

Chapter 6

Liver Donation in Australia and New Zealand



2016
Annual Report
Data to 31-Dec-2015

LIVER DONATION

LIVER DONATION

In 2015, there were 264 recipients with transplanted livers from Australian donors, and 41 retrievals in New Zealand providing for 46 recipients, as shown in Figure 6.1 and 6.2. There were nine recipients of combined liver/kidney transplants, one liver/double lung and one liver heart transplant in Australia.

Thirty four partial liver transplants, from 16 donors, were performed in Australia using the “split” liver technique (transplanting one liver into two recipients) and in New Zealand there were 10 split liver transplants performed.

In Australia during 2015, 5 recipients received a subsequent liver transplant for a failure of transplant in the same year.

Figure 6.1

Outcome of Request for Liver Donation
Australia 2015



Figure 6.2

Outcome of Request for Liver Donation
New Zealand 2015



LIVER DONATION

Figures 6.3 and 6.4 show the number of recipients of liver transplants by donation pathway in Australia and New Zealand respectively from 1998 to 2015. Figure 6.5 compares the number of deceased donor liver recipients by state and country for 2014 and 2015.

Figure 6.3

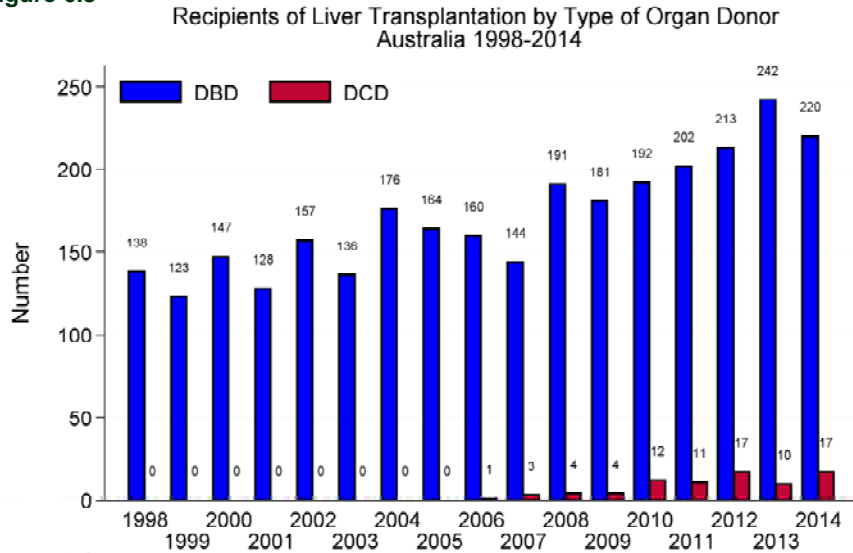


Figure 6.4

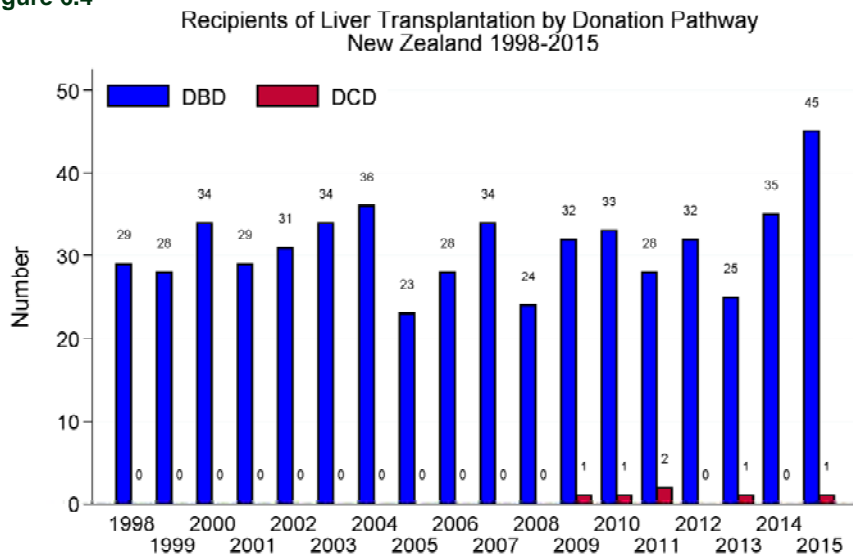
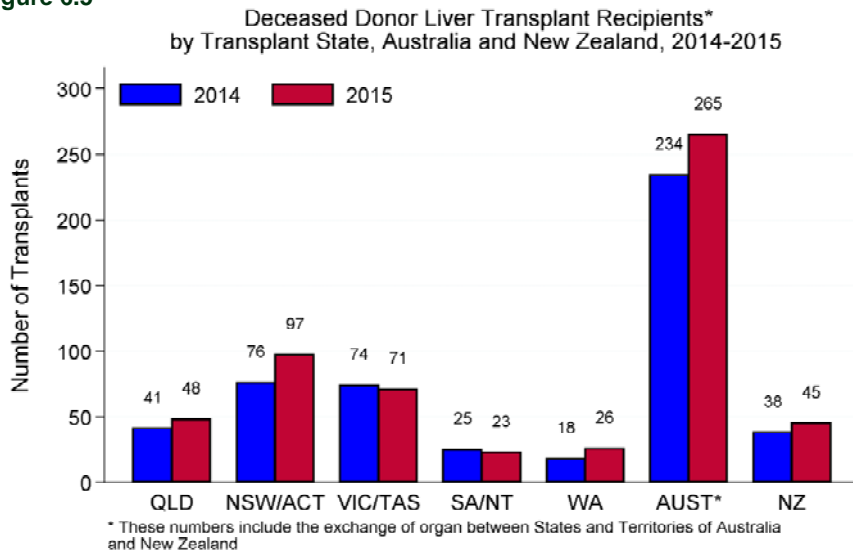


Figure 6.5



LIVER DONATION

LIVER DONORS

The age distribution of donors providing transplanted livers for Australia and New Zealand is shown in Figures 6.6 and 6.7 respectively.

Figure 6.6

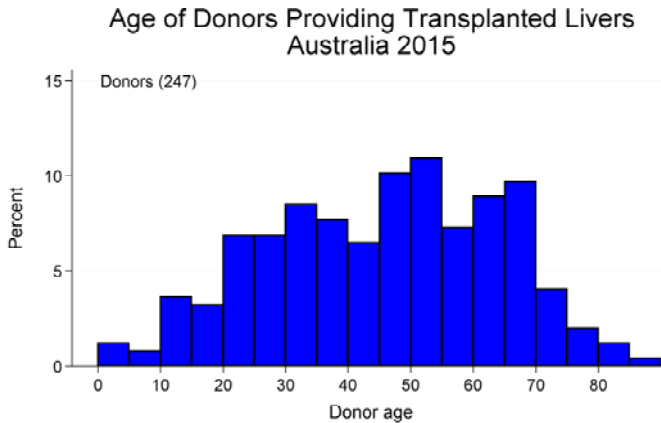
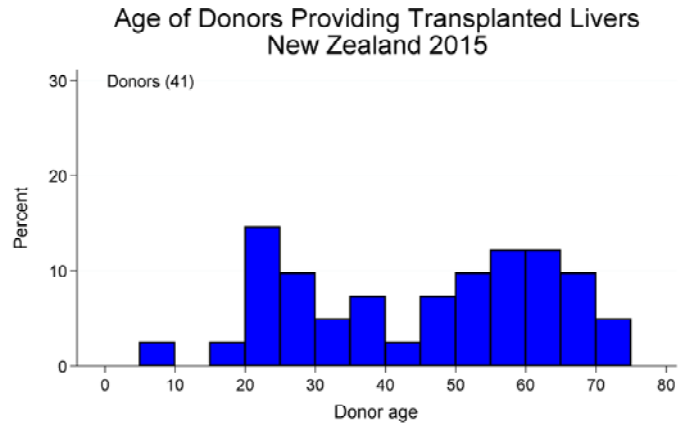


Figure 6.7



DONOR LIVER FUNCTION

The results of the serum tests for liver function for 264 Australian and 41 New Zealand donors in 2015 who had livers retrieved, are shown below. There were 92% of donors in Australia (243) and 46% of donors in New Zealand (19) who had all five tests performed. Table 5.4 shows the number of donors whose liver function was above the normal range.

Table 6.1

Number of Donors with Liver Function Tests Above Normal Range 2015				
Liver Function Tests	Australia		New Zealand	
	Donors with value recorded *	Above Normal	Donors with value recorded *	Above Normal
Alanine Transaminase ALT > 40 µ/L	264	124	34	17
Aspartate Transaminase AST > µ/L	243	150	27	13
Gamma Glutamol Tranferase GGT > 60 µ/L	264	79	30	9
Alkaline Phosphatase > 116 µ/L	264	27	41	5
Total Bilirubin > 20 µmol/L	264	34	40	5

* Not all donors have all tests

LIVER DONATION

LIVERS NOT RETRIEVED

There were 113 livers not retrieved from Australian donors in 2015 and 9 livers from New Zealand donors.

For Australia, the main reasons were the liver not being medically suitable (83), followed by age of donor (16). In New Zealand, mostly non-retrieved livers were due to being not medically suitable (6).

Table 6.2

Reasons Liver Not Retrieved, 2015		
Reason	Australia	New Zealand
Logistics	2	1
Not Medically Suitable	83	6
Surgically Unsuitable	0	0
Trauma to Organ	1	1
No Suitable Recipients	4	1
Age of Donor	16	0
DCD Donor	5	0
Consent Withdrawn	2	0
Others	0	0
Total	113	9

LIVERS RETRIEVED AND NOT UTILISED

Table 6.3 tabulates the reasons livers were not used after retrieval for the purpose of transplantation since 2011.

Table 6.3

Reasons Livers Retrieved and Not Utilised for Organ Transplantation in Australia (New Zealand) 2011 - 2015						
Year	Logistics	Not Medically Suitable	Not Surgically Suitable	No Suitable Recipients	Other	Total
2011	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1 (0)
2012	0 (0)	5 (1)	0 (0)	0 (0)	1 (0)	6 (1)
2013	0 (0)	6 (1)	0 (0)	0 (0)	0 (0)	6 (1)
2014	0 (0)	6 (1)	0 (0)	0 (0)	1 (0)	7 (1)
2015	0 (0)	13 (0)	0 (0)	0 (0)	0 (0)	13 (0)

LIVER DONATION

Figures 6.8 and 6.9 show the non-utilisation rate of retrieved livers - the proportion of livers that were retrieved for the purpose of solid organ transplantation, but not ultimately transplanted into a recipient (either due to absence of suitable recipients, or the liver being found to be medically or surgically unsuitable after retrieval).

In Australia the non-utilisation rate of livers has increased from 0.5% in 2011 to 7.9% in 2014. In 2015, this fell to just under 6.5%.

Figure 6.8



Figure 6.9



LIVER DONATION

Table 6.4.1

Outcome of Request for Liver Donation, Australia, 2011 - 2015					
Outcome	2011	2012	2013	2014	2015
Total Donors	337	354	391	378	435
No Request for Liver Donation	42	20	31	24	46
Request for Liver Donation	295	334	360	354	389
Consent Not Given	0	5	3	7	12
Consent Given	295	329	357	347	377
Liver Not Retrieved	95	111	112	106	113
Liver Retrieved	200	218	243	241	264
Whole Liver not used	1	6	6	7	13
(Split Liver (L) not used)	0	1	0	0	0
(Split Liver (R) not used)	2	3	7	0	1
Liver used for Research	0	1	4	12	4
Total Livers Transplanted	199	212	233	222	247
Recipients Transplanted	213	230	252	237	264
Whole Liver Transplanted	183	189	207	207	229
(Left Liver Transplant Procedures)	16	22	26	15	18
(Right Liver Transplant Procedures)	14	19	19	15	17
Split Liver Procedures	28	36	38	30	34
Cut down Liver	2	5	7	0	1
Liver Discard Rate	0.50%	3.21%	4.12%	7.88%	6.44%
Liver Utilised Rate	99.50%	97.25%	95.88%	92.12%	93.56%

LIVER DONATION

Table 6.4.2

Outcome of Request for Liver Donation, New Zealand, 2011 - 2015					
Outcome	2011	2012	2013	2014	2015
Total Donors	38	38	36	46	53
No Request for Liver Donation	1	1	1	5	3
Request for Liver Donation	37	37	35	41	50
Consent Not Given	0	1	0	0	0
Consent Given	37	36	35	41	50
Liver Not Retrieved	7	6	10	8	9
Liver Retrieved	30	30	25	33	41
Whole Liver not used	0	1	1	1	0
(Split Liver(L) not used)	0	0	0	0	0
(Split Liver(R) not used)	0	2	1	0	0
Liver used for Research	0	0	0	0	0
Total Livers Transplanted	30	29	24	32	41
Recipients Transplanted	30	32	26	35	46
Whole Liver Transplanted	30	24	21	29	36
(Left Liver or Cutdown Transplant Procedures)	0	5	3	3	5
(Right Liver Transplant Procedures)	0	3	2	3	5
Split Liver Procedures	0	6	4	6	10
Cut down Liver	0	2	1	0	0
Liver Discard Rate	0%	3.33%	4%	3.03%	0%
Liver Utilised Rate	100%	96.67%	96%	96.97%	100%



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