



Chapter 6

Eye and Tissue Donation



2015
ANZOD Registry
Annual Report

Data to 31-Dec-2014



Eye and Tissue Data 2014

The continued partnership between the Australian Organ and Tissue Authority (OTA), jurisdictional tissue and eye banks and the ANZOD Registry has strengthened the national reporting of tissue data for 2014. This chapter presents the data on tissue and eye donation provided by 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 going forward include the collection of donor specific data with the allocation of a unique donor identification, capturing outcome data and 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:

- ACT** - ACT Bone Bank
- 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)
- Royal Perth Heart Valve Bank

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>.

Eye and Tissue Data 2014

Tissue Donors

In 2014, tissue banks across Australia continued to provide data for 4,216 cardiovascular, musculoskeletal and skin tissue donations from a total of 3,980 tissue donors.

Figure 6.1 shows the number of tissue donors in each Jurisdiction (both living and deceased combined) for 2012, 2013 and 2014. 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 6.1

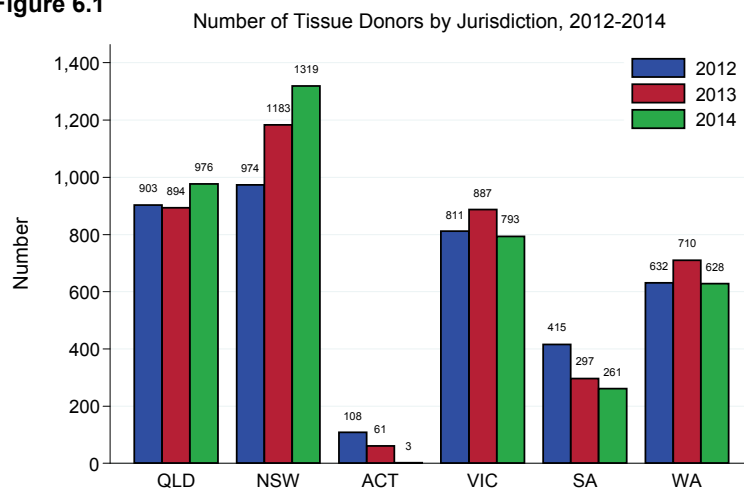


Table 6.1 shows the number of tissue donors, by donation pathway, by jurisdiction and the percentage change in donor numbers from 2013 to 2014. Nationally there was a 16% increase in the number of deceased tissue donors in 2014. Living tissue donor numbers decreased by 3% resulting in an overall reduction in tissue donors for 2014 compared to 2013.

Table 6.1

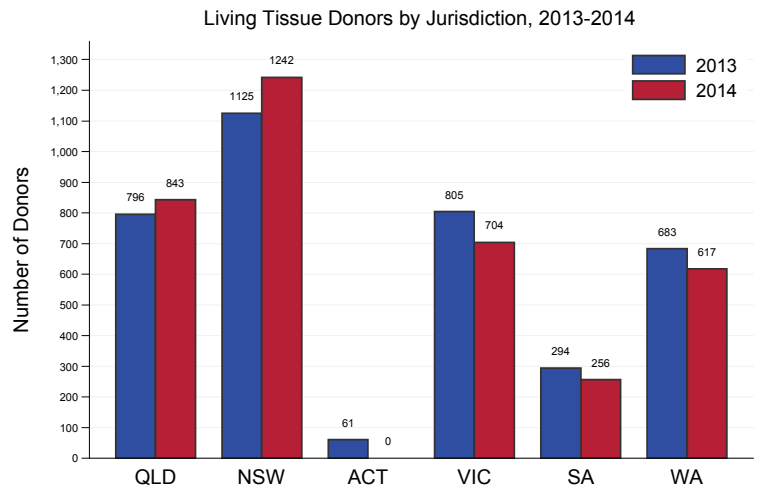
Number of Tissue Donors by Donation Pathway, Jurisdiction, 2013-2014				
Donor Pathway	Jurisdiction	2013	2014	Change in donation
Living Tissue Donor	QLD	796 (21.1%)	843 (23%)	6%
	NSW	1125 (29.9%)	1242 (33.9%)	9%
	ACT	61 (1.6%)	0 (0%)	0%
	VIC	805 (21.4%)	704 (19.2%)	-14%
	SA	294 (7.8%)	256 (7%)	-15%
	WA	683 (18.1%)	617 (16.8%)	-11%
	AUS	3764 (100%)	3662 (100%)	-3%
Deceased Tissue Donor	QLD	99 (36.9%)	133 (41.8%)	26%
	NSW	58 (21.6%)	77 (24.2%)	25%
	ACT	0 (0%)	3 (0.9%)	10%
	VIC	81 (30.2%)	89 (28%)	9%
	SA	3 (1.1%)	5 (1.6%)	40%
	WA	27 (10.1%)	11 (3.5%)	-145%
	AUS	268 (100%)	318 (100%)	16%
Total Donors	QLD	895 (22.2%)	976 (24.5%)	8%
	NSW	1183 (29.3%)	1319 (33.1%)	10%
	ACT	61 (1.5%)	3 (0.1%)	-95%
	VIC	886 (22%)	793 (19.9%)	-12%
	SA	297 (7.4%)	261 (6.6%)	-14%
	WA	710 (17.6%)	628 (15.8%)	-13%
	AUS	4032 (100%)	3980 (100%)	-1%



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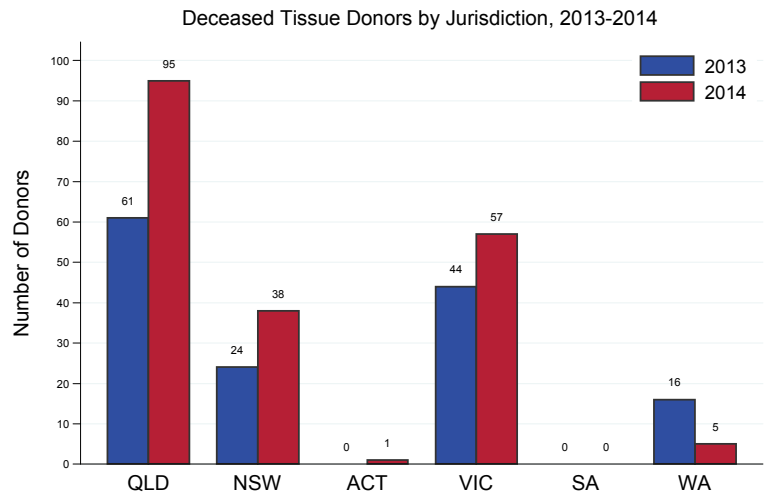
Among the 3,980 tissue donors in Australia during 2014, there were 3,662 living donors compared to 3,764 in 2013. Figure 6.2 shows the number of living donors by jurisdiction for 2013 and 2014. Five tissue banks in NSW accounted for 33.9% (1,242) of living tissue donors.

Figure 6.2



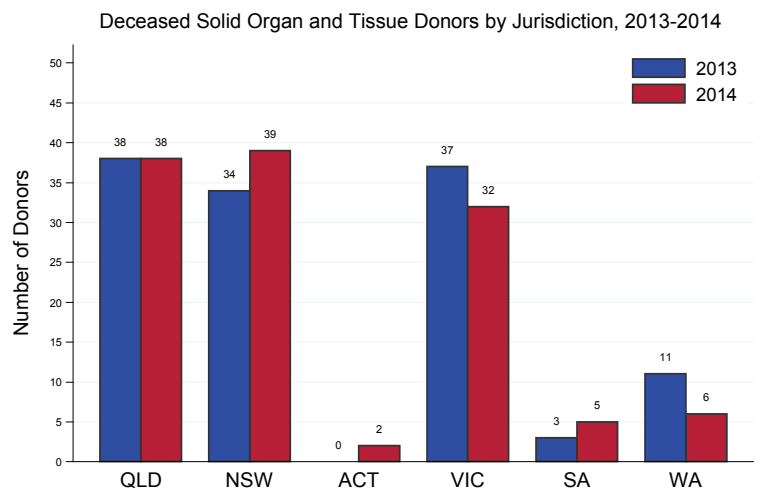
There were 318 deceased tissue donors in Australia in 2014, an increase of 18% from 268 in 2013. Figure 6.3 shows the breakdown by jurisdiction for 2013 and 2014. Of the 318 deceased tissue donors, 133 (41.8%) donors were reported by the two tissue banks located in QLD.

Figure 6.3



Of the 318 deceased tissue donors in Australia, in 2014, 122 (38%) were reported through the solid organ and tissue donation sector. These donors were referred by the DonateLife Network. Figure 6.4 provides the breakdown by jurisdiction in tissue donations from deceased solid organ and tissue donors for 2013 and 2014.

Figure 6.4





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Donation of Tissue

The 3,980 tissue donors in Australia during 2014, accounted for 4,216 tissue donations. Of these 4,216 donations of musculoskeletal, cardiovascular and skin tissue, 3,704 (88%) were from live donors and 512 (12%) were tissue donations from deceased donors.

Figure 6.5 shows the breakdown by jurisdiction for the total number of tissue donations since the commencement of national tissue donation reporting and in 2012.

Figure 6.5

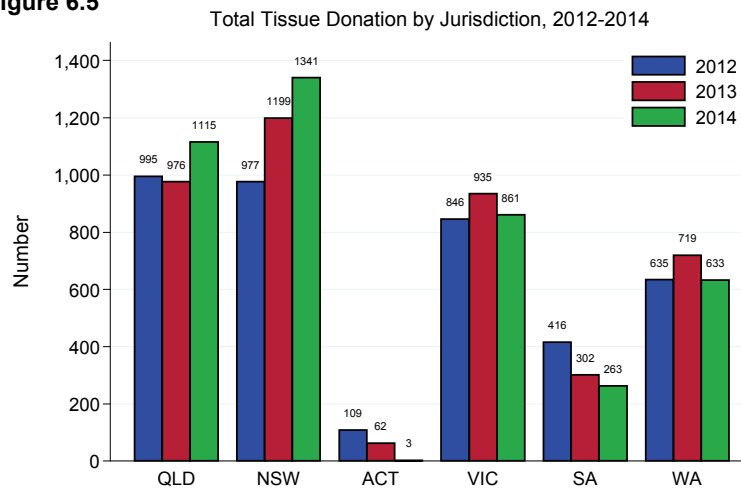
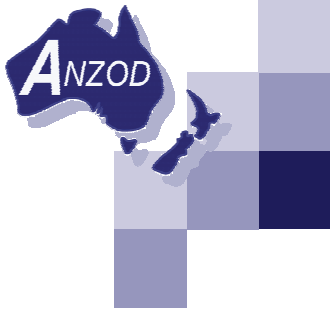


Table 6.2 provides the proportion of tissue donations by Jurisdiction by donor type for 2012-2014.

Table 6.2

Number of Tissue Donations by Donor Type, Jurisdiction 2012-2014					
Donor Type	Jurisdiction	2012	2013	2014	
Living Donor	QLD	826 (22.6%)	808 (21.2%)	858 (23.2%)	
	NSW	943 (25.8%)	1139 (30%)	1258 (34%)	
	ACT	109 (3%)	62 (1.6%)	0 (0%)	
	VIC	744 (20.4%)	808 (21.2%)	710 (19.2%)	
	SA	412 (11.3%)	299 (7.9%)	258 (7%)	
	WA	621 (17%)	687 (18.1%)	620 (16.7%)	
	AUS	3655 (100%)	3803 (100%)	3704 (100%)	
Deceased Donor	QLD	169 (52.3%)	168 (43.1%)	257 (50.2%)	
	NSW	34 (10.5%)	60 (15.4%)	83 (16.2%)	
	ACT	0 (0%)	0 (0%)	3 (.6%)	
	VIC	102 (31.6%)	127 (32.6%)	151 (29.5%)	
	SA	4 (1.2%)	3 (.8%)	5 (1%)	
	WA	14 (4.3%)	32 (8.2%)	13 (2.5%)	
	AUS	323 (100%)	390 (100%)	512 (100%)	
Total Donors	QLD	995 (25%)	976 (23.3%)	1115 (26.4%)	
	NSW	977 (24.6%)	1199 (28.6%)	1341 (31.8%)	
	ACT	109 (2.7%)	62 (1.5%)	3 (.1%)	
	VIC	846 (21.3%)	935 (22.3%)	861 (20.4%)	
	SA	416 (10.5%)	302 (7.2%)	263 (6.2%)	
	WA	635 (16%)	719 (17.1%)	633 (15%)	
	AUS	3978 (100%)	4193 (100%)	4216 (100%)	



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Figures 6.6 to 6.8 show the breakdown by living tissue, deceased tissue only and solid organ and tissue donation, by Jurisdiction, for the period 2012 to 2014.

Among the 3,704 living tissue donations in Australia during 2014, NSW and QLD recorded an increase in donation numbers compared to 2013, with NSW reporting 34% (1,258) of living tissue donations.

Figure 6.6

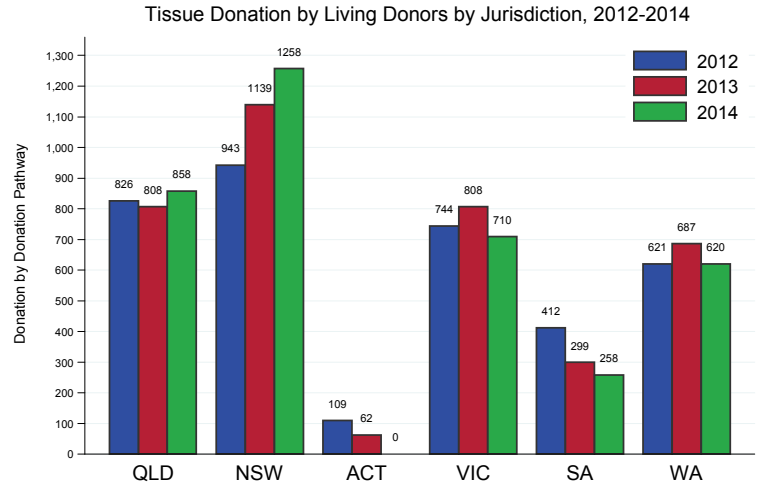
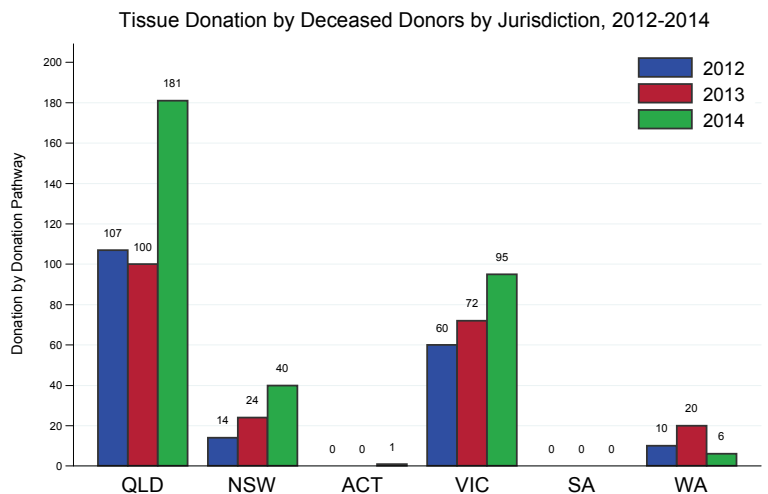
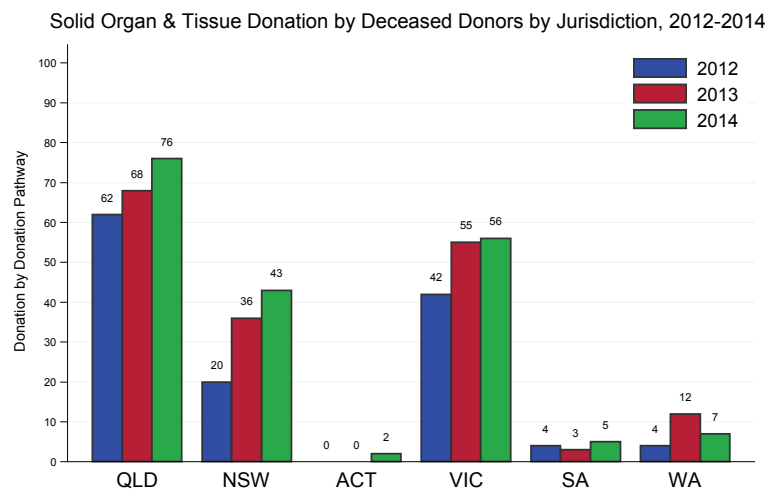


Figure 6.7



Of the 512 tissue donations from deceased donors in 2014, 323 (63%) came from tissue only donors. Figure 6.7 shows the breakdown by Jurisdiction for 2012 to 2014. QLD reported 181 (56%) tissue only donations. This was an increase of 81 donors compared to 2013 (100).

Figure 6.8



Of the 512 deceased tissue donors in Australia, in 2014, 189 (37%) were reported through the solid organ and tissue donation sector. These donors were referred by the DonateLife Network. Figure 6.8 provides the breakdown by jurisdiction of tissue donations from deceased solid organ and tissue donors for the period 2012 to 2014.

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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 512 tissue donations from deceased donors in 2014 included donations from tissue only and solid organ/tissue donors. This consisted of 203 musculoskeletal tissue, 144 cardiovascular tissue and 165 skin. Overall this is a 31% increase of deceased tissue donations compared to 2013. Table 6.3 shows the donation for tissue retrieved from deceased donors, by tissue type and donation sector. Sixty three percent (323) of tissue retrieved from deceased donors was from the tissue only sector, while 37% (189) was from the solid organ/tissue sector.

Table 6.3

Tissue Donation from Deceased Donors in 2014 by Jurisdiction and Donation Sector									
Jurisdiction	Tissue Only Sector			Solid Organ/Tissue Sector			Tissue Total		
	ms	cv	skin	ms	cv	skin	ms	cv	skin
QLD	78	29	74	27	21	28	105	50	102
NSW	32	8	0	14	29	0	46	37	0
ACT	0	1	0	0	2	0	0	3	0
VIC/TAS	27	20	48	16	25	15	43	45	63
SA	0	0	0	0	5	0	0	5	0
WA	4	2	0	5	2	0	9	4	0
AUSTRALIA	141	60	122	62	84	43	203	144	165
ms = musculoskeletal tissue cv = cardiovascular tissue									



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In Australia during 2014, there were 203 musculoskeletal tissue donation from deceased donors. Figure 6.10 shows the number of musculoskeletal tissue donations by jurisdiction for the period 2012 to 2014. Fifty two percent (105) of the 203 musculoskeletal donations were reported by the QLD Bone Bank.

Figure 6.10

Musculoskeletal Tissue Donation by Deceased Donors by Jurisdiction, 2012-2014

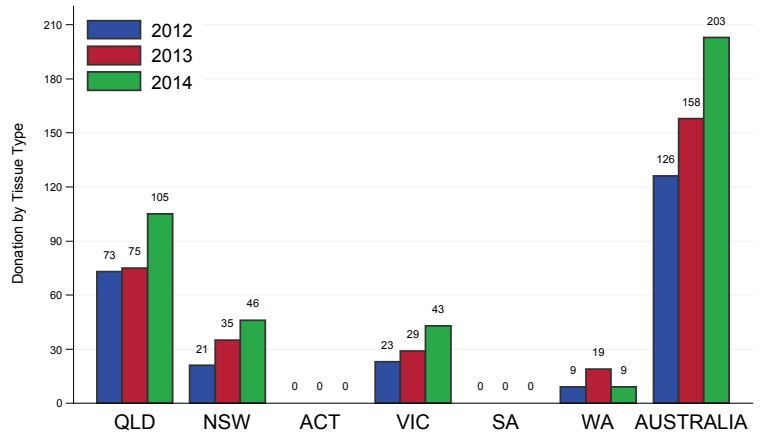


Figure 6.11

Cardiovascular Tissue Donation by Deceased Donors by Jurisdiction, 2012-2014

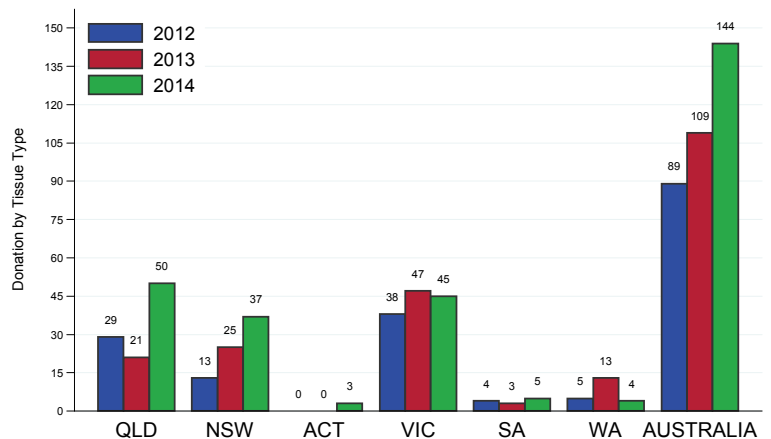
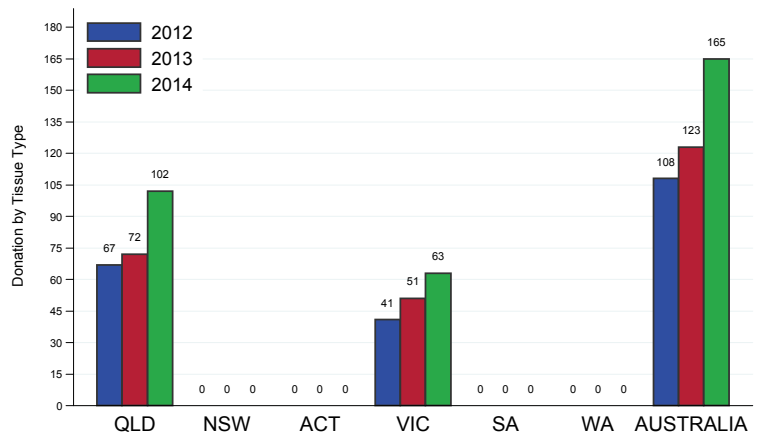


Figure 6.11 shows the breakdown by jurisdiction for cardiovascular tissue donation for the period 2012 to 2014. Ninety two percent all cardiovascular donation come from the eastern jurisdictions of Australia (QLD, NSW, VIC).

Figure 6.12

Skin Tissue Donation by Deceased Donors by Jurisdiction, 2012-2014



QLD and VIC are the only two jurisdictions with skin donation services. Figure 6.12 shows the breakdown of skin donations between the two jurisdictions for the period 2012 to 2014.

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Tissue Donation from Living Donors

Tissue donations from living donors (88% of all donations) consisted predominately of musculoskeletal tissue, where 3,687 people donated femoral heads whilst undergoing hip replacement surgery.

Table 6.4 shows tissue donation from living donors. Seventeen living donors provided cardiovascular tissue, down from 20 in 2013. Tissue donation from living donors is managed by the tissue banks across Australia.

Table 6.4

Tissue Donation from Living Donors in 2014 by Jurisdiction and Donation Sector			
Jurisdiction	Musculoskeletal	Cardiovascular	Total
QLD	858	0	858
NSW	1243	15	1258
VIC	708	2	710
SA	258	0	258
WA	620	0	620
AUSTRALIA	3687	17	3704

Figure 6.13 shows the numbers of musculoskeletal tissue donations from living donors by Jurisdiction for the period 2012 - 2014.

Figure 6.13 Musculoskeletal Tissue Donation by Living Donors by Jurisdiction, 2012-2014

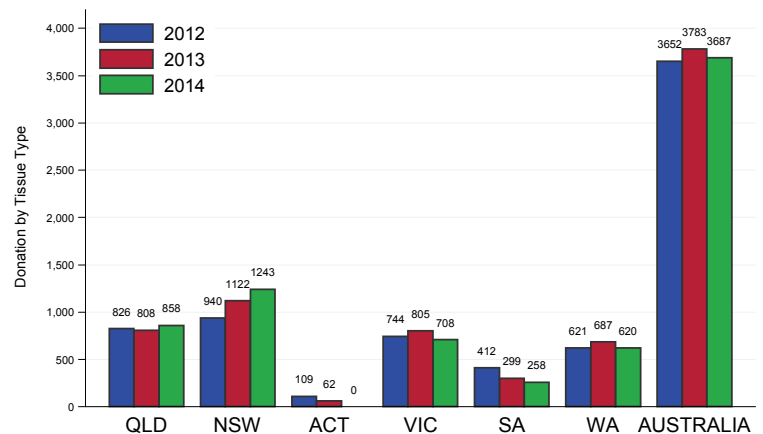
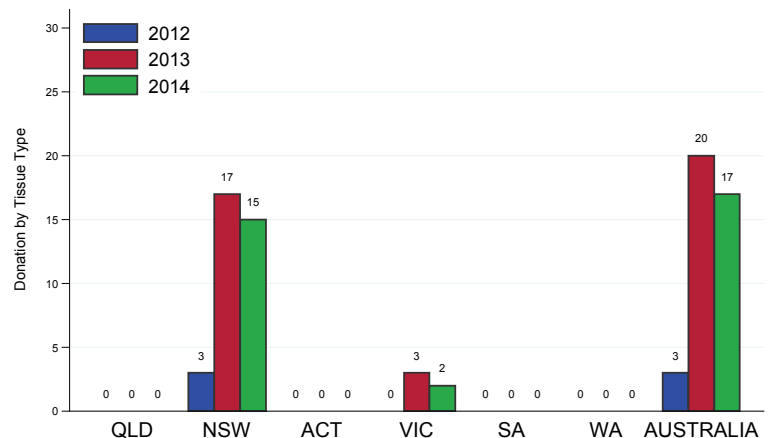


Figure 6.14 shows the number of cardiovascular tissue donation from living donors by Australian jurisdictions for the period 2012 - 2014.

Figure 6.14 Cardiovascular Tissue Donation by Living Donors by Jurisdiction, 2012-2014





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Tissue Transplantation

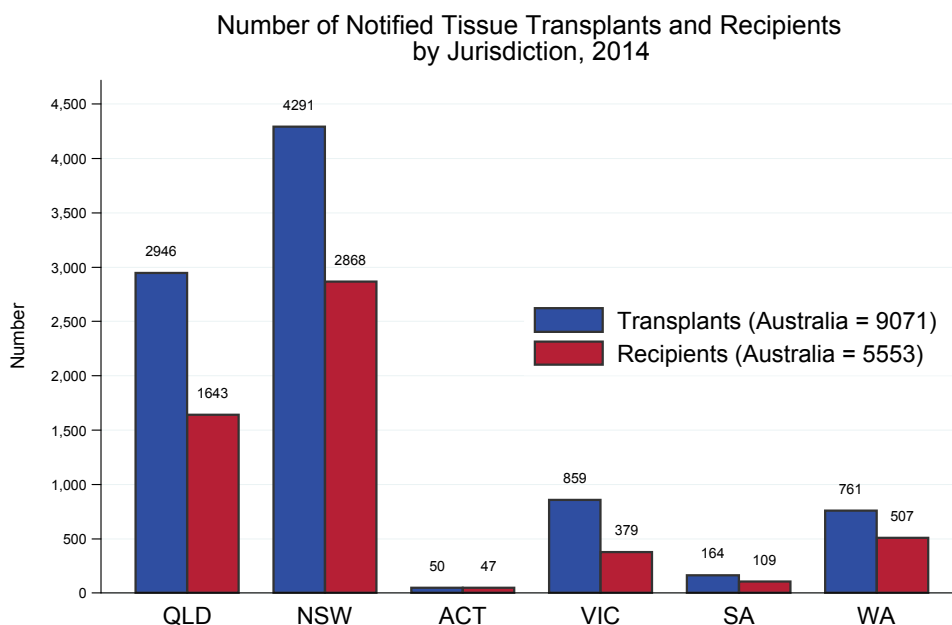
In 2014, national tissue reporting continued to strengthen with the consolidated collection and reporting of tissue donation outcomes by capturing tissue transplantation numbers in Australia. Tissue banks provided the number of notified graft tissue transplants and the number of notified recipients of 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 6.15 shows the number of notified^(1,2) tissue transplants (grafts) and recipients by Jurisdiction for 2014.

Figure 6.15



⁽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".

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Figure 6.16 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 6.16 Number of Notified Musculoskeletal Transplants and Recipients by Jurisdiction, 2014

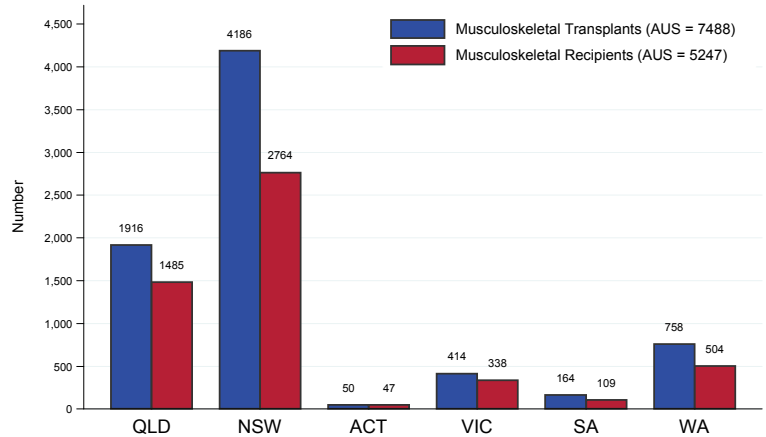


Figure 6.17 shows the number of notified^(1,2) cardiovascular tissue transplants and recipients by Australian Jurisdiction, for 2014.

In Australia, there were 203 recipients who received 204 cardiovascular transplants.

Figure 6.17 Number of Notified Cardiovascular Transplants and Recipients by Jurisdiction, 2014

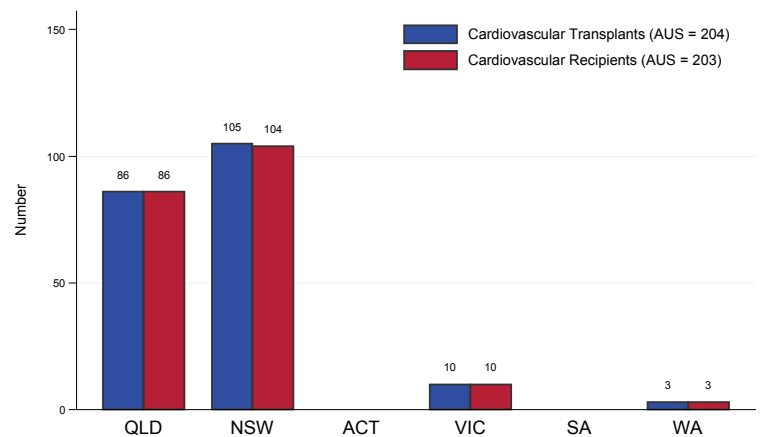
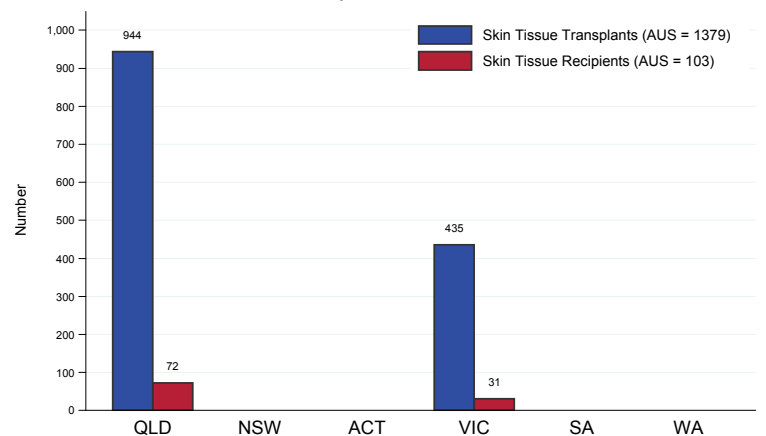


Figure 6.18 shows the number of notified^(1,2) skin tissue transplants and recipients by Jurisdiction, for 2014.

In Australia, there were 103 recipients who received 1,379 skin transplants.

Figure 6.18 Number of Notified Skin Tissue Transplants and Recipients by Jurisdiction, 2014



⁽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".



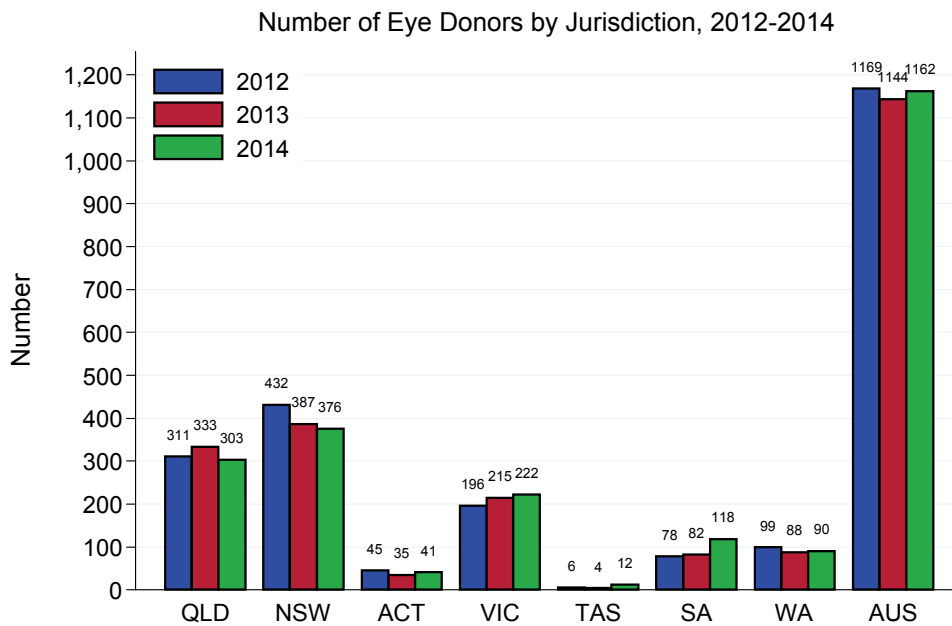
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Eye Donors

In 2014, 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 6.19 represents the number of eye donors from each Australian Jurisdiction for the reporting period 2012 to 2014. In 2014 there were 1,162 eye donors, compared with 1,144 in 2013 and 1,169 in 2012.

Figure 6.19





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

In 2014 there were 908 eye only donors (Figure 6.20), 96 donors who donated eye and tissue (Figure 6.21), 61 donors who donated eye and one or more solid organs (Figure 6.22) and 97 donors who donated eye, tissue and one or more solid organs (Figure 6.23).

Figure 6.20

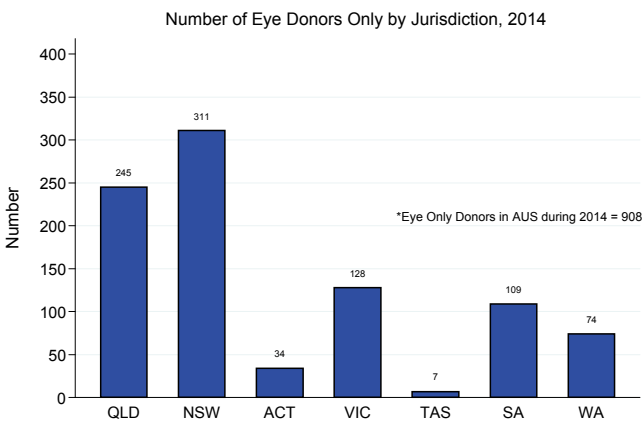


Figure 6.21

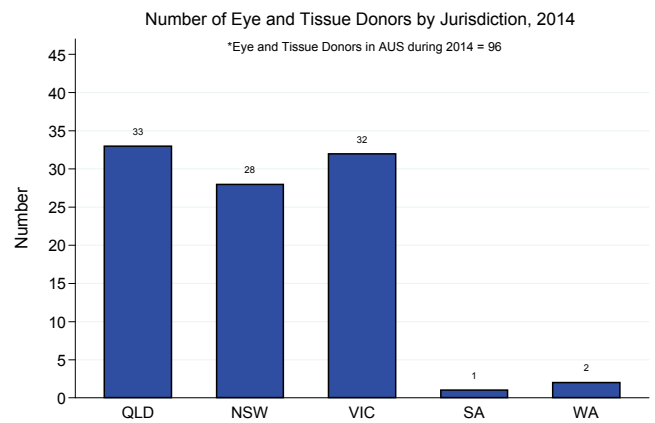


Figure 6.22

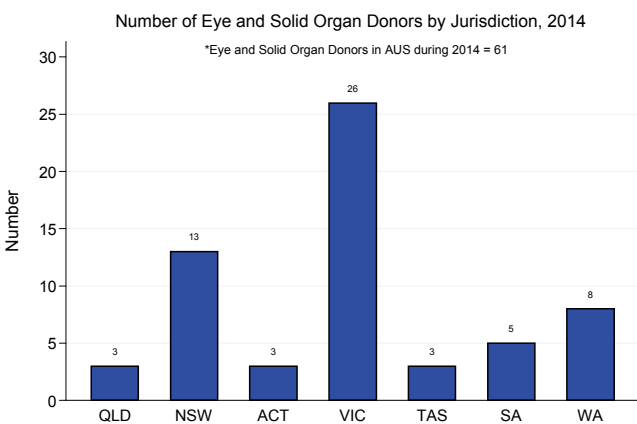


Figure 6.23

