Buying into Biomedical Informatics

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D uring my regular scanning of the health care literature, I recently came across an advertisement for an “Executive Master of Science in Biomedical Informatics” on the Health Sciences Campus of Columbia University in New York City. I did not think of myself as a potential student for such a program, but nevertheless I was curious about its content, purpose, and educational goals. With all the emphasis today on computerized physician order entry (CPOE) and clinical decision-support tools for drug prescribing, I wondered whether there was any connection between a typical P&T committee and this Master’s program.

It turns out that I had stumbled onto brand new material that may indeed help to shape the future of clinical computing and drug-delivery systems. According to Columbia’s Web site, the Department of Biomedical Informatics (www.dbmi.columbia.edu) can trace its roots to an initiative of the National Library of Medicine in 1981. The planning and prototype phases of that initiative led to the creation of the Center for Biomedical Informatics in 1987. In 1994, the center became a full-fledged department with the same rights and responsibilities as other departments.

I was impressed with Columbia’s leadership and foresight to create such a department and wanted to learn more about its relationship to the actual delivery of clinical care.

Today, the department has 14 full-time faculty members and almost 50 graduate students who are pursuing doctorate degrees in this field. Its connection with the clinical enterprise is symbolized by the department chair, Edward Shortliffe, MD, PhD, who also plays a senior management role as the Director of Biomedical Informatics at the New York Presbyterian Health Care System. He seems to be ideally situated to help us understand the role of biomedical informatics as a tool for quality and safety improvement.

The department not only trains PhD candidates in the field but also offers basic electives for medical students and other graduate students throughout Columbia University. It hosts an executive master’s program for part-time adult learners with a combination of on-campus instruction and technology for learning at a distance.

The department has a robust search agenda. A quick glance at its current projects shows such fascinating topics as “discovering and applying knowledge in clinical databases” and “GENIES (a genomic information extraction system).”

I believe that the department will serve as a prototype to link basic research in biomedical informatics with the clinical demands of a major metropolitan medical center and the training of a future generation of teachers and researchers. Even though most medical schools and health science centers do not have a comparable department, we can learn much from this exemplary group.

Our computing technology continues to make tremendous advances; it challenges our culture, which is currently devoted to autonomous decision making. Departments such as Biomedical Informatics will create academic credibility and lead to a cultural shift, enabling us to move away from a slavish adherence to personal autonomy; they will produce an environment much more amenable to evidence-based practices for drug prescribing and dispensing.

I believe that we should expose medical students early in their training to research areas such as clinical data augmentation, enhanced health care communication, and health education using “multimedia.” For the near future, patients will depend on health care providers for focused educational materials on prescription drugs and disease processes. Hospital administrators will look to leaders with backgrounds in biomedical informatics to create clinical decision-support tools that will provide rational drug care at the bedside. One day, P&T committees might count experts in this new field as key members who will sit at the table and make important contributions to the formulary design and decision-making process.

To learn more about biomedical informatics, you can visit the department’s Web site and explore the world of the future. I am confident that departments like this one will serve as a national benchmark for the development of many comparable departments in other academic health centers throughout the U.S. Let us continue to build bridges across disciplines and take advantage of the skills that these new experts can bring to P&T committees.

As usual, I am interested in your views. I can be reached at my e-mail address, david.nash@jefferson.edu.

REFERENCE