AuSCR

Australian Stroke Clinical Registry

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INTRODUCTION

The Australian Stroke Clinical Registry (AuSCR) was established in 2009 to provide national data on the processes of care and outcomes for patients admitted to hospital with acute stroke or transient ischaemic attack (TIA). The quality of the data in the Registry is critical to its purpose, which is to provide reliable and representative data to improve the quality of stroke care, nationally.

Accountability for the accuracy and completeness of hospital data is the responsibility of the participating hospitals. However, it is the role of the AuSCR office to support hospitals to collect high quality data via education, training and feedback. Therefore, the combined efforts of hospitals and the AuSCR office ensures the most complete data for each annual reporting period. Hospitals participating in the AuSCR are encouraged to use this report alongside site-specific feedback provided throughout the calendar year to improve data quality.

This annual Data Quality Report covers data collected for patients admitted to participating hospitals between 1 January 2020 and 31 December 2020. It is supplementary to, and should be read in conjunction with, the Australian Stroke Clinical Registry 2020 Annual Report (https://auscr.com.au/about/annual-reports/).

METHODS FOR ENSURING DATA QUALITY

Data quality is supported by ongoing training and education processes for all contributors of data to the AuSCR. In addition, the AuSCR office undertakes a range of regular data checking and quality assurance procedures to support improved data quality.

AuSDaT Logic

Since July 2016, the collection of AuSCR data by staff at participating hospitals has been facilitated by the Australian Stroke Data Tool (AuSDaT, https://australianstrokecoalition.org.au/projects/ausdat/). The AuSDaT contains in-built functions to auto-check the logic of manually entered data to minimise the potential for inaccurate or discrepant data during data entry.

Data Checks Before Import

All hospital data exports from hospital systems for import into the AuSDaT are reviewed by AuSCR Data Managers prior to upload and are transferred via secure cloud data sharing (CloudStor). This centralised process is used to ensure the data are in the correct format and provide an opportunity for any inconsistent or erroneous data to be corrected prior to performing the import. Hospital staff who import their own data into the AuSDaT can also request the AuSCR Data Managers check for errors prior to import into the live tool.

Case Ascertainment

Case ascertainment is an essential process for ensuring that the data recorded in the AuSCR are representative of the patient population with stroke or TIA admitted to each participating hospital. It is a requirement for all clinical registries to collect and report this information. Case ascertainment results provide an indication of the representativeness of data and whether there are any potential selection biases in the patient sample.

For the AuSCR 2020 case ascertainment reports, non-Victorian hospitals were asked to provide a list of all admissions based on eligible ICD-10 stroke codes for comparison and matching with episodes recorded in the AuSCR. Following matching hospitals are provided with a list of episodes, per period, that are not in the AuSCR to assist with improving overall ascertainment.

In Victoria, the Victorian Agency for Health Information facilitated data linkage with the government-held admitted episodes dataset to provide case ascertainment results for all Victorian hospitals centrally to AuSCR office.

Patients admitted and discharged on the same day, and episodes where the eligible stroke and TIA ICD-10 codes were not recorded in the first three discharge diagnosis code positions were excluded from the case ascertainment calculation. Case ascertainment for ED presentations recorded prior to hospital transfer was also not undertaken.

The overall proportion of completeness for case ascertainment was estimated using the formula (A+B)/(A+C), where: 'A' was the number of episodes that were registered in the AuSCR, 'B' was the number of episodes that were opted out of the registry, and 'C' was the number of episodes included in the hospital's list of eligible episodes that were missing from the AuSCR database.

DATA QUALITY REPORTS

Data quality reports are used to provide hospitals with a list of AuSCR episodes containing missing data and/or data discrepancies (e.g. a discharge date prior to an admission date). These reports are designed to assist hospitals to quickly identify and update, where appropriate, individual AuSCR episodes. The dissemination of these reports is bi-annual and provides hospitals with the opportunity to action any updates to their data prior to closure of a calendar year. Data closure occurs annually in July prior to extraction for formal reporting or secondary research.

MEDICAL RECORD AUDITS

In 2020, hospital audit visits were limited due to the COVID-19 pandemic and only three hospitals were able to have had medical record audits for 21 episodes of care and no major variable discrepancies were identified. The AuSCR office conducts audits of randomly selected medical records at participating hospitals to assess the accuracy of data in the registry compared to information documented in the local medical record. These audits assist in verifying that data quality for the AuSCR and information on areas to improve standardised collection of variables. The process is useful for the identification of data collection training that may be required for staff at participating hospitals. Medical record audits are scheduled to occur for a newly participating hospital following entry of the first 50 episodes of stroke/TIA and every two years thereafter.

DATA CLEANING

The cleaning of AuSCR data is completed monthly. Duplicate data are identified and removed by the AuSCR Senior Data Manager using registrant identifiers (name, date of birth, Medicare number and/or hospital medical record number) in addition to date of stroke onset, date of hospital arrival and dates of admission and discharge. Additional checks are undertaken following the closure of data entry for the year and prior to undertaking analysis for the AuSCR Annual Report. These data are subsequently de-identified and extracted for analysis. Additional data cleaning processes are then undertaken by Monash University epidemiologists prior to undertaking data analyses.

DATA COMPLETENESS

For 2020, 21,469 episodes of stroke and TIA care were provided by 68 hospitals. The number of episodes was slightly higher than in 2019 (n=20,157) and number of contributing hospitals was slightly less than in 2019 (n=72). The proportion of data completeness for individual variables is presented only for eligible episodes, since not all variables are relevant to every patient. Variables that are only captured in state-specific programs data collection programs are also not included in this report.

Individual variables ranged in completeness from 31% for medical complication ICD-10 codes, which do not occur in every episode, to 100% for a range of variables, with similar, overall results to the 2019 dataset (Table 1).

Six variables had ≥10% improvement in completeness when compared to 2019 data, including: date and time of subsequent brain scan (increased from 89% to 100% and 89% to 99% respectively), cause of stroke (increased from 86% to 98%), other reperfusion (ECR) (increased from 87% to 100%), and details of haemorrhage within the infarct on follow-up imaging (increased from 88% to 94%). Five of these variables are captured in the AuSCR Black and Violet programs only, for hospitals providing ECR.

Overall, two variables had reduced completion by more than 10% in 2020, including: time of first brain scan (decreased from 99% to 89%) and medical complication ICD-10 code (decreased from 56% to 31%).

In addition to missing data, some variables such as the NIHSS have a large proportion of responses recorded as unknown (Table 2). In 2020, the combination of missing data plus the entry of unknown values meant that there were no valid data for: 41% of NIHSS at baseline; 8% of pre-ECR NIHSS; and 42% of post-ECR NIHSS. A second 'pre-ECR' NIHSSS may not always be clinically warranted, and where this is not recorded, baseline NIHSS is used for calculations. This improved from 34% missing in 2019 to only 8% missing in 2020.

Table 1: Completeness of variables in the Australian Stroke Clinical Registry by year

Variable N=21,197 episodes of care in 2020	2019 % complete N hospitals=72**	2020 % complete N hospitals=68**
Patient details		
Title	95	95
First name	98	98
Surname	98	98
Date of birth	98	98
Medicare number (optional)#	**87**	**84**
Hospital Medical Record Number (MRN)	97	97
Gender	98	98
Country of birth	95	98
Language spoken	**85**	**86**
Interpreter needed	**85**	**86**
Aboriginal and Torres Strait Islander status	95	**90**
Patient phone number	93	**90**
Complete address (street address, suburb, state)	95	94
Emergency contact		
Emergency contact first name	**89**	**88**
Emergency contact last name	**87**	**86**
Address for emergency contact	**73**	**73**
Emergency contact phone number	**86**	**83**
Arrival and admission data		
Date of stroke onset	98	95
Time of stroke onset	**81**	**79**
Stroke occurred while in hospital	98	99
Date of arrival to ED	100	97
Time of arrival to ED	100	97
Arrival by ambulance	95	94
Transfer from another hospital	98	99
Date of admission	100	100
Time of admission	99	98
Treated in a stroke unit	99	100
History of known risk factors		
Documented evidence of a previous stroke	96	98
Acute clinical data		
NIHSS at baseline	98	98
Brain scan after this stroke	99	100
Date of first brain scan	99	93
Time of first brain scan	99	**89**
Date of subsequent brain scan	**89**	*100*
Time of subsequent brain scan	**89**	*99*
Type of stroke	99	99
Cause of stroke	**86**	*98*
Acute occlusion site	100	100

Variable N=21,197 episodes of care in 2020	2019 % complete N hospitals=72	2020 % complete N hospitals=68
Telemedicine and reperfusion		
Stroke telemedicine consultation conducted	*100*	99
Receipt of thrombolysis	97	100
Date of delivery	100	100
Time of delivery	99	99
Adverse event related to thrombolysis	98	98
Type of adverse event	100	100
Other reperfusion (ECR)	**87**	*100*
Treatment date for ECR	100	100
NIHSS before ECR	***88***	**88**
Time groin puncture	97	98
Time of completing	96	97
Final eTICI	**76**	***82***
24 hour data		
24 hour NIHSS	96	99
Haemorrhage within the infarct on follow up imaging	98	99
Details	**88**	94
Swallowing		
Swallowing screen	92	**90**
Date of swallowing screen	99	99
Time of swallow screen	95	97
Did the patient pass the screening	100	100
Swallowing assessment	**90**	**89**
Date of swallow assessment	100	100
Time of swallow assessment	99	99
Oral medications	91	**88**
Oral food or fluids	92	**86**
Mobilisation		
Ability to walk independently on admission	97	94
Mobilised during the admission	**89**	**87**
Date of mobilisation	98	99
Method of mobilisation	**86**	**87**
Antithrombotic therapy		
Aspirin/antiplatelets given as hyperacute therapy†	**90**	**90**
Date of administration	99	100
Time of administration	100	95
Secondary prevention		
Discharge antithrombotics	99	98
Discharge antihypertensives	99	98
Discharge lipid lowering	99	98

Variable N=21,197 episodes of care in 2020	2019 % complete N hospitals=72	2020 % complete N hospitals=68
Discharge information		
Patient deceased during hospital care	98	99
Date of death (if deceased status during hospital care is yes)	100	100
Date of discharge if not deceased while in hospital	99	98
Discharge diagnosis ICD-10 code(s)	94	**86**
Medical condition ICD-10 code(s)*	**79**	**71**
Medical complication ICD-10 code(s)*	*56*	**31**
Medical procedure ICD-10 code(s)*	**79**	**71**
Discharge destination if not deceased while in hospital	97	98
Evidence of care plan on discharge if discharged to the community	99	98

Bold numbers indicate ≥10% missing or discrepant data.
Italicised numbers indicate ≥10% improvement in variable completion compared to previous year's data.
* Denominator includes some patients with no other medical condition, complication or procedure codes.
**Includes data from paediatric hospitals.
† Variable definition changed 1 Aug 2020 to 'antiplatelets given as hyperacute therapy'.
NIHSS: National Institutes of Health Stroke Scale.
ECR: Endovascular Clot Retrieval.
eTICI: Expanded Thrombolysis In Cerebral Infarction.
ICD: International Classification of Diseases.

Table 3: Completeness of National Institutes of Health Stroke Scale Scores in the Australian Stroke Clinical Registry

Variable N=21,197 episodes of care in 2020	2019 % missing and unknown	2020 % missing and unknown
National Institutes of Health Stroke Scale (NIHSS)		
Baseline	44	41
Pre-ECR*	34	8
24 hours post-ECR	37	42

*Note: where Pre-ECR NIHSS was not captured, baseline NIHSS is used in this calculation.
NIHSS: National Institutes of Health Stroke Scale.
ECR: Endovascular Clot Retrieval.

FEVER SUGAR SWALLOW DATASET

The optional Fever Sugar Swallow (FeSS) dataset went live on 1 July 2019. The FeSS dataset includes a total of six variables in addition to the swallow variables collected in the admitted datasets (Table 1). Hospitals chose to complete these variables for all admitted episodes entered in the AuSCR, or for only a subset of the admitted cohort of patients. There were 22 hospitals that contributed a total of 2472 FeSS episodes during 2020.

FeSS variables were not included in the bi-annual feedback of data quality reports to participating hospitals, since this was an optional dataset.

Table 3: Completeness of Fever, Sugar, Swallow dataset variables in the Australian Stroke Clinical Registry

Variable N= 2,472 episodes of care	2019 % complete N hospitals=17	2020 % complete N hospitals=22
Temperature recorded at least four times on day one of admission	100	90
Fever development in the first 72 hours following admission	100	100
Paracetamol for the first elevated temperature administered within 1 hour	100	96
Finger-prick blood glucose level recorded at least four times on day one of admission	100	90
Elevated glucose in the first 48 hours following admission	100	100
Insulin administered within 1 hour if elevated glucose	100	98

EMERGENCY DEPARTMENT DATASET

The Emergency Department (ED) dataset is an optional program that went live on 1 July 2019. This dataset enables the collection of data for stroke/TIA patients who presented to an ED and prior to transfer to another hospital for ongoing acute stroke care. The ED dataset includes 85 variables. There were 27 hospitals that contributed 315 episodes during 2020. The completeness of ED variables ranged from 87% (for swallow screen variables) to 100% for a range of variables.

Queensland hospitals began participating in the ED dataset for the first time in 2020, following an amendment to the Deed of Disclosure with Queensland Health to approve the collection variables specific to this dataset.

Emergency Department dataset variables were included in the data quality report provided to participating hospitals for the full 2020 year in May 2021.

Table 4: Completeness of Emergency Department dataset variables in the Australian Stroke Clinical Registry

Variable N=315 episodes of care	2019 % complete N hospitals=20	2020 % complete N hospitals=27
Stroke onset and arrival data		
Stroke onset date	100	99
Stroke onset time	92	**90**
Date of arrival to emergency department	100	100
Time of arrival to emergency department	95	100
Did the patient arrive by ambulance?	100	100
Pre-hospital notification by paramedics	97	99
Acute clinical data		
Functional status prior to stroke (mRS)	94	99
Triage category	95	100
NIHSS at baseline	**84**	99
Brain scan after this stroke	100	100
Date of first brain scan	99	98
Time of first brain scan	99	96
Advanced imaging	100	100
Type of stroke	100	99
Telemedicine consultation	100	100
Receipt of thrombolysis	100	100
Date of delivery	100	100
Time of delivery	100	100
Drug used	100	100
Type of adverse event	100	100
Swallow screen	100	**87**
Was the swallow screen or swallow assessment performed before the patient was given:		
Oral medications	100	**87**
Oral food or fluids	100	**87**
Walk on admission	100	91
Transfer		
Date of transfer	95	96
Time of transfer	93	92
Reason for transfer	95	100
Discharge Information		
What is the discharge destination	100	99

Bold numbers indicate ≥10% missing or discrepant data.
Italicised numbers indicate ≥10% improvement in variable completion compared to previous year's data.
NIHSS: National Institutes of Health Stroke Scale.
mRS: Modified Rankin Scale.

CASE ASCERTAINMENT

For 2020 admissions, the AuSCR office conducted three rounds of case ascertainment reviews. The first two rounds provide feedback to hospitals on episodes potentially missing in the AuSCR, the third round was completed once the dataset is closed and hospitals have had the opportunity to enter any additional episodes and feedback on ineligible episodes to the AuSCR Office. The first was for the period 1 January to 30 June 2020, the second and third included the full 2020 calendar year.

Episode matching for case ascertainment may be affected by data entry errors, in those variables used to match episodes between the datasets (e.g. patient names, hospital medical record number). However, following assessment of the resultant cases using automated and manual matching processes conducted by the AuSCR office, these matching errors made up a relatively small proportion of the overall total.

Of the 68 hospitals that contributed data in 2020, 60 (88%) provided data for at least one case ascertainment round, an increase of 3% compared to 2019 participation. Fifty-three hospitals (78%) participated in case ascertainment for the full year in 2020, similar to the 2019 rate of 77%. *Where an individual hospital provided an extract for both rounds of case ascertainment, the figure for the full calendar year is presented in Table 6*.

Seven hospitals did not participate in the AuSCR for the full year. Of the For the 60 hospitals that provided data for at least one case ascertainment round, the overall case ascertainment estimates ranged from 7% (for a hospital that did not participate for the full year) to 100% (for eight hospitals). The median case ascertainment result was 84% in 2020, an improvement from the median of 77% recorded in 2019.

Table 6: Hospital case ascertainment results for 2020 data compared to the 2019 dataset

Hospital ID	Episodes in the AuSCR 2020 (n)	Episodes in hospital records not in the AuSCR 2020 (n)	Case ascertainment 2020 (%) N=68 hospitals	Case ascertainment 2019 (%) N= 60 hospitals
3	475	79	89%	73%
5	583	62	89%	79%
11	18	6	80%	Not provided
13	161	0	100%	96%
14	634	113	82%	79%
15	844	129	85%	97%
20	471	90	84%	82%
22	255	173	58%	66%
23	199	8	98%	94%
24	900	207	79%	70%
25	137	38	77%	83%
26	194	14	93%†	97%
27	325	120	89%	79%
28	36	Not provided	Not provided	29%†
29	1	Not provided	Not provided	Not participating
30	307	0	100%	100%
31	449	106	79%	78%
32	218	25	91%	71%
33	239	39	82%	70%
34	243	30	89%	60%
35	260	0	100%	99%
36	216	Not provided	Not provided	59%
37	414	35	91%	80%†
38	221	66	74%	61%
39	408	17	98%	98%
40	762	154	84%	77%
41	125	10	91%†	89%
42	53	20	69%	60%
43	218	0	100%	94%
44	105	2	98%†	89%
45	232	49	69%	71%
46	1026	239	80%	76%
47	230	27	88%	92%
48	106	12	89%	89%
49	33	22	57%	70%
50	312	50	85%	95%
51	116	18	84%	94%
52^	443	95	74%*	67%
53	670	128	80%	52%
55	153	53	73%	23%
56	122	25	79%	94%
57	324	72	79%	70%
58	1322	164	87%	78%
61	140	Not provided	Not provided	Not provided
62	63	14	79%	68%
63	175	1	100%	70%
64	105	0	100%	93%
65	641	Not provided	Not provided	Not provided

Table 6: Hospital case ascertainment results for 2020 data compared to the 2019 dataset (continued)

Hospital ID	Episodes in the AuSCR 2020 (n)	Episodes in hospital records not in the AuSCR 2020 (n)	Case ascertainment 2020 (%)	Case ascertainment 2019 (%)
66	410	200	65%	65%
67	71	1	100%	98%
68	81	25	74%	79%
69	1142	23	99%	100%†
70	390	4	99%	Not provided
71	509	11	99%	Not provided
77^	124	58	58%	66%
78	635	91	87%	40%†
80	89	38	64%	16%
82^	81	133	37%†	Not provided
83^	22	265	7%†	31%†
84	332	1	100%	91%
85^	122	132	26%†	Not provided
86^	79	Not provided	Not provided	49%
88	284	187	44%	Not provided
89	76	28	67%	27%
90^	2	Not provided	Not provided	Not participating
91	478	79	88%	61%
92	190	87	67%	45%
94^	10	Not provided	Not provided	Not participating

^Hospital did not contribute data to the AuSCR for the full 2020 calendar year.
*Excludes three months of data where hospital did not enter AuSCR episodes
†Hospital provided case ascertainment data for January to June 2019 only.

TIME TO RECORD CREATION

The median time from admission to record creation in the AuSCR was 89 days (interquartile range: 59 to 106 days), slightly more than the median in 2019 of 81 days. The average hospital time to record creation was 85 days. The shortest hospital-level median time to record creation was one day, and the longest was 257 days.

OPT-OUT REQUESTS AND REFUSAL TO COMPLETE FOLLOW-UP SURVEY

Since 2016, approval from National Human Research Ethics Committees (HREC) for the AuSCR to retain anonymous clinical data independently of personal data opt-outs has been in place. Though registrants are provided with the opportunity to opt-out *both* their personal and clinical data upon request.

A total of 459 opt-out requests (2.1% of all episodes) were received from patients or their nominated contact person for 2020 admissions (Table 7). These data are consistent with the opt-out rate recorded in 2019 of 2.2%. The request for removal of both clinical and personal data has remained very low each year, at less than 0.1%. The number of patients refusing follow-up participation prior to 90 days post-admission remained low at 1.3%.

Table 7: Opt-out requests and refusal to complete follow-up survey data

Year	Total episodes	Total opt-out episodes	Complete clinical and personal data to be removed	Personal data only to be removed	Refused to complete follow-up survey prior to 90 days
2019	20,157	459 (2.3 %)	16 (<0.1 %)	443 (2.2 %)	101 (0.5 %)
2020	21,234	447 (2.1 %)	13 (<0.1 %)	434 (2.0 %)	276 (1.3%)

COMPARISON OF CLINICAL STROKE DIAGNOSIS AND CODED DISCHARGE DIAGNOSIS

The AuSCR office reviews the clinical designation of stroke type within the registry against the International Classification of Diseases 10th Revision (ICD-10) discharge coding undertaken by hospital administrative staff. The ICD-10 discharge diagnosis code was compared to the documented clinical stroke type. Stroke and TIA discharge diagnosis codes were either recorded as the principal diagnosis, or in the medical complication or medical condition fields available in the AuSCR dataset. Where more than one eligible stroke or TIA code was recorded for an individual episode, it was included in both clinical diagnosis categories.

For episodes recorded clinically as an ischaemic stroke, 80% of these episodes had an I63 discharge diagnosis code (ICD-10 codes for cerebral infarction: I63.0 to I63.9), and 5% were coded as I64 (stroke, not specified; Table 8). The proportion of episodes coded as I64 was 4% and significantly decreased over the past five years from 11% in 2015. For episodes recorded as a TIA by the clinician, 88% of episodes had a TIA ICD-10 code (ICD-10 code for TIA: G45.9). Eighty-three percent of episodes recorded as an intracerebral haemorrhage by the clinician were coded as an intracerebral haemorrhage (ICH) code (ICD-10 code range: I61 and I62.9), a slight decrease compared to in 2020 where 86% of episodes of ICH were correctly coded. Undetermined stroke type was recorded in 1% of episodes, fewer episodes than previous years (i.e. in 2017 it was 2.5%, $p<0.001$).

Table 8: Comparison of clinical stroke diagnosis and ICD-10 diagnosis codes

Principal, medical or complication code	Clinical diagnosis (N=20,964)			
	ICH N=2549 (%)	Ischaemic N=14617 (%)	TIA N=3542 (%)	Undetermined N=256 (%)
ICH ICD-10 codes (I61 range and I62.9)	**83%**	1%	<1%	2%
Ischaemic ICD-10 codes (I63 range)	3%	**80%**	3%	26%
TIA ICD-10 code (G45.9)	<1%	1%	**88%**	16%
Unspecified stroke ICD-10 code (I64)	<1%	5%	2%	**38%**
Multiple stroke/TIA ICD-10 codes	2%	3%	<1%	0%
Missing or non-stroke/TIA ICD-10 codes	11%	11%	7%	18%

Bold numbers indicate a match between clinical diagnosis recorded by the clinician and ICD-10 codes.
Excludes 233 patients with missing data for clinical diagnosis recorded by the clinician.
ICH: intracerebral haemorrhage; TIA: transient ischaemic attack.

SUMMARY

The AuSCR office continues to actively monitor and provide feedback on various aspects of data quality to all participating hospitals and work actively with hospital staff to facilitate improvements to the quality and representativeness of their data within the registry.

The overall quality of the data in the AuSCR in 2020 remained high and was comparable to that reported in 2019. Time to first brain scan completeness had decreased by 10%, and we are aware of a small number of hospitals that are choosing not to complete this variable. Medical complication ICD-10 codes have decreased by 25%, although complications are not present in all episodes, so the denominator here is difficult to quantify.

There was a significant improvement in the proportion of patients receiving a NIHSS score prior to ECR (92%), however only 58% had recorded a NIHSS score at 24 hours post-ECR. We also found that the capture of a NIHSS score in the ED dataset had also improved in 2020 to 99% from 84% in 2019.   However, overall, baseline NIHSS was recorded as missing or unknown in 41% of episodes. Baseline NIHSS is an important prognostic indicator of stroke severity, alongside the ability to walk independently on admission. These variables are important for conducting fair comparisons of patient outcomes between hospitals as they are used in case-mix adjusted analyses. The AuSCR office will continue to work with staff from participating hospitals to improve the capture of baseline NIHSS scores, to ensure future completion rates for these variables improve.

Completion of the FeSS dataset variables temperature and finger-prick blood glucose recorded at least four times on day one of admission were lower in 2020 compared to 2019 (90% in 2020, 100% in 2019). The number of episodes included in the FeSS dataset in 2020 was more than double that included in 2019, and five hospitals began their participation in 2020, which may have contributed to this reduction. The AuSCR Office will continue to work with hospitals to identify missing data and complete capture of these variables.

Completion of variables in the ED dataset remained high in 2020. Provision of a Swallow screen or assessment and provision prior to oral intake within this dataset had dropped from 100% in 2019 to 87% in 2020. However, most of these episodes are from one hospital that has chosen not to capture this variable.

The capture of all eligible stroke and TIA episodes at participating hospitals is important to ensure that AuSCR data is unbiased and is a nationally representative sample. The opt-out rate for the AuSCR remains very low at 2% with a median case ascertainment from participating hospitals of 84%. Both the proportion of participating hospitals (88%) and case ascertainment median had improved from 2019. Centralised case ascertainment in Victoria, helped reduce the burden on hospital staff to provide this information and assisted us in reporting these results for a greater number of hospitals. We will seek to set-up this process for additional states in future years.

The time from hospital admission to creating an AuSCR record is important for follow-up processes, which begin at 90 days post-admission until approximately 180 days post-admission. Registrants will receive the full follow-up cycle (two mail-outs and a phone call) only if their data is included prior to 90 days post-admission. In 2020 the median time to record creation was 89 days, slightly longer than in 2019 (81 days). We are aware of some hospital and staff changes due to the COVID-19 pandemic that may have impacted timeliness of data entry into the registry in 2020.

There was agreement between the clinical diagnosis and ICD-10 discharge diagnosis coding in at least 80% of stroke and TIA episodes. The proportion of patients clinically recorded as an undetermined stroke type was small at 1%, a significant improvement on previous years (e.g. 2.5% in 2017). For the first time in 2020, the AuSCR office proactively aimed to reduce these by flagging episodes with undetermined stroke type in data quality reports and suggested this be reviewed if the proportion was over 5%. Similarly, the proportion of patients coded as I64 (unspecified stroke) was 4%, showing improvements in discharge diagnosis coding from previous years (e.g. 11% in 2015).

In the era of COVID-19 pandemic, we continued to support to staff at participating hospitals to ensure the quality of data recorded in the registry. These support options included: ongoing communication via phone and email, training via videoconference, hosting regular webinars, developing fact sheets, disseminating monthly newsletters and updates to the AuSCR Data Dictionary help notes. In 2021, the AuSCR office will continue to support staff from participating hospitals in using various mechanisms to ensure the optimal accuracy and representativeness of the data recorded within the registry.

ACKNOWLEDGMENTS