



SECTION 10

Eye and Tissue Donation and Transplantation

This section summarises data on eye and tissue donation activity and transplant outcomes in 2023. The data presented here is provided by eye and tissue banks across Australia, in conjunction with data collected within the solid organ donation sector.

CONTENTS

Eye and Tissue Reporting	3
Suggested Citation	3
Eye and Tissue Banks	4
Tissue Donors	5
Tissue Donor Characteristics	7
Tissue Donation	8
Type of Tissue Donation	12
Outcome of Tissue Donation	14
Outcome of Tissue Donation by Tissue Type	15
Eye Donors	17
Eye Donor Characteristics	19
Eye Donation Outcome	20

[BACK TO CONTENTS](#)

EYE AND TISSUE REPORTING

The collaboration between the Australian Organ and Tissue Authority (OTA), jurisdictional eye and tissue banks and the ANZOD Registry continues to strengthen the national reporting of tissue data. Reported datasets and analyses produced by the Registry inform the discussions held by health care professionals, policy makers, consumers and individual agencies to optimise every potential donation opportunity and to increase access to life-transforming transplantation for Australians - See more at <https://www.donatelife.gov.au/about-us>.

SUGGESTED CITATION

H Opdam, C Davies, K Marshall, G Irish 28th Report, Section 10: Eye and Tissue Donation and Transplantation. Australia and New Zealand Organ Donation Registry, Adelaide, Australia. 2024. Available at <https://www.anzdata.org.au/anzod/publications-2/annual-reports/>

[BACK TO CONTENTS](#)

EYE AND TISSUE BANKS

Eye and tissue banks across Australia collect data on donations of eye, cardiovascular, musculoskeletal, skin, pancreas islets, and amnion tissues. The following summary outlines the uses of these tissue donations.

Musculoskeletal

These include bone, tendon, and ligament donations, which are used in knee and hip replacements, reconstructive orthopaedic surgery following trauma or disease, spinal deformities, and in preventing limb loss after tumour removal. A single musculoskeletal donation can benefit multiple recipients, significantly enhancing their quality of life.

Cardiovascular Tissue

Donations include heart valves, pericardium, and thoracic aorta. Heart valves are essential for regulating blood flow to and from the heart. The pericardium is used in neurosurgery and for vascular repair, similar to the thoracic aorta.

Skin

Donated skin is vital for saving lives and improving outcomes for patients with severe burns. When a patient's own skin cannot be used for grafting, donated skin serves as a wound dressing, reducing infection, fluid loss, and pain, promoting wound healing, and minimizing scarring. Patients often need multiple grafts for complete healing. Skin grafts are also used to treat wounds from trauma and serious infections.

Eye Tissue

This can restore sight, prevent blindness, and significantly improve an individual's quality of life. Donor eye tissues, including corneal and scleral tissue, are also crucial for advancing research and developing surgical techniques.

Placental Tissue (Amnion)

The amnion, the innermost layer of the placenta, has significant potential in treating wounds and burns. It serves as a protective barrier and is used for various medical applications.

Pancreatic Islets

These clusters of cells, derived from a donated pancreas, are transplanted into recipients to treat insulin-dependent Type 1 diabetes, especially in cases where blood glucose levels are difficult to control, leading to hypoglycaemic unawareness.

TISSUE DONORS

Table 10.1 summarises the number of tissue donors by donation pathway and jurisdiction from 2019 to 2023.

Table 10.1
Number of Tissue Donors by Donation Pathway and Jurisdiction 2019-2023

Donation Type	Jurisdiction	2019	2020	2021	2022	2023
Living Donor	NSW	2054 (57.9%)	1528 (56.1%)	1603 (53.5%)	1262 (51.1%)	1443 (48.8%)
	VIC	336 (9.5%)	175 (6.4%)	182 (6.1%)	130 (5.3%)	99 (3.3%)
	QLD	230 (6.5%)	256 (9.4%)	341 (11.4%)	224 (9.1%)	264 (8.9%)
	SA	213 (6%)	138 (5.1%)	167 (5.6%)	150 (6.1%)	172 (5.8%)
	WA	705 (19.9%)	619 (22.7%)	701 (23.4%)	706 (28.6%)	979 (33.1%)
	TAS	7 (.2%)	10 (.4%)	0 (0%)	0 (0%)	0 (0%)
	NT	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	ACT	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	AUS	3545 (100%)	2726 (100%)	2994 (100%)	2472 (100%)	2957 (100%)
Deceased Donor	NSW	83 (27.7%)	70 (24.8%)	67 (21.4%)	95 (36.5%)	110 (33.5%)
	VIC	82 (27.3%)	79 (28%)	89 (28.4%)	56 (21.5%)	68 (20.7%)
	QLD	106 (35.3%)	100 (35.5%)	133 (42.5%)	81 (31.2%)	115 (35.1%)
	SA	8 (2.7%)	11 (3.9%)	12 (3.8%)	9 (3.5%)	19 (5.8%)
	WA	14 (4.7%)	15 (5.3%)	9 (2.9%)	12 (4.6%)	12 (3.7%)
	TAS	2 (.7%)	1 (.4%)	2 (.6%)	4 (1.5%)	2 (.6%)
	NT	0 (0%)	2 (.7%)	0 (0%)	0 (0%)	1 (.3%)
	ACT	5 (1.7%)	4 (1.4%)	1 (.3%)	3 (1.2%)	1 (.3%)
	AUS	300 (100%)	282 (100%)	313 (100%)	260 (100%)	328 (100%)
Total Donors	NSW	2137 (55.6%)	1598 (53.1%)	1670 (50.5%)	1357 (49.7%)	1553 (47.3%)
	VIC	418 (10.9%)	254 (8.4%)	271 (8.2%)	186 (6.8%)	167 (5.1%)
	QLD	336 (8.7%)	356 (11.8%)	474 (14.3%)	305 (11.2%)	379 (11.5%)
	SA	221 (5.7%)	149 (5%)	179 (5.4%)	159 (5.8%)	191 (5.8%)
	WA	719 (18.7%)	634 (21.1%)	710 (21.5%)	718 (26.3%)	991 (30.2%)
	TAS	9 (.2%)	11 (.4%)	2 (.1%)	4 (.1%)	2 (.1%)
	NT	0 (0%)	2 (.1%)	0 (0%)	0 (0%)	1 (0%)
	ACT	5 (.1%)	4 (.1%)	1 (0%)	3 (.1%)	1 (0%)
	AUS	3845 (100%)	3008 (100%)	3307 (100%)	2732 (100%)	3285 (100%)

Figure 10.1 shows the tissue donors per million population (pmp) across each donation pathway from 2019 to 2023. Figure 10.2 shows the tissue donors (pmp) across each jurisdiction from 2019 to 2023.

Figure 10.1
Tissue Donors (pmp) by Donation Pathway, 2019-2023

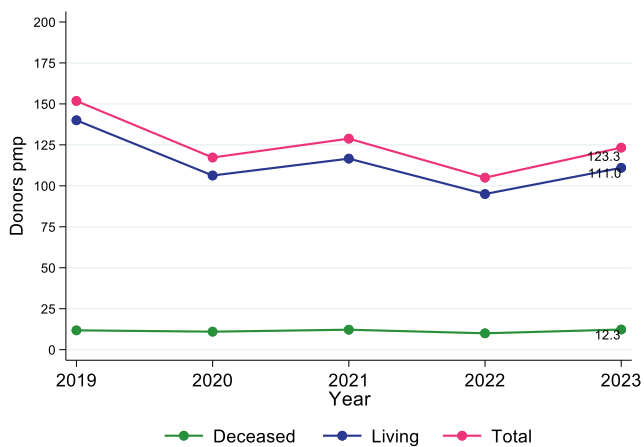
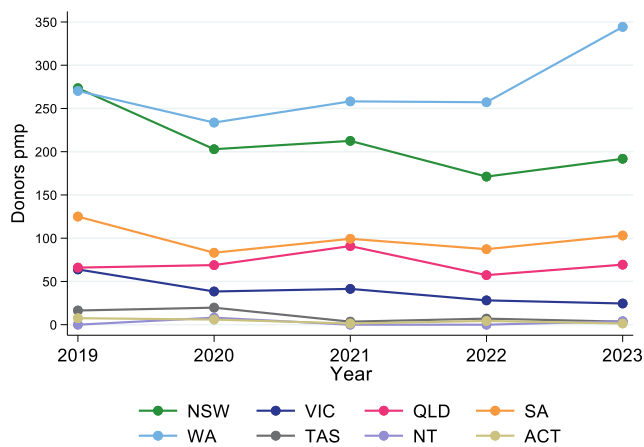


Figure 10.2
Tissue Donors (pmp) by Jurisdiction, 2019-2023



TISSUE DONOR CHARACTERISTICS

Tissue donor characteristics between 2019 and 2023 are described in Table 10.2.

Table 10.2
Donor Characteristics Profile, 2019-2023

Donor Profile	2019	2020	2021	2022	2023
Gender					
Female	2009 (52.2%)	1489 (49.5%)	1740 (52.6%)	1369 (50.1%)	1738 (52.9%)
Male	1836 (47.8%)	1519 (50.5%)	1567 (47.4%)	1363 (49.9%)	1547 (47.1%)
Age					
<50y	426 (11.1%)	354 (11.8%)	410 (12.4%)	327 (12%)	415 (12.6%)
50-59y	838 (21.8%)	652 (21.7%)	673 (20.4%)	562 (20.6%)	655 (19.9%)
60-69y	1306 (34%)	1017 (33.8%)	1164 (35.2%)	927 (33.9%)	1095 (33.3%)
70-79y	964 (25.1%)	774 (25.7%)	811 (24.5%)	701 (25.7%)	875 (26.6%)
80y+	311 (8.1%)	211 (7%)	249 (7.5%)	215 (7.9%)	245 (7.5%)

Figure 10.3 shows the tissue donors (pmp), across age ranges from 2019 to 2023.

Figure 10.4 shows the number of tissue donors, by age range and donation type from 2019 to 2023.

Figure 10.3
Tissue Donors (pmp) by Age Range, 2019-2023

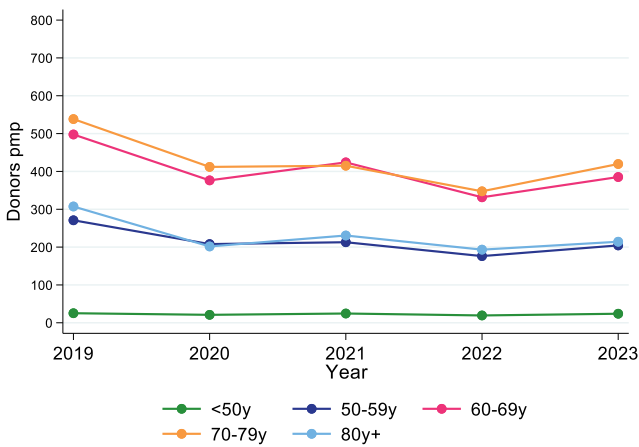


Figure 10.4
Number of Donors by Age Range and Donor Pathway, 2019-2023



TISSUE DONATION

Figure 10.5
Donations by Donation Pathway: Overall Australia, 2019-2023

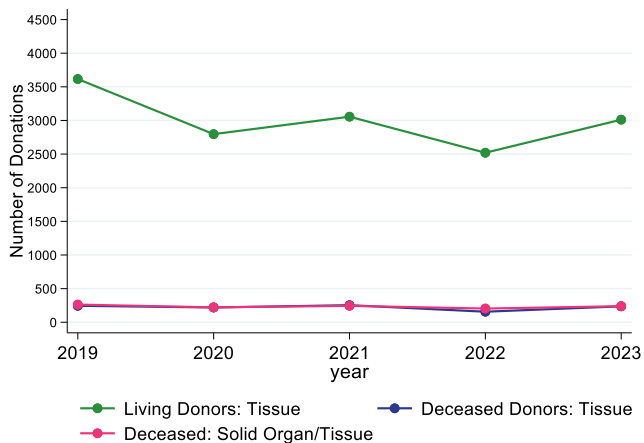


Figure 10.6
Total Tissue Donations (pmp) by Jurisdiction, 2019-2023

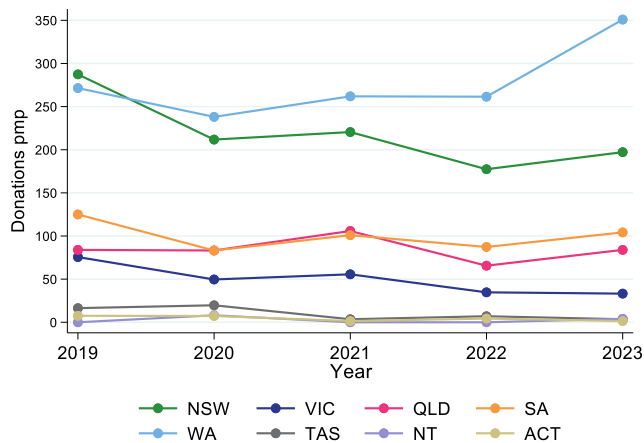


Table 10.3 shows the total number and percentage of tissue donations, by donation pathway and jurisdiction from 2019 to 2023.

Table 10.3
Number of Tissue Donations by Donor Type and Jurisdiction 2019-2023

Donation Type	Jurisdiction	2019	2020	2021	2022	2023
Living Donor Donations	NSW	2111 (58.4%)	1584 (56.6%)	1650 (54%)	1298 (51.5%)	1476 (49%)
	VIC	336 (9.3%)	175 (6.3%)	182 (6%)	130 (5.2%)	100 (3.3%)
	QLD	241 (6.7%)	259 (9.3%)	345 (11.3%)	224 (8.9%)	267 (8.9%)
	SA	213 (5.9%)	138 (4.9%)	168 (5.5%)	150 (6%)	172 (5.7%)
	WA	708 (19.6%)	631 (22.6%)	711 (23.3%)	718 (28.5%)	997 (33.1%)
	TAS	7 (.2%)	10 (.4%)	0 (0%)	0 (0%)	0 (0%)
	NT	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	ACT	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	AUS	3616 (100%)	2797 (100%)	3056 (100%)	2520 (100%)	3012 (100%)
Deceased Donor Donations	NSW	135 (26.6%)	84 (19%)	83 (16.7%)	108 (29.9%)	121 (25.4%)
	VIC	158 (31.1%)	153 (34.6%)	182 (36.5%)	100 (27.7%)	126 (26.5%)
	QLD	186 (36.6%)	171 (38.7%)	207 (41.6%)	125 (34.6%)	191 (40.1%)
	SA	8 (1.6%)	11 (2.5%)	14 (2.8%)	9 (2.5%)	21 (4.4%)
	WA	14 (2.8%)	15 (3.4%)	9 (1.8%)	12 (3.3%)	13 (2.7%)
	TAS	2 (.4%)	1 (.2%)	2 (.4%)	4 (1.1%)	2 (.4%)
	NT	0 (0%)	2 (.5%)	0 (0%)	0 (0%)	1 (.2%)
	ACT	5 (1%)	5 (1.1%)	1 (.2%)	3 (.8%)	1 (.2%)
	AUS	508 (100%)	442 (100%)	498 (100%)	361 (100%)	476 (100%)
Total Donations	NSW	2246 (54.5%)	1668 (51.5%)	1733 (48.8%)	1406 (48.8%)	1597 (45.8%)
	VIC	494 (12%)	328 (10.1%)	364 (10.2%)	230 (8%)	226 (6.5%)
	QLD	427 (10.4%)	430 (13.3%)	552 (15.5%)	349 (12.1%)	458 (13.1%)
	SA	221 (5.4%)	149 (4.6%)	182 (5.1%)	159 (5.5%)	193 (5.5%)
	WA	722 (17.5%)	646 (19.9%)	720 (20.3%)	730 (25.3%)	1010 (29%)
	TAS	9 (.2%)	11 (.3%)	2 (.1%)	4 (.1%)	2 (.1%)
	NT	0 (0%)	2 (.1%)	0 (0%)	0 (0%)	1 (0%)
	ACT	5 (.1%)	5 (.2%)	1 (0%)	3 (.1%)	1 (0%)
	AUS	4124 (100%)	3239 (100%)	3554 (100%)	2881 (100%)	3488 (100%)

Figure 10.7
Tissue Donations (pmp) from Living Donors by Jurisdiction, 2019-2023

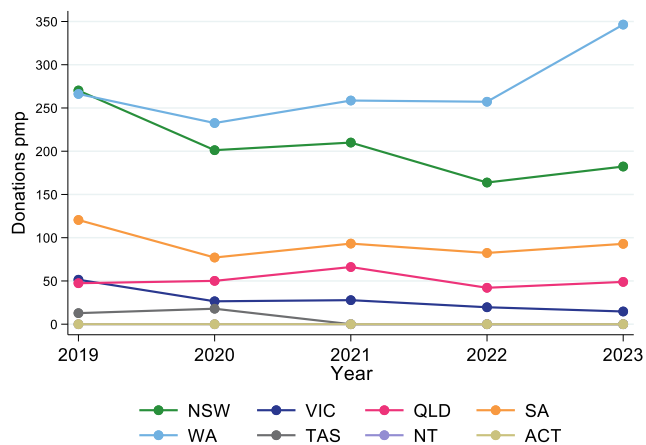


Table 10.4 shows the breakdown of donation from living donors by tissue type and jurisdiction.

Table 10.4
Tissue Donations from Living Donors by Tissue Type and Jurisdiction, 2023

Jurisdiction	Musculoskeletal	Cardiovascular	Amnion	Total
NSW	1399	35	42	1476
VIC	95	5	0	100
QLD	267	0	0	267
SA	172	0	0	172
WA	997	0	0	997
TAS	0	0	0	0
NT	0	0	0	0
ACT	0	0	0	0
AUS	2930	40	42	3012

Figures 10.8 and 10.9 show the breakdown of deceased tissue only and solid organ and tissue donation, by jurisdiction, for the period 2019 to 2023.

Figure 10.8
Tissue Donations from Deceased Donors by Jurisdiction, 2019-2023

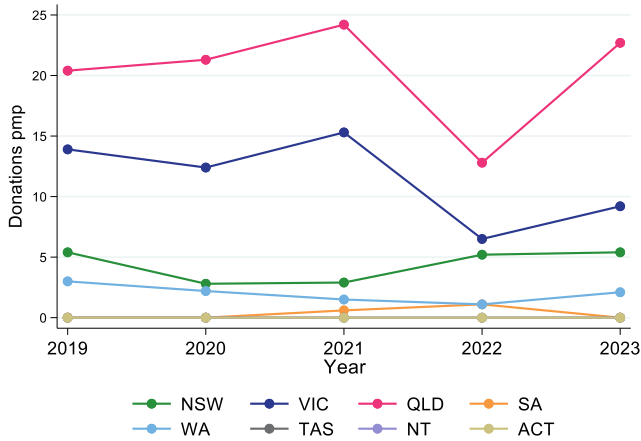


Figure 10.9
Solid Organ and Tissue Donations (pmp) from Deceased Donors by Jurisdiction, 2019-2023

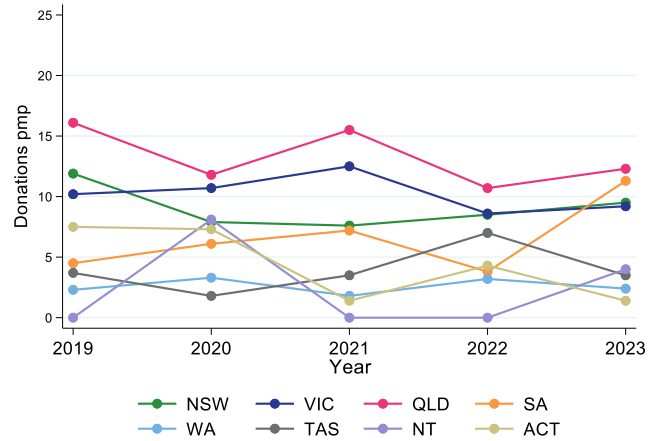


Table 10.5 shows the breakdown of donation from deceased donors by tissue type, donation sector and jurisdiction.

Table 10.5
Tissue Donations (pmp) from Deceased Donors by Jurisdiction and Donation Sector, 2023

	Tissue Only Sector				Solid Organ/Tissue Sector				Tissue Total			
	ms	cv	skin	pi	ms	cv	skin	pi	ms	cv	skin	pi
NSW	36	8	0	0	17	57	0	3	53	65	0	3
VIC	25	7	31	0	21	18	23	1	46	25	54	1
QLD	66	1	57	0	21	27	19	0	87	28	76	0
SA	0	0	0	0	0	19	0	2	0	19	0	2
WA	6	0	0	0	5	0	0	2	11	0	0	2
TAS	0	0	0	0	0	2	0	0	0	2	0	0
NT	0	0	0	0	0	1	0	0	0	1	0	0
ACT	0	0	0	0	0	1	0	0	0	1	0	0
AUS	133	16	88	0	64	125	42	8	197	141	130	8

ms = musculoskeletal tissue | cv = cardiovascular tissue | pi = pancreas islets

TYPE OF TISSUE DONATION

Tissue Donations are reported by donation pathway for musculoskeletal, cardiovascular, skin and pancreas islet tissue.

MUSCULOSKELETAL DONATION

Figures 10.10 and 10.11 show the number of musculoskeletal tissue donations by jurisdiction (2019 to 2023) from living and deceased donors.

Figure 10.10
Musculoskeletal Tissue Donations (pmp) from Living Donors by Jurisdiction, 2019-2023

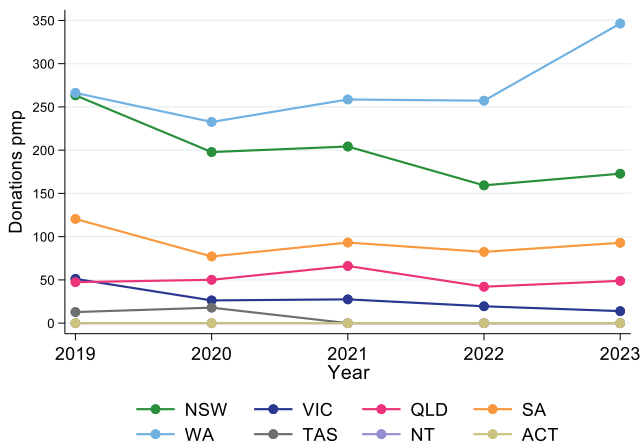
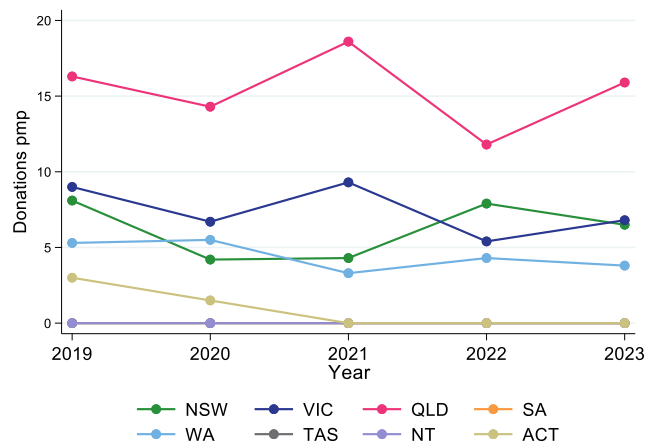


Figure 10.11
Musculoskeletal Tissue Donations (pmp) from Deceased Donors by Jurisdiction, 2019-2023



CARDIOVASCULAR DONATION

Figures 10.12 and 10.13 show the breakdown cardiovascular tissue donation by jurisdiction (2019 to 2023) from living and deceased donors.

Figure 10.12
Cardiovascular Tissue Donations (pmp) from Living Donors by Jurisdiction, 2019-2023

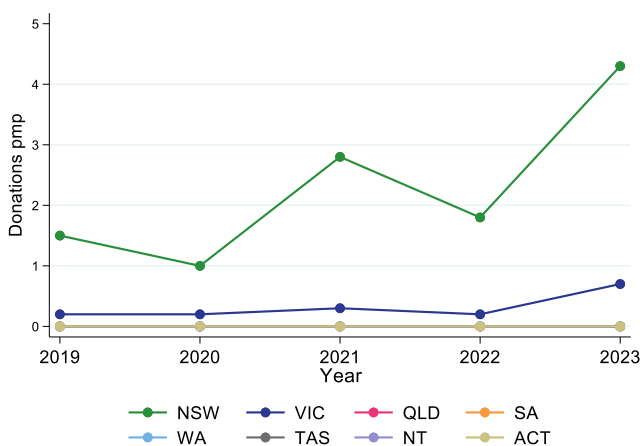
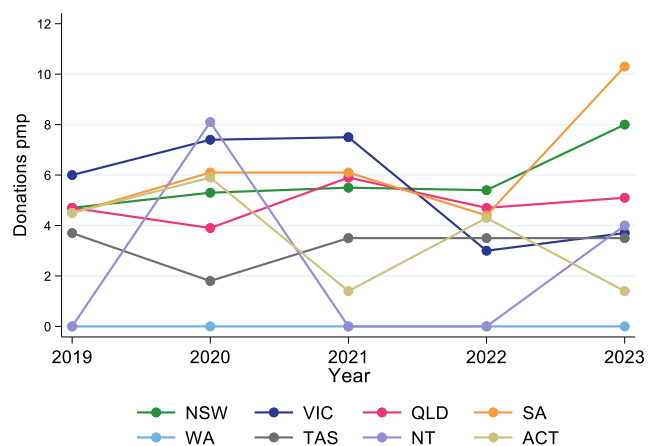


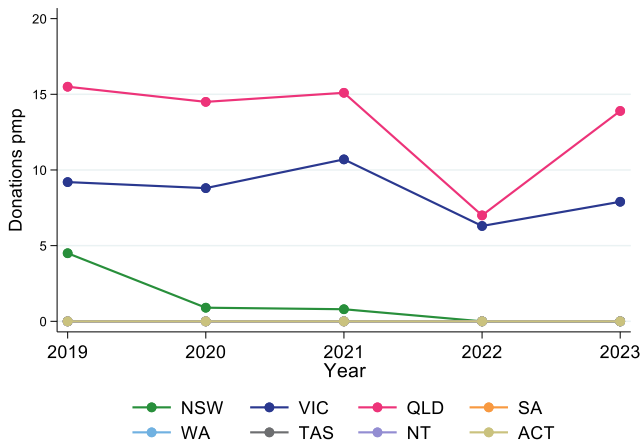
Figure 10.13
Cardiovascular Tissue Donations (pmp) from Deceased Donors by Jurisdiction, 2019-2023



SKIN DONATION

Figure 10.14 shows the breakdown of skin donations by jurisdiction from 2019 to 2023.

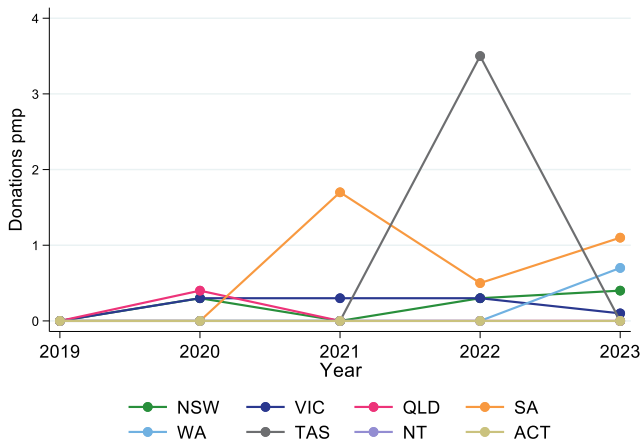
Figure 10.14
Skin Tissue Donations (pmp) from Deceased Donors by Jurisdiction, 2019-2023



PANCREAS ISLET DONATION

Figure 10.15 shows the breakdown of pancreas islet donations by jurisdiction from 2019 to 2023.

Figure 10.15
Pancreas Islet Donations (pmp) from Deceased Donors by Jurisdiction, 2019-2023



OUTCOME OF TISSUE DONATION

Musculoskeletal, cardiovascular, amnion and skin tissue donated for the purpose of transplantation can be stored for a period of time before a transplant occurs. Therefore, the numbers reported for grafts and recipients of tissue, in this section, represent transplantation outcomes for the reporting period only, not the outcome of donations for the reporting period.

A tissue transplant recipient can receive one or more tissue grafts in one or more transplant events. Tissue transplantation counts are reported by tissue banks as the number of notified transplants and notified recipients from tissue retrieved by that tissue bank.

Table 10.6 shows the overall number of notified^{1,2} tissue transplants (grafts) and recipients for 2019-2023.

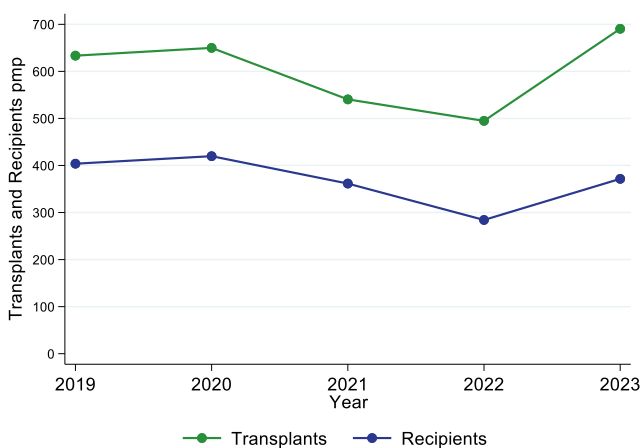
Table 10.6
Notified Tissue Transplants and Recipients*, 2019-2023

	2019	2020	2021	2022	2023
Transplants	16046	16669	13884	12871	18394
Recipients	10229	10767	9289	7393	9898

*Excludes pancreas islet transplants and recipients.

Figure 10.16 shows the number of notified^{1,2} tissue transplants (grafts) and recipients per million population for 2019-2023.

Figure 10.16
Notified Tissue Transplants and Recipients (pmp), 2019-2023



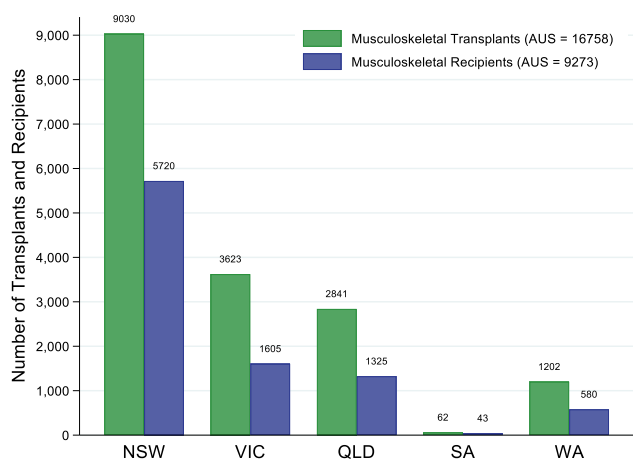
1. Notified tissue transplant is defined as the 'Number of grafts implanted into recipients, that banks have been notified of'.
2. Notified tissue recipient is defined as the 'Number of recipients notified to the bank, who receive one or more graft implants during a single transplant event'.
3. Excludes pancreas islet transplants and recipients.

OUTCOME OF TISSUE DONATION BY TISSUE TYPE

The following graphs represent the outcome of tissue donation by tissue type and the number of recipients who received tissue graft transplant by tissue type. (Figures 10.17 to Figure 10.20)

Figure 10.17 shows the number of notified^{1,2} musculoskeletal tissue transplants and recipients by jurisdiction of retrieval for 2023.

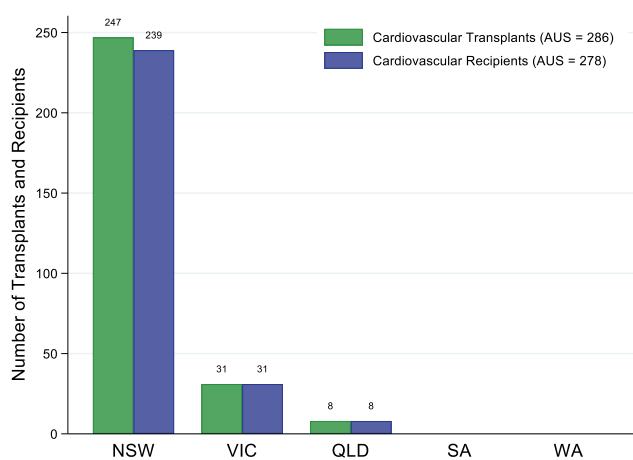
Figure 10.17
Number of Notified Musculoskeletal Transplants and Recipients by Jurisdiction of Retrieval, 2023



1. Notified tissue transplant is defined as the 'Number of grafts implanted into recipients, that banks have been notified of'.
2. Notified tissue recipient is defined as the 'Number of recipients notified to the bank, who receive one or more graft implants during a single transplant event'.

Figure 10.18 shows the number of notified^{1,2} cardiovascular tissue transplants and recipients by jurisdiction of retrieval for 2023.

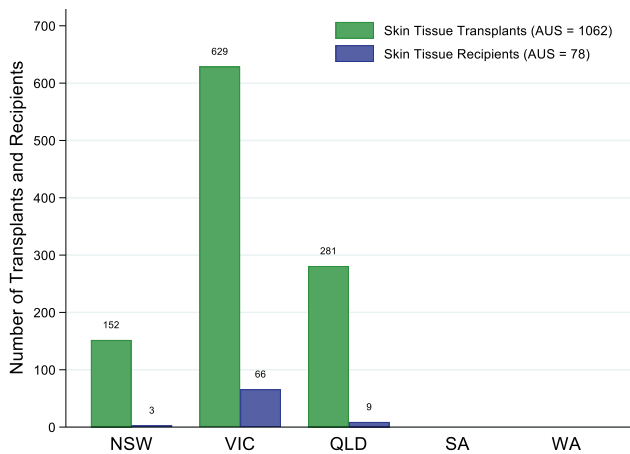
Figure 10.18
Number of Notified Cardiovascular Transplants and Recipients by Jurisdiction of Retrieval, 2023



1. Notified tissue transplant is defined as the 'Number of grafts implanted into recipients, that banks have been notified of'.
2. Notified tissue recipient is defined as the 'Number of recipients notified to the bank, who receive one or more graft implants during a single transplant event'.

Figure 10.19 shows the number of notified^{1,2} skin tissue transplants and recipients by jurisdiction of retrieval for 2023.

Figure 10.19
Number of Notified Skin Tissue Transplants and Recipients by Jurisdiction of Retrieval, 2023

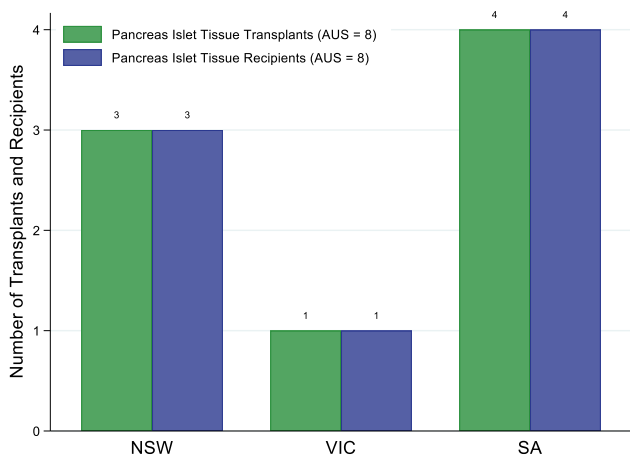


1 Notified tissue transplant is defined as the 'Number of grafts implanted into recipients, that banks have been notified of'.

2 Notified tissue recipient is defined as the 'Number of recipients notified to the bank, who receive one or more graft implants during a single transplant event'.

In Australia, there are three pancreas islets transplanting units (Westmead in New South Wales, Monash in Victoria and Royal Adelaide Hospital in South Australia). Figure 10.20 shows the number of notified^{1,2} pancreas islet transplants and recipients by jurisdiction of transplant for 2023.

Figure 10.20
Number of Pancreas Islet Tissue Transplants and Recipients by Jurisdiction of Transplant, 2023



1 Notified tissue transplant is defined as the 'Number of grafts implanted into recipients, that banks have been notified of'.

2 Notified tissue recipient is defined as the 'Number of recipients notified to the bank, who receive one or more graft implants during a single transplant event'.

EYE DONORS

The total numbers reported in this section may include duplicate counts of donors that are also multi-organ and tissue donors or multi-tissue donors, where the donor coordination was performed by another donation agency. Where there is no eye bank in a jurisdiction, eye donation is managed from a satellite jurisdiction. This data is provided from Australian eye banks. Table 10.7 shows the total number of eye donors by jurisdiction from 2019 to 2023.

Table 10.7
Number of Eye Donors by Jurisdiction 2019-2023

State	2019	2020	2021	2022	2023
NSW	406	369	383	407	453
VIC	334	265	300	263	272
QLD	454	419	479	485	522
SA	135	108	147	138	118
WA	138	131	135	160	154
TAS	20	14	16	15	18
NT	0	0	0	0	0
ACT	21	12	12	9	8
AUS	1508	1318	1472	1477	1545

Figure 10.21 represents the number of eye donors from each Australian jurisdiction for the reporting period 2019 to 2023. Figure 10.22 represents the number of eye donors by donation pathway from 2019 to 2023.

Figure 10.21
Eye Donors (pmp) by Jurisdiction, 2019-2023

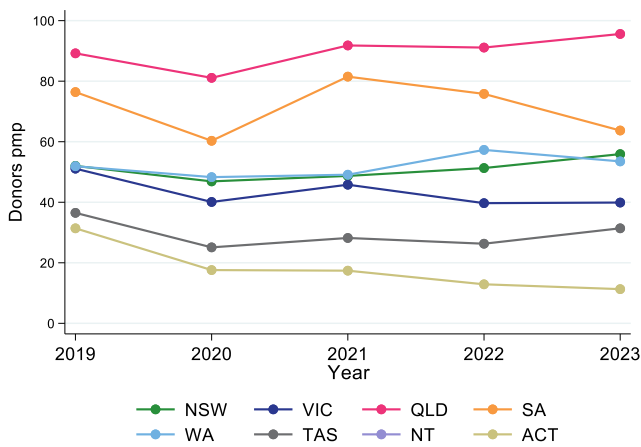
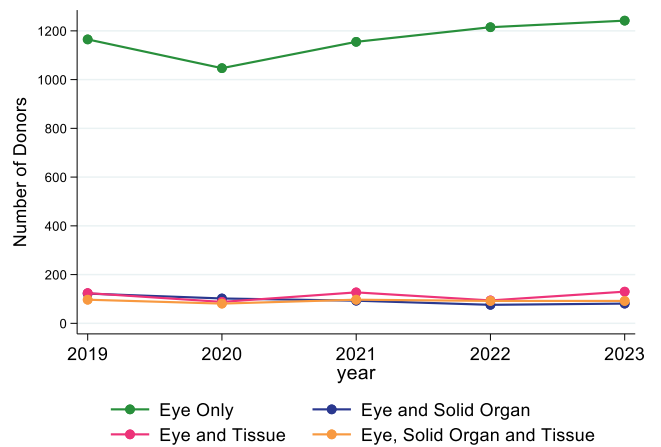


Figure 10.22
Number of Eye Donors by Donation Pathway, Australia, 2019-2023



Figures 10.23 to Figure 10.26 represent the number of donors by donor type and jurisdiction, for 2023.

Figure 10.23
Eye Donors only (pmp) by Jurisdiction, 2019-2023

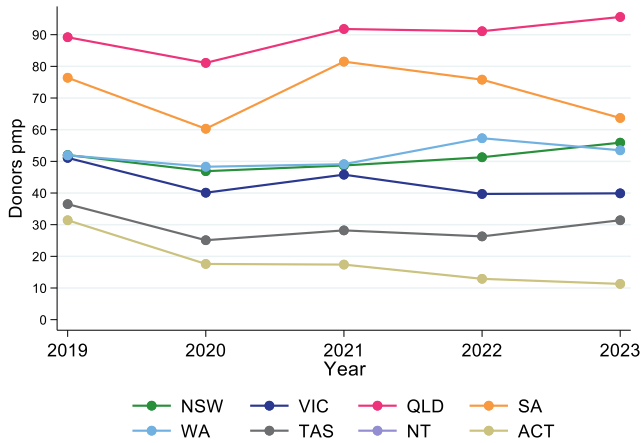


Figure 10.24
Eye and Tissue Donors (pmp) by Jurisdiction, 2019-2023

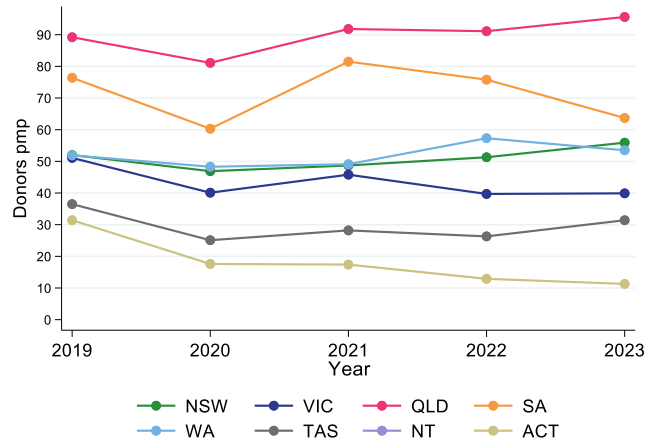


Figure 10.25
Eye and Solid Organ Donors (pmp) by Jurisdiction, 2019-2023

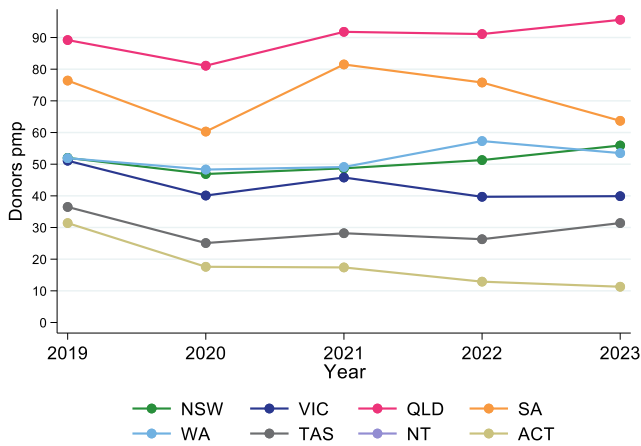
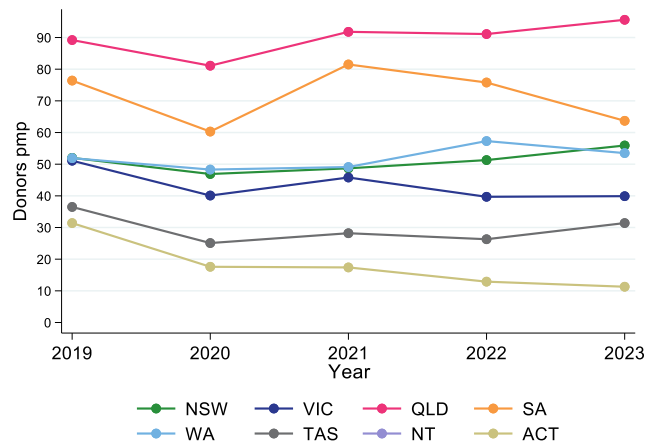


Figure 10.26
Eye, Tissue and Solid Organ Donors (pmp) by Jurisdiction, 2019-2023



EYE DONOR CHARACTERISTICS

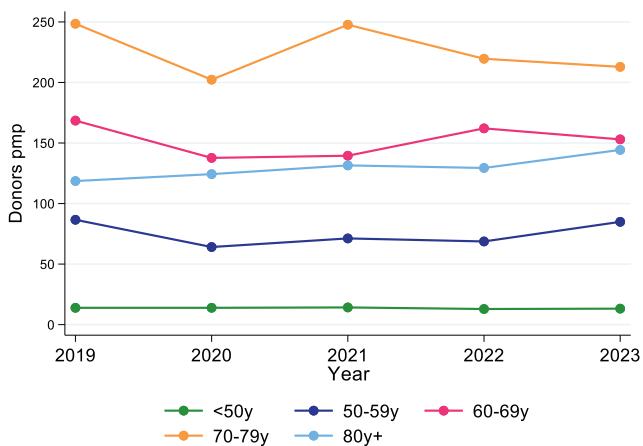
Eye donor characteristics are described in Table 10.8.

Table 10.8
Donor Characteristics Profile, 2019-2023

Donor Profile	2019	2020	2021	2022	2023
Gender					
Female	585 (38.8%)	538 (40.8%)	607 (41.2%)	624 (42.2%)	637 (41.2%)
Male	923 (61.2%)	780 (59.2%)	865 (58.8%)	853 (57.8%)	908 (58.8%)
Age					
<50y	233 (15.5%)	235 (17.8%)	238 (16.2%)	218 (14.8%)	229 (14.8%)
50-59y	268 (17.8%)	201 (15.3%)	225 (15.3%)	219 (14.8%)	272 (17.6%)
60-69y	442 (29.3%)	372 (28.2%)	383 (26%)	453 (30.7%)	435 (28.2%)
70-79y	445 (29.5%)	380 (28.8%)	484 (32.9%)	443 (30%)	444 (28.7%)
80y+	120 (8%)	130 (9.9%)	142 (9.6%)	144 (9.7%)	165 (10.7%)

Figure 10.27 shows the eye donors (pmp), across age ranges from 2019 to 2023.

Figure 10.27
Eye Donors (pmp) by Age Range, 2019-2023



EYE DONATION OUTCOME

Figures 10.28 and Figure 10.29 show the number of notified corneal transplants and sclera units transplanted by jurisdiction for 2019-2023. Table 10.9 shows the total number of corneas and sclera units transplanted by jurisdiction from 2019 to 2023.

Table 10.9
Number of Corneas and Sclera Units transplanted by Jurisdiction 2019-2023

Eye Tissue Type	Jurisdiction	2019	2020	2021	2022	2023
Corneas Transplanted	NSW	727	666	654	707	787
	VIC	455	384	424	355	400
	QLD	730	734	806	741	883
	SA	192	166	190	239	179
	WA	253	270	257	282	256
	TAS	38	33	57	26	38
	NT	1	5	3	6	0
	ACT	18	19	22	15	13
	AUS	2414	2277	2413	2371	2556
Sclera Units Transplanted	NSW	273	257	240	283	246
	VIC	244	221	242	241	239
	QLD	173	128	170	161	208
	SA	75	60	56	39	22
	WA	137	132	139	109	17
	TAS	22	29	26	21	34
	NT	3	31	0	0	1
	ACT	8	12	10	3	10
	AUS	935	870	883	857	777

Figure 10.28
Corneas Transplanted (pmp) by Jurisdiction, 2019-2023

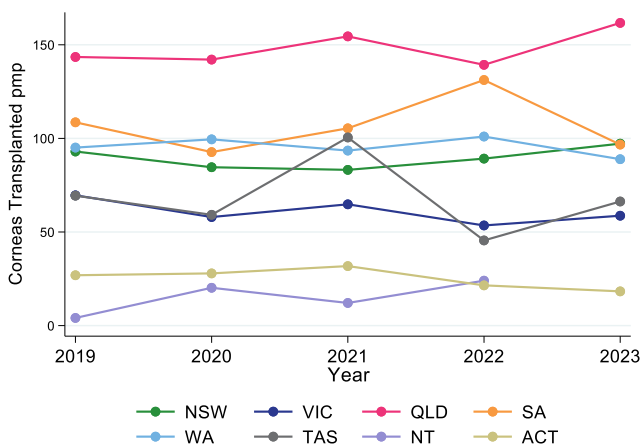
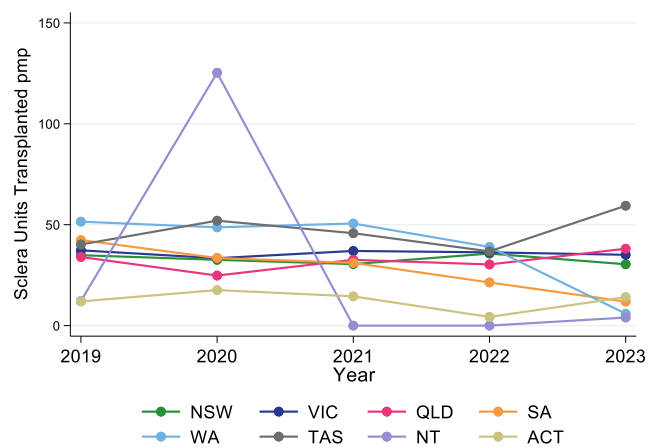


Figure 10.29
Sclera Units Transplanted (pmp) by Jurisdiction, 2019-2023





SECTION 10

Eye and Tissue Donation and Transplantation