

Report on Eye and Tissue Donation in Australia

2016 Year End Report

Data collected from Australian Eye and Tissue Banks. This report supersedes any quarterly interim summaries previously released for 2016.

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Explanatory notes

Acknowledgements

The following Eye and Tissue Banks contributed data:

NSW:

- Australian Biotechnologies
- Hunter New England Bone Bank
- Lions NSW Eye Bank
- NSW Bone Bank
- Rachel Forster Bone Bank
- Sydney Heart Valve Bank

\mathbf{QLD} :

- QLD Eye Bank
- QLD Bone Bank
- QLD Heart Valve Bank

\mathbf{SA} :

- Eye Bank of SA
- SA Tissue Bank

VIC:

- Barwon Health Bone Bank Geelong
- Donor and Tissue Bank Victoria
- Lions Eye Donation Service

WA:

- Lions Eye Bank of WA
- PlusLife (Perth Bone and Tissue Bank)

Special acknowledgement to the Biotherapeutics Association of Australasia (BAA) and the Eye Bank Association of Australia and New Zealand (EBAANZ) for their comments.



Definitions

- 1 Cardiovascular tissue (cv) Includes, but not limited to, heart valves, pericardium and annexed vessels.
- 2 Cornea The cornea is the transparent anterior tissue of the eyeball consisting of many layers.
- 3 Deceased solid organ and tissue donation Identifies a donation event where one or more solid organs and tissues are retrieved from a deceased donor. Data has been crosschecked with the solid organ and tissue sector to ensure the donor has met the deceased solid organ and tissue donation criteria.
- 4 Deceased tissue donation Identifies a donation event where one or more tissues are retrieved from a deceased donor and can comprise of musculoskeletal, cardiovascular, skin or eye tissue.
- 5 Donation event
 - A single retrieval event, within a calendar day, where a living donor can donate one or more musculoskeletal or cardiovascular tissues.
 - Retrieval from deceased donors of solid organ, tissue and/or eyes that may occur on differing days but after the donor declaration of death date.
- 6 Eye only donor A deceased donor where eye only retrieval has taken place. A donor is counted as an eye only donor if 2 whole eyes, 2 corneas only, one eye or one cornea only is retrieved. Outcomes of donated eye tissue are not limited to transplantation.
- 7 Eye and solid organ (and tissue) donor A deceased donor where eye and solid organ retrieval has taken place. These donors may or may not have donated an additional tissue(s) e.g. musculoskeletal, cardiovascular or skin. Data has been crosschecked with the solid organ and tissue sector to confirm the donation event and donor classification.
- 8 Eye and tissue only donor A deceased donor where eye and an additional tissue(s) e.g. musculoskeletal, cardiovascular or skin has taken place. Data has been crosschecked with the tissue sector to confirm the donation event and donor classification.
- 9 Eye tissue donation Unless otherwise specified all donors undergo retrieval of both whole eyes or both corneas. This means the number of eye tissue donations can be calculated by doubling the amount of total eye donors.
- 10 Eye tissue graft transplants Corneal or scleral tissue transplanted into an eye tissue recipient within the reporting time period.
- 11 Eye tissue recipient Unless otherwise specified the number of eye tissue recipients is equal to the number of eye tissue graft transplants (consistent with EBAANZ).
- 12 Living tissue donation Identifies a donation event where one or more tissues are retrieved from a living donor. Living tissue is vastly comprised of donated femoral heads (bone) retrieved during hip replacement surgery. A living musculoskeletal donor can donate one femoral head during one donation event, two femoral heads during one donation event or one femoral head during two separate donation events.
- 13 Musculoskeletal tissue (ms) Includes, but not limited to, bone, cartilage and tendon retrieved from areas such as the pelvis, arm and leg.
- 14 Notified tissue graft transplants Number of tissue grafts supplied and confirmed by the hospital to the distributing tissue bank to have been transplanted. One tissue graft recipient may receive multiple graft transplants.
- 15 Notified tissue graft recipients The number of tissue graft recipients, confirmed by the hospital to the distributing bank, who receive one or more graft transplants during a single tissue transplant event.
- 16 Pancreas islet (pi) a multicellular structure within the pancreas that maintains normal blood glucose level within the body.
- 17 Sclera unit A unit of the protective outer layer of the eyeball, used for transplantation during ocular surgery.
- 18 Skin tissue (sk) Includes, but not limited to, split thickness skin (epidermis and upper part of the dermis), of varying size.



- 19 Tissue transplant event
 - A single tissue transplant event occurs when a tissue graft recipient receives 1 or more tissue grafts on a single occasion. This will be counted as one tissue graft recipient, one tissue transplant event.
 - If a tissue graft recipient receives 1 or more tissue grafts during multiple tissue transplant events, this will be counted as one tissue graft recipient for each tissue transplant event.
- 20 Unique donor A deceased or living donor who donates one or more tissue(s) during a single donation event.

Counting Methodology

Each tissue and eye bank uses a Minimum Data Set Template (MDS) to provide the Registry de-identified donor information for each tissue type, as well as aggregate data for reporting of notified tissue graft transplants and notified tissue graft recipients.

Data received undergoes reconciliation and cross checking between the solid organ sector (ANZOD), the eye sector (participating eye banks) and the tissue sector (participating tissue banks) to ensure accuracy at the time of reporting.

Notes

According to EBAANZ, since the end of 2011, the number of corneal transplants in Australia each year has exceeded the number of new patients requiring transplants each year. This means the current demand for corneal transplants in Australia is being met and should be noted when comparing 2016 corneal transplantation numbers to previous years published.

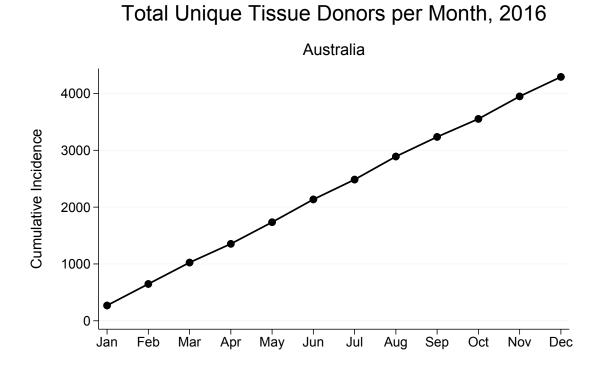
It is acknowledged that service provision in the living tissue donation sector by BAA and associated member banks occurs in addition to the Australian Organ and Tissue Authority's (OTA) "national reform programme to improve organ and tissue donation and transplantation outcomes in Australia".

The Registry declares:

- All donations of eye tissue have come from deceased donors.
- Eye donors include those who have donated 2 whole eyes, 2 corneas or one whole eye or one cornea.
- Eye donations are not limited to the outcome of transplantation.
- Eye and Tissue Graft Transplants and Transplant Recipient data includes transplant events that have occurred in a different jurisdiction to where the tissue was donated.
- Graft Transplants and Transplant Recipient data may or may not be a direct outcome of tissue donations reported for the quarter, as tissue can be stored for a period of time before the graft is transplanted.
- Outcome data does not capture tissue that has been supplied for transplant but not yet notified as transplanted to the distributing tissue bank.



Tissue Donors, Donation, Implantation and Recipients Unique Tissue Donors (ms, cv, sk, pi)



Total Unique Tissue Donors by Jurisdiction of Retrieval and Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	45	48	90	63	58	102	78	93	77	61	88	95	898
NSW	96	181	155	144	176	170	163	187	149	132	167	135	1855
ACT	0	0	1	0	0	0	0	0	1	0	1	1	4
VIC	44	53	43	47	50	43	38	38	39	38	49	39	521
TAS	4	0	8	1	0	5	2	4	0	1	7	3	35
SA	38	32	31	21	39	30	27	31	39	34	30	31	383
WA	42	65	49	53	58	51	41	53	40	51	54	39	596
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	269	379	377	329	381	401	349	406	345	317	396	343	4292

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	31	34	76	52	52	87	68	80	62	42	67	80	731
NSW	90	171	147	136	169	156	151	175	139	125	154	125	1738
ACT	0	0	0	0	0	0	0	0	0	0	0	0	0
VIC	35	42	33	40	36	33	30	33	28	30	42	25	407
TAS	4	0	8	0	0	5	2	4	0	0	$\overline{7}$	3	33
SA	37	32	30	21	36	30	27	30	38	34	30	31	376
WA	42	64	48	53	57	51	40	48	39	51	53	37	583
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	239	343	342	302	350	362	318	370	306	282	353	301	3868

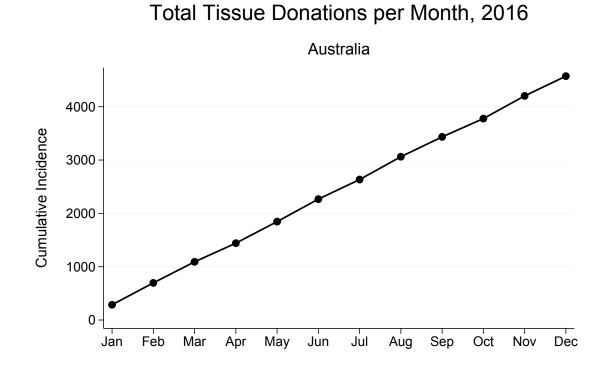
Living Unique Tissue Donors by Jurisdiction of Retrieval and Month, 2016

Deceased Unique Tissue Donors by Jurisdiction of Retrieval and Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	14	14	14	11	6	15	10	13	15	19	21	15	167
NSW	6	10	8	8	7	14	12	12	10	7	13	10	117
ACT	0	0	1	0	0	0	0	0	1	0	1	1	4
VIC	9	11	10	7	14	10	8	5	11	8	7	14	114
TAS	0	0	0	1	0	0	0	0	0	1	0	0	2
SA	1	0	1	0	3	0	0	1	1	0	0	0	7
WA	0	1	1	0	1	0	1	5	1	0	1	2	13
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	30	36	35	27	31	39	31	36	39	35	43	42	424



Tissue Donations (ms, cv, sk, pi)



Total Tissue Donations by Jurisdiction of Retrieval and Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	57	62	100	75	63	114	85	107	91	77	109	103	1043
NSW	96	189	158	149	179	173	165	189	155	134	171	138	1896
ACT	0	0	1	0	0	0	0	0	1	0	1	1	4
VIC	49	61	48	51	64	49	47	43	46	46	53	54	611
TAS	4	0	8	1	0	5	2	5	0	1	8	3	37
SA	38	32	31	21	39	30	27	31	39	34	30	31	383
WA	42	66	49	53	59	51	41	53	40	51	54	40	599
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	286	410	395	350	404	422	367	428	372	343	426	370	4573



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	31	35	76	54	53	88	70	80	63	44	70	82	746
NSW	90	177	150	140	172	158	153	177	144	126	158	127	1772
ACT	0	0	0	0	0	0	0	0	0	0	0	0	0
VIC	35	42	33	40	36	33	30	33	29	30	42	25	408
TAS	4	0	8	0	0	5	2	5	0	0	8	3	35
SA	37	32	30	21	36	30	27	30	38	34	30	31	376
WA	42	65	48	53	58	51	40	48	39	51	53	38	586
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	239	351	345	308	355	365	322	373	313	285	361	306	3923

Living Tissue Donations by Jurisdiction of Retrieval and Month, 2016

Living Tissue Donations by Jurisdiction of Retrieval and Type, 2016

	Musculoskeletal	Cardiovascular
QLD	746	0
NSW	1756	16
VIC	402	6
TAS	35	0
SA	376	0
WA	586	0
AUSTRALIA	3901	22



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	26	27	24	21	10	26	15	27	28	33	39	21	297
NSW	6	12	8	9	7	15	12	12	11	8	13	11	124
ACT	0	0	1	0	0	0	0	0	1	0	1	1	4
VIC	14	19	15	11	28	16	17	10	17	16	11	29	203
TAS	0	0	0	1	0	0	0	0	0	1	0	0	2
SA	1	0	1	0	3	0	0	1	1	0	0	0	7
WA	0	1	1	0	1	0	1	5	1	0	1	2	13
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	47	59	50	42	49	57	45	55	59	58	65	64	650

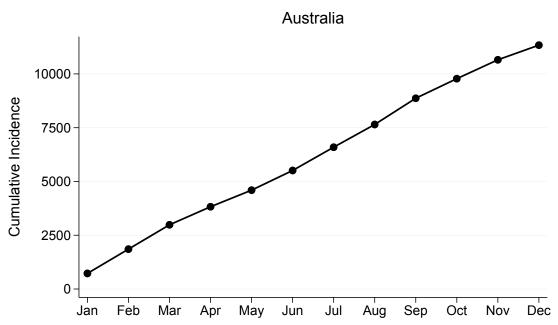
Deceased Tissue Donations by Jurisdiction of Retrieval and Month, 2016

Deceased Tissue Donations by Jurisdiction of Retrieval and Type, 2016

	Т	issue O	nly Secto	or	Solid	Organ/	Tissue S	ector		Tissue	e Total	
	ms	cv	skin	pi	ms	cv	$_{\rm skin}$	pi	ms	cv	$_{\rm skin}$	pi
QLD	63	25	95	0	36	39	38	1	99	64	133	1
NSW	64	5	0	0	24	28	0	3	88	33	0	3
ACT	0	0	0	0	0	4	0	0	0	4	0	0
VIC	38	24	56	0	23	28	32	2	61	52	88	2
TAS	0	0	0	0	0	2	0	0	0	2	0	0
SA	0	0	0	0	0	5	0	2	0	5	0	2
WA	6	0	0	0	7	0	0	0	13	0	0	0
AUSTRALIA	171	54	151	0	90	106	70	8	261	160	221	8



Notified Tissue Grafts Implanted (ms, cv, sk)



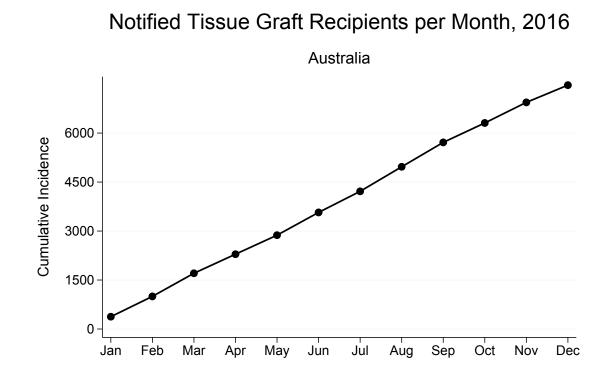
Notified Tissue Grafts Implanted per Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	297	389	269	145	127	220	186	226	346	171	180	128	2684
NSW	230	459	588	547	501	528	605	632	651	493	466	394	6094
ACT	0	0	0	0	0	0	0	0	0	0	0	0	0
VIC	132	188	169	57	46	70	222	104	149	175	148	83	1543
TAS	0	0	0	0	0	0	0	0	0	0	0	0	0
SA	8	9	6	8	10	13	14	12	1	8	12	8	109
WA	57	85	99	83	87	84	55	82	73	62	72	69	908
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	724	1130	1131	840	771	915	1082	1056	1220	909	878	682	11338

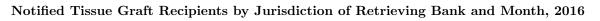
Notified Tissue Grafts Implanted by Jurisdiction of Retrieving Bank and Type, 2016

-	Musculoskeletal	Cardiovascular	Skin
QLD	1832	80	772
NSW	6000	94	0
VIC	523	60	960
SA	109	0	0
WA	908	0	0
AUSTRALIA	9372	234	1732





Notified Tissue Graft Recipients (ms, cv, sk)

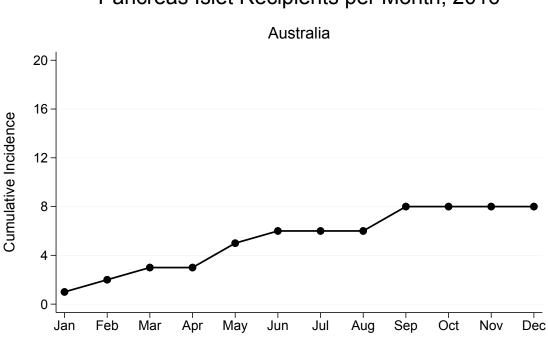


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	125	166	168	112	95	196	126	184	130	132	155	114	1703
NSW	167	346	411	371	383	395	425	474	511	364	365	327	4539
ACT	0	0	0	0	0	0	0	0	0	0	0	0	0
VIC	40	58	67	51	44	53	46	40	51	48	52	34	584
TAS	0	0	0	0	0	0	0	0	0	0	0	0	0
SA	$\overline{7}$	6	5	$\overline{7}$	5	8	10	7	1	6	9	$\overline{7}$	78
WA	38	46	57	43	55	45	39	47	54	45	49	46	564
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	377	622	708	584	582	697	646	752	747	595	630	528	7468

Notified Tissue Graft Recipients by Jurisdiction of Retrieving Bank and Type, 2016

	Musculoskeletal	Cardiovascular	Skin
QLD	1525	77	101
NSW	4446	93	0
VIC	460	60	64
SA	78	0	0
WA	564	0	0
AUSTRALIA	7073	230	165

Pancreas Islet Graft Recipients



Pancreas Islet Recipients per Month, 2016

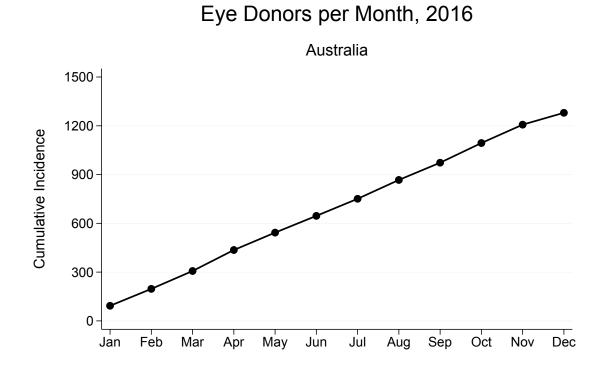
Pancreas Islet Graft Recipients by Transplant Jurisdiction and Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	0	0	0	0	0	0	0	0	0	0	0	0	0
NSW	0	1	0	0	0	0	0	0	2	0	0	0	3
ACT	0	0	0	0	0	0	0	0	0	0	0	0	0
VIC	1	0	0	0	1	0	0	0	0	0	0	0	2
TAS	0	0	0	0	0	0	0	0	0	0	0	0	0
SA	0	0	1	0	1	1	0	0	0	0	0	0	3
WA	0	0	0	0	0	0	0	0	0	0	0	0	0
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	1	1	1	0	2	1	0	0	2	0	0	0	8



Eye Donors and Transplants

Eye Donors



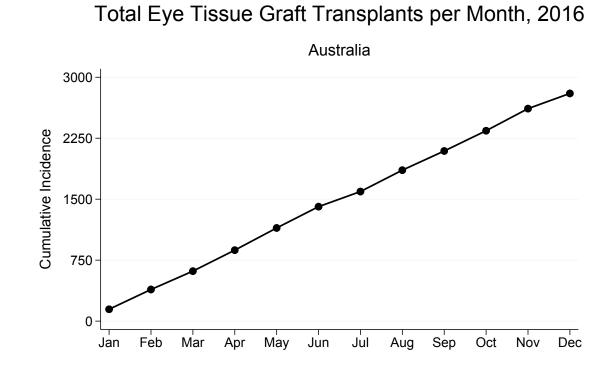
Eye Donors by Jurisdiction of Retrieval and Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	24	26	32	32	26	27	31	27	25	37	32	24	343
NSW	33	38	38	42	43	31	30	45	34	39	35	12	420
ACT	3	4	2	2	1	2	3	2	3	5	5	1	33
VIC	19	23	23	28	20	27	26	19	24	25	21	23	278
TAS	0	1	0	2	0	1	0	0	0	2	0	0	6
SA	5	5	6	$\overline{7}$	8	8	$\overline{7}$	12	10	9	8	8	93
WA	9	$\overline{7}$	9	16	9	7	8	11	10	4	12	5	107
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	93	104	110	129	107	103	105	116	106	121	113	73	1280

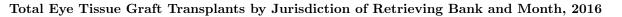


Eye Donors by Jurisdiction of Retrieval and Type, 2016

	Eye Only Donors	Eye and Tissue	Eye and Solid Organ	
		Only Donors	Only Donors	Tissue Donors
QLD	253	51	3	36
NSW	320	62	13	25
ACT	26	0	5	2
VIC	168	54	25	31
TAS	2	0	2	2
SA	83	0	9	1
WA	86	6	10	5
AUSTRALIA	938	173	67	102



Notified Eye Tissue Graft Transplants



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	41	57	54	76	61	63	57	63	58	70	64	45	709
NSW	30	82	78	75	97	95	51	92	87	87	98	67	939
ACT	1	3	3	1	2	4	3	3	1	6	3	0	30
VIC	39	54	54	48	46	46	48	50	46	43	59	38	571
TAS	4	3	2	6	5	8	3	3	4	0	4	1	43
\mathbf{SA}	9	10	9	14	19	15	8	22	18	22	14	17	177
WA	22	34	26	35	43	31	16	30	22	21	30	19	329
NT	0	0	0	3	0	0	0	0	0	0	0	0	3
AUSTRALIA	146	243	226	258	273	262	186	263	236	249	272	187	2801



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	36	52	51	64	54	48	44	54	44	60	58	38	603
NSW	22	62	63	57	64	68	42	72	69	64	71	42	696
ACT	1	2	2	1	2	2	2	2	1	3	1	0	19
VIC	25	31	32	32	32	37	36	36	30	26	43	19	379
TAS	2	1	2	3	4	4	2	3	4	0	1	0	26
SA	6	$\overline{7}$	$\overline{7}$	13	14	14	8	15	14	16	10	13	137
WA	12	17	18	29	26	22	11	17	19	18	23	10	222
NT	0	0	0	3	0	0	0	0	0	0	0	0	3
AUSTRALIA	104	172	175	202	196	195	145	199	181	187	207	122	2085

Cornea Graft Transplants by Jurisdiction of Retrieving Bank and Month, 2016

Sclera Unit Graft Transplants by Jurisdiction of Retrieving Bank and Month, 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
QLD	5	5	3	12	7	15	13	9	14	10	6	7	106
NSW	8	20	15	18	33	27	9	20	18	23	27	25	243
ACT	0	1	1	0	0	2	1	1	0	3	2	0	11
VIC	14	23	22	16	14	9	12	14	16	17	16	19	192
TAS	2	2	0	3	1	4	1	0	0	0	3	1	17
SA	3	3	2	1	5	1	0	$\overline{7}$	4	6	4	4	40
WA	10	17	8	6	17	9	5	13	3	3	$\overline{7}$	9	107
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
AUSTRALIA	42	71	51	56	77	67	41	64	55	62	65	65	716