

Chapter 11

Tissue & Eye Donation



2016
Annual Report
Data to 31-Dec-2015

The partnership 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. This chapter presents the data on tissue and eye donation provided by tissue and eye banks across Australia, in conjunction with data collected within the solid organ donation sector.

The aim for the ANZOD Registry is to continue delivering accurate data for the tissue and eye sectors. The goals include the collection of donor specific data, outcome data and aligning terminology across agencies.

Collaboration with the Eye Bank Association of Australia and New Zealand (EBAANZ) is assisting the accurate reconciliation for reporting.

The following tissue banks contributed data:

- NSW** - Australian Biotechnologies
- Hunter New England Bone Bank
- NSW Bone Bank
- Rachel Forster Bone Bank
- Sydney Heart Valve Bank
- QLD** - QLD Bone Bank
- QLD Heart Valve Bank
- SA** - SA Tissue Bank
- VIC** - Barwon Health Bone Bank Geelong
- Donor Tissue Bank Victoria
- WA** - Perth Bone and Tissue Bank (PlusLife)

The following eye banks contributed data:

- NSW** - Lions NSW Eye Bank
- QLD** - Queensland Eye Bank
- SA** - The Eye Bank of SA
- VIC** - Lions Eye Donation Service (Vic)
- WA** - Lions Eye Bank of WA
- NZ** - NZ National Eye Bank

Reported datasets and analyses produced here 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:

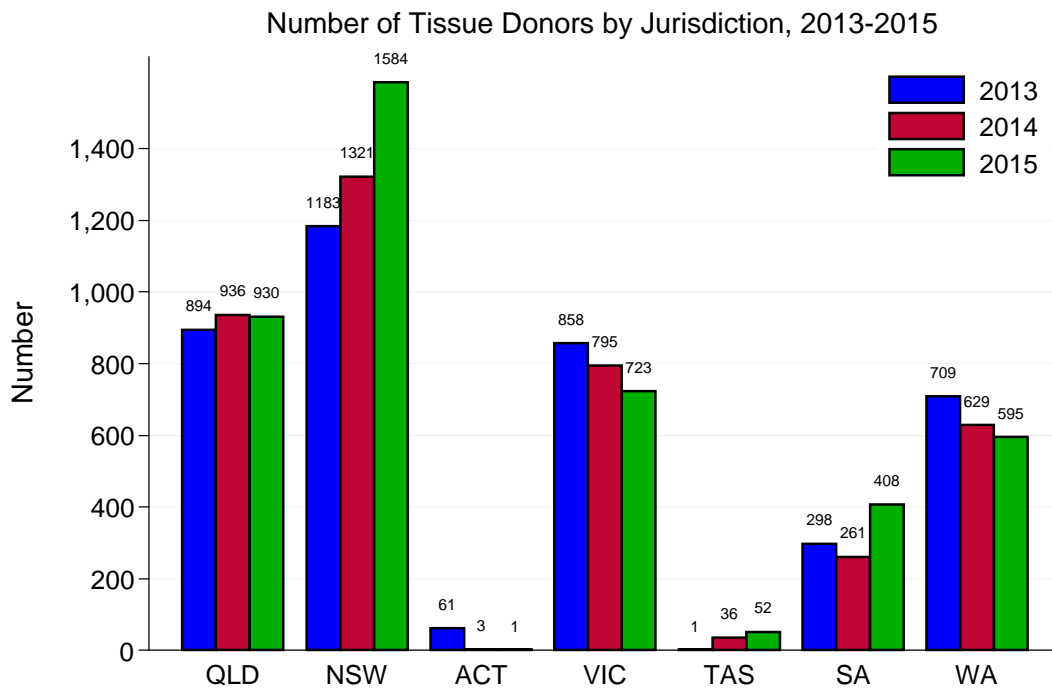
<http://www.donatelife.gov.au/organ-and-tissue-authority-ota>.

Tissue Donors

In 2015, tissue banks across Australia continued to provide data for 4,544 cardiovascular, musculoskeletal and skin tissue donations from a total of 4,293 tissue donors.

Figure 11.1 shows the number of tissue donors in each jurisdiction (both living and deceased combined) for 2013, 2014 and 2015. Each total number excludes duplicate counts of donors that are also multi-organ and tissue donors or multi-tissue donors where the donor coordination is performed by another donation agency. This data is sourced from Australian tissue banks.

Figure 11.1



TISSUE & EYE DONATION

Table 11.1 shows the number of tissue donors, by donation pathway, by jurisdiction and the percentage change in donor numbers from 2014 to 2015. Nationally there was a 9% increase in the number of deceased tissue donors in 2015. Living tissue donor numbers increased by 7% resulting in an overall increase in tissue donors for 2015 compared to 2014.

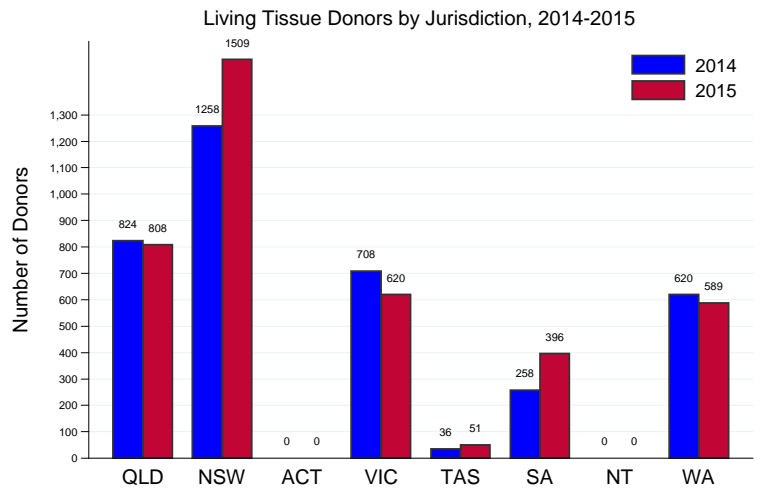
Table 11.1

Number of Tissue Donors by Donation Pathway, Jurisdiction, 2014-2015				
Donor Pathway	Jurisdiction	2014	2015	Change in donation
Living Tissue Donor	QLD	824 (22.2%)	808 (20.3%)	-2%
	NSW	1258 (34%)	1509 (38%)	17%
	ACT	0 (0%)	0 (0%)	.%
	VIC	708 (19.1%)	620 (15.6%)	-14%
	TAS	36 (1%)	51 (1.3%)	29%
	SA	258 (7%)	396 (10%)	35%
	NT	0 (0%)	0 (0%)	.%
	WA	620 (16.7%)	589 (14.8%)	-5%
	AUS	3704 (100%)	3973 (100%)	7%
Deceased Tissue Donor	QLD	256 (49%)	241 (42.2%)	-6%
	NSW	85 (16.3%)	112 (19.6%)	24%
	ACT	3 (.6%)	1 (.2%)	-200%
	VIC	156 (29.9%)	182 (31.9%)	14%
	ACT	1 (.2%)	4 (.7%)	75%
	SA	5 (1%)	13 (2.3%)	62%
	NT	2 (.4%)	0 (0%)	.%
	WA	14 (2.7%)	18 (3.2%)	22%
	AUS	522 (100%)	571 (100%)	9%
Total Donors	QLD	1080 (25.6%)	1049 (23.1%)	-3%
	NSW	1343 (31.8%)	1621 (35.7%)	17%
	ACT	3 (.1%)	1 (0%)	-200%
	VIC	864 (20.4%)	802 (17.6%)	-8%
	TAS	37 (.9%)	55 (1.2%)	33%
	SA	263 (6.2%)	409 (9%)	36%
	NT	2 (0%)	0 (0%)	.%
	WA	634 (15%)	607 (13.4%)	-4%
	AUS	4226 (100%)	4544 (100%)	7%

TISSUE & EYE DONATION

Among the 4544 tissue donors in Australia during 2015, there were 3,973 living donors compared to 3,704 in 2014. Figure 11.2 shows the number of living donors by jurisdiction for 2014 and 2015. Five tissue banks in NSW accounted for 38% (1,509) of living tissue donors.

Figure 11.2



There were 571 deceased tissue donors in Australia in 2015, an increase of 9% from 522 in 2014. Figure 11.3 shows the breakdown by jurisdiction for 2014 and 2015. Of the 571 deceased tissue donors, 241(42.2%) donors were reported by the two tissue banks located in QLD.

Figure 11.3

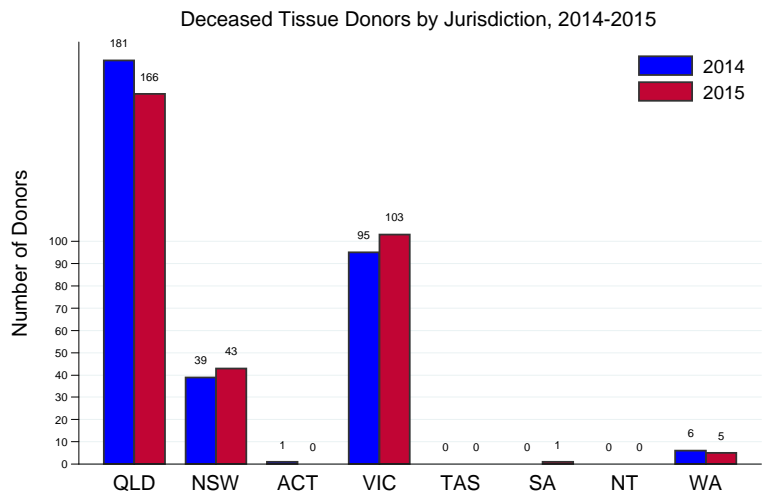
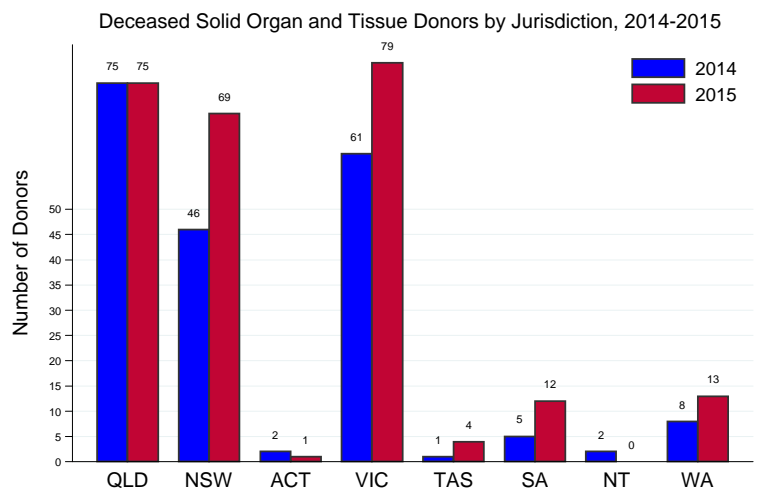


Figure 11.4

Of the 571 deceased tissue donors in Australia, in 2015, 253 (44.3%) were reported through the solid organ and tissue donation sector. These donors were referred by the DonateLife Network. Figure 11.4 provides the breakdown by jurisdiction in tissue donations from deceased solid organ and tissue donors for 2014 and 2015.



Donation of Tissue

The 4,293 tissue donors in Australia during 2015, accounted for 4,544 tissue donations. Of these 4,544 donations of musculoskeletal, cardiovascular and skin tissue, 3,973 (87.4%) were from live donors and 571 (12.5%) were tissue donations from deceased donors.

Figure 11.5 shows the breakdown by jurisdiction for the total number of tissue donations by year, 2013 to 2015

Figure 11.5

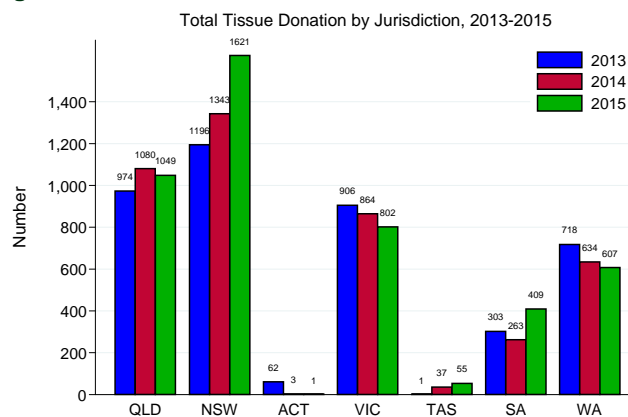


Table 11.2 provides the proportion of tissue donations by Jurisdiction by donor type for 2014-2015.

Table 11.2

Number of Tissue Donations by Donor Type, Jurisdiction 2014-2015			
Donor Type	Jurisdiction	2014	2015
Living Donor	QLD	824 (22.2%)	808 (20.3%)
	NSW	1258 (34%)	1509 (38%)
	ACT	0 (0%)	0 (0%)
	VIC	708 (19.1%)	620 (15.6%)
	TAS	36 (1%)	51 (1.3%)
	SA	258 (7%)	396 (10%)
	WA	620 (16.7%)	589 (14.8%)
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Deceased Donor	QLD	256 (49.2%)	241 (42.2%)
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	AUS	520 (100%)	571 (100%)
Total Donors	QLD	1080 (25.6%)	1049 (23.1%)
	NSW	1343 (31.8%)	1621 (35.7%)
	ACT	3 (.1%)	1 (0%)
	VIC	864 (20.5%)	802 (17.6%)
	TAS	37 (.9%)	55 (1.2%)
	SA	263 (6.2%)	409 (9%)
	WA	634 (15%)	607 (13.4%)
	AUS	4224 (100%)	4544 (100%)

TISSUE & EYE DONATION

Figures 11.6 to 11.8 show the breakdown by living tissue, deceased tissue only and solid organ and tissue donation, by Jurisdiction, for the period 2013 to 2015.

Among the 3,973 living tissue donations in Australia during 2015, NSW and QLD recorded an increase in donation numbers compared to 2014, with NSW reporting 38% (1,509) of living tissue donations.

Figure 11.6

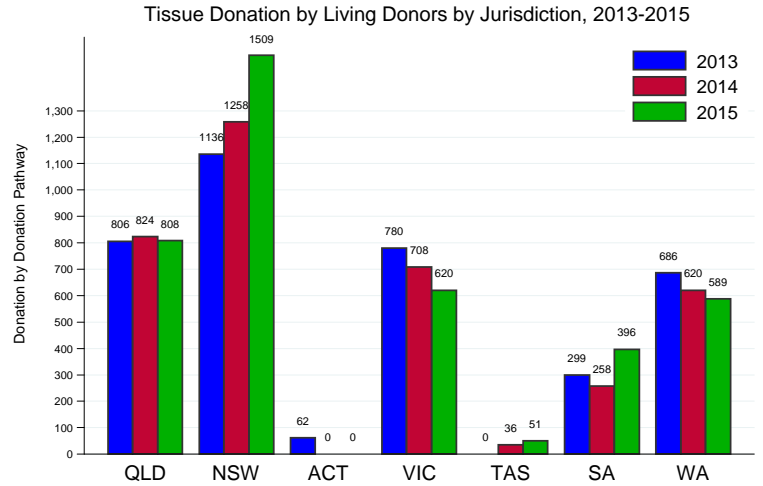
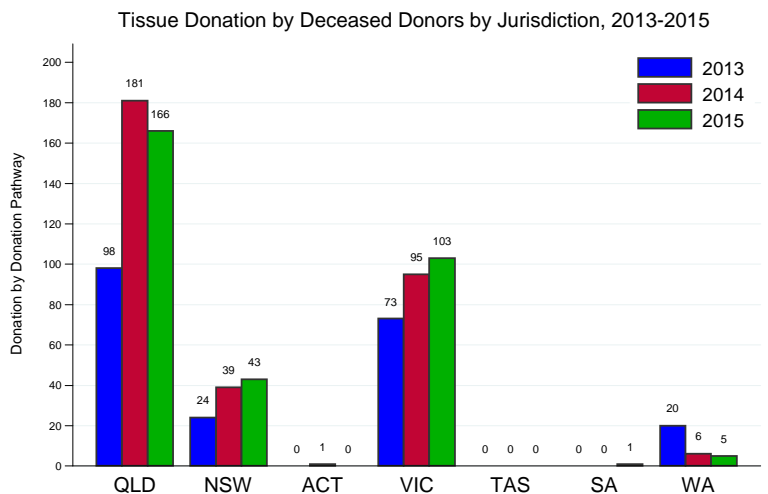
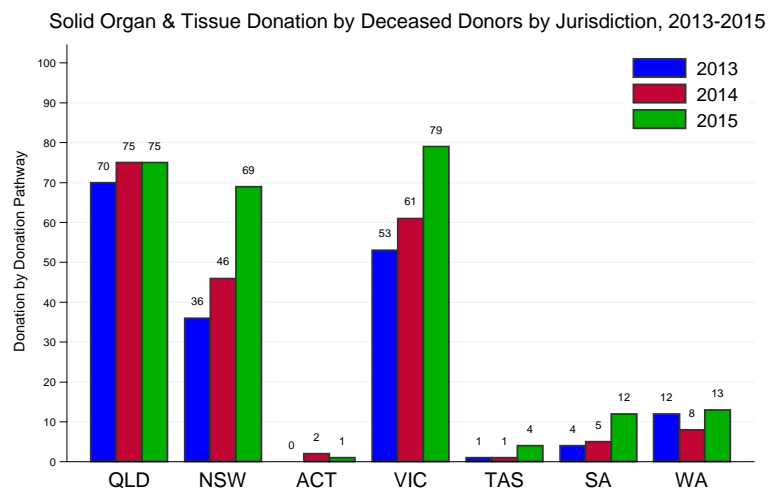


Figure 11.7



Of the 571 tissue donations from deceased donors in 2015, 318 (55.7%) came from tissue only donors. Figure 11.7 shows the breakdown by Jurisdiction for 2012 to 2014. QLD reported 166 (29.1%) tissue only donations. This was a decrease of 15 donors compared to 2014 (181).

Figure 11.8



Of the 571 deceased tissue donors in Australia, in 2015, 253 (44.3%) were reported through the solid organ and tissue donation sector. These donors were referred by the DonateLife Network. Figure 11.8 provides the breakdown by jurisdiction of tissue donations from deceased solid organ and tissue donors for the period 2012 to 2014.

Tissue Donation

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.

Deceased Donor Tissue Donation

The 571 tissue donations from deceased donors in 2015 included donations from tissue only and solid organ/tissue donors. This consisted of 233 musculoskeletal tissue, 151 cardiovascular tissue, 171 skin and 16 pancreas islets. Overall this is a 11.5% increase of deceased tissue donations compared to 2014. Table 11.3 shows the donation for tissue retrieved from deceased donors, by tissue type and donation sector. 55.7% (318) of tissue retrieved from deceased donors was from the tissue only sector, while 44.3% (253) was from the solid organ/tissue sector.

Table 11.3

Tissue Donation from Deceased Donors in 2015 by Jurisdiction and Donation Sector												
Jurisdiction	Tissue Only Sector				Solid Organ/Tissue Sector				Tissue Total			
	ms	cv	skin	pi	ms	cv	skin	pi	ms	cv	skin	pi
QLD	74	19	73	0	25	21	27	2	99	40	100	2
NSW	38	5	0	0	31	35	0	3	69	40	0	3
ACT	0	0	0	0	0	1	0	0	0	1	0	0
VIC	32	25	46	0	19	27	25	8	51	52	71	8
TAS	0	0	0	0	0	4	0	0	0	4	0	0
SA	0	1	0	0	0	10	0	2	0	11	0	2
WA	4	1	0	0	10	2	0	1	14	3	0	1
AUSTRALIA	148	51	119	0	85	100	52	16	233	151	171	16
ms = musculoskeletal tissue cv = cardiovascular tissue pi = pancreas islets												

TISSUE & EYE DONATION

In Australia during 2015, there were 233 musculoskeletal tissue donation from deceased donors. Figure 11.9 shows the number of musculoskeletal tissue donations by jurisdiction for the period 2012 to 2015. Forty two percent (99) of the 233 musculoskeletal donations were reported by the QLD Bone Bank.

Figure 11.9

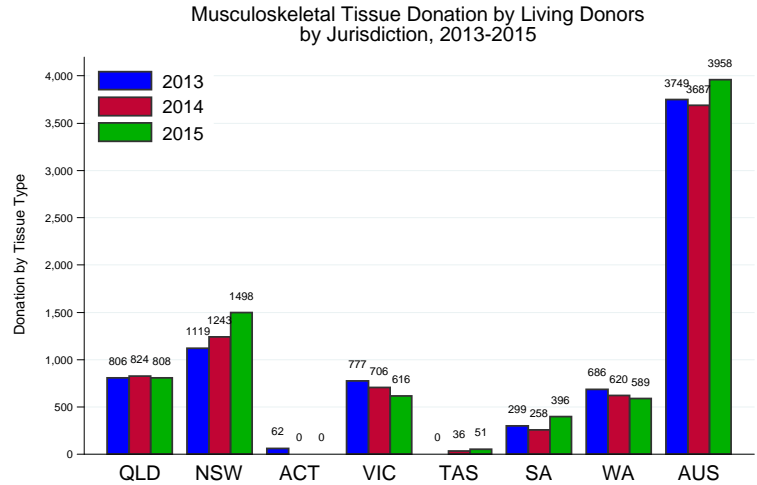


Figure 11.10

Figure 11.10 shows the breakdown by jurisdiction for cardiovascular tissue donation for the period 2012 to 2015. Eighty seven percent all cardiovascular donations come from the eastern jurisdictions of Australia (QLD, NSW, VIC).

Cardiovascular Tissue Donation by Living Donors by Jurisdiction, 2013-2015

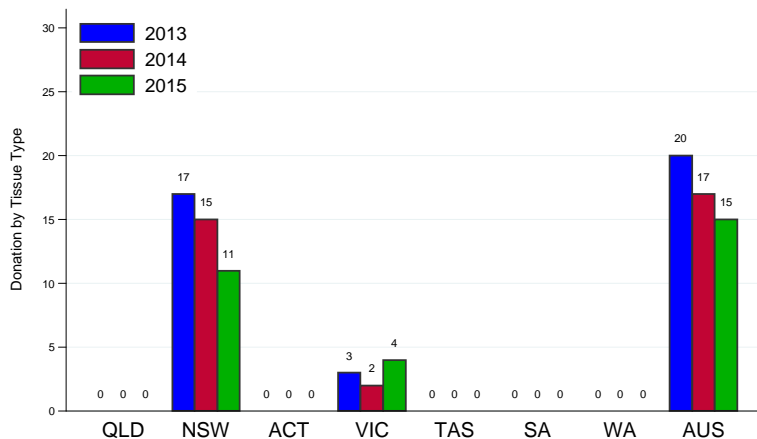
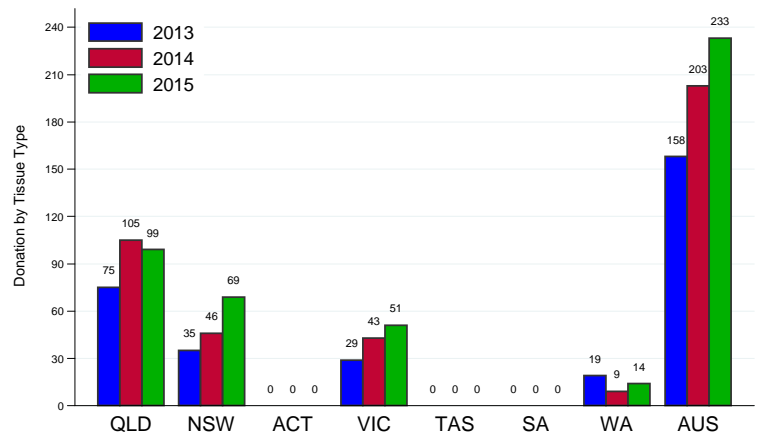


Figure 11.11

QLD and VIC are the only two jurisdictions with skin donation services. Figure 11.11 shows the breakdown of skin donations between the two jurisdictions for the period 2012 to 2014.

Musculoskeletal Tissue Donation by Deceased Donors by Jurisdiction, 2013-2015



Tissue Donation from Living Donors

Tissue donations from living donors (87.4% of all donations) consisted predominately of musculoskeletal tissue, where 3,958 people donated femoral heads whilst undergoing hip replacement surgery.

Table 11.4 shows tissue donation from living donors. Fifteen living donors provided cardiovascular tissue, down from 17 in 2014. Tissue donation from living donors is managed by the tissue banks across Australia.

Table 11.4

Tissue Donation from Living Donors in 2014/5 by State and Donation Sector			
Jurisdiction	Musculoskeletal	Cardiovascular	Total
QLD	808	0	808
NSW	1498	11	1509
ACT	0	0	0
VIC	616	4	620
TAS	51	0	51
SA	396	0	396
WA	589	0	589
AUSTRALIA	3958	15	3973

Figure 11.12

Cardiovascular Tissue Donation by Deceased Donors
by Jurisdiction, 2013-2015

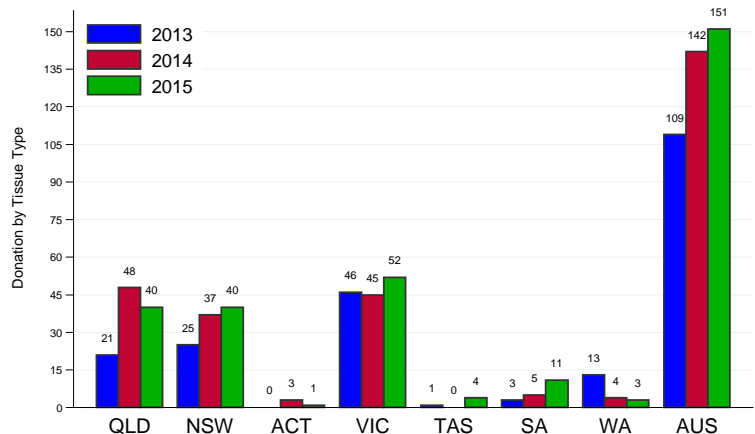


Figure 11.12 shows the numbers of musculoskeletal tissue donations from living donors by Jurisdiction for the period 2012 - 2014.

Figure 11.13

Skin Tissue Donation by Deceased Donors
by Jurisdiction, 2013-2015

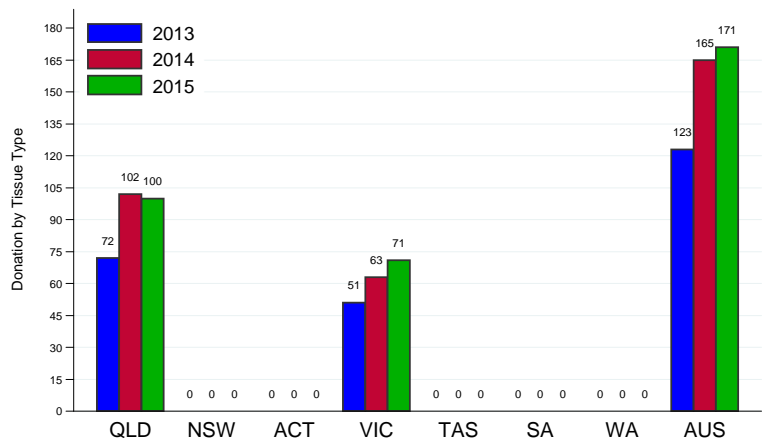


Figure 11.13 shows the number of skin tissue donations from deceased donors by Australian jurisdictions for the period 2012 - 2014.

Tissue Transplantation

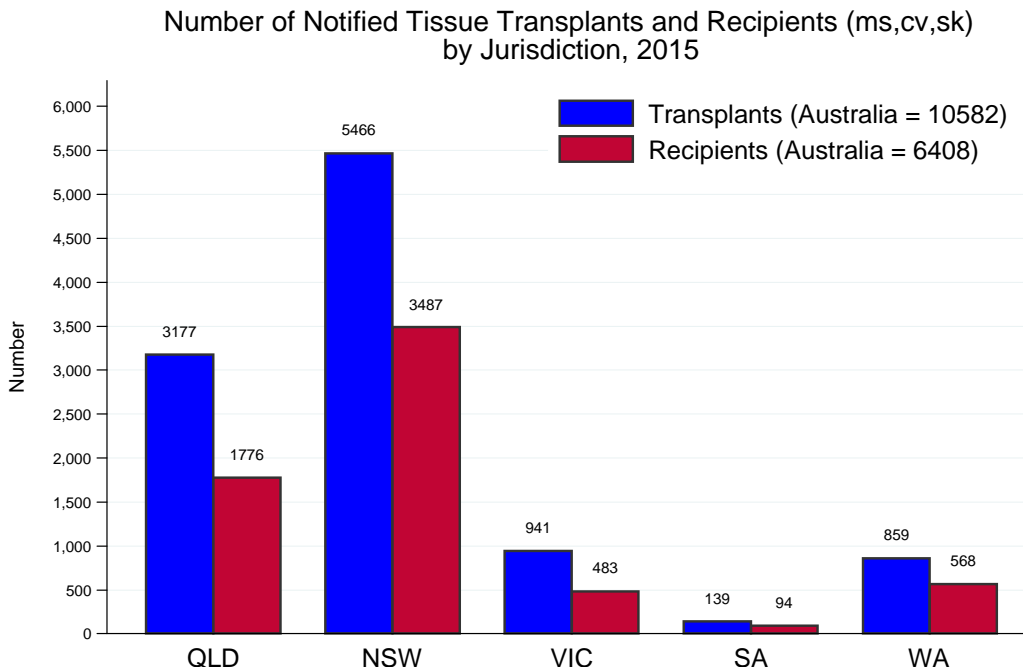
In 2015, national tissue reporting continued to strengthen with the consolidated collection and reporting of tissue donation outcomes by capturing tissue transplantation numbers in Australia. Tissue banks provided the number of notified graft tissue transplants and the number of notified recipients of tissue transplantation.

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 11.14 shows the number of notified^(1,2) tissue transplants (grafts) and recipients by Jurisdiction for 2015.

Figure 11.14



⁽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 11.15

Pancreas Islets Donation by Deceased Donors by Jurisdiction, 2013-2015

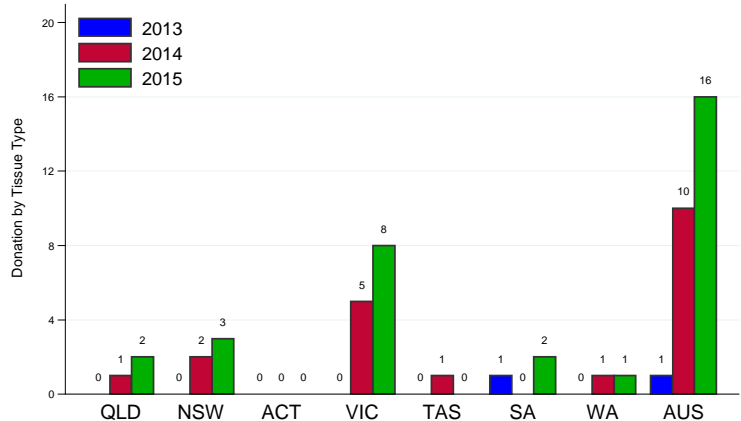


Figure 11.15 shows the number of pancreas islets donations by deceased donors by Jurisdiction, for 2013-2015.

In Australia, there were 16 pancreas islets donations by deceased donors.

Figure 11.16

Number of Notified Musculoskeletal Transplants and Recipients by Jurisdiction, 2015

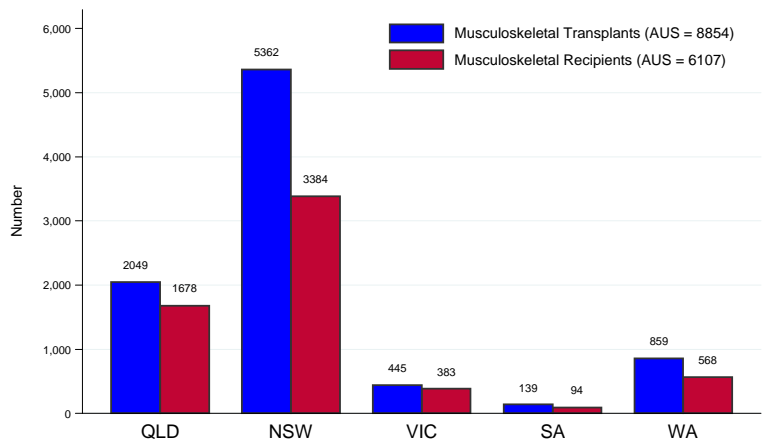


Figure 11.16 shows the number of notified^(1,2) musculoskeletal tissue transplants and recipients, by Jurisdiction, for 2015.

In Australia, there were 6,107 recipients who received 8,854 musculoskeletal transplants.

Figure 11.17

Number of Notified Cardiovascular Transplants and Recipients by Jurisdiction, 2015

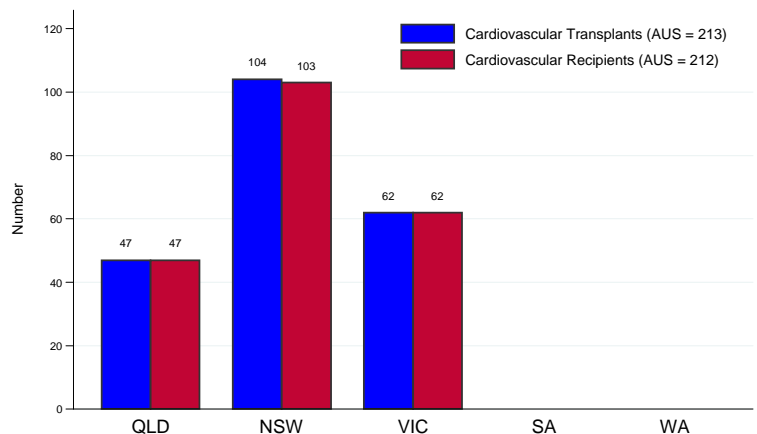


Figure 11.17 shows the number of notified^(1,2) cardiovascular tissue transplants and recipients by Australian Jurisdiction, for 2015.

In Australia, there were 212 recipients who received 213 cardiovascular transplants.

⁽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".

TISSUE & EYE DONATION

Figure 11.18 shows the number of notified ^(1,2) skin tissue transplants and recipients by Jurisdiction, for 2014. In Australia, there were 103 recipients who received 1,379 skin transplants.

Figure 11.18 Number of Notified Skin Tissue Transplants and Recipients by Jurisdiction, 2015

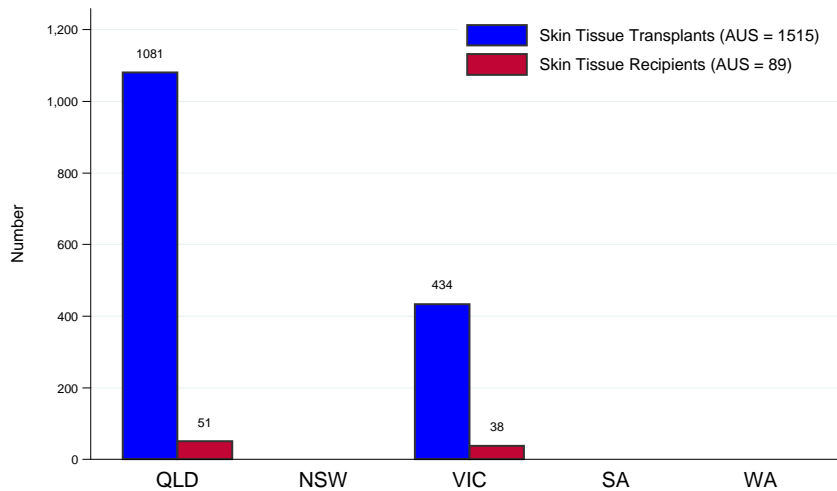
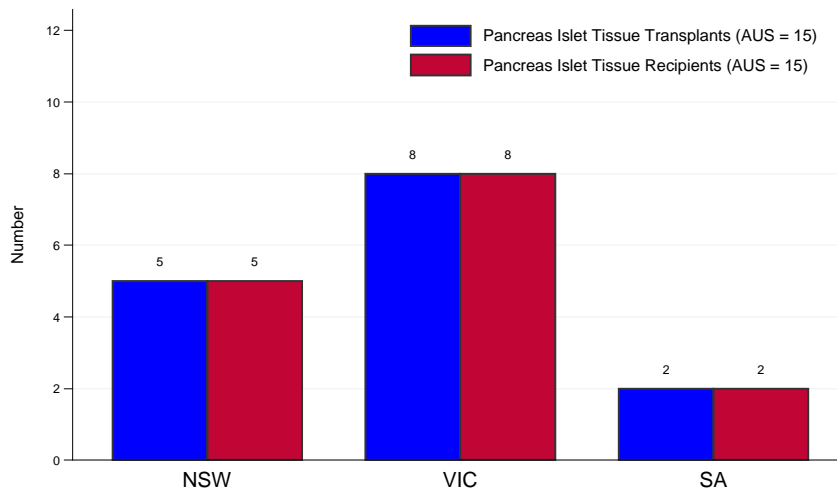


Figure 11.19 shows the number of notified ^(1,2) musculoskeletal tissue transplants and recipients, by Jurisdiction, for 2014.

In Australia, there were 5,247 recipients who received 7,488 musculoskeletal transplants.

Figure 11.19 Number of Pancreas Islet Tissue Transplants and Recipients by Jurisdiction, 2015

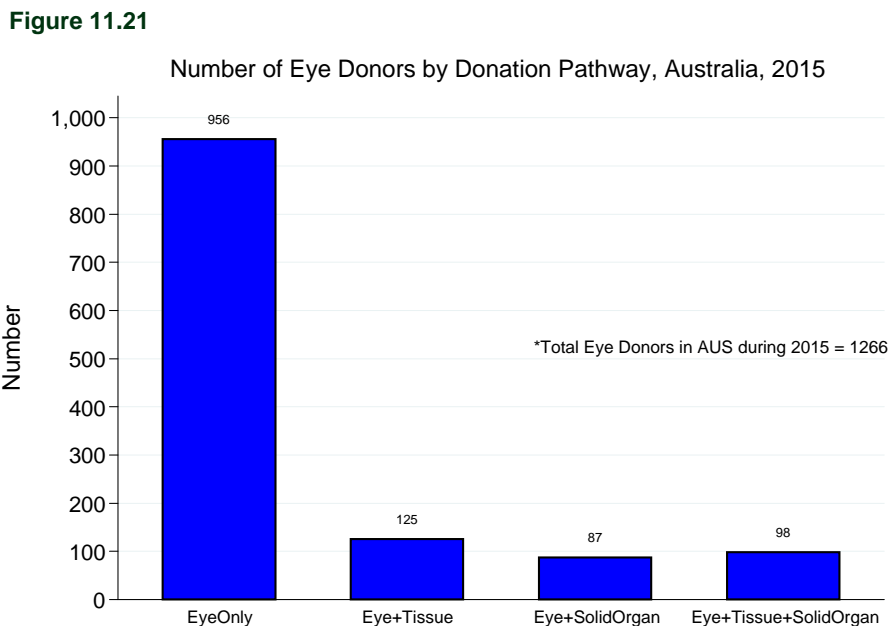
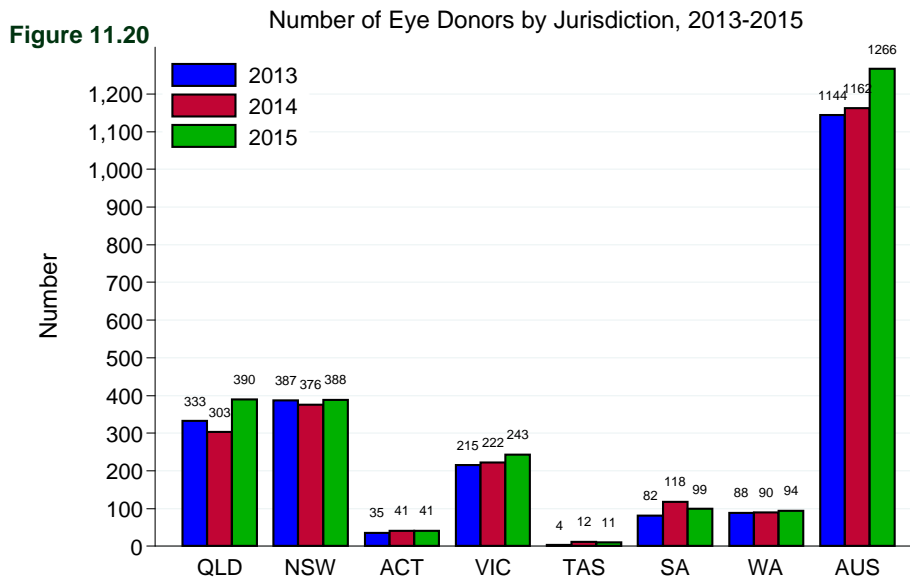


⁽¹⁾ Notified tissue transplant is defined as the "Number of grafts implanted into recipients, that banks have been notified of". ⁽²⁾ Notified tissue recipient is defined as the "Number of recipients notified to the bank, who receive one or more graft implants during a single transplant event".

Eye Donors

In 2015, eye banks across Australia continued to report data to the ANZOD Registry for eye donation. 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 11.20 represents the number of eye donors from each Australian Jurisdiction for the reporting period 2013 to 2015. In 2015 there were 1,266 eye donors (Figure 11.21), compared with 1,162 in 2014 and 1,144 in 2013.



TISSUE & EYE DONATION

Figures 6.20 to 6.23 represent the number of donors for jurisdictions, in 2014, by donor type.

In 2015 there were 956 eye only donors (Figure 11.22), 125 donors who donated eye and tissue (Figure 11.23), 87 donors who donated eye and one or more solid organs (Figure 11.24) and 98 donors who donated eye, tissue and one or more solid organs (Figure 11.25).

Figure 11.22

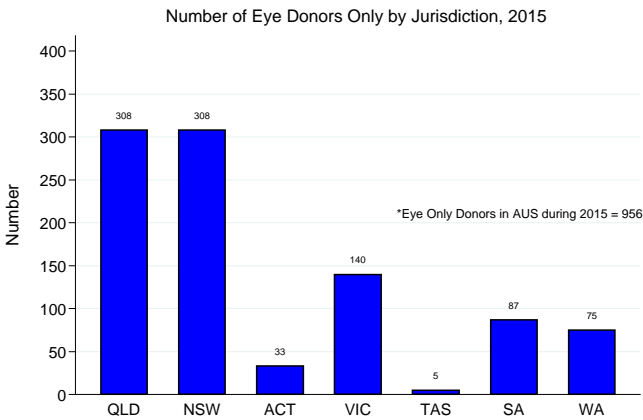


Figure 11.23

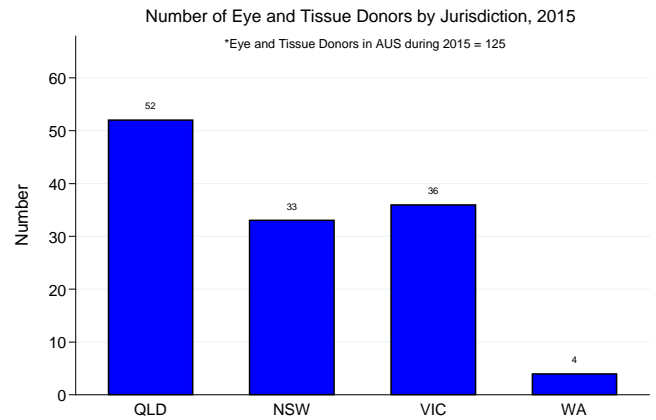


Figure 11.24

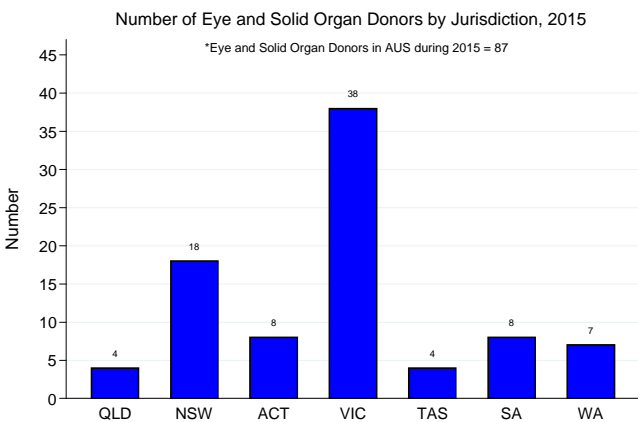
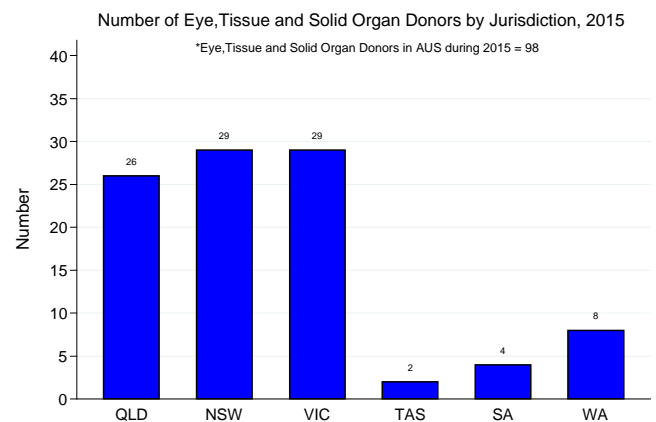


Figure 11.25



Outcome of Eye Donation

Eye banks contributed additional data elements to the national reporting in 2015 by reporting corneal graft and sclera transplantation numbers across Australia. This further strengthened the collection and reporting of eye donation and outcomes and supplements reporting by EBAANZ and the Corneal Graft Registry (ACGR) reporting. Data was sourced from eye banks in Australia .

For 2015, there were 2,124 corneal transplants and 754 sclera transplants.

Other outcome data, such as, follow up data, corneal grafts survival, trends in corneal transplant practice and comparisons between corneal graft procedures is reported by the ACGR. Considerable further information is available at <https://www.flinders.edu.au/medicine/sites/ophthalmology/clinical/the-australian-corneal-graft-registry.cfm>.

Figure 11.26 shows the number of notified corneal transplants by jurisdiction for 2015.

Figure 11.26

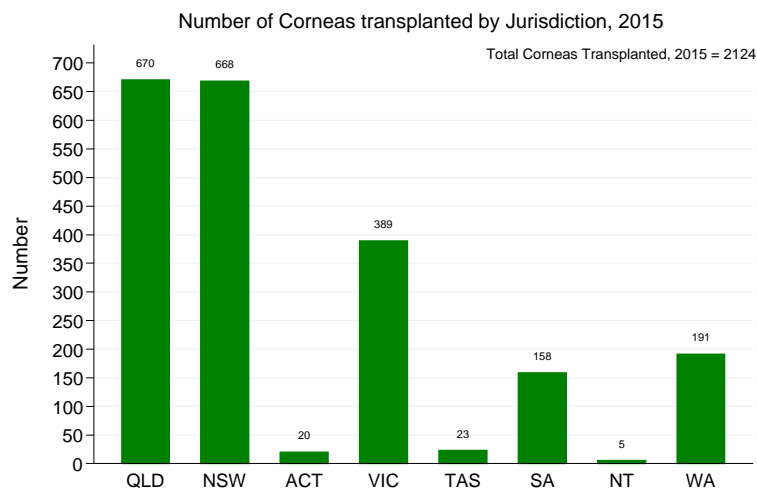
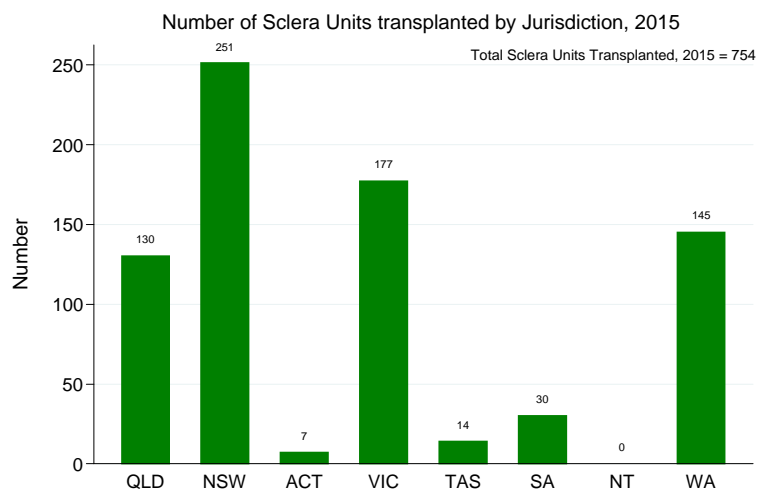


Figure 11.27 shows the number of notified sclera transplants by jurisdiction for 2015.

Figure 11.27





Suggested Citation:

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