



VitalSigns

The New CHM Clinical Education Curriculum

Office of Medical Education Research and Development

Fall 1998

Clinical Education: Intentions Achieved?

This edition of *VitalSigns* is the second in a series examining the ambitious curriculum reform efforts in the College of Human Medicine (CHM.) This issue focuses on the clinical curriculum, implemented in 1993, as well as innovative preclinical curriculum components intended to prepare students for their clinical responsibilities.

While the practice of medicine has changed radically over the last decade, achieving substantive change in medical education can be elusive. This issue features the voices of CHM faculty engaged in curriculum reform, as they reflect on what had been hoped for the new curriculum, and what seems to have been achieved. They describe their visions of the components of the new clinical curriculum and provide insights about the impact these changes have made. The performance of students and perceptions of students, graduates, and faculty are examined.

This edition also includes an interview with the Block III Director, who describes the governance structure managing change across six community campuses. The Senior Associate Dean shares her vision of what the new CHM clinical curriculum achieved, and where we should continue to build on its achievements.

The New Clinical Curriculum: Taking Stock

Interview with Norbert Enzer

At the College of Human Medicine, Norbert Enzer's historical perspective provides insight into the "why" and "how" of CHM's curriculum reform. Dr.

Principles Guiding the New CHM Clinical Curriculum

- Introductory experiences are completed before advanced experiences.
- Early and sustained exposure to the principles and practice of primary care.
- Include integrative multi-disciplinary experiences.
- Structured learning of the methodology, conduct, and evaluation of research.
- Establish systematic programs to support the teaching skills of clinical faculty and residents.

Increase:

- out-of-hospital teaching sites
- time in ambulatory settings
- duration of the clinical curriculum

Adopted by CHM Curriculum Committee, 1988

Enzer provided both administrative and intellectual leadership for curriculum reform efforts beginning in the 1980's in his role as an Associate Dean and as co-chair of the task force leading the curriculum design and implementation. *VitalSigns* asked for his observations on the major goals for the intended reform and his reflections on what has been accomplished.

The curriculum reform process emerged over years of consensus building and philosophical debate, Dr. Enzer notes. That stage was preparation for ambitious

large-scale curriculum reform. Numerous faculty from the MSU central and community campuses dedicated tremendous energy to renewing the curriculum and addressing concerns about the undergraduate medical education program. The ambitious proposed changes included: 1) strengthening basic science instruction, 2) developing a required problem-based curriculum for all students, 3) developing cohesive threads of epidemiology, health policy, and ethics across the curriculum, 4) lengthening the curriculum, 5) sharpening the primary care focus, 6) developing a Family Practice clerkship, and 7) planning a capstone event at the end of clinical training.

Dr. Enzer believes the result has been a stronger curriculum. There has been a significant impact on the preclinical curriculum and both structural and content changes were made to the clinical curriculum. Clinical departments became more central in the administration of the clerkships. Departments were required to formalize clerkship objectives and develop standardized procedures for monitoring and evaluating students, which could be assessed across the community campuses. The Family Practice, Internal Medicine, and Pediatrics clerkships were front-loaded in Year III to provide more concentrated primary care experience. The

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Clinical Skills Links All Three Curriculum Blocks

Jane Turner, Clinical Skills Director

Clinical Skills, a program that has always been viewed by graduates and faculty as a strength of our curriculum, has undergone continuing refinement. The Clinical Skills program is designed to prepare students for Block III and ultimately for residency and clinical practice. The program ties together fundamental domains:

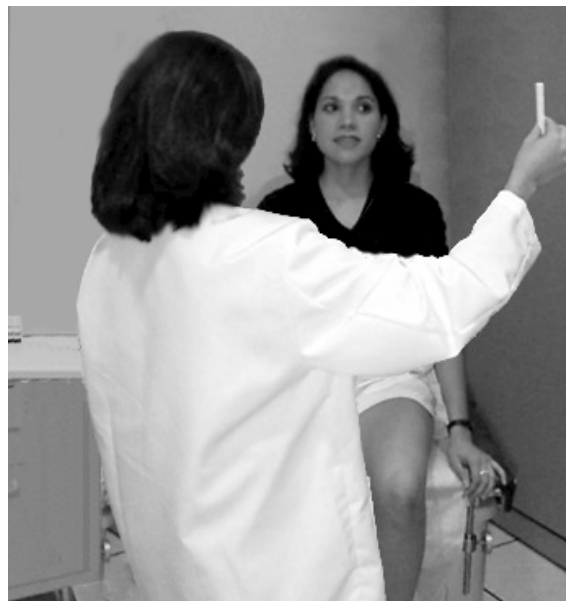
- doctor/patient relationships
- interactional skills
- physical exam
- written record
- integration of skills with medical knowledge

Skills in these domains are taught developmentally, with increasing complexity and greater demand for integration of skills as students progress through the curriculum.

Seven performance assessments in the preclinical curriculum are new features added during the last several years. These assessments require students to demonstrate basic clinical skills (e.g., interviewing and physical

exam) as well as offering opportunities to integrate these skills with medical knowledge presented in the related Problem-Based Learning Domain component of the preclinical Block II curriculum.

Less visible but critical is the accomplishment of a more explicit connection between the Clinical Skills Program Director and the Block III leadership. For example, the current Block III clinical assessment rating form builds on the skills emphasized in the preclinical curriculum. Eventually the preclinical



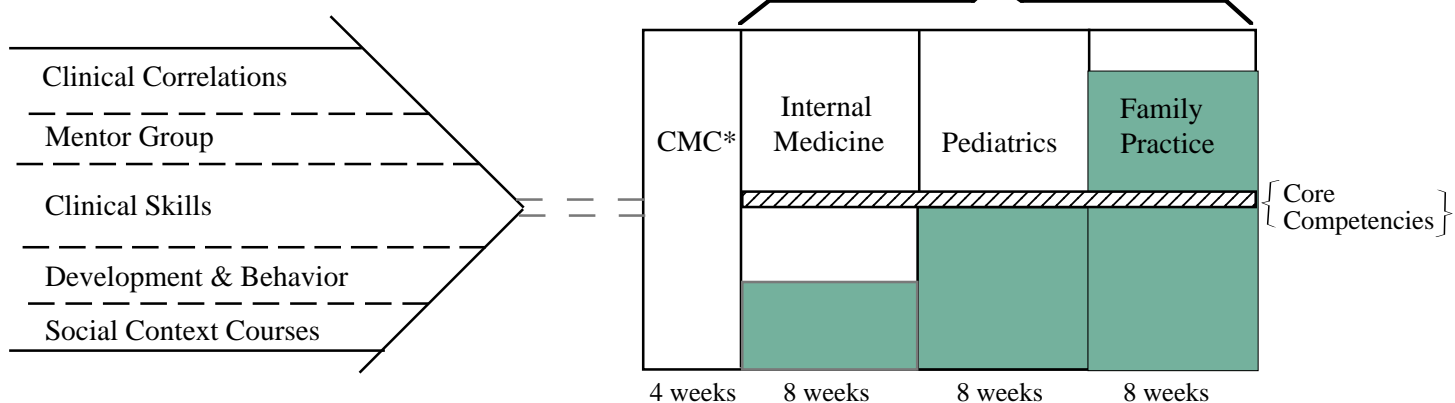
Second Year Students Conduct Neurological Performance-Based Assessment

performance assessments will be linked under one evaluation system allowing us to monitor progress in skill development across the curriculum.

CHM faces several challenges related to clinical skills instruction. One issue surrounded by national debate is the appropriateness of students practicing physical exam skills on each other, which is the practice at CHM for some portions of the exam. Another issue is the recognition that preclinical students can benefit from a longitudinal experience with real patients. Currently, CHM does not have such an experience.

Blocks I and II

(non-biological science courses)



Curriculum Provides Home for Practice Values

Interviews with Dianne Singleton, Marsha Rappley, Len Fleck and Mark Ebell

Medical schools have been urged to prepare students to appreciate and acquire skills that have not traditionally found a home in required curriculum. Skills such as critical self- and peer-reflection; recognition that physicians work in a social context, in which political, ethical, and economic factors can dramatically affect the practice of medicine; and shaping practice on the basis of empirical evidence are often left out of the curriculum. Challenges in making a home in the curriculum for these medical education “orphans” requires strategic timing, commitments, and design.

Since its inception in 1991, Dr. Dianne Singleton has directed the **Mentor Program**, a required curriculum experience linking small groups of first-year students to individual physician-mentors. Program goals include developing medical students’ abilities to be reflective about the role of a physician, through interaction with a physician role model and shared, focused



Second Year Student's Public Presentation

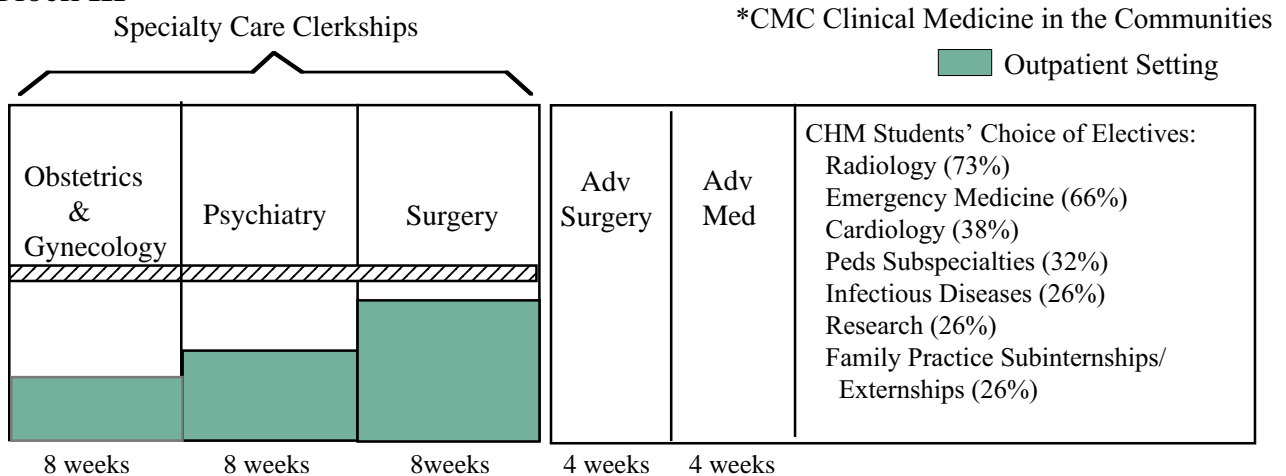
discussions and clinical observations. The current program emphasizes professional behavior and social responsibility, challenging students to individually and collectively examine what it means to be a professional, and

for a relationship to be therapeutic. Dr. Singleton notes that physician-faculty find their experience rewarding, as evidenced by the number of former mentors and other faculty volunteering to serve as mentors.

The Human Behavior and Development Course, a first year course directed by Dr. Marsha Rappley, also includes reflective and experiential approaches, as well as small group discussions, readings, lectures, and examinations. Dr. Rappley describes the course’s goal as providing students with an understanding of human development that will enable them to make decisions on behalf of their patients. These decisions arise daily. They range from weighing knowledge of efficacy versus compliance in formulating medication regimens to eliciting patient and family preferences for end-of-life care for pediatric or geriatric patients. In addition, the course addresses students’ need to understand the larger context in which they perceive and are perceived by their patients. This involves considering subtle but

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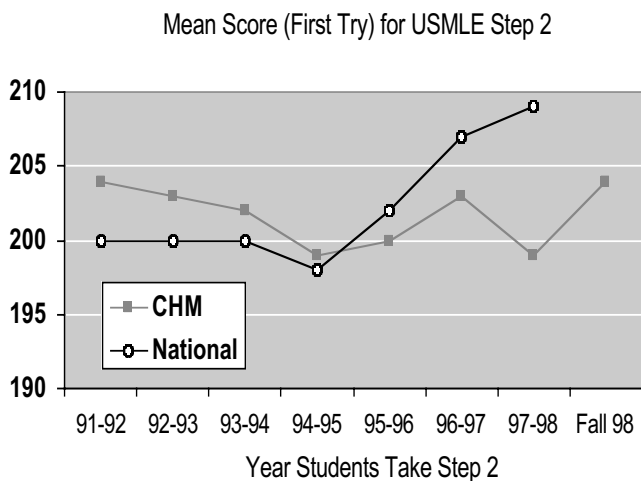
Block III



Block III Outcomes: How Are We Faring?

Block III curriculum objectives represent the intersection of students' knowledge, problem solving abilities, clinical skills, and professional behaviors. Outcome data related to Block III reveal strengths and weaknesses, as well as equivocal "gray areas."

Among the Block III outcomes permitting a national comparison are the USMLE Step 2 scores. As shown below, CHM has had very consistent performance in a score range (200-205) that has been above the national mean. Performance of graduates from the "new" curriculum appears much like that of past graduates. However, while CHM performance has remained consistent, the national mean has increased, so that more recently we have been at-



or-below the mean. The same trends occur for specific discipline scores: some have remained constant relative to the national mean, while others have increased and yet others have decreased. One possible interpretation is that while we continue to be successful in achieving our standard, this standard now might not be sufficient, as curricular reform becomes an increasingly national phenomenon.

Step 2 scores do not tell the whole story of how we are doing. CHM has always prided itself for a clinical curriculum with distinctive strengths, including attention to physician-patient relationships, professional behavior, rich clinical experiences, a biopsychosocial emphasis, and clinical skills related to patient history-taking, diagnosis, and knowledge of clinical conditions.

The CHM Graduate Follow-Up Survey finds no difference between the old and new curricula in graduates' ratings of their understanding of the social, psychological, economic

and cultural aspects of medicine, or in patient communication skills (see table on page 5). Ratings by residency directors of graduates' communication skills in fact have increased since the implementation of the new curriculum. This remains an area of strength for CHM.

Available outcome data suggest that almost all of the areas commonly considered strengths of the CHM curriculum remain potent under the new curriculum. Evidence-based medicine, newly added to the curriculum, has filled a recognized gap: Recent graduates report themselves more competent in this domain than past CHM graduates.

An exception to the good news might be patient management and knowledge of clinical conditions. The data are mixed. Ratings by residency directors suggest an increase in general clinical knowledge and clinical problem solving. In contrast, when graduates evaluate their knowledge of clinical conditions, data gathering skills and management-therapeutics compared to fellow residents, recent graduates rate themselves lower than did earlier graduates.

Discussions among faculty on the Block III Committee, as they have worked to acknowledge strengths and identify weaknesses, have produced lists similar to those derived from recent surveys of CHM faculty and PGY-2 graduates.

Among the strengths identified are: learning environments similar to those in which students are likely to practice, both volume and variety of clinical experiences; many supervised hands-on student experiences; adoption of performance-based assessments in all clerkships; regular evaluation of professional behavior as part of the clerkship assessment; more effective communication and administration across campuses and clerkships; excellent paid and volunteer faculty; and increased academic standards and explicit expectations.

Identified weaknesses and challenges are equally diverse: the changing health care environment and competition with residency training for limited resources; unpopularity of the interdisciplinary core competency seminars among students; insufficient faculty development regarding student assessment and feedback, and ambulatory teaching; lack of curriculum flexibility for remediation and student electives; limited integration with themes from the preclinical curriculum; duplication across clerkships; lack of controls over volunteer faculty; as well as the timeliness, quality and

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CHM Graduate Follow-up Survey Results

Graduate Follow-up Survey	Curriculum	
<i>Source: Residency Director Ratings¹</i>	Old	New
• Communication skills	77%	85%
• Professional attributes	84%	88%
• Sensitivity to diversity	78%	84%
• Medical knowledge	67%	75%
• Clinical problem-solving	65%	78%
• Patient management	68%	75%

Source: PGY-2 Graduates' Ratings²

• Biomedical science	43%	67%
• Preparation for USMLE	38%	79%
• Biopsychosocial aspects of medicine	84%	86%
• Communication skills	89%	86%
• Comfort with diversity	58%	54%
• Well prepared for internship year	65%	54%
• Compared to others, I was better at ... ³		
* Clinical knowledge	50%	37%
* Data gathering skills	69%	57%
* Management/therapy	31%	24%
* Procedural skills	40%	41%
* Using research literature	23%	39%
* Outpatient care	48%	50%
• Satisfied with CHM ⁴	81%	80%
• Would choose CHM again	77%	80%

Key: 1) % of residents rated *above average* or *substantially above average*

2) % of graduates rating consistent strength in these program areas

3) % of graduates rating themselves *better* or *much better* than other residents

4) % of graduates rating themselves as *satisfied* or *very satisfied*

Where Do We Go From Here?

Ruth Hoppe, Senior Associate Dean

As evidenced by internal and external measures, our clinical education system *works*. These results are accomplished across a geographically and organizationally dispersed system that presents a rich array of learning opportunities to our students. It is an amazing and wondrous system: we should all take pleasure and pride in our accomplishments.

But, we cannot rest on our laurels. I see challenges ahead. First, we must protect our system, especially the faculty, against external threats. We need to nurture the financial and other factors crucial to faculty motivation and quality performance as role models and teachers of our students, across the community campus system. More than we have to date, we must help our clinician faculty in the improvement of their skills as teachers, with focus on the new settings for patient care and education and on new methods for student instruction *and assessment*. Given everyone's busy lives, this will not be easy. But ultimately, our main goal and product -- the graduation of solidly competent young doctors relies on the commitment and quality of our faculty.

Second, despite our recent accomplishments in this area, we will be challenged to assist our students in developing themselves professionally. They will need continued assistance as they learn to apply, in their clinical work, the domains of virtues identified by the College: competence, honesty, respect, professional responsibility, social responsibility, and compassion.

Third, we must anticipate the need to develop additional curriculum and student assessments in:

- achieving clinical outcomes of known and optimal value to patients and to the health systems of which they are a part;
- information management abilities, including access, analysis and "bedside" use of information and,
- chronic disease management, to name just a few.

And finally, we must preserve and enhance those core institutional values, that, when properly expressed educationally, mark our students as different and exemplary: the respect of and care for their patients, their commitment to community, and their incorporation of psychological, social, and spiritual elements into care delivery.

Achieving Uniformity in Clinical Education

Interview with Yasmin Richmond, Executive Block III Director

Because the CHM Block III clinical curriculum is implemented in six different community campuses exceptional efforts are made to produce equivalence of experience across campuses. Yasmin Richmond, Director of the Block III program, notes that these efforts are required to assure that we have “not six different schools, but a single school with a common guarantee of quality.” The intent is that all students experience the “same policy and essentials of curriculum content.”

The system is at work as the Block III Committee reviews uniformity in assigning “Honors” grades. Systematic record-keeping enabled the committee to examine the frequency of honors in each department and community. The logic of “honors” in each department was discussed and differences debated. Other records are used to determine if policies are being applied uniformly. The issue remains active; no formal committee action has been taken but continued monitoring appears to have stimulated greater uniformity in the assignment of “Honors.”



Community Administrators, Harriet Roelof (Kalamazoo) and Karleen Torres (Lansing), with Yasmin Richmond, Block III Director

Oversight of the Block III program is organized around two major strands: clinical departments (through the department’s clerkship coordinators and the support of the departmental academic administrator) and communities (through the community’s clerkship coordinators and the support of the Community Administrator). The Block III committee, with faculty representation from both clinical departments and communities, provides overall curricular coordination of the program, and meetings of the Community Assistant Deans and the Community Administrators address other system-wide policies and their implementation. Much of this “matrix-management” scheme for community clerkships existed before the inauguration of Block III. However, issues are now more accurately directed to groups that will see their relevance, so Block III decision-making has become more efficient and participatory.

Involvement and good will have been essential to progress and securing uniformity. Ms. Richmond found it invaluable to make person-to-person contacts throughout the system. She visits each community’s faculty and students at least once each year, along with Associate Dean Hoppe, and meets annually with the coordinators in each department. Through these contacts, and active participation in Block III governance, all those involved in community clerkships, “know who you are, start to trust, become more ready to accept” the efforts required to assure standardization.

Students might be unaware of how the curriculum is standardized, but they are interested in uniformity and fairness in decisions that affect them, so they use e-mail and the Core Competencies sessions to compare notes. Ms. Richmond notes with pride that there have been fewer complaints of unfairness or non-equivalence in recent years despite more student opportunity to check the system.

Join the Discussion!

Send your reactions to *VitalSigns*

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purpose of feedback to students about their performance.

Altogether, the picture is one of both success and continuing challenge. Determining the effectiveness of the curriculum and faculty in meeting objectives requires a system of evaluation comprehensive and sensitive enough to capture broad curricular outcomes. Though a variety of information sources is available, not all can be readily compared to national data or to stable measures of performance to give a sense of *how we are faring*. The implementation of clerkship-based performance assessments strengthens clerkship evaluation. These assessments might serve as a cornerstone for a more systematic and comprehensive review of Block III outcomes.

Data Sources include: 1) USMLE Step 2 scores, 2) CHM Graduate Follow-up Survey to residency directors and PGY-2 graduates, 3) CHM Faculty Survey (Spring 1998), and 4) AAMC Graduate Questionnaire.

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Core Competency seminars made a format for interdisciplinary education on topics affecting the practice of medicine. The teaching time in ambulatory settings was increased, and clinical training time was lengthened to accommodate new advanced clerkships in Surgery and Medicine. Year IV was restructured to provide for electives at the end of clinical training. Despite sincere efforts, the capstone experience never became a reality.

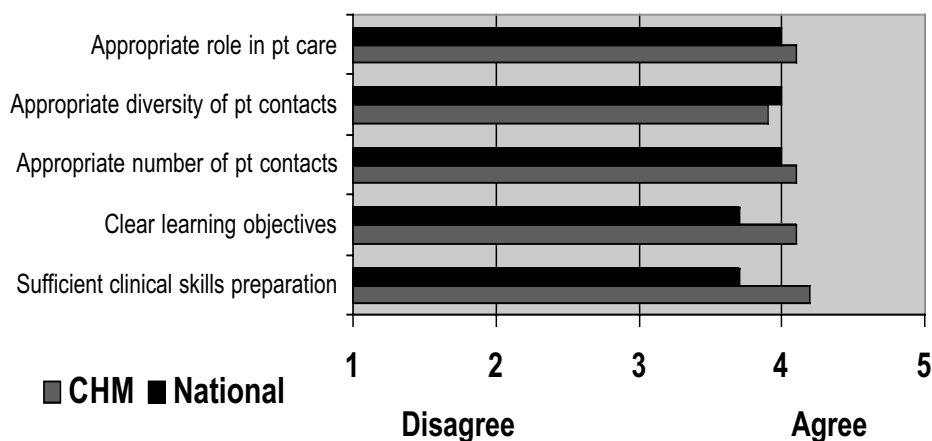
Having a few years of experience with the clinical curriculum now, we can see what has worked and what must be reworked. Problems in coordination across six campuses, limitations inherent in using volunteer faculty, and volatile local health care systems all necessitated compromise and scaled-back expectations. But, for the most part, the structural changes and efforts to bring uniformity to clinical education have been very successful. With time, the department by community matrix management approach to governing clinical education (see related article, p.6) has proven to be an effective mechanism for management and in the future may prove equally successful as a locus of curricular innovation.

The outcomes associated with the changes in content are less clear. The front-loaded primary care clerkships have created scheduling problems; Dr. Enzer suggests we need to be very thoughtful about how best to manage limited resources (such as teaching environments and faculty time) for all clerkships. The intent to provide continuity in primary care remains a topic of on-going debate. Students have called for more electives, earlier in their clinical training. They have also been less than enthusiastic about the Core Competency seminars. Finally, some faculty members lament the limited integration of experiences across the clerkships. Dr. Enzer observes that while integration can be improved, the current system surpasses the prior curriculum in this regard.

In summary, says Dr. Enzer, the evolution of our current clinical education program has proven to be successful in some ways, and in need of further change

in others. Change continues even now, such as each clerkship implementing performance-based assessment. As faculty members, we have learned a lot from each other from this process. We have questioned ourselves about what knowledge is essential for all of our graduates. Further, we have realized that what is most important is that our curriculum expresses the values of our school: What are we about? What do we value? These questions, which provided the impetus for curricular change, continue to challenge us as educators.

Clerkship students report they have...



Source: 1997 AAMC Graduation Survey

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pervasive issues related to power and physician authority, and factors influencing when and how patients seek and accept medical care.

Dr. Rappley notes that the course also deals with students' need to reflect on their place in the medical system, via actions as basic as presenting themselves to patients during the course's required community-based field experiences. The course encourages students to consider how their development affects their role in medicine, and how students can prepare for their changing roles as loving partners, parents, and community members. Dr. Rappley characterizes these roles as essential to being a physician and being a fulfilled person.

Dr. Len Fleck, director of the second-year **Social Context of Clinical Decisions** (SCCD) course, describes its goal as sharing an understanding that the social context profoundly affects the micro- and macro- practice of medicine. This includes not just evidence of medical need and efficacy, but political, technological, and financial considerations as well. The course is intended to enable students to participate intelligently in shaping and directing these forces. The course also demonstrates and models the forms of constructive moral and political dialogue required of physicians. The course gives students experience in developing their verbal and written skills to engage in these dialogues. These skill development tasks are congruent with the course's use of a small group discussion format, based on readings intended to introduce ideas and tools for critical thinking. The year long SCCD course presents

these tools through modules in ethics, epidemiology, health policy, and an applied integrative exercise in managed care policy. Dr. Fleck indicates that, based on students' ability to demonstrate the application and integration of these skills in the public presentations associated with the integrative exercise, the course accomplishes its goals to a significant degree. He noted how impressed he was with CHM students' ability to integrate intellectual perspectives in a thoughtful approach to policy topics, as well as to formulate and intellectually justify their collective position to an audience of their peers and of medical care decision makers.

The CHM clinical curriculum took on the challenge of integrating instruction for **Critical Appraisal and Analytic Medicine** in the early stages of the clinical curriculum. Dr. Mark Ebell, the course director, identifies evidence-based medicine (EBM) as a new paradigm for medical practice, teaching, and research. The course models and provides skills in finding and evaluating the best available evidence supporting the use of a test or treatment protocol. Skills needed for evidence-based practice include the ability to: frame an answerable question; search the literature to find relevant evidence; critically appraise and synthesize the evidence; evaluate the relevance of evidence to one's patients; and apply evidence to the care of patients (see related outcomes, page 5.) In this course, Dr. Ebell has drawn on his experience in developing a Web-based course on EBM for primary care physicians. Dr. Ebell hopes that this will continue the tradition of innovative clinical education approaches in CHM.

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