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Preparedness for internship: a survey of new interns in a large Victorian Health Service

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Abstract

Objective. To gain better understanding of the work-preparedness of new interns and identify areas where further training and education should be provided.

Design. Surveys of new interns assessing self-reported confidence and preparedness for tasks commonly undertaken without direct supervision. The first survey was undertaken before the cohort had started work, the second once they had completed their second intern rotation.

Setting. A large metropolitan Victorian health service.

Participants. All interns starting in 2009 at Southern Health. Of the total 66 interns, 52 (84%) completed the first survey and 37 (56%) completed the second.

Main outcome measure(s). Self-reported confidence and preparedness for common intern tasks.

Results. The surveys identified tasks that interns undertake frequently, their preparedness for these and their confidence in completing them. Although most felt reasonably well prepared by their university training for many tasks they commonly undertake as interns, this was not the case for all tasks. In particular, they did not feel well prepared for the following: preoperative patient review, handover, fluid and medication management, patient admissions, assessment of unstable patients, communication with patients and families, and pain management.

Conclusions. There are particular domains of work-readiness for interns that could be improved. For best results, the training of interns in these common tasks should be undertaken jointly by hospitals and universities to ensure smooth transition from medical student to intern.

What is known about the topic? Transition from student to intern requires a range of skills and attributes. Previous publications have demonstrated a link between the number of times a procedural task has been completed by junior medical staff and confidence in completion.

What does this paper add? This paper documents interns' own views about the tasks commonly undertaken during internship, and their views on how well they were prepared for these tasks by university training and organisational orientation. It considers non-procedural tasks (such as communication and escalation) as well as common intern procedures. It also documents the intern hopes and concerns regarding internship immediately pre-employment and after 20 weeks of employment.

What are the implications for practitioners? Later-year university training experiences and organisational orientation planning should at least in part be geared by the requirements for work-readiness at intern level.

Introduction

Southern Health is the largest health service in Victoria and delivers comprehensive integrated health care services to over 750 000 people in the south-eastern suburbs of Melbourne via five hospitals and a range of community-based services. Southern Health employs ~1800 doctors, including, in 2009, 66 interns. At Southern Health, intern orientation occurs over a 3-day period and content is defined at an organisation level. Possible content for orientation is greater than capacity and one of the roles of the Medical staff orientation committee is to determine content of the orientation by prioritising organisational induction requirements, medical professional governance and clinical governance requirements and gaps in preparedness that may affect the ability of the interns to undertake their role.

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The aims of this study were to:

(1) confirm our organisational understanding of the tasks that interns frequently undertook unsupervised or under remote supervision;
(2) assess their preparedness for, and confidence in, these tasks;
(3) identify specific, common tasks that interns were not confident to perform;
(4) identify possible gaps in training at both a university level and at intern level (orientation and education) to improve our training and education; and
(5) provide feedback to University clinical schools as to possible areas for focus in final clinical years.

A literature review revealed two publications assessing intern preparedness. These focussed on procedural readiness.[1,2] Only one of these undertook an assessment before commencement as well as an assessment at the end of the intern year.[3] This study considered volume of procedural experience before graduation and during the intern year. It also investigated self-reported confidence in performing or teaching this task. A procedural teaching program was available to the interns. Confidence rose with attendance at the teaching program, performance of tasks and the decision to enter a training program.

Others[3–5] have assessed preparedness more holistically (e.g. reporting graduates' response to the question: 'My experience at medical school prepared me well for the jobs that I have undertaken so far').

Our study was designed to determine the self-rating of preparedness amongst appointed interns at graduation, and what orientation and two rotations of experience added to this, if anything. We also set out to identify those tasks most commonly expected of interns as well as interns concerns and expectations of their intern year.

Methods

A list of 19 perceived common tasks (the 'tasks') that the interns are required to perform autonomously or under remote supervision was developed by members of the orientation committee and tested informally for accuracy with a group of junior doctors. Those tasks that may be taught within specific rotations (such as suturing) were not included.

The tasks were broken into four domains, with 4–5 tasks within each domain. These domains were:

- patient assessment-related tasks;
- communication-related tasks;
- documentation-related tasks; and
- procedural-tasks.

In 2009 we undertook two surveys of our intern cohort to assess their preparedness for intern year. The first survey was completed after their appointment but before commencement. A follow-up survey was completed at the end of their second rotation (each rotation consisting of 11 weeks).

Survey 1

In the pre-employment survey, interns were asked which university they attended and the following questions related to each of the tasks:

(1) How prepared do you feel?
(2) How many times have you undertaken the task under supervision?
(3) How many times have you undertaken the task unsupervised?
(4) How confident do you feel?

The interns were also asked to respond to the following questions: 'What are you most looking forward to about your intern year?' and 'What three issues were of most concern to you?'

Survey 2

During the second survey, the interns reported how confident they were now feeling about the tasks and we tested whether our understanding of common intern tasks did in fact match what interns were spending time on. Specifically, interns were asked:

(1) How often do you actually undertake this task (both for in-hours work and out-of-hours work)?
(2) How confident do you feel?
(3) How well do you feel your university education prepared you to complete these tasks?
(4) How well did Southern Health orientation prepare you to complete this task?

Responses to questions were via either via a 4- or 5-point Likert scale with opportunity to add free text for some questions. Interns were also asked to identify tasks commonly undertaken, but not on the list.

All survey data was anonymous and organisational ethics committee approval was obtained. The survey was distributed via SurveyMonkey and a unique identifier ascribed, allowing matching of an individual's answers in the pre- and post-surveys. Paired *t*-test functionality within Excel was used to determine statistical significance of results where required.

Results

Fifty-two (84%) complete pre-employment surveys and 37 (56%) completed the second survey. The majority (73%) of trainees came from Monash University (responsible for the Clinical School within Southern Health), 15% came from the University of Melbourne, whereas the remainder came from other Australian universities.

Tasks undertaken frequently by our interns

Box 1 describes the frequency with which interns reported that they undertook the tasks defined by the orientation committee.

In the second survey interns also identified common tasks not identified by the orientation committee. The most common responses were as follows (comments from the authors are italicised):

(1) communication with GPs, including the completion of discharge summaries (*we expected this to be included in the broader communication with other treating professionals but may have not been sufficiently clear about the parameters*);
(2) venepuncture (*an unintended omission*);
(3) plastering and
(4) Suturing (*both plastering and suturing are not tasks we would expect the interns to be able to do unsupervised – we would*

Box 1. Interns' self-reporting of frequency of identified tasks

Tasks identified as being *most* frequently undertaken by the interns (of those listed in the survey):	**Tasks identified as *least* frequently undertaken by the interns (of those listed in the survey) were:**
1. Communication with other treating professionals	1. Insertion of a nasogastric tube
2. Ordering investigations	2. Preoperative patient review (although there was a binary response to this question, likely reflecting that those who had completed at least one surgical rotation undertake the task frequently whereas those who have not yet undertaken a surgical rotation have never, or have only rarely, undertaken the task)
3. Completing documentation	3. Assessment of appropriate nasogastric tube placement
4. Routine patient assessment	4. Use of an interpreter
5. Insertion of an IV cannula	5. Certification of death

expect that, in most circumstances, these are skills that would be taught during their emergency rotation);

(5) presenting patients to the team, consultants or meetings;
(6) ascitic taps (*not a task we would have expected that the interns would be undertaking except as a training opportunity*); and
(7) obtaining arterial blood sample for blood gas analysis (*we have found that many patients who receive arterial blood gases may not actually require them as data could be obtained from a venous sample in many cases – we are developing some protocols and training around this*).

Relationship between preparedness and confidence

The interns' pre-employment confidence in their ability to complete a task was related to their self-rated feeling of preparedness and the number of times they reported they had undertaken the task during university. The interns expressed a confidence in undertaking some tasks although they had limited exposure to them as students. These were:

- certification of death;
- handover of care;
- use of an interpreter; and
- insertion of a nasogastric tube.

Conversely, there was a range of tasks in which they were experienced, but were comparatively less confident about undertaking, namely:

- ECG review;
- medication management;
- routine assessment of patients; and
- completing routine documentation.

Concerns and expectations

Interns were most looking forward to applying their knowledge. The most consistent concern was that of feeling unsupported or out of their depth or not knowing how to escalate a clinical concern. Other responses are detailed in Table 1.

Table 1. What are prospective interns most looking forward to and most worried about?

	No. of responses
The five aspects of work prospective interns are most looking forward to	
Practicing medicine and applying what they have learned	28
Learning more	20
Working as part of a clinical team	16
Having responsibility and autonomy	11
Earning money	11
The five issues prospective interns are most worried about	
Feeling unsupported	32
Causing an error resulting in harm	27
Managing work–life balance issues	17
Managing themselves	14
Being 'abused' by senior staff, not being respected	11

Confidence to complete tasks – pre-employment to end of second rotation

At an individual intern level, all but two participants demonstrated an increase in confidence in undertaking tasks at the end of the second rotation compared with pre-employment. The increase in each individual's confidence was significant ($P < 0.05$) for all procedures except the following:

- Completing documentation on ward rounds (interns felt *reasonably* prepared before start).
- Insertion of an intravenous cannula (most interns felt *very well* prepared before start, i.e. high baseline).
- Preoperative patient review (e.g. preadmission clinic) (most interns reported feeling only *somewhat* prepared before start).
- Patient admissions (interns felt *reasonably* prepared before start).

Task frequency versus confidence

Box 2 relates task frequency and task confidence. This highlights several areas for future focus, including:

- drug review and management;
- pain management;
- ECG review;
- patient admissions; and
- assessment of unstable patients.

Box 2. Frequency of common intern tasks and interns confidence to complete

Task frequently undertaken and high reported confidence	• Insertion of an intravenous cannula • Handover of care • Communication with patients and families • Communication with other professional • Ordering investigations • Documentation • Fluid management • Asking for help • Referring a patient • Routine patient assessment
Tasks frequently undertaken and low reported confidence	• Drug review and management • Pain management • Electrocardiograph (ECG) review • Assessment of unstable patients • Patient admission
Tasks infrequently undertaken and reported high confidence	• Use of an interpreter • Certification of death • Insertion of an indwelling catheter
Tasks infrequently undertaken and reported low confidence	• Pre-operative patient review • Insertion and an nasogastric tube • Assessment of nasogastric position

Task preparation

The interns generally rated themselves as reasonably prepared or well prepared by their university training for the majority of tasks they undertake frequently as interns (Box 3).

Table 2 shows the most common response to: 'Did Southern Health orientation or the education program add to your sense of preparedness for this task?' As can be seen from the table, orientation and the education program helped the sense of preparedness for all areas but were least helpful in improving their confidence in undertaking patient admissions and preoperative patient review.

Qualitative data – 2nd survey

Almost all (92%) of interns reported that, on the whole, they were enjoying being an intern. One intern was equivocal and two, concerningly, reported that the downsides outweighed the upsides.

Representative comments in this section included the following:

- 'I really enjoyed the first rotation, the second was awful.'
- 'Some rotations are better than others.'
- 'It's really quite challenging if you want to do a good job.'
- 'Significant volume of routine, unstimulating work (such as repetitive documentation), limited independence.'
- 'Having a supportive and cohesive team helps this a lot.'

Table 3 summarises the areas that the interns were enjoying most or least about being an intern at Southern Health. The most reported positive aspects of the intern year raised by the group were helping and interacting with patients and putting into action the knowledge they had gained to date, as well as new challenges and ongoing training and learning opportunities. The most frequently reported negative aspects were long hours, shift work and rosters with out-of-hours commitments.

Discussion

There is increasing recognition within Southern Health of the need for additional support to trainees at points of transition (medical student to intern, resident to registrar, registrar to consultant). This survey process was initiated to gather relevant information regarding the transition from medical student to intern. It was particularly focussed on those tasks that interns are expected to undertake autonomously or under only remote supervision.

This survey has identified those tasks that interns undertake regularly (and their relative frequency) within Southern Health.

Box 3. Self-reported task preparedness

Tasks I feel well prepared for:	**Tasks I feel less prepared for:**
• Insertion of an intravenous cannula	• Preoperative patient review
• Routine patient assessment	• Handover to evening and night staff
• Knowing when to ask for help	• Medication management
• Ward round documentation	• Fluid status management and review
• Ordering investigations	• Assessment of unstable patients
• Communication with other treating staff	• Patient admission
• ECG review	• Communication with patients and families
	• Pain management

Table 2. Did Southern Health orientation and education contribute to your preparedness?

Task	Most common response to the question: Did Southern Health orientation and education help?
Preoperative patient review	Yes, but only a little
Handover to evening and night staff	Yes, somewhat
Medication management	Yes, somewhat
Fluid status management and review	Yes, somewhat
Assessment of unstable patients	Yes, somewhat
Patient admission	Yes, but only a little
Communication with patients and families	Yes, somewhat
Pain management	Yes, somewhat

Table 3. Thematic analysis of what the interns are enjoying most and least about being an intern

	No. of responses
Enjoying most	
Helping and interacting with patients, practicing what I learnt	18
Training and learning opportunities, supportive supervisors, new challenges	18
Responsibility and independence	11
Collegiality and feeling part of team	11
Income	7
Other (1–2 responses on of a range of aspects, e.g. doing a rural rotation, being called a doctor)	5
Confidence	4
Enjoying least	
Shiftwork, amount of hours and rostering	11
Other (1–2 of a range of aspects, e.g. doing a rotation that was not in their chosen area, the Victorian salary rates, dealing with difficult patients)	9
Documentation and paperwork	6
Lack of access to teaching	6
Workload issues	5
Interacting with other staff who are rude, angry or unhelpful	5
Time spent inefficiently (e.g. locating paperwork, people, etc.)	5
Tiredness and stress	4
Feeling unsupported	3
Limited ability to contribute to a patients' management plan	3
Undertaking a rural rotation	2

The survey data demonstrate a clear relationship between experience in undertaking a task and feeling confident in doing it. Even after two rotations, there are several tasks that the interns undertake frequently that they are not very confident about completing. This will help focus our future orientation and post-graduate year 1 education efforts – such as appropriate exposure to those tasks that we expect them to perform and improved supervision and feedback for those tasks that they are expected to perform autonomously.

The limited qualitative data collected demonstrate that interns most look forward to, and subsequently enjoy, the application of their learning to helping patients. Although income was a reported factor, it was less commonly reported than helping patients and applying their knowledge.

The survey data showed that several medical students feared being bullied (by senior medical staff, senior nursing staff) and included several free-text comments that suggested that this fear arose from such behaviour having been witnessed during their student clinical years. This did not come through as clearly in their responses after the second rotation, although several of them reported that dealing with angry or rude staff was a negative aspect of their role.

By far the biggest concern of the final-year students was of feeling unsupported. Southern Health has several supports in place for the junior medical staff and, over the last 12 months, has focussed efforts on improving delivering information about those supports to junior medical staff. A reduction in the number of interns identifying feeling unsupported as a concern after they started work was pleasing. On the basis of the reporting by two of the 66 interns that they feel that the downsides of being an intern outweigh the upsides, we have recirculated the support mechanisms that are available.

This study has also helped us clarify our language, one example being the different definitions that senior medical staff and junior medical staff have of 'unstable patients'. For senior medical staff, this is often taken to mean rapidly deteriorating patients requiring urgent intervention whereas what the junior medical staff were referring to included medical conditions of a lesser acuity (e.g. chest pain and ECG review in a ward patient, assessment of hypotension postoperatively).

Southern Health has found this study useful for assessing our intern cohort and refining our orientation and education programs. We expect interns to be competent at many of these tasks when they begin their orientation, and clarifying those expectations and providing them to the universities will help further enhance work-readiness of interns. It has assisted discussion between Monash University and Southern Health regarding the needs of the hospital in relation to intern capabilities. These discussions aim to balance the tension between ensuring a range of competencies that allow them to be work-ready when beginning internship versus those longer-term competencies required as registrars and consultants.

We plan to repeat this study, refined by our experiences from 2009. There are also further questions to be examined in conjunction with this work, including continued refinement of the expected task list, assessment of competency, and development of a learning schedule across final university years and post-graduate years 1 to 3.

Competing interests

The authors declare that no conflicts of interest exist.

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