SECTION 10

Tissue and Eye Donation

This chapter summarises the data on tissue and eye donation and transplant outcome. The data presented here is provided by Tissue and Eye Banks across Australia, in conjunction with data collected within the solid organ donation sector, DonateLife.

Contents

Suggested citation

ANZOD Registry. 2018 Annual Report, Section 10: Eye and Tissue Donation and Outcome Data. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2018. Available at: http://www.anzdata.org.au

Eye and Tissue Reporting

The collaboration between the Australian Organ and Tissue Authority (OTA), jurisdictional tissue and eye 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: http://www.donatelife.gov.au/organ-and-tissue-authority-ota

Tissue and Eye Banks

Tissue and Eye banks across Australia provide data for cardiovascular, musculoskeletal and skin tissue donations.

Musculoskeletal donations can be in the form of bone, tendon and ligaments and are utilised for knee and hip replacements, reconstructive orthopaedic surgery following trauma or disease and spinal deformities and can aid in prevention of limb loss following tumour removal. Just one musculoskeletal donation can aid many recipients and greatly improve their quality of life.

Cardiovascular tissue incorporates donations of heart valves, pericardium and thoracic aorta. Heart valves are necessary to regulate the flow of blood to and from the heart, whereas pericardium can be used during neurosurgery or, like the thoracic aorta, can also be used for vascular repair of defects or injury.

Donated skin contributes to saving lives and improving long term outcomes for patients who suffer severe burns. Donated skin is essential when a patient's own skin cannot be used for grafting. Using donated skin as a wound "dressing" helps reduce infection, fluid loss and pain, promotes wound healing and minimises scarring. Often recipients will require more than one donated graft for their wounds to heal. Skin grafts are also used to treat wounds resulting from trauma and serious infection.

Eye banks in Australia provide data for eye donation including corneal and sclera tissue donations.

Tissue Donors

Figure 10.2 shows the number of tissue donors across each jurisdiction from 2016 to 2017.

Figure 10.2 - Number of Tissue Donors by Jurisdiction, 2016-2017

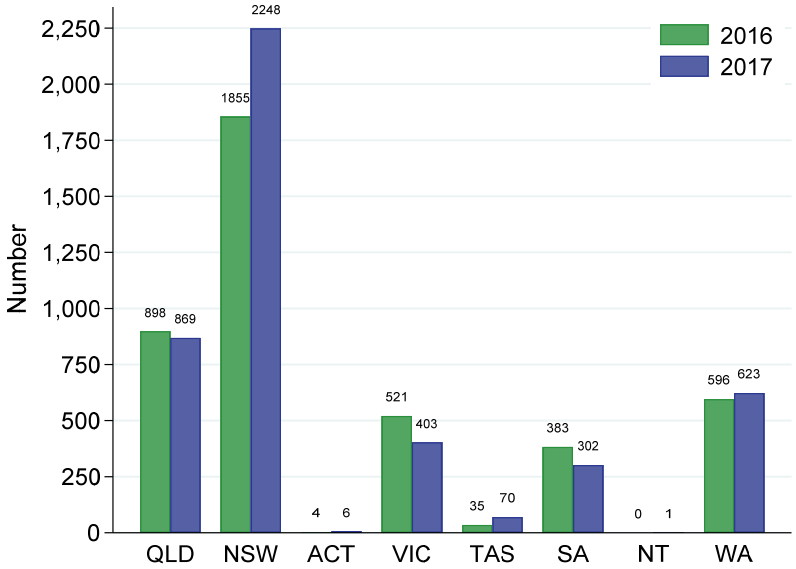


Table 10.1 summarises the number of tissue donors, by donation pathway, by jurisdiction and the percentage change in donor numbers from 2016 to 2017.

Table 10.1 Number of Tissue Donors by Donation Pathway and Jurisdiction 2016-2017

Donation Type	Jurisdiction	2016	2017	Percent change
Living Donor	QLD	731 (18.9%)	742 (17.8%)	2%
	NSW	1738 (44.9%)	2139 (51.5%)	23%
	ACT	0 (0%)	0 (0%)	-
	VIC	407 (10.5%)	309 (7.4%)	-24%
	TAS	33 (.9%)	67 (1.6%)	103%
	SA	376 (9.7%)	292 (7%)	-22%
	NT	0 (0%)	0 (0%)	-
	WA	583 (15.1%)	608 (14.6%)	4%
	AUS	3868 (100%)	4157 (100%)	7%
Deceased Donor	QLD	167 (39.4%)	127 (34.8%)	-24%
	NSW	117 (27.6%)	109 (29.9%)	-7%
	ACT	4 (.9%)	6 (1.6%)	50%
	VIC	114 (26.9%)	94 (25.8%)	-18%
	TAS	2 (.5%)	3 (.8%)	50%
	SA	7 (1.7%)	10 (2.7%)	43%
	NT	0 (0%)	1 (.3%)	-
	WA	13 (3.1%)	15 (4.1%)	15%
	AUS	424 (100%)	365 (100%)	-14%
Total Donors	QLD	898 (20.9%)	869 (19.2%)	-3%
	NSW	1855 (43.2%)	2248 (49.7%)	21%
	ACT	4 (.1%)	6 (.1%)	50%
	VIC	521 (12.1%)	403 (8.9%)	-23%
	TAS	35 (.8%)	70 (1.5%)	100%
	SA	383 (8.9%)	302 (6.7%)	-21%
	NT	0 (0%)	1 (0%)	-
	WA	596 (13.9%)	623 (13.8%)	5%
	AUS	4292 (100%)	4522 (100%)	5%

Figures 10.3 to 10.5 show the breakdown of tissue donor numbers by donation pathway and jurisdiction for 2017 compared to 2016.

Figure 10.3 - Living Tissue Donors by Jurisdiction, 2016-2017

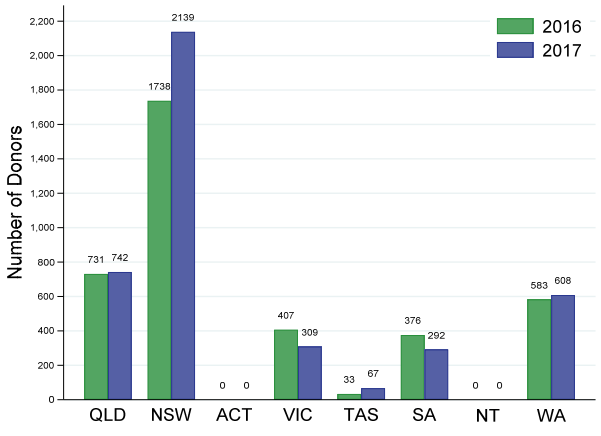
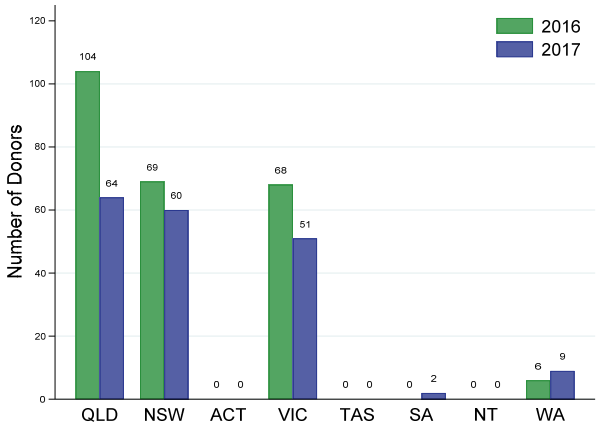


Figure 10.4 - Deceased Tissue Donors by Jurisdiction, 2016-2017



Tissue Donation

Figure 10.5 - Total Tissue Donation by Jurisdiction, 2016-2017

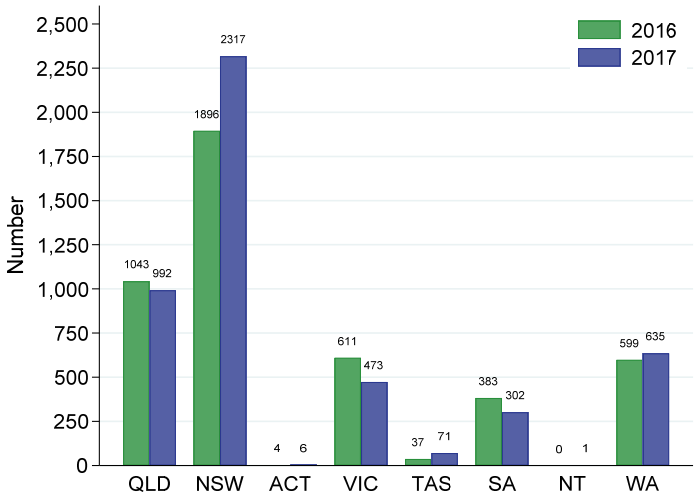


Table 10.2 shows the total number and proportion of tissue donations, by donation pathway, jurisdiction and the percentage change in tissue donation from 2016 to 2017.

Table 10.2 Number of Tissue Donations by Donor Type and Jurisdiction 2016-2017

Donation Type	Jurisdiction	2016	2017	Percent change
Living Donor	QLD	746 (19%)	763 (18%)	2%
	NSW	1772 (45.2%)	2197 (51.7%)	24%
	ACT	0 (0%)	0 (0%)	-
	VIC	408 (10.4%)	309 (7.3%)	-24%
	TAS	35 (.9%)	68 (1.6%)	94%
	SA	376 (9.6%)	292 (6.9%)	-22%
	NT	0 (0%)	0 (0%)	-
	WA	586 (14.9%)	619 (14.6%)	6%
	AUS	**3923 (100%)**	**4248 (100%)**	**8%**
Deceased Donor	QLD	297 (45.7%)	229 (41.7%)	-23%
	NSW	124 (19.1%)	120 (21.9%)	-3%
	ACT	4 (.6%)	6 (1.1%)	50%
	VIC	203 (31.2%)	164 (29.9%)	-19%
	TAS	2 (.3%)	3 (.5%)	50%
	SA	7 (1.1%)	10 (1.8%)	43%
	NT	0 (0%)	1 (.2%)	-
	WA	13 (2%)	16 (2.9%)	23%
	AUS	**650 (100%)**	**549 (100%)**	**-16%**
Total Donors	QLD	1043 (22.8%)	992 (20.7%)	-5%
	NSW	1896 (41.5%)	2317 (48.3%)	22%
	ACT	4 (.1%)	6 (.1%)	50%
	VIC	611 (13.4%)	473 (9.9%)	-23%
	TAS	37 (.8%)	71 (1.5%)	92%
	SA	383 (8.4%)	302 (6.3%)	-21%
	NT	0 (0%)	1 (0%)	-
	WA	599 (13.1%)	635 (13.2%)	6%
	AUS	**4573 (100%)**	**4797 (100%)**	**5%**

Figure 10.7 - Donation by Donation Pathway: Overall Australia, 2016-2017

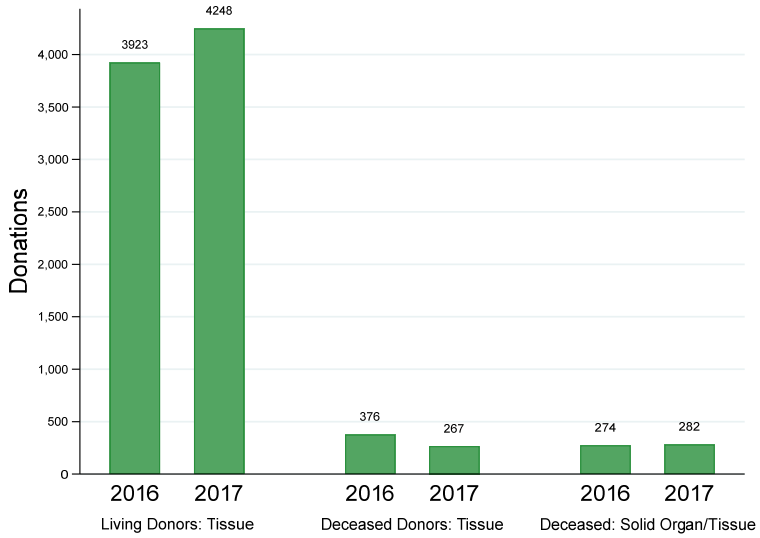


Figure 10.8 - Tissue Donation by Living Donors by Jurisdiction, 2016-2017

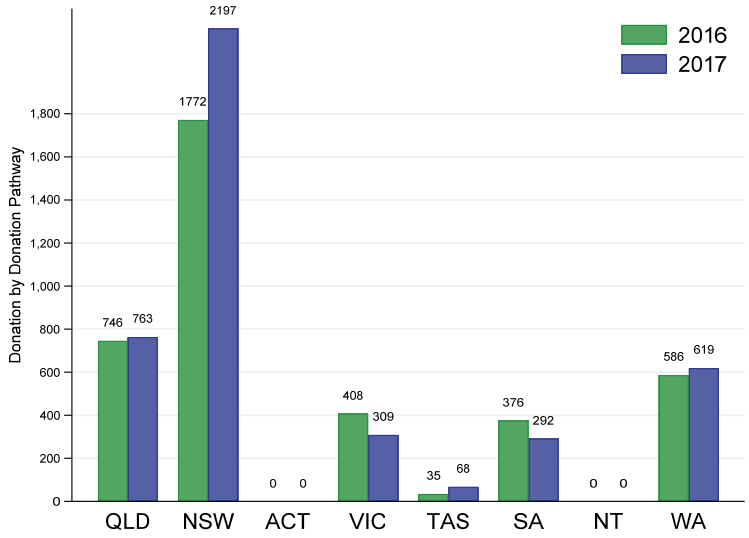


Table 10.3 shows the breakdown of donation from living donors, by tissue type and donation.

Table 10.3 Tissue Donation from Living Donors in 2017 by Jurisdiction and Donation Sector

Jurisdiction	Musculoskeletal	Cardiovascular	Total
QLD	763	0	763
NSW	2183	14	2197
ACT	0	0	0
VIC	307	2	309
TAS	68	0	68
SA	292	0	292
NT	0	0	0
WA	619	0	619
AUS	**4232**	**16**	**4248**

Table 10.4 shows the breakdown of donation from deceased donors, by tissue type and donation.

Table 10.4 Tissue Donation from Deceased Donors in 2017 by Jurisdiction and Donation Sector

State	Tissue Only Sector				Solid Organ/Tissue Sector				Tissue Total			
	ms	cv	skin	pi	ms	cv	skin	pi	ms	cv	skin	pi
QLD	39	19	52	0	38	42	37	2	77	61	89	2
NSW	58	2	0	0	29	29	0	2	87	31	0	2
ACT	0	0	0	0	0	6	0	0	0	6	0	0
VIC	27	23	36	0	21	28	23	6	48	51	59	6
TAS	0	0	0	0	0	3	0	0	0	3	0	0
SA	0	2	0	0	0	8	0	0	0	10	0	0
NT	0	0	0	0	0	1	0	0	0	1	0	0
WA	9	0	0	0	6	0	0	1	15	0	0	1
AUS	**133**	**46**	**88**	**0**	**94**	**117**	**60**	**11**	**227**	**163**	**148**	**11**

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

Figures 10.9 and 10.10 show the breakdown deceased tissue only and solid organ and tissue donation, by jurisdiction, for the period 2016 to 2017.

Figure 10.9 - Tissue Donation by Deceased Donors by Jurisdiction, 2016-2017

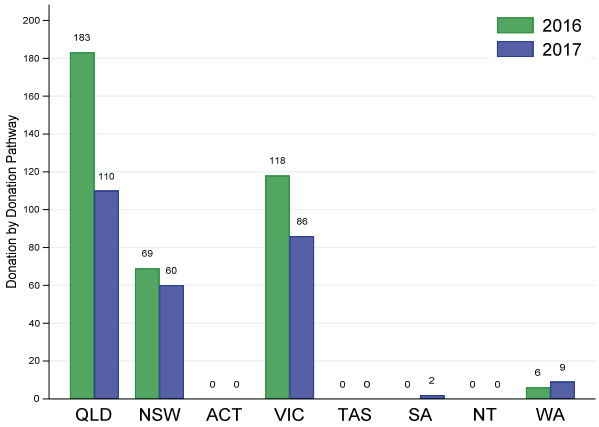
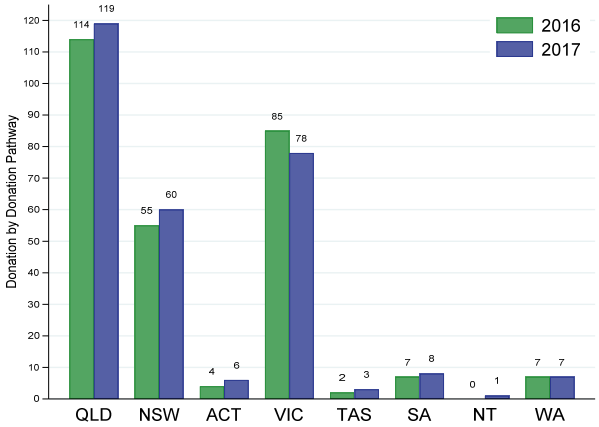


Figure 10.10 - Solid Organ & Tissue Donation by Deceased Donors by Jurisdiction, 2016-2017



Type of Tissue Donation

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

Musculoskeletal Donation

Figures 10.11 and 10.12 show the number of musculoskeletal tissue donations by jurisdiction for 2017 compared with 2016, from Living donors and Deceased donors.

Figure 10.11 - Musculoskeletal Tissue Donation by Living Donors by Jurisdiction, 2016-2017

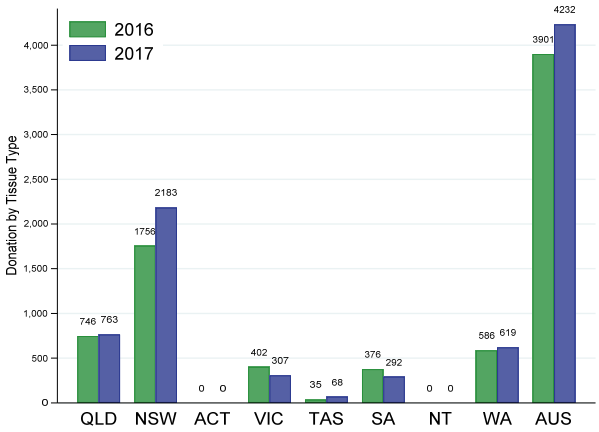
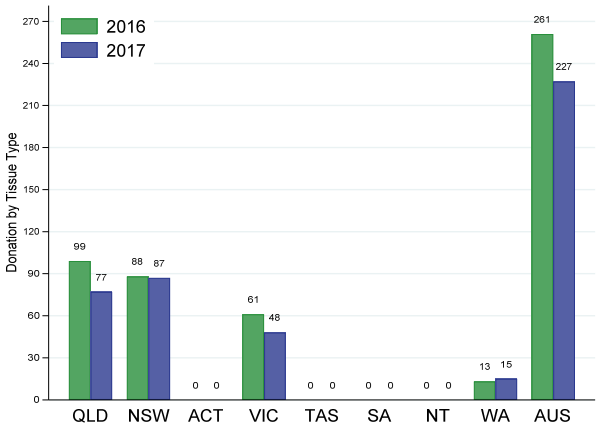


Figure 10.12 - Musculoskeletal Tissue Donation by Deceased Donors by Jurisdiction, 2016-2017



Cardiovascular Donation

Figures 10.13 and 10.14 show the breakdown by jurisdiction of cardiovascular tissue donation for 2017 compared to 2016.

Figure 10.13 - Cardiovascular Tissue Donation by Living Donors by Jurisdiction, 2016-2017

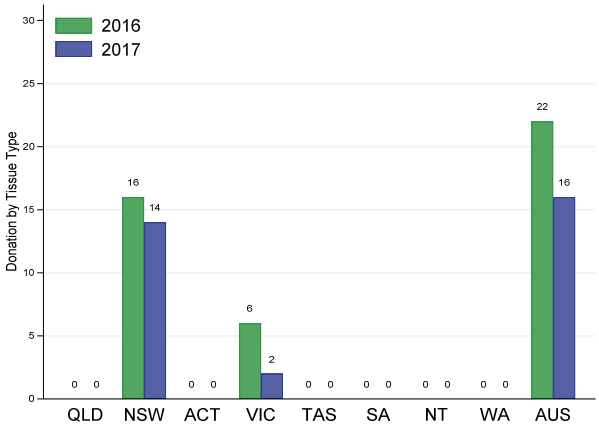
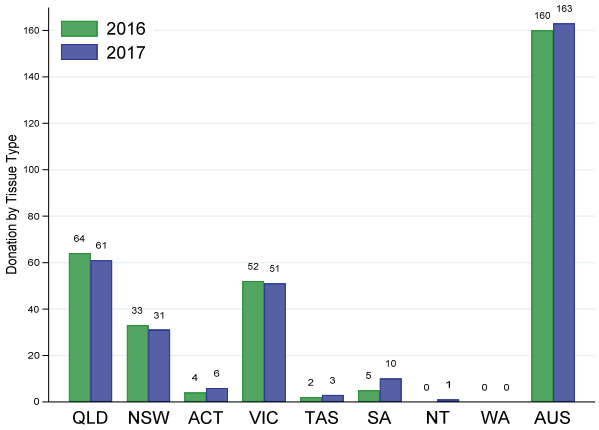


Figure 10.14 - Cardiovascular Tissue Donation by Deceased Donors by Jurisdiction, 2016-2017



Skin Donation

Figure 10.15 shows the breakdown of skin donations between the two jurisdictions for 2017 compared to 2016.

Figure 10.15 - Skin Tissue Donation by Deceased Donors by Jurisdiction, 2016-2017

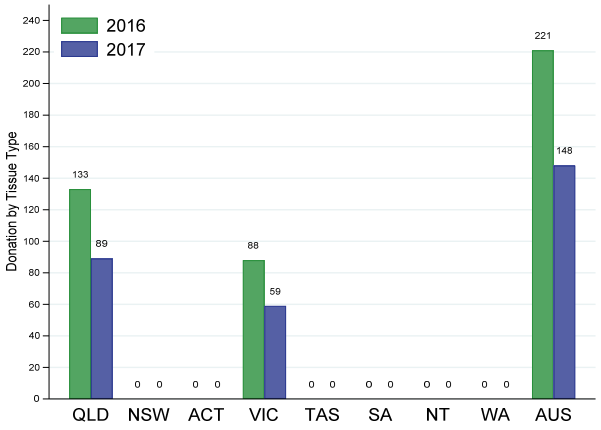
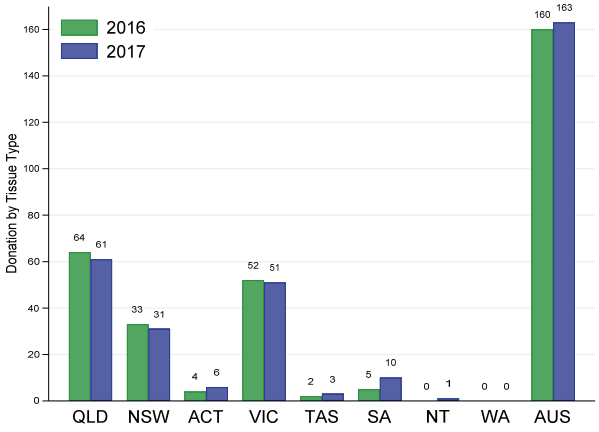


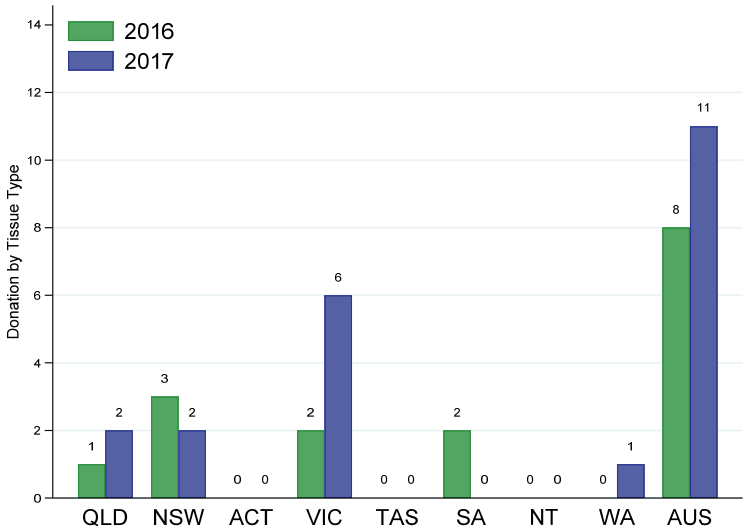
Figure 10.14 - Cardiovascular Tissue Donation by Deceased Donors by Jurisdiction, 2016-2017



Pancreas Islets Donation

Figure 10.16 shows the breakdown of pancreas islets donations for 2017 compared to 2016.

Figure 10.16 - Pancreas Islets Donation by Deceased Donors by Jurisdiction, 2016-2017



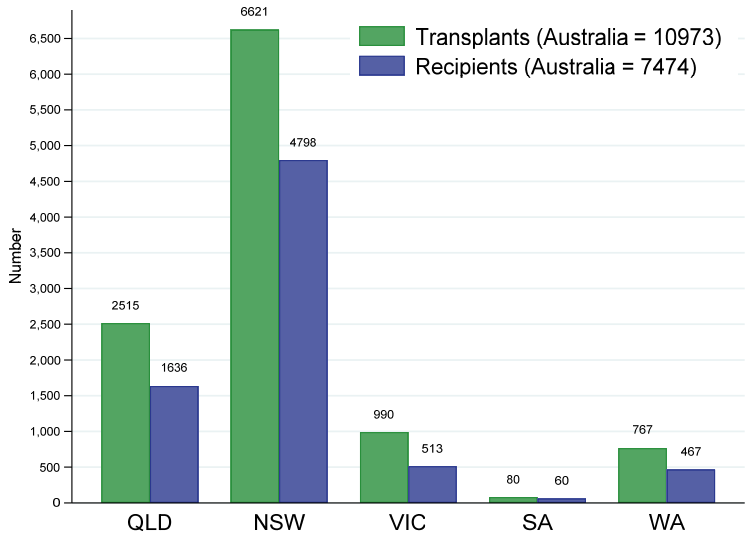
Outcome of Tissue Donation

Musculoskeletal, cardiovascular 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.

Figure 10.17 shows the number of notified[1,2] tissue transplants (grafts) and recipients by jurisdiction for 2017.

Figure 10.17 - Number of Notified Tissue Transplants and Recipients (ms,cv,sk) by Jurisdiction, 2017

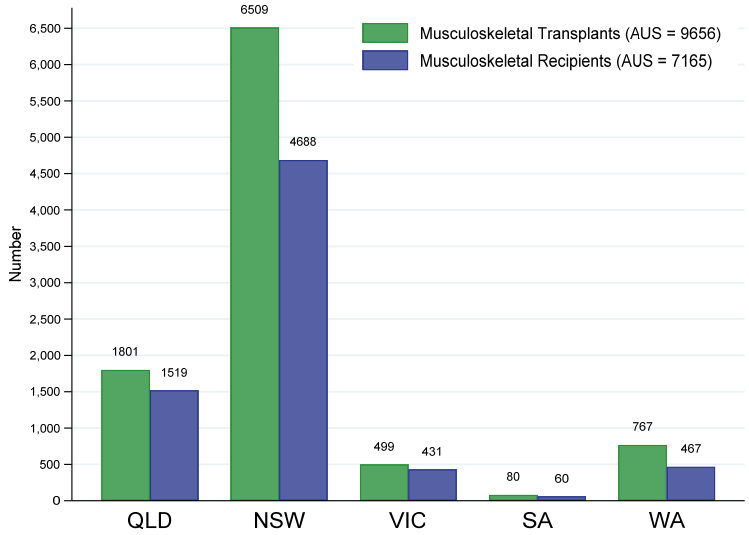


Outcome of Tissue Donation by Tissue Type

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 10.18 to Figure 10.21)

Figure 10.18 shows the number of notified[1,2] musculoskeletal tissue transplants and recipients by jurisdiction for 2017.

Figure 10.18 - Number of Notified Musculoskeletal Transplants and Recipients by Jurisdiction, 2017



(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] cardiovascular tissue transplants and recipients by jurisdiction for 2017.

Figure 10.19 - Number of Notified Cardiovascular Transplants and Recipients by Jurisdiction, 2017

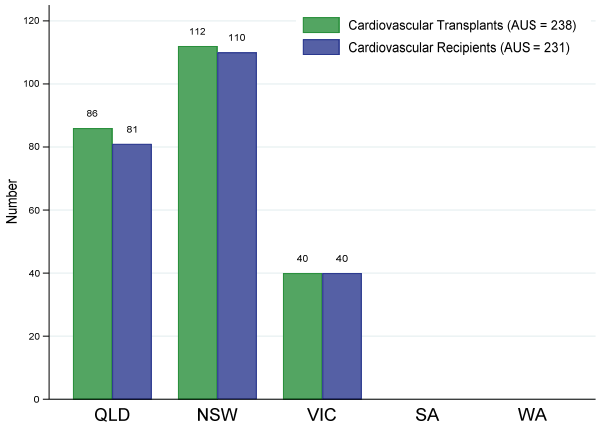
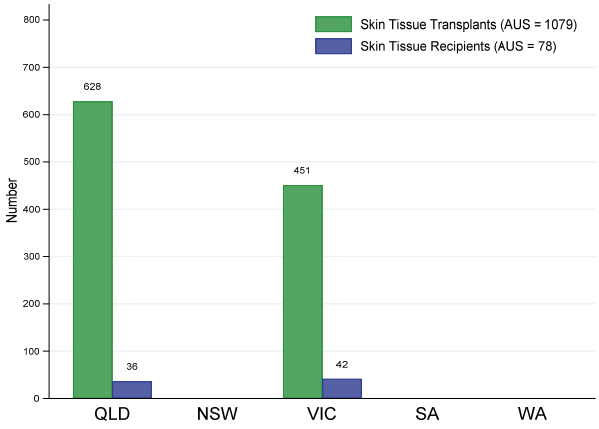


Figure 10.20 shows the number of notified[1,2] skin tissue transplants and recipients by jurisdiction for 2017.

Figure 10.20 - Number of Notified Skin Tissue Transplants and Recipients by Jurisdiction, 2017



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 10.21 shows the number of notified[1,2] pancreas islet transplants and recipients by jurisdiction for 2017.

Figure 10.21 - Number of Pancreas Islet Tissue Transplants and Recipients by Jurisdiction, 2017

(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 sourced from Australian eye banks in conjunction with EBAANZ.

Figure 10.22 represents the number of eye donors from each Australian Jurisdiction for the reporting period 2016 to 2017.

Figure 10.22 - Number of Eye Donors by Jurisdiction, 2016-2017

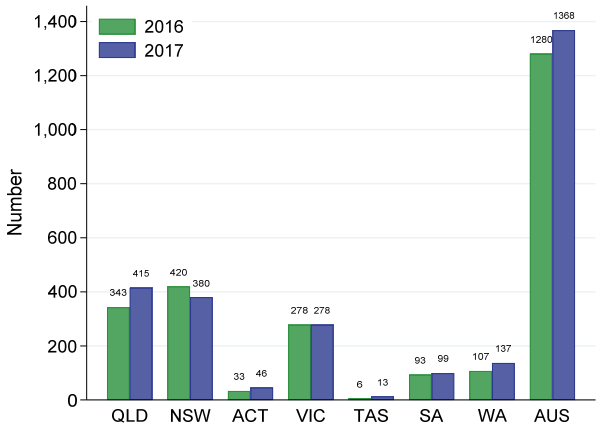
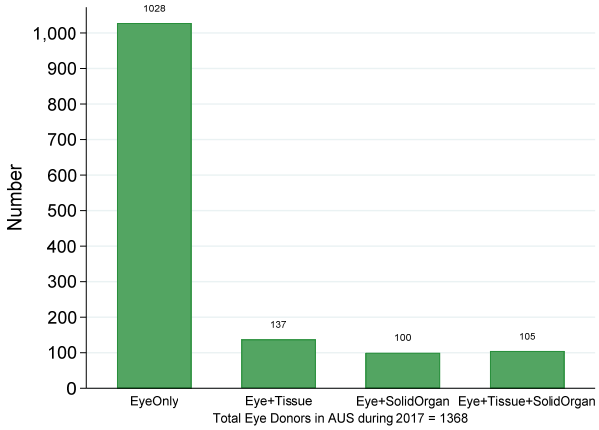


Figure 10.23 - Number of Eye Donors by Donation Pathway, Australia, 2017



Figures 10.24 to Figure 10.27 represent the number of donors by donor type and jurisdiction, for 2017.

Figure 10.24 - Number of Eye Donors Only by Jurisdiction, 2017

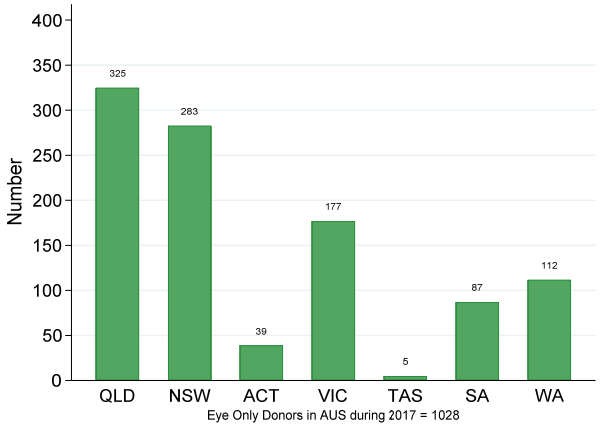


Figure 10.25 - Number of Eye and Tissue Donors by Jurisdiction, 2017

Figure 10.26 - Number of Eye and Solid Organ Donors by Jurisdiction, 2017

Figure 10.27 - Number of Eye, Tissue and Solid Organ Donors by Jurisdiction, 2017

Eye Donation Outcome

Figures 10.28 and Figure 10.29) show the number of notified [1] corneal transplants and sclera units transplanted by jurisdiction for 2017.

Figure 10.28 - Number of Corneas transplanted by Jurisdiction, 2017

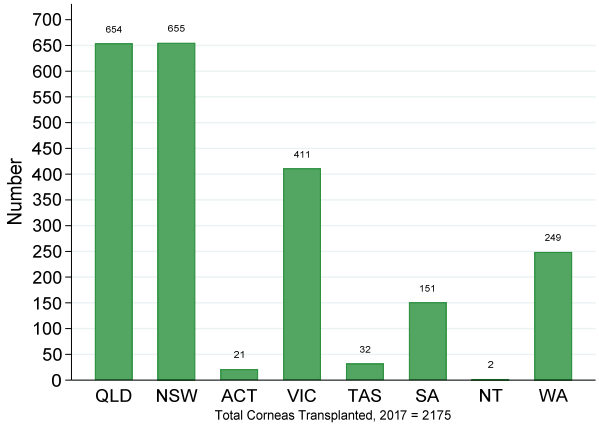
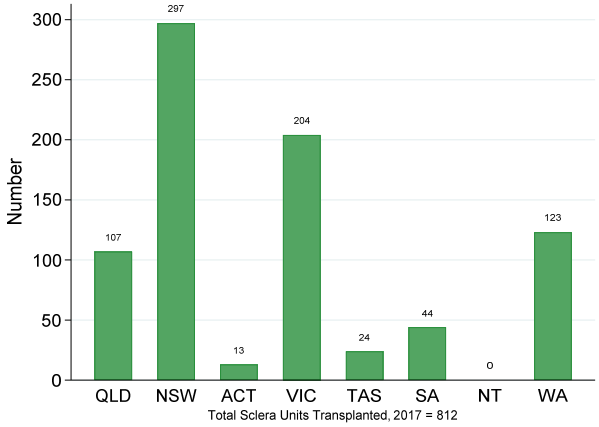


Figure 10.29 - Number of Sclera Units transplanted by Jurisdiction, 2017



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