (20%)
65-74	7 (13%)	-	7 (11%)	4 (7%)	2 (20%)	6 (9%)
75+	3 (6%)	-	3 (5%)	-	1 (10%)	1 (2%)
BMI (kg/m²)						
Underweight (<18.5)	1 (2%)	1 (10%)	2 (3%)	1 (2%)	-	1 (2%)
Normal (18.5--<25)	18 (34%)	7 (70%)	25 (40%)	25 (46%)	4 (40%)	29 (45%)
Overweight (25--<30)	18 (34%)	2 (20%)	20 (32%)	15 (28%)	4 (40%)	19 (30%)
Obese (≥30)	16 (30%)	-	16 (25%)	13 (24%)	2 (20%)	15 (23%)
Blood Group						
A	22 (42%)	2 (20%)	24 (38%)	17 (31%)	2 (20%)	19 (30%)
AB	-	-	-	2 (4%)	-	2 (3%)
B	3 (6%)	1 (10%)	4 (6%)	6 (11%)	1 (10%)	7 (11%)
O	23 (43%)	5 (50%)	28 (44%)	22 (41%)	2 (20%)	24 (38%)
Not Collected	5 (9%)	2 (20%)	7 (11%)	7 (13%)	5 (50%)	12 (19%)
Ethnicity						
New Zealand European	32 (60%)	9 (90%)	41 (65%)	29 (54%)	7 (70%)	36 (56%)
New Zealand Māori	5 (9%)	-	5 (8%)	8 (15%)	-	8 (13%)
Pacific Islander	3 (6%)	-	3 (5%)	5 (9%)	-	5 (8%)
European	4 (8%)	-	4 (6%)	-	2 (20%)	2 (3%)
Asian	6 (11%)	-	6 (10%)	10 (19%)	1 (10%)	11 (17%)
American	2 (4%)	-	2 (3%)	1 (2%)	-	1 (2%)
Sub-Saharan African	1 (2%)	1 (10%)	2 (3%)	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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DONOR AGE AND GENDER

In Australia, the oldest donor was 83.2 years and the youngest was less than 1 year, with a mean age of 47.0 years. The majority (82.3%) of donors were aged between 15 and 64, with 15.0% aged 65 or older. In New Zealand, the oldest donor was 76.6 years and the youngest donor was 15.7 years, with a mean age of 43.3 years. The majority (89.1%) of donors were aged between 15 and 64, with 10.9% 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 2015-2023

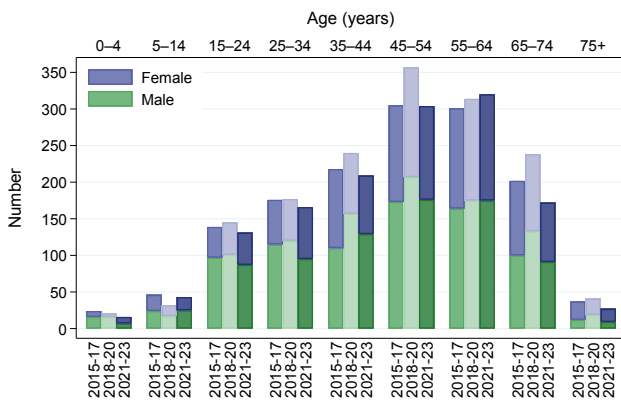
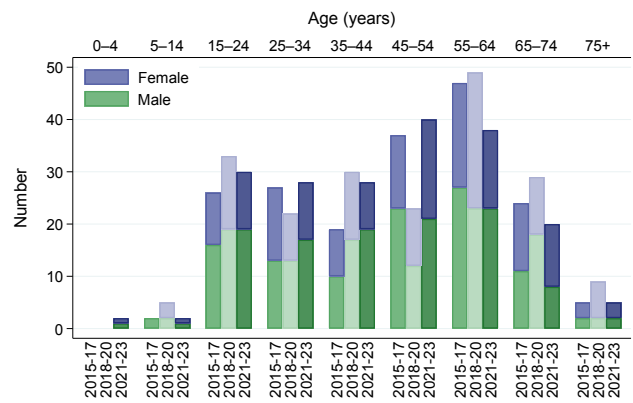


Figure 4.1.2
Age and Gender of Actual Deceased Donors New Zealand 2015-2023



The median age for Australian male deceased donors in 2023 was 46.9 years and for Australian female deceased donors was 52.3 years. The median age for all Australian deceased donors in 2023 was 48.6 years. The median age for New Zealand male deceased donors in 2023 was 41.7 years and for New Zealand female deceased donors was 48.9 years. The median age for all New Zealand deceased donors in 2023 was 43.8 years (Figure 4.2).

Figure 4.2.1
Age of Male and Female Actual Deceased Donors 2015-2023 Australia

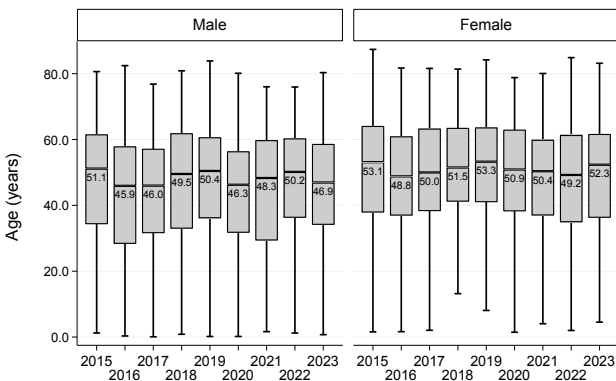
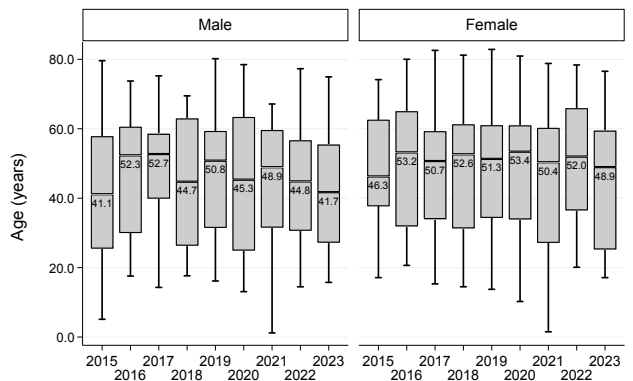


Figure 4.2.2
Age of Male and Female Actual Deceased Donors 2015-2023 New Zealand



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, 2019–2023

	Australia					New Zealand				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Australian Non-indigenous	405 (74%)	335 (72%)	312 (74%)	333 (73%)	392 (76%)	-	-	1 (2%)	-	-
Australian Indigenous	16 (3%)	16 (3%)	17 (4%)	13 (3%)	15 (3%)	-	-	-	-	-
New Zealand European	15 (3%)	7 (2%)	5 (1%)	12 (3%)	6 (1%)	57 (77%)	50 (78%)	42 (64%)	41 (65%)	36 (56%)
New Zealand Māori	2 (0%)	3 (1%)	2 (0%)	2 (0%)	5 (1%)	6 (8%)	5 (8%)	7 (11%)	5 (8%)	8 (12%)
Pacific Islander	2 (0%)	4 (1%)	2 (0%)	3 (1%)	-	2 (3%)	5 (8%)	1 (2%)	3 (5%)	5 (8%)
European	57 (10%)	34 (7%)	31 (7%)	35 (8%)	22 (4%)	3 (4%)	1 (2%)	2 (3%)	4 (6%)	2 (3%)
North African and Middle Eastern	2 (0%)	13 (3%)	2 (0%)	7 (2%)	5 (1%)	1 (1%)	-	1 (2%)	-	-
Asian	40 (7%)	36 (8%)	41 (10%)	44 (10%)	57 (11%)	4 (5%)	3 (5%)	8 (12%)	6 (10%)	11 (17%)
American	3 (1%)	6 (1%)	6 (1%)	1 (0%)	6 (1%)	1 (1%)	-	1 (2%)	2 (3%)	1 (2%)
Sub-Saharan African	6 (1%)	9 (2%)	3 (1%)	4 (1%)	5 (1%)	-	-	3 (5%)	2 (3%)	1 (2%)

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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 2023 there were 10 donors in Australia and one donor in New Zealand who weighed less than 40 kilograms. There were 95 donors in Australia and 8 donors in New Zealand who weighed 100 kilograms or more. (Table 4.3).

Table 4.3
Actual Deceased Donor Weight in Kilograms 2019 - 2023

Country	Year	0-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100+	Total
Australia	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
	2023	5	3	2	16	35	76	100	102	79	95	513
New Zealand	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
	2023	0	0	1	2	6	9	19	13	6	8	64

DONOR MEDICAL CONDITIONS

Comorbid medical conditions are an important factor in determining donor suitability and one that is changing over time. Table 4.4 lists the medical conditions of donors by jurisdiction for 2023 by donor type.

Table 4.4
Comorbid Medical Conditions of Actual Deceased Donors by Jurisdiction 2023 n (%)

Donor Type	Medical Condition	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
DNDD	Diabetes Type I	1 (1%)	1 (1%)	-	1 (1%)	-	-	-	2 (6%)	5 (1%)	1 (2%)
	Diabetes Type II	3 (4%)	5 (5%)	-	5 (6%)	2 (17%)	1 (3%)	-	2 (6%)	18 (5%)	2 (4%)
	Hypertension	8 (11%)	20 (21%)	-	28 (32%)	4 (33%)	4 (13%)	1 (50%)	2 (6%)	67 (20%)	13 (24%)
	Smoking-Current	35 (50%)	44 (46%)	2 (50%)	36 (41%)	5 (42%)	11 (37%)	2 (100%)	19 (56%)	154 (46%)	19 (35%)
	Cancer	6 (9%)	9 (9%)	1 (25%)	5 (6%)	-	2 (7%)	-	2 (6%)	25 (7%)	4 (7%)
	Total	70	95	4	87	12	30	2	34	334	54
DCDD	Diabetes Type I	2 (6%)	1 (2%)	-	1 (2%)	-	-	-	1 (11%)	5 (3%)	2 (20%)
	Diabetes Type II	1 (3%)	1 (2%)	-	8 (15%)	2 (22%)	4 (21%)	-	1 (11%)	17 (9%)	1 (10%)
	Hypertension	11 (31%)	18 (38%)	-	18 (33%)	4 (44%)	9 (47%)	1 (100%)	3 (33%)	64 (36%)	4 (40%)
	Smoking-Current	15 (43%)	17 (36%)	3 (75%)	26 (47%)	3 (33%)	7 (37%)	1 (100%)	8 (89%)	80 (45%)	3 (30%)
	Cancer	-	5 (11%)	-	3 (5%)	1 (11%)	1 (5%)	1 (100%)	1 (11%)	12 (7%)	1 (10%)
	Total	35	47	4	55	9	19	1	9	179	10
Total	Diabetes Type I	3 (3%)	2 (1%)	-	2 (1%)	-	-	-	3 (7%)	10 (2%)	3 (5%)
	Diabetes Type II	4 (4%)	6 (4%)	-	13 (9%)	4 (19%)	5 (10%)	-	3 (7%)	35 (7%)	3 (5%)
	Hypertension	19 (18%)	38 (27%)	-	46 (32%)	8 (38%)	13 (27%)	2 (67%)	5 (12%)	131 (26%)	17 (27%)
	Smoking-Current	50 (48%)	61 (43%)	5 (62%)	62 (44%)	8 (38%)	18 (37%)	3 (100%)	27 (63%)	234 (46%)	22 (34%)
	Cancer	6 (6%)	14 (10%)	1 (12%)	8 (6%)	1 (5%)	3 (6%)	1 (33%)	3 (7%)	37 (7%)	5 (8%)
	Total	105	142	8	142	21	49	3	43	513	64

DIABETES

There were 45 actual donors with type I or II diabetes mellitus in Australia in 2023. Of the 35 donors with type II diabetes mellitus, 3 did not have organs retrieved and 32 provided 59 organs that were transplanted (38 single kidneys, 10 livers, 9 double lungs and 2 single lungs). Of the 10 actual donors with type I diabetes mellitus, 1 did not have organs retrieved and 9 provided 17 organs that were transplanted (12 single kidneys, 2 livers, 2 double lungs and 1 heart).

In New Zealand, there were 6 actual donors with type I or II diabetes mellitus in 2023. Of the 3 donors with type II diabetes mellitus, 1 did not have organs retrieved and 2 provided 3 single lungs and 1 liver which were transplanted. The 3 donors with type I diabetes mellitus who provided 3 livers.

CANCER IN DONOR

In Australia, 37 actual donors had a history of cancer prior to donation. Of these donors, there were 15 with skin only cancers, 16 with only non-skin cancers and 3 with both skin and non-skin cancers. 3 actual donors did not have organs retrieved.

In New Zealand, 5 donors had a history of cancer. Of these donors, there were 1 with skin cancer and 4 with non-skin cancers.

VIROLOGY SCREENING

Table 4.5 lists the cytomegalovirus (CMV) status of donors by country from 2018 to 2023.

Table 4.5
Cytomegalovirus (CMV IgG) Status of Actual Deceased Donors, 2018 - 2023

CMV IgG	Australia						New Zealand					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
Positive	361	345	291	259	259	323	33	42	35	36	34	40
Negative	192	203	169	161	194	188	29	31	27	30	26	24
Not Done	1	0	2	1	0	1	0	1	2	0	3	0
Indeterminate	0	0	1	0	1	1	0	0	0	0	0	0
Not Reported	0	0	0	0	0	0	0	0	0	0	0	0
Total	554	548	463	421	454	513	62	74	64	66	63	64

Table 4.6 shows the Epstein-Barr virus (EBV) status of donors from 2018 to 2023.

Table 4.6
Epstein-Barr Virus (EBV IgG) Status of Actual Deceased Donors, 2018 - 2023

EBV IgG	Australia						New Zealand					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
Positive	511	488	425	393	408	465	53	64	52	57	55	58
Negative	41	54	30	24	44	41	3	9	10	6	3	4
Not Done	1	3	5	1	1	3	5	1	2	3	3	1
Indeterminate	1	2	3	2	1	4	1	0	0	0	2	1
Not Reported	0	1	0	1	0	0	0	0	0	0	0	0
Total	554	548	463	421	454	513	62	74	64	66	63	64

Table 4.7 shows the hepatitis C antibody status of donors from 2018 to 2023.

Table 4.7
Hepatitis C Antibody Status of Actual Deceased Donors (Anti-HCV), 2018 - 2023

Anti-HCV	Australia						New Zealand					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
Positive	17	15	21	27	27	28	0	1	3	0	3	1
Negative	534	525	439	391	422	480	61	73	61	65	60	63
Not Done	3	8	3	3	5	5	1	0	0	1	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	554	548	463	421	454	513	62	74	64	66	63	64

Table 4.8 shows the hepatitis B core antibody status of actual donors from 2018 to 2023.

Table 4.8
Hepatitis B Core Antibody Status of Actual Deceased Donors (Anti-HBcAb), 2018 - 2023

Anti-HBcAb	Australia						New Zealand					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
Positive	26	25	28	29	26	30	5	7	9	5	11	7
Negative	517	515	421	385	415	470	57	67	55	61	52	57
Not Done	11	8	14	7	13	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	554	548	463	421	454	513	62	74	64	66	63	64

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 2018 to 2023.

Table 4.9
Hepatitis B Surface Antigen Status of Actual Deceased Donors (HBsAg), 2018 - 2023

HBsAg	Australia						New Zealand					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
Positive	0	3	3	0	1	1	0	0	3	1	0	2
Negative	551	542	458	421	453	511	62	73	61	65	63	62
Not Done	3	3	2	0	0	1	0	1	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	554	548	463	421	454	513	62	74	64	66	63	64



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