



FROM THE LITERATURE

Abstracts of Recent Papers

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Educating future physicians for Ontario: phase II. R.F. Maudsley, D.R. Wilson, V.R. Neufeld, B.K. Hennen, M.R. De Villaeer, J. Wakefield, John MacFadyen, J.M. Turnbull, W.W. Weston, M.G. Brown, J.R. Frank & D. Richardson
Academic Medicine, 75, 113–126, 2000.

In 1990, a collaborative project was launched to determine what the people of Ontario (Canada) expect of their physicians and how the programs that prepare future physicians should be changed in response. The project, called Educating Future Physicians for Ontario (EFPO), brought together the five Ontario medical schools, the Council of Ontario Faculties of Medicine (COFM); a nonprofit, charitable organization, Associated Medical Services (AMS); and the Ontario Ministry of Health. The first phase ran for five years and was described in the November 1998 issue of *Academic Medicine*. After an external review, the project was continued for a second phase (EFPO II) for four more years until December 1998; that second phase is the topic of this article.

EFPO II (1) focused more on residents' education; (2) emphasized four of the EFPO I-created physician roles in project activities; (3) maintained the province-wide, inter-institutional medical education framework of phase I, but fostered greater involvement of the seven sites (five medical schools and two regional health centers) in project activities; (4) stressed five project components (e.g., needs assessment and community partnerships) and worked for collaboration among components at all sites; (5) enhanced the original EFPO I Fellowship Program by adding residents and community fellows to the existing fellowships and by initiating leadership development activities, all of which bode well for the future leadership of medical education in Ontario. Students and residents played a vital role in EFPO II.

Most of EFPO II's objectives were met, but the overall view of external reviewers was

that the project was less successful than EFPO I. For example, the impact on clinical education, especially residency education, was less than anticipated. On the other hand, the project helped encourage the wide adoption of the eight physician roles that originated in EFPO I and advanced faculty development and assessment activities based on these roles. A third phase of EFPO concerning continuing medical education was planned, but support was not available. However, one of the funders will continue to support the successful fellowship and leadership program and the provincial education network for the next three years. Overall, the two phases of EFPO substantially modified medical education in Ontario to make it more responsive to evolving social needs.

Measuring faculty effort and contributions in medical education. D.O. Nutter, J.S. Bond, B.S. Collier, R.M. D'Alessandri, B.L. Gewertz, L.M. Nora, J.P. Perkins, T.S. Shomaker & R.T. Watson
Academic Medicine, 75, 199–207, 2000.

A national panel on medical education was appointed as a component of the AAMC's Mission-based Management Program and charged with developing a metrics system for measuring medical school faculty effort and contributions to a school's education mission. The panel first defined important variables to be considered in creating such a system: the education programs in which medical school faculty participate; the categories of education work that may be performed in each program (teaching, development of education products, administration and service, and scholarship in education); and the array of specific education activities that faculty could perform in each of these work areas. The panel based the system on a relative value scale, since this approach does not equate faculty performance solely to the time expended by a faculty member in pursuit of a specific activity. Also, a four-step process to create relative value units (RVUs) for education activities was developed. This process incorporates quantitative and qualitative measures of faculty activity and also can measure and value the distribution of faculty effort relative to a school's education mission. When adapted to the education mission and culture of an individual school, the proposed metrics system can provide critical information that will assist the school's leadership in evaluating and rewarding faculty performance in education and will support a mission-based management strategy in the school.

Teaching evidence-based medicine: caveats and challenges.

H.G. Welch & J.D. Lurie
Academic Medicine, 75, 235–240, 2000.

Evidence-based medicine (EBM) is an important new paradigm of the medical profession. While the quantitative approach of EBM has its place, clinical medicine must take into account many subtleties that EBM fails to consider. In this article, the authors describe three caveats to this quantitative approach: (1) the detection of 'maybe disease' (physiologic, anatomic, or histologic abnormalities that may not ever be overtly expressed in the patient's lifetime) inflates apparent diagnostic test performance; (2) probability revision is valuable primarily as an exercise to gain qualitative insights; and

(3) patients are likely to be interested in more than just central tendencies in making treatment decisions. They then consider some challenging questions facing clinician-educators: how do they prepare students for situations where there is an absence of rigorous evidence? Should they teach students that the burden of proof lies in demonstrating efficacy or in demonstrating ineffectiveness? And what should they tell students about when to seek evidence to aid diagnostic and treatment decisions?

Evaluating the outcome of communication skill teaching for entry-level medical students: does knowledge of empathy increase? H.R. Winefield & A. Chur-Hansen
Medical Education, 34, 90–94, 2000.

Background: While the literature shows the clinical value for medical practitioners of skill in communicating with patients in an empathetic manner, objective evaluations of methods to teach empathy are few.

Purposes: This paper describes a method of teaching entry-level medical students the elements of effective communication with patients, in preparation for their first practical exercises. The paper focuses on how the outcomes of the teaching were evaluated with special attention to empathy.

Methods: Student evaluative ratings were collected after training, and students also completed a pencil-and-paper test of empathy, both before and after the training. While all data were anonymous, student pre- and post-training empathy scores could be compared to assess individual changes in knowledge of empathy after training.

Results: Most students (81%) felt better prepared to interview after the training. The pencil-and-paper measure of empathy has good reliability, both internal (α 0.83 and 0.91) and inter-rater (κ 0.96). Overall, students made significant gains in their ability to make empathetic responses, although some (30%) showed no gains.

Conclusions: Further research is required to identify students who fail to acquire skill in expressing empathy after undergoing training, and to validate the pencil-and-paper measure of empathy against real-life performance.

Review of ethics curricula in undergraduate medical education. J. Goldie
Medical Education, 34, 108–119, 2000.

Medical ethics education, it has been said, has ‘come of age’ in recent years in terms of its formal inclusion in undergraduate medical curricula. This review article examines the background to its inclusion in undergraduate curricula and goes on to examine the consensus that has arisen on the design of ethics curricula, using Harden’s curriculum and S.P.I.C.E.S. models as templates. While there is consensus on content for undergraduate medical ethics education, there is still significant debate on learning and teaching methods. Despite the broad agreement on the need to apply adult education principles to ethics teaching, there would appear to be some tension between balancing the need for experiential learning and achieving the ‘core curriculum’. There are also as yet unresolved difficulties with regards to resources for delivery, academic expertise, curriculum integration and consolidation of learning. Assessment methods also remain

contentious. Although there is consensus that the ultimate goal of medical ethics, and indeed of medical education as a whole, is to create 'good doctors', the influence of the 'hidden curriculum' on students' development is only beginning to be recognized, and strategies to counteract its effects are in their infancy. The need for proper evaluation studies is recognized. It is suggested that the areas of debate appearing in the literature could be used as a starting point for evaluation studies, which would form the empirical basis of future curriculum development.

A comparison of learning outcomes and attitudes in student- versus faculty-led problem-based learning: an experimental study. D.J. Steele, J.D. Medder & P. Turner
Medical Education, 34, 23–29, 2000.

Objectives: To compare learning outcomes and perceptions of facilitator behaviours and small-group process in problem-based learning (PBL) groups led by students and those led by faculty.

Design: A prospective, Latin-square cross-over design was employed. Second-year medical students participated in 11 PBL cases over the course of the academic year. For each case, half the student groups were led by faculty and the other half by a student group member selected randomly to serve in the facilitator role. Learning outcomes were assessed by performance on objective examinations covering factual materials pertinent to the case. Perceptions of facilitator behaviours and of group functioning were assessed with a questionnaire completed at the end of each individual case. Focus-group discussions were held to gain more in-depth information about student perceptions and experience. Student-led sessions were observed at random by the investigators.

Setting: A state-supported, US medical school with a hybrid lecture-based and problem-based curriculum.

Subjects: One hundred and twenty-seven second-year medical students and 30 basic science and clinical faculty.

Results: No differences were detected in student performance on the objective evaluation based on whether the facilitator was a faculty member or peer group member, nor were there any differences in the perceptions of group process. Students gave peer facilitators slightly higher ratings in the second semester of the experiment. In the focus-group discussions, students voiced a general preference for student-led groups because they felt they were more efficient. Observation and focus-group reports suggest that groups led by students sometimes took short cuts in the PBL process.

Conclusion: In a hybrid lecture- and PBL-based curriculum, student performance on objective examinations covering PBL materials is unaffected by the status of the facilitator (student vs. faculty). However, in peer-facilitated groups, students sometimes took short cuts in the PBL process that may undermine some of the intended goals of PBL.

Career choices at the end of the pre-registration year of doctors who qualified in the United Kingdom in 1996. M.J. Goldacre, J.M. Davidson & T.W. Lambert
Medical Education, 33, 882–889, 2000.

Objective: To report the career intentions one year after qualification of doctors who

qualified in the United Kingdom (UK) in 1996, and to compare their intentions with those of 1993 qualifiers at the same stage.

Design: Postal questionnaires.

Setting: United Kingdom.

Subjects: All doctors who qualified in the UK in 1996.

Main outcome measures: Choices of eventual career expressed one year after qualifying.

Results: We report on detailed choices of long-term careers for all specialties. Only 20% of 1996 respondents chose general practice compared with 25.8% of 1993 respondents. The percentage choosing general practice fell more sharply among women, from 34.0% to 25.2%, than among men, from 17.5% to 14.1%. Choices for surgical specialties rose from 16.9% of 1993 respondents to 21.4% of 1996 respondents. The percentage choosing the surgical specialties rose among women, from 7.8% to 11.6%, compared with a rise among men from 26.1% to 32.2%. The percentage of respondents who definitely or probably intended to pursue a long-term career in the UK was 77.7% compared with 75.7% of 1993 respondents. Most of the home-based respondents who had doubts about practising in the United Kingdom were considering practising abroad. Only 1% made an explicit first choice for a non-medical career. However, in all, 9.4% said that there was a possibility that they might leave medicine.

Conclusion: The substantial decline in intentions to enter general practice among newly qualified doctors, seen in the 1993 qualifiers, is continued in the 1996 qualifiers. A shortfall in recruitment of UK-trained doctors to general practice is the likely outcome. The rise in choices for the surgical specialties, particularly among women, may herald a renewed interest in hospital specialist training following the Calman changes. It is worrying that almost a quarter of respondents indicated some doubts about pursuing a medical career in the UK.

Summative assessment of medical students in the affective domain. Th.J. ten Care & C.J.M. De Haes

Medical Teacher, 22, 40–43, 2000.

A growing awareness of the importance of professional attitudes in medicine has led to increased attention in medical schools to medical students' communication skills and attitudes. Assessment of attitudes has always been less important than assessment of knowledge, cognitive skills and psychomotor skills. This may partly be due to the conviction of medical educators ('who are we to assess attitudes of students with summative consequences?') and partly to the lack of reliable and valid assessment instruments. A discussion of the introduction of such assessment, against the background of growing interest in the Netherlands for procedures to seriously value attitudes in patient care, is presented. The University of Amsterdam approach illustrates the possibilities of assessment of attitude and communication. Students who repeatedly do not meet the objectives in the affective domain may have to leave medical school.

‘System Integration’: a middle way between problem-based learning and traditional courses. A.P. Miller, P.L. Schwartz & E.G. Loten
Medical Teacher, 22, 51–58, 2000.

We sought to obtain through an alternative format some of the well-known benefits of problem-based learning (PBL) during multidisciplinary teaching in a new modular curriculum at a medical school that had previously rejected PBL. To integrate learning within and between systems-based modules, we developed a series of case studies, each lasting 1 or 2 weeks. Key components are small group, case-based tutorials employing non-expert tutors as the start and end of each case study, with discipline-based specialist sessions in-between. Unlike PBL, our programme features tight direction of students’ activities, objectives prepared by teaching staff, and extensive feedback/answers provided for the students. The Systems Integration course is the most highly rated component of the new curriculum by the students. Teachers who previously rejected PBL have readily contributed to the case studies and volunteered to act as non-expert tutors. The format offers an attractive alternative for teachers at traditional medical schools that wish to obtain many of the benefits of PBL without adopting full PBL.

Required service learning for medical students: program description and student response. M.S. Burrows, S. Chauvin, C.J. Lazarus & P. Chehardy
Teaching and Learning in Medicine, 11, 223–231, 2000.

Background: Medical schools are in the process of examining their roles in training and preparing medical students for the changing world of health care. Many institutions are searching for ways to help promote positive relations between medical schools and the communities they serve. A form of experiential pedagogy called service learning is one way to accomplish such goals.

Description: Tulane University School of medicine implemented a required 20 hours of service learning for freshman medical students as part of an interdisciplinary longitudinal course, Foundations in Medicine.

Evaluation: Community service hours and projects performed were tabulated over 3 years. A qualitative description of student feedback was undertaken.

Conclusion: The program demonstrates that requiring service learning is acceptable to students, the medical school, and the community. The results show that required service learning has to least a short-term beneficial impact on students.

Teaching faculty to conduct problem-based learning. M.A. Hitchcock & Z-H. Mylona, 12, 52–57, 2000.

Purpose: This article is aimed at those who undertake a transition to problem-based learning (PBL) and focuses on 3 questions that seem most pertinent to the effort: (a) what is known from past research about training faculty in the skills of PBL?, (b) what skills are important to teach faculty and how does one teach them?, and (c) what options are available for training faculty in PBL?

Summary: The success of any PBL curricular initiative requires the assistance of faculty skilled in PBL. The development of faculty with such skills must be a primary and

ongoing concern of programs of schools launching such efforts. This article describes the research associated with training faculty to conduct PBL, the skills to be taught, and the training options available.

Conclusions: Few studies document the impact of PBL faculty development strategies. Many faculty experience a difficult transition when retraining to PBL. Training faculty for PBL is often taken to mean training them to be tutors, but there are more skills involved in implementing PBL. Finally, there is an implied sequence to training faculty to implement PBL.