

Curriculum Changes at Wright State Aim for Better Clinical Preparation

by: Mark Willis

Making medical education more relevant to the clinical experience is the goal of major curriculum changes at Wright State University School of Medicine. Implementation begins this August when first-year medical students begin a new Biennium 1 curriculum that emphasizes integration of basic science and clinical knowledge in courses taught by interdisciplinary faculty teams.

Traditionally, undergraduate medical education was divided into two years of biomedical sciences followed by two years of clinical experience. Wright State broke that mold twenty years ago when it pioneered its Introduction to Clinical Medicine (ICM) course, which placed students in clinical learning experiences beginning the first week of medical school. Five years ago Wright State launched a highly successful interdisciplinary course in neuroscience that combined elements of anatomy, physiology, neurology, and psychiatry for first-year students. The new curriculum moves further in the direction of integrating, rather than separating, basic and clinical sciences.

Instead of courses organized along the lines of traditional academic disciplines -- anatomy, biochemistry, and physiology, for example -- the new curriculum is based on structures and systems. The new courses will continue to cover the diverse range of information presented in a more traditional curriculum, but the material will be organized so students can synthesize it from a clinical perspective and apply it more directly to clinical problem-solving.

"In the past the information tended to be presented in pieces. It was out of synch with the ways physicians apply their knowledge to clinical problem-solving," explains Albert Langley, Ph.D., associate dean for academic affairs at the School of Medicine.

"When students encountered a clinical problem in their first clerkship, they had to pull together information learned over a two-year span -- anatomical structures, normal physiological processes, biochemical pathways, pathology and the possible drugs to treat it. They learned the material in Biennium 1 but did not begin to assimilate it until the clerkships," he continues.

"Now students will be expected to learn and assimilate this information at the same time. We want them to be better able to see the bigger picture during Biennium 1. All our curriculum changes are geared to better preparation of students for the clinical arena."

The first-year curriculum features three interdisciplinary courses organized according to structures. Human Structures (fall quarter) is taught by both anatomy and clinical faculty. Molecular, Cell, and Tissue Biology (winter) incorporates biochemistry, anatomy, physiology, and pharmacology. Principles of Disease (spring) covers microbiology, immunology, pathology, and pharmacology. In addition, students will take three concurrent courses: Human Development (fall); Social and Ethical Issues in Medicine (winter); and Introduction to Evidence-Based Medicine (spring).

Medical students will continue to take the ICM course every Friday throughout the curriculum's first and second years. ICM will be more "experience-oriented rather than didactic," according to Dr. Langley, with course evaluation based on clinical skills.

The new second-year curriculum, which will not be implemented until August 1998, is organized into ten systems-based courses: cardiovascular, respiratory, renal, endocrine, reproduction, musculoskeletal, gastro-intestinal, blood, integument, and neuroscience. Completely integrated across academic disciplines, the courses vary in length from one to seven weeks. Students will take only one course at a time in addition to ICM.

Planning began several years ago when the Curriculum Design Committee, chaired by Glenn Hamilton, M.D., drew up a "blueprint" for the new curriculum. The Curriculum Development and

Implementation Committee, chaired by Jerald Kay, M.D., worked out a detailed plan for implementing the changes. Both groups reported to Wright State's Faculty Curriculum Committee, chaired by Margaret Dunn, M.D. More than 125 faculty worked on the plan, which was approved by a vote of the whole faculty.

"We see this as an ongoing process rather than a finished product," observes Dr. Dunn. "The faculty put in a huge effort, and they developed a lot of new working relationships. Departments that work together to teach can form relationships that carry over into other areas such as interdisciplinary research."

According to Dr. Langley, medical schools across the country are beginning to reorganize their curricula. "The LCME (Liaison Committee on Medical Education) expects medical schools to update educational programs so students will be better prepared for what they'll face in the future," he says. Reflecting this expectation, Step 1 of the U.S. Medical Licensing Examination (USMLE), taken in June of the second year, recently adopted an integrated rather than discipline-based format.

"With the explosion of medical knowledge, medical schools can't teach students everything. Even if we could, students wouldn't remember all of it," Dr. Langley says. "We have to give them the skills and tools they can use to find the information themselves. It's a learning process more than a teaching process. We want to give students tools that will enable them to learn throughout their medical careers."