

## The COPS Curriculum: A Step Forward?

Medical information has long since moved beyond the capacity of a single human mind to encompass. It is changing with an explosion of research and technology to the point where medical science has outstripped and overwhelmed the cognitive paradigms of its professionals. The old lecture-based medical curriculum emphasized the regurgitation of vast amounts of facts. It did not help in training students to analyze and integrate these data so information would be transformed into knowledge. The Dalhousie undergraduate medical education office, influenced by existing curricula elsewhere, designed the COPS (case-oriented problem stimulated) curriculum as a means of coping with the vast body of ever-changing scientific data. Four years later, the first class trained under this curriculum is poised to graduate. Has COPS achieved its goals?

In the first two years, the COPS curriculum is structured around cases discussed in groups. Faculty are asked to act as non-expert facilitators allowing the students to direct their own learning. Scheduled time is reduced to 3 tutorials lasting 2 hours each and 3 hours of lectures per week. The main courses run serially with community health, electives, and patient-doctor courses running in parallel throughout the year. In the final two years, students are in a continuous clerkship. One half day a week, topics are addressed in a case-based format and occasionally summarized by a one hour lecture. The objective of the COPS curriculum is to enhance interest in material and maintain self-directed learning.

The Faculty compared the PBL (Problem-based learning) class with the class ahead (1,2,3). No differences were found between groups on the major admission variables. Published reports indicate that the PBL students found the COPS curriculum was characterized by high-level thinking, managing information, and stimulating self-directed learning. This is said to be an "educationally significant difference...providing some support for the PBL approach"(2). However the studies failed to find important differences between the two groups on such outcomes as knowledge, skills, or attitudes between the two groups.

Knowing this, is the COPS curriculum indeed a step forward in medical education at Dalhousie?

Most students would agree it is. Returning to the lecture-based curriculum is certainly not desirable, where students sat in lecture theaters eight hours a day, taking in very little and resorting to "cramming" at examination time. Learning of medical information was done largely through 'NTCs' (Note-taking Club) and textbooks. As one Dalhousie medical alumnus states, 'We weren't really spoon-fed as everyone thought we were. It took all I had to stay awake in those lectures and I used every self-directing skill I had to make sure I learned what I did.' Medical education theorists soon realized that hours of didactic teaching were not accomplishing their goal in training students to analyze and integrate medical information effectively. The COPS curriculum has succeeded in providing the environment where self-directed learning can flourish, as it should. It allows students to direct their own learning, by leaving much of their time free of organized teaching/tutorials, particularly in the first two years. Learning is done around cases and thus teaches practical, as well as theoretical aspects of medicine. Group learn-

ing provides a much more interactive setting than lectures. In addition, with the arrival of the COPS curriculum came a continuous clerkship where third year students take an active role in the hospital. Previously, this did not begin until fourth year. This is certainly a dramatic improvement in clinical training in the third and fourth years.

These are all important points in support of the COPS curriculum to warrant its arrival as meritorious. However, many students have been eager to point out the shortcomings of the COPS programme. Students complain that it is easy to derail from the important learning issues while in groups. Without expert tutors, the group can become hung up on small but unknown details, or can accept incorrect information as fact. The issue of non-expert tutors is one that students have complained about since the outset. Students become experts at the group process very quickly in their first year and in fact lose interest in it by the end of second year, and in many cases by the end of first year. For some students, tutorials soon become regurgitation of facts from textbooks presented by each student as learning issues. There is no one to verify that this information is correct or that this approach to a clinical problem is the best and most logical. Hence, except for the occasional helpful tutorial, some students feel that little learning occurs within the groups. Where and when do students learn medicine?

Some occurs during the three lectures per week and the rest occurs around examination time. This is when students do the bulk of their learning by memorizing lectures and photocopied case objectives, collectively prepared by the group. As stated before, learning around cases is a welcome change to the curriculum, in most instances. However, some subjects such as biostatistics, taught longitudinally over the second year in a case-based style, does not lend itself well to the COPS format. It does not make sense to use group discussion to solve mathematical problems, hence students feel this is best dealt with by lectures. Other topics that may be best dealt with in a didactic format include: electrocardiography, interpretation of CBC, etc. The lack of lectures has been cited to provide a stimulus for more independent learning. In reality, lack of as many lectures as in the current COPS curriculum results in gaps in students' knowledge and at times, a poor approach to some clinical scenarios.

In the clerkship years, the COPS format has been applied to the academic half day. The tutorial cases are on subjects not related to the concurrent rotation that the clerk is in. Hence, clerks, who are fulfilling duties required of their rotations, are expected to arrive prepared for tutorial on an unrelated topic. This is unreasonable and certainly wishful thinking on the faculty's part. Many students state that COPS does not work in clerkship. With regards to the rotations, COPS plays a variable role. Although sessions within each rotation are case-based, most become seminars rather than tutorials, i.e., experts are present and some didactic teaching is done. Some rotations lean more towards seminars, whereas others remain tutorial-based. It is common opinion among clerks that the seminar-like teaching sessions are excellent whereas those that are tutorial-based are not as informative.

The COPS curriculum has certainly made a positive impact in that it is new and thus requires the Faculty and students to rethink and rejuvenate the process of learning at Dalhousie. However, there are a number of complaints from the student body, as well as Faculty, against some of the fundamental principles of COPS, such as non-expert tutors and

tutorials in clerkship. These should not be ignored, even if they do oppose the current COPS philosophy. The most important principles to be adhered to are those that dictate a dedication to providing excellence in medical education and training. Dalhousie has taken a large step forward with COPS, however, it has yet to progress to finding the best system for medical education.

F Hassard, R Seth, C Naugler, April 1996

References:

1. Mann KV, Kaufman DM. "Skills and Attitudes in Self-Directed Learning: The Impact of a Problem Based Curriculum." *Proceedings of The Sixth Ottawa Conference on Medical Education*, 1995. 607-9
2. Kaufman DM, Mann KV. "Students' Perceptions about their Courses in Problem-Based Learning and Conventional Curricula". *Academic Medicine, Sup.* 1996; 71:S52-4
3. Kaufman DM, Mann KV. "A Comparative Study of Students' Attitudes in PBL and Conventional Curricula". *Academic Medicine (in press)*.

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## LETTERS

Comments and letters, addressed to the editor at the publication office, are welcome.

### CONGRATULATIONS

Dear Editors:

I think (but not well these days!) it was Arthur Miller, author-playwrite, who characterized the newspaper as a community talking to itself. The re-institution of the *Dalhousie Medical Journal* is timely, because it can act as a vehicle for communication among the student body which, in contrast to the time of my student days and editorship, is larger, geographically more spread out because of rotations and, therefore, less cohesive. At the same time, the decision making processes for, and the conduct of medical education, licensure and practice are much more complex for medical students today. These times may therefore dictate the Journal content. I hope it does, in part at least, because discussions and analyses of those processes would be productive self-talking and a source of ideas for feedback to decision-makers. Such an editorial policy might have as much, if not more, educational pay-off as one which emulates established medical journals.

Whatever direction you take, I congratulate the DMSS in reactivating the *Journal* and wish you every success with it, including proving that Arthur Miller was right!

David T. Janigan, MD  
Professor and Senior Pathologist

Dear Editors:

All of us in the publications department of the Canadian Medical Association extend our heartiest congratulations to the editors and production staff on their impressive first issue of the revitalized journal. The issue is visually very attractive, and diverse and interesting articles set a very high standard for subsequent issues.

The future, of course, will not be easy, especially as you try to balance your academic work against the unceasing demands to honour deadlines and publish a journal of which you can be proud. However, your foresight in structuring the journal to provide opportunities for students at all levels of training will, we believe, create a continuing source of experienced and dedicated editors and production staff. Too often, medical school journals have faded away for lack of forward planning.

We at CMA publications send our very best wishes for the journal, and our sincere congratulations to all who have given their time, talent and energy to bring the *Dalhousie Medical Journal* back to life.

Sincerely yours,

Bruce P Squires, MD, PhD  
Editor-in-Chief  
*Canadian Medical Association Journal*

### PHYSICIANS AND INDUSTRY

Dear Editors:

In the commentary by Donald MacIntosh on "Strategies for Decreasing Inappropriate Interactions Between Physicians and Industry" [Eds - DMJ Vol. 23, No 1, pp. 29-32] there is a very excellent discussion of interactions between