



# CHAPTER 6

## Australian Transplant Waiting List

*Reporting the deceased donor kidney transplant waiting list dynamics in Australia, the demographics of patients on the waiting list, and transplantation rates and survival for wait listed patients.*

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### Suggested citation

ANZDATA Registry. 42nd Report, Chapter 6: Australian Transplant Waiting List. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2019. Available at: <http://www.anzdata.org.au>

## Waiting List Dynamics

The waiting list data reported here are derived from the Australian National Organ Matching System (NOMS) and ANZDATA, and only relate to wait-listing for deceased donor (DD) kidney-only transplants. Patients wait-listed for multi-organ transplants are excluded. Recipients of living donor (LD) transplants may or may not be on the waiting list prior to transplantation.

To understand the relative contributions of deceased and living donor transplants to patients on (and off) the kidney-only waiting list, LD transplants to recipients not on the kidney-only waiting list are also included.

The numbers of people moving on and off the active waiting list for any reason are shown. Patients are categorised as either active or off the list - an "interim" or "temporarily off list" status is considered to be off list, since these patients will not be allocated kidneys. A number of de-listed patients may return to the list in subsequent years. If a patient was listed and de-listed more than once in a calendar year, only the net change is counted.

Table 6.1 shows the waiting list dynamics tables for Australia for each year. The recent increase in deceased organ donor numbers has been matched by an increase in the number of patients being listed, such that overall numbers on the waiting list are stable. LD transplants performed in patients who were not on the DD waiting list are not included in this table.

**Table 6.1 Australian Kidney Transplant Waiting List Dynamics 2013-2018**

| Event                | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|------|------|------|------|------|------|
| Active start of year | 1078 | 1076 | 1145 | 1071 | 953  | 965  |
| Made active          | 778  | 854  | 767  | 823  | 963  | 998  |
| Taken off list       | 141  | 148  | 156  | 135  | 144  | 146  |
| DD graft             | 581  | 572  | 633  | 759  | 751  | 811  |
| LD graft             | 54   | 56   | 42   | 37   | 45   | 34   |
| Overseas graft       | 1    | 0    | 2    | 1    | 1    | 0    |
| Died on list         | 3    | 9    | 8    | 9    | 10   | 6    |
| Active end of year   | 1076 | 1145 | 1071 | 953  | 965  | 966  |

Table 6.2 shows data for non-Indigenous and Indigenous patients respectively.

**Table 6.2 Australian Kidney Transplant Waiting List Dynamics by Ethnicity 2013-2018**

| Ethnicity      | Event                | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|----------------------|------|------|------|------|------|------|
| Non-Indigenous | Active start of year | 1042 | 1036 | 1103 | 1025 | 901  | 913  |
|                | Made active          | 738  | 801  | 711  | 764  | 903  | 899  |
|                | Taken off list       | 137  | 137  | 144  | 127  | 134  | 138  |
|                | DD graft             | 551  | 532  | 594  | 719  | 703  | 740  |
|                | LD graft             | 53   | 56   | 41   | 32   | 43   | 33   |
|                | Overseas graft       | 1    | 0    | 2    | 1    | 1    | 0    |
|                | Died on list         | 2    | 9    | 8    | 9    | 10   | 5    |
|                | Active end of year   | 1036 | 1103 | 1025 | 901  | 913  | 896  |
| Indigenous     | Active start of year | 34   | 36   | 32   | 31   | 32   | 31   |
|                | Made active          | 37   | 44   | 40   | 39   | 39   | 65   |
|                | Taken off list       | 4    | 11   | 10   | 7    | 8    | 8    |
|                | DD graft             | 29   | 37   | 31   | 30   | 32   | 44   |
|                | LD graft             | 1    | 0    | 0    | 1    | 0    | 0    |
|                | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|                | Died on list         | 1    | 0    | 0    | 0    | 0    | 1    |
|                | Active end of year   | 36   | 32   | 31   | 32   | 31   | 43   |
| Not reported   | Active start of year | 2    | 4    | 10   | 15   | 20   | 21   |
|                | Made active          | 3    | 9    | 16   | 20   | 21   | 34   |
|                | Taken off list       | 0    | 0    | 2    | 1    | 2    | 0    |
|                | DD graft             | 1    | 3    | 8    | 10   | 16   | 27   |
|                | LD graft             | 0    | 0    | 1    | 4    | 2    | 1    |
|                | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|                | Died on list         | 0    | 0    | 0    | 0    | 0    | 0    |
|                | Active end of year   | 4    | 10   | 15   | 20   | 21   | 27   |

The numbers of both dialysis patients and transplants vary with age; in table 6.3 the waiting list dynamics for the years 2013-2018 is shown by broad age groups.

**Table 6.3 Australian Kidney Transplant Waiting List Dynamics by Age 2013-2018**

| Age   | Event                | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------|----------------------|------|------|------|------|------|------|
| 0-17  | Active start of year | 7    | 13   | 13   | 17   | 25   | 18   |
|       | Made active          | 22   | 20   | 17   | 31   | 27   | 35   |
|       | Taken off list       | 0    | 2    | 1    | 1    | 3    | 2    |
|       | DD graft             | 15   | 16   | 12   | 20   | 29   | 27   |
|       | LD graft             | 1    | 2    | 0    | 1    | 2    | 1    |
|       | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|       | Died on list         | 0    | 0    | 0    | 1    | 0    | 0    |
|       | Active end of year   | 13   | 13   | 17   | 25   | 18   | 23   |
| 18-44 | Active start of year | 263  | 306  | 329  | 343  | 297  | 319  |
|       | Made active          | 212  | 218  | 231  | 231  | 281  | 313  |
|       | Taken off list       | 26   | 41   | 34   | 45   | 30   | 39   |
|       | DD graft             | 122  | 128  | 169  | 214  | 202  | 214  |
|       | LD graft             | 20   | 26   | 13   | 17   | 23   | 24   |
|       | Overseas graft       | 0    | 0    | 1    | 0    | 1    | 0    |
|       | Died on list         | 1    | 0    | 0    | 1    | 3    | 3    |
|       | Active end of year   | 306  | 329  | 343  | 297  | 319  | 352  |
| 45-54 | Active start of year | 248  | 263  | 281  | 261  | 241  | 248  |
|       | Made active          | 186  | 195  | 173  | 202  | 245  | 258  |
|       | Taken off list       | 28   | 39   | 44   | 26   | 38   | 38   |
|       | DD graft             | 129  | 126  | 138  | 185  | 186  | 209  |
|       | LD graft             | 14   | 10   | 8    | 9    | 11   | 2    |
|       | Overseas graft       | 0    | 0    | 1    | 0    | 0    | 0    |
|       | Died on list         | 0    | 2    | 2    | 2    | 3    | 0    |
|       | Active end of year   | 263  | 281  | 261  | 241  | 248  | 257  |
| 55-64 | Active start of year | 332  | 299  | 323  | 292  | 257  | 258  |
|       | Made active          | 202  | 254  | 229  | 221  | 279  | 282  |
|       | Taken off list       | 43   | 38   | 40   | 42   | 48   | 43   |
|       | DD graft             | 177  | 179  | 206  | 207  | 220  | 246  |
|       | LD graft             | 13   | 10   | 10   | 5    | 7    | 5    |
|       | Overseas graft       | 1    | 0    | 0    | 1    | 0    | 0    |
|       | Died on list         | 1    | 3    | 4    | 1    | 3    | 2    |
|       | Active end of year   | 299  | 323  | 292  | 257  | 258  | 244  |
| 65+   | Active start of year | 228  | 195  | 199  | 158  | 133  | 122  |
|       | Made active          | 156  | 167  | 117  | 138  | 131  | 110  |
|       | Taken off list       | 44   | 28   | 37   | 21   | 25   | 24   |
|       | DD graft             | 138  | 123  | 108  | 133  | 114  | 115  |
|       | LD graft             | 6    | 8    | 11   | 5    | 2    | 2    |
|       | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|       | Died on list         | 1    | 4    | 2    | 4    | 1    | 1    |
|       | Active end of year   | 195  | 199  | 158  | 133  | 122  | 90   |

Differences between transplanting regions are shown in table 6.4. Waiting list numbers in each region are reflective of both listing practices and donation rates, both current and historical.

**Table 6.4 Australian Kidney Transplant Waiting List Dynamics by State 2013-2018**

| State   | Event                | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------|----------------------|------|------|------|------|------|------|
| NSW/ACT | Active start of year | 534  | 478  | 511  | 444  | 361  | 378  |
|         | Made active          | 227  | 293  | 240  | 227  | 329  | 316  |
|         | Taken off list       | 75   | 70   | 70   | 66   | 64   | 52   |
|         | DD graft             | 167  | 151  | 207  | 219  | 215  | 251  |
|         | LD graft             | 38   | 36   | 23   | 21   | 29   | 17   |
|         | Overseas graft       | 0    | 0    | 2    | 0    | 1    | 0    |
|         | Died on list         | 3    | 3    | 5    | 4    | 3    | 4    |
|         | Active end of year   | 478  | 511  | 444  | 361  | 378  | 370  |
| VIC/TAS | Active start of year | 340  | 383  | 393  | 382  | 385  | 366  |
|         | Made active          | 268  | 278  | 254  | 295  | 299  | 322  |
|         | Taken off list       | 45   | 55   | 52   | 39   | 57   | 62   |
|         | DD graft             | 166  | 192  | 200  | 234  | 244  | 297  |
|         | LD graft             | 13   | 16   | 11   | 14   | 11   | 10   |
|         | Overseas graft       | 1    | 0    | 0    | 1    | 0    | 0    |
|         | Died on list         | 0    | 5    | 2    | 4    | 6    | 0    |
|         | Active end of year   | 383  | 393  | 382  | 385  | 366  | 319  |
| QLD     | Active start of year | 106  | 112  | 117  | 126  | 104  | 107  |
|         | Made active          | 128  | 130  | 133  | 155  | 178  | 194  |
|         | Taken off list       | 14   | 10   | 20   | 16   | 14   | 18   |
|         | DD graft             | 108  | 114  | 99   | 161  | 159  | 146  |
|         | LD graft             | 0    | 1    | 5    | 0    | 2    | 3    |
|         | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|         | Died on list         | 0    | 0    | 0    | 0    | 0    | 0    |
|         | Active end of year   | 112  | 117  | 126  | 104  | 107  | 134  |
| SA/NT   | Active start of year | 56   | 64   | 65   | 75   | 62   | 82   |
|         | Made active          | 81   | 80   | 91   | 75   | 85   | 85   |
|         | Taken off list       | 2    | 10   | 8    | 10   | 7    | 11   |
|         | DD graft             | 68   | 66   | 69   | 76   | 55   | 52   |
|         | LD graft             | 3    | 2    | 3    | 2    | 2    | 4    |
|         | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|         | Died on list         | 0    | 1    | 1    | 0    | 1    | 1    |
|         | Active end of year   | 64   | 65   | 75   | 62   | 82   | 99   |
| WA      | Active start of year | 42   | 39   | 59   | 44   | 41   | 32   |
|         | Made active          | 74   | 73   | 49   | 71   | 72   | 81   |
|         | Taken off list       | 5    | 3    | 6    | 4    | 2    | 3    |
|         | DD graft             | 72   | 49   | 58   | 69   | 78   | 65   |
|         | LD graft             | 0    | 1    | 0    | 0    | 1    | 0    |
|         | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|         | Died on list         | 0    | 0    | 0    | 1    | 0    | 1    |
|         | Active end of year   | 39   | 59   | 44   | 41   | 32   | 44   |

Table 6.5 shows the same data by blood group. Turnover is highest for blood group AB patients.

**Table 6.5 Australian Kidney Transplant Waiting List Dynamics by Blood Group 2013-2018**

| Blood Group | Event                | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------|----------------------|------|------|------|------|------|------|
| <b>A</b>    | Active start of year | 310  | 326  | 329  | 312  | 242  | 252  |
|             | Made active          | 290  | 311  | 301  | 301  | 328  | 348  |
|             | Taken off list       | 39   | 56   | 40   | 29   | 36   | 31   |
|             | DD graft             | 212  | 224  | 255  | 322  | 273  | 331  |
|             | LD graft             | 20   | 25   | 19   | 18   | 8    | 8    |
|             | Overseas graft       | 0    | 0    | 1    | 0    | 1    | 0    |
|             | Died on list         | 3    | 3    | 3    | 2    | 0    | 3    |
|             | Active end of year   | 326  | 329  | 312  | 242  | 252  | 227  |
| <b>AB</b>   | Active start of year | 20   | 21   | 24   | 17   | 24   | 27   |
|             | Made active          | 24   | 37   | 37   | 32   | 46   | 47   |
|             | Taken off list       | 3    | 2    | 2    | 0    | 2    | 1    |
|             | DD graft             | 20   | 32   | 41   | 25   | 41   | 56   |
|             | LD graft             | 0    | 0    | 1    | 0    | 0    | 2    |
|             | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|             | Died on list         | 0    | 0    | 0    | 0    | 0    | 0    |
|             | Active end of year   | 21   | 24   | 17   | 24   | 27   | 15   |
| <b>B</b>    | Active start of year | 179  | 178  | 210  | 187  | 175  | 188  |
|             | Made active          | 102  | 128  | 97   | 117  | 144  | 148  |
|             | Taken off list       | 23   | 19   | 32   | 23   | 34   | 36   |
|             | DD graft             | 77   | 66   | 83   | 97   | 84   | 95   |
|             | LD graft             | 3    | 10   | 3    | 7    | 10   | 5    |
|             | Overseas graft       | 0    | 0    | 0    | 0    | 0    | 0    |
|             | Died on list         | 0    | 1    | 2    | 2    | 3    | 1    |
|             | Active end of year   | 178  | 210  | 187  | 175  | 188  | 199  |
| <b>O</b>    | Active start of year | 569  | 551  | 582  | 555  | 512  | 498  |
|             | Made active          | 362  | 378  | 332  | 373  | 445  | 455  |
|             | Taken off list       | 76   | 71   | 82   | 83   | 72   | 78   |
|             | DD graft             | 272  | 250  | 254  | 315  | 353  | 329  |
|             | LD graft             | 31   | 21   | 19   | 12   | 27   | 19   |
|             | Overseas graft       | 1    | 0    | 1    | 1    | 0    | 0    |
|             | Died on list         | 0    | 5    | 3    | 5    | 7    | 2    |
|             | Active end of year   | 551  | 582  | 555  | 512  | 498  | 525  |

## Proportion of Patients Transplanted or on Waiting List

Figure 6.1 shows the proportion of prevalent renal replacement therapy patients who were either transplanted or actively wait-listed at the end of 2018, by state and age group. In all states and all age groups, the majority of dialysis patients were not actively wait-listed at the end of 2018.

Younger patients were more likely to be transplanted or wait-listed, and the proportion of dialysis patients wait-listed varied substantially by state.

**Figure 6.1 - Proportion of Patients Transplanted or on Waiting List - By State or Territory and Age, Dec 2018**

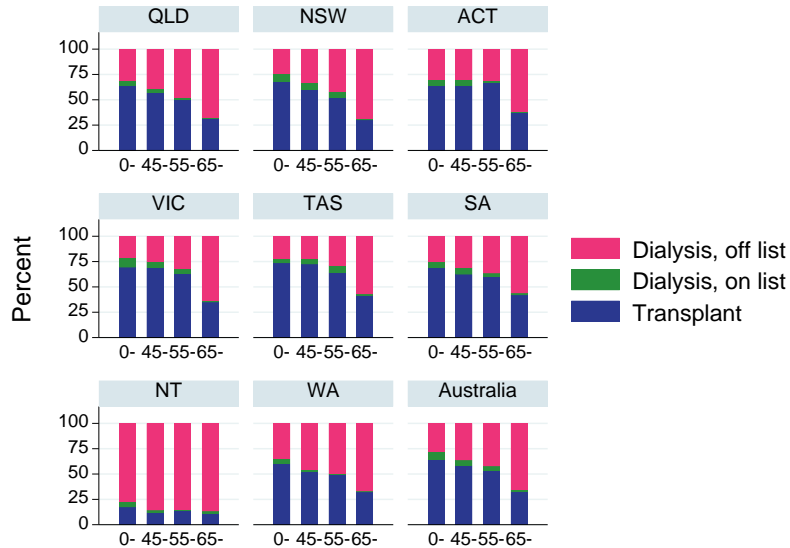
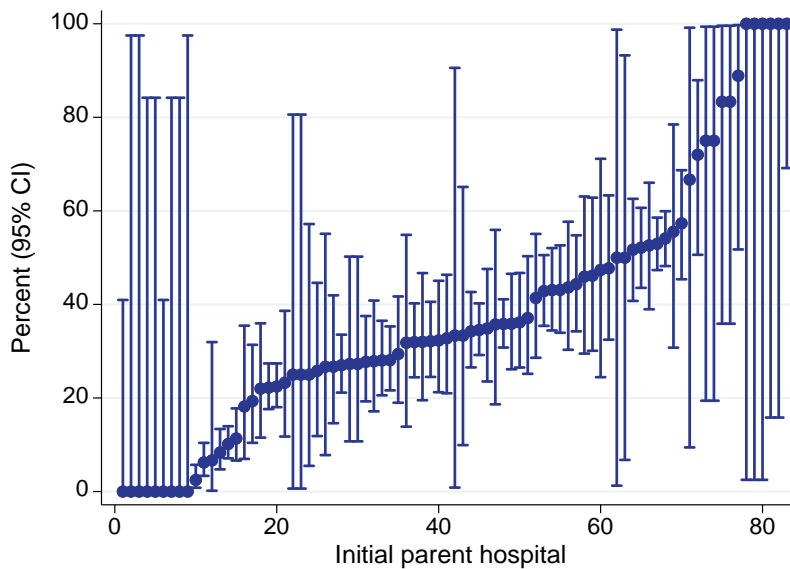


Figure 6.2 shows differences in access to the waiting list or transplantation, in incident patients, by treating hospital. This analysis is restricted to patients aged 18-60 who commenced renal replacement therapy in Australia over 2013-2017 and shows the proportion of these patients who had either been made active on the kidney transplant waiting list or received a kidney transplant within one year of starting RRT. The proportions varied from 0% to 100% suggesting substantial discrepancies in practice between treating hospitals.

**Figure 6.2 - Proportion of new RRT patients aged 18-60 who were wait-listed and/or transplanted within 1 year of commencing RRT Australia 2013-2017**



## Waiting List Demographics

Table 6.6 shows the demographic characteristics of actively wait-listed patients over 2013-2018. In general, the demographics are very stable.

**Table 6.6 Demographics of the Australian Kidney Transplant Waiting List 2013-2018**

| Factor                                    | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>N</b>                                  | 1076           | 1145           | 1071           | 953            | 965            | 966            |
| <b>Waiting time (years), median (IQR)</b> | 2.6 (1.4, 4.5) | 2.6 (1.4, 4.4) | 2.4 (1.3, 4.1) | 2.3 (1.4, 3.9) | 2.2 (1.2, 3.6) | 2.1 (1.2, 3.6) |
| <b>Blood group</b>                        |                |                |                |                |                |                |
| <b>A</b>                                  | 326 (30.3%)    | 329 (28.7%)    | 312 (29.1%)    | 242 (25.4%)    | 252 (26.1%)    | 227 (23.5%)    |
| <b>AB</b>                                 | 21 (2.0%)      | 24 (2.1%)      | 17 (1.6%)      | 24 (2.5%)      | 27 (2.8%)      | 15 (1.6%)      |
| <b>B</b>                                  | 178 (16.5%)    | 210 (18.3%)    | 187 (17.5%)    | 175 (18.4%)    | 188 (19.5%)    | 199 (20.6%)    |
| <b>O</b>                                  | 551 (51.2%)    | 582 (50.8%)    | 555 (51.8%)    | 512 (53.7%)    | 498 (51.6%)    | 525 (54.3%)    |
| <b>Previous grafts</b>                    |                |                |                |                |                |                |
| <b>0</b>                                  | 803 (74.6%)    | 839 (73.3%)    | 773 (72.2%)    | 690 (72.4%)    | 723 (74.9%)    | 733 (75.9%)    |
| <b>1</b>                                  | 233 (21.7%)    | 253 (22.1%)    | 242 (22.6%)    | 215 (22.6%)    | 201 (20.8%)    | 196 (20.3%)    |
| <b>2</b>                                  | 33 (3.1%)      | 46 (4.0%)      | 50 (4.7%)      | 42 (4.4%)      | 39 (4.0%)      | 35 (3.6%)      |
| <b>3</b>                                  | 7 (0.7%)       | 7 (0.6%)       | 6 (0.6%)       | 6 (0.6%)       | 2 (0.2%)       | 2 (0.2%)       |
| <b>Age (years)</b>                        |                |                |                |                |                |                |
| <b>0-44</b>                               | 364 (33.8%)    | 357 (31.2%)    | 360 (33.6%)    | 297 (31.2%)    | 300 (31.1%)    | 312 (32.3%)    |
| <b>45-54</b>                              | 278 (25.8%)    | 305 (26.6%)    | 261 (24.4%)    | 244 (25.6%)    | 237 (24.6%)    | 240 (24.8%)    |
| <b>55-64</b>                              | 294 (27.3%)    | 309 (27.0%)    | 292 (27.3%)    | 255 (26.8%)    | 261 (27.0%)    | 259 (26.8%)    |
| <b>65+</b>                                | 140 (13.0%)    | 174 (15.2%)    | 158 (14.8%)    | 157 (16.5%)    | 167 (17.3%)    | 155 (16.0%)    |
| <b>Gender</b>                             |                |                |                |                |                |                |
| <b>Male</b>                               | 655 (60.9%)    | 712 (62.2%)    | 662 (61.8%)    | 595 (62.4%)    | 611 (63.3%)    | 582 (60.2%)    |
| <b>Ethnicity</b>                          |                |                |                |                |                |                |
| <b>Caucasian</b>                          | 756 (70.3%)    | 772 (67.4%)    | 711 (66.4%)    | 586 (61.5%)    | 597 (61.9%)    | 547 (56.6%)    |
| <b>Aboriginal/Torres Strait Islander</b>  | 36 (3.3%)      | 32 (2.8%)      | 31 (2.9%)      | 32 (3.4%)      | 31 (3.2%)      | 43 (4.5%)      |
| <b>Asian</b>                              | 200 (18.6%)    | 238 (20.8%)    | 209 (19.5%)    | 217 (22.8%)    | 196 (20.3%)    | 221 (22.9%)    |
| <b>Māori</b>                              | 13 (1.2%)      | 10 (0.9%)      | 8 (0.7%)       | 8 (0.8%)       | 8 (0.8%)       | 9 (0.9%)       |
| <b>Pacific</b>                            | 32 (3.0%)      | 35 (3.1%)      | 35 (3.3%)      | 32 (3.4%)      | 33 (3.4%)      | 35 (3.6%)      |
| <b>Other</b>                              | 35 (3.3%)      | 48 (4.2%)      | 62 (5.8%)      | 58 (6.1%)      | 70 (7.3%)      | 72 (7.5%)      |
| <b>Not reported</b>                       | 4 (0.4%)       | 10 (0.9%)      | 15 (1.4%)      | 20 (2.1%)      | 30 (3.1%)      | 39 (4.0%)      |
| <b>Primary renal disease</b>              |                |                |                |                |                |                |
| <b>Diabetic Nephropathy</b>               | 146 (13.6%)    | 148 (12.9%)    | 139 (13.0%)    | 129 (13.5%)    | 138 (14.3%)    | 157 (16.3%)    |
| <b>Glomerulonephritis</b>                 | 436 (40.5%)    | 485 (42.4%)    | 450 (42.0%)    | 413 (43.3%)    | 401 (41.6%)    | 375 (38.8%)    |
| <b>Hypertension</b>                       | 86 (8.0%)      | 81 (7.1%)      | 74 (6.9%)      | 73 (7.7%)      | 74 (7.7%)      | 81 (8.4%)      |
| <b>Polycystic Disease</b>                 | 143 (13.3%)    | 141 (12.3%)    | 136 (12.7%)    | 109 (11.4%)    | 116 (12.0%)    | 120 (12.4%)    |
| <b>Reflux Nephropathy</b>                 | 88 (8.2%)      | 93 (8.1%)      | 83 (7.7%)      | 68 (7.1%)      | 65 (6.7%)      | 69 (7.1%)      |
| <b>Other</b>                              | 135 (12.5%)    | 149 (13.0%)    | 147 (13.7%)    | 121 (12.7%)    | 117 (12.1%)    | 113 (11.7%)    |
| <b>Uncertain</b>                          | 41 (3.8%)      | 47 (4.1%)      | 38 (3.5%)      | 30 (3.1%)      | 34 (3.5%)      | 38 (3.9%)      |
| <b>Not reported</b>                       | 1 (0.1%)       | 1 (0.1%)       | 4 (0.4%)       | 10 (1.0%)      | 20 (2.1%)      | 13 (1.3%)      |
| <b>Comorbidities</b>                      |                |                |                |                |                |                |
| <b>Diabetes</b>                           | 227 (21.2%)    | 240 (21.0%)    | 237 (22.2%)    | 226 (23.8%)    | 216 (22.5%)    | 233 (24.1%)    |
| <b>Coronary artery disease</b>            | 229 (21.4%)    | 211 (18.5%)    | 172 (16.1%)    | 194 (20.5%)    | 182 (18.9%)    | 181 (18.7%)    |
| <b>Peripheral vascular disease</b>        | 123 (11.5%)    | 128 (11.2%)    | 97 (9.1%)      | 97 (10.2%)     | 95 (9.9%)      | 92 (9.5%)      |
| <b>Cerebrovascular disease</b>            | 61 (5.7%)      | 77 (6.7%)      | 61 (5.7%)      | 56 (5.9%)      | 55 (5.7%)      | 54 (5.6%)      |
| <b>Chronic lung disease</b>               | 110 (10.3%)    | 110 (9.6%)     | 97 (9.1%)      | 101 (10.7%)    | 91 (9.5%)      | 92 (9.5%)      |

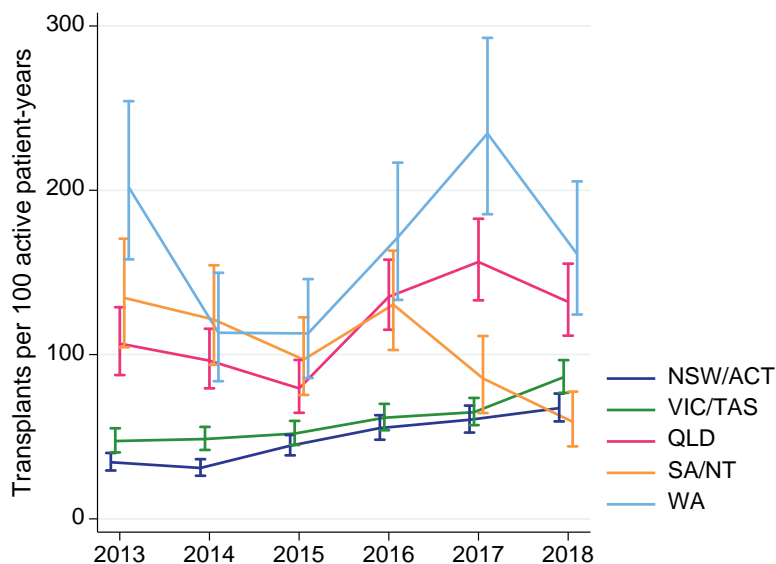


## Transplant Rate

The transplant rate represents the likelihood of receiving a kidney transplant in patients who are actively wait-listed. For these analyses the transplant rate was calculated as the number of deceased donor kidney-only transplants performed (numerator) per 100 patient-years on the active kidney-only waiting list (denominator). The transplant rate depends on the number of organs available, the number of patients on the waiting list, and the kidney allocation system. Figures 6.3-6.6 show the transplant rate by state, age, ethnicity and blood group respectively.

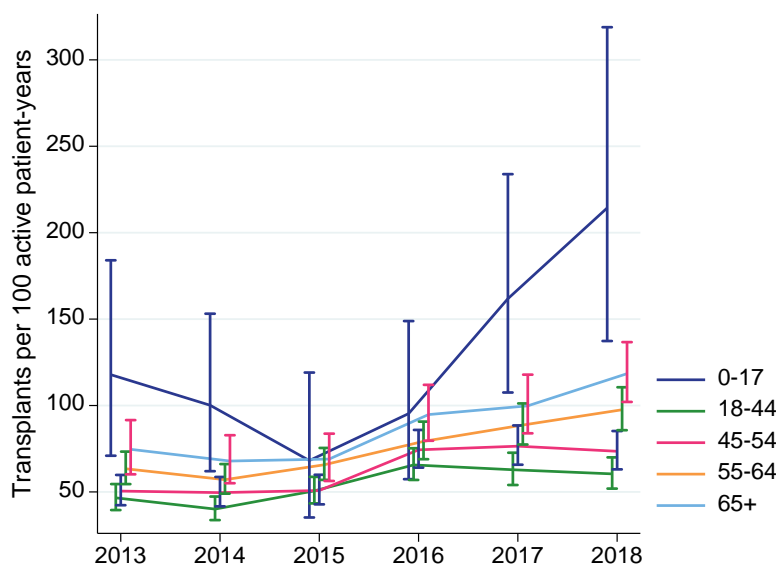
The transplant rate is typically highest in WA (figure 6.3).

**Figure 6.3 - Deceased Donor Transplant Rate by Transplanting Region - Per 100 Active Patient-Years**

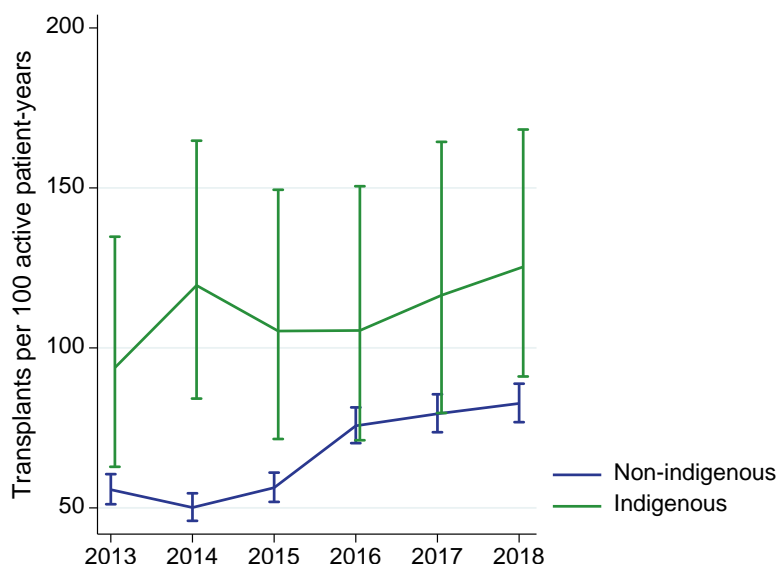


Paediatric patients are preferentially allocated kidneys and so have historically had a higher transplant rate than adult patients. Since the allocation system otherwise ignores age, patients in other age groups have similar transplant rates (figure 6.4), and differences are likely to represent differences in acceptance of kidney offers. Indigenous patients are more likely to be listed in states with a higher donor rate, and thus have a higher transplant rate (figure 6.5).

**Figure 6.4 - Deceased Donor Transplant Rate by Age - Per 100 Active Patient-Years**

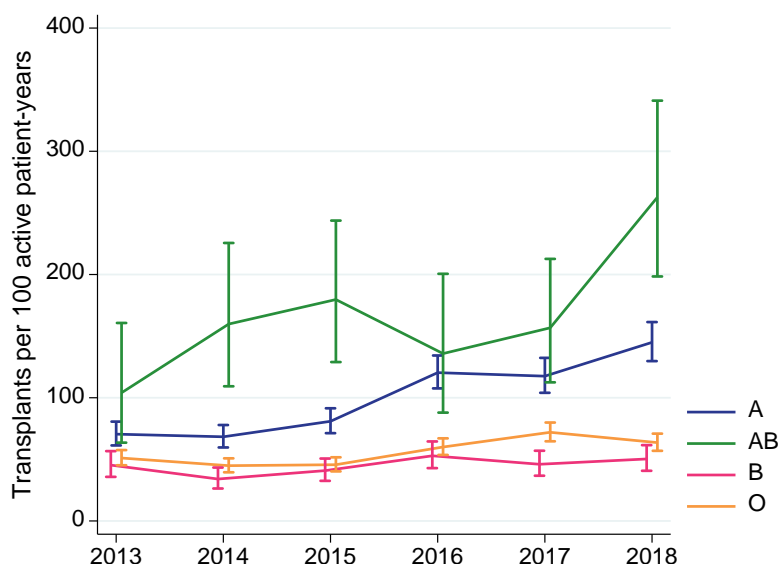


**Figure 6.5 - Deceased Donor Transplant Rate by Ethnicity - Per 100 Active Patient-Years**



Blood group AB patients have the highest transplant rate due to their compatibility with all donors (Figure 6.6).

**Figure 6.6 - Deceased Donor Transplant Rate by Blood Group - Per 100 Active Patient-Years**

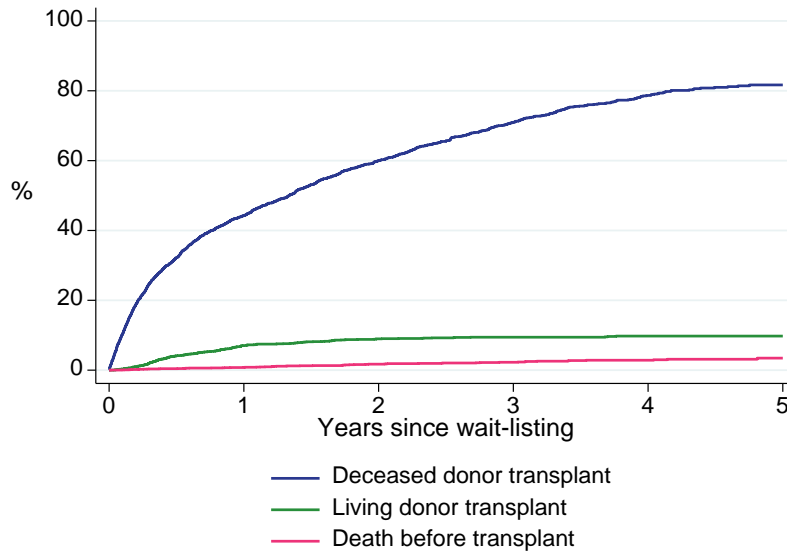


## Outcomes of Waitlisting

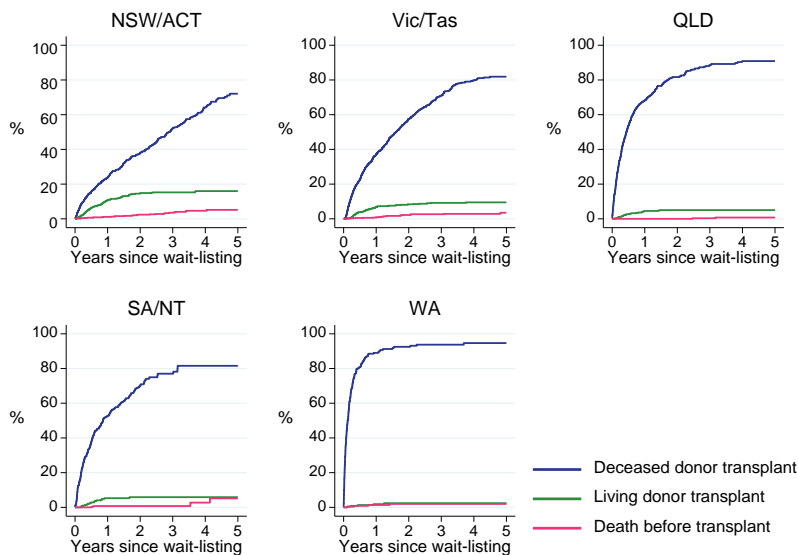
Figures 6.7-6.9 show the outcomes of patients who commenced dialysis during 2013-2018 and were subsequently wait-listed for a kidney transplant. These analyses show the cumulative incidence of deceased donor transplantation, living donor transplantation or death. Each outcome is considered a competing risk for the other outcomes, and only the first event is considered.

Overall, patients were much more likely to undergo deceased donor transplantation than to receive a living donor transplant or to die (figure 6.7). There were important differences between states, with longer times to deceased donor transplantation in NSW/ACT and Victoria compared with the other states, and correspondingly higher rates of living donor transplantation (especially in NSW/ACT) (figure 6.8). Note that these analyses only consider time from waitlisting; differences in time from dialysis start to wait-listing may reduce some of these discrepancies. Figure 6.9 shows the same data by blood group; patients who were blood group AB or A received transplants more quickly than blood group B or O patients.

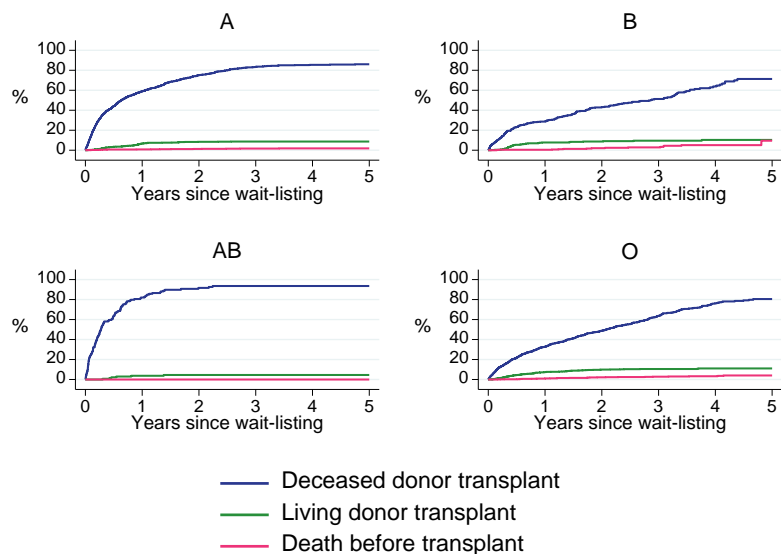
**Figure 6.7 - Outcomes after wait-listing - Australian incident dialysis patients 2013-2018**



**Figure 6.8 - Outcomes after wait-listing - Australian incident dialysis patients 2013-2018**



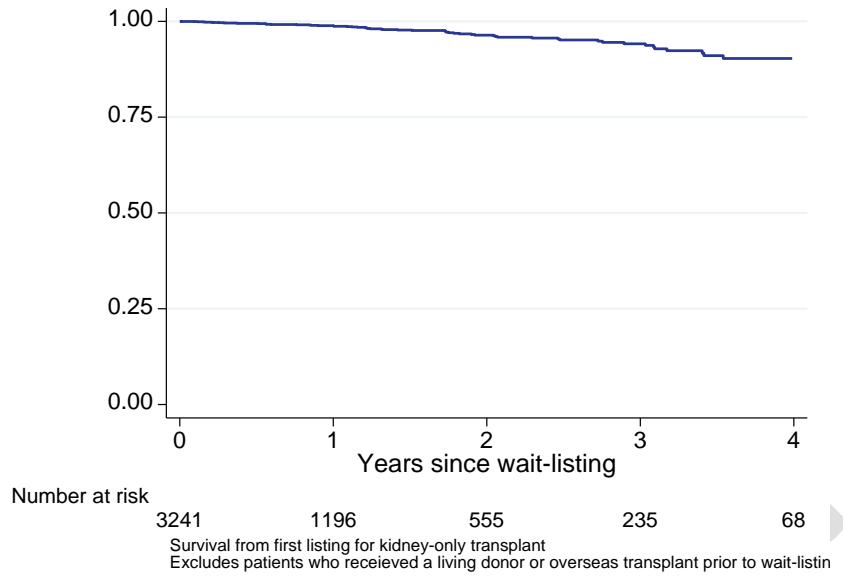
**Figure 6.9 - Outcomes after wait-listing - Australian incident dialysis patients 2013-2018**



## Survival after Waitlisting

Figure 6.10 shows the survival of patients who commenced dialysis in Australia over 2013-2018 and were subsequently wait-listed for a deceased donor kidney-only transplant. Survival is shown from the time of listing and is censored at transplantation (but not at removal from the list). Survival of this highly selected patient group was excellent with 1- and 3-year survival of 98.8% and 94.1% respectively. The mortality rate was correspondingly low at 1.9 deaths per 100 patient-years (95% CI 1.5-2.5).

**Figure 6.10 - Survival after wait-listing - Australian incident dialysis patients 2013-2018 Censored at transplantation**



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