

PROJECT REPORT

Core terms in emergency medicine for interns in South Australia: Training experiences in emergency departments and in general practice settings with emergency exposure

12 May 2014

Kate Morefield

Adrian Anthony

Ronda Bain

Alison Jones

CONTACT:

Kate Morefield, Project Officer
SA MET Unit, SA Health
kate.morefield@health.sa.gov.au



**SOUTH AUSTRALIAN
MEDICAL EDUCATION & TRAINING**

Executive Summary

South Australian interns undertake the mandatory ('core') emergency medical care rotation in accredited positions in emergency departments (ED-settings) and selected general practice placements with emergency exposure (GP-settings). South Australian Medical Education and Training (SA MET) has investigated the clinical training provided in both types of setting. This research aimed to compare these training experiences with the national standards for intern training prescribed by the Medical Board of Australia.

During December 2013, interns who had undertaken a core emergency medicine rotation in Terms 1 to 4 of 2013 were invited to share their experiences via online surveys. Responses were received from 46% of interns placed in GP-settings, and from 39% of the interns who undertook the rotation in an ED-setting.

The results indicate that interns were well supervised in both settings, and nearly all had regular opportunities to learn from undifferentiated and high acuity emergency presentations. GP-setting rotations offered more opportunities to directly contribute to high acuity patient care. Interns in both settings managed a variety of symptoms and conditions, and used a range of clinical skills during the term. Consistent with the size of the host facilities, findings suggest that interns in ED-settings had significantly higher clinical caseloads than interns in GP-settings, but procedural workloads did not differ between groups. The majority of interns accessed formal education and training relevant to emergency medicine, and most gained insight into emergency medicine careers from the rotation. These learning opportunities were delivered to a significantly greater extent in ED-settings; a range of training modalities should be considered to address this disparity in opportunities between the two settings. The study also revealed that extended rural placements during medical school were associated with greater opportunities to work with undifferentiated patients during internship.

Nearly all interns viewed the emergency term as being a positive experience overall, regardless of its setting. This study demonstrates a close alignment between training experiences in SA's accredited core emergency medicine terms, irrespective of setting, and the required national standard. Given the increasing need to expand postgraduate medical training capacity in Australia, the methodology in this research may be useful for investigating the utility of novel training settings in the future.

Contents

Introduction	1
Method	3
Survey design	3
Study population	4
Core emergency terms in South Australia	5
Procedures	6
Data analysis	6
Results	7
Response rate	7
Demographic characteristics	7
Clinical experience at medical school	8
Interest in emergency medicine as a career option	9
Timing of emergency medicine rotation	10
Supervision	11
Encountering a variety of conditions	13
Using a variety of skills	14
Common clinical activities	16
Workload	18
Undifferentiated and high acuity patients	19
Emergency training and career understanding	21
Overall impression	23
Discussion	24
Conclusion	27
References	29
APPENDIX	30
Participant information for interns in ED-settings	30
Participant information for interns in GP-settings	31
Survey questions and response formats	32

Acknowledgements

The authors would like to recognise those involved with postgraduate medical education in South Australia who contributed to this research. Particular thanks are owed to Medical Education Officers Kathy Wright, Lynne Burn, Helen Yates, Julie Forgan, Jenny Costi, Therese Roberts and Lindsay Krassnitzer; their collaboration has been fundamental to the project and is much appreciated. This study was generously championed by each hospital's Director of Clinical Training. We thank Dr Joy Treasure for helping inform the study in its early stages and Dr David Everett for his contributions to survey design. The contributions from junior medical officer forum members who assisted us to choose the key clinical experiences for the questionnaire are recognised, as are the generous inputs from stakeholders who reviewed and provided feedback on the pilot survey.

We would also like to thank the many junior doctors who shared their experiences as participants in this research.

Introduction

Graduates of Australian medical programs must undertake a year of supervised clinical practice as interns before being eligible for general registration as an entry-level practitioner. The intern year is a time for consolidating medical school education. Interns continue to acquire knowledge and skills under direct supervision, while becoming increasingly responsible for providing safe, effective patient care. Internship also informs career choices for many graduates, and is the foundation for subsequent vocational (specialist) training.

The Medical Board of Australia (MBA) requires interns to satisfactorily complete three mandatory or 'core' terms. These terms deliver experience in emergency medical care, medicine and surgery, and other terms are undertaken to make up 12 months of full time service. Terms are accredited against approved standards for intern training; in South Australia, the accreditation of intern placements is the responsibility of South Australian Medical Education and Training (SA MET), on behalf of the Medical Board of Australia.

Increased intakes to undergraduate medical education, initiated to counter medical workforce shortages, have challenged established systems in which junior doctors receive supervised clinical training. The Postgraduate Medical Council of South Australia (now SA MET) responded early to the impending demand by engaging with local regional training providers to maximise access to the Prevocational General Practice Placements Program (PGPPP). The PGPPP is a Commonwealth-funded initiative aimed at supporting prevocational medical training in general practice (GP) settings. Certain PGPPP rotations were identified as providing opportunities for interns to gain emergency medical care experience, largely in rural areas, where GPs provide emergency care services at local hospitals. Following appropriate accreditation processes, these placements were approved as core emergency terms. Since 2005, these core emergency medicine terms in GP-settings have been available as nationally unique training opportunities. Interns rotate to the external GP-based placements from their primary or employing facility, as each PGPPP rotation is overseen by a specific facility and Local Health Network.

The current MBA intern training standard became effective from 2014. The standard states that interns may undertake core emergency medical care terms in selected general practices assessed as providing emergency medicine exposure, following accreditation by approved authorities. The inclusion of selected GP-settings as suitable environments for core emergency medical terms was controversial, and the adequacy of training available to interns in these GP-

based emergency medicine terms has been questioned. Stakeholder groups expressed particular concern about whether the GP-settings would offer comparable exposure to undifferentiated and high acuity cases. Other areas of concern relate to the potential non-equivalence of clinical experiences, supervision and other emergency medicine relevant training offered in GP-type settings (Brazil & Mitchell, 2013).

Emergency medicine terms are highly valued by junior doctors (Chong et al., 2010), but also represent a major “bottleneck” in intern training capacity (Brazil, 2010). Increasing numbers of interns, and the official acknowledgement that settings beyond major hospitals need to be considered for their potential to offer quality clinical training experiences for interns, have heightened national interest in GP-based emergency medical care rotations. The overall lack of information regarding the suitability of these placements (Gosbell et al., 2013) has until now limited the scope for evidence-based discussion on this topic.

The GP-based core emergency medicine rotations already established in SA presented an opportunity to examine the kinds of clinical training on offer in core emergency medicine terms undertaken in non-traditional settings. This report details findings from an investigation into interns’ training experiences during core emergency terms – as undertaken in GP-settings with emergency exposure, and in traditional ED-settings. The aim of this study was to gain understanding for how each type of setting meets expected standards for intern training in the core emergency medical care term.

Method

Anonymously completed online surveys (www.surveymonkey.com) were used to collect data from junior doctors – the surveys have been reproduced in the appendix to this report. The online survey format was selected for being readily distributable to the target population, and for its likely acceptability to the intended audience. The surveys were largely answered via rating scales, and opportunities for interns to add comments were included.

Survey design

Survey content was derived from the Australian Medical Council (AMC) *Intern training – Guidelines for terms* (AMC, 2013) and the *Australian Curriculum Framework (ACF) for Junior Doctors* (Confederation of Postgraduate Medical Education Councils, 2012). The ACF lists 19 clinical skills and procedures and 87 symptoms and conditions. Opinions were gathered from Directors of Clinical Training (DCTs), an experienced emergency medicine physician, and junior medical officers (JMOs) when deciding which of these to include.

Eight key skills and procedures, and 10 key symptoms and conditions were identified (Table 1). Survey participants were asked to indicate how frequently they had had direct involvement with the key skills and conditions during the emergency medicine term.

Table 1 Key symptoms and conditions and key skills and procedures selected for inclusion in the survey, from the Australian Curriculum Framework for Junior Doctors.

Symptoms and conditions	Skills and procedures
Loss of consciousness	Venepuncture/IV cannulation
Chest pain	Order IV fluids and/or medication
Breathlessness	Urethral catheterisation
Abdominal pain	Cleaning and suturing wounds
Shock	Injection of local anaesthetic into skin
Anaphylaxis	Splint/plaster limb
Diabetes mellitus & direct complications	Perform and interpret electrocardiogram (ECG)
Traumatic injuries	Perform and interpret arterial blood gas
Ischaemic heart disease	
Deliberate self-harm & suicidal behaviours	

Survey participants were also asked to rate their level of agreement (using a four-point scale, from strongly agree to strongly disagree) with five statements that addressed:

- Participation in formal education and training relevant to emergency medicine;
- Availability of supervision when caring for patients;
- Case discussion with senior colleagues;
- Knowledge gained about emergency medicine careers; and
- Opportunities to assess and manage undifferentiated patients.

Interns were also asked to rate how often they had observed high acuity patient management during the emergency term, and of these occasions, how often they had been able to directly contribute to patient care.

The time of year (Terms 1 – 4) at which the emergency rotation had been undertaken was asked, as this may affect intern activities (Zhu et al., 2008). Participants were also asked to nominate the total duration they had spent undertaking rural clinical placements while at medical school, and the number of emergency care clinical electives they had completed as a medical student.

Two versions of the questionnaire were created: the “ED-setting” survey and the “GP-setting” survey. This differentiation was used to group responses without asking participants to provide potentially identifying information. Apart from this distinction, the two versions of the questionnaire were identical.

Study population

Surveys were sent to all of the interns employed by SA hospitals who had undertaken an accredited core emergency medicine placement in Terms 1 to 4 of 2013. Employing facilities assisted by determining whether the rotation had been undertaken in a GP- or ED-setting. Forty-four interns were sent the GP-setting survey, and 190 interns were sent the ED-setting survey. Five interns undertook placements in both GP- and ED-settings, and were sent both surveys. Interns undertaking their core emergency rotation in Term 5 of 2013 could not be included because they were only part-way through their emergency term at the time of data collection.

Core emergency terms in South Australia

Emergency medical care rotations are undertaken in the Emergency Departments of seven hospitals, within four Local Health Networks in SA. Ten General Practice placements have been accredited as core emergency terms (Table 2).

Table 2 Accredited core emergency medicine rotations for interns in South Australia: Emergency department and general practice settings, by Local Health Network.

Core emergency rotations	Intern positions (n)	
CENTRAL ADELAIDE LOCAL HEALTH NETWORK		
Emergency department settings		
Royal Adelaide Hospital (RAH)	12	
The Queen Elizabeth Hospital (TQEH)	10	
General practice settings		
Emergency exposure site		
Christies Beach Medical Centre	RAH ED (1 day per week)	1
Crystal Brook General Practice	Crystal Brook Hospital	1
Clare Medical Centre	Clare Hospital & Health Service	1
Mannum Medical Centre	Mannum Hospital	1
Hawkins Medical Centre, Mt Gambier	Mt Gambier & Districts Hth Service ED	2
Coleraine Casterton General Practice	Casterton Memorial Hospital	1
Kadina Medical Clinic	Wallaroo Hospital	1
NORTHERN ADELAIDE LOCAL HEALTH NETWORK		
Emergency department settings		
Lyell McEwin Hospital (LMH)	6	
Modbury Hospital (MH)	5	
General practice setting		
Emergency exposure site		
Kapunda Medical Practice	Kapunda Hospital	1
SOUTHERN ADELAIDE LOCAL HEALTH NETWORK		
Emergency department settings		
Flinders Medical Centre (FMC)	12	
Noarlunga Hospital (NH)	2	
General practice settings		
Emergency exposure site		
Berri Medical Clinic	Riverland Hospital	1
Bridge Clinic, Murray Bridge	Murray Bridge Hospital	1
COUNTRY HEALTH SA LOCAL HEALTH NETWORK		
Emergency department setting		
Mt Gambier and Districts Health Service (MGDHS)	2	

Procedures

Approval for the project was granted by the SA Health Human Research Ethics Committee.

Electronic links for the ED-setting and GP-setting surveys were provided to medical education unit (MEU) staff, who then emailed the appropriate version(s) to the interns employed at their hospital. MEU staff also distributed two reminder emails containing links to the survey. Table 3 gives the schedule for distribution of study materials (timing could be adjusted to suit MEU workflow).

Table 3 Schedule for distribution of survey and reminders.

Emailed item	Suggested timing
Initial survey delivery	Monday 2 December 2013
Reminder 1 of 2	Wednesday 11 December 2013
Reminder 2 of 2	Thursday 19 December 2013

Data were collected by SA MET. The separation between survey distribution and data collection was implemented to protect participants' anonymity.

Data analysis

Descriptive statistics were used to summarise data. Findings are presented as frequencies, percentages, and medians. Non-parametric statistical tests were conducted: Chi-square, Mann-Whitney *U*, Jonckheere-trend tests, and the non-parametric Levene's test of variability within groups (Nordstokke et al., 2011). *P* values are given in tables, but are shown on figures only where significant ($P < 0.05$). To further readers' understanding of interns' perspectives, a variety of quotes drawn from participant comments have been included among the quantitative findings.

Anonymised age and gender data were obtained for the individuals who were allocated intern positions in SA for 2013. These were compared with the age and gender of study participants, to determine whether the study sample could be considered representative of the general intern cohort.

Results

Response rate

Seventy-five interns out of 190 responded to the ED-setting survey (response rate: 39.4%), and 20 interns out of 44 participated in the GP-setting survey (response rate: 45.5%).

Five interns undertook placements in both types of setting and were sent both surveys; it is not known how many of these individuals responded. Complete or near-complete rating scale data sets were gained from most of the surveys commenced. Four of the ED-setting surveys were largely left blank. Fifty-two ED-group interns and 17 GP-group interns provided text responses.

Demographic characteristics

Most participants were aged between 25 and 29 years, and over half were female (Table 4).

Age and gender among respondents did not differ significantly from those in the general intern population in SA ($P = 0.432$ and $P = 0.133$, respectively).

Gender distribution did not differ significantly between settings ($P = 0.334$), but interns placed in GP-settings were significantly younger than interns in ED-settings ($P = 0.024$).

Table 4 Age and gender of survey respondents.

Characteristics	All responses		Between-settings comparison				
	%	(n)	ED-setting		GP-setting		<i>P</i>
			%	(n)	%	(n)	
Gender							
Female	60.6	(57)	58.1	(43)	70.0	(14)	
Male	39.4	(37)	41.9	(31)	30.0	(6)	
TOTAL	100.0	(94)	100.0	(74)	100.0	(20)	0.334
Age							
20-24 years	19.1	(18)	14.9	(11)	35.0	(7)	
25-29 years	57.5	(54)	58.1	(43)	55.0	(11)	
30-34 years	11.7	(11)	13.5	(10)	5.0	(1)	
35+ years	11.7	(11)	13.5	(10)	5.0	(1)	
TOTAL	100.0	(94)	100.0	(74)	100.0	(20)	0.024

Clinical experience at medical school

Although nearly 90% of the interns had participated in rural clinical placements during medical school, fewer than 60% had done a clinical elective in emergency medicine (Table 5).

One intern pointed out the desirability of gaining experience in emergency departments during medical school, in preparation for the intern emergency rotation.

“After commencing my ED rotation as an intern I realised how necessary an ED rotation in medical school should be... Instead of being stressed by medical problems I found the issue of stress was compounded by a lack of knowledge about referrals and the workings of an ED”.

(Comment on emergency electives at medical school, ED-setting)

Table 5 Rural clinical placements and clinical electives in emergency medicine

Characteristics	All responses		Between-settings comparison				
	%	(n)	ED-setting		GP-setting		P
			%	(n)	%	(n)	
Rural clinical placements (total duration)							
No rural placements	11.7	(11)	12.2	(9)	10.0	(2)	
Up to 6 months	64.9	(61)	62.1	(46)	75.0	(15)	
More than 6 months	23.4	(22)	25.7	(19)	15.0	(3)	
TOTAL	100.0	(94)	100.0	(74)	100.0	(20)	0.700
Clinical electives in emergency (number)							
None	42.6	(40)	44.6	(33)	35.0	(7)	
One only	46.8	(44)	44.6	(33)	55.0	(11)	
Two or more	10.6	(10)	10.8	(8)	10.0	(2)	
TOTAL	100.0	(94)	100.0	(74)	100.0	(20)	0.734

Interest in emergency medicine as a career option

About one in five of the respondents said they were interested in emergency medicine as a career option (Table 6). The groups did not significantly differ for these responses ($P = 0.226$). Among the interns who had expressed some (however ambivalent) interest in emergency medicine careers, the difference between rates of definite interest (24% in ED-settings versus 10% in GP-settings) did not reach statistical significance ($P = 0.085$).

More than one intern specified their intentions to deliver emergency and GP services to patients in rural areas.

“I would like to practice in rural medicine providing emergency services through a local hospital”.

(Comment on career interests, ED-setting)

“I am interested in rural general practice, which obviously involves Emergency Medicine”.

(Comment on career interests, ED-setting)

Table 6 Interest in emergency medicine as a career option.

Interest in emergency medicine as career option	All responses		Between-settings comparison				P
			ED-setting		GP-setting		
	%	(n)	%	(n)	%	(n)	
No	55.3	(52)	55.4	(41)	55.0	(11)	
Unsure	23.4	(22)	20.3	(15)	35.0	(7)	
Yes	21.3	(20)	24.3	(18)	10.0	(2)	
TOTAL	100.0	(94)	100.0	(74)	100.0	(20)	0.226

Timing of emergency medicine rotation

Respondents described emergency terms undertaken during the first four terms of 2013. These were distributed within expected proportions (Table 7).

Written comments revealed mixed views about how time of year had affected the emergency term experience, and that of other rotations undertaken during the year. The additional challenges posed to one respondent as a result of doing the emergency term early in internship can be viewed alongside the report from another participant about the benefits conferred by the emergency term to subsequent placement experiences.

“My experience in ED probably would have been more positive if it had not been my first term and I was more confident. When I have relieved in ED in later terms I have found the experience to be better”.

(Further comments, ED-setting)

“I learned initial assessment and management skills – this made me much less nervous on cover shifts”.

(Comment on positive aspects, ED-setting)

Table 7 Timing of the emergency medicine terms described by respondents.

Timing of emergency medicine rotation	All responses		Between-settings comparison				P
	%	(n)	ED-setting		GP-setting		
			%	(n)	%	(n)	
Term 1	23.4	(22)	20.3	(15)	35.0	(7)	
Term 2	20.2	(19)	18.9	(14)	25.0	(5)	
Term 3	30.9	(29)	36.5	(27)	10.0	(2)	
Term 4	25.5	(24)	24.3	(18)	30.0	(6)	
TOTAL	100.0	(94)	100.0	(74)	100.0	(20)	0.137

Supervision

Gaining insight into interns' supervision during the emergency medicine rotation was among the most important aspects of the investigation. Supervision was clearly extremely important to the interns themselves, and many emphasised this in their written answers.

"I learned so much from the ED environment. It was an excellent balance of independence and supervision".

(Comment on positive aspects, ED-setting)

"I was very happy to run things past seniors and be reassured I hadn't missed anything".

(Comment on positive aspects, ED-setting)

Close to 100% of respondents agreed that they had discussed all or nearly all of the patients they assessed and managed with a senior colleague (Figure 1), although interns in ED-settings tended to express stronger agreement than interns in GP-settings ($P = 0.011$).

Significantly greater variability was detected among interns in GP-settings with respect to being able to discuss patients with senior colleagues, when compared to the variability in ED-settings ($P = 0.003$). This may be associated with the multiple locations in which the GP-group interns worked during the rotation (being both the general practice environment and the emergency department of the affiliated hospital), which contrasts to the experience of interns in ED-settings who remained in one practice location.

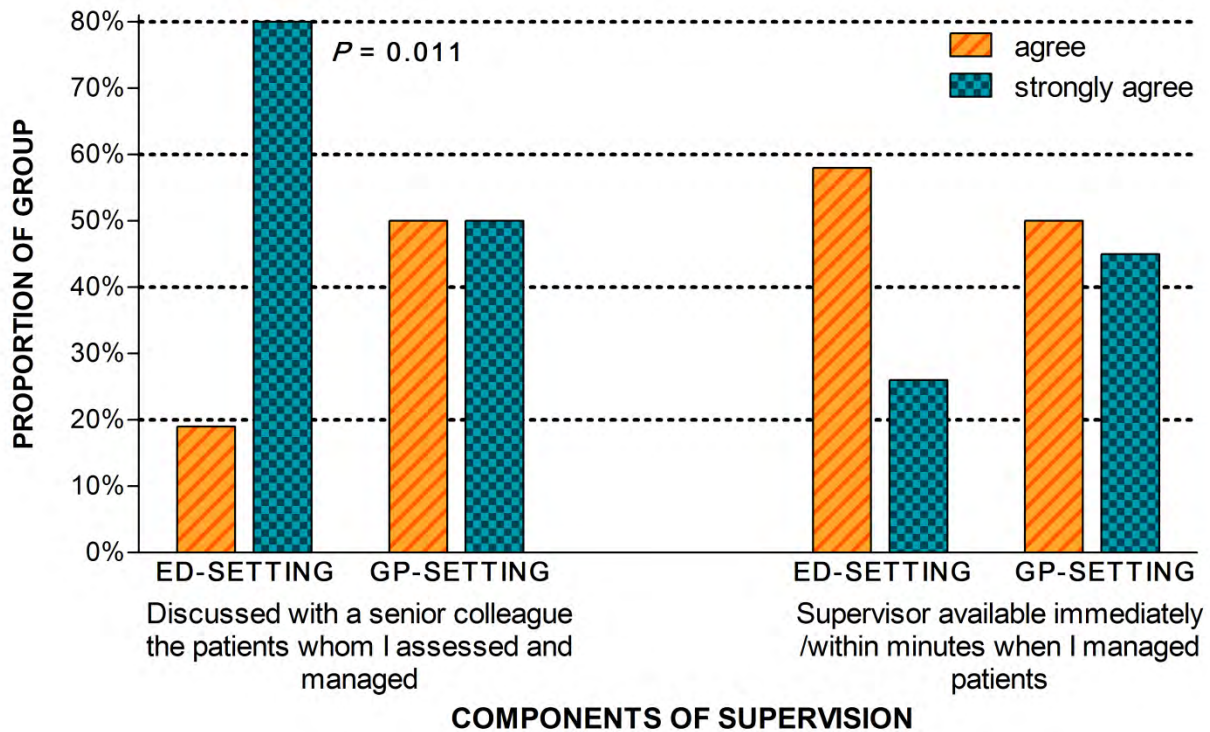


Figure 1 Proportion of interns who agreed that they had discussed patients with senior colleagues and that supervision was available.

As shown in Figure 1, very high proportions of interns placed in both ED-settings (84%) and GP-settings (95%) agreed that supervision was immediately available or rapidly accessible when they were managing patients (no significant difference between groups, $P = 0.061$).

One intern offered the following additional insight into the supervision that was available to them during the emergency medicine term:

“Sometimes the wait for an appropriate senior was longer than “within minutes”, however their whereabouts were always known and I used my clinical judgment as to whether I needed to interrupt what they were doing to discuss it with them, or, if the patient was stable, I would wait”.
(Comment on supervision, ED-setting)

Encountering a variety of conditions

The proportions of interns who reported treating the selected symptoms and conditions at some point during their emergency rotation are shown in Figure 2.

All interns reported caring for patients with abdominal pain, chest pain and breathlessness during their emergency term. The remaining conditions were treated by at least 50% of respondents in each group. Self-harm and suicidal behaviour was encountered by a significantly greater proportion of interns in ED-settings compared to GP-settings ($P = 0.049$), but the proportion of interns who had treated the other nine conditions during the emergency term did not differ significantly between settings.

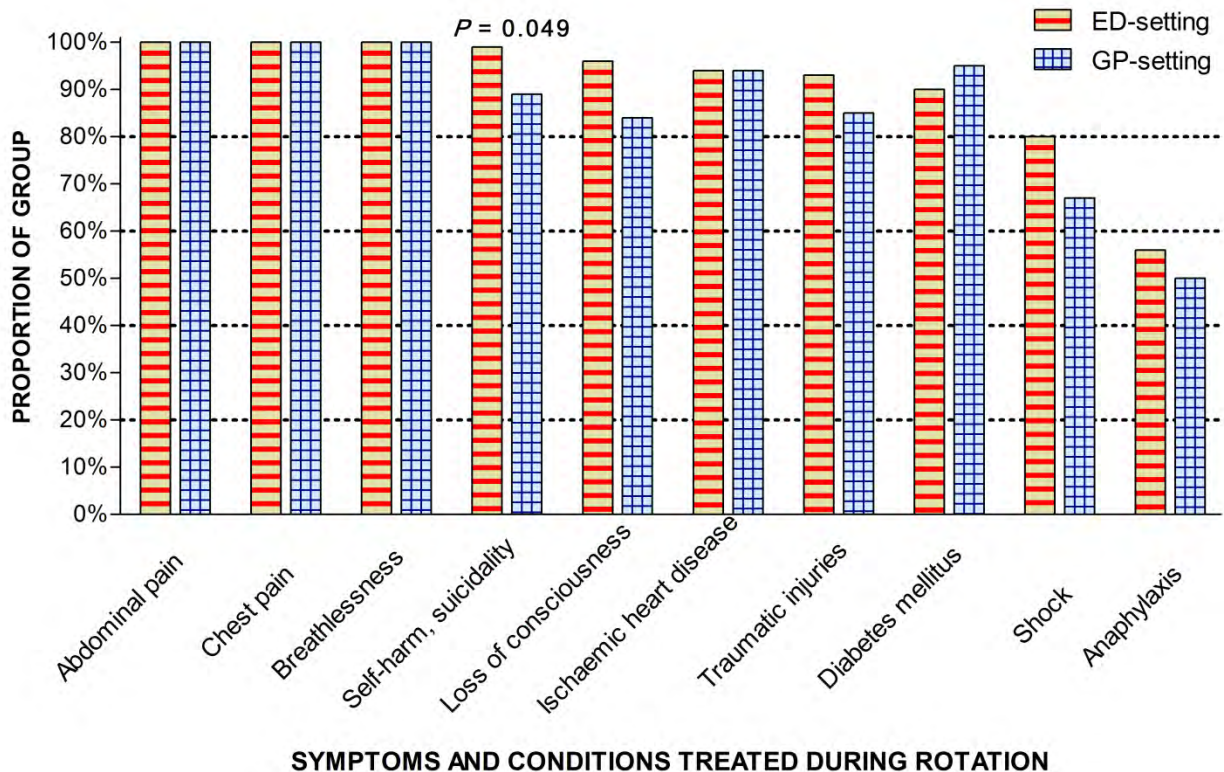


Figure 2 Experience managing clinical conditions: Proportion of interns who reported having managed the symptoms and conditions at least once during the emergency rotation.

The median number of symptoms and conditions that had been treated by the interns in this study was 9 (of a possible 10), in both types of setting, with no significant difference between groups.

The chance to see a variety of patients was appreciated by many survey participants.

“Good mix and opportunity to choose a mix of patients”.

(Comment on casemix, ED-setting)

“I saw and managed many patients with a variety of conditions”.

(Comment on formal training, GP-setting)

Using a variety of skills

Figure 3 shows the proportion of interns who reported practicing the eight skills and procedures during their emergency medicine rotation. Each skill had been performed by at least two thirds of the interns in each setting.

Comparisons between the groups found that a significantly greater proportion of interns in ED-settings had the opportunity to perform and interpret arterial blood gas ($P < 0.001$) and urethral catheterisation ($P = 0.023$) during the emergency term. No significant differences were found for the remaining six conditions. One of the interns placed in a GP-setting noted the lack of equipment to perform arterial blood gas in the regional hospital affiliated with the placement.

Of the 8 skills that were assessed, the median number of skills practiced during the emergency term was 8 in ED-settings, and 7 in GP-settings (no significant difference between groups).

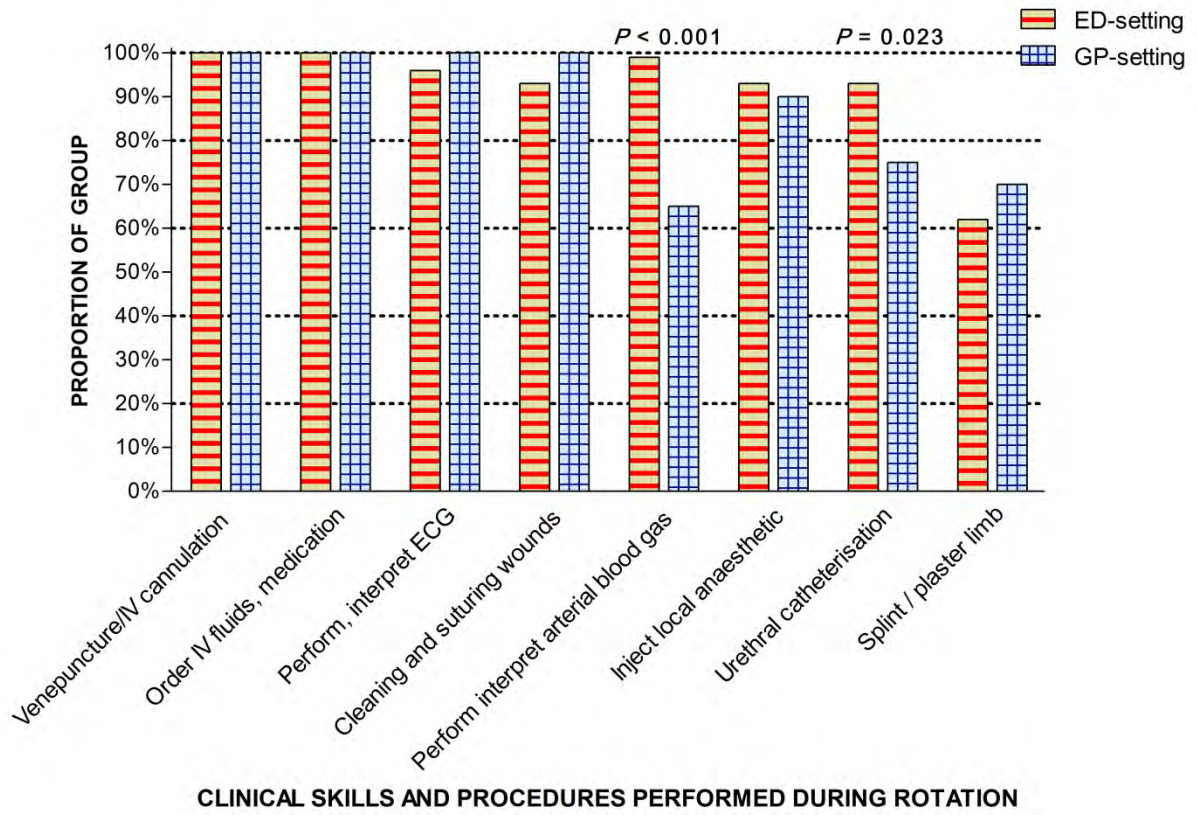


Figure 3 Experience using clinical skills: Proportion of interns who reported having performed the clinical skills and procedures at least once during their emergency rotation.

Common clinical activities

While Figures 2 and 3 illustrate the proportion of interns who had had any direct exposure to the 10 symptoms and conditions and 8 skills and procedures, Table 8 reflects the proportion of interns who reported experience with these on a weekly or more frequent basis during their emergency rotation. Also shown in Table 8 are the *P* values arising from comparing the rates for ED- and GP-settings.

Table 8 Common clinical activities: Proportion of interns who reported weekly or more frequent experience with selected conditions and skills from the Australian Curriculum Framework for Junior Doctors.

Clinical activities performed on weekly or more frequent basis	All responses		Between-settings comparison				
	%	(n)	ED-setting		GP-setting		<i>P</i>
			%	(n)	%	(n)	
Symptoms and conditions treated							
Abdominal pain	94.4	(84)	100.0	(71)	72.2	(13)	< 0.001
Chest pain	87.7	(79)	93.0	(66)	68.4	(13)	0.004
Breathlessness	87.6	(78)	93.0	(66)	66.7	(12)	0.002
Self-harm, suicidal behaviours	70.0	(63)	78.9	(56)	36.8	(7)	< 0.001
Loss of consciousness	65.9	(58)	78.3	(54)	21.1	(4)	< 0.001
Ischaemic heart disease	66.3	(59)	71.8	(51)	44.4	(8)	0.028
Diabetes mellitus, complications	48.4	(44)	49.3	(35)	45.0	(9)	0.734
Traumatic injuries	45.1	(41)	42.3	(30)	55.0	(11)	0.312
Shock	9.0	(8)	11.3	(8)	-	(0)	0.135
Anaphylaxis	2.2	(2)	2.8	(2)	-	(0)	0.448
Skills and procedures practiced							
Venepuncture, IV cannulation	98.9	(90)	100.0	(71)	95.0	(19)	0.058
Order IV fluids, medication	97.8	(89)	100.0	(71)	90.0	(18)	0.007
Perform, interpret ECG	85.7	(78)	87.3	(62)	80.0	(16)	0.408
Perform, interpret arterial blood gas	59.3	(54)	69.0	(49)	25.0	(5)	< 0.001
Cleaning and suturing wounds	46.2	(42)	39.4	(28)	70.0	(14)	0.015
Inject local anaesthetic into skin	45.1	(41)	39.4	(28)	65.0	(13)	0.042
Urethral catheterisation	45.1	(41)	52.1	(37)	20.0	(4)	0.011
Splint/plaster limb	9.9	(9)	8.5	(6)	15.0	(3)	0.386

For the purpose of this investigation, activities that occurred on a weekly or more frequent basis were regarded as “regular” clinical experiences for participating interns.

Interns in ED-settings were significantly more likely than interns in GP-settings to report regularly treating over half of the conditions shown in Table 8 during their emergency medicine term.

Such repeated clinical exposures were not necessarily viewed positively by interns:

“Seeing similar presentations again and again and not learning many new practical skills”.

(Comment on negative aspects of term, ED-setting)

Performing and interpreting arterial blood gas, ordering IV fluid and medication, and urethral catheterisation were performed regularly by a significantly higher percentage of interns in ED-settings than was the case in GP-settings. Interns in GP-settings, however, were significantly more likely than interns in ED-settings to have gained regular experience cleaning and suturing wounds and administering local anaesthetic.

Several interns placed in ED-settings noted that at the hospital in which they were employed, orderlies and nurse practitioners tended to look after activities such as plastering and suturing.

“Metropolitan based interns should be given the opportunity to undergo an emergency term which allows them to learn and perform procedural skills (i.e. IV cannulation, insertion of IDC, suturing) to perfection”.

(Further comment, GP-setting)

Workload

High workloads and the associated stress were described by several interns as being negative aspects of ED-setting terms. In some cases, this detracted from the educational experience.

“Due to the busy nature of the ED it can sometimes be quite stressful....but this is an unavoidable aspect of ED work for the inexperienced intern”.
 (Comment on negative aspects of term, ED-setting)

“Very busy, not allowing for much learning on the job. Pressure to process patients quickly”.
 (Comment on negative aspects of term, ED-setting)

Estimates of interns’ typical workload during the emergency rotation were generated using the number of clinical activities that interns reported having undertaken on a weekly or more frequent basis (among those listed in Table 1). The number of conditions for which interns provided regular treatment was considered an indicator of clinical caseload, and interns’ estimated procedural workload was gauged from the number of skills that were regularly practiced. These findings are illustrated in Figure 4.

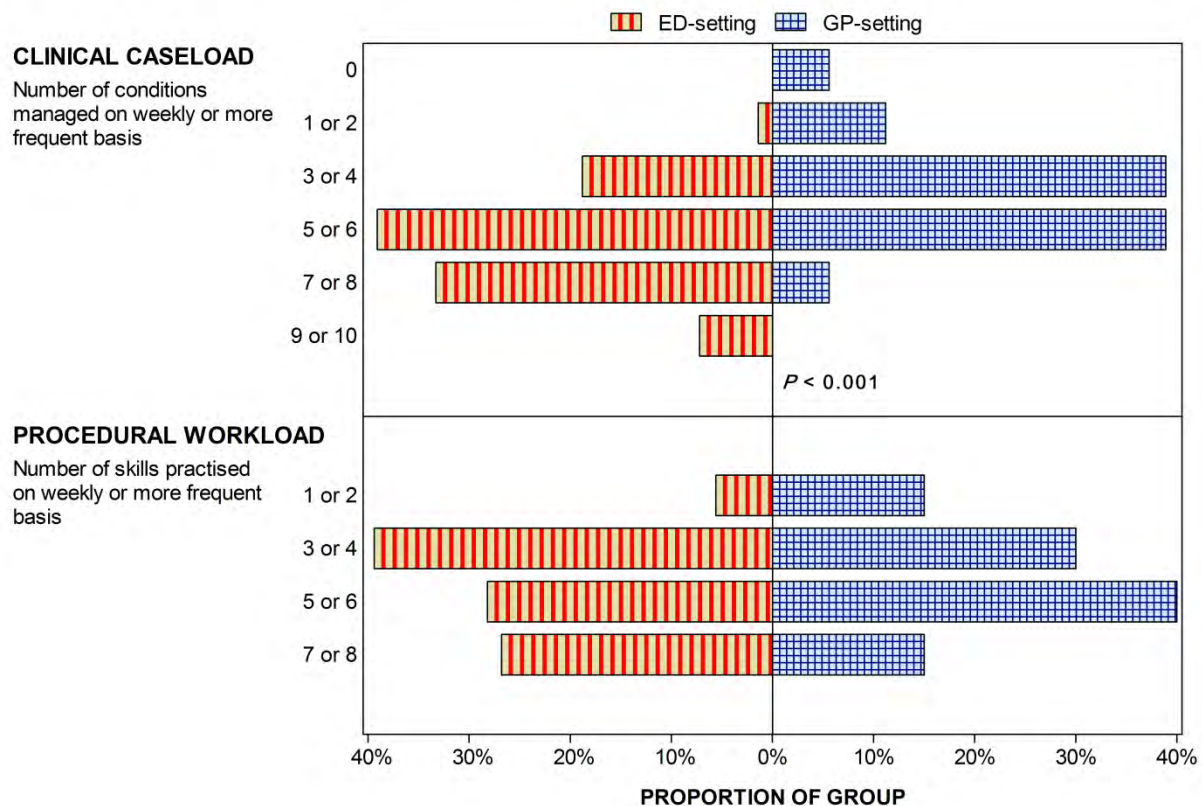


Figure 4 Regular clinical workload: Number of conditions managed weekly more often (clinical caseload, top panel) and number of skills practiced on a weekly or more often (procedural workload, lower panel).

The median number of conditions that interns reported having managed regularly was significantly higher among interns in ED-settings than in GP-settings: 6 versus 4 conditions, respectively ($P < 0.001$). Interns' procedural workload, however, did not vary significantly between settings; the median number of skills used regularly was 5 for each group.

Undifferentiated and high acuity patients

It is intended that interns be exposed to undifferentiated and high acuity presentations during the emergency medicine term. Reported levels of access to these training experiences are shown in Figure 5.

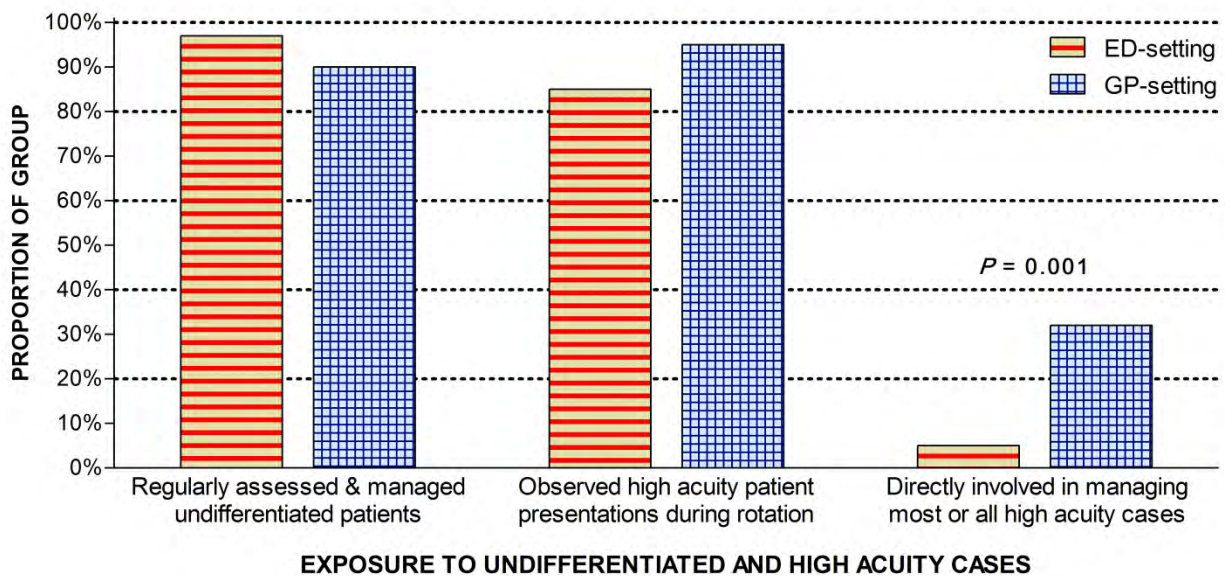


Figure 5 Proportion of interns who indicated that their emergency medicine term included opportunities to assess and manage undifferentiated patients, observe management of high acuity presentations, and directly contribute to caring for most or all high acuity cases.

Over 80% of respondents agreed that they were regularly afforded opportunities to assess and manage undifferentiated cases (no significant difference between groups) and many interns commented that this had been a valuable aspect of the rotation.

Although most interns (over 80% in each setting) had observed patients being treated for high acuity problems (with no significant difference between groups), rates of active involvement in

these cases were much lower. Half the interns in ED-settings and nearly a third of those in GP-settings were rarely or never able to directly contribute to the care of high acuity patients.

The proportion of high acuity cases to which interns could actively contribute was significantly lower for interns in ED-settings. Only 5% of interns in ED-settings reported being directly involved in most or all of the high acuity presentations being managed, whereas in GP-settings, 32% reported being actively involved most or all of the time ($P = 0.001$).

Interns in both settings complained that higher acuity cases tended to be handled by seniors.

“Usually lower grade triage patients. High grade were left to more senior staff”.
(Comment on casemix, GP-setting)

There was a significantly greater variability within ED-settings in relation to interns' access to undifferentiated patients than was the case among GP-settings ($P = 0.013$).

Interestingly, rural clinical placements undertaken at medical school, particularly those lasting six months or more, significantly predicted the extent to which these individuals were later afforded opportunities (as interns) to working with undifferentiated patients. This predictor applied to the full cohort of interns ($P = 0.034$), as well as to interns in ED-settings ($P = 0.046$), but did not reach significance where data from interns in GP-settings were analysed separately ($P = 0.456$).

Emergency training and career understanding

Figure 6 shows levels of agreement among respondents regarding the delivery of formal emergency medicine training and insight into emergency medicine careers.

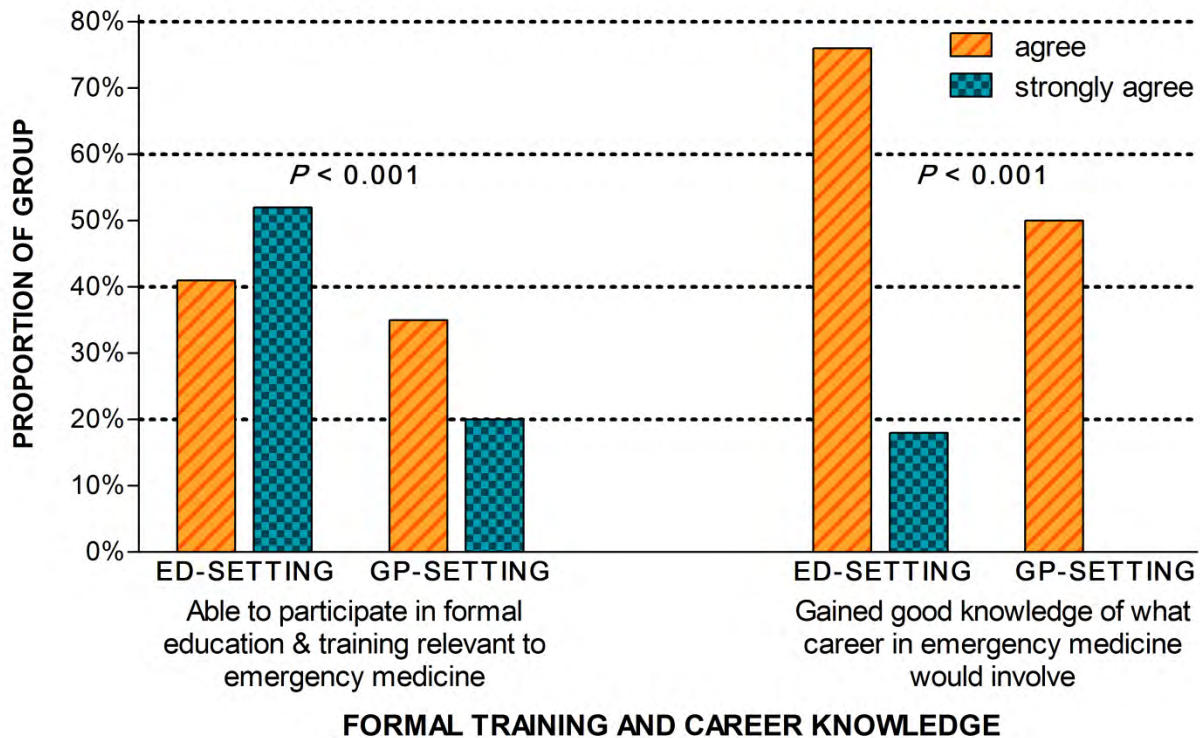


Figure 6 Proportion of interns in ED- and GP-settings who agreed that the emergency term had delivered formal education and training relevant to emergency medicine, and knowledge of what a career in emergency medicine would involve.

Formal training rates were significantly higher in ED-settings. 93% of interns placed in EDs, agreed that they had participated in formal emergency medicine training, compared to 55% of interns in GP-settings ($P < 0.001$).

An educational offering specific to one of the metropolitan EDs was noted as valuable.

“EM on the EDGE’ was a nice program for interns...no other rotation provides such comprehensive teaching modules”.
(Comment on education and training, ED-setting)

A similar disparity was detected in relation to insights gained about emergency medicine careers. 93% of interns in ED-settings indicated that their emergency term had imparted a good

understanding about what a career in emergency medicine would involve, compared to 50% of interns in GP-settings ($P < 0.001$). GP-settings were also found to be significantly more variable than ED-settings in terms of the level of insight they delivered about emergency medicine careers ($P = 0.020$).

The distinction between emergency careers in rural and metropolitan contexts was raised by two interns:

“I feel I have an understanding of what a career in rural Emergency Medicine would be like but not so much an urban emergency medicine career”.

(Comment regarding emergency career knowledge, GP-setting)

“Having done rural ED/GP, I do not have a good understanding of what a career in a city-based purely ED setting entails”.

(Comment regarding emergency career knowledge, GP-setting)

Insufficient interaction with high acuity cases detracted from the understanding that one intern in an ED-setting gained from the emergency medicine rotation.

“Although I was based in a major hospital ED, I never saw anything very “acute”. We weren’t encouraged to go to resus/trauma and often felt that with so many people already “off the floor” you had to keep seeing patients as there weren’t enough doctors. I think this was the biggest thing I missed out on given I need to feel comfortable with Emergency Medicine for my long term career goals”.

(Comment on negative aspects of term, ED-setting)

Overall impression

Several comments made reference to the term having delivered authentic role experiences.

“Feeling as though I were performing ‘real’ medicine - seeing and assessing patients with their initial presenting complaint, ordering initial tests etc.”.
(Positive aspects of emergency term, ED-setting)

“Being in a rural hospital, you have more responsibility and actually feel like a doctor”.
(Positive aspects of emergency term, GP-setting)

From examining both the written responses and the overall ratings for the term (Figure 7), it was clear that the emergency rotations were very highly regarded, irrespective of setting. The substantial majority of interns in ED-settings and in GP-settings described the term as having been a positive or very positive experience.

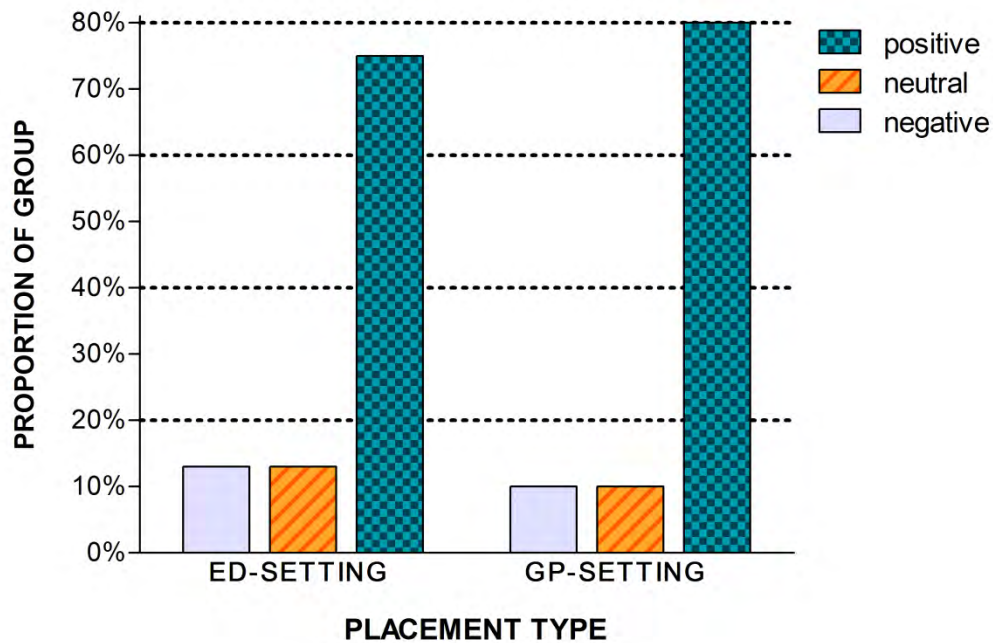


Figure 7 Overall impression of emergency term: Proportion of interns rating the term as positive, neutral or negative.

Discussion

Selected general practice placements with emergency exposure have been accredited as core emergency terms in South Australia since 2005. In 2014, these placements comprise about one-fifth of the core emergency medicine rotations available for interns in this state. This nationally unique circumstance presented an opportunity to investigate the training experiences gained by interns placed in traditional ED settings, and in the GP-based emergency medicine rotations. With the aim of comparing these experiences to expected standards for training, surveys were used to gather interns' perspectives.

Survey content was developed using guidelines for intern training and the clinical training elements outlined in the Australian Curriculum Framework for Junior Doctors, and refined by feedback from the South Australian medical education community. Staff at each of the intern-employing hospitals in SA provided additional assistance by emailing the survey links to interns. The anonymous online surveys, combined with the clear separation between data collection (by SA MET) and survey distribution (by MEU staff) presented an opportunity for interns to express their views without fear that their answers could affect later career or training opportunities. A limitation to this approach is that it does not allow for the collection of in-depth qualitative information to explain the rating responses in any great detail. Substantial value was gained from the comments that participants added while completing the survey, but a greater understanding of interns' perspectives could have been gained by including methods such as interviewing or focus groups. These approaches were prohibited by the available resources, as was the implementation of behavioural observation techniques. While behavioural observation would have delivered further (objective) data about interns' activities, it would be unlikely to have captured the perspectives that were a key aspect of the present investigation.

The study design included potential 'crossover' between the ED- and GP-setting groups. During consultation with employing facilities it was established that a small number of interns had undertaken placements in both types of setting during Terms 1- 4 of 2013. The decision was reached to send these interns both surveys, so that they could (if they chose) describe their experience in each type of setting. While their unusual capacity for comparison would have offered additional information as to the relative merits of the ED- and GP-settings, it would have been unethical to effectively compromise the anonymity of these individuals by rendering their responses distinguishable from others' contributions. It was also deemed unethical to wholly preclude these junior doctors from participating in the research. The potential 'crossover' represents an acknowledged violation (albeit limited to a maximum subset of 5) of the formal

statistical requirements of group independence that are associated with some of the inferential analyses. With regards the survey itself, in retrospect it would have been useful to have included a question asking participants whether they had requested the type of rotation in which they were placed (i.e. self-selected for that experience), or whether it had been imposed upon them (and if the latter, how they had viewed this situation). This information would have aided the interpretation of survey responses. Anecdotal reports suggest that as interest in the GP-setting terms grows, some of these terms tend toward being over-subscribed; these and other perspectives warrant future investigation.

This study goes some way to addressing the near-absence of research evidence identifying and documenting specific clinical training experiences (aligned with training competencies in the ACF) that rural general practice placements offer trainees (Young et al., 2013). It also delivers a brief, practical instrument for measuring interns' emergency medicine experiences – earlier reports have noted the lack of useful tools for this application (e.g., Brazil, 2010). The surveys that were sent to interns in the ED- and GP-settings each achieved respectable response rates. These were comparable to, and in many cases exceeded those of similarly conducted studies. (e.g., de Costa et al., 2013). The resulting sizeable dataset supports confidence in the findings. Response rates would have almost certainly suffered had the survey included all of the clinical skills and conditions listed in the ACF, rather than selecting key subsets. Had different selections been made, however, findings may have differed from those reported here.

The greater opportunities for contact with undifferentiated patients that were revealed among interns who had undertaken six or more months in rural placements during medical school was a particularly striking finding. The outcome suggests that extended rural placements may enhance preparedness for work as an intern. This finding adds to the growing body of evidence revealing benefits from undergraduate rural clinical placements (e.g., Clark et al., 2013).

Concerns voiced nationally regarding the use of settings other than EDs for core emergency medicine terms have centred on whether non-ED settings would deliver exposure to undifferentiated and high acuity patient presentations. The present findings should go some way to allaying these concerns. Most interns, regardless of setting type, had regular opportunities to assess and manage undifferentiated patients during the term, and several participants commented that opportunities to work up undifferentiated cases had been among the most rewarding aspects of the rotation.

Most interns had the opportunity to observe high acuity patient management, and it appears that emergency terms in GP-settings may offer greater opportunities for interns to play a direct role

in caring for these high acuity patients. This may relate to the presence of fewer senior staff in GP-settings, who might otherwise compete with interns for interesting cases. Having more senior staff around in ED-settings may account for the greater coverage of case discussion with seniors reported by interns in ED-settings, compared to in GP-settings. Nevertheless, the present research found appropriately high levels of supervision are provided to the considerable majority of interns during emergency medicine terms. This finding has particular resonance since good supervision is crucial to junior doctors' delivery of safe, appropriate patient care, and to educational outcomes from placements (Farnan et al., 2012).

The adequacy of patient casemix offered in non-traditional training posts (i.e. settings other than metropolitan EDs) has been questioned in relation to the suitability of these settings for intern emergency rotations (Brazil, 2010). Although the number of conditions treated by interns on a weekly or more frequent basis tended to be lower in GP-settings, this is consistent with generally lower caseloads in rural areas and smaller facilities. Furthermore, the overall number of conditions that interns treated throughout the rotation did not differ between ED- and GP-based emergency medicine rotations. The perception that emergency terms are rich in procedural opportunities (Zhu et al., 2008) was supported by the range of procedures practiced by the surveyed interns. The type of setting did not appear to affect interns' procedural workload, and several interns remarked on the particular benefits to clinical skill development that had been conferred by the GP-based emergency term. Non-urgent investigations and procedures often form a larger part of small rural hospital services (Baker & Dawson, 2013), which may have contributed to the level of opportunities described. Nevertheless, this study has identified some differences in the case load exposure and procedural opportunities offered in ED- and GP-settings for emergency medicine rotations. What is not known, however, is the minimum level of practice opportunity that would be required to gain competency in managing emergency presentations.

Previous studies have reported that junior doctors feel they need more formal instruction than they receive (Dent et al., 2006). The present study revealed that this may be particularly true for interns who undertake core emergency medicine terms in GP-settings. Although more than half of the interns in GP-settings agreed that they could access formal education and training relevant to emergency medicine, participation rates were substantially higher in ED-settings. Postgraduate Medical Councils may have a role in supporting the improvement of teaching skills among senior clinicians in GP-settings, possibly through Regional Training Provider networks (Stocks et al., 2011). Other strategies and modalities should also be considered to facilitate interns' educational access (Dent et al., 2006), particularly in regional placements. Strategies

to address the comparatively low level of insight into emergency medicine careers that was identified among interns who undertook GP-setting emergency rotations should also be investigated. Improved understanding for how emergency medicine rotations affect later career choices is needed, given that research suggests that regional interns may be a good source of non-metropolitan GPs (Peach et al., 2004).

The interns who shared their perspectives in this research described gaining diverse and valuable learning during emergency rotations. This was the case in both EDs and GP-based terms. Nevertheless, it should be emphasised that this investigation did not set out to establish whether core emergency medicine terms undertaken in ED-settings and GP-settings are 'the same'. The aim of this study was to gather information about the extent to which the clinical training environments and learning opportunities that are offered in each type of setting accord with accreditation standards for core emergency medical care terms. With respect to this aim, it has been established that supervision standards are very largely upheld across settings, and the majority of interns gain great clinical training experiences that reflect required standards for intern training (also regardless of setting).

Flexibility for the kinds of clinical environments in which interns' clinical training can be undertaken (following appropriate accreditation) has been built into the national standards for intern training implemented for the first time in 2014. Some stakeholders questioned the inclusion of selected general practices among settings considered suitable for emergency medical care terms. South Australia's early and active identification of rural GP placements in which interns could gain emergency medicine experience allowed the present research to be conducted into the training offered in the kinds of non-traditional settings that other jurisdictions are now considering.

Conclusion

This research successfully gathered views from a sizeable proportion of SA's intern population, and delivered a substantial body of evidence suggesting that emergency medicine terms (in a range of settings) offer varied and valuable training experiences. These findings offer a persuasive demonstration that where accreditation standards are rigorously applied, a range of environments are suitable for core emergency medical care terms, including GP-settings with emergency exposure. By adopting the present methodology, other Australian jurisdictions could also readily explore both traditional and alternative settings for emergency medical care rotations for interns. The approach could be adapted within and across jurisdictions, to

investigate potential settings in which core medical and surgical terms could be undertaken. Given the need to expand prevocational training capacity for an unprecedented number of interns, it is hoped that the outcomes presented here will inspire decision-makers to support similar inquiries into novel training opportunities for Australia's medical trainees.

References

- Australian Medical Council (2013). Intern training – Guidelines for terms [Internet]. Canberra: Australian Medical Council; 2013 [cited 2013 Dec 18]. Available from: <http://www.amc.org.au/index.php/ar/psa>. Joint publication of the Medical Board of Australia. (Accessed January 2013).
- Baker, T & Dawson, S. (2013). What small rural emergency departments do: A systematic review of observational studies. *Australian Journal of Rural Health* 21: 254–261.
- Brazil, V. (2010). Interns in the ED: the real challenges of increasing numbers. *Emergency Medicine Australasia* 22(2): 97-99.
- Brazil, V. & Mitchell, R. (2013). Balancing quantity and quality in emergency medicine training for interns. *Emergency Medicine Australasia* 25: 387–389.
- Chong, A., Weiland, T. J et al. (2010). The capacity of Australian ED to absorb the projected increase in intern numbers. *Emergency Medicine Australasia* 22(2): 100-107.
- Clark, T. R., Freedman, S.B. et al. (2013). Medical graduates becoming rural doctors: rural background versus extended rural placement. *Medical Journal of Australia* 199(11): 779-782.
- Confederation of Postgraduate Medical Education Councils. Australian Junior Medical Officers' Forum (AJMOF) Resolutions. <http://www.cpmec.org.au/files/2012ajmofresolutionsfinal.pdf> (Accessed January 2013)
- de Costa, C.M., Permezel, M. et al. (2013). Integrating parental leave into specialist training: experience of trainees and recently graduated RANZCOG Fellows. *Medical Journal of Australia* 199(5): 359-362.
- Dent, A. W., Crotty, B. et al. (2006). Learning opportunities for Australian prevocational hospital doctors: exposure, perceived quality and desired methods of learning. *Medical Journal of Australia* 184(9): 436-440.
- Farnan, J. M., Petty, L.A. et al. (2012). A systematic review: the effect of clinical supervision on patient and residency education outcomes. *Academic Medicine* 87(4): 428-442.
- Gosbell, A. D., Mitchell, R.D., et al. (2013). The need for quality and quantity in emergency medical care rotations for interns. *Medical Journal of Australia* 198(6): 313-314.
- Medical Board of Australia. (2012). Granting general registration as a medical practitioner to Australian and New Zealand medical graduates on completion of intern training. Melbourne: MBA. Available from: <http://www.medicalboard.gov.au/Registration-Standards.aspx>. (Accessed Jan 2013).
- Nordstokke, D.W., Zumbo, .B.D., et al. (2011) Operating characteristics of the nonparametric Levene test. *Practical Assessment, Research & Evaluation* 16 (5): 1-8.
- Peach, H. G., M. Trembath, et al. (2004). A case for more year-long internships outside metropolitan areas? *Medical Journal of Australia* 180(3): 106-109.
- Stocks, N. P., Frank, O. et al. (2011). Vertical integration of teaching in Australian general practice—a survey of regional training providers. *Medical Journal of Australia* 194(11): S75.
- Young, L., Larkins, S.L. et al. (2013). Rural general practice placements: alignment with the Australian Curriculum Framework for Junior Doctors. *Medical Journal of Australia* 199(11): 787-791.
- Zhu, J. N., T. J. Weiland, et al. (2008). An observational study of emergency department intern activities. *Medical Journal of Australia* 188(9): 514-519.

APPENDIX

Participant information for interns in ED-settings

First page of survey sent to ED-setting interns

This survey aims to assess the comparability of clinical training offered to interns in emergency departments, and in general practice settings with emergency exposure, against national standards for intern training. SA MET is undertaking this evaluation in response to concerns raised by the Australasian Junior Medical Officer Committee.

The study is being conducted throughout SA; all interns who completed their core emergency rotation during Terms 1 to 4 of 2013 are being invited to participate. The survey takes about 10 minutes to complete (you may choose to spend longer on additional comments).

Participation is anonymous. SA MET supplied two versions of this survey to Medical Education Unit staff at each hospital; the survey content does not differ beyond the indicator of ED or GP setting for the emergency term. MEU staff forwarded the appropriate survey link to interns at their hospital, depending on where the term was undertaken. Data from the surveys goes to SA MET (not to the facility). Reports of findings will exclude data that might compromise confidentiality. Participation is voluntary, and you can withdraw at any point without consequence.

You have received this version of the survey on account of having undertaken a rotation in an emergency department. When answering, please reflect on the experiences you gained throughout that term.

Approval for this study was granted by the SA Health Human Research Ethics Committee. Please contact the SA MET Project Officer (kate.morefield@health.sa.gov.au, 8226 6578) if you would like further information, or you can speak with someone not connected to the study by contacting SA Health HREC (8226 6367).

If you are happy to take part, please click Next below.

Participant information for interns in GP-settings

First page of survey sent to GP-setting interns

This survey aims to assess the comparability of clinical training offered to interns in emergency departments, and in general practice settings with emergency exposure, against national standards for intern training. SA MET is undertaking this evaluation in response to concerns raised by the Australasian Junior Medical Officer Committee.

The study is being conducted throughout SA; all interns who completed their core emergency rotation during Terms 1 to 4 of 2013 are being invited to participate. The survey takes about 10 minutes to complete (you may choose to spend longer on additional comments).

Participation is anonymous. SA MET supplied two versions of this survey to Medical Education Unit staff at each hospital; the survey content does not differ beyond the indicator of ED or GP setting for the emergency term. MEU staff forwarded the appropriate survey link to interns at their hospital, depending on where the term was undertaken. Data from the surveys goes to SA MET (not to the facility). Reports of findings will exclude data that might compromise confidentiality. Participation is voluntary, and you can withdraw at any point without consequence.

You have received this version of the survey on account of having undertaken a rotation in one of the general practice settings (+ affiliated hospitals) accredited for core emergency placements:

- Berri Medical Clinic (+ Riverland Hospital);
- Bridge Clinic, Murray Bridge (+ Murray Bridge Hospital);
- Christies Beach Medical Centre (+ RAH ED);
- Clare Medical Centre (+ Clare Hospital & Health Service);
- Coleraine/Casterton Medical Centre (+ Casterton Memorial Hospital);
- Crystal Brook Medical Practice (+ Crystal Brook District Hospital);
- Hawkins Medical Centre (+ Mt Gambier & Districts Health Service);
- Mannum Medical Associates (+ Mannum Hospital);
- Kadina Medical Clinic (+ Wallaroo Hospital); and
- Kapunda Medical Practice (+ Kapunda Hospital).

When answering this survey, please reflect on the experiences you gained throughout that term (at the general practice and at the affiliated hospital).

Approval for this study was granted by the SA Health Human Research Ethics Committee. Please contact the SA MET Project Officer (kate.morefield@health.sa.gov.au, 8226 6578) if you would like further information, or you can speak with someone not connected to the study by contacting SA Health HREC (8226 6367).

If you are happy to take part, please click Next below.

Survey questions and response formats

Demographics

What is your gender?

- female
- male

What is your age?

- 20 – 24 years
- 25 – 29 years
- 30 – 34 years
- 35 – 39 years
- 40 years or over

Optional comments:

Clinical placements

During medical school, how long (in total) did you spend doing rural clinical placements?

- nil (no rural placements)
- 2 months or less
- 3 to 6 months
- more than 6 months

As a medical student, did you undertake any clinical electives in Emergency Medicine?

- no
- yes, one only
- yes, more than one

Are you interested in Emergency Medicine as a career option?

- No
- Unsure
- Yes

During which term of 2013 was your core emergency rotation?

- Term 1
- Term 2
- Term 3
- Term 4

Optional comments:

Emergency Medicine

Consider the following statement for the extent to which it applies to you.

Having done the emergency term, I feel I have a good knowledge about what a career in Emergency Medicine would involve:

- strongly agree
- agree
- disagree
- strongly disagree

Optional comments:

Supervision

Consider the following statements for their applicability to your emergency term.

In general, a supervisor was available immediately (or was available within minutes) when I was assessing and managing patients during my emergency term:

- strongly agree
- agree
- disagree
- strongly disagree

I discussed with a senior colleague pretty much every patient whom I assessed or managed, during my emergency term:

- strongly agree
- agree
- disagree
- strongly disagree

Optional comments about your supervision:

Formal Education and Training

Consider the following statement for its applicability to your emergency term.

During my emergency term, I was able to participate in formal education and training activities relevant to emergency medicine:

- strongly agree
- agree
- disagree
- strongly disagree

Optional comments about formal education and training:

High Acuity Presentations

This question has two parts:

PART A: Opportunities to observe the management of high acuity patients; and

PART B: Active involvement in caring for high acuity patients.

PART A:

Think about the patient presentations you observed during your emergency rotation. This includes both the presentations you saw others managing, and cases with which you had direct involvement.

How often did you observe patients presenting with high acuity conditions (such as life threatening haemorrhage, cardiorespiratory arrest, or major trauma)?

- twice or more a week
- about once a week
- about once a fortnight
- once or twice only
- never

PART B:

Of the high acuity presentations you observed during your emergency term, think about how often you contributed directly to their management.

How often were you directly involved in the care of patients who presented with high acuity problems?

- most or all of the time
- often
- sometimes
- rarely or never

Optional comments regarding high acuity presentations:

Optional comments regarding high acuity presentations:

Patient Casemix

Please select the answer that best describes how often you were actively involved in caring for patients with these symptoms and conditions, during your emergency term:

	twice a week or more	about once a week	about once a fortnight	once or twice only	never
Loss of consciousness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chest pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Breathlessness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abdominal pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anaphylaxis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes mellitus & direct complications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traumatic injuries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ischaemic heart disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deliberate self-harm & suicidal behaviours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Optional comments about patient casemix:

Undifferentiated Patients

Consider the following statement for its applicability to your emergency term.

I regularly assessed and managed undifferentiated patients during my emergency term:

- strongly agree
- agree
- disagree
- strongly disagree

Optional comments about undifferentiated patients:

Clinical Skills and Procedures

Please select the answer that best describes how often you practiced the skills shown below, during your emergency term:

	twice a week or more	about once a week	about once a fortnight	once or twice only	never
Venepuncture / IV cannulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Order IV fluids and/or medication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Urethral catheterisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cleaning and suturing wounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Injection of local anaesthetic into skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Splint / plaster limb	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform and interpret ECG	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Perform and interpret arterial blood gas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
--	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

Optional comments concerning procedural skills:

Overall Impression

Please select the answer that best describes how you feel overall about the emergency rotation you undertook:

- extremely positive
- positive
- neutral
- negative
- extremely negative

Please describe the aspects of your emergency rotation you found positive or rewarding:

Please describe the aspects of your emergency rotation you found negative or disappointing:

Thank You

Thank you very much for contributing to this evaluation of core emergency terms in South Australia.

If you have any further comments, please add them below.

Optional further comments: