Postgraduate Hospital Educational Environment Measure (PHEEM) Project, Stage 2, 2009

1. Background

The PHEEM project is a collaborative initiative to systematically evaluate the clinical learning environment in Victorian hospitals. During stage 1 of the project conducted in 2006 and 2008, nine hospitals collected information from doctors in their first, second and third postgraduate years. The PHEEM instrument, a 40 item questionnaire developed in the UK[1], was used to rate various aspects of the clinical learning environment. Minor adjustments were made to the questionnaire terminology to ensure it reflected the Australian context, and the demographic section was expanded.

Over 420 questionnaires were completed and analysed. Areas of the learning environment that consistently rated poorly were identified for further investigation. These areas included inappropriate paging; protected education time; provision of feedback; and some items relating to support and infrastructure.

2. Purpose

The purpose of PHEEM Stage 2 is to further investigate areas of the clinical learning environment that are consistently rated poorly by junior doctors. This is to gain a deeper understanding of the issues involved so that ongoing learning, career progression, safe patient care[2], and optimal educational support[3] can be achieved.

3. Methodology

Four focus groups were conducted by the author with a total of 56 junior doctors from metropolitan and rural hospitals. As a large number of junior doctors involved were in their first postgraduate year (PGY1), additional information was gathered from junior doctors in their second and third postgraduate years (PGY2 and PGY3) via a written questionnaire. This brought the total number of junior doctors involved to 70. The information sought from the questionnaire was the same as in the focus groups. Open and closed type questions were used to elicit information and commentary on paging; protected education time; feedback; careers advice; access to counselling; accommodation and catering.

4. Findings and Discussion

4.1 Inappropriate Paging

There was unanimous agreement that inappropriate paging is a concern for junior doctors. Inappropriate paging was variously described as:

- Pages for jobs that have already been done;
- Pages with incomplete details or insufficient information, including 'number only' pages;
- Repeat pages for non-urgent jobs;
- Multiple pages for the same job from numerous staff at different locations;
- Pages sent to the wrong person;
- Pages that include capitals and exclamation marks which are misleading and often inappropriate;
- 'Aggressive' pages.

Several issues were identified in relation to inappropriate paging and have been summarised under the headings of: Time wasting; Stress; Impact on team functioning; and Inadequate infrastructure.

4.1.1 Time Wasting

Time wasting was a consistently reported consequence of following up pages with incomplete or insufficient information. Although a few junior doctors reported that their hospitals have a paging protocol to facilitate the transfer of relevant information, it appears that such protocols are not being used as intended. The information considered necessary to constitute an ideal page was reported as including patient name, ward, reason for page, degree of urgency required for response, and name and contact number of person sending the page. This is consistent with recommendations put forward by the Australian Medical Association (AMA)[4].

'Number only' pages were cited as major time wasters as they fail to communicate sufficient information on which to act, and can unnecessarily interrupt work that is of higher priority. This situation was reported more by PGY1s who frequently reported feeling worried until the page was followed up. In contrast, many PGY 2/3 doctors reported that they assigned low priority to 'number only' pages and therefore sometimes took longer to respond to them, particularly when juggling an already heavy workload.

Receiving a page that is intended for someone else was also identified as a waste of time because the time spent advising the sender of the misdirected page places additional strain on limited time resources. Another frequently reported waste of time relates to responding to pages that go unanswered. Three main reasons for this were reported: the telephones are engaged; the person who sent the page has left the ward; and other staff members are unfamiliar with the patient or reason for the page.

4.1.2 Stress

Stress that stems from inappropriate paging relates to a number of factors. The fear of making a mistake and compromising patient safety due to repeated interruptions is a commonly reported stressor, and the validity of this concern is backed up by the literature[5] [6].The situation appears to worsen at times when staffing is reduced such as at night and on week-ends. At those times it was also reported that there is insufficient time for a meal break, which further increases concern about increased potential to make a mistake. The connection between high workload and stress in relation to increased risk of adverse events is also reported by Marsiglio et al.[7]

Pages that are received during consultant ward rounds cause stress, particularly for PGY1s, as there is the fear that potentially important treatment decisions may be missed if they leave the ward round to answer a page. Pages that, by necessity, go unanswered such as when working in the operating theatre, also cause stress because a delay in responding may mean that there is a delay in initiating appropriate action.

Repetitive paging was identified as a source of stress and frustration, particularly if the reason for the page is unclear or non-urgent. This, in turn, has a negative impact on communication between team members (most commonly nursing and medical staff) and can adversely effect the functioning of the team.

4.1.3 Impact on Team Functioning

Conflict between team members was reported as a consequence of repetitive paging and interferes with the team's capacity to work effectively. It was reported that

repetitive pages often become increasingly aggressive, setting up an adversarial rather than collaborative working environment. Another impact on team functioning relates to the perception of junior doctors that paging is at times used by nursing staff as a method to transfer their onus of care. Junior doctors also report that nursing staff use entries in the patient records to indicate that the doctor has been paged but has not responded, an action seen as the nurses 'getting back at' the doctor concerned. It was reported that in some circumstances nursing staff also lodge an incident report as a way of addressing the situation.

The connection between poor teamwork and increased risk of medical error is highlighted in the literature on patient safety.[8] [9]

4.1.4 Inadequate Infrastructure

Lack of basic infrastructure in some hospitals, including insufficient telephones and computers, was cited as an issue related to inappropriate paging. Lanpaging, where the message is entered via computer and relayed to the recipient's pager, appears to be widely used in Victorian hospitals and is reported to be the preferred way to *receive* a page due to the amount of information that can be included. Despite this, *sending* a page in this way is reported to be difficult because of limited access to computer facilities in many hospitals. Responding to a page is also reported to be difficult at times because of inadequate telephone resources in some hospitals.

Inconsistency in paging systems used within individual hospitals is reported. For example, the information sent by lanpage may not necessarily appear on the pager screen of the recipient because of discrepancy between the amount of information that can be entered via computer, and the amount of information that can be displayed on the pager.

Lack of staff education about how to lanpage was also suggested as a reason for inappropriate paging, particularly with regard to casual or agency nursing staff. When telephone paging is used instead of lanpaging, pages are limited to 'number only', the issues of which have already been discussed.

The PHEEM data from Stage 1 shows that PGY1s rated the item on inappropriate paging lower than the PGY2/3 respondents did. This prompted a follow-up question about whether PGY1s receive more inappropriate pages than PGY2/3 doctors do. The general consensus is that the number of inappropriate pages does not decrease but that, with greater seniority, management of the situation becomes less difficult.

Suggested ways to address the issues related to inappropriate paging

The following suggestions were offered:

- Raise awareness of the issues related to inappropriate paging including increased levels of stress, poor team functioning, increased risk of errors;
- Review the paging systems commonly in use in Victorian hospitals and determine if / what additional capacity is required;
- Implementation of a state-wide paging strategy that includes the required components of a 'good' page, and the recommendation that lanpaging is the only paging method used;
- Raise awareness of the paging strategy;
- Integrate information about the paging strategy into orientation programs for medical, nursing and allied health staff working in hospitals;
- Use of whiteboards rather than paging for non-urgent jobs.

4.2 Protected Education Time

About thirty-two percent of doctors in their first postgraduate year reported that they don't have protected education time, and this is backed up by the findings of Marsiglio et al [7]. This is despite a recommendation from the Medical Practitioners Board of Victoria that education programs be provided and accessible to PGY1 doctors[10]. Protected education time was taken to mean 'pager-free time away from work duties for the purpose of education'. Two main factors were reported in relation to lack of protected education time and have been reported under the following headings: Difficulty with access; and Impact on the doctor.

4.2.1 Difficulty with Access

Junior doctors frequently reported that heavy workloads make it very difficult to attend education sessions, and that although education sessions are provided, attendance is not factored into rostering. Because of this, attendance at education sessions often contributes to long working days and increasing levels of stress. There is also a perception that ward staff are not aware of when education sessions are held and therefore not supportive in recognising this as protected time. Examples cited in relation to this include holding 'compulsory' ward meetings and consultant ward rounds at times that conflict with protected education time.

Access to education sessions is reported to be greatly enhanced when hospitals have a system to deal with holding pagers for doctors in attendance. This also significantly reduces interruptions due to paging and results in increased satisfaction with the education program. Junior doctors report that consideration must be given not only to what is included in a page, but also when it is, or is not, appropriate to page. On the matter of who is appropriate to hold pagers for junior doctors attending an education session, there was consensus that it should be a person with appropriate clinical experience to make safe judgements about what action is required.

4.2.2 Impact on the Doctor

Many junior doctors reported that being unable to attend education sessions creates stress due to the perception that they are missing out on professional development opportunities and therefore, not learning. Also reported was the feeling of being overworked and undervalued, which relates to the perception that clinical work is valued but that education is not. Hospitals that provide food at education sessions are seen to be supportive of junior doctor education as it is taken to indicate an interest in their wellbeing and ongoing development.

There was strong consensus that attendance at education sessions must be supported by senior medical staff and ward staff to ensure a positive outcome.

Suggested ways to address the issues related to lack of protected education time

The following suggestions were offered:

- Advertise the junior doctor education program hospital-wide, emphasising that the education sessions are held during protected time. The definition of 'protected time' needs to be included and clear;
- Build 'protected time' into rosters
- Ensure that senior medical staff and registrars are aware of the education program for junior medical staff and encourage attendance. This would ideally include holding their pager whilst in attendance and conducting ward rounds at other times;

- Use the Australian Curriculum Framework for Junior Doctors (ACFJD) as a guideline for required education in PGY 1 & 2, thereby reinforcing the importance and relevance of the education program;
- Each hospital to determine the most appropriate day/time to schedule protected education time;
- Each hospital unit/department to develop an agreed protocol for holding pagers of junior doctors attending education sessions during protected time.

The PHEEM data from Stage 1 suggested that PGY2/3 doctors consider that they have less access to protected education time than PGY1 doctors, and this was confirmed through the focus groups and questionnaire in Stage 2. Some PGY2/3 doctors were not aware of a hospital-wide education program at their hospital and rely on ward based education sessions for their ongoing education, which are not considered to be in 'protected' time.

There was consensus that access to protected education time in PGY2/3 depends to a significant degree on local factors such as how motivated the registrar and consultant are to provide education, and workload commitments.

4.3 Provision of Feedback

The PHEEM questionnaire contains two items about feedback, one in relation to the regularity of feedback from seniors and another on whether clinical teachers provide feedback on strengths and weaknesses. There is unanimous agreement from junior doctors that both of these aspects of feedback are inadequate.

The term 'supervisor' is used here to include consultants, registrars and other clinical supervisors. Three issues were identified in relation to the provision of feedback and have been summarised under the headings of: Workload; Supervisor skill; and Medical culture.

4.3.1 Workload

The impact of heavy workloads is cited as a major reason why the provision of feedback is problematic. Junior doctors report that they often have limited contact with their consultants, and therefore the opportunities for feedback are greatly reduced. This difficulty is compounded by reports from PGY1 doctors that they may have several different registrars supervising them during a term rotation.

In comparison to the clinical aspects of a job, there is a strong perception that in busy units the provision of feedback is not a high priority for supervisors. This situation is reinforced by the failure of many supervisors to provide an orientation at the beginning of a term rotation, and allocation of time to meet for mid and end-of-term feedback. It was commonly reported that mid-term meetings with supervisors are not scheduled and therefore don't occur. As a consequence, there is no formal means to identify areas of performance that require attention during the rotation, and this is a concern, particularly to PGY1 doctors. It is reported that supervisor feedback is often reduced to marking tick boxes on an end-of-term evaluation form with little or no face-to-face discussion. Despite this, lack of feedback is not always seen in a negative light. There is a common acceptance that 'no news is good news' and that the absence of any feedback indicates that supervisors are satisfied with the level of performance.

4.3.2 Supervisor Skill

Some junior doctors reported that their supervising consultants and registrars are keen to provide feedback and are able to do so effectively. It was more commonly reported however, that supervisors seem to find giving feedback uncomfortable, even positive feedback, and this is also reported by Chowdhury & Kalu.[11] The generic nature of the feedback provided is identified by the junior doctors as a strategy used by supervisors to make giving feedback easier, but this is considered to greatly compromise the effectiveness of the feedback.

The importance of feedback involving two-way dialogue with the supervisor to address strengths and weaknesses in clinical performance was emphasised by junior doctors and is also reported by Ende.[12] However, it appears that this is not always practised, and that being *told how you're going* constitutes feedback in some clinical situations.

Another commonly reported aspect of feedback provision relates to the use of 360 degree feedback, where the supervisor canvasses feedback from other clinicians. Although this provides the potential for more comprehensive feedback, particularly when a supervisee and supervisor have had limited contact time, it is reported that the effectiveness of this type of feedback is often reduced because inappropriate contributors are selected.

4.3.3 Medical Culture

The way medicine has traditionally been practiced is perceived by junior doctors to be a barrier for the transfer of effective feedback. The 'no news is good news' principle referred to above, is reported to be commonly ascribed to. As a result, if a feedback session is scheduled it can be considered to be because there are areas of performance that are not adequate. As such, feedback sessions are often worrying for junior doctors.

Some junior doctors are concerned if they don't receive feedback from their supervisors. The relationship that the junior doctor has established with the supervisor is the primary determinant of whether they would actively seek feedback from the supervisor. Consultants and registrars who are perceived to be enthusiastic teachers are more likely to be asked for feedback, but supervisors who adopt a more traditional supervisory style based on hierarchy are less likely to be asked for feedback.

Suggested ways to address the issues related to provision of feedback

The following suggestions were offered:

- Provide training for supervisors that includes how to maximise the effectiveness of feedback. This could include training programs such as Teaching on the Run[13] and Professional Development of Registrars Programs[14];
- Use Term Descriptions that are linked to components of the Australian Curriculum Framework, and include orientation to the unit, mid-term appraisal, and end-of-term assessment as times for providing feedback. This would ensure that relevant areas of performance are addressed and would provide a framework for supervisors to structure their feedback;
- Use peer feedback as part of the 360 degree feedback/assessment process;
- Encourage regular day to day discussion and questioning, recognising that feedback takes place both formally and informally;
- Ensure that the role of the mentor is kept separate from the supervisor role.

4.4 Support and Infrastructure

It was not initially clear how The PHEEM items relating to access to careers advice; provision of counselling opportunities; provision of suitable accommodation, and adequate catering facilities effect ongoing learning, career progression, and safe patient care. Following focus group discussions, it is apparent that feeling adequately supported and valued as an employee has a significant impact on junior doctors' capacity to learn and function at the required level.

Careers Advice

The great majority of junior doctors reported that careers advice is most often sourced from supervising registrars and that little formal advice is available. Some observed that careers information from registrars is unreliable.

Counselling Opportunities

Although most junior doctors report that they are aware of counselling services such as the AMA Peer Support Service, many reported a lack of knowledge about in-house programs, including critical incident management support. Counselling to deal with the stress of critical incidents was highlighted as a necessary requirement.

Accommodation

It appears that there is a wide diversity in the quality of accommodation provided. The main points that constitute 'good' accommodation are considered to be: cleanliness, services that operate (for example, heating), internet access, and close proximity to work. There were many reports of accommodation that are considered not to meet appropriate standards.

Catering

The PHEEM question about the provision of adequate catering facilities when on call was the lowest scoring item of the entire questionnaire. At some facilities, after hours catering is limited to that offered in vending machines. Many reported that bread is available for toasting but that there is little else after 8pm and virtually nothing else during the night. The capacity to function appropriately without food was raised as a concern.

Comments made by junior doctors strongly convey the importance of recognising the above factors as important contributors to their work and learning:

> *Where you come back to has a really big aspect on your mental health and how you feel physically. Even having somewhere to eat is important. You need a place to relax, de-stress, sleep, be warm. If that is compromised you feel undervalued and used.*
>
> *If you love your job you will work harder, be happier, be more productive and learn more, but if you feel everything is against you, nothing is supported, you will hate it. Often we feel undervalued and disrespected, which has a huge impact on job satisfaction and stress levels.*
>
> *If you are living in squalor, are hungry or have no time to eat, or no-one to talk to when things get tough then you aren't going to have a good experience. You don't feel valued.*

5. Conclusion and Outcomes

Stage 2 of the PHEEM project has resulted in the collection of much needed information and a more comprehensive evaluation of issues related to the clinical learning environment. Some areas of the clinical learning environment have been identified that could be improved through better management processes, increased education and collaborative partnerships.

There is clearly a great need to develop a strategy that could be implemented state-wide to reduce the incidence of inappropriate paging. This will require raising awareness of the factors involved, including why current paging protocols are not working; a review of the paging systems in use in Victorian hospitals; and an assessment of the infrastructure required to support such a strategy. A collaborative and inter-professional response will be necessary to ensure success.

The large percentage of junior doctors reporting that they don't have access to protected education time is a concern. Higher priority must be given by supervisors and managers of junior doctors, department heads, and hospital administrators to improving access to protected education time. This may require revision of rostering systems to ensure that junior doctors are free from clinical commitments during protected time; and that hospital policies are developed to address handling of pagers. To ensure the relevance of education sessions during protected time, the sessions should address components of the ACFJD.

The importance of effective feedback has been emphasised, however feedback received by junior doctors appears to fall short of expectations. In addition to clinical expertise, it is clear that supervisors require appropriate supervisory skills, and that they need support to develop these. Supervisor training should include how to provide effective feedback, and reinforce the importance of providing orientation at the commencement of a term rotation, the provision of mid-term appraisal and end-of-term assessment. In addition to training, supervisors also require the provision of paid non-clinical time to adequately fulfil the responsibilities of the supervisory role.

The impact that factors such as provision of careers advice, counselling opportunities, suitable accommodation, and adequate catering facilities have on educational outcomes has been highlighted. In addition to the issues raised concerning inappropriate paging, protected education time and provision of feedback, these factors must be considered carefully in future planning of educational programs if ongoing learning, career progression, safe patient care and optimal educational support are to be achieved.

6. References

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Report prepared by Marilyn Bullen, Education Manager, Postgraduate Medical Council of Victoria