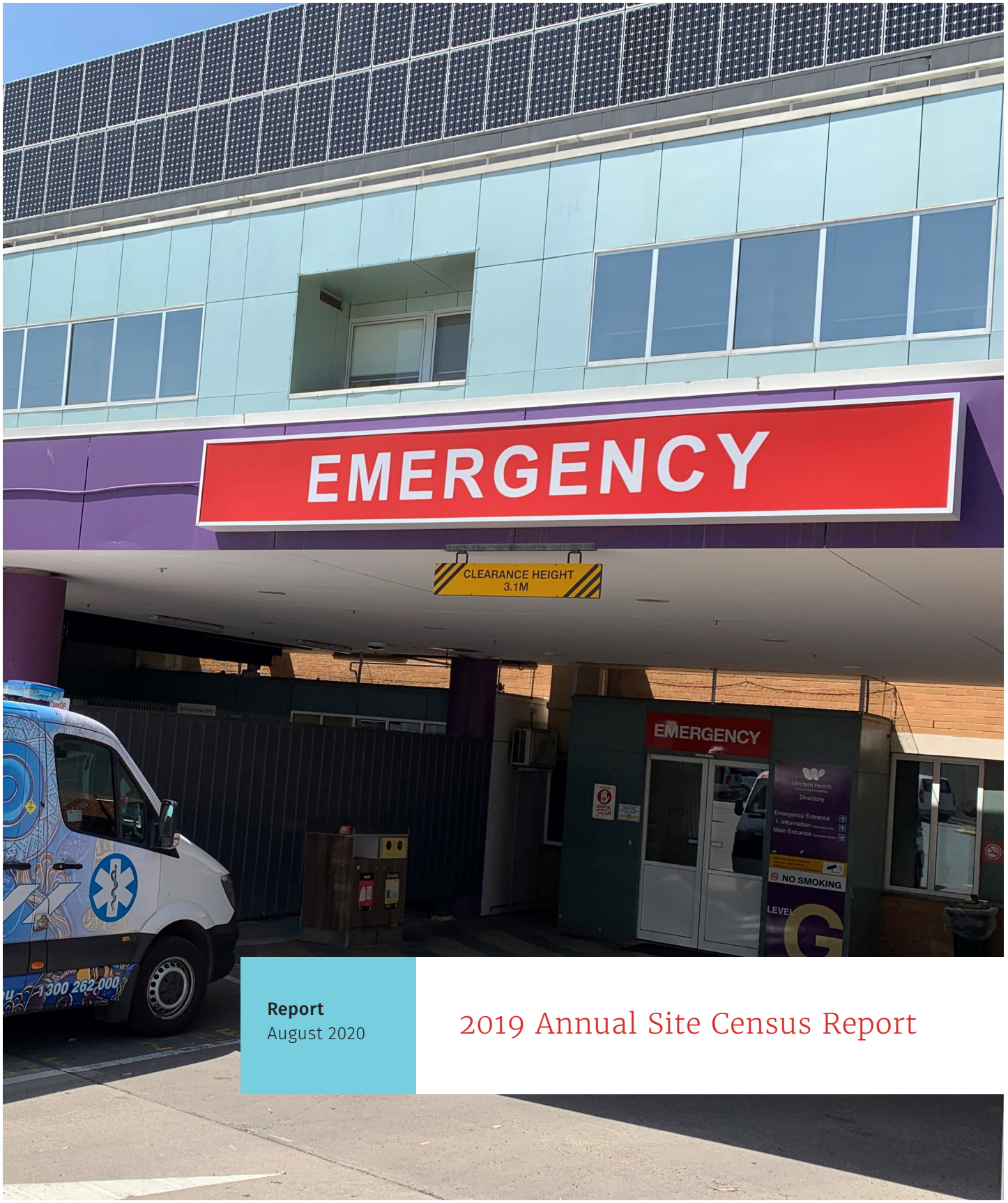
Australasian College
for Emergency Medicine

acem.org.au



Report
August 2020

2019 Annual Site Census Report

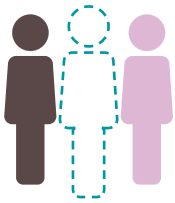
Australasian College
for Emergency Medicine

2019 Annual Site Census

Key findings

ACEM's 2019 Annual Site Census was distributed to all 148 ACEM accredited emergency departments (EDs) in Australia and New Zealand. 143 sites participated. The Census focuses on ED staffing, casemix, staff training and resourcing, hospital services, ultrasound teaching and disaster preparedness.

50% of large **regional Australian** EDs and
36% of **regional New Zealand** EDs
had FACEM vacancies unfilled for **6 or more months**.



83% of **EDs in NSW rely on VMOs**
rather than a permanent FACEM workforce.

73% of responding Australian EDs and
93% of responding New Zealand EDs **did not meet** the
ACEM G23 minimum FACEM staffing model.

Concerning site trends	2018	2019
More than **100,000 presentations** per year	4	6
More than **2% of annual attendances** spent over 24 hours in ED	2	9
ED Length of Stay more than 24 hours during the reporting period	64%	78%

For the full report findings, please refer to:
Australasian College for Emergency Medicine (2020). Annual Site Census 2019 – Report of Findings. ACEM Report: Melbourne.

Table of contents

List of Tables and Figures 2
1. Executive Summary 5
   1.1 Background 5
   1.2 Summary of Findings 5
2. Purpose and Scope 6
3. Methodology 6
4. Results 7
   4.1 Profile of Participating EDs 7
   4.2 ED Activity 9
   4.3 Aboriginal and/or Torres Strait Islander and Māori Presentations 15
   4.4 ED Staffing 17
   4.5 How EDs compare to ACEM's minimum recommended FACEM staffing model, Guideline 23 32
   4.6 ED Staff Rosters 33
   4.7 ED treatment spaces 40
   4.8 Hospital Services 43
   4.9 Staff Training 45
   4.10 Ultrasound Teaching 45
   4.11 Disaster Preparedness 54
5. What the data means 59
6. References 60
7. Suggested Citation 60
8. Contact for further information 60
9. Appendix 1 61

List of Tables and Figures

Table 1 Distribution of participating EDs, by region and hospital peer group. 8

Table 2 Average total number of attendances, and the average percentage of paediatric attendances, admissions and transfers for the period 1 July 2018 to 30 June 2019, by region. 9

Table 3 Average percentage of ambulance arrivals and patient attendances by triage category (ATS) for the period 1 July 2018 to 30 June 2019, by region. 10

Figure 1 Percentage of total attendances with a LOS >8, >12, and >24 hours for the period 1 July 2018 to 30 June 2019, by region. 11

Table 4 Average percentage of SSU admissions, SSU LOS >24 hours and combined ICU, CCU, and HDU admissions for the period 1 July 2018 to 30 June 2019, by region. 11

Table 5 Average total number of attendances, and the average percentage of paediatric attendances, admissions and transfers for the period 1 July 2018 to 30 June 2019, by hospital peer group. 12

Table 6 Average percentage of ambulance arrivals and patient attendances by triage category (ATS) for the period 1 July 2018 to 30 June 2019, by hospital peer group. 13

Table 7 Patients in New Zealand with an ED LOS of >8, >12 and >24 hours compared to total attendances for the period 1 July 2018 to 30 June 2019, by hospital peer group. 13

Figure 2 Percentage of total attendances in Australia with an ED LOS of >8, >12 and >24 hours for the period 1 July 2018 to 30 June 2019, by hospital peer group. 14

Table 8 Average percentage of SSU, and combined ICU, CCU, and HDU admissions for the period 1 July 2018 to 30 June 2019, by hospital peer group. 14

Table 9 Percentage of Aboriginal and/or Torres Strait Islander patient attendances; and the quality and reliability of the data collected in Australian EDs for the period 1 July 2018 to 30 June 2019, by region. 15

Table 10 Percentage of Aboriginal and/or Torres Strait Islander patient attendances; and the quality and reliability of the data collected in Australian EDs for the period 1 July 2018 to 30 June 2019, by hospital peer group. 16

Table 11 Percentage of Māori patient attendances; and the quality and reliability of the data collected in New Zealand EDs for the period 1 July 2018 to 30 June 2019, by hospital peer group. 16

Table 12 DEM and DEMT response rates to whether their ED had an IHLO (or equivalent), by region. 17

Table 13 DEM and DEMT response rates to whether their ED had an IHLO (or equivalent), by hospital peer group. 17

Table 14 Average FTE for ED staff (range provided in brackets), for particular staffing roles in Australian and New Zealand EDs, by region. 18

Table 15 Average FTE for ED staff (range provided in brackets), for particular staffing roles in Australian and New Zealand EDs, by hospital peer group. 19

Table 16 Ratio of EM Specialist FTE to trainee FTE, and the ratios of various ED staffing FTE to ED attendance, by region. 20

Table 17 Ratio of EM Specialist FTE to trainee FTE, and the ratios of various ED staffing FTE to ED attendance, by hospital peer group. 21

Table 18 FACEM FTE to head count, by region. 22

Table 19 FACEM FTE to head count, by hospital peer group. 22

Table 20 Average number of EMC and EMD graduates (range in brackets), by region. 23

Table 21 Average number of EMC and EMD graduates (range in brackets), by hospital peer group. 23

Table 22 The role types considered to be non FACEM SDMs at ACEM accredited EDs, by hospital peer group. 24

Table 23 Percentage of EDs who reported having unfilled FACEM and trainee FTE, the percentage of those EDs with unfilled FTE for 6+ months; and the total unfilled FTE, by region. 25

Table 24 Percentage of EDs who reported having unfilled FACEM and trainee FTE; the percentage of those EDs with unfilled FTE for 6+ months, and the total unfilled FTE; by hospital peer group. 26

Table 25 Average unfilled FTE and unfilled FTE for 6+ months of FACEMs and trainees (range in brackets), by region. 27

Table 26 Average unfilled FTE and unfilled FTE for 6+ months of FACEMs and trainees (range in brackets), by hospital peer group. 28

Table 27 Percentage of EDs who employed VMOs; average number of VMOs employed and average total hours VMOs worked per week (range in brackets); and proportion of EDs utilising various VMO contract types, by region. 29

Table 28 Percentage of EDs that employed VMOs; average number of VMOs employed and average total hours VMOs worked per week (range in brackets); and proportion of EDs utilising various VMO contract types, by hospital peer group. 30

Table 29 Percentage of EDs that employed locums, average number of locums employed and average total hours locums worked per week (range in brackets), by region. 31

Table 30 Percentage of EDs that employed locums, average number of locums employed and average total hours locums worked per week (range in brackets), by hospital peer group. 32

Table 31 Percentage of adult and mixed EDs meeting ACEM's G23 minimum FACEM staffing model for the period 1 July 2018-30 June 2019, by region. 33

Table 32 Percentage of adult and mixed EDs meeting ACEM's G23 minimum FACEM staffing model for the period 1 July 2018-30 June 2019, by hospital peer group. 33

Table 33 Average weekday and weekend rosters for EM Specialist FTE (range in brackets), by region. 34

Table 34 Average weekday and weekend rosters for EM Specialist FTE (range in brackets), by hospital peer group. 35

Table 35 Average weekday and weekend rosters for FACEM trainee FTE (range in brackets), by region. 36

Table 36 Average weekday and weekend rosters for FACEM trainee FTE (range in brackets), by hospital peer group. 37

Table 37 Average total EM Specialist and FACEM trainee FTE across all on-floor and on-call shifts over a 24 hour period by weekday and weekend (range in brackets), by region. 38

Table 38 Average total EM Specialist and FACEM trainee FTE across all on-floor and on-call shifts over a 24 hour period by weekday and weekend (range in brackets), by hospital peer group. 39

Table 39 EDs with specific treatment spaces and average number of beds or chairs available within each treatment space (range in brackets), by region. 40

Table 40 EDs with specific treatment spaces and average number of beds or chairs available within each treatment space (range in brackets), by hospital peer group. 41

Table 41 The ratio of ED beds/ chairs across all reported treatment spaces to total ED attendance, by region. 42

Table 42 The ratio of ED beds/ chairs across all reported treatment spaces to total ED attendance, by hospital peer group. 42

Table 43 The percentage of hospitals with an onsite Cardiac Catheter Laboratory providing urgent PCI for STEMI, the percentage with a Major Trauma Service and the number of major trauma cases treated with an injury severity score (ISS) of greater than 12, by region. 43

Table 44 Percentage of hospitals with an on-site Cardiac Catheter Laboratory providing urgent PCI for STEMI, the percentage with a Major Trauma Service and the number of major trauma cases treated with an injury severity score greater than 12, by hospital peer group. 44

Table 45 Proportion of EDs that have an ultrasound training program and the scans FACEM trainees are expected to gain proficiency in, by region. 46

Table 46 Proportion of EDs that have an ultrasound training program and the scans FACEM trainees are expected to gain proficiency in, by hospital peer group. 47

Table 47 Mean number of FACEMs, FACEM trainees and SIMGs who have a formal ultrasound qualification or are ACEM credentialed (range in brackets), by region. 48

Table 48 Mean number of FACEMs, FACEM trainees and SIMGs who have a formal ultrasound qualification or are ACEM credentialed (range in brackets), by hospital peer group. 49

Table 49 Proportion of EDs that have a clinical lead for ultrasound and the mean number of hours per week of non-clinical time allocated for the role (range in brackets), by region. 50

Table 50 Proportion of EDs that have a clinical lead for ultrasound and the mean number of hours per week of non-clinical time allocated for the role (range in brackets), by hospital peer group. 50

Table 51 Mean number of ultrasound machines in operation at EDs (range in brackets), by region. 51

Table 52 Mean number of ultrasound machines in operation at EDs (range in brackets), by hospital peer group. 51

Table 53 Proportion of EDs that have staff, other than FACEMs, FACEM trainees and SIMGs who use the ED's ultrasound machine(s), by region. 52

Table 54 Proportion of EDs that have staff, other than FACEMs, FACEM trainees and SIMGs who use the ED's ultrasound machine(s), by hospital peer group. 53

Table 55 ED preparedness to manage a disaster or mass casualty incident, by region. 54

Table 56 ED preparedness to manage a disaster or mass casualty incident, by hospital peer group. 54

Table 57 Types of emergency disaster drills run by ED, hospital or organisation, by region 55

Table 58 Types of emergency disaster drills run by ED, hospital or organisation, by hospital peer group. 55

Table 59 Proportion of EDs with a disaster plan and the frequency of disaster specific teaching, by region. 56

Table 60 Proportion of hospitals with a disaster plan and the frequency of disaster specific teaching, by region 57

Table 61 Proportion of EDs with a disaster plan and the frequency of disaster specific teaching, by hospital peer group. 57

Table 62 Proportion of hospitals with a disaster plan and the frequency of disaster specific teaching, by hospital peer group 58

1. Executive Summary

1.1 Background

This report presents the findings from the Australasian College for Emergency Medicine's (ACEM's) Annual Site Census, which was distributed to Directors of Emergency Medicine (DEMs) and Directors of Emergency Medicine Training (DEMTs) at all 148 of the ACEM accredited emergency departments (EDs) in October 2019. The Census is a combined initiative by the Research Unit within the Policy and Strategic Partnerships Department, and the Accreditation Unit within the Education and Training Department. The Census focuses on ED staffing, casemix, staff training and resourcing, as well as broader hospital services available. For the 2019 Census two additional sections were added, including one on ultrasound teaching and the other on disaster preparedness in the wake of recent disasters and mass casualty incidents in Australia and Aotearoa New Zealand.

1.2 Summary of Findings

Of the 148 accredited EDs, 143 participated (125 in Australia and 18 in New Zealand) in the Census.

1.2.1 ED Activity

- Attendances between 1 July 2018 and 30 June 2019 averaged over 50,000 across Australian EDs and over 59,000 across New Zealand EDs.
- Four Australian and two EDs in New Zealand saw greater than 100,000 attendances during the period.
- Of the responding 107 Australian EDs, 6.9% of patient attendances were Aboriginal and/or Torres Strait Islander Peoples, and 20.1% of patient attendances to the 15 responding New Zealand EDs were Māori.
- Tasmania had the greatest percentage of patients spending greater than 24 hours in their EDs.

1.2.2 ED Staffing

- Only 27.4% of the 117 responding Australian EDs and 7.1% of the 14 responding New Zealand EDs met the ACEM G23 minimum FACEM staffing model.
- Large and Medium regional EDs in Australia and Regional New Zealand EDs were more likely to report having unfilled FACEM FTE.
- Almost half (44.9%) of Australian EDs employed Visiting Medical Officers, with only 11.1% of New Zealand EDs employing them.
- 99 EDs indicated that trainees were rostered on the floor during nights, while only ten EDs indicated EM Specialists were rostered on the floor during nights.
- In Australia there was one EM Specialist FTE to an average of 4,703 ED attendances, and one FACEM trainee FTE to 8,396 attendances. In New Zealand there was one EM Specialist to an average of 4,857 ED attendances and one FACEM trainee to 11,305 attendances.
- The average EM Specialist FTE to FACEM trainee FTE ratio was one to 0.8 across all EDs.

1.2.3 ED Treatment Spaces

- All of the responding EDs had resuscitation and adult and/or paediatric emergency/acute treatment spaces. While 88.1% had low acuity, sub-acute or fast track treatment spaces, 98.6% had a Short Stay Unit (or equivalent), and 76.9% had an ED Mental Health Assessment Unit.
- Overall, Australian EDs had a higher number of beds/chairs to attendances, at one bed/chair per 1,214 attendances, compared with one per 1,372 attendances in New Zealand.

1.2.4 Hospital Services

- Just over one quarter of participating Australian EDs (25.6%) and half of New Zealand EDs (50.0%) were designated as a Major Trauma Service.
- Overall, 53.1% of EDs reported having an onsite cardiac catheter laboratory available for urgent Percutaneous Coronary Intervention for ST-Elevation Myocardial Infarction. The highest rates were in Major hospitals (96.8%) and Private hospitals (90.9%) in Australia and Metropolitan hospitals in New Zealand (71.4%).

1.2.5 Cultural Competency

- All but one New Zealand (94.4%) ED indicated that they had access to an Indigenous Health Liaison Officer or equivalent, compared with 91.2% of Australian EDs.
- Cultural competency training was available to all New Zealand EDs and 95.2% of Australian EDs.

1.2.6 Staff Wellbeing

- All New Zealand EDs had discrimination, bullying, sexual harassment and harassment training available, compared with 97.6% of Australian EDs.

1.2.7 Ultrasound Teaching

- Overall, less than half (44.4%) of participating EDs had a formal ultrasound training program and just over half (51.0%) reported having an informal training program only.
- All of New Zealand EDs and most of Australian EDs reported that FACEM trainees were expected to gain proficiency in AAA (94.3%) and eFAST (98.1%) scans.

1.2.8 Disaster Preparedness

- All New Zealand EDs reported that they were at least slightly prepared to manage a disaster or mass casualty incident, compared with 98.4% of Australian EDs.
- Most Australian (96.0%) and New Zealand (94.4%) EDs reported that their ED had a disaster plan.

2. Purpose and Scope

The purpose of this report is to provide the findings from the Australasian College for Emergency Medicine's (ACEM's) Annual Site Census. The Census is distributed annually to all Australian and Aotearoa New Zealand emergency departments (EDs) accredited by ACEM and is a joint initiative between the Research Unit within the Policy and Strategic Partnerships Department and the Accreditation Unit within the Education and Training Department. Findings from the Census will be used to monitor accredited sites as well as provide an evidence-base for ACEM policy and advocacy activities relating to ED workforce and functioning.

3. Methodology

The Census in its current form was implemented in 2016 and is a mandatory activity for accredited sites to complete and was distributed to all 148 accredited EDs in Australia and New Zealand in October 2019. The Census contained questions on ED staffing and activity; ED resources and services; ED preparedness for disaster or mass casualty; ultrasound teaching; cultural competency training; and Discrimination, Bullying, Sexual Harassment and Harassment (DBSH) training. ED activity and performance data was sought for the period 1 July 2018 to 30 June 2019, with all other data being current at the time of completing the survey. Refer to Appendix 1 for the survey tool.

The Census was sent via an emailed link to all DEMs and DEMTs at accredited sites on 24 October 2019. Two reminder emails were sent to non-responding DEMs and DEMTs, from the Research Unit and one further reminder email was sent from the Accreditation Unit Manager, in the Education and Training Department. The final Census was received on February 27, 2020, however sites were followed up for missing data until February 29, 2020.

The Census was available to complete online, with DEMs and DEMTs emailed an individualised link which allowed sites to enter and exit the Census as many times as needed. This also allowed respondents to complete the Census in their own time as they sourced the required data. Around a month after inviting DEMs and DEMTs to complete the 2019 Census ACEM learned that the online platform being used to host the Census had changed. Rather than saving partially completed Census data on a server the platform was saving partially completed Census data locally (on the computer the information was entered on). This produced some issues for some sites, where the data entered was lost. In these instances, sites were provided with the option to use a Microsoft Word or PDF form to collect the data and then either enter the data into the online platform or email the completed form to the Research Unit.

Hospital, DEM and DEMT anonymity and confidentiality are maintained in this report with data only reported in aggregate by jurisdiction (state/territory and country) and by hospital peer group, where appropriate. For Australian EDs, the peer group description from the AIHW's MyHospitals data (Australian Institute of Health and Welfare, 2018-2019) was used for the peer groups: Major, Large metropolitan, Medium metropolitan, Large regional, Medium regional, Small regional, Private, and Specialist. No sites classified as being Small regional hospitals responded to the Census.

For New Zealand hospital peer groups, EDs were classified as 'Metropolitan' if they were located in either Auckland, Christchurch or Wellington, with all other EDs located outside of these cities classified as 'Regional'. One specialist children's hospital in New Zealand participated in the Census, and in order to maintain the hospital's anonymity their data has been incorporated into the Metropolitan peer group where appropriate.

4. Results

This section presents the findings from the 2019 Annual Site Census and includes the profile of participating EDs, and the findings relating to ED activity, staffing, staff training, rostering, treatment spaces and hospital services, as well as preparedness for a disaster or mass casualty event.

4.1 Profile of Participating EDs

Of the 148 EDs that were asked to complete the Census only 143 submitted a Census. Four did not submit a Census and one ED decided to relinquish their accreditation with ACEM during the survey period. Table 1 displays the breakdown of responding EDs by region in Australia and New Zealand, and further breakdown by peer group within each region.

Table 1 Distribution of participating EDs, by region and hospital peer group.

	n	Region (%)	Total (%)	Country (%)
Australia	125		87.4%	
New South Wales	40		32.0%	28.0%
Major	12	30.0%		
Large metropolitan	9	22.5%		
Medium metropolitan	5	12.5%		
Large regional	9	22.5%		
Medium regional	2	5.0%		
Private	1	2.5%		
Specialist	2	5.0%		
Victoria	29		23.2%	20.3%
Major	6	20.7%		
Large metropolitan	6	20.7%		
Medium metropolitan	6	20.7%		
Large regional	5	17.2%		
Medium regional	1	3.4%		
Private	4	13.8%		
Specialist	1	3.4%		
Queensland	29		23.2%	20.3%
Major	5	17.2%		
Large metropolitan	6	20.7%		
Medium metropolitan	3	10.3%		
Large regional	6	20.7%		
Medium regional	3	10.3%		
Private	4	13.8%		
Specialist	2	6.9%		
Western Australia	12		9.6%	8.4%
Major	3	25.0%		
Large metropolitan	4	33.3%		
Medium metropolitan	1	8.3%		
Large regional	0	0.0%		
Medium regional	2	16.7%		
Private	1	8.3%		
Specialist	1	8.3%		
South Australia	8		6.4%	5.6%
Major	2	25.0%		
Large metropolitan	3	37.5%		
Medium metropolitan	1	12.5%		
Private	1	12.5%		
Specialist	1	12.5%		
Tasmania	2		1.6%	1.4%
Major	1	50.0%		
Large regional	1	50.0%		
Australian Capital Territory	2		1.6%	1.4%
Major	1	50.0%		
Large metropolitan	1	50.0%		
Northern Territory	3		2.4%	2.1%
Major	1	33.3%		
Large regional	1	33.3%		
Medium regional	1	33.3%		
New Zealand	18		12.6%	
Metropolitan	6	33.3%		
Regional	11	61.1%		
Specialist	1	5.6%		
Total	143		100.0%	

4.2 ED Activity

This section contains ED activity and performance data for the period 1 July 2018 to 30 June 2019, presented by region and hospital peer group. Table 2 displays the average number of attendances in Australia and New Zealand, with a breakdown by region for Australian EDs. The table also includes the average percentage of paediatric attendances, admissions and transfers for the same period.

Four Australian EDs and two New Zealand EDs saw greater than 100,000 attendances during this period. Australian EDs averaged 54,907 attendances for the period, up over 1,800 from the 2018 Census (53,069), a 3.5% increase. New Zealand ED attendances increased from 54,739 (in 2018) to 59274 attendances (in 2019), an 8.3% increase.

Three New Zealand EDs did not provide attendance nor admission data; three Australian and five New Zealand EDs did not provide transfer data; and three Australian and four New Zealand EDs did not provide paediatric attendance data.

Table 2 Average total number of attendances, and the average percentage of paediatric attendances, admissions and transfers for the period 1 July 2018 to 30 June 2019, by region.

	Total attendance			Admissions	Transfers	Paediatric attendance
Region	mean	minimum	maximum	%	%	%
Australia	54907	10505	114082	28.3%	2.1%	21.7%
NSW	51903	13237	92141	37.2%	1.6%	23.3%
VIC	54944	11908	105850	28.1%	2.7%	20.0%
QLD	55491	10505	114082	20.5%	2.0%	20.3%
WA	62659	20554	111346	24.6%	2.3%	23.6%
SA	55441	15152	90079	22.0%	3.6%	21.4%
TAS	54879	45856	63902	29.4%	0.4%	18.7%
ACT	74680	58527	90832	24.5%	1.4%	23.2%
NT	43374	24902	61800	18.2%	1.0%	22.7%
New Zealand	59274	28144	118597	31.3%	1.3%	24.3%
Total	55375	10505	118597	28.6%	2.0%	21.5%

Notes: Three New Zealand EDs did not provide attendance nor admission data; three Australian and five New Zealand EDs did not provide transfer data; and three Australian and four New Zealand EDs did not provide paediatric attendance data.

A total of 123 EDs in Australia and 12 EDs in New Zealand provided ambulance arrival data and all 125 Australian and 15 New Zealand EDs provided attendance data by Australasian Triage Scale (ATS). The average percentage of ambulance arrivals, and attendances by triage category using the ATS for the period 1 July 2018 to 30 June 2019 are presented in Table 3, by region. Importantly, a third of all presentations to accredited EDs in Queensland, South Australia and Tasmania arrived by ambulance.

Table 3 Average percentage of ambulance arrivals and patient attendances by triage category (ATS) for the period 1 July 2018 to 30 June 2019, by region.

Region	Ambulance arrivals %	ATS 1 attendances %	ATS 2 attendances %	ATS 3 attendances %	ATS 4 attendances %	ATS 5 attendances %
Australia	27.0%	0.8%	13.8%	39.0%	39.1%	6.4%
NSW	24.0%	0.8%	13.6%	36.0%	38.6%	8.1%
VIC	26.5%	0.5%	12.9%	39.0%	41.1%	6.5%
QLD	33.7%	0.8%	14.6%	43.7%	35.8%	5.3%
WA	20.8%	0.8%	14.5%	35.9%	44.4%	4.3%
SA	33.0%	1.6%	15.3%	42.7%	35.7%	4.6%
TAS	32.6%	0.8%	11.4%	35.9%	41.6%	9.8%
ACT	20.6%	0.5%	10.7%	44.5%	37.2%	7.0%
NT	16.6%	0.7%	15.9%	33.3%	46.1%	3.9%
New Zealand	24.8%	0.8%	13.0%	46.4%	35.4%	4.8%
Total	26.8%	0.8%	13.8%	39.8%	38.7%	6.2%

Note: ATS = Australasian Triage Scale.

Fourteen EDs reported that they were on ambulance bypass between 1 July 2018 and 30 June 2019 and these EDs were located in New South Wales, Queensland, South Australia, Victoria and Western Australia. The mean number of hours on ambulance bypass across these EDs over the 12-month period was 273 (ranged from 5 to 1510 hours).

Eighty-three Australian EDs reported that they had at least once instance where ambulances had waited more than 30 minutes to complete handover of a patient to the ED between 1 July 2018 and 30 June 2019 (averaged 3136 instances, ranging from eight to 20196 instances). On the contrary, none of the New Zealand EDs reported that ambulances waited more than 30 minutes to complete handover to the ED during the same period.

EDs were asked to provide data on patients who had an ED length of stay (LOS) greater than 8, 12 and 24 hours, for the period 1 July 2018 to 30 June 2019. A total of 116, 115, and 101 EDs in Australia and 15, 13, and 11 EDs in New Zealand respectively provided data on LOS's greater than 8, 12 and 24 hours during this period. This data is presented in Figure 1, by region, with Tasmania having the greatest percentage of patients with ED LOS's of >8, 12 and 24 hours. The Australian Capital Territory has been excluded from Figure 1 as only one ED provided this data.

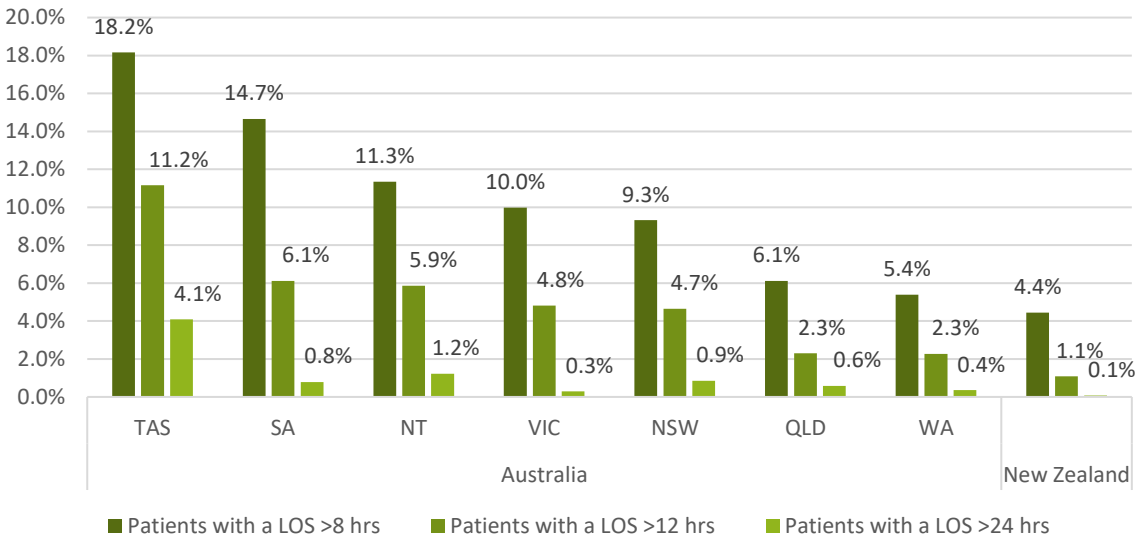


Figure 1 Percentage of total attendances with a LOS >8, >12, and >24 hours for the period 1 July 2018 to 30 June 2019, by region.

Notes: LOS = Length of Stay. Excludes ACT as only one ED provided data for this question.

A total of 109 EDs in Australia and 14 in New Zealand provided Short Stay Unit (SSU) (or equivalent) data and 89 and 9 respectively in Australia and New Zealand provided LOS data on patient stays in the SSU (or equivalent) for more than 24 hours. For the purpose of reporting, Intensive Care Unit (ICU), Critical Care Unit (CCU) and High Dependency Unit (HDU) admissions have been combined, with 107 EDs in Australia and 14 in New Zealand providing this admission data. The average percentage of SSU and combined ICU, CCU, and HDU admissions for the period 1 July 2018 to 30 June 2019 are presented by region in Table 4 along with patients with a SSU LOS of more than 24 hours. Victoria and the Northern Territory had the greatest percentage of patients admitted to the SSU, while Tasmania and New Zealand had the greatest percentage of patients spending greater than 24 hours in their SSUs.

Table 4 Average percentage of SSU admissions, SSU LOS >24 hours and combined ICU, CCU, and HDU admissions for the period 1 July 2018 to 30 June 2019, by region.

Region	SSU admissions %	Patients with a LOS in SSU >24 hours %	ICU, CCU and HDU admissions %
Australia	14.8%	0.6%	2.1%
NSW	10.7%	0.5%	2.4%
VIC	19.9%	0.7%	2.6%
QLD	17.8%	0.6%	1.7%
WA	9.6%	0.8%	1.4%
SA	12.3%	0.3%	1.5%
TAS	10.8%	1.1%	0.7%
ACT	13.6%	0.7%	1.5%
NT	18.5%	0.2%	1.8%
New Zealand	12.1%	1.1%	1.4%
Total	14.5%	0.6%	2.0%

Note: LOS = Length of Stay.

Table 5 displays the average total number of attendances, and the average percentage of paediatric attendances, admissions and transfers by hospital peer group. Consistent with the 2018 Census findings:

- Metropolitan EDs had higher average ED attendances than regionally located EDs; and
- Private EDs had the highest average percentage of admissions, followed by EDs in the Major hospital peer group.

Table 5 Average total number of attendances, and the average percentage of paediatric attendances, admissions and transfers for the period 1 July 2018 to 30 June 2019, by hospital peer group.

	Total attendance			Admissions	Transfers	Paediatric attendance
Hospital peer group	mean	minimum	maximum	%	%	%
Australia						
Major	77262	38873	114082	33.5%	1.1%	15.9%
Large metropolitan	63546	32141	105850	25.9%	2.5%	17.6%
Medium metropolitan	46700	23539	85342	29.7%	4.4%	21.5%
Large regional	43670	13237	74762	26.3%	1.2%	20.9%
Medium regional	29562	24029	41742	14.3%	2.4%	22.7%
Private	17904	10505	29080	39.4%	3.1%	9.3%
Specialist	64932	35162	89147	18.3%	0.7%	84.3%
New Zealand						
Metropolitan	75413	36171	118597	33.0%	2.2%	30.7%
Regional	45153	28144	88727	29.9%	0.6%	19.5%

The average percentage of ambulance arrivals and attendances by triage category are presented in Table 6, by peer group. Specialist EDs had the smallest percentage of their patients arriving by ambulance compared with EDs in other peer groups, while Regional Australian EDs had a higher percentage of ATS 5 attendances compared to EDs in other peer groups in Australia.

Table 6 Average percentage of ambulance arrivals and patient attendances by triage category (ATS) for the period 1 July 2018 to 30 June 2019, by hospital peer group.

Hospital peer group	Ambulance arrivals %	ATS 1 attendances %	ATS 2 attendances %	ATS 3 attendances %	ATS 4 attendances %	ATS 5 attendances %
Australia						
Major	32.0%	1.3%	16.5%	42.4%	34.2%	5.8%
Large metropolitan	30.6%	0.7%	15.3%	42.1%	36.2%	5.4%
Medium metropolitan	21.8%	0.4%	14.3%	38.9%	40.8%	5.6%
Large regional	26.2%	0.6%	12.0%	36.1%	38.2%	8.5%
Medium regional	17.1%	0.5%	12.3%	33.3%	45.4%	8.7%
Private	27.3%	0.5%	9.6%	38.2%	45.2%	6.4%
Specialist	16.7%	0.7%	9.2%	28.7%	54.4%	5.5%
New Zealand						
Metropolitan	25.7%	1.1%	11.6%	45.9%	37.2%	5.1%
Regional	23.9%	0.6%	14.3%	46.8%	33.8%	4.5%

Note: ATS = Australasian Triage Scale.

Overall Regional EDs in New Zealand had more patients with ED length of stays of greater than 8 and 12 hours compared with Metropolitan EDs in New Zealand (Table 7).

Table 7 Patients in New Zealand with an ED LOS of >8, >12 and >24 hours compared to total attendances for the period 1 July 2018 to 30 June 2019, by hospital peer group.

Hospital peer group	Total attendance mean	Patients with a LOS >8 hrs %	Patients with a LOS >12 hrs %	Patients with a LOS >24 hrs %
New Zealand				
Metropolitan	75413	3.5%	0.8%	0.1%
Regional	45153	5.3%	1.3%	0.1%

Note: LOS = Length of Stay.

In Australia the highest percentage of patients with an ED LOS of more than 24 hours was seen in Large regional EDs compared with EDs in other peer groups. Major, Large metropolitan and Large regional EDs had the highest percentage of patients with a LOS of more than 8 hours (Figure 2).

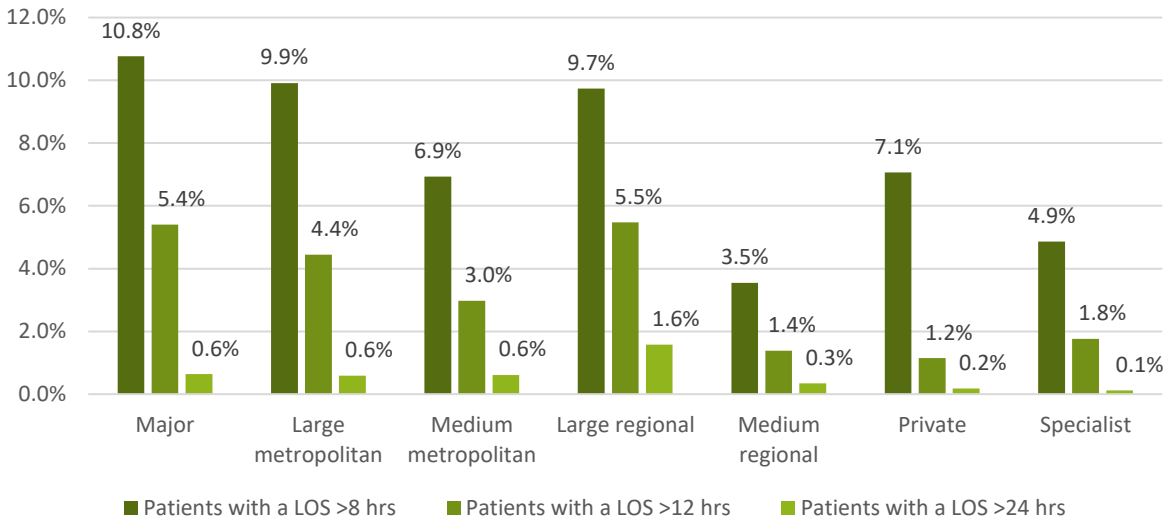


Figure 2 Percentage of total attendances in Australia with an ED LOS of >8, >12 and >24 hours for the period 1 July 2018 to 30 June 2019, by hospital peer group.

Note: LOS = Length of Stay.

The average percentage of SSU and combined ICU, CCU, and HDU admissions for the period 1 July 2018 to 30 June 2019 are presented by region in Table 8 along with patients with a SSU LOS of more than 24 hours. A greater percentage of patients attending Major and metropolitan EDs across Australia and New Zealand were admitted to SSUs, while a greater percentage of patients were admitted to ICU, CCU and HDUs in Private EDs.

Table 8 Average percentage of SSU, and combined ICU, CCU, and HDU admissions for the period 1 July 2018 to 30 June 2019, by hospital peer group.

Hospital peer group	SSU admissions %	LOS in SSU >24 hours %	ICU, CCU and HDU admissions %
Australia			
Major	16.9%	0.5%	2.1%
Large metropolitan	17.6%	0.5%	1.3%
Medium metropolitan	18.0%	0.9%	1.4%
Large regional	12.2%	0.7%	1.7%
Medium regional	7.2%	0.1%	2.1%
Private	3.2%	0.2%	6.0%
Specialist	9.2%	0.4%	1.2%
New Zealand			
Metropolitan	16.3%	1.3%	1.1%
Regional	7.9%	0.8%	1.7%

Note: LOS = Length of Stay.

4.3 Aboriginal and/or Torres Strait Islander and Māori Presentations

The total number of patients attending ACEM's accredited EDs who identified as being Aboriginal and/or Torres Strait Islander Peoples for Australian EDs, or Māori for New Zealand EDs, was provided for the period 1 July 2018 to 30 June 2019. DEMs and DEMTs also had the opportunity to comment on the quality and reliability of the Aboriginal and/or Torres Strait Islander or Māori presentation data collected by their ED.

Sixteen Australian EDs and three New Zealand EDs did not provide data regarding Aboriginal and/or Torres Strait Islander and Māori presentations

Of the Australian EDs that provided data, Aboriginal and/or Torres Strait Islander patient attendances represented 6.9% of ED attendances to accredited Australian EDs, ranging from 3.3% of ED attendances in Victoria to 39.2% in the Northern Territory (Table 9). Overall more than two-thirds of Australian EDs reported that the quality (71.5%) and reliability (70.7%) of their Aboriginal and/or Torres Strait Islander data was good. However, 57.2% of South Australian EDs and 100% of Tasmanian EDs reported the reliability of this data was fair or poor.

Table 9 Percentage of Aboriginal and/or Torres Strait Islander patient attendances; and the quality and reliability of the data collected in Australian EDs for the period 1 July 2018 to 30 June 2019, by region.

	Attendances		Quality of data				Reliability of data			
				Poor	Fair	Good		Poor	Fair	Good
Region	n	%	n	%	%	%	n	%	%	%
NSW	37	6.4%	40	2.5%	20.0%	77.5%	40	2.5%	17.5%	80.0%
VIC	23	3.3%	28	14.3%	17.9%	67.9%	28	14.3%	21.4%	64.3%
QLD	26	8.2%	29	10.3%	17.2%	72.4%	29	13.8%	13.8%	72.4%
WA	10	5.2%	12	25.0%	16.7%	58.3%	12	25.0%	8.3%	66.7%
SA	5	4.5%	7	14.3%	28.6%	57.1%	7	28.6%	28.6%	42.9%
TAS	1	6.1%	2	0.0%	50.0%	50.0%	2	0.0%	100.0%	0.0%
ACT	2	3.7%	2	0.0%	0.0%	100.0%	2	0.0%	0.0%	100.0%
NT	3	39.2%	3	0.0%	0.0%	100.0%	3	0.0%	0.0%	100.0%
Total	107	6.9%	123	9.8%	18.7%	71.5%	123	11.4%	17.9%	70.7%

Table 10 presents the percentage of Aboriginal and/or Torres Strait Islander patient attendances; and the quality and reliability of the data collected by hospital peer group. The proportion of Aboriginal and/or Torres Strait Islander attendances were higher in EDs located in regional areas of Australia. The proportion of ED patients attending private EDs in Australia and identifying as Aboriginal and/or Torres Strait Islander was very low (0.3%) and importantly almost half (45.5%) of private EDs reported that the quality and reliability of their patient data with respect to capturing the Indigenous status of patients was poor.

Table 10 Percentage of Aboriginal and/or Torres Strait Islander patient attendances; and the quality and reliability of the data collected in Australian EDs for the period 1 July 2018 to 30 June 2019, by hospital peer group.

	Attendances		Quality of data				Reliability of data			
				Poor	Fair	Good		Poor	Fair	Good
Hospital peer group	n	%	n	%	%	%	n	%	%	%
Major	30	5.1%	30	0.0%	20.0%	80.0%	30	3.3%	13.3%	83.3%
Large metropolitan	24	4.3%	28	14.3%	14.3%	71.4%	28	17.9%	21.4%	60.7%
Medium metropolitan	15	2.9%	16	12.5%	18.8%	68.8%	16	12.5%	18.8%	68.8%
Large regional	21	14.1%	22	4.5%	18.2%	77.3%	22	4.5%	13.6%	81.8%
Medium regional	8	14.5%	9	0.0%	22.2%	77.8%	9	0.0%	22.2%	77.8%
Private	2	0.3%	11	45.5%	18.2%	36.4%	11	45.5%	18.2%	36.4%
Specialist	7	3.0%	7	0.0%	28.6%	71.4%	7	0.0%	28.6%	71.4%

Table 11 presents the percentage of Māori patient attendances and the quality and reliability of the data collected by hospital peer group for New Zealand EDs. All of the accredited EDs in New Zealand that provided patient attendance data provided the number of Māori patient attendances, which represented 20.1% of the total ED attendances. Overall, 82.4% of New Zealand EDs reported that both the quality and reliability of their Māori attendance data was good.

Table 11 Percentage of Māori patient attendances; and the quality and reliability of the data collected in New Zealand EDs for the period 1 July 2018 to 30 June 2019, by hospital peer group.

	Attendances		Quality of data				Reliability of data			
				Poor	Fair	Good		Poor	Fair	Good
Hospital peer group	n	%	n	%	%	%	n	%	%	%
Metropolitan	7	13.3%	7	0.0%	28.6%	71.4%	7	0.0%	28.6%	71.4%
Regional	8	26.0%	10	0.0%	10.0%	90.0%	10	0.0%	10.0%	90.0%
Total	15	20.1%	17	0.0%	17.6%	82.4%	17	0.0%	17.6%	82.4%

A total of 125 Australian based EDs and 18 New Zealand based EDs responded to the question asking whether their ED has an Indigenous Health Liaison Officer (IHLO) or equivalent (Table 12). A higher percentage of Australian EDs (8.8%) did not have access to an IHLO when compared with New Zealand EDs (5.6%).

Table 12 DEM and DEMT response rates to whether their ED had an IHLO (or equivalent), by region.

Region	n	Employed by your ED %	Employed by your hospital & available in your ED %	Employed off-site but available in your ED %	My ED does not have access to an IHLO %
Australia	125	3.2%	82.4%	12.8%	8.8%
NSW	40	2.5%	87.5%	7.5%	7.5%
VIC	29	3.4%	75.9%	17.2%	10.3%
QLD	29	3.4%	86.2%	13.8%	10.3%
WA	12	8.3%	83.3%	8.3%	8.3%
SA	8	0.0%	62.5%	25.0%	12.5%
TAS	2	0.0%	50.0%	50.0%	0.0%
ACT	2	0.0%	100.0%	0.0%	0.0%
NT	3	0.0%	100.0%	0.0%	0.0%
New Zealand	18	16.7%	88.9%	0.0%	5.6%
Total	143	4.9%	83.2%	11.2%	8.4%

Note: Responses were not mutually exclusive, with respondents able to select more than one option.

Table 13 presents the response rates to whether EDs had an IHLO by hospital peer group. Private EDs in Australia had no on-site IHLO and were much less likely than the EDs in other peer groups to report having access to an IHLO.

Table 13 DEM and DEMT response rates to whether their ED had an IHLO (or equivalent), by hospital peer group.

Hospital peer group	n	Employed by your ED %	Employed by your hospital & available in your ED %	Employed off-site but available in your ED %	My ED does not have access to an IHLO %
Australia					
Major	31	3.2%	93.5%	3.2%	6.5%
Large metropolitan	29	3.4%	89.7%	17.2%	0.0%
Medium metropolitan	16	0.0%	62.5%	43.8%	0.0%
Large regional	22	4.5%	100.0%	4.5%	0.0%
Medium regional	9	11.1%	100.0%	0.0%	0.0%
Private	11	0.0%	0.0%	18.2%	81.8%
Specialist	7	0.0%	100.0%	0.0%	0.0%
New Zealand					
Metropolitan	7	14.3%	85.7%	0.0%	0.0%
Regional	11	18.2%	90.9%	0.0%	9.1%

Note: Responses were not mutually exclusive, with respondents able to select more than one option.

4.4 ED Staffing

ED staffing data (at the time of reporting) including the FTE of specific ED roles and roster data are provided in this section with comparisons by region and hospital peer group.

4.4.1 *ED Staffing Profiles*

The average FTE for each of the ED staff roles by region are displayed in Table 14, however please note that any interpretation of this regional analysis should consider the significant variation in the number of EDs present in each jurisdiction and the variation of each peer group present in each jurisdiction (refer to Table 1).

Table 14 Average FTE for ED staff (range provided in brackets), for particular staffing roles in Australian and New Zealand EDs, by region.

Region	EM Specialists mean (range)	Other Specialists mean (range)	ACEM AT Reg. mean (range)	ACEM PT Reg. mean (range)	Medical Officers mean (range)	Non-ACEM Reg. mean (range)	JMO/ Interns mean (range)	Nurse Practitioners mean (range)	Mental Health Nurses mean (range)	Nurse Educators mean (range)	Total Nursing mean (range)
Australia	14.1 (2 - 54)	2.3 (0 - 9)	10.0 (1 - 38)	4.5 (1 - 27)	11.9 (0 - 56)	5.6 (0 - 19)	15.5 (0 - 52)	4.7 (1 - 40)	4.1 (1 - 13)	1.8 (0 - 6)	94.1 (10 - 287)
NSW	11.0 (2 - 31)	2.0 (0 - 5)	9.1 (1 - 38)	4.8 (1 - 27)	11.1 (1 - 45)	4.4 (1 - 13)	12.9 (1 - 39)	4.5 (1 - 40)	2.6 (1 - 8)	1.9 (1 - 5)	86.8 (27 - 287)
VIC	16.5 (3 - 30)	1.8 (0 - 5)	10.1 (1 - 30)	3.2 (1 - 8)	8.3 (0 - 27)	6.8 (1 - 19)	15.5 (1 - 35)	4.5 (1 - 26)	5.9 (1 - 13)	2.1 (0 - 6)	100.8 (10 - 286)
QLD	15.3 (3 - 54)	3.2 (0 - 9)	11.9 (1 - 38)	5.3 (1 - 20)	17.8 (1 - 56)	5.6 (1 - 14)	13.8 (2 - 40)	5.4 (1 - 23)	6.0 (3 - 9)	1.2 (1 - 4)	95.9 (17 - 206)
WA	15.3 (4 - 29)	2.6 (1 - 4)	9.5 (2 - 26)	4.7 (2 - 8)	5.1 (1 - 24)	7.1 (0 - 16)	26.2 (1 - 52)	3.3 (1 - 8)	4.7 (3 - 9)	1.8 (0 - 4)	91.9 (28 - 185)
SA	14.9 (4 - 27)	3.1 (1 - 9)	9.2 (1 - 19)	6.6 (1 - 16)	15.8 (1 - 43)	3.1 (1 - 7)	18.8 (0 - 51)	7.3 (2 - 21)	4.7 (2 - 6)	1.6 (0 - 3)	96.6 (21 - 173)
TAS	14.6 (9 - 21)	1.6 (1 - 3)	8.0 (1 - 15)	1.8 (1 - 2)	3.5 (4 - 4)	10.8 (8 - 14)	22.0 (18 - 26)	4.0 (3 - 5)	3.0 (1 - 5)	2.5 (2 - 3)	116.5 (101 - 132)
ACT	16.7 (13 - 20)	0.9 (1 - 1)	7.6 (4 - 11)	4.5 (3 - 6)	15.1 (12 - 18)	4.0	23.0 (20 - 26)	2.0 (1 - 3)	3.0 (2 - 4)	2.6 (2 - 3)	117.5 (75 - 160)
NT	11.1 (7 - 17)	0.8 (0 - 1)	8.9 (8 - 10)	2.5 (2 - 3)	16.0 (8 - 24)	4.3 (1 - 10)	11.3 (7 - 15)	0.0	2.0 (2 - 2)	2.3 (1 - 4)	74.5 (65 - 84)
New Zealand	12.4 (4 - 23)	4.6 (1 - 9)	5.8 (1 - 18)	2.5 (1 - 5)	6.6 (1 - 17)	5.9 (1 - 15)	6.8 (2 - 18)	4.4 (1 - 13)	1.9 (1 - 3)	1.2 (0 - 3)	69.8 (30 - 212)
Total	13.9 (2 - 54)	2.7 (0 - 9)	9.4 (1 - 38)	4.2 (1 - 27)	11.3 (0 - 56)	5.7 (0 - 19)	14.5 (0 - 52)	4.7 (1 - 40)	4.0 (1 - 13)	1.7 (0 - 6)	91.2 (10 - 287)

Notes: Where no range is provided, n ≤ 1 or there is no variation from the mean. EM Specialist = FACEM and Paediatric EM Specialists (PEMs). AT Reg = Advanced trainee registrar. PT Reg = Provisional trainee registrar. Medical Officers include CMOs; SMOs; SRMOs; SHOs and MOs (NZ EDs). Nurse Practitioners includes Clinical Nurse Consultant/ Specialist).

Table 15 presents the average FTE for each ED staff role, by hospital peer group. Major hospital EDs had a higher average FTE for EM Specialists (FACEMs and Paediatric EM Specialists; 22.0 FTE), ACEM advanced (17.9 FTE) and provisional trainee registrars (7.5 FTE) and medical officers (15.6 FTE), compared with EDs in other peer groups in Australia or New Zealand.

Table 15 Average FTE for ED staff (range provided in brackets), for particular staffing roles in Australian and New Zealand EDs, by hospital peer group.

Hospital peer group	**EM Specialists** mean (range)	**Other Specialists** mean (range)	**ACEM AT Reg.** mean (range)	**ACEM PT Reg.** mean (range)	**Medical Officers** mean (range)	**Non-ACEM Reg.** mean (range)	**JMO/ Interns** mean (range)	**Nurse Practitioners** Mean (range)	**MH Nurses** mean (range)	**Nurse Educators** mean (range)	**Total Nursing** mean (range)
Australia											
Major	22.0 (10 - 54)	2.1 (0 - 5)	17.9 (7 - 38)	7.5 (1 - 27)	15.6 (1 - 56)	4.7 (1 - 14)	22.6 (6 - 52)	7.0 (1 - 26)	4.9 (1 - 13)	2.6 (1 - 5)	146.4 (54 - 287)
Large metropolitan	16.0 (7 - 28)	1.8 (0 - 5)	9.2 (1 - 29)	3.5 (1 - 8)	12.7 (1 - 45)	6.3 (0 - 19)	17.5 (4 - 40)	3.8 (1 - 14)	5.1 (1 - 10)	1.9 (1 - 6)	107.9 (55 - 206)
Medium metropolitan	10.4 (3 - 28)	3.3 (1 - 9)	6.9 (1 - 25)	2.7 (1 - 7)	15.4 (3 - 54)	6.5 (1 - 19)	10.4 (1 - 30)	2.6 (1 - 7)	4.2 (1 - 10)	1.4 (1 - 4)	73.7 (10 - 140)
Large regional	9.1 (2 - 26)	2.3 (0 - 7)	5.6 (1 - 10)	2.7 (1 - 9)	9.8 (0 - 45)	5.3 (1 - 14)	11.0 (3 - 35)	4.7 (1 - 40)	1.8 (1 - 4)	1.4 (1 - 5)	72.2 (39 - 141)
Medium regional	5.3 (3 - 9)	2.4 (1 - 6)	2.6 (1 - 8)	2.0 (1 - 3)	5.5 (1 - 12)	2.6 (1 - 4)	7.4 (1 - 22)	2.4 (1 - 5)	2.7 (3 - 3)	1.3 (0 - 3)	44.1 (27 - 65)
Private	8.5 (4 - 22)	3.1 (1 - 9)	2.7 (1 - 6)	0.0	3.3 (1 - 5)	1.0	1.1 (0 - 2)	7.5 (1 - 21)	1.5 (2 - 2)	0.7 (0 - 1)	30.2 (16 - 50)
Specialist	14.4 (8 - 20)	1.5 (1 - 2)	13.5 (4 - 28)	5.2 (1 - 15)	10.2 (1 - 24)	10.4 (1 - 16)	15.5 (6 - 40)	3.6 (1 - 10)	2.9 (1 - 5)	2.5 (1 - 4)	90.7 (75 - 110)
New Zealand											
Metropolitan	16.5 (8 - 23)	7.4 (5 - 9)	9.1 (3 - 18)	2.8 (2 - 3)	7.3 (6 - 8)	5.3 (2 - 10)	8.7 (4 - 18)	6.8 (2 - 13)	1.9 (1 - 3)	1.8 (1 - 3)	93.7 (46 - 212)
Regional	9.8 (4 - 19)	3.3 (1 - 6)	3.7 (1 - 11)	2.3 (1 - 5)	6.3 (1 - 17)	6.8 (1 - 15)	5.4 (2 - 8)	2.7 (1 - 5)	0.0	0.9 (0 - 2)	51.3 (30 - 84)

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. EM Specialist = FACEM and Paediatric EM Specialists (PEMs). AT Reg = Advanced trainee registrar. PT Reg = Provisional trainee registrar. Medical Officers include CMOs; SMOs; SRMOs; SHOs and MOs (NZ EDs). Nurse Practitioners includes Clinical Nurse Consultant/ Specialist).

4.4.2 EM Specialist to FACEM trainee ratios and ED staff to patient ED attendance ratios

Table 16 displays the ratio of EM Specialist FTE to FACEM trainee FTE, and the ratios of various ED staff to ED attendance by region; Table 17 shows this data by hospital peer group. For the purposes of this report, senior medical staff includes EM Specialists, other specialists, FACEM trainees, non-ACEM registrars and medical officers (MOs) excluding junior medical officers (JMOs) and interns. All medical staff consists of all senior staff, JMOs and interns.

Tasmania and New Zealand had the highest EM Specialist to trainee ratio at one EM Specialist FTE to 0.6 trainee FTE, while the Northern Territory had the lowest EM Specialist to trainee ratio at one EM Specialist FTE to 1.4 trainee FTE.

Looking at the number of ED attendances per EM specialist FTE, New South Wales had a higher number of attendances per EM Specialist FTE compared with other regions at one EM Specialist FTE to 5824 attendances. In contrast, the Northern Territory had the most EM Specialists (FTE) per attendance at a ratio of one to 3918 attendances. Australia had a higher EM Specialist to FTE per attendance at a ratio of one FTE to 4703 attendances compared with New Zealand at one to 4857.

ED attendance per trainee FTE was very high in South Australia at a ratio of one trainee FTE per 12391 attendances. New Zealand had a higher number of attendances per trainee FTE (one trainee FTE to 11305 attendances) compared with Australia (one trainee FTE to 8396 attendances). New Zealand also had a higher number of attendances per senior medical staff FTE at one to 1876, compared with one to 1667 in Australia. A similar pattern was also evident for all medical staff and nursing staff, with New Zealand having nearly one-third (32%) more attendances per staff member than Australia.

Table 16 Ratio of EM Specialist FTE to trainee FTE, and the ratios of various ED staffing FTE to ED attendance, by region.

Region	EM Specialists: Trainee	EM Specialists: Attendance	Trainee: Attendance	Senior Medical Staff: Attendance	All Medical Staff: Attendance	Nursing Staff: Attendance
Australia	1 : 0.9	1 : 4703	1 : 8396	1 : 1667	1 : 1213	1 : 659
NSW	1 : 1.0	1 : 5824	1 : 9364	1 : 1709	1 : 1370	1 : 675
VIC	1 : 0.7	1 : 3934	1 : 8684	1 : 1851	1 : 1088	1 : 698
QLD	1 : 1.0	1 : 4330	1 : 6434	1 : 1379	1 : 1090	1 : 617
WA	1 : 0.7	1 : 4293	1 : 7847	1 : 1952	1 : 1413	1 : 729
SA	1 : 0.9	1 : 4564	1 : 12391	1 : 1578	1 : 1234	1 : 568
TAS	1 : 0.6	1 : 4179	1 : 9021	1 : 1568	1 : 953	1 : 469
ACT	1 : 0.7	1 : 4483	1 : 6813	1 : 1636	1 : 1076	1 : 674
NT	1 : 1.4	1 : 3918	1 : 2980	1 : 1284	1 : 926	1 : 450
New Zealand	1 : 0.6	1 : 4857	1 : 11305	1 : 1876	1 : 1604	1 : 880
Total	1 : 0.8	1 : 4720	1 : 8722	1 : 1689	1 : 1255	1 : 683

Note: EM Specialist = FACEMs and Paediatric EM Specialists (PEMs). Trainee = FTE of ACEM advanced and provisional trainees.

Seven EDs had a ratio of one EM Specialist FTE to greater than 10,000 annual attendances, however five of these EDs had FACEM Visiting Medical Officers (VMOs) on their rosters, averaging 11.6 FACEM VMOs between them, which are not included in this ratio. Refer to section 4.4.7 on Visiting Medical Officer staffing of responding EDs.

The ratio of EM Specialist FTE to FACEM trainee FTE, and the ratios of ED staff to ED attendance, by hospital peer group are displayed in Table 17. Private hospitals and Medium regional hospitals in Australia had the lowest ratio of EM Specialists to FACEM trainees compared to other peer groups. Regional hospitals in New Zealand reported higher levels of patient attendances to EM Specialists and Trainee FTE compared to New Zealand Metropolitan hospitals.

Table 17 Ratio of EM Specialist FTE to trainee FTE, and the ratios of various ED staffing FTE to ED attendance, by hospital peer group.

Hospital peer group	EM Specialists: Trainee	EM Specialists: Attendance	Trainee: Attendance	Senior Medical Staff: Attendance	All Medical Staff: Attendance	Nursing Staff: Attendance
Australia						
Major	1 : 1.2	1 : 3742	1 : 3569	1 : 1294	1 : 942	1 : 584
Large metropolitan	1 : 0.8	1 : 4267	1 : 7599	1 : 1624	1 : 1175	1 : 616
Medium metropolitan	1 : 0.9	1 : 6145	1 : 10762	1 : 1453	1 : 1087	1 : 823
Large regional	1 : 0.7	1 : 6131	1 : 12974	1 : 2077	1 : 1140	1 : 634
Medium regional	1 : 0.6	1 : 6233	1 : 14302	1 : 2450	1 : 1832	1 : 723
Private	1 : 0.4	1 : 2661	1 : 9441	1 : 1221	1 : 1212	1 : 664
Specialist	1 : 1.1	1 : 4568	1 : 5735	1 : 2382	1 : 2292	1 : 770
New Zealand						
Metropolitan	1 : 0.7	1 : 4673	1 : 7173	1 : 1905	1 : 1635	1 : 860
Regional	1 : 0.5	1 : 5019	1 : 14921	1 : 1851	1 : 1577	1 : 898

Note: EM Specialist = FACEMs and Paediatric EM Specialists (PEMs). Trainee = FTE of ACEM advanced and provisional trainees.

4.4.3 EM Specialist FTE to EM Specialist head count

This section presents the ratios of FACEM FTE to FACEM head count by region (Table 18) and hospital peer group (Table 19). There were on average 1.7 FACEMs working to cover 1.0 FTE in Australia and 1.3 FACEMs covering 1.0 FTE in New Zealand. In other words, more FACEMs were working part-time in Australian EDs than in New Zealand EDs.

Table 18 FACEM FTE to head count, by region.

Region	FACEM FTE: Head Count
Australia	1 : 1.7
NSW	1 : 1.6
VIC	1 : 1.8
QLD	1 : 1.8
WA	1 : 1.6
SA	1 : 2.2
TAS	1 : 1.3
ACT	1 : 1.5
NT	1 : 2.3
New Zealand	1 : 1.3
Total	1 : 1.7

Both Medium metropolitan and Private EDs in Australia had on average, higher numbers of FACEMs (head count) to cover 1.0 FTE, compared to other peer groups at 2.3 and 2.2 respectively working to cover 1.0 FTE. Regional New Zealand EDs and Large regional Australian EDs had on average lower numbers of FACEMs (head count) to cover 1.0 FTE, with 1.1 and 1.4 head count respectively per 1.0 FTE, compared with all other hospital peer groups.

Table 19 FACEM FTE to head count, by hospital peer group.

Hospital peer group	FACEM FTE: Head Count
Australia	
Major	1 : 1.5
Large metropolitan	1 : 1.6
Medium metropolitan	1 : 2.3
Large regional	1 : 1.4
Medium regional	1 : 1.7
Private	1 : 2.2
Specialist	1 : 2.0
New Zealand	
Metropolitan	1 : 1.7
Regional	1 : 1.1

4.4.4 Other Specialists – EMC and EMD Staffing

This section reports on the number of graduates of ACEM's Emergency Medicine Certificate (EMC) and Emergency Medicine Diploma (EMD) that are employed by ACEM accredited EDs. Table 20 provides the average number of EMC and EMD graduates employed by region and Table 21 by hospital peer group. A total of 78 EDs reported having EMC and/or EMD graduates employed with more EDs employing EMC graduates than EMD graduates. For the EDs reporting employing EMC or EMD graduates, the average number employed however was small and varied little across regions at an average of 1-6 for EMC graduates and 1-7 for EMD graduates.

Table 20 Average number of EMC and EMD graduates (range in brackets), by region.

	EM Certificants			EM Diplomates		
Region	n	mean	(range)	n	mean	(range)
Australia	57	3	(1 - 17)	29	2	(1 - 18)
NSW	20	2	(1 - 12)	9	1	(1 - 2)
VIC	12	2	(1 - 5)	4	1	
QLD	9	3	(1 - 8)	6	7	(1 - 18)
WA	4	6	(1 - 17)	5	1	(1 - 2)
SA	6	3	(2 - 6)	3	1	(1 - 2)
TAS	2	3	(2 - 4)	1	2	
ACT	2	4	(3 - 4)	0		
NT	2	2	(1 - 3)	1	1	
New Zealand	5	1	(1 - 2)	2	1	
Total	62	3	(1 - 17)	31	2	(1 - 18)

Note: Where no range is provided, *n* ≤ 1 or there is no variation from the mean.

Table 21 Average number of EMC and EMD graduates (range in brackets), by hospital peer group.

	EM Certificants			EM Diplomates		
Hospital peer group	n	mean	(range)	n	mean	(range)
Australia						
Major	11	2	(1 - 4)	10	3	(1 - 18)
Large metropolitan	13	3	(1 - 12)	5	1	
Medium metropolitan	6	1	(1 - 2)	6	4	(1 - 18)
Large regional	14	2	(1 - 4)	2	1	
Medium regional	7	5	(1 - 17)	4	1	(1 - 2)
Private	6	4	(1 - 8)	2	1	
Specialist	0			0		
New Zealand						
Metropolitan	1	2		0		
Regional	4	1	(1 - 2)	2	1	

Note: Where no range is provided, *n* ≤ 1 or there is no variation from the mean.

4.4.5 Non FACEM Senior Decision Makers (SDM)

ACEM currently defines non FACEM senior decision makers (SDM) as *a physician who has the appropriate clinical care skills to manage a critically ill patient unsupervised, or until a specialist emergency physician (FACEM) becomes available and can assist. This can encompass training (i.e., ACEM trainees) and non-training roles (e.g., Career Medical Officer)* (Australasian College for Emergency Medicine, 2015). This section reports on the analysis of free text responses by DEMs and DEMTs on who they consider to be non FACEM senior decision makers in their ED.

Regarding whom DEMs and DEMTs consider to be non FACEM SDMs in their EDs:

- two New Zealand and two Australian EDs did not respond to this question;
- two Australian EDs commented that they only have non FACEM SDMs as per ACEMs current definition; and
- six Australian EDs reported not having any SDMs, other than FACEMs

The role types considered to be non FACEM SDMs for ACEM's accredited EDs, by hospital peer group are presented in Table 22. FACEM trainees, in particular Advanced trainees were more likely to be designated as non FACEM SDMs, followed by medical officers, including Career Medical Officers (CMOs), Senior Medical Officers (SMOs) and Medical Officers of Special Scale (MOSS). While only 10.7% of responding EDs considered Provisional FACEM trainees as non FACEM SDMs. Interestingly, one Australian ED reported that they consider ACEM's EM Certificants as SDMs, two Australian EDs considered EM Diploma trainees as SDMs and six EDs considered EM Diplomates as SDMs.

Nineteen EDs commented on their non FACEM SDMs as being a minimum post graduate year (PGY) level, with two EDs reporting that their non FACEM SDMs needed to be a minimum of three PGY, six a minimum of four PGY, nine a minimum of five PGY, and two EDs reported they needed to be a minimum of six PGY.

Table 22 The role types considered to be non FACEM SDMs at ACEM accredited EDs, by hospital peer group.

Hospital peer group	n	Other Specialist %	FACEM trainees %	Advanced FACEM trainees %	Provisional FACEM trainees %	Other specialist trainees %	EMD trainee or diplomate %	Other (non ACEM) registrars %	Medical Officers %
Australia	115	32.2%	75.7%	74.8%	11.3%	12.2%	7.0%	22.6%	51.3%
Major	27	22.2%	92.6%	92.6%	22.2%	7.4%	14.8%	29.6%	37.0%
Large metropolitan	27	22.2%	74.1%	74.1%	7.4%	7.4%	11.1%	25.9%	66.7%
Medium metropolitan	15	26.7%	86.7%	80.0%	13.3%	20.0%	6.7%	26.7%	66.7%
Large regional	22	50.0%	68.2%	68.2%	9.1%	13.6%	4.5%	18.2%	50.0%
Medium regional	9	33.3%	55.6%	55.6%	11.1%	22.2%	0.0%	25.0%	37.5%
Private	10	40.0%	50.0%	50.0%	0.0%	0.0%	0.0%	22.2%	33.3%
Specialist	5	60.0%	80.0%	80.0%	0.0%	40.0%	0.0%	20.0%	20.0%
New Zealand	16	25.0%	75.0%	75.0%	6.3%	6.3%	0.0%	12.5%	75.0%
Metropolitan	7	14.3%	50.0%	50.0%	0.0%	16.7%	0.0%	16.7%	66.7%
Regional	10	40.0%	90.0%	90.0%	10.0%	0.0%	0.0%	10.0%	80.0%
Total	131	31.3%	75.6%	74.8%	10.7%	11.5%	6.1%	21.4%	54.2%

4.4.6 FACEM and FACEM trainee Vacancy Rates

A total of 44 (35.2%) EDs in Australia and six (33.3%) in New Zealand reported FACEM vacancies, while 76 (60.8%) EDs in Australia and four (22.2%) in New Zealand reported FACEM trainee vacancies (Table 23). Although, a slightly higher proportion of New Zealand EDs (22.2%) than Australian EDs (20.0%) had unfilled FACEM FTE for six or more months, a larger proportion of Australian EDs (39.2%) had unfilled trainee FTE for six or more months than New Zealand EDs (11.1%).

Table 23 Percentage of EDs who reported having unfilled FACEM and trainee FTE, the percentage of those EDs with unfilled FTE for 6+ months; and the total unfilled FTE, by region.

	Unfilled FTE: FACEMs					Unfilled FTE: Trainees				
Region	Unfilled %	Unfilled for 6+ months %	Trying to fill %	Total unfilled FTE	Total unfilled for 6+ months FTE	Unfilled %	Unfilled for 6+ months %	Trying to fill %	Total unfilled FTE	Total unfilled for 6+ months FTE
Australia	35.2%	20.0%	74.1%	114.8	66.9	60.8%	39.2%	77.4%	371.6	238.1
NSW	40.0%	32.5%	70.0%	54.5	48.5	82.5%	67.5%	78.8%	173.8	127.2
VIC	24.1%	6.9%	66.7%	14.8	2.5	51.7%	24.1%	77.8%	50.6	28.1
QLD	24.1%	3.4%	77.8%	22.5	3.0	37.9%	24.1%	69.2%	74.8	51.0
WA	33.3%	16.7%	60.0%	5.5	3.0	66.7%	25.0%	77.8%	23.9	10.8
SA	62.5%	37.5%	100.0%	3.4	0.9	62.5%	37.5%	83.3%	29.5	11.0
TAS	100.0%	100.0%	100.0%	6.3	3.0	50.0%	50.0%	100.0%	5.0	5.0
ACT	100.0%	50.0%	100.0%	6.0	4.0	100.0%	50.0%	100.0%	10.0	5.0
NT	33.3%	33.3%	50.0%	2.0	2.0	33.3%	0.0%	50.0%	4.0	0.0
New Zealand	33.3%	22.2%	57.1%	11.2	9.0	22.2%	11.1%	50.0%	11.0	7.0
Total	35.0%	20.3%	72.1%	126.0	75.9	55.9%	35.7%	75.6%	382.6	245.1

The percentage of EDs with FACEM and trainee vacancies, reported as unfilled FTE, are displayed in Table 24 by hospital peer group. Large and Medium regional EDs in Australia and Regional New Zealand EDs were more likely to report having unfilled FACEM FTE, compared to EDs in other peer groups, totalling 74.0 vacant FACEM FTE among them. Metropolitan EDs in New Zealand and Specialist EDs in Australia were the least likely to report having FACEM and FACEM trainee vacancies at the time of reporting.

Table 24 Percentage of EDs who reported having unfilled FACEM and trainee FTE; the percentage of those EDs with unfilled FTE for 6+ months, and the total unfilled FTE; by hospital peer group.

	Unfilled FTE: FACEMs					Unfilled FTE: Trainees				
Hospital peer group	Unfilled %	Unfilled for 6+ months %	Trying to fill %	Total unfilled FTE	Total unfilled for 6+ months FTE	Unfilled %	Unfilled for 6+ months %	Trying to fill %	Total unfilled FTE	Total unfilled for 6+ months FTE
Australia										
Major	22.6%	12.9%	66.7%	10.5	4.3	58.1%	32.3%	57.9%	73.8	36.3
Large metropolitan	31.0%	13.8%	83.3%	19.9	13.8	75.9%	48.3%	76.9%	134.1	86.3
Medium metropolitan	25.0%	18.8%	40.0%	17.7	2.7	68.8%	50.0%	90.9%	56.6	35.1
Large regional	72.7%	50.0%	88.2%	56.2	40.7	59.1%	45.5%	80.0%	84.3	63.7
Medium regional	55.6%	22.2%	57.1%	6.6	4.5	66.7%	44.4%	100.0%	14.8	12.8
Private	27.3%	9.1%	75.0%	4.0	1.0	45.5%	27.3%	80.0%	7.5	4.0
Specialist	0.0%	0.0%	0.0%	0.0	0.0	14.3%	0.0%	100.0%	0.5	0.0
New Zealand										
Metropolitan	0.0%	0.0%	0.0%	0.0	0.0	0.0%	0.0%	0.0%	0.0	0.0
Regional	54.5%	36.4%	66.7%	11.2	9.0	36.4%	18.2%	60.0%	11.0	7.0

Table 25 displays the average FACEM and trainee unfilled FTE by region. New South Wales had the highest average unfilled FACEM FTE (3.4 FTE) across the 16 EDs reporting vacancies, whereas Queensland reported the highest average unfilled FACEM trainee FTE (6.8) across the 11 EDs reporting vacancies.

Table 25 Average unfilled FTE and unfilled FTE for 6+ months of FACEMs and trainees (range in brackets), by region.

	Unfilled FTE: FACEMs				Unfilled FTE: Trainees			
	Unfilled		Unfilled for 6+ months		Unfilled		Unfilled for 6+ months	
Region	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)
Australia	44	2.6 (0.2 - 15.0)	25	2.7 (0.2 - 13.0)	76	4.9 (0.5 - 22.0)	49	4.9 (1.0 - 14.5)
NSW	16	3.4 (0.2 - 13.0)	13	3.7 (0.2 - 13.0)	33	5.3 (0.8 - 11.0)	27	4.7 (1.0 - 11.0)
VIC	7	2.1 (0.5 - 6.0)	2	1.3 (0.5 - 2.0)	15	3.4 (0.5 - 9.0)	7	4.0 (1.0 - 6.5)
QLD	7	3.2 (0.2 - 15.0)	1	3.0	11	6.8 (1.0 - 22.0)	7	7.3 (2.0 - 14.5)
WA	4	1.4 (0.8 - 2.0)	2	1.5 (1.0 - 2.0)	8	3.0 (1.0 - 7.0)	3	3.6 (1.0 - 7.0)
SA	5	0.7 (0.2 - 1.4)	3	0.3 (0.2 - 0.5)	5	5.9 (0.5 - 18.0)	3	3.7 (2.0 - 7.0)
TAS	2	3.1 (1.0 - 5.3)	2	1.5 (1.0 - 2.0)	1	5.0	1	5.0
ACT	2	3.0 (2.0 - 4.0)	1	4.0	2	5.0	1	5.0
NT	1	2.0	1	2.0	1	4.0	0	0.0
New Zealand	6	1.9 (1.0 - 4.0)	4	2.3 (1.0 - 4.0)	4	2.8 (1.0 - 8.0)	2	3.5 (1.0 - 6.0)
Total	50	2.5 (0.2 - 15.0)	29	2.6 (0.2 - 13.0)	80	4.8 (0.5 - 22.0)	51	4.8 (1.0 - 14.5)

Note: Where no range is provided, $n \leq 1$ or there is no variation from the mean.

The average unfilled FTE and average unfilled FTE for six or more months for FACEMs and trainees, for the EDs who reported unfilled FTE, is presented in Table 26 by hospital peer group. Medium metropolitan EDs in Australia reported the highest average unfilled FACEM FTE (4.4 FTE), while Large regional EDs in Australia reported the highest average unfilled FACEM trainee FTE (6.5 FTE) across EDs reporting vacancies. No metropolitan based New Zealand EDs reported having FACEM or trainee vacancies.

Table 26 Average unfilled FTE and unfilled FTE for 6+ months of FACEMs and trainees (range in brackets), by hospital peer group.

	Unfilled FTE: FACEMs				Unfilled FTE: Trainees			
	Unfilled		Unfilled for 6+ months		Unfilled		Unfilled for 6+ months	
Hospital peer group	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)
Australia								
Major	7	1.5 (0.3 - 4.0)	4	1.1 (0.5 - 1.5)	18	4.1 (0.8 - 9.0)	10	3.6 (1.0 - 7.0)
Large metropolitan	9	2.2 (0.3 - 8.5)	4	3.4 (0.3 - 8.5)	22	6.1 (1.0 - 18.0)	14	6.2 (2.0 - 11.0)
Medium metropolitan	4	4.4 (0.2 - 15.0)	3	0.9 (0.2 - 1.5)	11	5.1 (0.5 - 22.0)	8	4.4 (1.0 - 6.5)
Large regional	16	3.5 (0.2 - 13.0)	11	3.7 (0.2 - 13.0)	13	6.5 (1.0 - 14.5)	10	6.4 (1.0 - 14.5)
Medium regional	5	1.3 (0.5 - 2.5)	2	2.3 (2.0 - 2.5)	6	2.5 (1.0 - 4.0)	4	3.2 (2.8 - 4.0)
Private	3	1.3 (1.0 - 2.0)	1	1.0	5	1.5 (0.5 - 2.0)	3	1.3 (1.0 - 2.0)
Specialist	0		0		1	1 (0.5 - 0.5)	0	
New Zealand								
Metropolitan	0		0		0		0	
Regional	6	1.9 (1.0 - 4.0)	4	2.3 (1.0 - 4.0)	4	2.8 (1.0 - 8.0)	2	3.5 (1.0 - 6.0)

Note: Where no range is provided, $n \leq 1$ or there is no variation from the mean.

4.4.7 Visiting Medical Officer Staffing

This section reports on the percentage of EDs who employed FACEM Visiting Medical Officers (VMOs), the average number of VMOs employed and the average total hours they worked per week, by region (Table 27) and by hospital peer group (The largest mean headcount of VMO's was reported by Australian Major hospital EDs (13). No Metropolitan EDs in New Zealand reported employing any VMOs.

Table 28).

DEMs and DEMTs were asked to list the type of employment contracts VMOs were employed on within their ED. Please note that DEMs and DEMTs were able to select more than one option for this question, with 15 out of 58 sites selecting multiple options. Eight EDs indicated that VMOs were employed on another type of employment contract which were casual contracts (3), guaranteed minimum hours contracts (3) and as required (2).

A total of 56 EDs in Australia and two EDs in New Zealand reported employing VMOs to staff their ED. Care must be taken when comparing regions as there is large variation between Australian states, with Tasmanian EDs not employing FACEMs VMOs and 82.5% of EDs in New South Wales employing VMOs. South Australian EDs employed the highest average number of VMOs (14) in Australia, who worked a total of 168.0 hours per week. Overall, zero hours contracts were the most common type of contract VMOs were employed on.

Table 27 Percentage of EDs who employed VMOs; average number of VMOs employed and average total hours VMOs worked per week (range in brackets); and proportion of EDs utilising various VMO contract types, by region.

	EDs with VMOs employed		Number of VMOs employed	Hours per week VMOs work	Employed on a fixed hours contract*	Employed on zero hours contract*	Other type of employment contract*
Region	n	%	mean (range)	mean (range)	%	%	%
Australia	56	44.8%	9 (1 - 25)	79.3 (2.0 - 311.0)	45.5%	69.1%	12.7%
NSW	33	82.5%	11 (1 - 25)	68.7 (10.0 - 200.0)	40.6%	87.5%	3.1%
VIC	13	44.8%	8 (1 - 20)	102.9 (2.0 - 311.0)	61.5%	46.2%	23.1%
QLD	5	17.2%	5 (1 - 15)	121.0 (24.0 - 250.0)	20.0%	40.0%	40.0%
WA	2	16.7%	7 (4 - 10)	20.0 (10.0 - 30.0)	50.0%	50.0%	0.0%
SA	1	12.5%	14	168.0	100.0%	0.0%	100.0%
ACT	1	50.0%	9	80.0	0.0%	100.0%	0.0%
NT	1	33.3%	1	10.0	100.0%	0.0%	0.0%
New Zealand	2	11.1%	2 (1 - 3)	70.0 (20.0 - 120.0)	50.0%	0.0%	50.0%
Total	58	40.6%	9 (1 - 25)	79.0 (2.0 - 311.0)	45.6%	66.7%	14.0%

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. Two of the 58 EDs that reported employing VMOs indicated that the hours that VMOs worked were too variable to report. *Option not exclusive, DEMs and DEMTs can select multiple options. One of the 58 EDs that reported employing VMOs did not respond to this question.

The largest mean headcount of VMO's was reported by Australian Major hospital EDs (13). No Metropolitan EDs in New Zealand reported employing any VMOs.

Table 28 Percentage of EDs that employed VMOs; average number of VMOs employed and average total hours VMOs worked per week (range in brackets); and proportion of EDs utilising various VMO contract types, by hospital peer group.

	EDs with VMOs employed		Number of VMOs employed	Hours per week VMOs work	Employed on a fixed hours contract*	Employed on zero hours contract*	Other type of employment contract*
Hospital peer group	n	%	mean (range)	mean (range)	%	%	%
Australia							
Major	14	45.2%	13 (1 - 25)	91.7 (10.0 - 311.0)	42.9%	85.7%	7.1%
Large metropolitan	14	48.3%	11 (2 - 24)	87.5 (10.0 - 300.0)	35.7%	92.9%	0.0%
Medium metropolitan	10	62.5%	7 (1 - 18)	77.8 (2.0 - 170.0)	40.0%	60.0%	10.0%
Large regional	8	36.4%	7 (1 - 21)	53.7 (16.0 - 108.5)	50.0%	62.5%	37.5%
Medium regional	4	50.0%	6 (2 - 10)	86.7 (30.0 - 190.0)	75.0%	0.0%	25.0%
Private	5	45.5%	6 (1 - 15)	73.2 (16.0 - 250.0)	60.0%	40.0%	20.0%
Specialist	1	14.3%	5	20.0	0.0%	0.0%	0.0%
New Zealand							
Regional	2	18.2%	2 (1 - 3)	70.0 (20.0 - 120.0)	50.0%	0.0%	50.0%

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. Two of the 58 EDs that reported employing VMOs indicated that the hours that VMOs worked were too variable to report. *Option not exclusive, DEMs and DEMTs can select multiple options. One of the 58 EDs employing reported that VMOs did not respond to this question.

4.4.8 Locum FACEM Staffing

This section reports on the percentage of EDs who employed FACEM locums, the average number of locums employed and the average total hours they worked per week, by region (Table 29), and by hospital peer group (Table 30).

Over half of New Zealand (56%) and almost a third of Australian (31%) EDs employed FACEM locums. Of the EDs that employed FACEM locums, Victorian EDs employed the highest number with an average of seven FACEM locums across six EDs, who worked on average of 15.4 hours per week.

Table 29 Percentage of EDs that employed locums, average number of locums employed and average total hours locums worked per week (range in brackets), by region.

	EDs with locum FACEMs employed		Number of locum FACEMs employed	Hours per week locum FACEMs work
			mean	mean
Region	n	%	(range)	(range)
Australia	39	31.2%	4.2 (0 - 13)	31.2 (2 - 150)
NSW	15	37.5%	3.0 (0 - 9)	29.7 (2 - 150)
VIC	6	20.7%	7.0 (2 - 13)	15.4 (8 - 24)
QLD	6	20.7%	2.7 (1 - 6)	53.3 (20 - 120)
WA	9	75.0%	4.7 (1 - 10)	33.5 (5 - 100)
SA	0	0.0%	0.0	0.0
TAS	1	50.0%	5.0	50.0
ACT	0	0.0%	0.0	0.0
NT	2	66.7%	1.0	40.0
New Zealand	10	55.6%	2.6 (1 - 10)	23.0 (3 - 80)
Total	49	34.3%	3.9 (0 - 13)	29.4 (2 - 150)

Note: Where no range is provided, $n \leq 1$ or there is no variation from the mean.

Medium and Large regional EDs in Australia were more likely than EDs in other peer groups to employ locum FACEMs, at 67% and 59% respectively. Private hospitals however, had the highest mean number of locums employed (7) working on average 7.7 hours per week.

Table 30 Percentage of EDs that employed locums, average number of locums employed and average total hours locums worked per week (range in brackets), by hospital peer group.

Hospital peer group	EDs with locum FACEMs employed n	EDs with locum FACEMs employed %	Number of locum FACEMs employed mean (range)	Hours per week locum FACEMs work mean (range)
Australia				
Major	9	29.0%	2.4 (1 - 6)	39.6 (8 - 120)
Large metropolitan	5	17.2%	4.2 (2 - 8)	19.7 (5 - 50)
Medium metropolitan	3	18.8%	2.3 (1 - 3)	15.2 (10 - 20)
Large regional	13	59.1%	4.7 (0 - 13)	34.7 (10 - 150)
Medium regional	6	66.7%	5.4 (1 - 12)	54.8 (14 - 100)
Private	3	27.3%	7.0 (1 - 10)	7.7 (2 - 12)
Specialist	0	0.0%	0	0.0
New Zealand				
Metropolitan	4	57.1%	1.3 (1 - 2)	13.5 (4 - 30)
Regional	6	54.5%	4.3 (1 - 10)	30.5 (3 - 80)

Note: Where no range is provided, $n \leq 1$ or there is no variation from the mean.

4.5 How EDs compare to ACEM's minimum recommended FACEM staffing model, Guideline 23

A total of 131 accredited adult and mixed EDs provided presentation data and are included in the sample for comparison against ACEM's Guideline on constructing and maintaining a senior emergency medicine workforce (G23) (Australasian College for Emergency Medicine, 2015), on the minimum recommended FACEM staffing model.

The percentage of EDs that met the minimum recommended FACEM staffing model, at the time of reporting, is presented in Table 31 by region and Table 32 by hospital peer group. Only 7.1% of New Zealand and 27.4% of Australian EDs were meeting the minimum recommended FACEM staffing outlined in G23. While the percentage of New Zealand EDs meeting the minimum recommended FACEM staffing has fluctuated since 2016, increasing from 7% in 2016 to 24% in 2018, but decreasing again in 2019, the number of Australian EDs meeting the minimum recommended FACEM staffing has consistently increased from 17% in 2016, 23% in 2018 to 27% in 2019.

Table 31 Percentage of adult and mixed EDs meeting ACEM's G23 minimum FACEM staffing model for the period 1 July 2018-30 June 2019, by region.

Region	n	%
Australia	32	27.4%
NSW	4	10.5%
VIC	13	48.1%
QLD	9	33.3%
WA	3	27.3%
SA	2	28.6%
TAS	1	50.0%
ACT	0	0.0%
NT	0	0.0%
New Zealand	1	7.1%
Total	33	25.2%

Over half (51.6%) of Australian Major hospital EDs were meeting ACEM's minimum FACEM staffing model at the time of reporting. No Medium regional hospitals in Australia and no regional hospitals in New Zealand were meeting the minimum FACEM staffing requirements.

Table 32 Percentage of adult and mixed EDs meeting ACEM's G23 minimum FACEM staffing model for the period 1 July 2018-30 June 2019, by hospital peer group.

Hospital peer group	n	%
Australia		
Major	16	51.6%
Large metropolitan	8	27.6%
Medium metropolitan	2	13.3%
Large regional	3	13.6%
Medium regional	0	0.0%
Private	3	27.3%
New Zealand		
Metropolitan	1	16.7%
Regional	0	0.0%

4.6 ED Staff Rosters

Weekday and weekend rosters for EM Specialists (FACEM and PEM Specialists) were provided by 124 EDs and FACEM trainee rosters were provided by 115 EDs. A number of EDs provided roster data that was excluded from analysis where appropriate, for example:

- Fourteen EDs (10 EDs in Australia and four EDs in New Zealand) reported being unable to separate EM Specialists from other senior staff on the roster.
- Twenty EDs (14 EDs in Australia and six EDs in New Zealand) reported being unable to separate FACEM trainees from other staff on the roster.
- For five EDs, FACEM roster data could not be reported on due to various reasons, including mixed rosters of FACEMs, FACEM trainees and other staff; and no or low FACEM numbers.
- For eight EDs, FACEM trainee roster data could not be reported on, with six of these EDs having low or no trainee numbers.

Rosters are presented in the following section for day and evening on-floor shifts, as well as for night on-call shifts for EM Specialists (FACEMs and PEM Specialists) and both night on-floor and on-call shifts for FACEM trainees.

Table 33 displays the average weekday and weekend rosters for EM Specialists (FTE) by region and a breakdown by hospital peer group is available in Table 34. Three EDs had EM Specialists rostered on-floor during the night shift on weekdays, averaging 1.0 FTE (range: 1.0-1.0), including two EDs classified as regional. Seven EDs had EM Specialists rostered on-floor during the night shift on weekends, averaging 1.0 FTE (range: 1.0-1.0), including two regional Australian EDs and two New Zealand Metropolitan EDs.

Table 33 Average weekday and weekend rosters for EM Specialist FTE (range in brackets), by region.

	Weekday roster			Weekend roster		
	Day (OF)	**Eve (OF)**	**Night (OC)**	**Day (OF)**	**Eve (OF)**	**Night (OC)**
Region	mean (range)	mean (range)	mean (range)	mean (range)	mean (range)	mean (range)
Australia	3.0 (1.0 - 8.0)	2.4 (0.0 - 6.0)	1.1 (0.0 - 3.0)	2.3 (1.0 - 6.0)	2.2 (0.0 - 6.0)	1.0 (0.0 - 3.0)
NSW	2.5 (1.0 - 5.0)	2.1 (0.0 - 4.0)	1.1 (0.0 - 3.0)	1.9 (1.0 - 3.0)	1.9 (0.0 - 4.0)	1.1 (0.0 - 3.0)
VIC	3.0 (1.0 - 6.0)	2.8 (0.0 - 6.0)	1.0 (0.0 - 2.0)	2.5 (1.0 - 5.0)	2.4 (0.0 - 5.0)	0.9 (0.0 - 2.0)
QLD	3.5 (1.0 - 8.0)	2.5 (1.0 - 6.0)	1.3 (1.0 - 3.0)	2.6 (1.0 - 6.0)	2.5 (1.0 - 6.0)	1.3 (1.0 - 3.0)
WA	3.6 (1.0 - 6.0)	2.6 (1.0 - 5.0)	1.0	2.5 (1.0 - 5.0)	2.3 (1.0 - 5.0)	1.0
SA	2.8 (1.0 - 5.0)	2.8 (1.0 - 5.0)	1.0	2.6 (1.0 - 4.0)	2.6 (1.0 - 4.0)	0.8 (0.0 - 1.0)
TAS	3.0 (2.0 - 4.0)	2.5 (2.0 - 3.0)	1.0	2.5 (2.0 - 3.0)	2.5 (2.0 - 3.0)	1.0
ACT	3.5 (2.0 - 5.0)	2.5 (2.0 - 3.0)	1.0	2.5 (2.0 - 3.0)	2.0	1.0
NT	2.3 (1.0 - 4.0)	1.3 (1.0 - 2.0)	1.0	2.0 (1.0 - 3.0)	1.3 (1.0 - 2.0)	1.0
New Zealand	2.1 (1.0 - 4.0)	1.9 (1.0 - 4.0)	1.0 (0.0 - 2.0)	1.7 (1.0 - 4.0)	1.6 (0.0 - 4.0)	0.9 (0.0 - 2.0)
Total	2.9 (1.0 - 8.0)	2.4 (0.0 - 6.0)	1.1 (0.0 - 3.0)	2.3 (1.0 - 6.0)	2.2 (0.0 - 6.0)	1.0 (0.0 - 3.0)

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. EM Specialist = FACEMs and Paediatric EM Specialists (PEMs). OF = On-floor. OC = On-call.

Major Australian EDs had the greatest average FTE of EM Specialists rostered on the floor during the day and evenings on weekdays and weekends compared to other hospital peer groups (Table 34).

Table 34 Average weekday and weekend rosters for EM Specialist FTE (range in brackets), by hospital peer group.

	Weekday roster			Weekend roster		
Hospital peer group	Day (OF) mean (range)	Eve (OF) mean (range)	Night (OC) mean (range)	Day (OF) mean (range)	Eve (OF) mean (range)	Night (OC) mean (range)
Australia						
Major	4.2 (2.0 - 8.0)	3.3 (2.0 - 6.0)	1.3 (0.0 - 3.0)	3.1 (2.0 - 6.0)	2.9 (2.0 - 6.0)	1.2 (0.0 - 3.0)
Large metropolitan	3.4 (2.0 - 7.0)	2.9 (2.0 - 6.0)	1.1 (1.0 - 2.0)	2.6 (1.0 - 5.0)	2.6 (1.0 - 5.0)	1.0 (0.0 - 2.0)
Medium metropolitan	2.1 (1.0 - 5.0)	1.6 (0.0 - 4.0)	1.1 (1.0 - 2.0)	1.7 (1.0 - 4.0)	1.4 (0.0 - 3.0)	0.9 (0.0 - 2.0)
Large regional	2.1 (1.0 - 3.0)	1.9 (1.0 - 3.0)	1.0 (1.0 - 1.0)	1.9 (1.0 - 3.0)	1.9 (1.0 - 3.0)	1.0 (0.0 - 1.0)
Medium regional	1.3 (1.0 - 2.0)	1.1 (1.0 - 2.0)	0.9 (0.0 - 1.0)	1.3 (1.0 - 2.0)	1.1 (1.0 - 2.0)	1.0
Private	1.9 (1.0 - 4.0)	1.7 (1.0 - 4.0)	0.9 (0.0 - 1.0)	1.7 (1.0 - 4.0)	1.7 (1.0 - 4.0)	0.9 (0.0 - 1.0)
Specialist	3.5 (3.0 - 5.0)	2.3 (2.0 - 3.0)	1.0	1.9 (1.0 - 3.0)	1.9 (1.0 - 2.5)	1.0
New Zealand						
Metropolitan	2.8 (2.0 - 4.0)	2.5 (2.0 - 4.0)	1.3 (1.0 - 2.0)	2.5 (2.0 - 4.0)	2.5 (2.0 - 4.0)	1.3 (1.0 - 2.0)
Regional	1.9 (1.0 - 3.0)	1.7 (1.0 - 3.0)	0.9 (0.0 - 1.0)	1.4 (1.0 - 3.0)	1.3 (0.0 - 2.0)	0.8 (0.0 - 1.0)

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. EM Specialist = FACEMs and Paediatric EM Specialists (PEMs). OF = On-floor. OC = On-call.

The average weekday and weekend rosters for FACEM trainees (FTE), by region are displayed in Table 35. South Australian and New Zealand EDs had the lowest average FACEM trainee FTE rostered on floor across day, evening and night shifts.

Table 35 Average weekday and weekend rosters for FACEM trainee FTE (range in brackets), by region.

	Weekday roster				Weekend roster			
Region	Day (OF) mean (range)	Eve (OF) mean (range)	Night (OF) mean (range)	Night (OC) mean (range)	Day (OF) mean (range)	Eve (OF) mean (range)	Night (OF) mean (range)	Night (OC) mean (range)
Australia	2.5 (0.0 - 12.0)	2.8 (0.0 - 12.0)	1.8 (0.0 - 4.0)	0.2 (0.0 - 2.0)	2.5 (0.0 - 12.0)	2.7 (0.0 - 12.0)	1.7 (0.0 - 4.0)	0.2 (0.0 - 2.0)
NSW	2.2 (1.0 - 5.0)	2.4 (0.0 - 7.0)	1.5 (0.0 - 4.0)	0.3 (0.0 - 2.0)	2.2 (0.0 - 5.0)	2.3 (0.0 - 7.0)	1.5 (0.0 - 4.0)	0.3 (0.0 - 2.0)
VIC	2.6 (0.0 - 12.0)	3.2 (0.0 - 12.0)	2.0 (0.0 - 4.0)	0.0 (0.0 - 1.0)	2.5 (0.0 - 12.0)	3.0 (0.0 - 12.0)	2.0 (0.0 - 4.0)	0.1 (0.0 - 1.0)
QLD	2.8 (1.0 - 8.0)	3.0 (1.0 - 8.0)	1.7 (0.0 - 4.0)	0.1 (0.0 - 2.0)	2.8 (1.0 - 8.0)	2.8 (1.0 - 7.0)	1.8 (0.0 - 4.0)	0.2 (0.0 - 2.0)
WA	3.1 (1.0 - 6.0)	3.4 (1.0 - 5.0)	2.2 (0.0 - 4.0)	0.2 (0.0 - 1.0)	3.0 (1.0 - 5.0)	3.2 (0.0 - 5.0)	2.0 (0.0 - 4.0)	0.4 (0.0 - 1.0)
SA	1.3 (0.0 - 3.0)	1.5 (0.0 - 4.0)	1.0 (0.0 - 3.0)	0.0	1.3 (0.0 - 3.0)	1.5 (0.0 - 4.0)	1.0 (0.0 - 3.0)	0.0
TAS	3.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
ACT	3.0 (2.0 - 4.0)	3.0 (2.0 - 4.0)	2.5 (1.0 - 4.0)	0.0	3.0 (2.0 - 4.0)	3.0 (2.0 - 4.0)	2.5 (1.0 - 4.0)	0.0
NT	2.7 (2.0 - 4.0)	3.3 (2.0 - 5.0)	2.0	0.0	2.7 (2.0 - 4.0)	3.3 (2.0 - 5.0)	2.0	0.0
New Zealand	2.0 (1.0 - 3.0)	2.3 (1.0 - 4.0)	1.4 (1.0 - 3.0)	0.0	1.8 (1.0 - 3.0)	2.0 (1.0 - 4.0)	1.4 (1.0 - 3.0)	0.0
Total	2.5 (0.0 - 12.0)	2.8 (0.0 - 12.0)	1.7 (0.0 - 4.0)	0.1 (0.0 - 2.0)	2.4 (0.0 - 12.0)	2.6 (0.0 - 12.0)	1.7 (0.0 - 4.0)	0.2 (0.0 - 2.0)

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. OF = On-floor. OC = On-call.

Table 36 displays the average weekday and weekend rosters for FACEM trainees (FTE) by hospital peer group. Major and Specialist EDs in Australia had higher numbers of trainees' rostered on-floor for the majority of shifts, compared to EDs in other peer groups. A total of 99 EDs indicated that trainees were rostered on the floor during week-nights and during weekend nights, with an average of 2.0 FTE (range: 1.0-4.0) rostered per ED during these times.

Table 36 Average weekday and weekend rosters for FACEM trainee FTE (range in brackets), by hospital peer group.

	Weekday roster				Weekend roster			
Hospital peer group	Day (OF) mean (range)	Eve (OF) mean (range)	Night (OF) mean (range)	Night (OC) mean (range)	Day (OF) mean (range)	Eve (OF) mean (range)	Night (OF) mean (range)	Night (OC) mean (range)
Australia								
Major	3.7 (0.0 - 8.0)	4.0 (0.0 - 7.0)	2.7 (0.0 - 4.0)	0.3 (0.0 - 2.0)	3.6 (0.0 - 8.0)	3.9 (0.0 - 7.0)	2.7 (0.0 - 4.0)	0.3 (0.0 - 2.0)
Large metropolitan	2.7 (1.0 - 6.0)	3.1 (1.0 - 8.0)	2.0 (0.0 - 4.0)	0.1 (0.0 - 1.0)	2.7 (1.0 - 5.0)	2.9 (1.0 - 6.0)	1.8 (0.0 - 4.0)	0.2 (0.0 - 1.0)
Medium metropolitan	1.6 (1.0 - 2.0)	1.8 (1.0 - 3.0)	1.3 (0.0 - 2.0)	0.1 (0.0 - 1.0)	1.5 (0.0 - 2.0)	1.6 (0.0 - 3.0)	1.3 (0.0 - 2.0)	0.1 (0.0 - 1.0)
Large regional	1.6 (0.0 - 4.0)	1.8 (0.0 - 5.0)	1.2 (0.0 - 3.0)	0.1 (0.0 - 1.0)	1.6 (0.0 - 5.0)	1.6 (0.0 - 5.0)	1.2 (0.0 - 3.0)	0.1 (0.0 - 1.0)
Medium regional	1.0 (0.0 - 2.0)	1.0 (0.0 - 2.0)	0.4 (0.0 - 2.0)	0.0	1.0 (0.0 - 2.0)	1.0 (0.0 - 2.0)	0.4 (0.0 - 2.0)	0.0
Private	1.3 (1.0 - 2.0)	1.7 (1.0 - 3.0)	0.7 (0.0 - 2.0)	0.1 (0.0 - 1.0)	1.1 (1.0 - 2.0)	1.7 (1.0 - 3.0)	0.9 (0.0 - 2.0)	0.3 (0.0 - 1.0)
Specialist	4.0 (1.0 - 12.0)	4.6 (1.0 - 12.0)	1.8 (1.0 - 4.0)	0.2 (0.0 - 1.0)	3.8 (0.0 - 12.0)	4.0 (0.0 - 12.0)	1.6 (0.0 - 4.0)	0.2 (0.0 - 1.0)
New Zealand								
Metropolitan	2.0 (1.0 - 3.0)	2.2 (1.0 - 4.0)	1.8 (1.0 - 3.0)	0.0	2.0 (1.0 - 3.0)	2.2 (1.0 - 4.0)	1.8 (1.0 - 3.0)	0.0
Regional	2.0 (1.0 - 3.0)	2.3 (1.0 - 4.0)	1.1 (1.0 - 2.0)	0.0	1.7 (1.0 - 3.0)	1.9 (1.0 - 3.0)	1.1 (1.0 - 2.0)	0.0

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. OF = On-floor. OC = On-call.

The average total weekday and weekend rosters of EM Specialists and FACEM trainees across all on-floor and on-call shifts (day, evening and night) by region are presented in Table 37. Interestingly, the majority of jurisdictions had a higher average FTE of EM Specialists and FACEM trainees rostered over the weekend than weekdays.

Table 37 Average total EM Specialist and FACEM trainee FTE across all on-floor and on-call shifts over a 24 hour period by weekday and weekend (range in brackets), by region.

	EM Specialists*		FACEM trainees	
	Weekday	**Weekend**	**Weekday**	**Weekend**
Region	mean (range)	mean (range)	mean (range)	mean (range)
Australia	7.0 (3.0 - 19.0)	7.2 (0.0 - 29.0)	6.1 (1.0 - 15.0)	7.3 (0.0 - 28.0)
NSW	6.2 (3.0 - 12.0)	6.7 (0.0 - 19.0)	5.4 (1.0 - 9.0)	6.5 (0.0 - 16.0)
VIC	7.3 (3.0 - 13.0)	7.7 (0.0 - 29.0)	6.5 (3.0 - 13.0)	7.6 (0.0 - 28.0)
QLD	7.9 (4.0 - 19.0)	7.6 (0.0 - 24.0)	6.6 (4.0 - 15.0)	7.7 (2.0 - 23.0)
WA	7.2 (3.0 - 12.0)	9.2 (2.0 - 15.0)	5.8 (3.0 - 11.0)	8.9 (2.0 - 15.0)
SA	7.4 (3.0 - 13.0)	3.0 (0.0 - 10.0)	7.3 (2.0 - 11.0)	3.8 (0.0 - 10.0)
TAS	6.5 (5.0 - 8.0)	4.5 (0.0 - 9.0)	7.0	9.0
ACT	7.5 (5.0 - 10.0)	8.5 (5.0 - 12.0)	6.0 (5.0 - 7.0)	8.5 (5.0 - 12.0)
NT	4.7 (3.0 - 7.0)	8.0 (6.0 - 11.0)	4.3 (3.0 - 6.0)	8.0 (6.0 - 11.0)
New Zealand	5.3 (3.0 - 10.0)	5.0 (0.0 - 9.0)	5.5 (2.0 - 10.0)	5.3 (3.0 - 9.0)
Total	6.8 (3.0 - 19.0)	7.0 (0.0 - 29.0)	6.0 (1.0 - 15.0)	7.1 (0.0 - 28.0)

Notes: Where no range is provided, $n \leq 1$ or there is no variation from the mean. EM Specialist = FACEMs and Paediatric EM Specialists (PEMs).

The average total weekday and weekend rosters of EM Specialists and FACEM trainees for all on-floor and on-call shifts (day, evening and night) by hospital peer group are presented in Table 38. Major and Specialist EDs in Australia had much greater EM Specialist and FACEM trainee FTE rostered on weekends than on weekdays, compared with EDs in other peer groups.

Table 38 Average total EM Specialist and FACEM trainee FTE across all on-floor and on-call shifts over a 24 hour period by weekday and weekend (range in brackets), by hospital peer group.

	EM Specialists*		FACEM trainees	
	Weekday	**Weekend**	**Weekday**	**Weekend**
Hospital peer group	mean (range)	mean (range)	mean (range)	mean (range)
Australia				
Major	9.2 (6.0 - 17.0)	11.3 (0.0 - 24.0)	7.7 (5.0 - 15.0)	10.8 (0.0 - 23.0)
Large metropolitan	7.8 (5.0 - 19.0)	7.6 (0.0 - 18.0)	6.5 (3.0 - 11.0)	7.7 (3.0 - 15.0)
Medium metropolitan	5.0 (3.0 - 10.0)	4.9 (2.0 - 7.0)	4.4 (1.0 - 8.0)	4.7 (0.0 - 7.0)
Large regional	5.4 (3.0 - 7.0)	4.2 (0.0 - 15.0)	5.3 (3.0 - 7.0)	4.8 (0.0 - 16.0)
Medium regional	4.3 (3.0 - 10.0)	1.7 (0.0 - 6.0)	3.8 (3.0 - 6.0)	2.4 (0.0 - 6.0)
Private	5.6 (4.0 - 9.0)	4.1 (2.0 - 7.0)	5.6 (4.0 - 9.0)	4.3 (2.0 - 7.0)
Specialist	6.8 (6.0 - 8.0)	12.8 (5.0 - 29.0)	4.6 (3.0 - 6.0)	9.6 (0.0 - 28.0)
New Zealand				
Metropolitan	6.5 (5.0 - 10.0)	6.0 (3.0 - 9.0)	7.4 (5.0 - 10.0)	6.0 (3.0 - 9.0)
Regional	4.8 (3.0 - 7.0)	4.6 (0.0 - 7.0)	4.1 (2.0 - 6.0)	4.7 (3.0 - 7.0)

Note: EM Specialist = FACEMs and Paediatric EM Specialists (PEMs).

With respect to alternative rostering, a number of EDs reported having overlapping or bridging shifts, for either all staff, FACEMs/senior staff, or for FACEM trainees. These ranged from four to five overlapping shifts across the week or extra overlapping shifts over weekends or during peak periods, such as holidays.

4.7 ED treatment spaces

All EDs reported having resuscitation, adult and/or paediatric emergency or acute spaces (Table 39). Almost all of the accredited EDs in Australia (99.2%) and New Zealand (94.4%) reported having an SSU or equivalent treatment space. Most of the accredited EDs in New Zealand reported having low acuity, sub-acute or fast track and mental health assessment treatment spaces (88.9% respectively) compared to 88.0% and 75.2% of Australian EDs.

Table 39 EDs with specific treatment spaces and average number of beds or chairs available within each treatment space (range in brackets), by region.

	Resuscitation		Adult and/or Paediatric Emergency/Acute		Low acuity/sub-acute/fast-track		SSU (or equivalent)		ED mental health assessment	
Region	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)
Australia	125	3.3 (1.0 - 15.0)	125	20.6 (3.0 - 46.0)	110	12.1 (2.0 - 32.0)	124	10.0 (2.0 - 46.0)	94	1.9 (1.0 - 10.0)
NSW	40	2.8 (1.0 - 6.0)	40	20.6 (3.0 - 46.0)	33	9.0 (4.0 - 15.0)	40	11.4 (5.0 - 24.0)	33	1.5 (1.0 - 6.0)
VIC	29	3.4 (1.0 - 9.0)	29	19.3 (8.0 - 31.0)	27	14.7 (4.0 - 32.0)	29	8.7 (2.0 - 46.0)	23	1.7 (1.0 - 6.0)
QLD	29	3.9 (1.0 - 14.0)	29	19.8 (3.0 - 41.0)	26	14.2 (2.0 - 30.0)	28	9.8 (2.0 - 21.0)	18	2.3 (1.0 - 8.0)
WA	12	4.3 (1.0 - 15.0)	12	22.3 (9.0 - 32.0)	10	13.0 (4.0 - 19.0)	12	8.8 (4.0 - 19.0)	8	3.8 (1.0 - 10.0)
SA	8	2.8 (2.0 - 6.0)	8	22.4 (6.0 - 45.0)	7	8.9 (5.0 - 14.0)	8	10.4 (2.0 - 19.0)	6	1.8 (1.0 - 4.0)
TAS	2	3.5 (3.0 - 4.0)	2	25.0 (24.0 - 26.0)	2	11.5 (8.0 - 15.0)	2	11.5 (7.0 - 16.0)	2	1.5 (1.0 - 2.0)
ACT	2	3.5 (2.0 - 5.0)	2	27.5 (17.0 - 38.0)	2	11.5 (11.0 - 12.0)	2	11.0 (9.0 - 13.0)	1	4.0
NT	3	2.3 (2.0 - 3.0)	3	21.7 (16.0 - 30.0)	3	9.3 (8.0 - 12.0)	3	10.3 (8.0 - 12.0)	3	2.0 (1.0 - 4.0)
New Zealand	18	3.8 (2.0 - 10.0)	18	20.4 (8.0 - 39.0)	16	10.4 (4.0 - 36.0)	17	8.6 (2.0 - 18.0)	16	1.5 (1.0 - 3.0)
Total	143	3.4 (1.0 - 15.0)	143	20.6 (3.0 - 46.0)	126	11.9 (2.0 - 36.0)	141	9.9 (2.0 - 46.0)	110	1.9 (1.0 - 10.0)

Note: Where no range is provided, $n \leq 1$ or there is no variation from the mean.

Table 40 reports on specific ED treatment spaces and the average number of beds/ chairs available within these treatment spaces by hospital peer group. All New Zealand Metropolitan EDs reported having mental health assessment treatment spaces whereas only 67.7% of Major and 77.8% of metropolitan EDs in Australia reported having mental health assessment spaces in their EDs.

Table 40 EDs with specific treatment spaces and average number of beds or chairs available within each treatment space (range in brackets), by hospital peer group.

	Resuscitation		Adult and/or Paediatric Emergency/Acute		Low acuity/sub-acute/fast-track		SSU (or equivalent)		ED mental health assessment	
Hospital peer group	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)
Australia										
Major	31	5.2 (2.0 - 15.0)	31	28.9 (15.0 - 46.0)	31	15.4 (5.0 - 30.0)	31	12.2 (6.0 - 24.0)	25	2.6 (1.0 - 8.0)
Large metropolitan	29	3.2 (1.0 - 6.0)	29	23.7 (6.0 - 41.0)	28	14.1 (5.0 - 32.0)	29	12.0 (3.0 - 46.0)	21	2.0 (1.0 - 10.0)
Medium metropolitan	16	2.4 (1.0 - 5.0)	16	15.1 (8.0 - 28.0)	15	9.7 (4.0 - 17.0)	16	9.4 (2.0 - 17.0)	14	1.5 (1.0 - 3.0)
Large regional	22	2.7 (2.0 - 5.0)	22	17.0 (9.0 - 27.0)	19	9.7 (4.0 - 16.0)	22	9.3 (5.0 - 17.0)	20	1.8 (1.0 - 4.0)
Medium regional	9	2.3 (1.0 - 5.0)	9	9.1 (3.0 - 16.0)	6	5.3 (3.0 - 10.0)	9	7.3 (3.0 - 12.0)	8	1.1 (1.0 - 2.0)
Private	11	1.5 (1.0 - 2.0)	11	13.7 (5.0 - 29.0)	4	3.5 (2.0 - 4.0)	10	4.2 (2.0 - 7.0)	0	
Specialist	7	4.1 (2.0 - 9.0)	7	20.4 (7.0 - 39.0)	7	11.6 (8.0 - 18.0)	7	8.1 (2.0 - 16.0)	6	1.7 (1.0 - 3.0)
New Zealand										
Metropolitan	7	4.9 (3.0 - 10.0)	7	27.4 (14.0 - 39.0)	7	14.1 (6.0 - 36.0)	7	10.0 (4.0 - 18.0)	7	1.6 (1.0 - 3.0)
Regional	11	3.1 (2.0 - 6.0)	11	15.9 (8.0 - 36.0)	9	7.6 (4.0 - 20.0)	10	7.6 (2.0 - 16.0)	9	1.4 (1.0 - 3.0)

Note: Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean.

The ratio of ED beds/ chairs across all treatment spaces to total ED attendance, by region is presented in Table 41. Overall Australian EDs had a higher number of beds or chairs to attendance at 1214 attendances per one bed/ chair, compared with New Zealand EDs (1372 attendances per one bed/ chair).

Table 41 The ratio of ED beds/ chairs across all reported treatment spaces to total ED attendance, by region.

Region	Number of chairs/beds n	Ratio of ED beds/chairs: attendance
Australia	5747	1 : 1214
NSW	1736	1 : 1218
VIC	1345	1 : 1174
QLD	1371	1 : 1234
WA	584	1 : 1292
SA	357	1 : 1268
TAS	106	1 : 1031
ACT	111	1 : 1381
NT	137	1 : 923
New Zealand	772	1 : 1372
Total	6519	1 : 1231

Table 42 presents the ratio of ED beds/ chairs across all ED treatment spaces to total ED attendances, by hospital peer group. Private EDs in Australia reported more ED beds/ chairs per attendance, at a ratio of 992 attendances per one bed/ chair, compared to the other peer groups.

Table 42 The ratio of ED beds/ chairs across all reported treatment spaces to total ED attendance, by hospital peer group.

Hospital peer group	Number of chairs/beds n	Ratio of ED beds/chairs: attendance
Australia		
Major	1975	1 : 1214
Large metropolitan	1562	1 : 1211
Medium metropolitan	597	1 : 1274
Large regional	859	1 : 1132
Medium regional	210	1 : 1396
Private	224	1 : 992
Specialist	320	1 : 1469
New Zealand		
Metropolitan	406	1 : 1312
Regional	366	1 : 1424

4.8 Hospital Services

This section presents data on accredited EDs with a Major Trauma Service and those with an onsite Cardiac Catheter Laboratory available for urgent Percutaneous Coronary Intervention (PCI) for ST-Elevation Myocardial Infarction (STEMI). Just over one quarter of accredited Australian EDs (25.6%) and half of New Zealand EDs were designated as a Major Trauma Service (Table 43). Only 10.3% of Victorian and 16.7% of Western Australia EDs were designated as a Major Trauma Service. With respect to Cardiac Catheter Labs providing urgent PCI for STEMI, 54.4% of Australian and 44.4% of New Zealand EDs had this available onsite.

Table 43 The percentage of hospitals with an onsite Cardiac Catheter Laboratory providing urgent PCI for STEMI, the percentage with a Major Trauma Service and the number of major trauma cases treated with an injury severity score (ISS) of greater than 12, by region.

Region	On-site Cardiac Catheter Lab for urgent PCI for STEMI %	Designated as Major Trauma Service %	Major trauma cases treated with an ISS>12* mean (range)
Australia	54.4%	25.6%	403.1 (12 - 1982)
NSW	65.0%	32.5%	364.5 (12 - 1982)
VIC	58.6%	10.3%	858.0 (130 - 1404)
QLD	41.4%	20.7%	378.2 (73 - 520)
WA	41.7%	16.7%	487.0 (76 - 898)
SA	62.5%	37.5%	223.0 (35 - 415)
TAS	100.0%	100.0%	Data not available
ACT	50.0%	50.0%	283.0 (283 - 283)
NT	0.0%	66.7%	156.0 (156 - 156)
New Zealand	44.4%	50.0%	328.1 (48 - 1100)
Total	53.1%	28.7%	386.4 (12 - 1982)

Notes: * ISS = injury severity score, for major trauma cases during the period 1 July 2018 to 30 June 2019. Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean.

Table 44 shows this data by hospital peer group. In Australia, only EDs at Specialist (100.0%), Major (58.1%), and Large regional hospitals (31.8%) reported having a Major Trauma Service. In New Zealand Major Trauma Services were located at 71.4% of Metropolitan and 36.4% of Regional hospitals.

In Australia, urgent PCI for STEMI was available in a large proportion of Major (96.8%) and Private (90.9%) hospitals, compared with the other Australian hospital peer groupings (Table 44). This was available in 71.4% of Metropolitan and 27.3% of Regional hospitals in New Zealand.

Large regional EDs in Australia reported the lowest mean number of major trauma cases with an injury severity score (ISS) of more than 12 (62) with Major EDs in Australia reporting the highest mean number of trauma cases with an ISS >12 (603) (Table 44).

Table 44 Percentage of hospitals with an on-site Cardiac Catheter Laboratory providing urgent PCI for STEMI, the percentage with a Major Trauma Service and the number of major trauma cases treated with an injury severity score greater than 12, by hospital peer group.

Hospital peer group	**On-site Cardiac Catheter Lab for urgent PCI for STEMI** %	**Designated as Major Trauma Service** %	**Major trauma cases treated with an ISS>12*** mean (range)
Australia			
Major	96.8%	58.1%	603.3 (156 - 1982)
Large metropolitan	44.8%	0.0%	
Medium metropolitan	6.3%	0.0%	
Large regional	54.5%	31.8%	62.0 (12 - 91)
Medium regional	0.0%	0.0%	
Private	90.9%	0.0%	
Specialist	28.6%	100.0%	189.0 (35 - 518)
New Zealand			
Metropolitan	71.4%	71.4%	425.4 (74 - 1100)
Regional	27.3%	36.4%	166.0 (48 - 330)

Notes: * ISS = injury severity score, for major trauma cases during the period 1 July 2018 to 30 June 2019. Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean. Only applicable EDs have major trauma cases treated with an ISS > 12.

4.9 Staff Training

This section presents data on the availability of cultural competency and discrimination, bullying, sexual harassment and harassment (DBSH) training in Australian and New Zealand accredited EDs.

4.9.1 Cultural Competency Training

Cultural competency training was available in all New Zealand EDs, and 95.2% of Australian EDs. Of the six Australian EDs it wasn't available in these included five Private EDs and one Large regional ED. Two of these EDs did not provide a reason for the unavailability of cultural competency training and four reported that ACEM members and trainees had access to ACEMs training modules on cultural competency.

4.9.2 Discrimination, Bullying, Sexual Harassment and Harassment Training

DBSH training was available to all New Zealand EDs and all but three Australian EDs (97.6%), which included one Major, one Large metropolitan and one Large regional ED. Of the Australian EDs that indicated that DBSH training was not available, one ED did not provide a reason why; one ED said that their hospital and health service did not make this training available; and one ED said the DBSH training was partially covered by an available online module.

4.10 Ultrasound Teaching

This section pertains to ultrasound teaching in EDs and whether EDs have a formal ultrasound training program and the ultrasound scans FACEM trainees are expected to gain proficiency in. This section also includes the number of FACEMs, FACEM trainees and SIMGs who have an ultrasound qualification and who have met ACEM's criteria as outlined in P733 Credentialing for Emergency Medicine Ultrasound (Australasian College for Emergency Medicine, 2019), as well as information on the number of ED ultrasound machines and whether there is a clinical lead for ultrasound.

4.10.1 Ultrasound training

Data on whether the accredited EDs have a formal ultrasound training program and the scans FACEM trainees are expected to gain proficiency in are presented by region in Table 45 and by hospital peer group in Table 46.

While less than half of the EDs in Australia (42.4%) and New Zealand (44.4%) have a formal ultrasound training program (Table 45), half of EDs in New Zealand and over half (51.2%) of EDs in Australia have an informal training program. Of those that have a formal ultrasound training program, most of the FACEM trainees in Australia (94.3% and 98.1%) and all FACEM trainees in New Zealand are expected to gain proficiency in Abdominal Aortic Aneurysm (AAA) and extended Focused Assessment with Sonography for Trauma (eFAST). In addition to AAA and eFAST, all FACEM trainees in New Zealand EDs with a formal ultrasound training program are also expected to gain proficiency in I.V. access and basic echo. Expected proficiency in early pregnancy, gallbladder, and other techniques varied across jurisdictions.

Table 45 Proportion of EDs that have an ultrasound training program and the scans FACEM trainees are expected to gain proficiency in, by region.

	Formal ultrasound training program				Scans FACEM trainees are expected to gain proficiency in*							
		Yes	Informal training only	No		AAA	eFAST	I.V. access	Basic echo	Early pregnancy	Gallbladder	Other
Region	n	%	%	%	n	%	%	%	%	%	%	%
Australia	125	42.4%	51.2%	6.4%	53	94.3%	98.1%	75.5%	73.6%	20.8%	32.1%	30.2%
NSW	40	52.5%	45.0%	2.5%	21	100.0%	100.0%	81.0%	95.2%	33.3%	47.6%	14.3%
VIC	29	34.5%	58.6%	6.9%	10	90.0%	90.0%	90.0%	70.0%	100.0%	30.0%	40.0%
QLD	29	48.3%	44.8%	6.9%	14	85.7%	100.0%	71.4%	50.0%	14.3%	21.4%	28.6%
WA	12	50.0%	50.0%	0.0%	6	100.0%	100.0%	33.3%	50.0%	33.3%	16.7%	50.0%
SA	8	12.5%	50.0%	37.5%	1	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	100.0%
TAS	2	0.0%	100.0%	0.0%	0							
ACT	2	50.0%	50.0%	0.0%	1	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%
NT	3	0.0%	100.0%	0.0%	0							
New Zealand	18	44.4%	50.0%	5.6%	7	100.0%	100.0%	57.1%	71.4%	71.4%	28.6%	28.6%
Total	143	42.7%	51.0%	6.3%	60	95.0%	98.3%	73.3%	73.3%	26.7%	31.7%	30.0%

Note: Only applicable for those EDs that have a formal ultrasound training program.

Table 46 shows that Major (64.5%) and Large and Medium metropolitan (62.1% and 37.5%) EDs in Australia were more likely to have a formal ultrasound training program than EDs in other peer groups (18.2% and 25.0%). Similarly, Metropolitan EDs (85.7%) in New Zealand were more likely to have a formal ultrasound training program than Regional EDs (18.2%) in New Zealand.

Table 46 Proportion of EDs that have an ultrasound training program and the scans FACEM trainees are expected to gain proficiency in, by hospital peer group.

	Formal ultrasound training program				Scans FACEM trainees are expected to gain proficiency in*							
Hospital peer group	n	Yes %	Informal training only %	No %	n	AAA %	eFAST %	I.V. access %	Basic echo %	Early pregnancy %	Gallbladder %	Other %
Australia												
Major	31	64.5%	35.5%	0.0%	20	100.0%	100.0%	75.0%	75.0%	15.0%	25.0%	35.0%
Large metropolitan	29	62.1%	34.5%	3.4%	18	100.0%	100.0%	66.7%	77.8%	27.8%	27.8%	22.2%
Medium metropolitan	16	37.5%	56.3%	6.3%	6	100.0%	100.0%	83.3%	83.3%	16.7%	66.7%	16.7%
Large regional	22	18.2%	81.8%	0.0%	4	100.0%	100.0%	75.0%	75.0%	50.0%	50.0%	25.0%
Medium regional	9	22.2%	77.8%	0.0%	2	50.0%	100.0%	100.0%	50.0%	0.0%	0.0%	0.0%
Specialist	11	9.1%	54.5%	36.4%	1	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	0.0%
Private	7	28.6%	42.9%	28.6%	2	0.0%	50.0%	100.0%	0.0%	0.0%	0.0%	100.0%
New Zealand												
Metropolitan	7	85.7%	0.0%	14.3%	6	100.0%	100.0%	50.0%	66.7%	66.7%	16.7%	16.7%
Regional	11	18.2%	81.8%	0.0%	1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Only applicable for those EDs that have a formal ultrasound training program.

When asked to specify what other types of scans FACEM trainees are expected to gain proficiency in, six EDs specified lung, another six renal/ kidney (hydronephrosis), and two identified deep vein thrombosis. Other scans specified included Basic Echocardiography in Life Support (BELS), Kidneys, Ureters, Bladder (KUB) ultrasound, Rapid Ultrasound for Shock and Hypotension (RUSH) exam, shock, soft tissue and thoracic.

4.10.2 Ultrasound qualifications and credentialing

The mean number of FACEMs, FACEM trainees and SIMGs who have a formal ultrasound qualification and the mean number who meet the ACEM credentialing criteria for eFAST, AAA, BELS/FELS, and I.V. access are presented by region in Table 47 and by hospital peer group in Table 48. New Zealand EDs reported a higher mean number of those with a formal ultrasound qualification (5.6) compared with Australian EDs (4.6). Similarly, New Zealand EDs reported a higher mean number of those who met ACEM's credentialing criteria for eFAST (10.5), AAA (10.5) and BELS/FELS (9.6) compared to those in Australian EDs (8.9, 8.1 and 4.7 respectively).

Table 47 Mean number of FACEMs, FACEM trainees and SIMGs who have a formal ultrasound qualification or are ACEM credentialed (range in brackets), by region.

	Formal ultrasound qualification		ACEM Credentialed							
			eFAST		AAA		BELS/FELS		I.V. access	
Region	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)
Australia	102	4.6 (1.0 - 44.0)	105	8.9 (1.0 - 80.0)	100	8.1 (1.0 - 62.0)	96	4.7 (1.0 - 21.0)	89	11.3 (1.0 - 80.0)
NSW	31	5.5 (1.0 - 20.0)	35	9.2 (1.0 - 62.0)	34	8.7 (1.0 - 62.0)	30	5.5 (1.0 - 21.0)	31	10.1 (1.0 - 62.0)
VIC	22	3.0 (1.0 - 7.0)	24	12.7 (2.0 - 80.0)	24	9.5 (1.0 - 54.0)	24	4.0 (1.0 - 12.0)	20	15.3 (1.0 - 80.0)
QLD	23	5.5 (1.0 - 44.0)	21	6.1 (1.0 - 14.0)	20	5.8 (1.0 - 14.0)	18	4.9 (1.0 - 14.0)	20	12.3 (1.0 - 40.0)
WA	12	5.5 (1.0 - 18.0)	12	7.1 (1.0 - 24.0)	11	7.2 (1.0 - 21.0)	12	5.0 (1.0 - 15.0)	9	6.8 (1.0 - 20.0)
SA	7	3.6 (1.0 - 10.0)	7	4.6 (1.0 - 13.0)	6	5.5 (1.0 - 14.0)	6	3.5 (1.0 - 10.0)	4	4.5 (1.0 - 8.0)
TAS	2	3.0	2	3.0	1	3.0	2	2.5 (2.0 - 3.0)	1	3.0
ACT	2	2.5 (1.0 - 4.0)	1	4.0	1	4.0	1	4.0	1	4.0
NT	3	3.0 (2.0 - 4.0)	3	17.3 (1.0 - 26.0)	3	17.3 (1.0 - 26.0)	3	3.0 (1.0 - 4.0)	3	17.3 (1.0 - 26.0)
New Zealand	16	5.6 (1.0 - 11.0)	17	10.5 (1.0 - 26.0)	17	10.5 (1.0 - 26.0)	14	9.6 (1.0 - 26.0)	15	10.9 (1.0 - 27.0)
Total	118	4.8 (1.0 - 44.0)	122	9.1 (1.0 - 80.0)	117	8.4 (1.0 - 62.0)	110	5.3 (1.0 - 26.0)	104	11.2 (1.0 - 80.0)

Note: Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean.

Major and Large and Medium metropolitan EDs in Australia reported a higher average number of FACEMs, FACEM trainees and SIMGs with a formal ultrasound qualification than all other hospital peer groups. For New Zealand, Metropolitan EDs (7.9) had a higher average number of those with a formal ultrasound qualification compared with Regional EDs (3.9). A similar trend can be observed across hospital peer groups in Table 48for FACEMs, FACEM trainees and SIMGs who met the ACEM credentialing criteria for eFAST, AAA, BELS/FELS and I.V. access.

Table 48 Mean number of FACEMs, FACEM trainees and SIMGs who have a formal ultrasound qualification or are ACEM credentialed (range in brackets), by hospital peer group.

	Formal ultrasound qualification		ACEM Credentialed							
			eFAST		AAA		BELS/FELS		I.V. access	
Hospital peer group	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)	n	mean (range)
Australia										
Major	30	8.3 (1.0 - 44.0)	30	15.1 (1.0 - 80.0)	29	13.0 (1.0 - 62.0)	28	6.8 (1.0 - 21.0)	26	18.3 (1.0 - 80.0)
Large metropolitan	24	4.1 (1.0 - 10.0)	24	7.5 (1.0 - 26.0)	24	6.5 (1.0 - 26.0)	25	4.4 (1.0 - 19.0)	20	10.8 (1.0 - 52.0)
Medium metropolitan	12	3.3 (1.0 - 11.0)	12	9.4 (1.0 - 38.0)	12	8.4 (1.0 - 36.0)	11	4.2 (1.0 - 14.0)	10	9.7 (1.0 - 38.0)
Large regional	16	2.6 (1.0 - 6.0)	16	5.0 (1.0 - 12.0)	16	4.7 (1.0 - 12.0)	14	3.6 (1.0 - 12.0)	15	6.1 (1.0 - 32.0)
Medium regional	5	3.2 (2.0 - 4.0)	8	7.4 (3.0 - 25.0)	8	7.4 (3.0 - 25.0)	7	2.6 (1.0 - 4.0)	7	8.6 (3.0 - 25.0)
Private	8	2.1 (1.0 - 6.0)	8	3.9 (1.0 - 9.0)	8	3.9 (1.0 - 9.0)	6	3.7 (1.0 - 7.0)	7	4.7 (1.0 - 7.0)
Specialist	7	1.7 (1.0 - 4.0)	7	2.7 (1.0 - 5.0)	3	3.3 (1.0 - 5.0)	5	2.4 (1.0 - 5.0)	4	7.0 (2.0 - 15.0)
New Zealand										
Metropolitan	7	7.9 (1.0 - 11.0)	7	16.1 (3.0 - 26.0)	7	16.1 (3.0 - 26.0)	6	15.2 (3.0 - 26.0)	7	16.6 (3.0 - 27.0)
Regional	9	3.9 (1.0 - 8.0)	10	6.5 (1.0 - 11.0)	10	6.5 (1.0 - 11.0)	8	5.4 (1.0 - 11.0)	8	5.9 (1.0 - 11.0)

4.10.3 Clinical Lead for Ultrasound

This section presents the proportion of EDs that have a clinical lead for ultrasound and the mean number of non-clinical hours per week they are allocated for this role, by region (Table 49) and hospital peer group (Table 50).

While Table 49 shows a higher proportion of New Zealand EDs (72.2%) that reported having a clinical lead for ultrasound compared with Australian EDs (60.0%), Australian EDs reported a slightly higher average number of non-clinical hours allocated per week for this role than EDs located in New Zealand (7 hours compared to 6 hours).

Table 49 Proportion of EDs that have a clinical lead for ultrasound and the mean number of hours per week of non-clinical time allocated for the role (range in brackets), by region.

	Clinical lead for ultrasound		Hours of non-clinical time per week for role		
Region	n	%	n	mean	(range)
Australia	75	60.0%	59	7	(1 - 20)
NSW	25	62.5%	22	8	(1 - 20)
VIC	19	65.5%	16	6	(2 - 20)
QLD	18	62.1%	13	6	(1 - 12)
WA	9	75.0%	6	8	(2 - 20)
SA	2	25.0%	1	20	
TAS	1	50.0%	1	6	
ACT	1	50.0%	0		
NT	0	0.0%	0		
New Zealand	13	72.2%	8	6	(2 - 10)
Total	88	61.5%	67	7	(1 - 20)

Note: Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean.

All Metropolitan EDs in New Zealand reported having a clinical lead for ultrasound, with an average of six non-clinical hours allocated per week for this role. For Australia, while the highest proportion of EDs reporting a clinical lead for ultrasound was seen for EDs classified as Major (87.1%), Specialist EDs reported the highest average non-clinical hours allocated per week for this role, with an average of 12 hours per week (Table 50).

Table 50 Proportion of EDs that have a clinical lead for ultrasound and the mean number of hours per week of non-clinical time allocated for the role (range in brackets), by hospital peer group.

	Clinical lead for ultrasound		Hours of non-clinical time per week for role		
Hospital peer group	n	%	n	mean	(range)
Australia					
Major	27	87.1%	23	7	(2 - 20)
Large metropolitan	18	62.1%	15	9	(2 - 20)
Medium metropolitan	10	62.5%	8	6	(3 - 10)
Large regional	7	31.8%	5	4	(1 - 10)
Medium regional	6	66.7%	4	3	(1 - 5)
Private	3	27.3%	2	8	
Specialist	4	57.1%	2	12	(4 - 20)
New Zealand					
Metropolitan	7	100.0%	4	6	(5 - 10)
Regional	6	54.5%	4	5	(2 - 10)

Note: Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean.

4.10.4 Number of ultrasound machines and who uses them

This section reports on the number of ultrasound machines that accredited EDs have in operation and who uses the machines, other than ED FACEMs, FACEM trainees and SIMGs. The average number of ultrasound machines (range in brackets) that ACEMs accredited EDs have in operation are presented below by region (Table 51) and hospital peer group (Table 52). As shown in Table 51, Australian EDs (2.6) reported a higher average number of ultrasound machines in operation compared with New Zealand EDs (1.9).

Table 51 Mean number of ultrasound machines in operation at EDs (range in brackets), by region.

Region	n	mean	(range)
Australia	123	2.6	(1.0 - 14.0)
NSW	38	3.0	(1.0 - 14.0)
VIC	29	2.0	(1.0 - 5.0)
QLD	29	2.6	(1.0 - 6.0)
WA	12	2.3	(1.0 - 5.0)
SA	8	3.4	(1.0 - 13.0)
TAS	2	3.0	(2.0 - 4.0)
ACT	2	4.0	
NT	3	1.7	(1.0 - 2.0)
New Zealand	18	1.9	(1.0 - 4.0)
Total	141	2.5	(1.0 - 14.0)

Note: Where no mean or range is provided, $n \leq 1$ or there is no variation from the mean.

Australian EDs classified as Major reported the highest average number of ultrasound machines (3.9) compared with all other hospital peer groups (Table 52).

Table 52 Mean number of ultrasound machines in operation at EDs (range in brackets), by hospital peer group.

Hospital peer group	n	mean	(range)
Australia			
Major	31	3.9	(1.0 - 13.0)
Large metropolitan	29	2.7	(1.0 - 9.0)
Medium metropolitan	16	1.8	(1.0 - 3.0)
Large regional	21	2.5	(1.0 - 14.0)
Medium regional	8	1.3	(1.0 - 2.0)
Private	11	1.4	(1.0 - 2.0)
Specialist	7	2.1	(2.0 - 3.0)
New Zealand			
Metropolitan	7	2.4	(1.0 - 4.0)
Regional	11	1.5	(1.0 - 3.0)

Table 53 presents the proportion of EDs who have staff, other than FACEMs, FACEM trainees and SIMGs, who use the ED ultrasound machines by region and Table 54 by peer group. A larger proportion of Australian EDs (20.3%) reported that no other staff used their ultrasound machines compared to EDs in New Zealand (11.1%).

Table 53 Proportion of EDs that have staff, other than FACEMs, FACEM trainees and SIMGs who use the ED's ultrasound machine(s), by region.

Region	n	No other staff %	Other medical staff* %	Medical students* %	Nurses* n	Nurse practitioners* %	Anaesthetic technicians* %	Sonographers* %	Echo cardiographers* %	Other* %
Australia	123	20.3%	76.5%	26.5%	19.4%	44.9%	1.0%	13.3%	7.1%	5.1%
NSW	39	12.8%	79.4%	38.2%	29.4%	52.9%	0.0%	14.7%	5.9%	100.0%
VIC	29	37.9%	77.8%	22.2%	22.2%	22.2%	5.6%	11.1%	5.6%	11.1%
QLD	29	6.9%	63.0%	18.5%	7.4%	48.1%	0.0%	11.1%	3.7%	7.4%
WA	11	18.2%	100.0%	22.2%	11.1%	44.4%	0.0%	11.1%	33.3%	0.0%
SA	8	37.5%	60.0%	0.0%	0.0%	60.0%	0.0%	20.0%	0.0%	20.0%
TAS	2	0.0%	100.0%	100.0%	100.0%	100.0%	0.0%	50.0%	0.0%	0.0%
ACT	2	50.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NT	3	33.3%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	18	11.1%	75.0%	18.8%	25.0%	68.8%	0.0%	6.3%	0.0%	6.3%
Total	141	19.1%	76.3%	25.4%	20.2%	48.2%	0.9%	12.3%	6.1%	5.3%

Note: * Excludes EDs where no staff, other than FACEMs, FACEM trainees and SIMGs use the ED's ultrasound machine(s).

Table 54 Proportion of EDs that have staff, other than FACEMs, FACEM trainees and SIMGs who use the ED's ultrasound machine(s), by hospital peer group.

Hospital peer group	n	No other staff %	Other medical staff* %	Medical students* %	Nurses* n	Nurse practitioners* %	Anaesthetic technicians* %	Sonographers* %	Echo cardiographers* %	Other* %
Australia										
Major	31	16.1%	80.8%	38.5%	19.2%	61.5%	0.0%	11.5%	7.7%	7.7%
Large metropolitan	29	34.5%	73.7%	21.1%	10.5%	42.1%	0.0%	26.3%	5.3%	0.0%
Medium metropolitan	16	18.8%	84.6%	23.1%	23.1%	38.5%	0.0%	7.7%	7.7%	7.7%
Large regional	22	9.1%	70.0%	30.0%	35.0%	50.0%	5.0%	5.0%	0.0%	5.0%
Medium regional	9	22.2%	85.7%	14.3%	0.0%	28.6%	0.0%	14.3%	14.3%	0.0%
Private	11	27.3%	75.0%	25.0%	12.5%	12.5%	0.0%	0.0%	12.5%	12.5%
Specialist	5	0.0%	60.0%	0.0%	20.0%	40.0%	0.0%	40.0%	20.0%	0.0%
New Zealand										
Metropolitan	7	28.6%	40.0%	20.0%	20.0%	60.0%	0.0%	20.0%	0.0%	0.0%
Regional	11	0.0%	90.9%	18.2%	27.3%	72.7%	0.0%	0.0%	0.0%	9.1%

Note: * Excludes EDs where no staff, other than FACEMs, FACEM trainees and SIMGs use the ED's ultrasound machine(s).

Sites were asked to specify any other staff not listed in the survey who used the ED ultrasound machines, with some sites reporting that CMO's, extended scope physiotherapists, inpatient registrars (e.g., gynaecology registrars) and inpatient teams used them. One site also commented that on rare occasions, non-ED doctors/nurses use the ED ultrasound machines.

4.11 Disaster Preparedness

This section presents data on the preparedness of ACEM's accredited EDs to manage a disaster or mass casualty incident and, if applicable, the type of emergency disaster drills run by the ED, hospital or organisation. Also included in this section is whether the ED, hospital or organisation has a disaster plan; and if applicable, the frequency of disaster specific teaching.

4.11.1 Preparedness to manage a disaster or mass casualty incident

The preparedness of ACEMs accredited EDs to manage a disaster or mass casualty incident is presented below by region (Table 55) and hospital peer group (Table 56). All New Zealand and all but two Australian EDs reported that they were at least slightly/ moderately or very/ extremely prepared to manage a disaster or mass casualty incident, with a fifth of Australian and New Zealand EDs reporting being very/ extremely prepared (Table 55).

Table 55 ED preparedness to manage a disaster or mass casualty incident, by region.

Region	n	Not at all %	Slightly or moderately %	Very or extremely %
Australia	125	1.6%	77.6%	20.8%
NSW	40	2.5%	77.5%	20.0%
VIC	29	0.0%	79.3%	20.7%
QLD	29	0.0%	79.3%	20.7%
WA	12	8.3%	75.0%	16.7%
SA	8	0.0%	100.0%	0.0%
TAS	2	0.0%	50.0%	50.0%
ACT	2	0.0%	100.0%	0.0%
NT	3	0.0%	0.0%	100.0%
New Zealand	18	0.0%	77.8%	22.2%
Total	143	1.4%	77.6%	21.0%

Of all peer groups, only a small percentage of Large regional (4.5%) and Private EDs (9.1%) reported that they were not at all prepared to manage a disaster or mass casualty incident (Table 56).

Table 56 ED preparedness to manage a disaster or mass casualty incident, by hospital peer group.

Hospital peer group	n	Not at all %	Slightly or moderately %	Very or extremely %
Australia				
Major	31	0.0%	71.0%	29.0%
Large metropolitan	29	0.0%	89.7%	10.3%
Medium metropolitan	16	0.0%	81.3%	18.8%
Large regional	22	4.5%	59.1%	36.4%
Medium regional	9	0.0%	77.8%	22.2%
Private	11	9.1%	90.9%	0.0%
Specialist	7	0.0%	85.7%	14.3%
New Zealand				
Metropolitan	7	0.0%	57.1%	42.9%
Regional	11	0.0%	90.9%	9.1%

4.11.2 Emergency drills

This section reports on the types of emergency drills run by EDs, hospitals or organisations by region (Table 57) and hospital peer group (Table 58). Some hospitals in Australia (13.6%) and New Zealand (11.1%) did not run emergency disaster drills. Of those that did run emergency disaster drills, almost three-quarters of EDs ran Tabletop (71.0%) and/ or Emergotrain (73.4%) exercises (Table 57).

Table 57 Types of emergency disaster drills run by ED, hospital or organisation, by region.

Region	n	None %	Live exercises* %	Tabletop exercises* %	Emergotrain exercises* %	Other* %
Australia	125	13.6%	29.6%	68.5%	75.0%	6.5%
NSW	40	15.0%	29.4%	79.4%	79.4%	14.7%
VIC	29	17.2%	16.7%	37.5%	95.8%	0.0%
QLD	29	6.9%	29.6%	77.8%	59.3%	3.7%
WA	12	8.3%	36.4%	54.5%	81.8%	0.0%
SA	8	37.5%	20.0%	80.0%	60.0%	0.0%
TAS	2	0.0%	100.0%	100.0%	0.0%	0.0%
ACT	2	0.0%	50.0%	100.0%	100.0%	0.0%
NT	3	0.0%	66.7%	100.0%	33.3%	33.3%
New Zealand	18	11.1%	37.5%	87.5%	62.5%	6.3%
Total	143	13.3%	30.6%	71.0%	73.4%	6.5%

Notes: Options not exclusive, DEMs and DEMTs could select multiple. * Option only applicable to EDs, hospitals and organisations that run emergency disaster drills.

Table 58 shows that for Australia all Specialist and most Major (96.8%), Large metropolitan (89.7%), Large regional (90.9%) and Medium regional (88.9%) hospitals run emergency disaster drills. Whereas less than half of Private (45.5%) and only three-quarters of Medium metropolitan hospitals run emergency disaster drills. All Metropolitan and most Regional (81.8%) hospitals in New Zealand reported running emergency disaster drills.

Table 58 Types of emergency disaster drills run by ED, hospital or organisation, by hospital peer group.

Hospital peer group	n	None %	Live exercises* %	Tabletop exercises* %	Emergotrain exercises* %	Other* %
Australia						
Major	31	3.2%	30.0%	76.7%	90.0%	3.3%
Large metropolitan	29	10.3%	23.1%	73.1%	80.8%	7.7%
Medium metropolitan	16	25.0%	25.0%	75.0%	66.7%	0.0%
Large regional	22	9.1%	50.0%	60.0%	75.0%	15.0%
Medium regional	9	11.1%	12.5%	62.5%	50.0%	0.0%
Private	11	54.5%	40.0%	40.0%	0.0%	20.0%
Specialist	7	0.0%	14.3%	57.1%	85.7%	0.0%
New Zealand						
Metropolitan	7	0.0%	28.6%	100.0%	57.1%	0.0%
Regional	11	18.2%	44.4%	77.8%	66.7%	11.1%

Notes: Options not exclusive, DEMs and DEMTs could select multiple. * Option only applicable to EDs, hospitals and organisations that run emergency disaster drills.

Sites were given the option to specify any other types of emergency disaster drills their ED, hospital or organisation runs, with eight responding. Other types of disaster drills included lectures, simulations, in-service training, teaching courses, discussions, exercises, sessions and workshops. Other comments reported that the site reviewed their emergency disaster plans and have online training modules available.

4.11.3 Disaster specific teaching

This section includes whether EDs, hospitals or organisations have a disaster plan; and on the frequency of disaster specific training, where applicable, with results presented by both region (Table 59 and Table 60) and hospital peer group (Table 61 and Table 62). Most of the accredited EDs in Australia (96.0%) and New Zealand (94.4%) had a disaster plan, with slightly less EDs in South Australia reporting having one (87.5%), compared with the other jurisdictions.

While the majority of EDs (62.8%) reported running disaster specific training once or twice a year, a small number of EDs in Australia (n = 3, 2.5%) and New Zealand (n = 1, 5.9%) reported never having disaster specific teaching. The EDs in Australia that reported never having disaster specific teaching were located in New South Wales, Victoria, and Western Australia.

Table 59 Proportion of EDs with a disaster plan and the frequency of disaster specific teaching, by region.

	ED has a disaster plan		How often EDs have disaster specific teaching				
				Never	Less than once a year	Once or twice a year	More than twice a year
Region	n	%	n	%	%	%	%
Australia	120	96.0%	120	2.5%	26.7%	64.2%	6.7%
NSW	38	95.0%	38	2.6%	21.1%	68.4%	7.9%
VIC	28	96.6%	28	3.6%	42.9%	46.4%	7.1%
QLD	28	96.6%	28	0.0%	14.3%	75.0%	10.7%
WA	12	100.0%	12	8.3%	25.0%	66.7%	0.0%
SA	7	87.5%	7	0.0%	57.1%	42.9%	0.0%
TAS	2	100.0%	2	0.0%	0.0%	100.0%	0.0%
ACT	2	100.0%	2	0.0%	50.0%	50.0%	0.0%
NT	3	100.0%	3	0.0%	0.0%	100.0%	0.0%
New Zealand	17	94.4%	17	5.9%	35.3%	52.9%	5.9%
Total	137	95.8%	137	2.9%	27.7%	62.8%	6.6%

All of New Zealand and most of Australian (99.2%) hospitals/ organisations reported having a disaster plan. Queensland was the only state in Australia where not all hospitals/ organisations reported having a disaster plan (96.6%). With all of the hospitals/ organisations associated with accredited EDs in the Australian Capital Territory, Northern Territory, Tasmania and Western Australia having disaster specific teaching (Table 60).

Table 60 Proportion of hospitals with a disaster plan and the frequency of disaster specific teaching, by region

	Hospital/ organisation has a disaster plan		How often hospitals/ organisations have disaster specific teaching				
				Never	Less than once a year	Once or twice a year	More than twice a year
Region	n	%	n	%	%	%	%
Australia	124	99.2%	124	4.0%	40.3%	43.5%	12.1%
NSW	40	100.0%	40	5.0%	32.5%	40.0%	22.5%
VIC	29	100.0%	29	3.4%	51.7%	41.4%	3.4%
QLD	28	96.6%	28	3.6%	32.1%	53.6%	10.7%
WA	12	100.0%	12	0.0%	58.3%	41.7%	0.0%
SA	8	100.0%	8	12.5%	62.5%	25.0%	0.0%
TAS	2	100.0%	2	0.0%	50.0%	50.0%	0.0%
ACT	2	100.0%	2	0.0%	0.0%	50.0%	50.0%
NT	3	100.0%	3	0.0%	0.0%	66.7%	33.3%
New Zealand	18	100.0%	18	5.6%	27.8%	61.1%	5.6%
Total	142	99.3%	142	4.2%	38.7%	45.8%	11.3%

All of the Metropolitan EDs in New Zealand and all of the Major, Large metropolitan and Specialist EDs in Australia reported having a disaster plan. A small percentage of Regional EDs in New Zealand, and Medium metropolitan, Large regional, Medium regional and Private EDs in Australia, were the peer groups to report not having a disaster plan. EDs in these three peer groups were also more likely to report never having disaster specific teaching (Table 61).

Table 61 Proportion of EDs with a disaster plan and the frequency of disaster specific teaching, by hospital peer group.

	ED has a disaster plan		How often EDs have disaster specific teaching				
				Never	Less than once a year	Once or twice a year	More than twice a year
Hospital peer group	n	%	n	%	%	%	%
Australia							
Major	31	100.0%	31	0.0%	22.6%	71.0%	6.5%
Large metropolitan	29	100.0%	29	0.0%	20.7%	79.3%	0.0%
Medium metropolitan	15	93.8%	15	13.3%	26.7%	46.7%	13.3%
Large regional	21	95.5%	21	0.0%	33.3%	52.4%	14.3%
Medium regional	8	88.9%	8	12.5%	37.5%	50.0%	0.0%
Private	9	81.8%	9	0.0%	33.3%	66.7%	0.0%
Specialist	7	100.0%	7	0.0%	28.6%	57.1%	14.3%
New Zealand							
Metropolitan	7	100.0%	7	0.0%	28.6%	71.4%	0.0%
Regional	10	90.9%	10	10.0%	40.0%	40.0%	10.0%

Of all peer groups, only Large metropolitan hospitals/ organisations located in Australia reported not having a disaster plan. For the proportion of hospitals with a disaster plan and the frequency of disaster specific teaching across hospitals by hospital peer group see Table 62.

Table 62 Proportion of hospitals with a disaster plan and the frequency of disaster specific teaching, by hospital peer group.

	Hospital/ organisation has a disaster plan		How often hospitals/ organisations have disaster specific teaching				
				Never	Less than once a year	Once or twice a year	More than twice a year
Hospital peer group	n	%	n	%	%	%	%
Australia							
Major	31	100.0%	31	0.0%	35.5%	38.7%	25.8%
Large metropolitan	28	96.6%	28	7.1%	39.3%	50.0%	3.6%
Medium metropolitan	16	100.0%	16	6.3%	25.0%	50.0%	18.8%
Large regional	22	100.0%	22	0.0%	50.0%	40.9%	9.1%
Medium regional	9	100.0%	9	11.1%	55.6%	33.3%	0.0%
Private	11	100.0%	11	9.1%	54.5%	36.4%	0.0%
Specialist	7	100.0%	7	0.0%	28.6%	57.1%	14.3%
New Zealand							
Metropolitan	7	100.0%	7	0.0%	14.3%	85.7%	0.0%
Regional	11	100.0%	11	9.1%	36.4%	45.5%	9.1%

5. What the data means

This Census focuses on ED staffing, casemix and resourcing, as well as broader hospital services available across ACEM's accredited EDs. With respect to ED staffing, overall there were 1.7 EM Specialists per EM Specialist FTE in accredited Australian EDs and 1.3 per EM Specialist FTE in New Zealand EDs, suggesting a higher number of EM Specialists were working part-time or across multiple sites in Australia. Large and Medium regional EDs in Australia and Regional New Zealand EDs were more likely to report having unfilled FACEM FTE, compared to EDs in other peer groups, totalling 74.0 vacant FACEM FTE among them. This data suggests that despite increasing FACEM numbers, maldistribution of the workforce persists, with an underrepresentation of FACEMs in regional-based EDs in both Australia and New Zealand.

VMOs and locums were also widely utilised to staff ACEM accredited EDs. While almost two-thirds (61.5%) of EDs reported employing VMOs and/or locums, Large (59.1%) and Medium (66.7%) regional EDs in Australia were more likely to employ locums, and all hospital peer groups employed VMOs to varying degrees. Major (13) and Large metropolitan (11) EDs in Australia employed the highest average number of VMOs who worked, on average, the most hours per week (91.5 and 87.5 respectively). The majority of these Major (85.7%) and Large metropolitan (92.9%) EDs reported employing VMOs on zero hours contacts.

During the 2019 reporting period there was an increase in the number of sites seeing more than 100,000 presentations per year (from four to six), however only 25.2% of EDs reported meeting the minimum recommended FACEM FTE according to ACEM's *Constructing and Retaining a Senior Emergency Medicine Workforce*, Guideline 23 (G23). While 51.2% of Major Australian EDs were meeting the minimum recommended FACEM FTE, no Regional New Zealand EDs and no Australian Medium regional EDs met the minimum FACEM FTE.

This year ACEM consulted with sites to establish who they considered to be non FACEM senior decision makers (SDMs), with a range of staffing roles and post graduate years nominated. FACEM trainees were more likely to be designated as non FACEM SDMs, followed by medical officers; with some EDs considering ACEM's EM Certificants, EM Diploma trainees and EM Diplomates as SDMs. Some EDs commented that their non FACEM SDMs needed to be a minimum post graduate year (PGY) level, which ranged from PGY three to six. This variability in how sites classify non FACEM SDMs limits ACEM's ability to construct a definition of non FACEM SDMs for inclusion in ACEM's *Constructing and Retaining a Senior Emergency Medicine Workforce*, Guideline 23.

Importantly, an increase was observed in the percentage of EDs reporting ED length of stays (LOS) of >24 hours, from 64% (98/131) of EDs for the 2018 Census to 78.3% (112/143) of EDs for the 2019 reporting period. Overall, patients with an ED LOS of >24 hours represented 0.7% of annual patient attendances, while patients with an ED LOS of >8 hours (91.6%; 131/143) represented 8.3% of annual attendances. Nine EDs reported that over 2% of their annual attendances stayed in their ED for more than 24 hours compared with two EDs during the 2018 reporting period, with Tasmania having the greatest percentage of patients with ED LOS's of >8, 12 and 24 hours. With longer stays in the ED linked to longer inpatient stays (Richardson, 2003) overcrowded EDs, and poorer patient outcomes (N.S. Donatelli, 2013) (Forster A.J., 2003), it is concerning that more EDs are reporting a larger proportion of annual presentations with LOS exceeding 24 hours.

A key focus for ACEM is equity in health and while most sites reported that the quality of the Aboriginal and/or Torres Strait Islander or Maori ED presentation data was good, 14 Australian EDs reported that the quality/ reliability of their data was poor, including five Private and five Large metropolitan EDs. Four of these sites while reporting seeing Aboriginal and/or Torres Strait Islander patients also reported that they did not have access to an Indigenous Health Liaison Officer (or equivalent).

The Census has illustrated a number of workforce issues and highlighted concerning hospital trends among some sites, such as an inability to fill staffing vacancies, a reliance on VMOs and locums rather than a permanent FACEM workforce, an increasing number of part-time FACEMs, all of which is occurring amongst a backdrop of increasing patient attendances. Furthermore, the Census highlights

the disparity between hospitals in regional peer groups and those classified as Major or metropolitan.

6. References

Australasian College for Emergency Medicine. (2015, November). *Guidelines on Constructing and Retaining a Senior Emergency Medicine Workforce*. Retrieved from https://acem.org.au/getmedia/3dc2b00e-f91d-470d-bd2e-6092b9b8deb6/G23_V02_Constructing_Senior_EM_Workforce_Nov-15.aspx

Australasian College for Emergency Medicine. (2019, August). *Policy on Credentialing for Emergency Medicine Ultrasonography (PP733)*. Retrieved from https://acem.org.au/getmedia/ee68a734-7634-425d-865a-f5e17dc8b4e4/P733_Policy-on-Credentialing-for-Emergency-Medicine-Ultrasonography_v1_Aug-2019

Australasian College for Emergency Medicine. (n.d.). *2019 Sustainable Workforce Survey*. Retrieved from https://acem.org.au/getmedia/451cd2ba-f4d9-405f-90f9-2fbc414e3969/2019-Sustainable-Workforce-Survey-Report-R3

Australian Bureau of Statistics - Australian Statistical Geography Standard remoteness classification. (2014). *Health Workforce Locator - Inner and outer metro areas*. Retrieved from https://www.health.gov.au/resources/apps-and-tools/health-workforce-locator/health-workforce-locator

Australian Bureau of Statistics - Australian Statistical Geography Standard remoteness classification. (2016). Australian Workforce Locator. Retrieved 2020, from https://www.health.gov.au/resources/apps-and-tools/health-workforce-locator/health-workforce-locator

Australian Institute of Health and Welfare. (2018-2019). Emergency department care (Emergency department multilevel data - Time in ED). Retrieved 2020, from https://www.aihw.gov.au/reports-data/myhospitals/sectors/emergency-department-care

Forster A.J., S. I. (2003). The effect of hospital occupancy on emergency department length of stay and patient disposition. *Academic Emergency Medicine, 10*(2), 127-133. doi:10.1111/j.1553-2712.2003.tb00029.x

N.S. Donatelli, J. G. (2013). Extended ED stay of the older adult results in poor patient outcome. *Journal of emergency medicine, 39*(3), 268-72.

Richardson, D. (2003). Responses to access block in Australia: Australian Capital Territory. *The Medical journal of Australia, 178*(3), 103–104.

7. Suggested Citation

Australasian College for Emergency Medicine (2020). Annual Site Census 2019 – Report of Findings. ACEM Report: Melbourne.

8. Contact for further information

Ms Katie Moore

Research Manager
ACEM Research Unit, Department of Policy and Strategic Partnerships
Australasian College for Emergency Medicine (ACEM)
34 Jeffcott Street, West Melbourne VIC 3003, Australia

Telephone: +61 3 9320 0444

9. Appendix 1

AUSTRALASIAN COLLEGE FOR EMERGENCY MEDICINE

ACEM ANNUAL SITE CENSUS 2019

Each Emergency Department (ED) accredited by ACEM is required to complete this annual site census. Survey responses will inform site accreditation status and provide benchmarking data across Australia and New Zealand to inform College activities including quality improvement initiatives in education and policy.

The survey covers:

- ACEM ED Staffing
- Other ED Staffing
- ED Casemix
- ED Staff Training
- ED Resources
- Hospital Services
- Disaster Preparedness

All EDs will receive a report of the survey findings.

If you have any questions about this survey or the procedures, you may contact the Research Unit at: Research-Evaluation@acem.org.au

Hospital Name:

Please select your ED type:

Adult Only	☐
Mixed (Adult and Paed)	☐
Paediatric	☐

1. ACEM ED Staffing:

For all current staff employed **permanently** (excluding VMOs/ Locums) by your ED, please complete the following tables, *where applicable (if zero, please include)*:

ACEM Staff	Total FTE	Total Head Count
FACEMs (with no PEM qualification)		
FRACP PEM Specialist		
FACEM PEM Specialist		

ACEM currently defines Non-FACEM senior decision maker (SDM): a physician who has the appropriate clinical care skills to manage a critically ill patient unsupervised, or until a specialist emergency physician (FACEM) becomes available and can assist. This can encompass training (i.e. ACEM trainees) and non-training roles (e.g. Career Medical Officer).

ACEM would like to understand who is a SDM in your ED, please provide information on the staff role types and if applicable the years of experience, for who you consider to be a SDM in your ED:

ACEM Staff	Total FTE	Total Head Count	SDM FTE
Advanced trainees			
Provisional trainees			

Please complete the following tables relating to FACEMs with clinical or management roles in your ED, *where applicable (if zero, please include)*:

ACEM Staff	Name	Total FTE
DEM(s)/Paed DEM(s)		
DEMT/Co-DEMT(s)		
WBA Coordinator(s)		
Mentoring Coordinator(s)		
ACEM Director of Research *(if applicable)*		

Research related contacts

Please complete the following table relating to the best person to contact for data from your ED and the person who coordinates research (formally or informally) at your ED.

	Staff Name	Position	Email
ED Research Coordinator (not necessarily the ACEM Director of Research)			
ED/hospital Data Manager			

FACEM On-Floor Supervision and Clinical Support Time

How many hours per week are FACEMs rostered for on-floor supervision (exclud. clinical support time? **(hours per week should be no greater than 168 = 24h x 7 days)**	_____ **Hours per week**
On average, how many hours per week of Clinical Support Time is allocated for the FACEMs involved in the training, education and assessment of your trainees?	_____ **Hours per week**
What is the total clinical support time (hours) of the DEM role per week?	_____ **Hours per week**
What is the total clinical support time (hours) of the DEMT role per week?	_____ **Hours per week**

On average, what is the percentage of individual trainee time under direct FACEM supervision?	_____ **%**
What is the percentage of FACEMs actively performing WBA's?	_____ **%**

What is the total clinical support time (hours per month) the ED provides for WBA Coordinator duties?	_____ **Hours per month**
If applicable, what is the total clinical support time (hours per month) the ED provides for the Director of Research role duties?	_____ **Hours per month**

Given the current number of FACEMs in your ED available to provide on-floor supervision and the allocated non-clinical time for DEMTs, do you have capacity to take more FACEM trainees?

☐ No

☐ Yes [If yes] How many more FACEM trainees can you employ? _____

2. ED Clinical Cover

Please outline your current typical medical rosters for both weekdays and weekends providing the number of each staff for each shift rostered on-floor and on-call*:

Adult ED	Day		Evening		Night	
	On floor	On-call	On floor	On-call	On floor	On-call
Monday to Friday						
FACEMs						
FACEM Trainees						
Saturday and Sunday						
FACEMs						
ACEM Trainees						

**If your staffing model does not fit the table above, please outline it here:*

3. Visiting Medical Officers and Locums

Please answer the following questions relating to Visiting Medical Officers (VMOs) and Locums at FACEM level:

Visiting Medical Officers (FACEM level)	**Yes**	**No**
Are VMOs employed within your ED?	☐	☐
If yes, how many (**total head count**) are currently working in your ED?		
How many total hours per week on average do they currently work in your ED?		

Please select which contract options VMOs are employed on:	
Fixed hours contract	☐
Zero hours contract	☐
Other (please explain below)	☐

Locum FACEMs	Yes	No
Are Locum FACEM level staff employed within your ED?	☐	☐
If yes, how many (**total head count**) are currently working in your ED?		
How many total hours per week on average do they currently work in your ED?		

4. ED Vacancies

What is your current funded but unfilled FTE for the following emergency department roles, if applicable?

	Funded but unfilled FTE	Funded but unfilled for more than 6 months FTE	Are you actively trying to fill this vacancy (Y/N)
FACEMs			
PEM Specialists			
FACEM trainees			

If applicable, please provide the number of Senior Decision Maker vacancies you have in your ED:

_____

5. Other ED Staffing

Please complete the following table regarding other nursing and medical staff working in your ED:

Other Specialist ED Staff (excluding FACEMs with dual qualification)	Total FTE	SDM FTE
Fellows of the Royal Australian College of General Practitioners (FRACGP)		
Fellows of the Australian College of Rural and Remote Medicine (ACCRM)		
Fellows of overseas Emergency Medicine Specialist College (on the SIMG pathway†)		
Fellows of overseas Emergency Medicine Specialist College (not on the SIMG pathway†)		
Medical Officers on the New Zealand Specialist Scale (NZ only)		
Other Specialist Physicians (excluding above)		

† Specialist International Medical Graduate (SIMG) Pathway refers to the ACEM SIMG Pathway.

Other medical staff:	**Total FTE**	**SDM FTE**
Non-ACEM Registrars		
Medical Officers† (Includes CMO; SMO; SRMO; SHMO; SHO and MO (NZ EDs))		
Interns/ Junior Medical Officers		
Other medical staff not covered by the above, **excluding administrative staff.** If applicable please specify **below and provide the FTE**: _____		

†CMO: Career Medical Officer; SMO: Salaried Medical Officer; SRMO: Salaried Resident Medical Officer; SHMO: Senior Hospital Medical Officer; SHO: Senior House Officer

Nursing Staff:	**Total FTE**
Nurse Practitioners (Including Clinical Nurse Consultant/ Specialist)	
Nursing Educators	
Mental Health Nursing staff	
Total Nursing Staff (Including the above nursing staff and any other nursing staff e.g., enrolled nurses and registered nurses)	

With respect to any of your other ED staff identified above, how many of these are:

	Head Count
Graduates of ACEM's EM Diploma	
Graduates of ACEM's EM Certificate (excluding EM Diploma)	

6. ED Casemix

For the period **1 July 2018- 30 June 2019**, please provide where applicable the total number of:
(If not applicable write n/a)

2018-19 financial year	Total	Adults	Paediatrics ≤15 years
Patient attendances			
ATS 1 attendances			
ATS 2 attendances			
ATS 3 attendances			
ATS 4 attendances			
ATS 5 attendances			
Number of ambulance arrivals			
Inpatient admissions			
Inter-hospital transfers from ED			
SSU† (or equivalent) admissions from ED			
ICU† admissions from ED			
HDU† admissions from ED			
CCU† admissions from ED			
Paediatric ICU† admissions from ED			

†SSU=Short Stay Unit; ICU=Intensive Care Unit; HDU=High Dependency Unit; CCU= Critical Care Unit.

For the period **1 July 2018- 30 June 2019**, please provide where applicable the total number of:
(If not applicable write n/a)

2018-19 financial year	Total
The total number of patient attendances who stayed in your SSU (or equivalent) for >24 hours	
The total number of patient attendances who stayed in your ED (excluding SSU or equivalent) for> 8 hours	
The total number of patient attendances who stayed in your ED (excluding SSU or equivalent) for > 12 hours	
The total number of patient attendances who stayed in your ED (excluding SSU or equivalent) for >24 hours	

2018-19 financial year	Total
The total number of hours of ambulance bypass/ diversion for your ED.	
The total number instances where ambulances waited more than 30 minutes to complete the handover to the ED	

7. Aboriginal & Torres Strait Islander/ Māori Presentations

The total number of Aboriginal & Torres Strait Islander presentations for Australia EDs OR the total number of Māori presentations for New Zealand EDs if known, for the period 1 July 2018- 30 June 2019: _____

Using the scale provided, please rate the indigenous status data captured by the ED, with respect to:

	Poor	Fair	Good	Very Good	Excellent
The quality of the data	☐	☐	☐	☐	☐
The reliability of the data	☐	☐	☐	☐	☐

If you have any comments on indigenous presentations to your ED or the quality or reliability of the indigenous status data captured by your ED, please provide them here:

Does your ED have an Indigenous Health Liaison Officer or equivalent:

	No	Yes
Employed by your ED	☐	☐
Employed by your hospital and available in your ED	☐	☐
Employed off-site but available to your ED	☐	☐
My ED does not have access to an Indigenous Health Liaison Officer	☐	☐

8. ED Staff Training

Cultural Competency Training

Is cultural competency training available to staff in your ED?

Yes	☐	
No	☐	**If 'No', please provide the reason for why it is not available**

Discrimination, Bullying and Sexual Harassment (DBSH) Training

Is DBSH training available to staff in your ED?

Yes	☐	
No	☐	**If 'No', please provide the reason for why it is not available**

9. ED Resources

Please provide the number of beds and chairs, where applicable for the following areas:

	Adult ED	
	Beds	**Chairs**
Resuscitation		
Adult Emergency/ Acute		
Paediatric Emergency/ Acute		
Short Stay Unit (or equivalent)		
Low Acuity / Sub-Acute / Fast-track		
ED Mental Health Assessment (includes Behavioural Assessment Unit, Safe Assessment Room)		

10. Ultrasound Teaching

How many ultrasound machines are currently in operation in your ED? _____

[If you have ultrasound machines] How many FACEMs, FACEM trainees and SIMGs in your ED have met the ACEM criteria for credentialing (via either on-site credentialing or external qualifications) in:

eFAST:	
AAA:	
BELS/FELS:	
IV access (needle guided procedures):	

Of those who are credentialed, how many FACEMs, FACEM trainees and SIMGs in your ED have formal ultrasound qualifications? (e.g., CCPU, DDU, RDMS)

_____

[If you have ultrasound machines] Does your ED have a clinical lead for ultrasound? (e.g., Director of Emergency Ultrasound or equivalent)

☐ No
☐ Yes

[If yes] How many hours of Non-Clinical time per week are they allocated for this role? (this includes scanning patients but not preforming their 'normal' emergency physician role)

_____

[If you have ultrasound machines] Does your ED have a formal ultrasound training program?

☐ No, none
☐ No, informal teaching only
☐ Yes

[If yes] What scans are FACEM trainees expected to gain proficiency in? (select all that apply)

☐ AAA
☐ eFAST
☐ I.V. access (needle guided procedures)
☐ Basic echo
☐ Early pregnancy
☐ Gallbladder
☐ Other (please specify): _____
☐ None

[If you have ultrasound machines] Who else uses your ED ultrasound machine(s)? (select all that apply)

- ☐ Other medical staff (e.g., anaesthetists, cardiologists, ICU staff)
- ☐ Medical students
- ☐ Nurses
- ☐ Nurse practitioners
- ☐ Anaesthetic technicians
- ☐ Sonographers
- ☐ Echo cardiographers
- ☐ Other (please specify): _____

If you have any other comments to make about the ultrasound training in your ED, please provide them here:

11. Other Hospital Services

Please answer the following questions regarding your related hospital services:

	No	Yes
Do you have on-site Cardiac Catheter Lab for urgent PCI in STEMI?	☐	☐
Are you designated as a Major Trauma Service?	☐	☐ **If yes**, how many major trauma cases with an ISS>12 did your hospital treat in the 2018-19 financial year? _____

If your hospital has obtained any new onsite specialty services in the previous 12 months, please specify in the table below and tick the box if they are accredited for training:

New onsite speciality service	Accredited for training

12. Disaster Preparedness

	No	Yes
Does your **ED** have a disaster plan?	☐	☐
Does your **hospital** have a disaster plan?	☐	☐
Does your **organisation** have a disaster plan?	☐	☐

	Never	Less than once a year	Once a year	Twice a year	More than twice a year
How often does your **ED** have disaster specific teaching?	☐	☐	☐	☐	☐
How often does your **hospital** have disaster specific teaching?	☐	☐	☐	☐	☐
How often does your **organisation** have disaster specific teaching?	☐	☐	☐	☐	☐

In what form does your **ED/ hospital/ organisation** run emergency disaster drills? (select all that apply)

- ☐ Live exercises?
- ☐ Tabletop exercises?
- ☐ Emergotrain exercises ?
- ☐ Other (please specify): _____
- ☐ My ED does not run emergency disaster drills

How prepared is your ED to managed a disaster or mass casualty incident?

- ☐ Not at all prepared
- ☐ Slightly prepared
- ☐ Moderately prepared
- ☐ Very prepared
- ☐ Extremely well prepared

This is the end of the Census.