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Perspectives on management education: an exploratory study of UK and Portuguese medical students

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SUMMARY *Healthcare management is becoming extremely important and large health organizations face increasing demands for leadership and system change. The role of doctors is pivotal but their relationship with management issues and practice has been a matter of long-lasting debate. The aim of this research was to establish opinions of medical students and other medical educational stakeholders on the value and structure of a management and leadership course in medical school. A survey of undergraduate medical students from two medical schools (*n = *268) was carried out, and quantitative and qualitative data were analysed and compared with opinions collected from interviews with hospital managers and clinical professors. Portuguese medical students attributed higher relevance to leadership/management education than their UK counterparts. For both groups, such a course would be best: (1) situated in the clinical years, (2) optional and (3) one term/semester long. Main topics desired were 'Managing people/team management'; 'National Health Service'; 'Doctors & Leadership', 'Costs/prices and resource management'. In conclusion, leadership/management education is perceived as relevant but its inclusion in the medical curriculum as well as its content needs careful consideration. Education in informatics and knowledge management would also provide a positive contribution to professional development but is scarcely appreciated at present.*

Introduction

Modern medicine has to prioritize between offering services to a demanding, ageing population (IOM, 2001), dealing with government-imposed targets (Calman, 1998), and meeting tight budgetary constraints (McSherry & Pearce, 2002). Many clinicians perceive management as boring, 'not for them' (White, 1996), or an obstacle to good medical practice (Edwards *et al*., 2003). In the UK NHS (National Health Service), the professional hospital manager now exists alongside an institution-wide increase in awareness of healthcare costs. In Portugal the recent introduction of professional management and a greater emphasis on private sector values is changing budget-related decisions of hospital boards. Management and leadership training for doctors is a recent concept worldwide—recognized as highly relevant by some (White, 1996; Detmer, 2000), and necessary by a growing number of professionals, including at the undergraduate level (Lane & Ross, 1998). The move of such training into medical schools is also defended by several other parties (Millar, 1996; Tibbitts, 1996; White, 1996; Calman, 1998; Detmer, 2000) on the grounds that amongst other benefits it could increase the awareness of key organizational issues that affect patient care (Edwards *et al*., 2003) and improve the dialogue with managers (Atun, 2003; Smith, 2003). To date, in the UK and Portugal, management and leadership training (Tibbitts, 1996) tends to be introduced at a postgraduate stage in the doctor's career.

''Circumstances of doctoring have changed'' and ''doctors need to change too'' (Chantler, 1998); 'new' professionals, with systems-thinking capabilities (Smith, 2003) and cost-benefit awareness (Williams, 2001), able to fully engage with managerial decisions concerning healthcare are needed. Cavenagh found generally positive sentiments about doctors' involvement in management in UK medical students and that management was not dismissed from their own future career agendas (Cavenagh, 2002). Worldwide, medical curricula are being reviewed, in both form (Katinka *et al*., 1998) and content (Millar, 1996; Lambert *et al*., 2000), with attention to new disciplines but also recurrent signs of student stress from overloaded curricula (Shapiro *et al*., 2000; Morrison, 2001; GMC, 2003). In 1995, a need for some management training at undergraduate level in the UK was identified (Gatrell & White, 1996); after that the Clinical Governance initiative in the UK (McSherry & Pearce, 2002), the debate around the healthcare 'quality chasm' (IOM, 2001), the need for leadership skills in healthcare systems (Williams, 2001) and the emphasis on communication skills within multi-professional healthcare teams (Calman, 1998; GMC, 2003) have indicated a major rethinking of the management and educational needs of future healthcare professionals. General Medical Council recommendations (GMC, 2001, 2003), often taken into account in medical education discussions in Portugal, value both greater awareness and involvement of doctors in health management issues. Management and leadership education is seen as valuable if it improves communication skills and helps achieve the recommendations in *Tomorrow's Doctors* (GMC, 2003).

This research aims to explore the current opinions of medical students on the value and structure of a 'stand-alone' management and leadership courses in medical school. Research on the attitudes of physicians (Gatrell & White, 1996; Williams, 2001) and medical schools (Meyer *et al*., 1997) towards management has been reported but to our knowledge this is the first research to systematically collect international data on European medical students' opinions on these issues.

Methods

A multi-strategy methodology was used including a two-site survey complemented with interview data, combining

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quantitative and qualitative techniques. Medical students were surveyed using a semi-structured questionnaire (see Table 1). First-year medical students at the University of Cambridge (Cambridge sub-sample) and at the New University of Lisbon (Lisbon sub-sample) were surveyed during March 2003. Both medical schools have a traditional six-year long degree. Samples were homogenous in relation to age and gender.

Survey of medical students

Ambiguous interpretations of the terms 'management' and 'leadership' exist (Williams, 2001), so two reflections/functional definitions of management were included in the one A4 questionnaire page heading before the questions:

> Doctors at all levels are already managers to some extent: managers of themselves, their time, the staff around them, the facilities and resources they call upon and use, managers of the patients they treat and how they do it. (White, 1996: *Textbook of Management for Doctors*)

In 2001, Aidan Halligan, director of clinical governance for the NHS, stressed that:

> NHS Clinical Governance is a way to improve quality . . . demands the re-examination of traditional role and boundaries—between health professions, between doctor and patient, between managers and clinicians.

In addition he points to the need for: 'effective leadership' and 'information analysis and insight' amongst others, if quality of healthcare is to be improved.

After asking for age and gender, question 3 aimed to quantitatively establish the relevance attributed to management and leadership education, while question 4—'Why do (don't) you value a leadership/management course(s) during Medical School? How do you think it would (wouldn't) prepare you for your medical career?'—obtained respondents' opinions for qualitative analysis. Questions 5 to 7 collected opinions on general course structure (see Table 1). When asking for opinions about the duration of the course the statement: 'Considering 4 hours/week and a respective reduction in other subjects' teaching time . . .' was included to reduce effects of curriculum overload on students' opinions. Question 9 was intended to identify the aspects of management respondents would prioritize from 12 areas, which were chosen on the basis of their frequency in books on management for doctors (White, 1996), management literature and articles concerning the relationship of doctors with 'management' (McSherry & Pearce, 2002; Atun, 2003; Edwards *et al.*, 2003); other areas the authors felt were important were also included. Students were asked to assign points (4, 3, 2, 1) to the four options they would most like to see included (see Figure 1). Students' opinion was sought on the value of questionnaires such this.

Questionnaires were distributed at the beginning of a medical class session (Anatomy) in both countries, and collected shortly thereafter. Language used in Portugal was

Table 1. Questionnaire question layout and summary of results.

Questionnaire		Cambridge sub-sample			Lisbon sub-sample		
Question	Response options	Sub-group (1–2)	Sub-group (3–4)	Total	Sub-group (1–2)	Sub-group (3–4)	Total
(Q3) What relevance level do you attribute to a leadership/management course(s) in undergraduate medical education? (1 to 4, 4 is maximum)	1	21	N/A	21 (15)	6	N/A	6 (5)
	2	61	N/A	61 (43)	41	N/A	41 (32)
	3	N/A	54	54 (38)	N/A	62	62 (49)
	4	N/A	5	5 (4)	N/A	18	18 (14)
If you were invited to design a leadership/management course for undergraduate medical students, what would you suggest?	Preclinical years	14	15	29 (21)	16	34	50 (39)
	Clinical years	68	44	112 (79)	31	46	77 (61)
(Q5) It should be included in the	Compulsory	25	34	59 (42)	7	40	47 (37)
(Q6) It should be	Optional	57	25	82 (58)	40	40	80 (63)
(Q7) Considering 4 hours/week and a respective reduction in other subjects' teaching time, it should run for one	Year	3	4	7 (5)	1	11	12 (9)
	Term/semester	39	40	79 (56)	29	64	93 (73)
	Month	40	15	55 (39)	17	5	22 (17)
(Q12) A questionnaire on the relevance and structure of a potential new course for the undergraduate medical curriculum _____ always be done?	Should	70	48	118 (84)	39	73	112 (88)
	Should not	12	11	23 (16)	8	7	15 (15)

Notes: N/A = not applicable; percentages are shown in parentheses otherwise absolute values are used ($n = 268$).

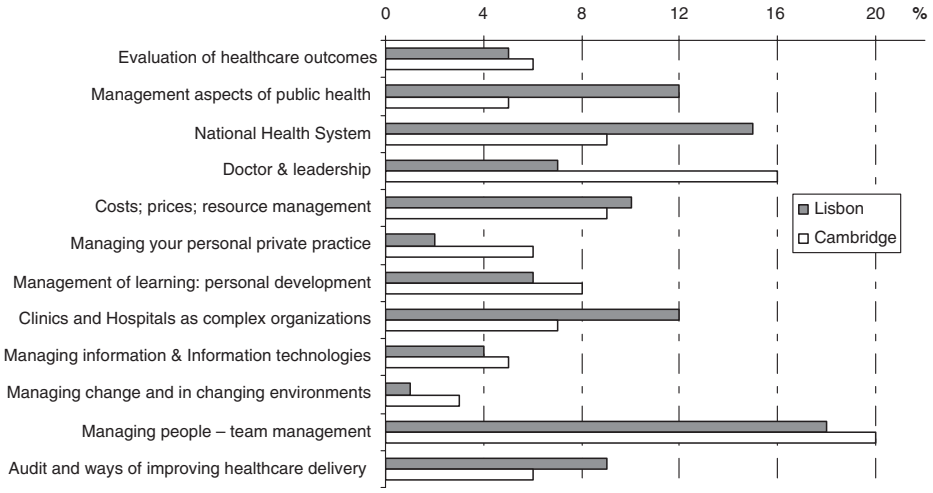

Figure 1. Contents for a Leadership and Management course. *Notes*: Graphic display of results in question 9 ['If you were invited to design a leadership/management course for undergraduate medical students, what would you suggest? (. . .) (9) It should definitely include topics in following areas: (rank four options only, numbering them from 1 [highest importance] to 4 [important but least of the four])]. Contents (from the 12 options available) are expressed in the percentage value of total points attributed by all students in each of the Lisbon and Cambridge sub-samples.

Portuguese as both questionnaires were translated from English to Portuguese and student answers (in Portuguese) were translated back to English, by HM. While all students were invited to fill in the questionnaire, those completed by students older than 25 years were excluded from analysis, since differences in opinions can seemingly be due to the effect of age alone (Cavenagh, 2002) and their number was too small for statistical analysis of significance. The mean response rate between Cambridge and Lisbon was 67% (141+127/(250+150)), with a final sample size of $n = 268$ for all questions except open-end question 4 with $n = 191$. EPIINFO software was used for statistic analysis of responses to all questions ($n = 268$), except for the 191 responses to question 4, which were studied using non-computerized thematic analysis, which is a reliable and frequently used approach to qualitative data analysis (Bryman, 2001).

Interviews

In-depth interviews with a hospital manager and a clinical director (also a professor at the medical school) from the same medical school were conducted in both countries. While they cannot be seen as representative, they were, however, important enhancers of the interpretation of data obtained from the student surveys, allowing a more fertile examination. For homogeneity and comparisons the interview questions paralleled the student questionnaire structure (see Figure 1). The full interview script is not presented but is available from the authors on request. All interviews were taped, conducted in a private room and each lasted between one and two hours. One of the authors (HM) coded and analysed interview data, and interpretation biases were taken into account and mitigated through discussion with another of the authors (ER). Content theme analysis was made *a posteriori* from emergent themes regarding each of the main interview questions, and the results were used for discussion.

Results

In Cambridge 56% of respondents were females and 44% males, while in the Lisbon sub-sample these numbers were 59% and 41%, respectively (Table 1). No significant differences were found when comparing the results between the male and female subgroups. It was only possible to find meaningful comparisons between the total Cambridge and Lisbon sub-samples or, within each sub-sample, between *Group 1–2* (low relevance attributers) and *Group 3–4* (high relevance attributers).

Question 3

In total, 42% of Cambridge (C) students and 63% of Lisbon (L) students scored 3 or 4 (high relevance) with a statistically significant difference ($p < 0.001$), so overall more students in Lisbon felt that a leadership and management course would be relevant to their education than did students in Cambridge.

Question 4

From the 191 responses (Cambridge 102 and Lisbon 89), several themes were identified. No significant differences in themes were found between genders. Each sub-sample was further divided into two groups: Those answering 1 or 2 in question 3 were classified as 'low relevance attributers' and those answering 3 or 4 as 'high relevance attributers'. Common themes from the individual answers to question 4 were congregated into categories represented by 'illustrative quotes'. These were then ranked in decreasing order according to the number of individual student answers in which they could be found. For reasons of space only the more frequent and some more unique responses are presented in the discussion section including their respective frequencies.

Questions 5–7

Cambridge (79%) and Lisbon (61%) students preferred such a course during their clinical years, while 21% and 39%, respectively, would place it in preclinical years. Nearly two-thirds of both groups believe the course should be optional (Cambridge 58% and Lisbon 63%). Not too surprisingly, the 'high relevance' subgroup showed no preference whereas the 'low relevance' subgroup preferred the optional course ($p > 0.001$). The majority of both groups would prefer a course of one term/semester (Cambridge 56% vs. Lisbon 73% followed by one month in length (C 39% vs. L 17%) with the minority preferring a year-long programme (Cambridge 5% vs. Lisbon 9%) (see Table 1).

Question 9

All 12 options available to students and their choices are presented in Figure 1. Total 'points' attributed by students to each option were calculated to obtain the indication of the preferred four options in each sub-sample. Then, since the sub-sample sizes were different, percentages of points per option were computed to allow a correct comparison between them.

Question 12

There was consensus by both groups (Cambridge 84% and Lisbon 88%) that a questionnaire is valuable in assessing the need for and content of a potential new course for their medical curriculum.

Discussion

Students welcomed involvement in curriculum design, confirming claims of many authors about the wisdom of having students involved in curriculum design (Katinka *et al.*, 1998).

Opinions on relevance

No clear reasons emerged for the different value placed on a management and leadership course in Cambridge and Lisbon. Possible explanations are that management has been systematically devalued by clinicians in the UK NHS for many years (Edwards *et al.*, 2003); that general management in hospitals has existed in the UK for 18 years more than in Portugal; or that the recent changes in the healthcare sector in Portugal which have stimulated public opinion debates around public–private relationships and hospital management might have made students more interested in these issues. Between the UK and Portugal comments regarding the relevance of such education for their careers do not differ significantly, although, as expected, they do differ significantly between those students in *Group 1–2* (low relevance) *versus* those of *Group 3–4* (high relevance), in both samples.

Perspectives on low relevance

Even in subgroups 1–2 students feel a need for management knowledge and skills. From this we suggest that the low relevance of these topics may be attributed at least in part to the pressure of curriculum demands (Shapiro *et al.*, 2000; Morrison, 2001). Curriculum pressures probably influence students' opinions, making them less receptive to new perceived 'additions'. This is supported in highly representative comments like 'it is quite important but there are so many other things to learn' (12) or 'is not highly relevant' (5). A less prevalent theme was that doctors should only be concerned with patients, without 'administrative worries as obstacles' (3), because '[We] want to be doctors, not managers' (3). Whilst this stereotypical attitude is not new (Edwards *et al.*, 2003), its maintenance through medical school may be problematic as it may impact on a doctor's adaptability throughout his/her career.

Perspectives about high relevance

Over two-thirds of Lisbon students and nearly half of the Cambridge students thought a management and leadership course during their medical school years highly relevant. They gave similar reasons including improvement of self-confidence, and that it 'could help the NHS run more efficiently/effectively' (7). Many of these students refer to the fact that the role of doctors increasingly includes management functions, depends on teamwork and some see management knowledge as a necessary addition to doctors' expertise if they are to retain the pivotal role as the patient's advocate—an attitude similar to the position regarding 'hybrid doctors' defended by some (Millar, 1996).

Both students and interviewees recognize that learning about resource management is important and justifies the need for a course. Students need to be aware that 'decisions on costs are at the tip of the doctor's pen' (interviewee's comment). The belief that the perceived gap between doctors and management (Edwards *et al.*, 2003) can be improved through such coursework is also seen as a valid reason for management education. Finally, students also hope such a course would help them fit into existing healthcare organizations better. This is illustrated in comments like 'able to assume further responsibilities [in addition to those of a clinician]' (9) and 'understanding how institutions work at an organizational level' (9).

Opinions about the structure

The majority of students in both samples, as well as all interviewees, state that a management and leadership course should be in the clinical years—because students will be able to engage better in discussions and to learn from some healthcare management situations they might experience while in their hospital rotations. Students, in different proportions, also tend to agree that it should be optional and one term/semester long. A confirmatory finding is that in both samples high relevance is positively correlated with the length of time students think should be devoted to such education. All four interviewees expressed concern about the design and development of the course in often 'packed' curricula. Great emphasis is also placed on the need to 'show that management matters in healthcare' (two interviewees).

The topic area most frequently chosen by UK and Portuguese students was 'Managing people—team management'. This is in accordance with current opinion as to its relevance (Tibbitts, 1996) and with two principal themes

present in many of the students' comments (in both low and high relevance attributers groups): (a) that teamwork and the costs it creates are very important (Calman, 1998); (b) a perception that 'Doctors should know how to organize groups' (15), 'The medical profession is not only about treating patients' (9), and 'The doctor is often called to manage teams and assume leadership responsibilities'(9). The high rank given to the importance of teamwork as well as some of the students' comments indicates that they believe that education as well as practical experience can help them learn to manage people and teams.

The 'National Health System' is also a topic Cambridge and Lisbon students believe is relevant to their coursework. Portuguese students commented directly: 'No course covers how the National Health System works' (7). Other students felt the doctor is the best person to strike the balance between patient needs and hospital resources but to play such a role well he/she needs training. Hospital managers would like to focus on organizational layout in order to stress to students just how important is the design of the health system of their country to limiting or enhancing their own future medical practice.

Most Cambridge students would like to learn about 'Doctors & Leadership'. Some think leadership is something inherent to the physician's role but cannot be learnt while others were optimistic that relevant education can make them more confident and efficient in teams. These differing opinions reflect the ongoing debate about the 'learnabilility' of leadership (Tibbitts, 1996; Williams, 2001). Another topic that would be selected to be part of a management and leadership course was 'Costs, prices and resource management' and this is in accordance with students' comments such as 'doctors should know how to manage their activity bearing in mind the economics/savings of certain expenditures '(14) or 'Doctors need to understand how to manage people and resources' (4).

While 'Managing information & information technologies' is considered highly relevant by all interviewees, it attracted little attention from the students. This may be due to a misinterpretation on the part of the students of the concept of 'Managing information'. Indeed, interviewees initially rated this content low as well. Once the concept of information management was explored further and differentiated from 'teaching how to use a PC', however, their opinion altered to a positive stance. So student opinions, deprived of this concept of exploration (impossible via one A4 page questionnaire), need to be treated with caution. Furthermore, although skilful computer users, students have little exposure to computer-based patient record systems and do not have a context for judging how IT can be useful in patient care, planning and management. Indeed, one medical professor pointed out that the students are 'IT literate already' but may not yet see the value of system-wide IT usage for patient care. Obviously, this is a very important perceptual issue that will need to be addressed head on if the emerging physicians are to be prepared for computer systems using evidence-based and protocol-supported care regimens (Slotte *et al.*, 2001).

Strengths and limitations

The time and resources available limited this study. A larger interview program and a larger population set may have allowed better statistical analysis/discussion of themes, although the sample size was quite adequate and from two culturally different populations. Questionnaire design provided students with room for ample disagreement in question 4 and students' negative opinions were discussed. This study asked students' opinions on a potential new course (not in competition with other 'possible new courses') in order to gain important insights for design purposes; additional suggestions and opinions were sought about course evaluation and content but could not be accommodated within the scope of this paper.

Conclusions

Compared with their Lisbon counterparts, Cambridge medical students attribute less relevance to a management and leadership course in their curriculum. The perceived relevance of management education appears to relate more closely to students' expectations of their role as doctors than to any other consideration. Whilst it is frequently believed that doctors are generally opposed or resistant to management, this study shows that most students are positive about the value of possessing management knowledge and skills. This seems to contrast somehow with the 'perceived' situation for doctors (Atun, 2003; Edwards *et al.*, 2003). Concerns exist about how a management and leadership course should be configured and the major limitation identified in this study of opinions is the lack of time in a 'packed' curriculum. Be this as it may, a stand-alone management and leadership course that helps students learn about teamwork, broader human resource topics, the National Health Service, leadership and resource management seems desirable. In addition, if 'The medical degree has to become a degree of how to acquire and manage information', as suggested by one interviewee, then students need to be made aware of the importance of informatics and information management, which should assume a higher priority than it holds at this time.

Practice points

- Surveying students' and educational stakeholders' opinions on the need for and content of a potential new curriculum subject provides valuable input to its design and is highly appreciated by students.
- Most medical students are positive about the value of possessing certain management skills.
- Concerns exist as to how a management and leadership course should be configured and the major limitation identified is the lack of time in a 'packed' curriculum.
- A stand-alone management and leadership course that helps students learn about teamwork, broader human resource topics, the National Health Service, leadership and resource management is desired.
- Students and faculty need to be made aware of the broad concepts of informatics and information management, their value and how these are fundamental for future healthcare.

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The research presented was carried out in several locations: University of Cambridge, New University of Lisbon, two UK hospitals and two Portuguese hospitals.

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