



## SECTION 3

### Deceased Organ Donor Pathway

#### SUMMARY

*This section summarises the organ donation pathway in Australia and New Zealand. It includes data about intention to be an organ donor; cause of death and events leading to donation; whether the donation did not proceed or proceeded down a donation after brain death or circulatory death pathway; maintenance and terminal treatment of the donor and the outcome of the retrieval procedure, resulting in transplantation of donated organs.*

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## Suggested Citation

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## Registration of Intent to Donate

The Registry collects the intention to be an organ donor in the form of a decision recorded on a national register.

In Australia, the Australian Organ Donor Register\* is the national register for people to record their stated intent about becoming an organ and tissue donor for transplantation after death. This provides a record of a person's donation decision for families and clinicians in the event of their death and can only be verified by authorised medical personnel. The Australian Organ Donor Register (the Donor Register) is managed by the Department of Human Services on behalf of the Australian Government.

Only people aged 18 years and over can register a legally valid consent or objection on the Australian Organ Donor Register. People aged less than 18 years can become organ and tissue donors; for this group consent is sought from family/next of kin at the time of death.

**Table 3.1 Actual Donors Enrolled in the Australian Organ Donor Register\* 2021 (2020)**

|                          | QLD            | NSW              | ACT           | VIC              | TAS           | SA             | NT           | WA             | AUST             |
|--------------------------|----------------|------------------|---------------|------------------|---------------|----------------|--------------|----------------|------------------|
| <b>Registered as Yes</b> | 27 (32)        | 43 (41)          | 3 (5)         | 28 (33)          | 4 (3)         | 20 (14)        | 0 (1)        | 15 (15)        | <b>140 (144)</b> |
| <b>Registered as No</b>  | 0 (0)          | 1 (1)            | 0 (0)         | 0 (0)            | 0 (0)         | 0 (0)          | 0 (0)        | 0 (0)          | <b>1 (1)</b>     |
| <b>Not Registered</b>    | 58 (50)        | 57 (76)          | 5 (8)         | 77 (92)          | 3 (8)         | 30 (30)        | 2 (2)        | 29 (31)        | <b>261 (297)</b> |
| <b>Not Accessed</b>      | 6 (4)          | 8 (4)            | 0 (0)         | 5 (6)            | 0 (2)         | 0 (2)          | 0 (0)        | 0 (3)          | <b>19 (21)</b>   |
| <b>Total</b>             | <b>91 (86)</b> | <b>109 (122)</b> | <b>8 (13)</b> | <b>110 (131)</b> | <b>7 (13)</b> | <b>50 (46)</b> | <b>2 (3)</b> | <b>44 (49)</b> | <b>421 (463)</b> |

\* The Australian Organ Donor Register (the Donor Register) is managed by the Department of Human Services on behalf of the Australian Government, not by ANZOD. The Donor Register is the only national register for people to record their decision about becoming an organ and tissue donor for transplantation after death. Registering is voluntary and people have complete choice over which organs and tissues they wish to donate. If a person does not want to become an organ and tissue donor, they can register their decision not to donate on the Donor Register which is available at <http://www.medicareaustralia.gov.au/provider/patients/aodr/index.jsp>

## Coroner's Cases

Table 3.2 shows the number of actual donors subject to Coronial inquiry. In Australia, 52% of donors in 2021 were subject to Coronial inquiry, compared to 54% in 2020. In New Zealand, it was 41% for 2021 and 47% in 2020.

**Table 3.2 Coroner's Cases 2017 – 2021**

|              | Australia  |            |            |            |            | New Zealand |           |           |           |           |
|--------------|------------|------------|------------|------------|------------|-------------|-----------|-----------|-----------|-----------|
|              | 2017       | 2018       | 2019       | 2020       | 2021       | 2017        | 2018      | 2019      | 2020      | 2021      |
| <b>Yes</b>   | 253        | 272        | 268        | 248        | 221        | 21          | 32        | 38        | 30        | 27        |
| <b>No</b>    | 257        | 282        | 280        | 215        | 200        | 52          | 30        | 36        | 34        | 39        |
| <b>Total</b> | <b>510</b> | <b>554</b> | <b>548</b> | <b>463</b> | <b>421</b> | <b>73</b>   | <b>62</b> | <b>74</b> | <b>64</b> | <b>66</b> |

Table 3.3 shows the number of Australian Coroner's cases by jurisdiction and the number of Coroner's cases in New Zealand for 2021 compared to 2020.

**Table 3.3 Coroner's Cases by State and Country 2021 (2020)**

|              | QLD            | NSW              | ACT           | VIC              | TAS           | SA             | NT           | WA             | AUST             | NZ             |
|--------------|----------------|------------------|---------------|------------------|---------------|----------------|--------------|----------------|------------------|----------------|
| <b>Yes</b>   | 56 (49)        | 47 (51)          | 6 (10)        | 55 (71)          | 3 (6)         | 30 (28)        | 1 (1)        | 23 (32)        | <b>221 (248)</b> | <b>27 (30)</b> |
| <b>No</b>    | 35 (37)        | 62 (71)          | 2 (3)         | 55 (60)          | 4 (7)         | 20 (18)        | 1 (2)        | 21 (17)        | <b>200 (215)</b> | <b>39 (34)</b> |
| <b>Total</b> | <b>91 (86)</b> | <b>109 (122)</b> | <b>8 (13)</b> | <b>110 (131)</b> | <b>7 (13)</b> | <b>50 (46)</b> | <b>2 (3)</b> | <b>44 (49)</b> | <b>421 (463)</b> | <b>66 (64)</b> |

## Cause of Death - All Donors

Table 3.4 shows the cause of death by percentage in Australia, for each Australian State, and New Zealand over the last five years.

In Australia for the period 2017–2021, intracranial haemorrhage accounted for an overall 35% of donor deaths and traumatic brain injury for 17%.

**Table 3.4 Cause of Donor Death 2017 – 2021 (%)**

| Cause of Death               | QLD | NSW | ACT | VIC | TAS | SA  | NT  | WA  | AUST | NZ  |
|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
| Intracranial Haemorrhage     | 32% | 38% | 24% | 38% | 46% | 35% | 38% | 31% | 35%  | 42% |
| Traumatic Brain Injury       | 21% | 14% | 24% | 15% | 17% | 18% | 6%  | 20% | 17%  | 23% |
| Cerebral Infarct             | 5%  | 4%  | 9%  | 5%  | 6%  | 8%  | 6%  | 5%  | 5%   | 7%  |
| Cerebral Hypoxia / Ischaemia | 39% | 39% | 39% | 35% | 25% | 37% | 50% | 41% | 38%  | 24% |
| Other Neurological Condition | 2%  | 2%  | 2%  | 2%  | 4%  | 0%  | 0%  | 3%  | 2%   | 3%  |
| Non-Neurological Condition   | 1%  | 4%  | 2%  | 5%  | 1%  | 2%  | 0%  | 1%  | 3%   | 1%  |

Table 3.5 shows the cause of death of donors by age group in 2021 in Australia and New Zealand. In donors aged 55 years and older, intracranial haemorrhage accounted for 54% of deaths in Australia and 73% in New Zealand in 2021, but a diminishing proportion in younger age groups.

Conversely, among donors aged 15–34 years, cerebral hypoxia/ischaemia accounted for 57% of deaths in Australia and 33% in New Zealand in 2021.

**Table 3.5 Cause of Donor Death by Age Group 2021**

| Cause of Death               | Australia |            |            |            |            | New Zealand |           |           |           |           |
|------------------------------|-----------|------------|------------|------------|------------|-------------|-----------|-----------|-----------|-----------|
|                              | 0–14      | 15–34      | 35–54      | 55+        | n (%)      | 0–14        | 15–34     | 35–54     | 55+       | n (%)     |
| Intracranial Haemorrhage     | 2         | 12         | 58         | 87         | 159 (38%)  | 0           | 4         | 10        | 16        | 30 (45%)  |
| Traumatic Brain Injury       | 1         | 26         | 15         | 21         | 63 (15%)   | 3           | 6         | 5         | 2         | 16 (24%)  |
| Cerebral Infarct             | 0         | 1          | 8          | 11         | 20 (5%)    | 0           | 1         | 1         | 3         | 5 (8%)    |
| Cerebral Hypoxia / Ischaemia | 13        | 57         | 53         | 37         | 160 (38%)  | 0           | 6         | 7         | 1         | 14 (21%)  |
| Other Neurological Condition | 2         | 3          | 1          | 2          | 8 (2%)     | 0           | 1         | 0         | 0         | 1 (2%)    |
| Non-Neurological Condition   | 0         | 1          | 6          | 4          | 11 (3%)    | 0           | 0         | 0         | 0         | 0 (0%)    |
| <b>Total</b>                 | <b>18</b> | <b>100</b> | <b>141</b> | <b>162</b> | <b>421</b> | <b>3</b>    | <b>18</b> | <b>23</b> | <b>22</b> | <b>66</b> |

## Cardiopulmonary Resuscitation

Cardiopulmonary resuscitation includes the period leading up to the admission and during hospital stay for the patient prior to organ donation. Table 3.6 shows the number of recorded events of cardiopulmonary resuscitation by Australian State 2021 (2020).

**Table 3.6 Cardiopulmonary Resuscitation by Australian State 2021 (2020)**

|                | QLD            | NSW              | ACT           | VIC              | TAS           | SA             | NT           | WA             |
|----------------|----------------|------------------|---------------|------------------|---------------|----------------|--------------|----------------|
| <b>Yes</b>     | 48 (45)        | 49 (71)          | 4 (6)         | 52 (54)          | 4 (5)         | 20 (24)        | 1 (1)        | 20 (23)        |
| <b>No</b>      | 43 (41)        | 59 (51)          | 4 (7)         | 58 (77)          | 3 (8)         | 30 (22)        | 1 (2)        | 24 (26)        |
| <b>Unknown</b> | 0 (0)          | 1 (0)            | 0 (0)         | 0 (0)            | 0 (0)         | 0 (0)          | 0 (0)        | 0 (0)          |
| <b>Total</b>   | <b>91 (86)</b> | <b>109 (122)</b> | <b>8 (13)</b> | <b>110 (131)</b> | <b>7 (13)</b> | <b>50 (46)</b> | <b>2 (3)</b> | <b>44 (49)</b> |

## Initial Mention of Organ Donation

In 2021, the initial mention of organ donation was predominantly raised by Intensive Care Clinicians and Registrars; with 39% of cases in Australia and 82% in New Zealand, as shown in Table 3.7. In Australia, organ donation was raised by a Donor Specialist on 106 (25%) occasions which is an increase from 29% in 2020. Organ donation in New Zealand was initially mentioned by a Donor Coordinator in 4 cases. In 2021, 32% of families raised the subject of organ donation in Australia, compared to 27% in 2020. In New Zealand, 12% of families raised donation in 2021 (6% in 2020).

**Table 3.7 Initial Mention of Organ Donation 2017 - 2021**

| Initial Mention                     | Australia  |            |            |            |            | New Zealand |           |           |           |           |
|-------------------------------------|------------|------------|------------|------------|------------|-------------|-----------|-----------|-----------|-----------|
|                                     | 2017       | 2018       | 2019       | 2020       | 2021       | 2017        | 2018      | 2019      | 2020      | 2021      |
| <b>Donor Specialist</b>             | 76         | 144        | 130        | 133        | 106        | 1           | 4         | 0         | 2         | 4         |
| <b>ICU Consultant</b>               | 241        | 217        | 219        | 174        | 142        | 60          | 44        | 65        | 54        | 54        |
| <b>ICU Trainee (E.g. Registrar)</b> | 25         | 22         | 19         | 17         | 21         | 0           | 0         | 0         | 0         | 0         |
| <b>Social Worker</b>                | 1          | 1          | 0          | 1          | 0          | 0           | 0         | 0         | 0         | 0         |
| <b>Emergency Clinician</b>          | 9          | 10         | 10         | 5          | 7          | 0           | 0         | 0         | 0         | 0         |
| <b>Family</b>                       | 148        | 153        | 164        | 124        | 135        | 6           | 11        | 8         | 4         | 8         |
| <b>Nursing Staff</b>                | 3          | 5          | 3          | 4          | 7          | 3           | 0         | 1         | 1         | 0         |
| <b>Other</b>                        | 7          | 2          | 3          | 5          | 3          | 3           | 3         | 0         | 3         | 0         |
| <b>TOTAL</b>                        | <b>510</b> | <b>554</b> | <b>548</b> | <b>463</b> | <b>421</b> | <b>73</b>   | <b>62</b> | <b>74</b> | <b>64</b> | <b>66</b> |

Table 3.8 shows the category of person who initially mentioned organ donation for Australian states and territories in 2020 and 2021.

**Table 3.8 Initial Mention of Organ Donation by Australian State 2021 (2020)**

| Initial Mention                     | QLD            | NSW              | ACT           | VIC              | TAS           | SA             | NT           | WA             |
|-------------------------------------|----------------|------------------|---------------|------------------|---------------|----------------|--------------|----------------|
| <b>Donor Specialist</b>             | 27 (14)        | 30 (41)          | 3 (6)         | 35 (59)          | 3 (8)         | 7 (4)          | 0 (0)        | 1 (1)          |
| <b>ICU Consultant</b>               | 25 (34)        | 42 (47)          | 0 (2)         | 36 (32)          | 0 (0)         | 17 (28)        | 1 (3)        | 21 (28)        |
| <b>ICU Trainee (E.g. Registrar)</b> | 1 (2)          | 4 (1)            | 0 (0)         | 1 (5)            | 0 (0)         | 9 (8)          | 0 (0)        | 6 (1)          |
| <b>Social Worker</b>                | 0 (0)          | 0 (1)            | 0 (0)         | 0 (0)            | 0 (0)         | 0 (0)          | 0 (0)        | 0 (0)          |
| <b>Emergency Clinician</b>          | 0 (1)          | 1 (2)            | 0 (0)         | 1 (0)            | 0 (0)         | 0 (1)          | 0 (0)        | 5 (1)          |
| <b>Family</b>                       | 37 (34)        | 29 (27)          | 4 (4)         | 34 (33)          | 3 (4)         | 16 (5)         | 1 (0)        | 11 (17)        |
| <b>Nursing Staff</b>                | 1 (0)          | 2 (0)            | 1 (1)         | 2 (2)            | 1 (0)         | 0 (0)          | 0 (0)        | 0 (1)          |
| <b>Other</b>                        | 0 (1)          | 1 (3)            | 0 (0)         | 1 (0)            | 0 (1)         | 1 (0)          | 0 (0)        | 0 (0)          |
| <b>TOTAL</b>                        | <b>91 (86)</b> | <b>109 (122)</b> | <b>8 (13)</b> | <b>110 (131)</b> | <b>7 (13)</b> | <b>50 (46)</b> | <b>2 (3)</b> | <b>44 (49)</b> |

## Donation Not Proceeding

An intended donor is a person for whom authority had been given, but organ donation did not proceed. A donation may not proceed due to any number of reasons where further investigations reveal medical contraindications to donation (for example, discovery of a cancer or positive virology tests). Donations after Circulatory Death (DCD) may also not proceed if the time between withdrawal of cardio-respiratory support and cessation of circulation exceeded the limits set.

Table 3.9 represents the number of non-proceeding Donation after Brain Death (DBD) and Donation after Circulatory Death (DCD) donors for each State/Territory and overall for Australia and New Zealand compared to the number of actual donors who did proceed to theatre for organ donation. In Australia, there were 148 intended donors who did not proceed down the pathway of solid organ donation, of which 34 (10%) were DBD and 108 (47%) were DCD and in New Zealand there 3 (33%) DCD intended donors and 5 (8%) DBD intended donors.

**Table 3.9 Actual vs Intended (Non-Proceeding) Donors 2021**

| Jurisdiction       | DBD              |                 | DCD              |                  | Total            |                  |
|--------------------|------------------|-----------------|------------------|------------------|------------------|------------------|
|                    | Actual           | Intended        | Actual           | Intended         | Actual           | Intended         |
| NSW                | 84 (93%)         | 6 (7%)          | 25 (57%)         | 19 (43%)         | 109 (81%)        | 25 (19%)         |
| VIC                | 76 (92%)         | 7 (8%)          | 34 (44%)         | 43 (56%)         | 110 (67%)        | 54 (33%)         |
| QLD                | 66 (86%)         | 11 (14%)        | 25 (54%)         | 21 (46%)         | 91 (74%)         | 32 (26%)         |
| SA                 | 32 (94%)         | 2 (6%)          | 18 (58%)         | 13 (42%)         | 50 (76%)         | 16 (24%)         |
| WA                 | 28 (85%)         | 5 (15%)         | 16 (62%)         | 10 (38%)         | 44 (75%)         | 15 (25%)         |
| TAS                | 4 (67%)          | 2 (33%)         | 3 (60%)          | 2 (40%)          | 7 (58%)          | 5 (42%)          |
| NT                 | 2 (100%)         | -               | -                | -                | 2 (100%)         | -                |
| ACT                | 5 (83%)          | 1 (17%)         | 3 (100%)         | -                | 8 (89%)          | 1 (11%)          |
| <b>AUSTRALIA</b>   | <b>297 (90%)</b> | <b>34 (10%)</b> | <b>124 (53%)</b> | <b>108 (47%)</b> | <b>421 (74%)</b> | <b>148 (26%)</b> |
| <b>NEW ZEALAND</b> | <b>60 (92%)</b>  | <b>5 (8%)</b>   | <b>6 (67%)</b>   | <b>3 (33%)</b>   | <b>66 (89%)</b>  | <b>8 (11%)</b>   |

The reasons for donations not proceeding in Australia in 2021 are shown by donation pathway in Table 3.10.

**Table 3.10 Reasons Why Donation Did Not Proceed 2021, Australia**

| Reason  | Planned DBD | Planned DCD | Pathway Not Determined | Total      |
|---|-------------|-------------|------------------------|------------|
| Medical Contraindication Discovered During Consideration for Donation | 26          | 36          | 4                      | 66         |
| Planned Donation After Circulatory Death Who Died Outside Time Limit  | 0           | 48          | 0                      | 48         |
| No Suitable Recipients  | 2           | 11          | 0                      | 13         |
| Declined by Family After Initially Giving Consent                     | 2           | 10          | 0                      | 12         |
| Failed Physiological Support  | 1           | 1           | 0                      | 2          |
| Refusal by Coroner / Pathologist                                      | 1           | 1           | 0                      | 2          |
| No Available Retrieval Team   | 0           | 1           | 0                      | 1          |
| Other   | 2           | 0           | 2                      | 4          |
| <b>TOTAL</b>  | <b>34</b>   | <b>108</b>  | <b>6</b>               | <b>148</b> |

## Donation After Circulatory Death

Most organs are donated by the Donation after Brain Death (DBD) pathway. After certification of brain death, the donor remains on the ventilator and the removal of organs occurs hours later. The Donation after Circulatory Death (DCD) pathway is defined by patients with irreversible cessation of circulation, typically after withdrawal of cardiopulmonary support in an intensive care setting. As soon as cessation of circulation is confirmed, the retrieval procedure is commenced to minimise warm ischaemic time.

The number of DCD donors since 1989 has risen to 1543 donors for Australia and 76 DCD donors for New Zealand. In Australia, in 2021, there were 124 DCD donors and in New Zealand there were 6 DCD donors. Table 3.11 shows the number of DCD Donors by jurisdiction for 2017 - 2021.

**Table 3.11 Donation After Circulatory Death by Jurisdiction 2017 – 2021**

| Year | QLD | NSW | ACT | VIC | TAS | SA | NT | WA | AUST | NZ |
|------|-----|-----|-----|-----|-----|----|----|----|------|----|
| 2017 | 34  | 32  | 7   | 62  | 2   | 7  | 0  | 7  | 151  | 12 |
| 2018 | 21  | 46  | 6   | 63  | 3   | 10 | 1  | 4  | 154  | 9  |
| 2019 | 23  | 41  | 5   | 59  | 1   | 16 | 3  | 24 | 172  | 13 |
| 2020 | 23  | 42  | 3   | 45  | 2   | 12 | 1  | 10 | 138  | 8  |
| 2021 | 25  | 25  | 3   | 34  | 3   | 18 | 0  | 16 | 124  | 6  |

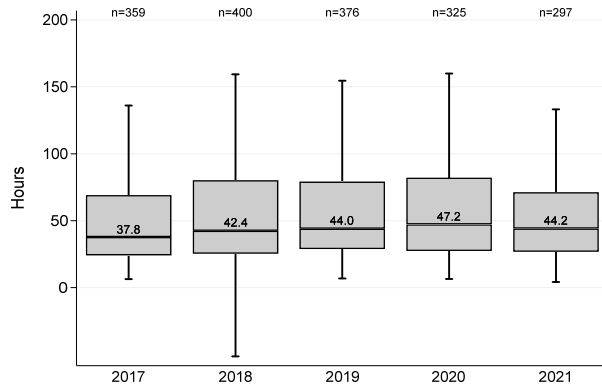
In 2021 in Australia, the mean age for a DCD donor was 47.3 years and the ages ranged from 0.6 to 75.2 years. In New Zealand, the mean age of DCD was 42.7 years and the ages ranged from 15.2 to 62.8 years.

Causes of death leading to DCD in Australia in 2021 were intracranial haemorrhage (24), cerebral hypoxia/ischaemia (47), traumatic brain injury (30), cerebral infarct (10), other neurological conditions (2) and non-neurological conditions (11). Causes of death leading to DCD in New Zealand in 2021 were intracranial haemorrhage (2), cerebral hypoxia/ischaemia (2), traumatic brain injury (2), cerebral infarct (0) and non-neurological conditions (0).

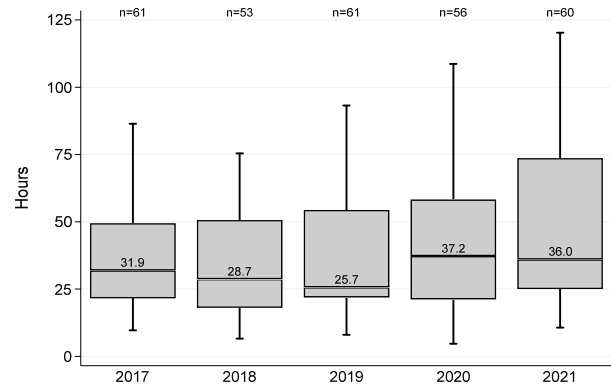
## Time from Admission to Brain Death

In 2021, 20% of Australian donors were declared brain dead within 24 hours of hospital admission. 71% of donors were declared brain dead between 1 and 5 days of hospital admission. 10% of donors (29) were in hospital for more than 5 days before being declared brain dead. In New Zealand 25% of donors were declared brain dead within 24 hours of hospital admission. 60% of donors were declared brain dead between 1 and 5 days of hospital admission. 15% of donors (9) were in hospital for more than 5 days before being declared brain dead.

**Figure 3.1.1 - Time from Admission to Brain Death (hours) DBD Donors - Australia 2017–2021**



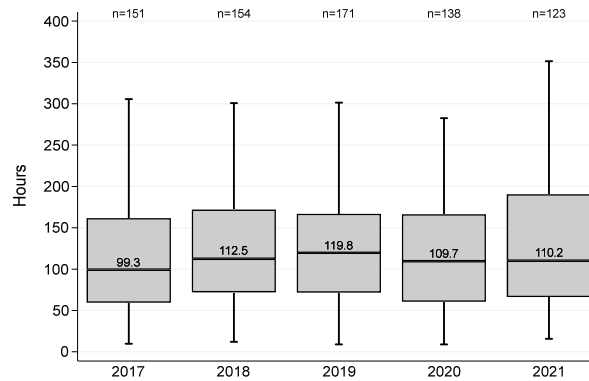
**Figure 3.1.2 - Time from Admission to Brain Death (hours) DBD Donors - New Zealand 2017–2021**



## Time from Admission to Circulatory Death

As shown in Figure 3.2, in 2021, 4% of Australian DCD donors died within 24 hours of hospital admission. 52% of DCD donors died between 1 – 5 days of hospital admission. 44% of DCD donors (54) were in hospital for more than 5 days prior to death. In New Zealand, 33% of DCD donors died between 1 and 5 days of hospital admission. 67% of DCD donors (4) were in hospital for more than five days prior to death.

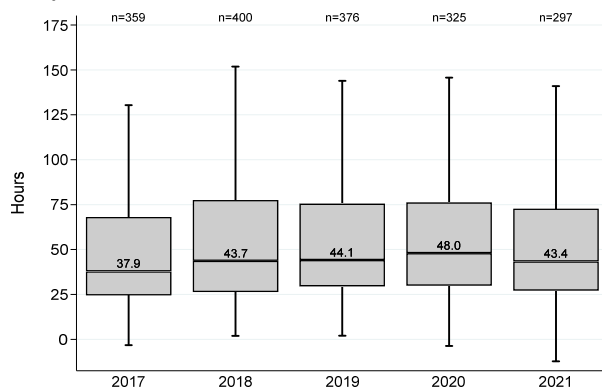
**Figure 3.2 - Time from Admission to Circulatory Death (hours) DCD Donors - Australia 2017–2021**



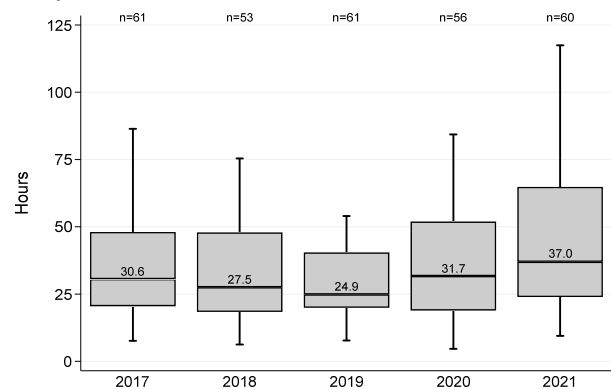
## Time from Ventilation to Brain Death

Figure 3.3 shows the time from commencement of ventilation to brain death in Australia and New Zealand for 2017–2021.

**Figure 3.3.1 - Time from Ventilation to Brain Death (hours) DBD Donors - Australia 2017–2021**



**Figure 3.3.2 - Time from Ventilation to Brain Death (hours) DBD Donors - New Zealand 2017–2021**

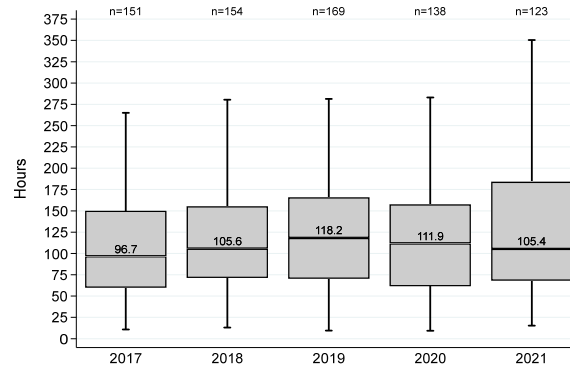




## Time from Ventilation to Circulatory Death

Figure 3.4 shows the time from commencement of ventilation to circulatory death in Australia for 2017–2021. The median time in New Zealand in 2021 from ventilation to circulatory death was 147.5 hours.

**Figure 3.4 - Time from Ventilation to Circulatory Death (hours) DCD Donors - Australia 2017–2021**



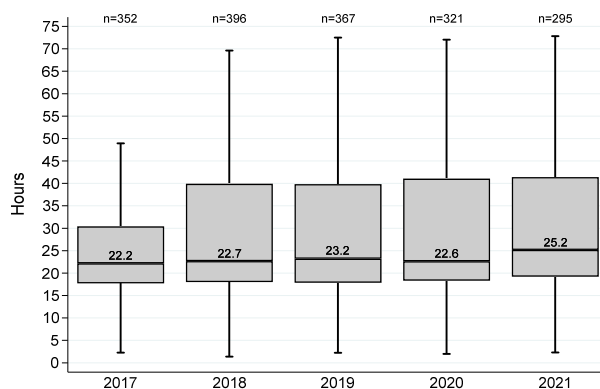
## Time from Brain Death to Donation

Figure 3.5 shows the time from ventilation to brain death in Australia and New Zealand for 2017 to 2021.

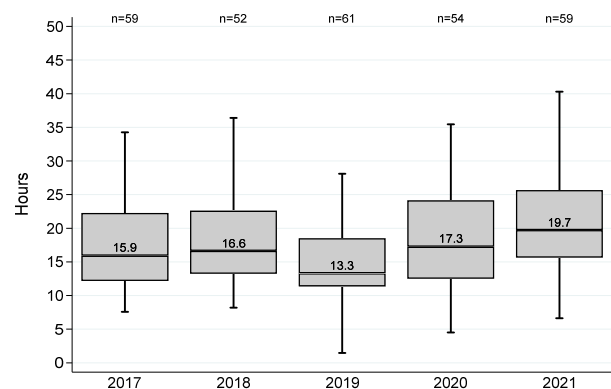
In 2021, 6% (23) of Australian DBD donors underwent aortic cross clamp within twelve hours of the certification of brain death. Cross clamp did not proceed in 2 Australian donors.

In 2021, 1% (3) of New Zealand DBD donors underwent aortic cross clamp within twelve hours of the certification of brain death. Cross clamp did not proceed in 1 New Zealand donors.

**Figure 3.5.1 - Time from Brain Death to Donation (hours) DBD Donors - Australia 2017–2021**



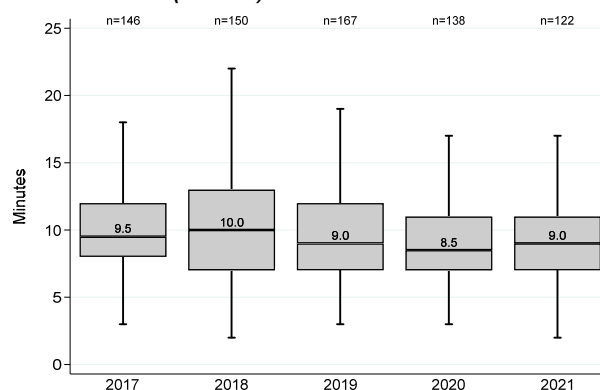
**Figure 3.5.2 - Time from Brain Death to Donation (hours) DBD Donors - New Zealand 2017–2021**



## Time from Circulatory Death to Donation

As shown in Figure 3.6, in 2021, 68% (84) of Australian DCD donors underwent cold perfusion within ten minutes of the certification of circulatory death. Cold perfusion did not proceed in 2 Australian donors.

Figure 3.6 - Time from Circulatory Death to Donation (minutes) DCD Donors - Australia 2017–2021



In 2021, 67% (4) of New Zealand DCD donors underwent cold perfusion within ten minutes of the certification of circulatory death. Cold perfusion did not proceed for 1 New Zealand donor. The median time was 9 minutes.

## Summary - Organs Requested, Consent Given, Retrieved and Transplanted

Table 3.12 shows the outcome of organs requested in 2021 (2020). The information on request for organ donation, refers only to those patients who become actual donors. The reasons for organs not requested, not retrieved or not transplanted are documented for each of the specific organs in their sections later in this report.

Table 3.12 Summary for Organ Donation Pathway by Organ Type 2021 (2020)

| Country     |                                      | Kidneys <sup>1</sup> | Liver     | Heart     | Lungs <sup>1</sup> | Pancreas  | Intestines |
|-------------|--------------------------------------|----------------------|-----------|-----------|--------------------|-----------|------------|
| AUSTRALIA   | Organs Available for donation        | 842 (926)            | 421 (463) | 421 (463) | 842 (926)          | 421 (463) | 421 (463)  |
|             | Organs Requested                     | 817 (888)            | 393 (432) | 345 (379) | 768 (852)          | 327 (347) | 272 (284)  |
|             | Organs Consented                     | 809 (878)            | 386 (427) | 325 (354) | 748 (826)          | 306 (327) | 232 (248)  |
|             | Organs Retrieved                     | 726 (771)            | 270 (280) | 117 (153) | 335 (322)          | 70 (70)   | 2 (1)      |
|             | Utilised organs for transplantation  | 668 (715)            | 238 (256) | 112 (148) | 306 (295)          | 37 (47)   | 2 (1)      |
|             | Recipients transplanted <sup>2</sup> | 656 (704)            | 252 (279) | 112 (148) | 167 (157)          | 37 (47)   | 2 (1)      |
| NEW ZEALAND | Organs Available for donation        | 134 (128)            | 67 (64)   | 67 (64)   | 134 (128)          | 67 (64)   | 67 (64)    |
|             | Organs Requested                     | 130 (126)            | 62 (59)   | 41 (46)   | 114 (104)          | 31 (38)   | 0 (0)      |
|             | Organs Consented                     | 130 (126)            | 62 (59)   | 41 (46)   | 114 (104)          | 30 (38)   | 0 (0)      |
|             | Organs Retrieved                     | 121 (120)            | 50 (42)   | 14 (15)   | 59 (51)            | 6 (3)     | 0 (0)      |
|             | Utilised organs for transplantation  | 108 (103)            | 49 (42)   | 14 (13)   | 58 (43)            | 6 (3)     | 0 (0)      |
|             | Recipients transplanted <sup>3</sup> | 102 (100)            | 52 (49)   | 14 (13)   | 30 (24)            | 6 (3)     | 0 (0)      |

<sup>1</sup> Kidneys and Lungs are counted as two separate organs (i.e. left and right).

<sup>2</sup> For Australia 2021 (2020), includes 12 (11) Double adult/Enbloc Kidneys, 28 (46) Split Livers, 1 (0) Reduced Size Livers, 28 (19) Single Lung and 139 (138) Double Lung Transplants.

<sup>3</sup> For New Zealand 2021 (2020), includes 6 (3) Double-adult/Enbloc Kidneys, 6 (14) Split Livers, 0 (0) Reduced Size Livers, 2 (5) Single Lung and 28 (19) Double Lung Transplants.

## Multiple Organ Retrieval

For Australia, there were 421 actual deceased organ donors in 2021. Of those donors, 417 donors had at least one organ retrieved; and 402 resulted in at least one organ transplanted. There were 116 (28%) Australian donors in 2021 who had a single organ retrieved. Kidney only donation occurred in 79 cases, 19 donating a liver, 4 donating a heart and 13 donating lungs. In 2021, 301 (71%) donors had two or more organs retrieved for the purpose of transplantation. (Table 3.14)

Similarly, for New Zealand, there were 66 actual deceased organ donors in 2021. Of those donors, 65 had at least one organ retrieved; and 63 resulted in at least one organ transplanted. There were 11 (17%) single organ donors in 2021, 7 donating kidneys, 2 donating a liver, 1 donating a heart and 1 donating lungs. In 2021, 54 (82%) of donors had two or more organs retrieved for the purpose of transplantation. (Table 3.13)

**Table 3.13 Multiple Organs Retrieved per donor 2017 - 2021**

| Organs Retrieved * | Australia    |              |              |              |              | New Zealand |             |             |             |             |
|--------------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|
|                    | 2017         | 2018         | 2019         | 2020         | 2021         | 2017        | 2018        | 2019        | 2020        | 2021        |
| 0                  | 15<br>(3%)   | 14<br>(3%)   | 16<br>(3%)   | 7<br>(2%)    | 4<br>(1%)    | 4<br>(5%)   | 2<br>(3%)   | 1<br>(1%)   | 2<br>(3%)   | 1<br>(2%)   |
| 1                  | 155<br>(30%) | 168<br>(30%) | 186<br>(34%) | 146<br>(32%) | 116<br>(28%) | 18<br>(25%) | 16<br>(26%) | 16<br>(22%) | 15<br>(23%) | 11<br>(17%) |
| 2                  | 141<br>(28%) | 161<br>(29%) | 155<br>(28%) | 137<br>(30%) | 129<br>(31%) | 21<br>(29%) | 14<br>(23%) | 31<br>(42%) | 18<br>(28%) | 27<br>(41%) |
| 3                  | 116<br>(23%) | 107<br>(19%) | 112<br>(20%) | 85<br>(18%)  | 94<br>(22%)  | 18<br>(25%) | 14<br>(23%) | 16<br>(22%) | 22<br>(34%) | 17<br>(26%) |
| 4                  | 60<br>(12%)  | 67<br>(12%)  | 49<br>(9%)   | 58<br>(13%)  | 51<br>(12%)  | 10<br>(14%) | 12<br>(19%) | 7<br>(9%)   | 6<br>(9%)   | 5<br>(8%)   |
| 5                  | 23<br>(5%)   | 36<br>(6%)   | 30<br>(5%)   | 30<br>(6%)   | 26<br>(6%)   | 2<br>(3%)   | 4<br>(6%)   | 3<br>(4%)   | 1<br>(2%)   | 5<br>(8%)   |
| 6                  | 0<br>(0%)    | 1 (0%)       | 0 (0%)       | 0<br>(0%)    | 1<br>(0%)    | 0<br>(0%)   | 0<br>(0%)   | 0<br>(0%)   | 0<br>(0%)   | 0<br>(0%)   |

\* The organ types retrieved from a donor are: Kidney, Liver, Lung, Heart, Pancreas and Intestine.

**Table 3.15 Multiple Organs Retrieved per Donor by Jurisdiction 2021**

| Organs Retrieved* | NSW      | VIC      | QLD      | SA       | WA       | TAS     | NT       | ACT     | AUST      | NZ       |
|-------------------|----------|----------|----------|----------|----------|---------|----------|---------|-----------|----------|
| 0                 | 0 (0%)   | 2 (2%)   | 2 (2%)   | 0 (0%)   | 0 (0%)   | 0 (0%)  | 0 (0%)   | 0 (0%)  | 4 (1%)    | 1 (2%)   |
| 1                 | 27 (25%) | 27 (25%) | 22 (24%) | 20 (40%) | 17 (39%) | 2 (29%) | 0 (0%)   | 1 (13%) | 116 (28%) | 11 (17%) |
| 2                 | 30 (28%) | 33 (30%) | 29 (32%) | 15 (30%) | 16 (36%) | 1 (14%) | 2 (100%) | 3 (38%) | 129 (31%) | 27 (41%) |
| 3                 | 28 (26%) | 28 (25%) | 20 (22%) | 6 (12%)  | 6 (14%)  | 4 (57%) | 0 (0%)   | 2 (25%) | 94 (22%)  | 17 (26%) |
| 4                 | 18 (17%) | 10 (9%)  | 12 (13%) | 6 (12%)  | 3 (7%)   | 0 (0%)  | 0 (0%)   | 2 (25%) | 51 (12%)  | 5 (8%)   |
| 5                 | 6 (6%)   | 9 (8%)   | 6 (7%)   | 3 (6%)   | 2 (5%)   | 0 (0%)  | 0 (0%)   | 0 (0%)  | 26 (6%)   | 5 (8%)   |
| 6                 | 0 (0%)   | 1 (1%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)  | 0 (0%)   | 0 (0%)  | 1 (0%)    | 0 (0%)   |

\* The organ types retrieved from a donor are Kidney, Liver, Lung, Heart, Pancreas and Intestine.