

Chapter 6

Tissue & Eye Data





Tissue & Eye Data

While only a small percentage of people are medically suitable to donate solid organs upon death, a larger proportion are eligible to become eye and/or tissue donors. However, the majority of tissue donations occur from living donors.

Historically, there has been no consolidated collection or reporting of data about tissue and eye donation and utilisation in Australia. The Australian Organ and Tissue Donation and Transplantation Authority (AOTDTA) has identified the need for national reporting of tissue data. Discussions with stakeholders identified a number of concerns with existing datasets held by individual agencies. These included:

- challenges capturing the entire tissue donation dataset (including living donor tissue, deceased donor tissue only and deceased solid organ and tissue donations);
- over counting or duplicate counts of tissue donors and donations via multiple agencies of deceased solid organ and tissue collection and inter-bank tissue donation transfers;
- jurisdictional differences in policies relating to data collection; and
- differing terminology between eye & tissue banks and reporting agencies.

In 2012, at the request of the AOTDTA and in collaboration with Australian eye & tissue banks, ANZOD undertook the inaugural collection and reporting of donors and donations in this sector, Australia wide. By reporting to a common entity, ANZOD was able to identify data discrepancies and erroneous data. With assistance from participating banks, methods of data cleansing and reconciliation have been introduced. These initial measures address some of the concerns associated with national reporting, but there is further work underway to implement unique identifiers to exclude double-counting and facilitate tracing of transplanted eyes and tissues (and various tissue products).

This chapter presents the eye & tissue data provided by banks across Australia, in conjunction with data collected within the solid organ donation sector by DonateLife.

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 donation data with allocation of a unique donor identification, introduction of capturing outcome data and unifying terminology across agencies. Collaboration with the Eye Bank Association of Australia and New Zealand (EBAANZ) is assisting the momentum for accurate reconciliation for reporting into the future.

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 and Tissue Bank Victoria
- WA** - Perth Bone and Tissue Bank (PlusLife)
- Royal Perth Heart Valve Bank

EBAANZ contributed data on the following Eye Banks in Australia and New Zealand :

- 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

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Tissue & Eye Donors

For 2012, tissue banks across Australia provided aggregate data for cardiovascular, musculoskeletal and skin tissue donations for a total of 3,843 tissue donors.

EBAANZ reported on behalf of Eye banks across Australia and New Zealand, including 1166 eye donors in Australia and 135 in New Zealand.

Figure 6.1 Number of Tissue Donors, Australian States 2012

Figure 6.1 shows the number of unique tissue donors in each State (both living and deceased combined).

Each total number excludes duplicate counts of donors that are also multi-organ or multi-tissue donors where the donor coordination is performed by another donation agency. The exception here is in NSW *, where aggregate data submitted did not

Data sourced from Australian Tissue Banks.

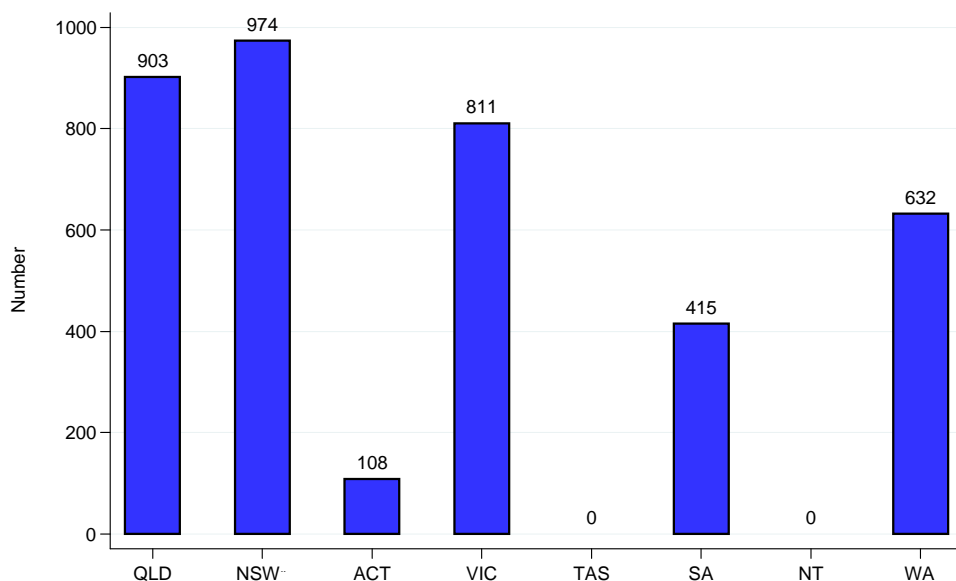
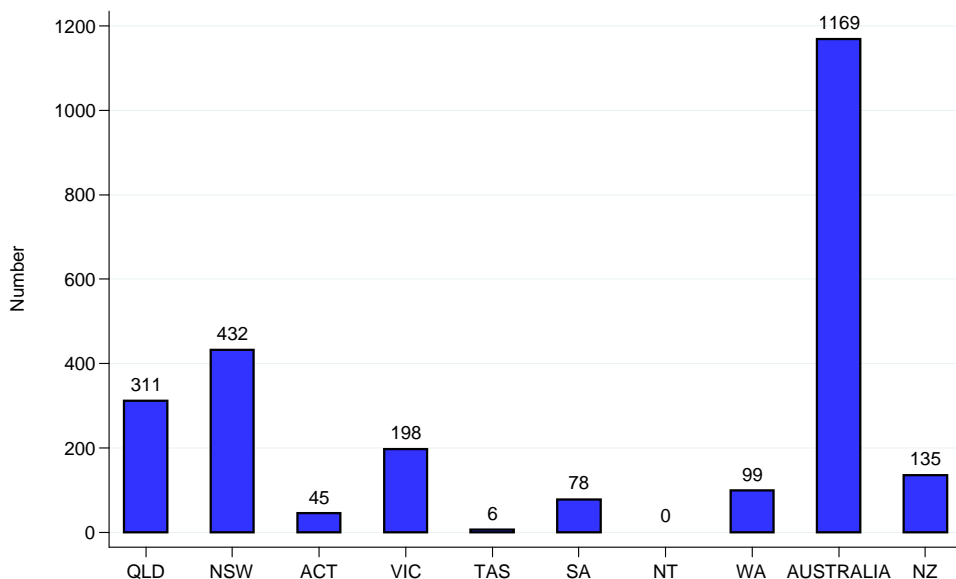


Figure 6.2 Number of Eye Donors, Australian and New Zealand 2012

Figure 6.2 represents the number of eye donors obtained in each State. Note that some States manage eye donation from a satellite State not having an Eye Bank.

Donor numbers may also include eye donors that are also multi-organ or multi-tissue donors where the donor coordination is performed by another donation agency.

Data sourced from EBAANZ.





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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, 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 is in the form of heart valves which are necessary to regulate the flow of blood to and from the heart. Diseased or defected heart valves can have serious implications. The best option for repairing or replacing heart valves is through human cardiovascular tissue donation.

Donated skin contributes to saving lives and improving long term outcomes for patients who suffer severe burns. Donated tissue is essential when a patient's own skin can not be used for grafting. Using donated skin as a wound "dressing" helps reduce infection, fluid loss and pain, promotes wound heal-

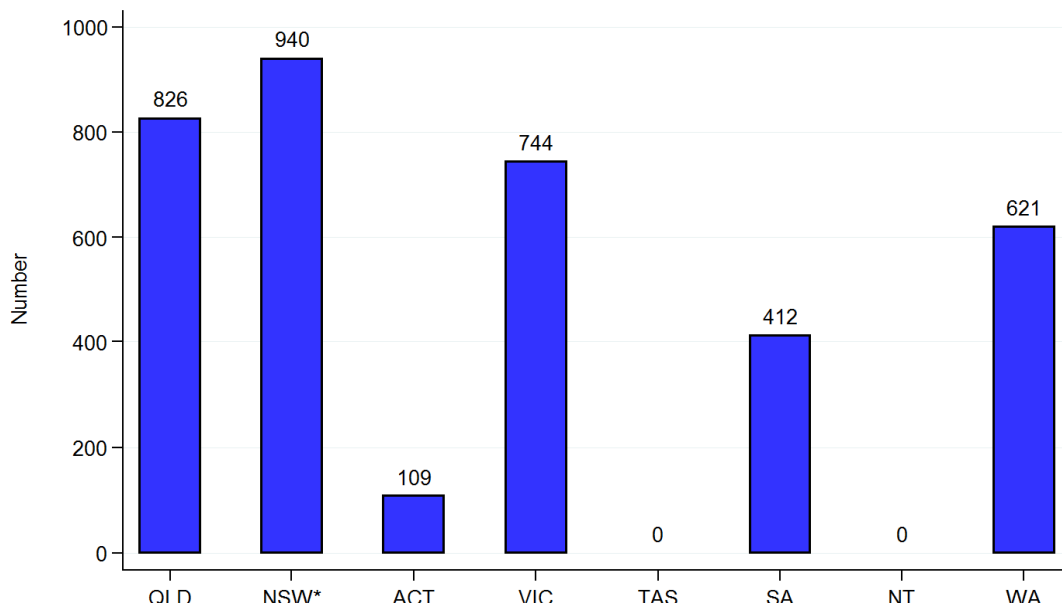
ing and minimises scarring. Often recipients will require more than one donated graft for their wounds to heal. Skin grafts are also used to treat wounds resulting from trauma and serious infection.

Among 3,843 tissue donors in Australia during 2012, there were 3,655 tissue donations from live donors and 323 tissue donations from deceased donors. Donations from live donors (92% of all donations) consisted predominately of musculoskeletal tissue 3,652 by people who donated femoral heads whilst undergoing hip replacement surgery. Three live donors provided cardiovascular tissue. Tissue donation from live donors in Australia is managed by the individual tissue banks across Australia and New Zealand.

Figure 6.3 provides the breakdown by jurisdiction of the 3,655 tissue donations from live donors and similarly the breakdown by jurisdiction of 323 tissue donation from deceased donors is shown in Figure 6.4.

Figure 6.3

Living Tissue Donation 2012

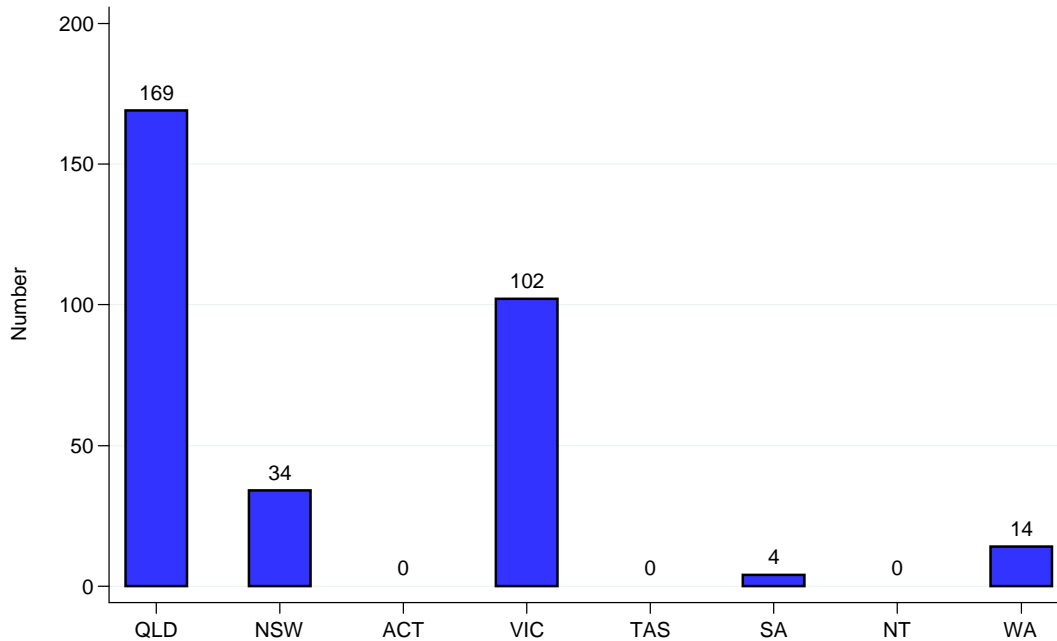


* NSW also had 3 cardiovascular tissue donors in 2012. There were no other living CV donors.



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Figure 6.4 Deceased Tissue Donation 2012



Tissue donation from deceased donors in 2012 included donations from tissue only and solid organ/tissue donors. Combined, this consisted of 126 musculoskeletal tissue, 89 cardiovascular tissue and 108 skin, for a total of 323 donations.

Figure 6.5 shows the state of donation for tissue retrieved from deceased donors by tissue type and donation sector. Fifty nine percent (191) of tissue retrieved from deceased donors were from the tissue only sector, while 41% (132) were from the solid organ/tissue sector.

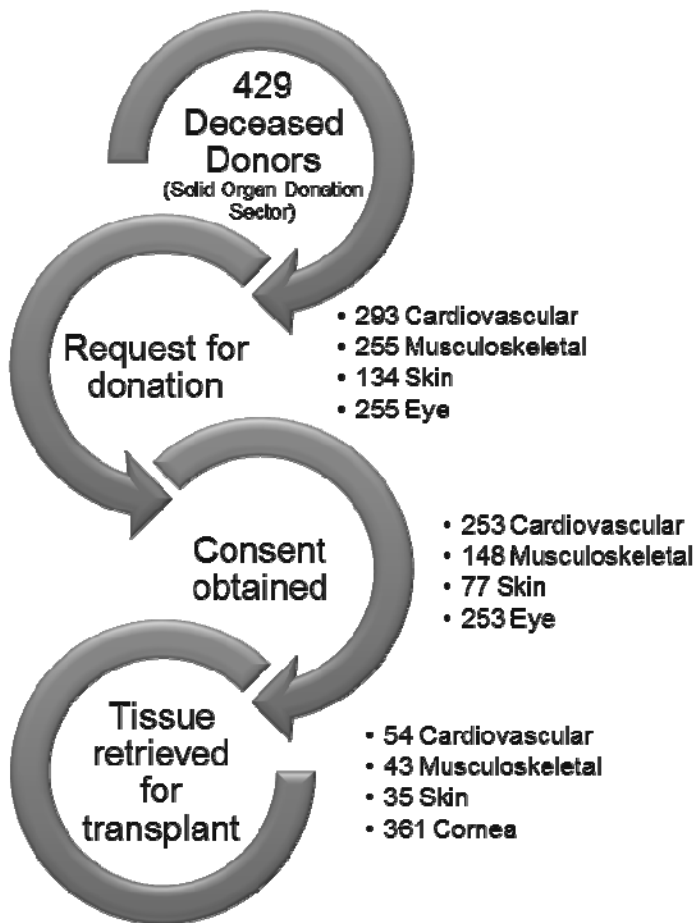
Figure 6.5

Tissue Donation from Deceased Donors in 2012 by State and Donation Sector									
State	Tissue Only Sector			Solid Organ/Tissue Sector			Tissue Total		
	ms	cv	skin	ms	cv	skin	ms	cv	skin
QLD	48	16	43	25	13	24	73	29	67
NSW	13	1	0	8	12	0	21	13	0
ACT	0	0	0	0	0	0	0	0	0
VIC	16	14	30	7	24	11	23	38	41
NT	0	0	0	0	0	0	0	0	0
SA	0	0	0	0	4	0	0	4	0
NT	0	0	0	0	0	0	0	0	0
WA	6	4	0	3	1	0	9	5	0
AUSTRALIA	83	35	73	43	54	35	126	89	108

ms = musculoskeletal tissue
cv = cardiovascular tissue

Outcome of Request for Tissue Donation

Figure 6.6
Outcome of Request for Tissue Donation
Australia 2012
(Deceased Solid Organ Donation Sector)



The outcome of request for tissue donation from the solid organ donation sector is displayed in Figure 6.6. DonateLife agencies across Australia provide data to ANZOD that includes tissue retrieved from either an actual or intended solid organ donor. This data may vary slightly from data supplied from tissue banks due to unidentified data duplication and mistaken identity of data from solid organ/tissue donors, in the event solid organ retrieval did not eventuate at the time. All effort however, is taken to report data without duplication of counts by reconciliation with tissue banks and EBAANZ when indicated.

In 2012 there were a total of 493 tissue donations from donors who followed the solid organ donation pathway. Of those donations, 9% (43) were musculoskeletal, 11% (54) were cardiovascular, 7% (35) were skin and 73% (361) were corneas.

Consent for eye donation can result in retrieval of two corneal donations. Cornea's retrieved from donors from the solid organ donation sector consist of 31% of deceased donors Australia wide.

Age of Tissue Donors (Deceased Solid Organ Donation Sector 2005 - 2012)

Figures 6.7 to 6.13 show the donor age per year for specific tissue types from 2005 to 2012, for those tissue donors from the solid organ donation sector in Australia and New Zealand.

ANZOD has not been notified of any musculoskeletal tissue retrieval from deceased solid organ donors in New Zealand since 2005.

The mean age for 2012 was 48.6 years, with the youngest donor aged 2.6 years being a cardiovascular tissue donor and the oldest aged 82.4 years, being a corneal donor. Musculoskeletal donors ranged from 20.3 years to 66.6 years and skin donors ranged from 14.8 years to 66.6 years.

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Figure 6.7 Age of Musculoskeletal Donors Australia 2005-2012

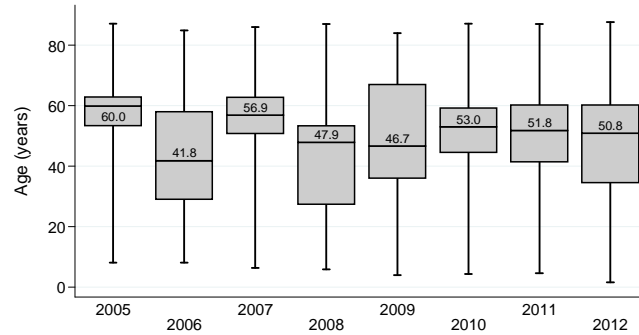


Figure 6.8 Age of Cardiovascular Donors Australia 2005-2012

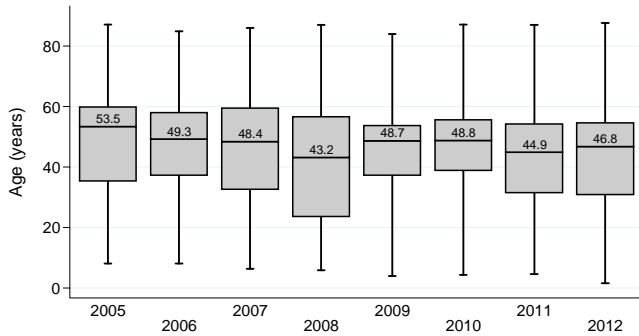


Figure 6.9 Age of Cardiovascular Donors New Zealand 2005-2012

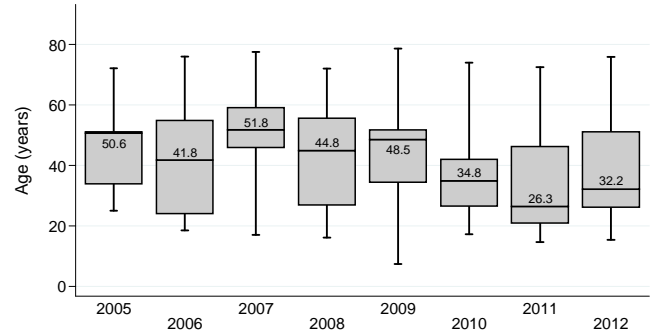


Figure 6.10 Age of Skin Donors Australia 2005-2012

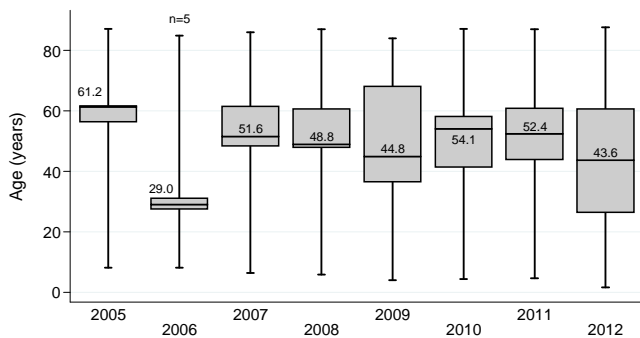


Figure 6.11 Age of Skin Donors New Zealand 2005-2012

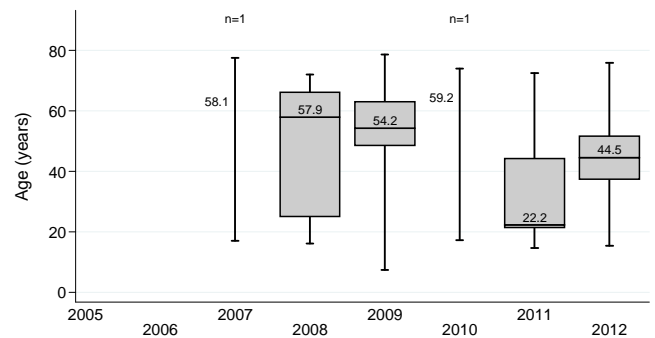


Figure 6.12 Age of Eye Donors Australia 2005-2012

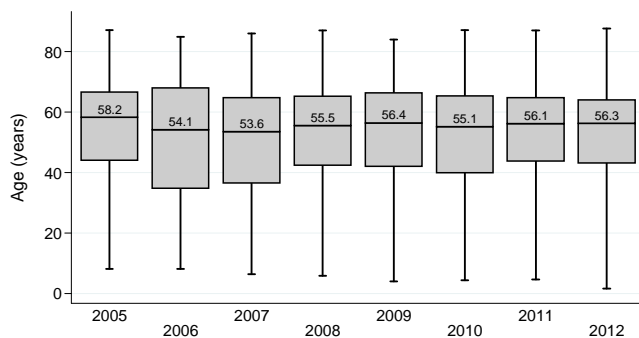


Figure 6.13 Age of Eye Donors New Zealand 2005-2012

