First year medical students’ perceptions of a career in medicine – how can these inform careers support?

Simon Watmough, Christine Waddeleove and Louise Jaeger

Introduction

As part of the creation of the Centre for Excellence in Teaching and Learning (CETL) in Developing Professionalism in Medical Students, School of Medical Education, University of Liverpool, a careers advisor and a careers researcher were recruited. The role of the careers adviser was to develop a careers support service for undergraduate medical students, using information provided by the careers researcher who was employed to examine the influences behind career choice with medical students. The posts were created because of the changes happening within postgraduate medicine. The School of Medical Education recognised that it was important for medical students to begin to develop their career management and planning skills, so that they could find their way round the maze of decisions that would be needed when pursuing their future career in medicine. This paper will discuss the background to changes in postgraduate medicine, look specifically at the small research project that we undertook with first year students, and then discuss its implication for practice within the School of Medical Education.

Context

Until recently it had been assumed by University careers services and medical schools that because medicine is a vocational course with a specific career outcome, the majority of undergraduate medical students did not require careers support other than perhaps to help with their ‘transition skills’. Sessions may have been organised with medical students to help them with compiling a CV or application form, but that was the extent of the careers services. A similar approach is found in other vocational degrees such as nursing, physiotherapy, teaching, architecture or engineering.

As a preliminary step in the development of the service the careers adviser and researcher decided that it would be useful to find out from first year medical students at Liverpool what they knew already about a career in medicine: to identify gaps in their knowledge and to use the findings from this research to help and inform careers support development in the future.

Background

Recent research involving junior doctors and final year medical students demonstrates that doctors have real problems finding their way through their career and training choices (Jackson et al, 2003). One of the first reports to highlight issues was the document ‘Career Management: an approach for medical schools, Deaneries, Royal Colleges and Trusts.’ Written by the Modernising Medical Careers (MMC) working group for career management in 2005, it states: ‘an effective career management system must span the totality of undergraduate and postgraduate medical training, including recruitment of students into medical school’ (Department of Health, 2005: 8).

More recently, the Tooke report emphasised the need for medical schools to play a greater role in providing careers information and advice: ‘Career aspirations and choices should be informed by accurate data ... medical schools should play a greater role in careers advice’ (Tooke, 2008: 28).

The recent draft document ‘Tomorrow’s Doctors’ (GMC, 2009), which is a General Medical Council document advising medical schools about the content of their undergraduate curricula, has also
emphasised that medical schools, ‘must have a careers guidance strategy. This should include generic
careers skills resources such as CV writing, an outline of career paths in medicine and specific
guidance for students for personalised career planning.’ The careers strategy should be developed and
updated with the local postgraduate deanery – the body responsible for organising postgraduate
medical training.

At present there are over 60 different medical specialties which students can opt to train in and there
are various research and teaching options. Under the reforms of Modernising Medical Careers (MMC)
(Department of Health, 2005) junior doctors now have to make a definitive choice about a career
pathway much sooner than they have had to in the past. After graduation, medical students have to
take a structured two year training programme prior to embarking on specialist training called the
Foundation Programme. Previously medical graduates could work in a number of different specialties
over a period of years before making a career decision (Lambert et al, 2006). Recent research
undertaken at the School of Medical Education, University of Liverpool, confirms that the majority of
Liverpool medical graduates pre MMC, did not make career choices until after experiencing a number
of years working in different specialties in the postgraduate setting (Watmough et al, 2007). However,
with the introduction of MMC medical graduates no longer have the opportunity to experience a
number of different specialties before making a definitive career choice. Instead, they have to decide
and apply for specialty posts 18 months after graduation, before they complete the Foundation
Programme. To help them to make an informed career choice the importance of career guidance is
increased, as they will have less experience as a postgraduate before they must make that decision.

In addition, other factors such as the working time directive in European Union countries, the
feminisation of the workforce and better work/life balance demands by both genders, are all
influencing the conditions of the workforce (Morrison, 2006). Also, the postgraduate training
pathways for each medical specialty varies greatly, with differences in length and examinations
depending on which specialty is chosen. Each year there are a number of students who drop out of the
undergraduate course, either voluntarily or through failing exams, who also need career support. A
survey has found that 17.6% of participants left medicine seven to ten years after graduation (Harvey
et al, 1998a). This compares with another study which demonstrated that 21.0% of doctors were found
to have left the field up to eleven years after graduation (Harvey et al, 1998b). These figures show the
importance of finding ways to support doctors to remain within the medical profession, given the time
and money it takes to complete their training.

Some studies, particularly in the US, have examined what medical students understand about a career
in a certain specialty or the influence of an undergraduate attachment in a certain specialty on career
choice (Feifel et al, 1999). There have also been studies showing why students chose to study
medicine at certain institutions (Adams and Garden, 2006), but a literature search has not yielded any
results about demonstrating students’ knowledge of a career in medicine at the earliest stage of their
training.

Theoretical Perspectives

Moving on, the careers adviser at CETL was keen to develop careers support for medical students
utilising theoretical perspectives of vocational choice and looked specifically at the DOTS model and
ideas on Planned Happenstance (Law and Watts; 2003, Krumboltz and Levin, 2004). The DOTS
model assumes that career planning is part of a process that includes decision making, opportunity
awareness, transition skills and self awareness. More recently Law has developed new ideas around
the DOTS model which incorporate the idea of process as well as outcomes. A learning programme
can be thought of in terms of information about ‘work’, ‘self’ and so on – this is the coverage of what
people learn. However he goes on to say that learning is also expressed as ‘enquiring’, ‘adapting’ and
‘experimenting’ – the processes of how people learn. In a fast-changing world, coverage quickly dates
but process represents a ‘repertoire’ of ways to learn (Law, 1996).
However, some students are not natural ‘action planners’ and may be more comfortable with a less structured method for career planning. A useful theory to utilise in this case is that of Planned Happenstance. This theory can be incorrectly perceived as career progression by luck rather than planning, but on closer examination it becomes clear that the theory does not just talk about luck and being in the right place at the right time, rather it is a conscious, purposeful, and on-going process that can help people build a more satisfying and fulfilling career. Planned Happenstance can also be broken down into a four-step process. Firstly, ideas are clarified by following curiosity and identifying interests. The next stage is to change the mindset from thinking ‘I can’t because...’ to actively thinking about ‘how can I make this happen...?’ In addition, the model advises expecting the unexpected and being prepared to take full advantage of unexpected opportunities such as chance encounters, impromptu conversations and new experiences. Finally, a willingness to learn and develop skills, keeping an open mind and following-up on chance events will also contribute to successful career planning. Elton and Reid (2007) state that good career decisions are part of a process named ROADS, which should cover: R – Realistic: Are you being realistic about yourself and the demands of the job? O – Opportunities: Have you given serious consideration to all the opportunities available? A – Anchors: Have you built in the things that provide support in your life? D – Development: Do your choices fully develop your potential? S – Stress: Have you considered the aspects of work that create stress for you?

The aim of the project

Returning to the project, the aim was to ascertain what first year medical students understood about a career in medicine. We were keen to find out what they knew already about a career in medicine; for example were they aware of the number of specialities available, the length of training, and did they have any preconceived ideas about their career choice. It was hoped that the information obtained could be used to develop career interventions within and outside the curriculum: in order to help with the development of their career management skills in accordance with the models discussed above.

Methods

Data were collected from first year medical students at the University of Liverpool through questionnaires developed to ask the students:

- Whether they had any family members working within medicine or a health related background
- How long they felt it would take to become fully qualified
- What specialties they were aware of
- What factors they thought would affect their career choice
- What they knew about the different official bodies with an interest in medical education
- What experience they had prior to beginning the course
- Whether they had any pre-conceived ideas about their career choice.

The project was given ethical approval by the relevant bodies. The questionnaire consisted of a series of structured questions to elicit yes/ no answers. Students were asked background questions such as whether they had a degree, family members in medicine and/or other health care professions, previous work experience (with an area for a free text response to explain where this was and how it was organised). A list of bodies associated with medical education careers was given and students were asked whether they had heard of these bodies. The final section of the questionnaire employed a Likert scale to gather responses to a number of decision making influences – these are discussed in the results section.
The questionnaire was distributed by hand to the first year medical students during an introductory talk given to students by the CETL careers advisor in their first week at medical school. They were distributed early in the year, prior to any clinical attachments and formal teaching sessions, to negate the influence of the medical school on the results. The students then had 10 minutes to complete the questionnaire and once completed they were collected by members of the CETL team. They were completed anonymously. The results were analysed using SPSS for windows version 15. T tests were run to check for any significant differences between the following distinct groups: those who have members of their family working as doctors; those who have members of their families working as health care professionals and those who were graduates.

Results
220 out of the 350 students in the year completed the questionnaire giving a response rate of approximately 60%. The T tests revealed no statistically significant differences between the different groups mentioned above.

Composition of the students
55% of the respondents were female, and 11% were graduates. 62 of the respondents (28%) had one or both parents or a close family member working as a medical practitioner, 64 (29%) had one or both parents or a close family member working as a health care professional (included in this were 17 respondents (8%) who had members of their close family working in both fields). 43% of the respondents had neither parents nor a close family member working as a medical practitioner or a health care professional.

Length of Training
Most students had a realistic idea of the length of postgraduate training which varies from 5 - 10 years depending on the speciality. Students’ answers ranged from 1 year (3%) to 25 years (0.5%). 90% of students thought they would be fully qualified within 10 years and 77% felt it would take between 5 and 10 years, which shows the majority of students have a realistic idea of the length of postgraduate training.

Awareness of different specialties
The students were also asked how many medical specialties (up to ten) they could name. 43.7% could name ten specialties, with 1.5% stating only one.

Factors affecting career choice
A Likert scale was used ranging from 1 - 5 (1 being important to 5 not very important, with quite important as the mid point). They were asked to rate the following variables:

- Intention before medical school
- Tutor/teacher/role model at medical school
- Financial inducements
- Availability of training posts
- Individual Consultant/GP on an undergraduate clinical attachment
- Experience working as a junior doctor
- Family/social reasons/work life balance

The majority of respondents rated all the variables mostly at 3 (quite important) and above. For point 1 on the Likert scale (important) the results were: intention before medical school 20.9%, teachers/tutor 24.8%, financial inducements 9.2%, availability of posts 38.2%, influence of an individual during clinical attachment 24%, experience as a junior doctor 71.4%, and work/life balance 36%.
So, while overall the respondents felt that all those factors would play a role in their career decision making, it is clear that the most important factors that they envisage affecting their career choice are:

- Experience as a junior doctor
- Availability of training posts
- Family reasons/work life balance

**The different bodies with an influence on UK medical education**

The questionnaire asked the students if they had heard of a number of bodies/organisations that are important to medical education and careers in the UK and answers were given as yes/no. A high proportion of students had heard of organisations such as the Royal Colleges and the British Medical Association, though just over 10% had heard of Post Graduate Deaneries (the organisation responsible for post graduate training).

**Work Experience**

The students felt work experience was an important influence in determining their eventual specialty, along with the availability of training posts and other factors such as work/life balance and personal interest. Fewer than half of the students had any pre-conceived ideas about which specialty to enter. In addition, the data showed that students had a wide variety of medically related experiences, many of which had been organised through their own initiative.

There was a wide range of pre-entry ‘work experience’ that students had experienced. Over half the students had gained some experience in hospitals, with almost a quarter within General Practice, a number were employed as health care assistants and some in dental surgeries. Most of this was voluntary work and it is hard to gauge how much clinical insight students would have gained from these experiences.

The students were also asked how they had organised these pre medical school work experiences. Over a third had organised their work experience through their own initiative, around one fifth were organised through schools or colleges and about a tenth through friends and family.

**Conclusions from the project**

Despite being inexperienced and not having any real clinical exposure, the questionnaire data show that some students are already thinking about their career choices pragmatically. Although fewer than half of the students had pre conceived ideas about which specialty they ultimately wish to work in, a third of students wanted a career choice with good work/life balance, and 71.4% felt that experience as a doctor would be important in determining career choice. This echoes the conclusion from the study by Watmough et al (2007) mentioned previously; that career choices were made after experiencing a number of different specialties, i.e. experience as a junior doctor determining career choice. Given that medical students now have to make a career choice only 18 months after graduation, the results indicate that:

- Specific information regarding the different aspects cited as influencing career choice for each specialty needs to be available. This should help students to make informed decisions when planning their career, and in particular, when choosing options available in their course that may have an impact on their eventual speciality area; for example when choosing their elective (a five week period of experience which is taken at the end of the 3rd year and can be taken abroad in a very different health setting to the UK) and again for final year rotations.

- As students felt that experience would be the main determining factor in their speciality choice, careers support may need to concentrate on making them aware of opportunities to develop their experience. These opportunities can include
helping them get involved in research opportunities, work shadowing, volunteer or vacation work as well as opportunities on the course to take special study modules in particular areas of speciality.

- A model of vocational choice and planning such as New DOTS or theoretical aspects of Planned Happenstance should be used to enhance careers support for medical students. By introducing Planned Happenstance to compliment DOTS, students that may be uncomfortable with a fairly structured model may be more engaged in the process.

**Implications for practice**

So what has been happening at Liverpool since the research was undertaken?

*Developing Sources of Information*

Availability of training posts and family reasons/work life balance are high on the list of factors that students suggest they will take into consideration when choosing a career. There are now more females than male students entering medical schools and female graduates out number male graduates (Allen, 2005). To support them we aim to encourage students (at an early stage) to access relevant information about competitiveness and work life balance when thinking about their career in medicine. A specific website has been developed for medical students at Liverpool (University of Liverpool, 2009). This is linked to the main careers website of the University of Liverpool Careers Service, but contains very relevant information on these issues. It also provides numerous links to other websites such as the new NHS website, which has been designed specifically for medical students and junior doctors to help them with their career planning (NHS, 2009a).

Links to other health related sites that give information on competitiveness of speciality are also provided, e.g. [www.mmc.nhs.uk](http://www.mmc.nhs.uk) (NHS, 2009b).

Up to date facts and figures need to be easily accessible to medical students to guide them in this ‘opportunity awareness’. There is information on the Department of Health (NHS, 2008) and other statutory organisation’s websites, but is not always easy to find or understand. Careers support in this area can make it easier for the students to find this information and be aware of what else is available.

*Careers Events*

Throughout medical school and the two years of foundation training students will be able to undertake rotations in a number of areas of medicine. However as there are over 60 specialty areas it is not possible that they would be able to gain experience of all these areas. Instead of a traditional careers fair where students find out about speciality areas of interest, we have held an annual ‘balloon debate’ for the last two years (Waddelove and Watmough, 2009).

A balloon debate includes representatives from a number of speciality areas who present a case to the students as to why they should consider entering a career in their area. The students then vote on the best presentations and the winners go through to a second round. The event concludes with a winner and a time for questions to be asked about all the specialty areas; for example, employment prospects. The structure of the balloon debate engages students in a different way from that of a traditional fair, exposing them to speciality information and encouraging immediate personal reflection, using this to then judge whether to vote for the specialty. Feedback from these events has shown that students gain knowledge about specialties that they may not have considered otherwise (nor may have considered finding out about at a traditional fair).

The number of training posts in different specialties does change as dictated by the current demands and policies of the NHS. For example, surgery is an area where there is likely to be a reduction in the number of training posts. Conversely, it has been estimated that over 60% of medical students need to
enter GP training to satisfy the growth and number of training posts that will be available in this area (Department of Health, 2008). As a consequence of this we are planning a GP evening later on in the year, involving a number of GPs working in different practices and different circumstances, to speak to the students about their role.

**Career Management within the Curriculum**

We have developed a section of the final year portfolio to include an informational interviewing section. Students are encouraged to arrange a short discussion with at least three different specialty doctors and to record this information making the most of planned happenstance. To help students develop their career planning skills, a social network site has been piloted with first year students with certain careers activities that they have to complete; such as reflecting on their achievements and their self awareness. They then have an annual appraisal with their tutor where they have to produce evidence that they have undertaken the activities and contributed to the on-line forum – thus preparing them for the continued professional development that they will have to undertake as a doctor.

**Different learning styles**

Talks to each year group have been developed on topics such as; how to compile a good CV or application form, making the most of your summer, and tools available to help with career planning. The talks have been supplemented by voice over power points that students are able to download if required. We are also in the process of developing the University of Reading’s ‘Destinations career web based resource’ specifically for our medical students (University of Reading, 2009). This will involve activities and exercises that they can undertake online; such as viewing video clips from medical students at Liverpool discussing what they have learned in terms of making themselves more employable by accessing various opportunities.

**Implications for practice in other vocational and non vocational areas**

In conclusion, it would be useful for careers departments to seek clarification from first year students on other vocational degrees about what their perceptions of a career in that particular profession involve. More tailored careers support could then be introduced and discussed with the appropriate academic staff, with ideas about how this might be incorporated within the curriculum.

Students on non vocational degrees also need to plan their future careers. Careers advisers, working in collaboration with the relevant academic departments, could examine students’ career perceptions and design career support programmes particular to the group’s needs.

To the extent that job changing becomes more frequent, people will need to plan more and take advantage of happenstance. People will have to be more resourceful in dealing with changes and students may need assistance to design suitable strategies. Such strategies will help them to learn or relearn behaviours that will strengthen their self-concept and make it possible to develop career management skills that will be useful for the rest of their careers.
References


Department of Health (2005) NHS Modernising Medical Careers working group for career management. Career Management: an approach for medical schools, deaneries, royal colleges and trusts, Department of Health: HMSO.


The authors are all employed by the School of Medical Education, University of Liverpool under a CETL funded project. **Dr Simon Watmough** is a senior research fellow and has a PhD in Medical Education. His research interests include the role of undergraduate medical education in shaping the competencies of doctors and the factors which influence career choices in medicine. **Christine Waddelove** is the Senior Careers Adviser. She has over 25 years experience in careers work in a variety of settings including universities, sixth form colleges and schools. **Louise Jaeger** is the Centre administrator and provides research support on a number of projects.