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- 'docendo ac discendo' - 'by teaching and learning'

In this issue:

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The International Journal of Clinical Skills looks forward to contributing positively towards the training of all members of the healthcare profession.

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Foreword

Clinical skills change lives…

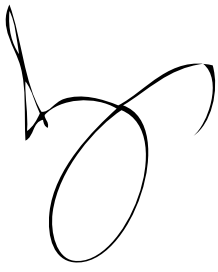
Dr. Abigail Boys & Regina (October 2010)

Amidst the fast paced achievements in international healthcare and education, it is important not to forget what clinical skills mean in reality for our patients – clinical skills change lives.

After having initiated the charitable society Willing and Abel in 2008, many health care professionals have had the pleasure of using their specialised and expert clinical skills to help children of developing nations requiring specialist surgery. An example is 13 year old Regina who was born with a tumour fatally spreading across her face (congenital lymphangioma) – she successfully underwent major surgery at The Royal London Hospital (United Kingdom) in December 2010 and now continues to lead a normal life in Ghana, West Africa (www.bbctelevision.co.uk).

Such success exemplifies a fundamental strength of the clinical skills community in its ability to evolve and adapt to meet the challenges and expectations of a modern healthcare arena. Healthcare professionals need to have clinical skills training which will allow them to meet present and future challenges, which include an ageing population, multiple morbidities and increasing patient expectations.

There is no doubt that the International Journal of Clinical Skills provides an excellent forum for the global healthcare community to further clinical skills research, as well as advancing the training of students, academics and health professionals. I wish the International Journal of Clinical Skills continued success for its admirable work in this important field.



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Attitudes of students, staff and patients towards teaching medical students in the clinical environment

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Abstract

Introduction: Changes in medical curricula and increasing student numbers have placed increasing demand on clinicians and patients in hospital trusts. We sought to clarify which types of teaching students find helpful, what motivates staff to teach and students to attend, and whether there were sufficient willing and available patients for current student numbers.

Methods: Questionnaire surveys of medical staff, undergraduates on clinical placements and inpatients on medical wards at St George's Hospital (UK) were conducted during October to December 2009.

Results: 112 out of 240 inpatients (47%) were willing and able to complete the survey and of these 85% were willing to discuss their medical problems and be examined by a student. Only 64% had discussed their history and 46% had been examined, leaving an "under-utilised" 33% of willing and able patients. Some patients had interacted with multiple students. Most were motivated by a desire to help students learn, and were deterred by too many requests or feeling too ill. 64% of students felt junior doctors were willing to teach and 50% felt consultants were willing to teach. Students value bedside teaching, formal tutorials and clerking acute admissions most highly, and found ward rounds and clinics least useful. They were deterred from attending by administrative issues such as timetable clashes and cancelled sessions. 85% of clinicians reported that they were keen teachers, but only 31% felt they teach as much as they wish to. Most were deterred by time constraints.

Discussion: Fewer patients are willing and available to be seen by students than might be expected. Some patients are seen by several students and a few find this burdensome, while some willing patients are not approached by medical students. The teaching modalities which students find most valuable are those which clinicians find most time-consuming as they cannot be combined with other clinical commitments. The value of teaching in clinics and on ward rounds may be improved by giving clinicians tools to teach in the busy clinical environment. Dedicated teaching time is desired by clinicians and students alike, but may not be feasible in times of financial pressures within the UK National Health Service and increasing other demands on clinicians' time.

Introduction

There is an increasing demand for clinician contribution to undergraduate teaching, particularly on clinical attachments [1]. This is driven by increasing student numbers and changes in medical curricula [1]. At the same time, there have been substantial changes to working practices within the UK National

Health Service (NHS), driven by working time directives, government targets and an increasing demand for clinicians to contribute to governance, administration and post-graduate training [1]. There is also a perception that with increasing student numbers, there may be a shortage of available patients who would be willing to be involved in clinical teaching. Students frequently express concern about the lack of clinical teaching on attachments. Clinicians are at times frustrated that students do not attend available sessions or seemed ill-prepared [1].

Objective
This aim of this study was to try and answer the following questions:

- What types of clinical teaching students find helpful?
- What motivates students to attend sessions?
- What motivates clinicians to teach?
- What students and clinicians think about the other's motivators as regards teaching?
- How many patients are available and willing to interact with students?
- What motivates patients to consent to discuss their medical problems or be examined?

Methods

Three surveys were prepared, targeted at the following groups within one teaching hospital (St George's Hospital, UK):

1. All clinicians who were involved in teaching undergraduates
2. All students who had completed a clinical attachment
3. All in-patients on the medical wards

Survey 1: The staff survey was distributed to 923 members of staff, which included 339 consultants, 467 middle grades (registrar and equivalent) and 117 junior doctors (Foundation Year 1 and 2 doctors, plus Senior House Officers or equivalent). The survey was in electronic format sent to each staff member's registered hospital e-mail account. The questionnaire used a Likert scale to assess general attitudes towards clinical teaching, the types of teaching the clinician currently delivers, factors which may deter them from teaching and their perception of students' attitudes towards teaching. *(Appendix 1 – Staff Survey)*

Survey 2: A parallel paper survey of 696 medical students was conducted at St George's University of London (354 penultimate year and 342 final year students). The questionnaire looked at students' experiences of teaching in clinical environments, their perception of usefulness of different styles of clinical teaching, their thoughts on factors which may encourage or deter students from attending teaching and their perception of factors which motivated clinicians to teach. *(Appendix 2 – Student Survey)*

Survey 3: The patient survey was carried out in person by two doctors, using a standardised questionnaire. It assessed whether each patient was able to partake in the survey (and by extension, be 'well enough' to be approached by medical students), and if they were unable, the reasons for this. It also assessed their experience of clinical teaching with undergraduates, and their attitudes towards this. *(Appendix 3 – Patient Survey)*

The surveys were carried out between October and December 2009. The consent of all participants was sought, and purpose of the study explained. Agreement and ethical approval of the South West London Regional Ethics Committee, Hospital Caldicott Guardian and Medical School Principal were obtained.

Analysis was performed using SPSS version 16. Frequencies and percentages of all responses are given. Chi squared tests were used to assess associations between categorical variables and T tests to assess continuous variables. $P < 0.05$ was considered statistically significant.

Results

We received 164 replies (18% response rate) from the staff survey. 107 (65%) were from consultants, 57 (35%) were from junior doctors. 55% of respondents were female and 23% held a medical school contract.

With regards to the student survey, we analysed 294 replies (42% response rate). 47% were from penultimate year and 53% from final year students. 64% of respondents were female.

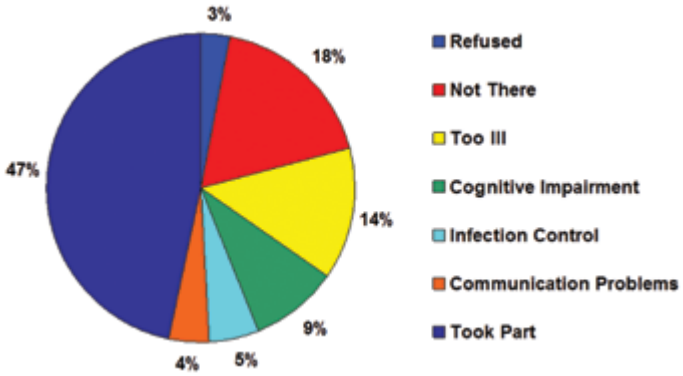
240 patients over 9 medical wards (2 acute admissions units and 7 general medical wards) were surveyed. Of these 112/240 (46%) patients were willing and able to take part in survey.

Availability and accessibility of patients
240 potential patients were interviewed. Of these 53% were unable to complete the brief questionnaire. The reasons for this were: not being on the ward (18%), being too ill to participate (14%), cognitive impairment making it impossible to participate (9%), infection control reasons (5%) and other communication difficulties e.g. deafness, limited English language (4%). 3% of patients declined to participate. This resulted in 112/240 (47%) of patients willing and able to participate in the survey.

Experiences of clinical teaching
Students reported that most felt welcome in the clinical environment (68% agreed, 23% neutral and 9% disagreed). The majority found patients were willing to discuss their medical problems with them (96% agreed, 2% neutral and 2% disagreed) and be examined by them (91% agreed, 7% neutral and 2% disagreed). Staff perceptions of whether students are made to feel welcome and patients' willingness to discuss and be examined were slightly lower (64% agreed students were made to feel welcome, 87% felt patients were willing to discuss their health with students and 80% agreed patients were willing to be examined by students). Within the staff group, consultants were more optimistic than juniors about patient willingness and student welcome ($p < 0.001$).

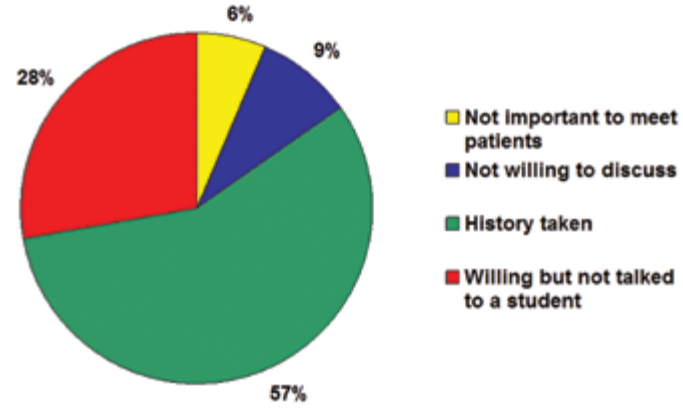
The patients' responses were similar to those predicted by staff members (Graph 1). 105/112 (94%) felt that it was important for students to see patients and discuss their medical problems with them. 95/112 (85%) said that they were willing to talk to students about their medical problems and 95/112 (85%) said they were willing to be examined by a student.

Graph 1: Patient availability and reasons for not being available

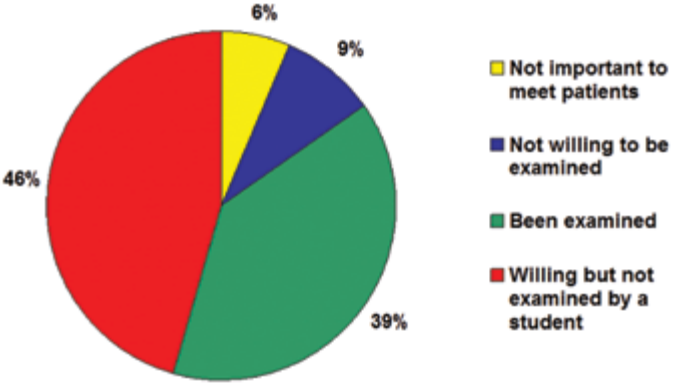


Are the willing and available patients approached by students? Only 95 of the total 240 medical inpatients were available and willing to be approached by medical students. Of these only 64 (67%) had their history taken by a student (Graph 2) and of these 44 (46%) had been examined by a student (Graph 3). Thus, 31/95 patients who were "willing and able" had not been approached.

Graph 2: Patient willingness to have history taken by a student (n = 112)

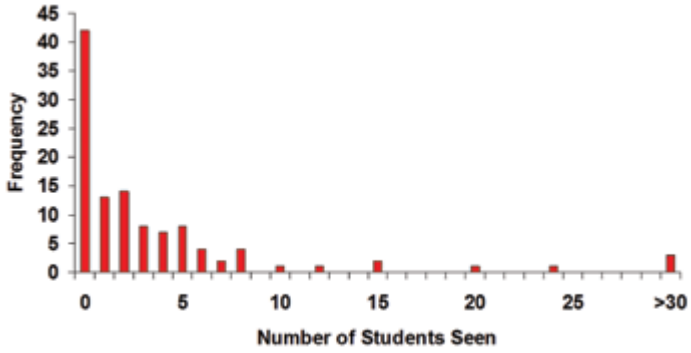


Graph 3: Patient willingness to be examined by a student (n = 112)



64/95 (67%) of the medical inpatients had been approached with a total of 399 student/patient contacts. There was a heterogeneous spread of patient contacts, with three patients reporting that they had been seen more than 30 times (Graph 4).

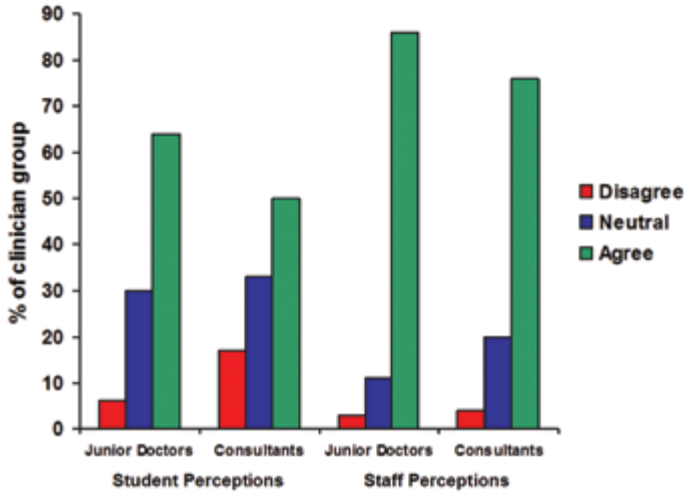
Graph 4: How many students did the patients report having seen during the current admission?



Attitudes towards clinical teaching

Students reported that junior doctors were usually willing to teach (64% agreed, 30% neutral and 6% disagreed), but were slightly less positive about consultants (50% agreed, 33% neutral and 17% disagreed). However, staff were more likely to report that both consultants and juniors were willing to teach (76% agreed for consultants and 86% agreed for junior doctors). Within the staff group, consultants were more likely than juniors to report that consultants were willing to teach ($p < 0.001$), but their impression of the willingness of juniors was similar.

Graph 5: Staff and students perceptions of clinicians' willingness to teach



Nearly all students felt it was part of every doctor's duty to teach (95% agreed, 3% neutral, 2% disagreed) and 94% agreed that they would prioritise teaching upon graduation. Clinicians nearly all agreed that it was every doctor's duty to teach (92% agreed, 3% neutral and 5% disagreed). There were no significant differences in the consultants' and junior doctors' responses to this question. 87% of clinicians perceived that they were a keen teacher, but only a few felt they teach as much as they wish to (31% agreed, 13% neutral and 56% disagreed). Consultants and junior doctors answered these questions similarly. There was also no significant difference between the responses of staff with or without a medical school contract, in these respects.

Students' impressions of the usefulness of different teaching modalities

Table 1 shows the students' perceptions of the usefulness of different clinical teaching modalities.

Table 1: Helpfulness of different clinical teaching modalities (mode highlighted)

	Very unhelpful	Unhelpful	Neutral	Helpful	Very helpful
Bedside teaching	0%	1.2%	2.6%	14.3%	**81.9%**
Sit-down tutorials	0%	1.7%	3.1%	43.8%	**51.4%**
Clerking acute admissions	0%	2.1%	3.8%	31.1%	63%
On wards with juniors	1.4%	5.1%	11%	**56.5%**	26%
Clinics	1.0%	2.1%	16.2%	**62.5%**	18.2%
Clinical PBL	1.1%	7.4%	30.2%	**50%**	11.3%
Ward Rounds	6.9%	24.9%	**33.9%**	29.1%	5.2%
Teaching from nurses / AHPs	4.7%	21.9%	**40.2%**	27.4%	5.8%

Bedside teaching, tutorials and clerking acute admissions were felt to be most helpful, followed by being with junior doctors on the wards, clinics and clinical problem based learning (PBL). Ward rounds and teaching from nurses and allied healthcare professionals was felt to be less helpful.

Motivating factors related to student attendance for clinical teaching

When the students were asked about their attendance: nearly all said that they attend most available clinical teaching opportunities (94% agreed, 4% neutral and 2% disagreed). Clinicians' anecdotal opinion on this matter was less positive: only 38% agreed that students attend most available sessions, 23% were neutral and 39% disagreed). Within the clinicians' group, consultants and junior doctors responses were similar. Table 2 shows what students report to deter them from attending teaching.

Table 2: Deterrents perceived by student with respect to attending clinical teaching (mode highlighted)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Timetable clashes	1.7%	15.2%	15.9%	**50.2%**	17%
Frequently cancelled or delayed	2.8%	17.7%	16.0%	**47.9%**	15.6%
Too many to attend	10.8%	**46.5%**	17.4%	21.5%	3.8%
Do not feel welcome	13.1%	**44.3%**	19.1%	20.4%	3.1%
Prefer books or online sources	17.2%	**42.2%**	19.4%	17%	4.2%
Do not feel staff teach well	10.8%	**42.9%**	24.7%	19.9%	1.7%
Teaching not helpful	15.6%	**49.2%**	14.5%	19.0%	1.7%
Tutors or styles intimidating	16.3%	**52.6%**	15.9%	13.1%	2.1%
Staff have insufficient knowledge	26.2%	**53.1%**	14.1%	6.6%	0%

The most significant deterrents were administrative: timetable clashes and cancelled or delayed sessions. The majority of students disagreed that they were deterred from attending by: too many sessions, not feeling welcome, preferring books or online resources, feeling that staff do not teach well, that teaching is unhelpful, tutors or teaching styles are intimidating, or that staff have insufficient knowledge to teach.

When the staff were asked what they thought deterred students from attending, fewer than 35% agreed that any of the above factors deterred students from attending clinical teaching.

Motivating factors for staff in provision of clinical teaching

56% of staff felt they do not currently teach as much as they would like to. Table 3 shows deterrents to teaching as perceived by staff.

Table 3: Deterrents perceived by staff with respect to teaching

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Time constraints	2.1%	8.2%	13.7%	31.5%	**44.5%**
Student factor	4.2%	**35.9%**	27.5%	22.5%	9.9%
Don't have sufficient knowledge	35.6%	**42.2%**	8.9%	9.6%	3.7%
Not taught how to teach	34.2%	**46.6%**	10.3%	8.2%	0.7%
Patient factor	16.8%	**65.7%**	9.5%	8.0%	0%
Not interested in teaching	**52.1%**	33.3%	11.8%	1.4%	1.4%

The main deterrent for staff was time constraints (76% agreed). The majority of clinicians disagreed that student factors, their concerns about insufficient knowledge, lack of teaching skills, patient factors or lack of interest in teaching, deterred them.

Analysis of the responses of consultants compared to junior doctors showed consultants were more likely than juniors to be deterred by time constraints (82% versus 63% agree or strongly agree, $p = 0.049$). Consultants were less likely to feel they had insufficient knowledge (7% versus 25%, $p < 0.001$). Consultants were also less likely to be deterred by not having been taught how to teach (3% versus 20%, $p < 0.001$). There were no other significant differences in deterrents for consultants compared with junior doctors.

There was no significant difference in deterrent to clinical teaching when comparing those with, and those without, a medical school contract.

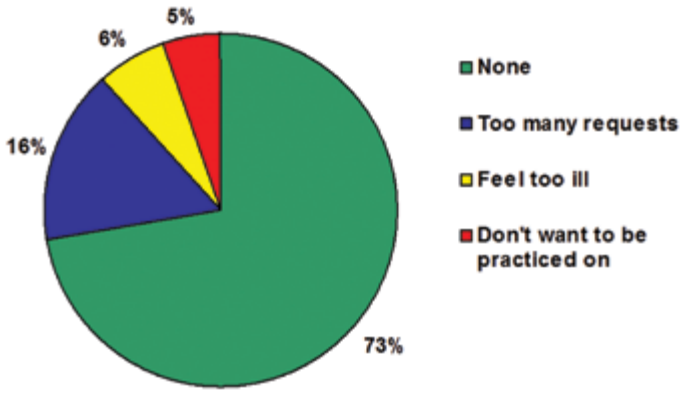
When we asked the students what they thought deterred staff from teaching, 92% felt time constraints were important, 46% felt clinicians were not interested in teaching and 42% agreed that student factors deterred clinicians.

Motivating factors for patients

Patients were asked what encouraged or deterred them from agreeing to talk to, or be examined by, medical students. The most frequent motivating factors were altruistic (for example, *"I want to help them learn"*, or *"they need hands on experience to learn"*), expressed by 82% of patients. Other motivating factors were the thought that the patient may gain from the experience *"the students can explain what is wrong with me"* or *"I will get better care if I am involved in teaching"*, expressed by 12% of patients. The third group of reasons were related to feeling obliged to help, expressed by 6% of patients.

Only 22% of patients were able to express a factor which deters them from involvement in clinical teaching. Of these, the most common reason was *"too many requests"* given by 58% of patients, *"feeling too ill"* which was expressed by 23% and *"not wanting to be practiced on" by 19%.*

Graph 6: What discourages patients from interacting with students (n = 112)



Discussion

Response rate

Our response rate was lower than other studies [2, 3] with a lower response from staff in general and junior doctors in particular, although student and patient response rates was higher. For the students a paper survey was distributed during a popular revision lecture, where attendance was expected to be high. Reasons for the survey were explained. These factors seem likely to have contributed to the higher response rate. The staff group were contacted by e-mail as they never meet as a group. The advantages of an e-mail survey were ease of gaining staff contact details through the hospital e-mail service and easy collation of results. However, e-mail surveys are more easily ignored.

This was reflected in a lower response rate, which is a common limitation of e-mailed surveys [2]. Nevertheless, the response rates are adequate for further analysis and are likely to be representative of the whole groups given the large absolute number of responses.

The patient response rate was excellent, as each patient was approached in person by a member of staff, and those who were not available for the survey, would also have been unavailable for student interactions.

Relevance of our findings

We felt it was important to establish whether students felt welcome on the wards. Anecdotal reports suggested that this may be a significant factor deterring students from attending clinical teaching and spending time in the clinical environment. It could be argued that feeling welcome is one of Maslow's hierarchy of needs; feeling safe and belonging, both being basic requirements for adult learning [4]. Only 9% of students said they did not feel welcome in clinical areas and this was not reported to be a significant deterring influence for our students.

In our experience, fewer patients than might be expected are available to students. Reasons for not being available included: not being present on the ward perhaps having tests in other departments, being too ill and cognitive impairment. Only 40% of patients were willing, available and able to talk to or be examined by a medical student at the time of the survey. However, a third

of those who were willing and able, had not had their history taken and over half of those willing had not been examined. Some patients had been approached on a number of occasions with three patients stating they had been examined by over 30 students. There were on average 4 student-patient interactions per patient. It is clear that some patients, possibly those with unusual problems or interesting physical signs, may be contributing disproportionately, and some feel over-burdened by this. However, a number of patients are being under-utilised, perhaps because doctors feel they have "less interesting" medical problems without realizing the usefulness to students of seeing all types of patients.

There were different perceptions of clinicians' willingness to teach, with consultants feeling staff were generally very willing to teach, junior doctors slightly less positive and only half the students reporting consultants were willing to teach, but 67% reporting junior doctors were willing to teach. Thus clinicians, especially consultants seem to give the impression of not being willing to teach, when in fact they report being keen.

Students and staff were in agreement that it is a doctor's duty to teach. The vast majority described themselves as keen teachers (in the case of students, they stated that they would prioritise teaching upon graduation) yet most do no teach as much as they wish.

Students find most types of teaching useful, but highlighted bedside teaching, tutorials and clerking acute admissions as particularly helpful. Bedside teaching and tutorials are relatively time-consuming for clinicians, as they cannot be combined with other daily duties. The students were less positive about learning in clinics and on ward rounds, where teaching may be more ad hoc. It is possible that if clinicians had specific training on improving the value of teaching in these situations, then the popularity of such teaching modalities would improve.

Students were de-motivated by administrative issues (timetable clashes and last minute cancellations). In general the questions about feeling welcome, teaching styles, intimidation and staff knowledge elicited positive results, but for an important minority these were deterrents to attending teaching.

Over half of the clinicians stated that they did not teach as much as they would wish to. Time constraint was the most common deterrent, which is not surprising in the current working environment. An important minority were deterred by student factors and feeling that they had insufficient knowledge and lack of teaching skills. The latter two factors were more prevalent in junior doctors' responses and are potentially remediable.

Our patients were mostly motivated by the desire to help students learn, and to create skilled future doctors. Being asked to participate frequently and feeling too ill were significant deterrents. Ward doctors could help select appropriate patients for students to approach, and thus prevent over-burdening some patients, while others are under utilised.

Review of the literature

Our research adds considerably to what is already known in this area. Previous studies have focused on motivating factors for consultants in North America and Canada [5, 6, 7] and Australia [8] where different models of healthcare and undergraduate education dominate. Our study was carried out in a public sector hospital and sampled consultant and junior doctor grades. We also compared the clinicians' opinions with those of the students they were teaching. Previous studies on student motivation to attend teaching have tended to focus on lecture attendance [9].

Previous studies have revealed important motivators for consultants were mainly intrinsic factors, including intrinsic satisfaction with teaching [6], wanting to help students become good doctors, feeling responsible for students and enjoying the challenge of effective teaching [8]. De-motivating factors included excessive clinical workload, lack of involvement in course design, lack of enjoyment in teaching and short rotations [6, 8]. A US study of teaching faculty found most significant barriers to clinical teaching were declining bedside teaching skills, a belief that bedside teachers should possess an almost unattainable level of diagnostic skill creating intense performance pressure, that teaching is not valued, and an erosion of teaching ethic [7]. Our study revealed the main deterrent to be lack of time, but a few respondents noted some of the barriers described above. This may reflect the different working and teaching environments in our study compared with others described.

Other studies have also revealed that students value bedside teaching and medical clerking most highly [10]. Half of students report that they did not have enough clinical teaching as an undergraduate, whilst all reported bedside teaching was the most effective way to learn clinical skills [11]. Studies investigating student motivators to attend teaching have identified positive motivators being clinicians acting as positive role models [12] and liking a style of teaching [9]. De-motivators included haphazard teaching, lack of commitment of staff to teaching, lack of teaching skills and teaching by humiliation [12]. These studies used largely qualitative research methods with small numbers of respondents. Their use of open questions differed from our more focused use of a Likert scale to investigate key factors. This may explain some differences in the responses, although common themes dominate.

Our patient survey results are similar to other studies. A large Australian study looking at nearly 2000 patients found 49% were present and accessible to students, and of these 70% said they would agree to provide a history and 67% said they would agree to physical examination [13]. In a smaller UK study of elderly patients, only 11% objected to being examined by a medical student. Most were sympathetic towards students with frequent comments such as *"they have to learn"* and *"it's good to have them"* [14]. Another study found 77% of patients enjoyed bedside teaching and 83% said that it did not make them feel anxious [11].

Conclusion

Clinical staff feel a responsibility and desire to teach, but they feel unable to do as much teaching as they would like. Deterrents to teaching for both clinicians and students were mainly administrative or time factors, which were largely out of their control. Students placed high value on bedside teaching, tutorials and teaching on acute admissions – all of which can take time away from the clinicians' other responsibilities. Over half of in-patients are not available to students, but those

available are willing to interact with students. Some patients had been approached by several students, and in some cases found this burdensome, while others had not seen any.

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Appendices 1, 2 & 3 are available at www.ijocs.org

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