



SECTION 4

Deceased Organ Donor Profile

SUMMARY

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

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Donor Demography

Tables 4.1 and 4.2 contain a detailed description of organ donors in Australia and New Zealand respectively, in 2016 compared to 2015. These data show that there continues to be more male donors than female donors, the most common donor ethnicity is Australian, and there is a preponderance of blood groups O and A.

Table 4.1

Demography of Deceased Donors in Australia 2015 - 2016							
		2015			2016		
		DBD	DCD	Total	DBD	DCD	Total
Gender	Male	185(59%)	74(62%)	259 (60%)	198(53%)	79(62%)	277 (55%)
	Female	130(41%)	46(38%)	176 (40%)	177(47%)	49(38%)	226 (45%)
Age	0-4	5(2%)	1(1%)	6 (1%)	7(2%)	3(2%)	10 (2%)
	5-14	10(3%)	3(3%)	13 (3%)	12(3%)	4(3%)	16 (3%)
	15-24	23(7%)	10(8%)	33 (8%)	51(14%)	9(7%)	60 (12%)
	25-34	42(13%)	9(8%)	51 (12%)	46(12%)	17(13%)	63 (13%)
	35-44	48(15%)	11(9%)	59 (14%)	60(16%)	15(12%)	75 (15%)
	45-54	65(21%)	21(18%)	86 (20%)	73(19%)	38(30%)	111 (22%)
	55-64	63(20%)	43(36%)	106 (24%)	70(19%)	24(19%)	94 (19%)
	65-74	47(15%)	21(18%)	68 (16%)	41(11%)	18(14%)	59 (12%)
	75+	12(4%)	1(1%)	13 (3%)	15(4%)	-	15 (3%)
BMI (kg/m2)	Underweight (<18.5)	12(4%)	5(4%)	17 (4%)	24(6%)	6(5%)	30 (6%)
	Normal (18.5-<25)	117(37%)	42(35%)	159 (37%)	143(38%)	42(33%)	185 (37%)
	Overweight (25-<30)	101(32%)	37(31%)	138 (32%)	127(34%)	52(41%)	179 (36%)
	Obese (>=30)	85(27%)	35(29%)	120 (28%)	81(22%)	28(22%)	109 (22%)
	Unknown	-	1(1%)	1 (0%)	-	-	-
Blood Group	A	126(40%)	48(40%)	174 (40%)	143(38%)	55(43%)	198 (39%)
	AB	10(3%)	5(4%)	15 (3%)	6(2%)	3(2%)	9 (2%)
	B	43(14%)	15(13%)	58 (13%)	36(10%)	13(10%)	49 (10%)
	O	136(43%)	52(43%)	188 (43%)	190(51%)	57(45%)	247 (49%)
Ethnicity							
Australian		237(75%)	89(74%)	326 (75%)	285(76%)	100(78%)	385 (77%)
Aboriginal/Torres Strait Islander		10(3%)	1(1%)	11 (3%)	15(4%)	5(4%)	20 (4%)
New Zealand European		4(1%)	1(1%)	5 (1%)	2(1%)	2(2%)	4 (1%)
New Zealand Māori		-	1(1%)	1 (0%)	5(1%)	-	5 (1%)
Pacific Islander		4(1%)	-	4 (1%)	2(1%)	1(1%)	3 (1%)
European		29(9%)	15(13%)	44 (10%)	32(9%)	11(9%)	43 (9%)
North African and Middle Eastern		2(1%)	2(2%)	4 (1%)	2(1%)	-	2 (0%)
Asian		23(7%)	9(8%)	32 (7%)	27(7%)	7(5%)	34 (7%)
American		4(1%)	1(1%)	5 (1%)	3(1%)	1(1%)	4 (1%)
Sub-Saharan African		2(1%)	1(1%)	3 (1%)	2(1%)	1(1%)	3 (1%)

Table 4.2

Demography of Deceased Donors in New Zealand 2015 - 2016

		2015			2016		
		DBD	DCD	Total	DBD	DCD	Total
Gender	Male	29(60%)	4(80%)	33 (62%)	31(56%)	4(67%)	35 (57%)
	Female	19(40%)	1(20%)	20 (38%)	24(44%)	2(33%)	26 (43%)
Age	0-4	1(2%)	-	1 (2%)	-	-	-
	5-14	8(17%)	1(20%)	9 (17%)	8(15%)	-	8 (13%)
	15-24	7(15%)	-	7 (13%)	10(18%)	1(17%)	11 (18%)
	25-34	8(17%)	1(20%)	9 (17%)	3(5%)	1(17%)	4 (7%)
	35-44	7(15%)	2(40%)	9 (17%)	9(16%)	4(67%)	13 (21%)
	45-54	10(21%)	1(20%)	11 (21%)	15(27%)	-	15 (25%)
	55-64	6(13%)	-	6 (11%)	9(16%)	-	9 (15%)
	65-74	1(2%)	-	1 (2%)	1(2%)	-	1 (2%)
	75+	1(2%)	-	1 (2%)	-	-	-
	BMI (kg/m2)	Underweight (<18.5)	1(2%)	-	1 (2%)	1(2%)	-
Normal (18.5-<25)		25(52%)	3(60%)	28 (53%)	26(47%)	4(67%)	30 (49%)
Overweight (25-<30)		16(33%)	2(40%)	18 (34%)	19(35%)	1(17%)	20 (33%)
Obese (>=30)		6(13%)	-	6 (11%)	9(16%)	1(17%)	10 (16%)
Unknown		1(2%)	-	1 (2%)	1(2%)	-	1 (2%)
Blood Group	A	15(31%)	3(60%)	18 (34%)	22(40%)	-	22 (36%)
	AB	3(6%)	-	3 (6%)	4(7%)	-	4 (7%)
	B	5(10%)	-	5 (9%)	1(2%)	1(17%)	2 (3%)
	O	25(52%)	2(40%)	27 (51%)	28(51%)	5(83%)	33 (54%)
Ethnicity							
New Zealand European		38(79%)	3(60%)	41 (77%)	36(65%)	5(83%)	41 (67%)
New Zealand Māori		3(6%)	2(40%)	5 (9%)	4(7%)	1(17%)	5 (8%)
Pacific Islander		-	-	-	1(2%)	-	1 (2%)
Australian		-	-	-	1(2%)	-	1 (2%)
European		2(4%)	-	2 (4%)	5(9%)	-	5 (8%)
North African and Middle Eastern		-	-	-	1(2%)	-	1 (2%)
Asian		2(4%)	-	2 (4%)	6(11%)	-	6 (10%)
American		3(6%)	-	3 (6%)	1(2%)	-	1 (2%)

Ethnicity categories listed in Table 4.1, 4.2 and 4.3 are based on the Australian Bureau of Statistics (ABS) and the New Zealand (NZ)

Ethnicity classifications description below:

Australian: Oceanian – Australian;

Aboriginal/Torres Strait Islander: Oceanian - Australian Aboriginal/Torres Strait Islander

New Zealander: Oceanian - New Zealand European;

Māori: Oceanian - New Zealand;

Pacific Islander: Oceanian - Melanesian And Papuan, Oceanian - Polynesian;

European: North-West European, Southern and Eastern European, Southern and Eastern European - Italian, Southern and Eastern European – Greek;

North African and Middle Eastern: North African and Middle Eastern, North African and Middle Eastern - Arab, North African and Middle Eastern – Turkish;

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

American: North American, South American, Central American;

Sub-Saharan African: Sub-Saharan African

Donor Age and Gender

In Australia in 2016, 11.7% of donors (59) were 65-74 years of age and 3% (15 donors) were aged 75 years or older. The oldest donor was 82.4 years and the youngest was less than 1 year. In New Zealand in 2016, 16.4% of donors (10) were 65 years or older. The age range was from 17 years to 80 years.

The mean age of donors in Australia in 2016 was 45.1 years. The mean age in New Zealand was 48 years. The mean age of donors in 1989 for Australia and New Zealand combined was 32.4 years and the age range was between 16.5 months and 69.5 years.

Figures 4.1 and 4.2 show donors according to age and gender in Australia and New Zealand.

Figure 4. 1 Age and Gender of Deceased Donors Australia 2008-2016

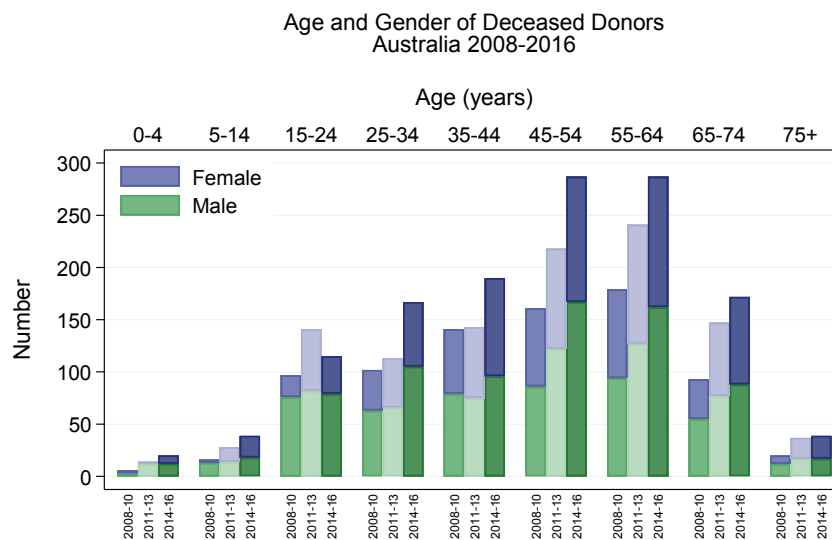
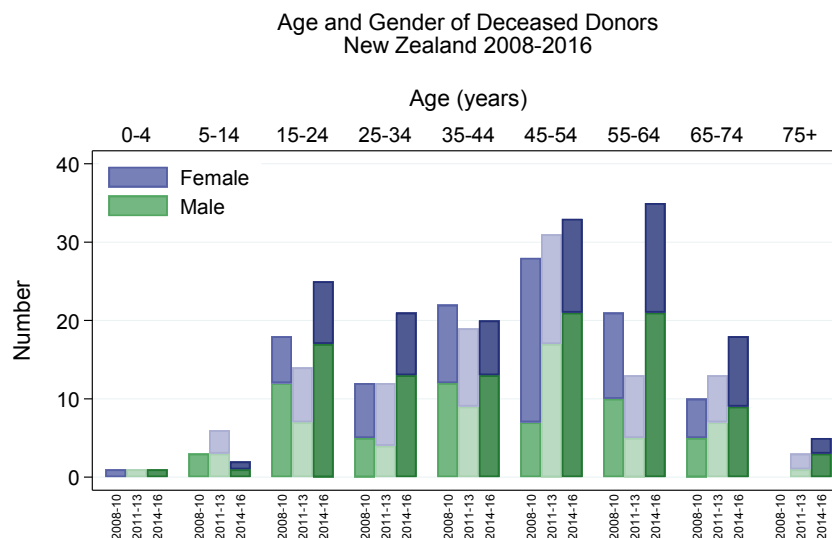
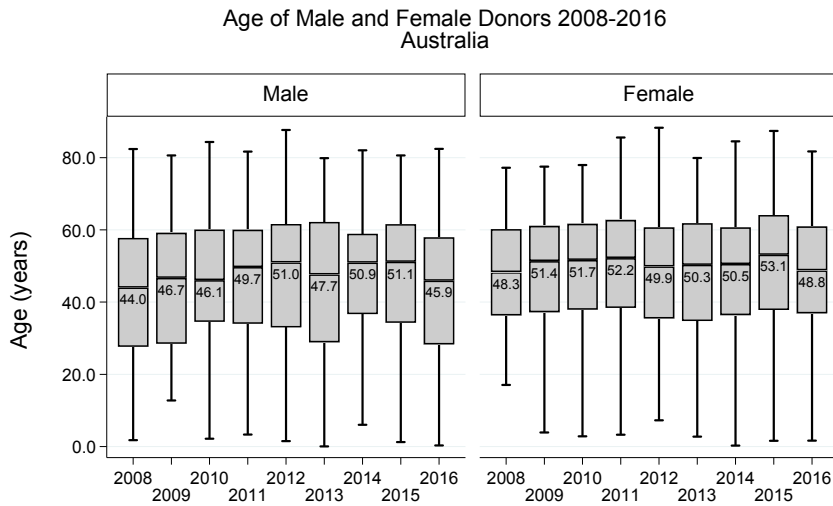


Figure 4. 2 Age and Gender of Deceased Donors New Zealand 2008-2016



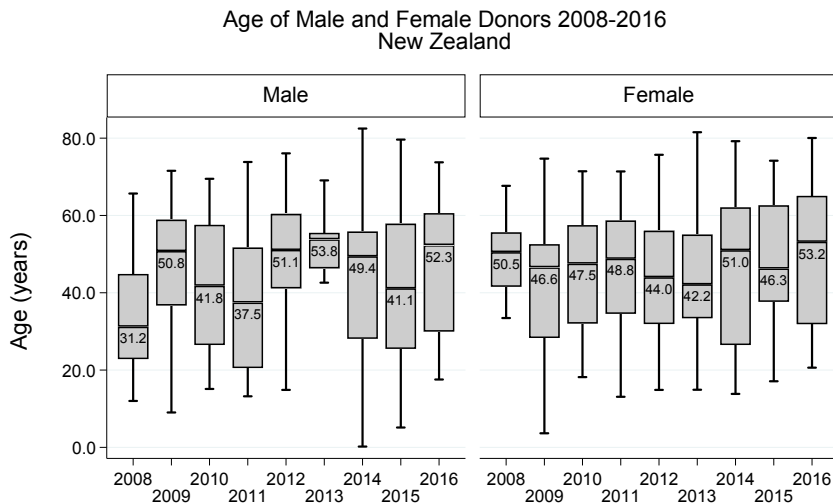
The median age for Australian donors in 2016 was 46.9 years. (Figure 4.7). The median age of donors for Australian States in 2016 ranged from 41.4 years in the Queensland to 56.7 years in the Australian Capital Territory.

Figure 4. 3 Age of Male and Female Donors 2008 - 2016 Australia



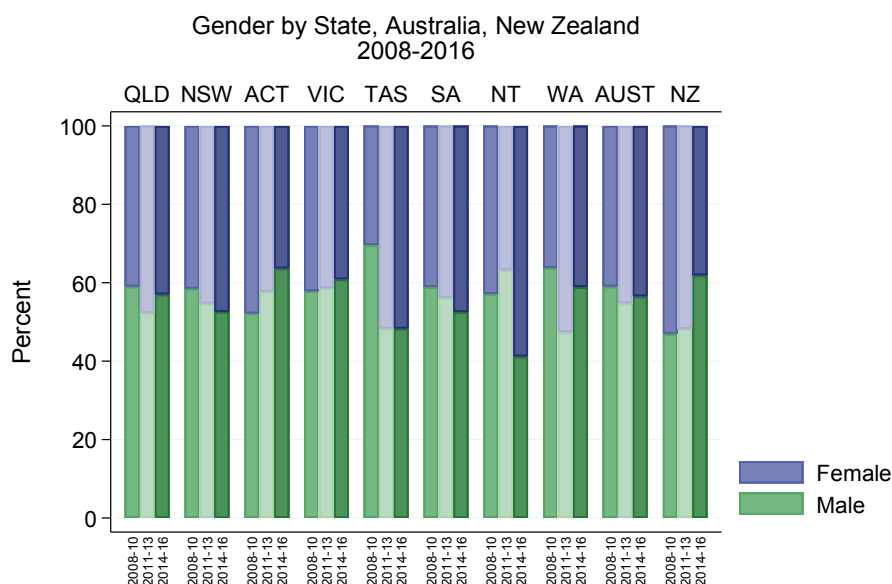
The median age for New Zealand was 53.1 years in 2016 (Figure 4.4). There was one donor aged 75 years or over and no donors aged less than 15 years.

Figure 4. 4 Age of Male and Female Donors 2008 - 2016 New Zealand



Donor gender in each State, Australia and New Zealand is shown in three-year cohorts in Figures 4.5.

Figure 4. 5 Gender by State, Australia & New Zealand 2008 - 2016



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 4.3).

Table 4.3

Ethnic Origin of Donors, 2012-2016										
Donor racial / ethnic origin	Australia					New Zealand				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Australian	320 (90%)	335 (86%)	286 (76%)	326 (75%)	385 (77%)	-	-	4 (9%)	-	1 (2%)
Australian Aboriginal/ Torres Strait Islander	4 (1%)	8 (2%)	9 (2%)	11 (3%)	20 (4%)	-	-	-	-	-
New Zealander	-	-	7 (2%)	5 (1%)	4 (1%)	28 (74%)	29 (81%)	27 (59%)	41 (77%)	41 (67%)
Māori	4 (1%)	4 (1%)	1 (0%)	1 (0%)	5 (1%)	6 (16%)	3 (8%)	6 (13%)	5 (9%)	5 (8%)
Pacific Islander	2 (1%)	3 (1%)	2 (1%)	4 (1%)	3 (1%)	1 (3%)	-	1 (2%)	-	1 (2%)
European	11 (3%)	8 (2%)	31 (8%)	44 (10%)	43 (9%)	-	-	4 (9%)	2 (4%)	5 (8%)
North African and Middle Eastern	1 (0%)	3 (1%)	2 (1%)	4 (1%)	2 (0%)	-	-	-	-	1 (2%)
Asian	11 (3%)	22 (6%)	25 (7%)	32 (7%)	34 (7%)	3 (8%)	3 (8%)	1 (2%)	2 (4%)	6 (10%)
American	-	-	10 (3%)	5 (1%)	4 (1%)	-	-	2 (4%)	3 (6%)	1 (2%)
Sub-Saharan African	1 (0%)	-	5 (1%)	3 (1%)	3 (1%)	-	-	1 (2%)	-	-
Not reported	-	8 (2%)	-	-	-	-	1 (3%)	-	-	-

Ethnicity categories listed in Table 4.3 are based on the Australian Bureau of Statistics (ABS) and the New Zealand (NZ) Ethnicity classifications.

Donor Religion

Table 4.4 shows the religion of donors. This has remained stable over the 5 years to 2016.

Table 4.4

Religion of Donors, 2012-2016										
Donor Religion	Australia					New Zealand				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Christianity	110 (31%)	122 (31%)	96 (25%)	136 (31%)	150 (30%)	5 (13%)	3 (8%)	4 (9%)	3 (6%)	4 (7%)
Judaism	-	3 (1%)	2 (1%)	2 (0%)	1 (0%)	-	-	-	-	1 (2%)
Islam	1 (0%)	2 (1%)	-	1 (0%)	3 (1%)	-	-	-	-	-
Buddhism	4 (1%)	1 (0%)	7 (2%)	6 (1%)	8 (2%)	-	-	-	-	-
Hinduism	2 (1%)	-	2 (1%)	3 (1%)	4 (1%)	-	1 (3%)	-	-	-
Others	-	5 (1%)	3 (1%)	4 (1%)	6 (1%)	-	-	-	-	-
No religion	59 (17%)	77 (20%)	87 (23%)	92 (21%)	123 (24%)	-	-	1 (2%)	-	-
Unknown	178 (50%)	181 (46%)	181 (48%)	191 (44%)	208 (41%)	33 (87%)	32 (89%)	41 (89%)	50 (94%)	56 (92%)

Donor Weight

The allocation of heart, lungs and livers are based in part on the matching of recipient and donor size and weight. In 2016 there were 19 donors in Australia and no donors in New Zealand who weighed less than 40 kilograms. There were 57 donors 100 kilograms and over in Australia and nine donors in New Zealand. (Table 4.5)

Table 4.5

Donor Weight in kilograms 2012 – 2016												
		0-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100+	Total
AUSTRALIA	2012	2	4	0	7	23	73	70	85	44	46	354
	2013	10	2	3	7	24	62	95	90	53	45	391
	2014	4	4	2	4	29	53	104	86	54	38	378
	2015	7	4	3	8	33	70	93	86	63	68	435
	2016	9	6	4	10	34	82	115	113	73	57	503
NEW ZEALAND	2012	0	0	0	0	6	5	10	5	8	4	38
	2013	1	0	1	0	3	9	11	4	5	2	36
	2014	1	0	0	0	3	8	7	16	7	4	46
	2015	0	1	0	0	3	12	12	11	10	4	53
	2016	0	0	0	1	8	9	17	12	5	9	61

Donor Medical Conditions

Table 4.6 lists the medical conditions of donors by States, Territories and Country for 2016 by Donor type.

Table 4.6

Comorbid Medical Conditions of Actual Deceased Donors 2016											
Donor Type	Medical Condition	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUS	NZ
DBD	Diabetes Type I	2	3	1	1	0	0	0	0	7	0
	Diabetes Type II	4	10	0	1	1	3	0	2	21	2
	Hypertension	23	28	6	20	3	9	2	10	101	19
	Smoking-Current	40	33	4	28	4	16	1	23	149	16
	Cancer	1	13	1	2	1	4	0	2	24	3
DCD	Diabetes Type I	1	0	0	0	0	0	0	0	1	0
	Diabetes Type II	1	4	0	5	0	0	0	0	10	0
	Hypertension	4	13	3	14	1	1	0	1	37	1
	Smoking-Current	4	10	2	23	0	3	1	2	45	2
	Cancer	1	4	1	3	0	0	0	0	9	1

Diabetes

There were 39 donors with diabetes in Australia in 2016, eight donors with Type 1 and 31 with Type 2 diabetes. There were 2 donors in New Zealand with diabetes, both with Type 2. In Australia, there were no diabetic donors that did not have organs retrieved. The 31 Type 2 donors provided 88 organ and tissue grafts for transplantation. This included on Double adult kidney, 39 single kidneys, 13 livers, six double lungs and three hearts. The eight Type 1 diabetic donors, provided 20 organs; eight single kidneys, six livers, three double lungs, two hearts and one single lung.

In New Zealand, the two Type 2 diabetic donors provided a liver and a double lung transplant.

Hypertension

A past history of hypertension was recorded in 27.4% of donors (137) in Australia and 32.7% (20) donors in New Zealand in 2016. (Table 4.6)

Smoking

In 2016, 38.5% (186) of Australian donors were recorded as current smokers while in New Zealand, 29.5% (18) donors were reported as current smokers.

Cancer in Donor

In Australia, 33 donors had a past history of cancer prior to donation. There were 12 donors with skin only cancers, 16 with non-skin cancers, one donor with both skin and nonskin cancer history and four donors of an uncertain cancer history. In New Zealand, four donors had a past history of cancer, three with non-skin cancer diagnoses and one with a history of skin cancer.

Virology Screening

Table 4.7 lists the cytomegalovirus (CMV) status of donors by Country from 2011 to 2016.

Table 4.7

Cytomegalovirus (CMV IgG) Status of Donors, 2011 – 2016												
	Australia						New Zealand					
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Positive	214	225	242	228	268	332	21	30	21	23	26	33
Negative	123	129	148	148	167	169	17	8	15	23	27	26
Unknown	0	0	1	2	0	2	0	0	0	0	0	2
Indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
Pending	0	0	0	0	0	0	0	0	0	0	0	0
Total	337	354	391	378	435	503	38	38	36	46	53	61

Table 4.8 shows the Epstein-Barr Virus (EBV) status of donors from 2011 to 2016.

Table 4.8

Epstein-Barr Virus (EBV IgG) Status of Actual Deceased Donors, 2011 – 2016												
	Australia						New Zealand					
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Positive	293	321	356	339	402	462	27	33	27	37	36	53
Negative	28	33	33	30	28	38	4	1	4	5	13	6
Unknown	16	0	2	5	1	2	7	4	5	3	3	2
Indeterminate	0	0	0	1	0	1	0	0	0	1	0	0
Pending	0	0	0	3	4	0	0	0	0	0	1	0
Total	337	354	391	378	435	503	38	38	36	46	53	61

Table 4.9 shows there were eighteen Hepatitis C positive consented donors in 2016 reported to the Registry; seventeen in Australia and one in New Zealand.

Table 4.9

Hepatitis C Antibody Status of Donors (Anti-HCV), 2011 - 2016												
	Australia						New Zealand					
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Positive	7	5	13	8	11	17	1	2	1	2	1	1
Negative	330	349	378	364	420	482	37	36	35	44	52	59
Unknown	0	0	0	6	4	4	0	0	0	0	0	1
Indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
Total	337	354	391	378	435	503	38	38	36	46	53	61

Table 4.10 shows the results of consented donors tested since 2011 to 2016.

Table 4.10

Hepatitis B Core Antibody Status of Donors (Anti-HBcAb), 2011 – 2016												
	Australia						New Zealand					
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Positive	11	15	17	21	20	19	5	8	2	3	3	7
Negative	326	339	374	337	394	473	33	30	34	42	50	54
Unknown	0	0	0	20	21	11	0	0	0	1	0	0
Indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
Total	337	354	391	378	435	503	38	38	36	46	53	61

Since 1993, all consented donors in Australia and New Zealand have been tested for Hepatitis B surface antigen. Table 4.11 shows the status of donors tested since 2011 to 2016.

Table 4.11

Hepatitis B Surface Antigen Status of Donors (HBsAg), 2011 - 2016												
	Australia						New Zealand					
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Positive	0	0	2	1	0	2	0	0	2	1	0	1
Negative	337	354	389	375	431	499	38	38	34	45	53	60
Unknown	0	0	0	2	4	2	0	0	0	0	0	0
Indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
Total	337	354	391	378	435	503	38	38	36	46	53	61

Suggested Citation:

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