

2019 Australian Donation and Transplantation Activity Report



Transplantation relies on the donation of organs and tissues.

We thank and acknowledge the generous Australians and their families who saved and transformed the lives of people needing a transplant through organ and tissue donation in 2019.

We also acknowledge the dedication and commitment of our donation and transplantation specialists.

Transplantation, and its life-changing benefits, would not be possible without this shared commitment to donation.

In 2019

1,683

Australian lives were saved and transformed by

548

deceased organ donors, and

239

living organ donors

Part 1 Organ donation and transplantation

Deceased organ donation and transplantation

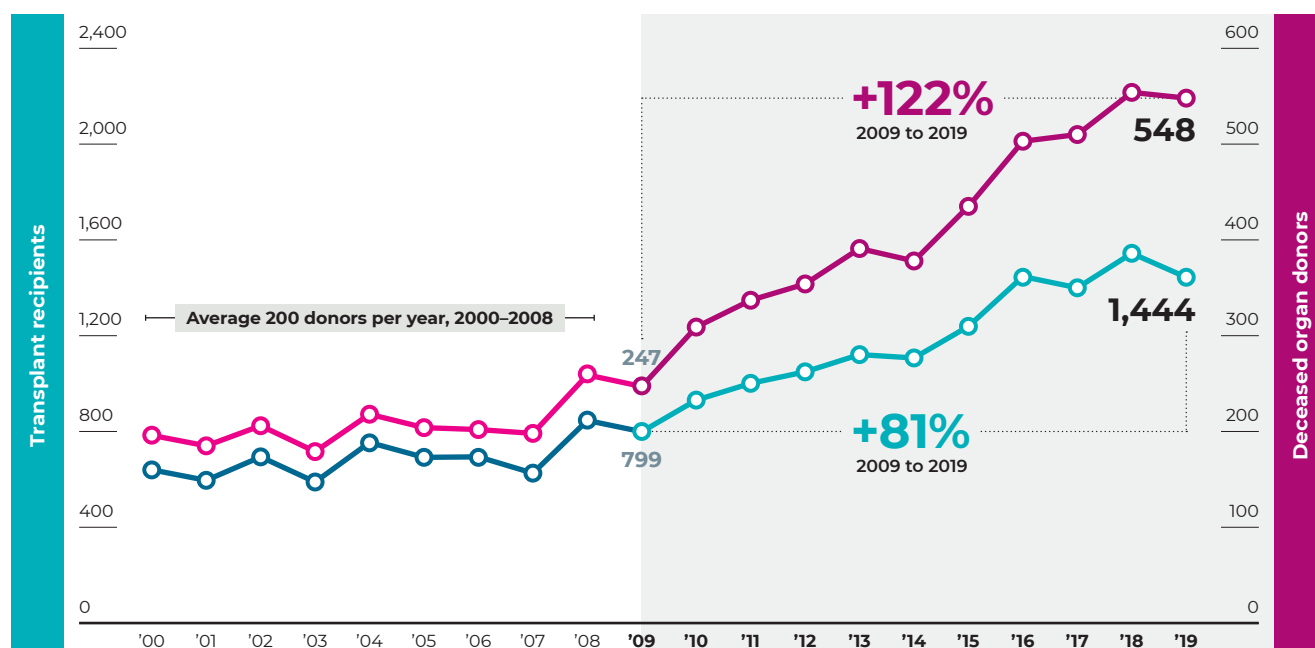
There has been significant growth in deceased organ donation and transplantation since the Australian Government's national program began in 2009.

In 2019 the lives of 1,444 Australians were saved through transplantation due to 548 deceased organ donors.

The success of our nationally coordinated program, focused on a best-practice clinical system in hospitals, combined with increasing community awareness, is demonstrated by the long-term trend of growth in organ donation over the past 11 years.

Since the national program started in 2009, the number of deceased organ donors has more than doubled, resulting in over 13,000 Australians receiving a life-saving transplant.

Deceased organ donation and transplant recipients 2000–2019



Australia's potential deceased organ donor population and transplantation outcomes

It is a common misconception that everyone is able to donate their organs when they die.

To be an organ donor, the individual must die in a hospital's intensive care unit or emergency department and their organs must be functioning well before they are transplanted. Additionally there are some medical conditions, such as cancer, which may mean the patient is not a suitable organ donor.

Around 80,000 Australians die in hospital each year. Only around 2% can be considered for organ donation.

The diagram below highlights the small proportion of deaths in Australia in 2019 that represented potential donors.

In 2019, of the approximately 80,000 deaths in Australian hospitals, only 1,309 had the potential to be organ donors.

In Australia families are always asked to agree to donation. Requests to families for donation were made in 1,224 cases, with 756 families saying 'yes'.

Of the 756 consented donors, 548 proceeded to become actual donors who saved and transformed the lives of 1,444 organ transplant recipients and their families.

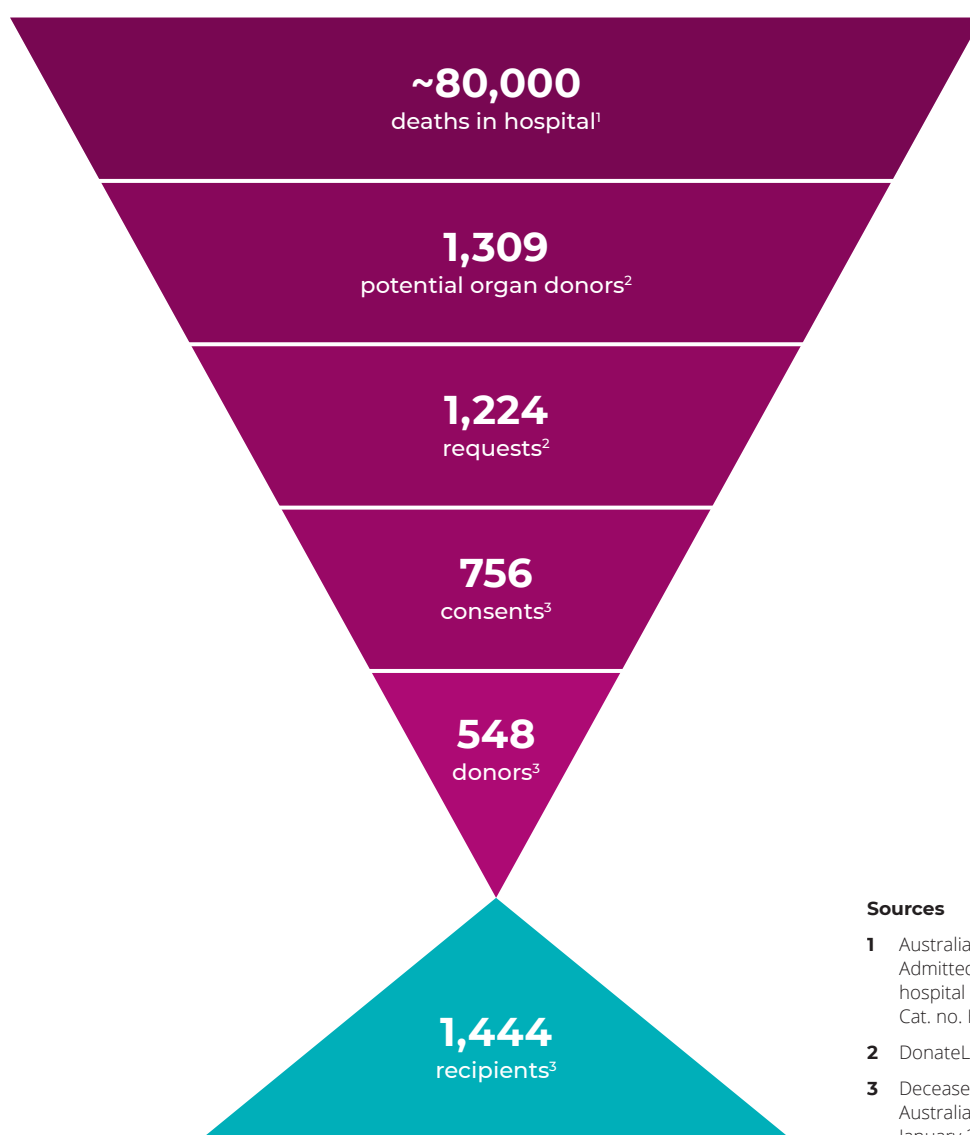
In Australia and internationally the need for transplantation exceeds the availability of organs. At the end of 2019 there were around 1,700* Australians waitlisted for an organ transplant and a further 12,000 people on dialysis who may benefit from a kidney transplant.

With donation possible in so few cases, and with so many people needing an organ transplant, it is vital that more people in the potential donor pool say 'yes' to donation.

Many more people can become eye and tissue donors. Eyes and other tissues can be donated up to 24 hours after death, and donors do not have to die in hospital.

* Updated 2019 figures from <https://www.anzdata.org.au/anzod/publications-2/organ-waiting-list/>

Deceased organ donation and transplantation 2019



Sources

- 1 Australian Institute of Health and Welfare 2019. Admitted patient care 2017–18: Australian hospital statistics. Health services series no. 90. Cat. no. HSE 225. Canberra: AIHW.
- 2 DonateLife Audit, January 2020
- 3 Deceased organ donation in Australia, Australia and New Zealand Organ Donor Registry, January 2020

Deceased organ donors and transplant recipients

The lives of 1,444 Australians were saved by transplants from 548 deceased organ donors in 2019.

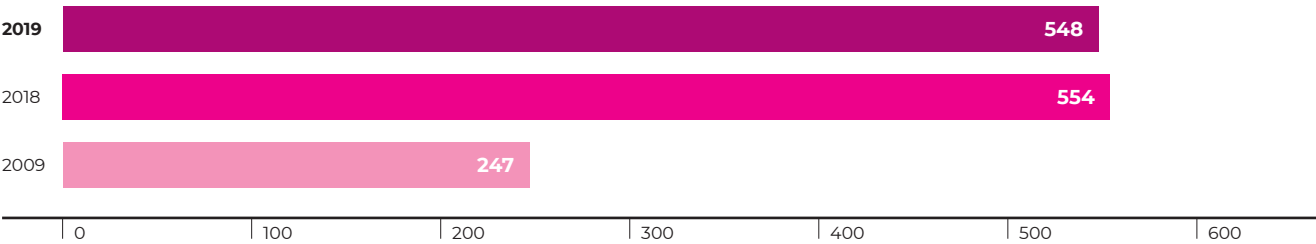
This represents a small decrease (1%) in the number of donors and a 6% decrease in the number of transplant recipients compared with 2018.

Australia has a clinical best-practice organ donation system. In 2019, more patients were referred for consideration as potential organ donors, more families

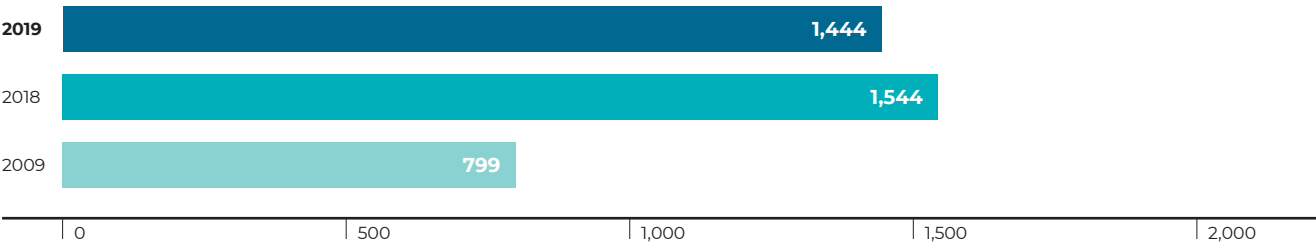
were offered the opportunity for their loved one to be a donor, and more families agreed to donation. However, some of these patients did not become donors for medical and logistical reasons.

Although the number of deceased organ donors was relatively stable compared with 2018, there was a 6% decrease in the number of transplant recipients in 2019. The reasons for fewer transplant recipients are complex and include circumstances of death, such that donation was not able to proceed; and previously undiagnosed chronic diseases that limited medical suitability.

Deceased organ donors 2009, 2018 and 2019



Transplant recipients 2009, 2018 and 2019



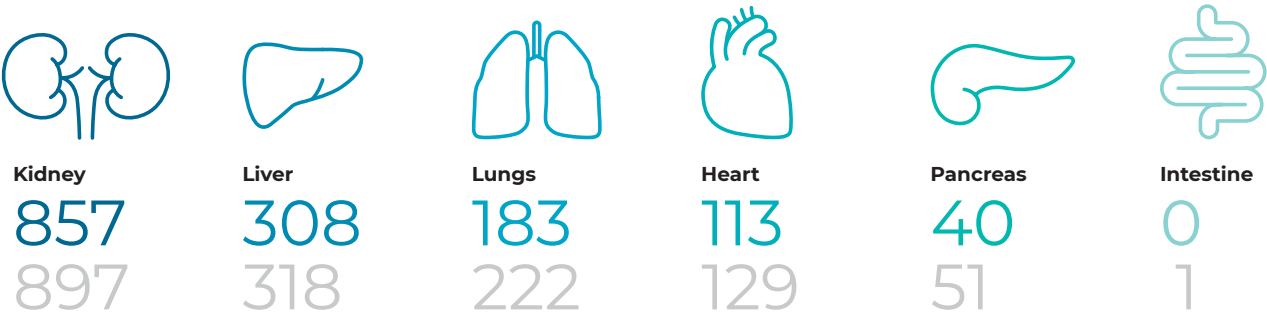
Organs transplanted from deceased donors

In 2019, there were 1,501 organs transplanted from deceased donors, 7% lower than 2018 (1,618).

Kidneys were the predominant organ donated and transplanted, followed by liver, lungs and heart.

Organs transplanted from deceased donors 2018 and 2019

2019 2018



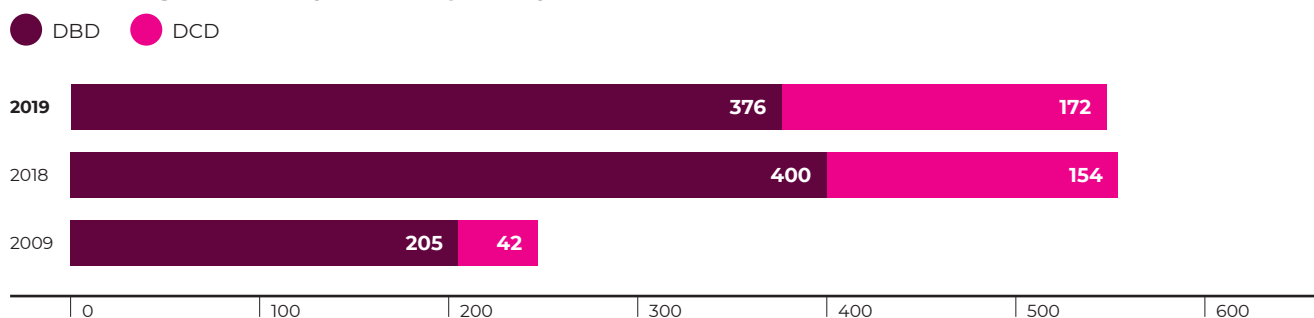
Deceased organ donors by donation pathway

There are two pathways to deceased donation: Donation after Brain Death (DBD) and Donation after Circulatory Death (DCD).

Most donors are from the DBD pathway. In 2019, 376 deceased organ donors (69%) came from the DBD pathway, with 172 (31%) from the DCD pathway.

There was a 12% increase in the number of donors from the DCD pathway and a 6% decrease in the number of donors from the DBD pathway. Typically DCD results in a lower number of organs suitable for transplantation compared with DBD.

Deceased organ donors by donation pathway 2009, 2018 and 2019

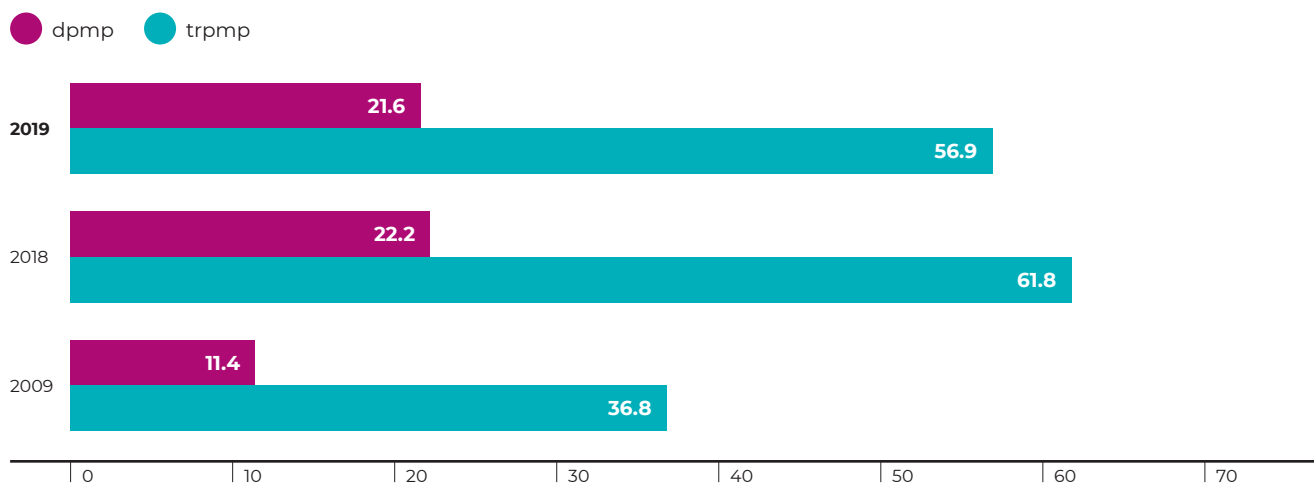


National deceased organ donation and transplantation rates

The 548 deceased organ donors in 2019 resulted in a national donation rate of 21.6 donors per million population (dpmp), a slight decrease compared with 2018 (22.2 dpmp).

The transplantation rate was 56.9 transplant recipients per million population (trpmp); lower than 2018 (61.8 trpmp).

Deceased organ donation and transplantation rates 2009, 2018 and 2019

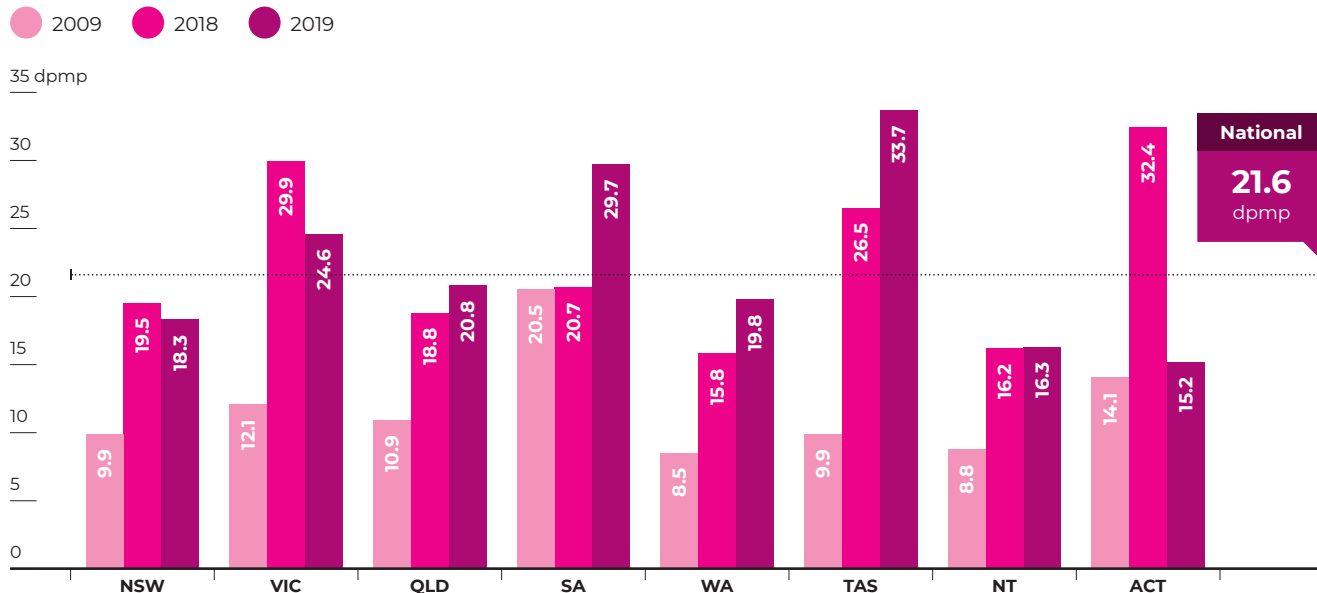


State and territory deceased organ donation rates

State and territory outcomes in 2019 continued to demonstrate variation, with donation rates ranging from 15.2 dpmp to 33.7 dpmp.

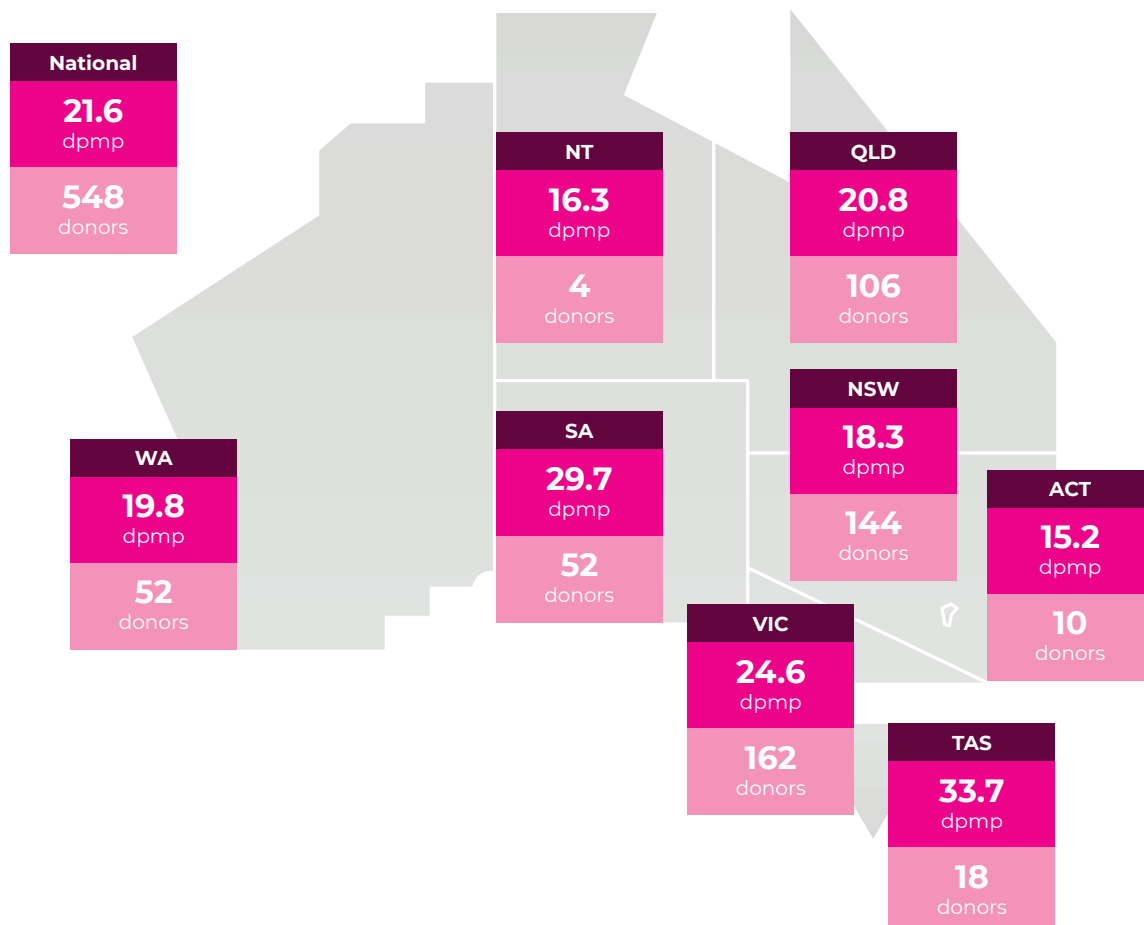
Tasmania was the leader in donation outcomes, achieving a donation rate of 33.7 dpmp, followed by South Australia (29.7 dpmp) and Victoria (24.6 dpmp).

Deceased organ donation rates by jurisdiction 2009, 2018 and 2019



Note: The relatively small populations of the Northern Territory, the Australian Capital Territory and Tasmania can result in substantial fluctuations in outcomes and donation rates from year to year.

Deceased organ donors and donation rates 2019 by jurisdiction



Consent rates

In Australia, like nearly every other country, families of potential donors are asked to consent to their family member becoming a donor.

In 2019, 756 families agreed to donation compared with 716 in 2018.

Of the consented donors, 548 proceeded to donation. The remaining 208 were unable to donate their organs mainly due to medical or logistical reasons, compared with 162 consented donors who did not proceed to donation in 2018.

National consent rate

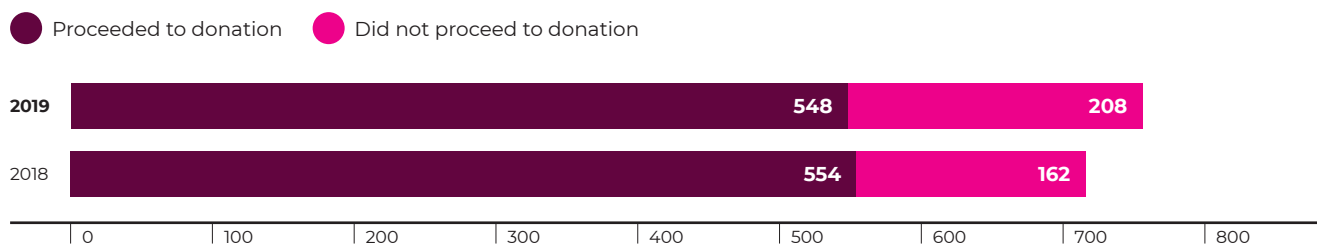
In 2019 the national consent rate was 62%; slightly lower than 2018 (64%).

This consent rate means that around six out of 10 families agreed to donation. Increasing the number of families saying 'yes' to donation is critical to further growth in donation.

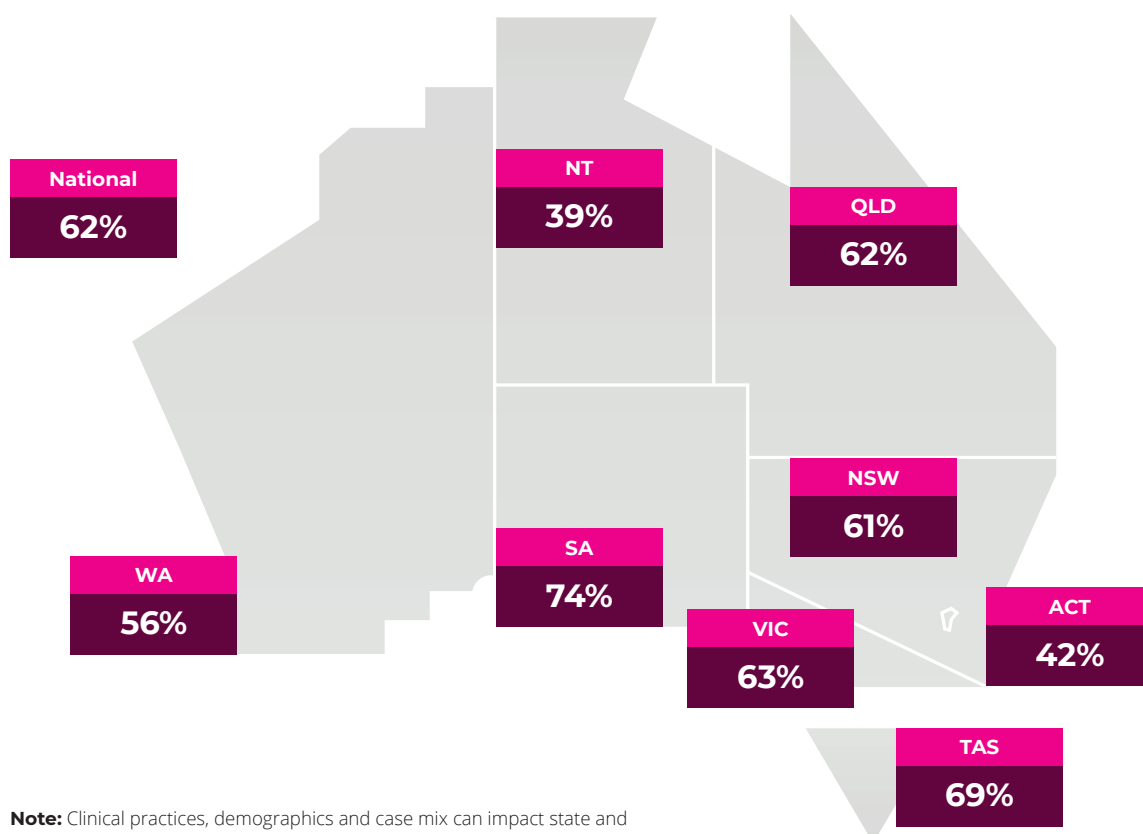
State and territory consent rates

There was substantial variation in consent rates across the states and territories in 2019.

Consented donors 2018 and 2019



Consent rates by jurisdiction



Note: Clinical practices, demographics and case mix can impact state and territory consent rates.

Registration and family discussion increase consent

Consideration of organ and tissue donation comes at an intensely emotional time for families, usually associated with unexpected death of their loved one.

When donation is a possibility, the decision to donate is much easier for families when they know what their loved one wanted and they get comfort from honouring their loved one's wishes.

In 2019, nine out of 10 families agreed to donation when their family member was on the donor register. Consent for donation was given in seven out of 10 cases when the family had prior knowledge their loved one wanted to donate. This dropped to only six out of 10 families agreeing to donation when the family was unaware of their wishes.

While the majority of Australians support organ and tissue donation, at December 2019 only one in three had registered to be a donor on the Australian Organ Donor Register (AODR).

We can continue to increase consent rates and save more lives if more Australians register and tell their family they want to be a donor.

South Australia demonstrates the importance of registration, with 70% of the population registered on the AODR contributing to the highest consent rate of all the states and territories in 2019 (74%). South Australia is the only state where individuals can register to be a donor on their driver's licence.

In 2019, there were over 221,641 new registrations on the AODR, 9% higher than 2018 (204,168).

The importance of registration and family discussion

9/10

families gave consent for donation when their family member was a registered donor

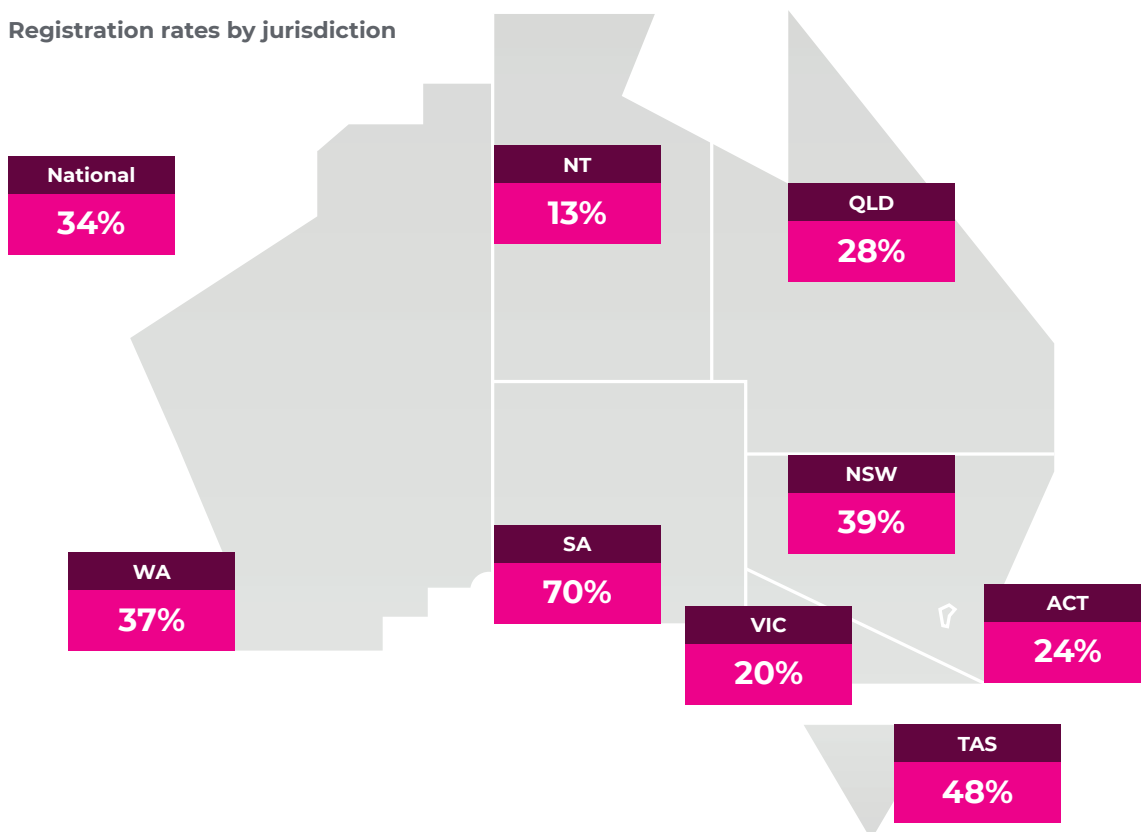
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families gave consent for donation when they knew their family member wanted to donate

6/10

families gave consent for donation when their family member was not registered and had not discussed donation

Registration rates by jurisdiction



New registrations by jurisdiction 2018 and 2019

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Total
2019	54,025	55,974	48,878	32,175	19,612	4,723	1,519	4,735	221,641
2018	49,327	50,651	44,521	33,159	16,602	4,052	1,415	4,441	204,168

Involving a donation specialist in the family donation conversation increases consent

Organ and tissue donation is firmly embedded in our health system with around 275 donation specialist nurses, doctors and support staff covering 98 hospitals across Australia.

The donation specialists work with hospital critical care teams to ensure that, when appropriate, the opportunity for organ donation is offered to families.

Key factors to increasing consent are having donation raised by a donation specialist nurse or doctor, and providing families with high-quality information and care during the donation process.

In 2019, seven out of 10 Australian families agreed to donate when they were supported by a donation specialist. This dropped to three out of 10 when there was no donation specialist involved.

The importance of involving a donation specialist in the family donation conversation

7/10

families gave consent for donation when they were supported by a donation specialist

3/10

families gave consent for donation when there was no donation specialist involved

Living organ donation and transplantation

A living organ donor is someone who donates a kidney, or a partial liver, to another person - often a relative or close friend - who has end-stage kidney disease or liver failure.

There were 239 living donors in 2019 – 238 kidney donors and one partial liver donor. This is consistent with the result in 2018 (238).

The living kidney donors in 2019 included 49 through the Australian Paired Kidney Exchange (AKX) program. This program was expanded to include New Zealand in July 2019, and is now known as the Australian and New Zealand Paired Kidney Exchange (ANZKX) program.

The ANZKX program identifies matches for patients who are eligible for a kidney transplant and have a living donor who is willing but unable to donate directly because of an incompatible blood or tissue type.

Expanding the number of pairs enrolled in the program increases the chance of finding a match with another incompatible pair and improving access to life-saving kidney transplants in both countries.

The lives of 335 Australians have been saved since the AKX program began in 2010.

In 2019

239

Living organ donors

190

Living organ donors facilitated by individual transplant units

49

Living organ donors through the AKX/ANZKX program

Living donors 2010, 2018 and 2019

● Living donors (minus AKX/ANZKX) ● AKX/ANZKX donors



Part 2 Eye and tissue donation and transplantation

Each year the lives of thousands of Australians are saved and transformed through the transplantation of donated tissues, including eye tissue.

The tissues that can be transplanted include heart valves and other heart tissue, bone, tendons, ligaments, skin and parts of the eye such as the cornea and sclera.

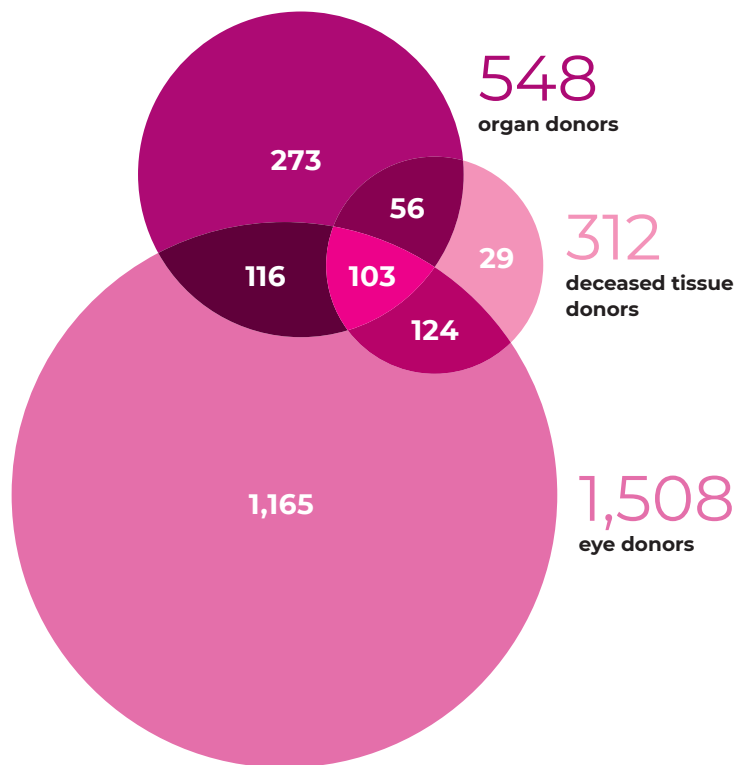
Unlike organs, many more people can become eye and tissue donors as these can be donated following death in broader circumstances, including outside of hospital, and tissue can be stored for longer periods of time.

Eye and tissue banks across Australia collect tissue from deceased and living donors, process and store these tissues and then distribute them to clinicians for transplantation and other surgical uses.

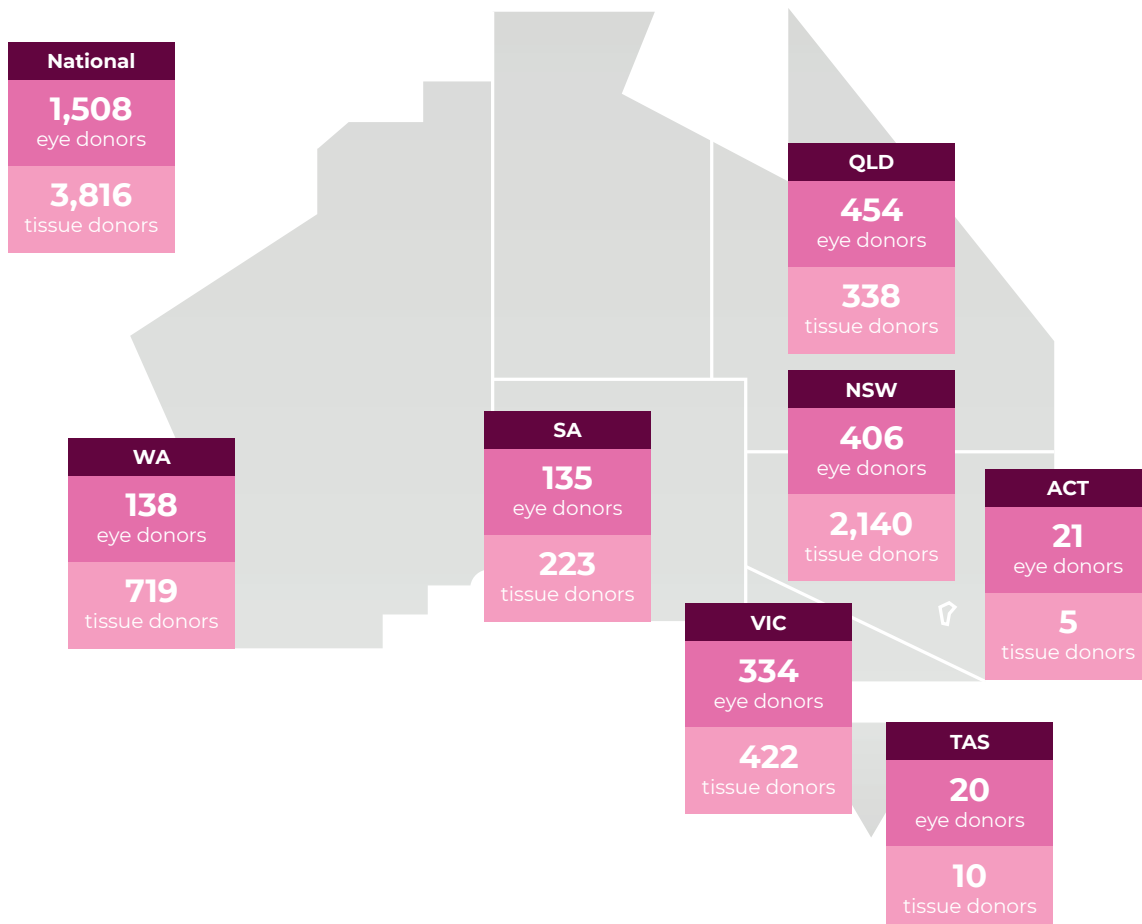
In 2019 over 1,800 Australians benefited from eye and tissue donation.

Of the 548 deceased organ donors, 275 also donated eye and/or other tissue

Deceased organ, eye and tissue donors 2019



Eye and tissue donors by jurisdiction



Eye donation and transplantation

Eye donors

In 2019 there was a record 1,508 eye donors. This is an 8% increase in the number of eye donors compared with 2018 (1,394) and a 64% increase since 2009 (922).

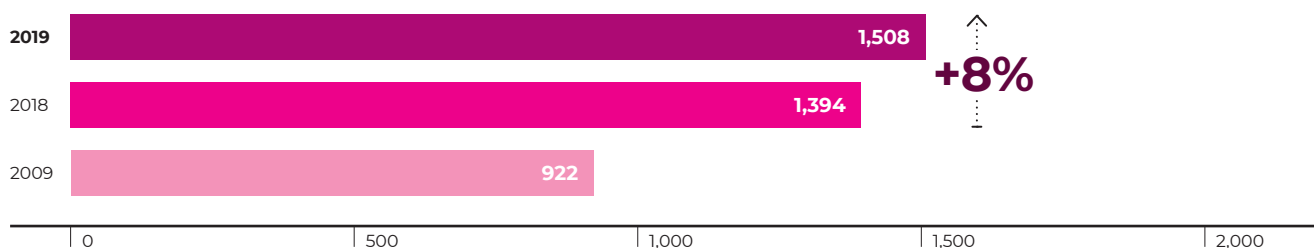
Eye donation continued to meet demand in 2018. Clinical experts anticipate the number of donors and corneal transplants to remain relatively constant.

Corneal transplants

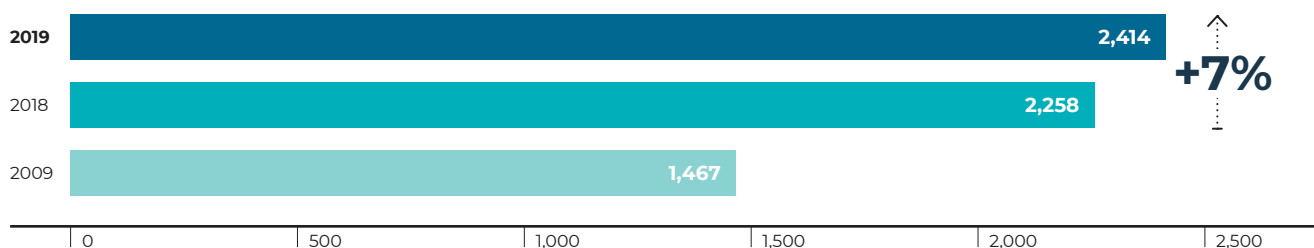
There was also a record number of corneal transplants in 2019 (2,414) with a 7% increase compared with 2018 (2,258) and a 65% increase over 2009 (1,467).

Since 2009, more than 21,500 Australians have received a corneal transplant.

Eye donors 2009, 2018 and 2019



Corneal transplants 2009, 2018 and 2019



Tissue donation and transplantation

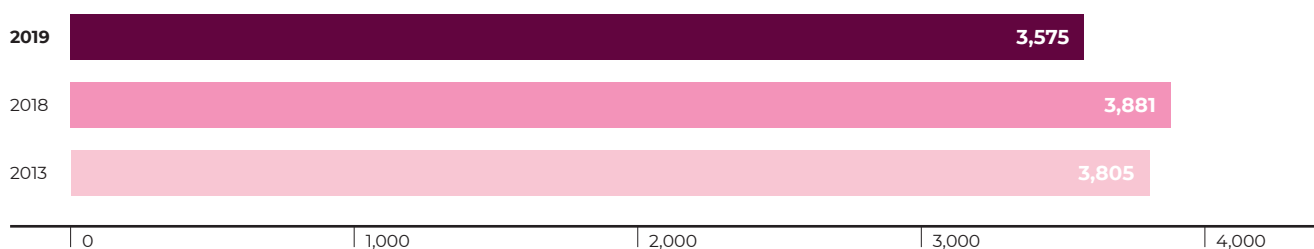
The 3,816 tissue donors in 2019 comprised 92% living tissue donors (3,504) and 8% deceased tissue donors (312). This is an 8% decrease compared with 2018 (4,147), and a 5% decrease since 2013 (4,032), the year national tissue donation and transplantation data was first reported.

In contrast with eye tissue donation, the demand for other tissues exceeds the number of donations made.

Living tissue donations

The 3,504 living tissue donors in 2019 resulted in 3,575 living tissue donations, predominantly from patients undergoing joint replacement surgery. The number of living tissue donations is 8% fewer than 2018 (3,881) and 6% more than 2013 (3,805).

Living tissue donations 2013, 2018 and 2019



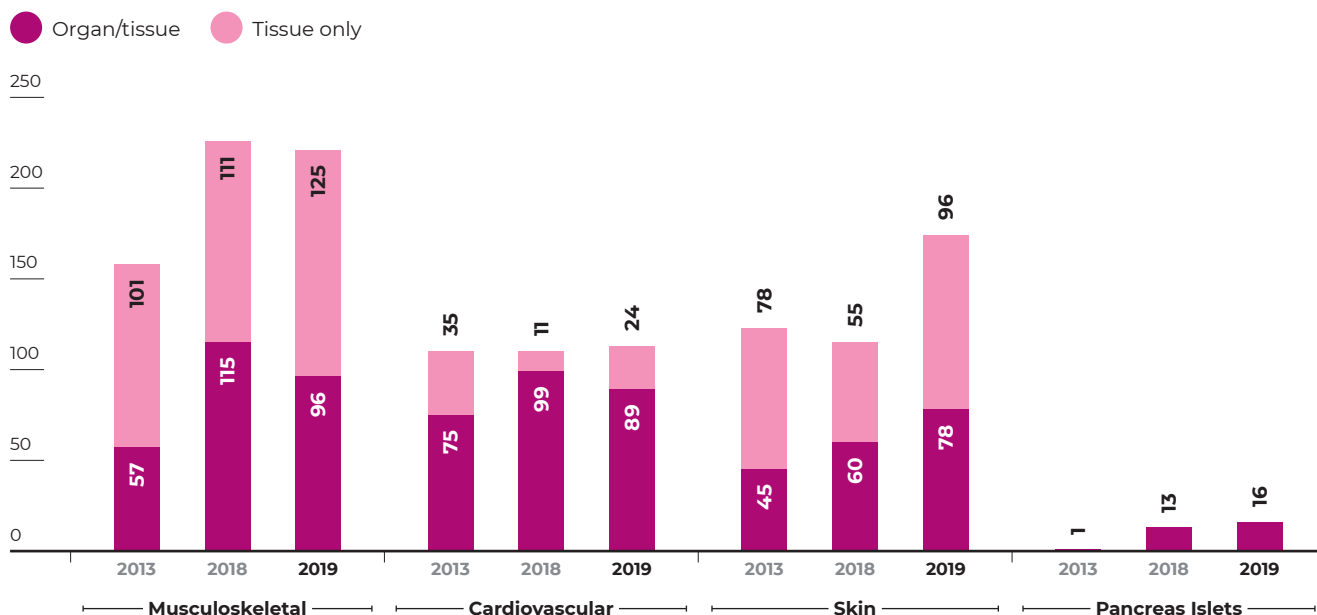
Note: There were 41 amnion tissue donations reported for the first time in 2019, not included in the total above.

Deceased tissue donations

The 312 deceased tissue donors in 2019 resulted in 524 tissue donations. This represents a 13% decrease in tissue donations compared with 2018 (464) and a 34% increase over 2013 (392).

There were 221 musculoskeletal, 113 cardiovascular, 174 skin and 16 pancreas islets deceased tissue donations.

Deceased tissue donations 2013, 2018 and 2019



Tissue transplant recipients

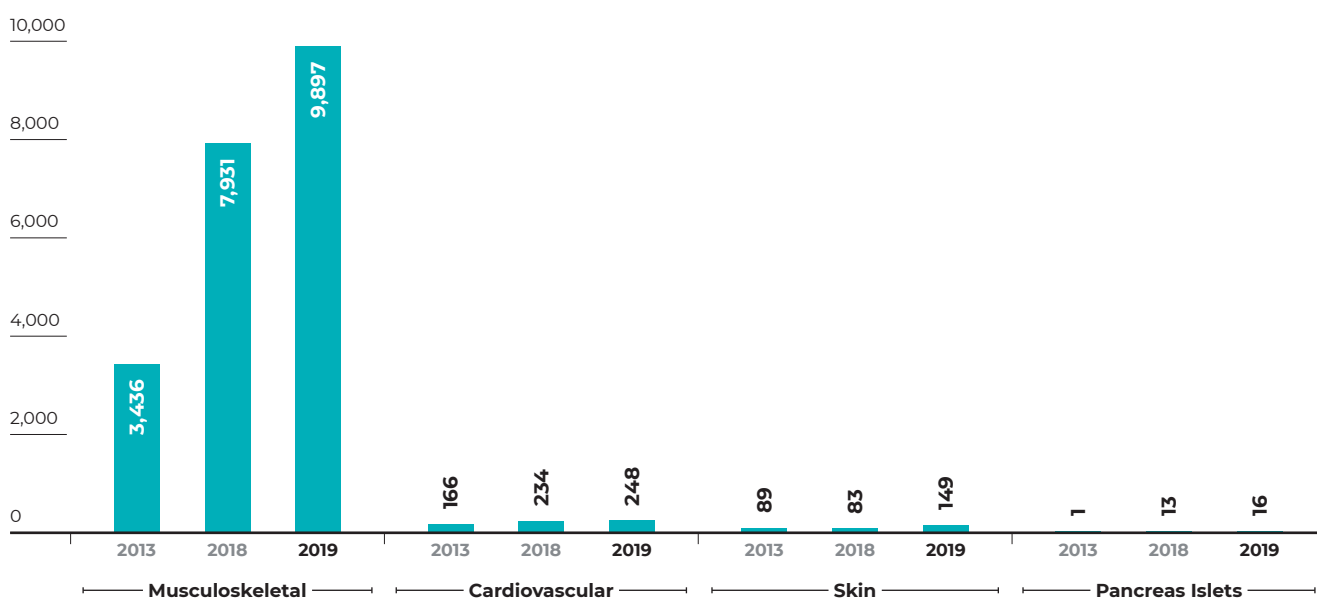
In 2019 there were 10,310 reported tissue transplant recipients. This is a 25% increase over 2018 (8,261) and a 179% increase since 2013 (3,692).

The tissue transplant recipients included 9,897 recipients of musculoskeletal tissue, 248 recipients of cardiovascular

tissue and 149 recipients of skin tissue 16 recipients of pancreas islets.

While the number of tissue donations decreased in 2019, the number of tissue transplant recipients increased. This can be partially explained by the fact that donated tissue can be stored and used at a later stage depending on demand.

Tissue transplant recipients 2013, 2018 and 2019



Note: There were 143 amnion tissue recipients reported for the first time in 2019, not included in the total above.