The healthcare environment and the practice of medicine in the United States have undergone a tremendous change in the past decade. By 1996, over 77 million Americans had enrolled in some form of a managed care organization (MCO), and experts anticipated that more than two thirds of the population would join an MCO by the end of the 20th century. Over three fourths of US physicians have a contract with at least one MCO.

With the continued growth of managed care systems, the Council on Graduate Medical Education predicts that current medical students may never work in a traditional fee-for-service–based practice model. Thus, knowledge of managed care activities such as patient care reimbursement, subspecialty referrals, resource utilization, and drug formularies will be essential for physicians as they deal with and are affected by these activities throughout their profes-
ional practice years. Yet only recently have educators started to recognize the impact of this transformation of the healthcare delivery system on medical education. These developments in the current healthcare delivery system mandate that medical schools prepare student doctors to work in a managed care environment and understand the sociopolitical implications of these changes for physicians and patients.

Many educators, as well as institutions such as the Council on Graduate Medical Education and the American Association of Health Plans (AAHP—formerly the Group Health Association of America), have emphasized the need to incorporate managed care principles and practices into medical education and to form partnerships between medical schools and MCOs. Although there have been efforts made in many graduate medical education programs and academic health centers to educate physicians-in-training about aspects of the managed care system, little has been implemented in terms of an organized managed care rotation. While the number of medical schools using managed care settings as teaching sites has increased, little has been done at the predoctoral level in terms of an organized managed care course or clerkship.

As the medical students of today will be the physicians of tomorrow, working in a healthcare environment highly driven by managed care, it is essential for these young physicians to have a base of knowledge about managed care that allows them to succeed in influencing the system. To accomplish this, prospective physicians must begin learning about managed care systems in medical school rather than waiting until they start residency programs. This is critical not only in the development of a strong knowledge base, but also in terms of influencing student attitudes at the earliest stages of their medical education. Presently, the negative attitudes that many attending physicians and faculty have toward managed care convey to trainees the narrow perspective that managed care merely represents a way to control medical costs and not a means to assure quality care.

Accordingly, the Academic Affairs Department at the Ohio University College of Osteopathic Medicine (OUCOM) has undertaken to adequately prepare its students for future medical practice in the managed care environment.

As a first step in designing a predoctoral healthcare management clerkship, Academic Affairs administrators reviewed the courses and clerkships on managed care offered at the 19 osteopathic medical schools, as well as managed care programs and trends in allopathic medical schools nationwide. These administrators, along with faculty and other members of the development team, then identified existing managed care curricula in residency programs to assess appropriate content for a fourth-year clerkship. This article describes the current managed care curricula in medical schools and summarizes the process of developing and implementing a healthcare management clerkship for fourth-year osteopathic medical students, emphasizing clerkship goals, objectives, components, and learning activities.

Managed care curriculum in allopathic medical schools

Research shows that the time medical students and residents spend in MCOs has increased each year as more patients, physicians, and schools become involved with MCOs. In 1997, Meyer and colleagues found that 55% of the 91 accredited US allopathic medical schools had an affiliation with an MCO, but also observed that these affiliations did not necessarily suggest comprehensive access to these sites for teaching. In fact, research indicates that this managed care exposure is not well augmented by courses, classes, seminars, or training that would teach medical students about the experience and politics of practicing in a managed care setting. Meyer and coworkers identified 13 topics relative to managed care that allopathic medical schools included in their curriculum: epidemiology, critical reading, preventive medicine, health systems, health economics, quality assurance, risk management, utilization management, information management, communication skills, team management, ethics, and the use of allied health professionals. However, only 67% of the responding allopathic schools had integrated these managed care components into some courses, 28% had both stand-alone and integrated courses, and only 6% had stand-alone managed care courses. Moreover, only a few schools cover subject areas deemed crucial for practicing in a managed care environment (for example, quality assurance, risk management, utilization management). Only 36% of the responding allopathic medical schools covered utilization management.

Managed care curriculum in osteopathic medical schools

With the help of managed care practitioners, administrators, educators, and residents, Meyer and colleagues identified the educational components essential to managed care. By surveying physicians from each state, they also determined the level at which these components should be taught in the medical education process (that is, before medical school, during medical school, residency, and postresidency). According to their findings, Meyer and colleagues determined that the skills and knowledge necessary for students to acquire during medical school for practice in managed care include (in the order of importance) clinical epidemiology, decision analysis skills, communication and interpersonal skills, quality assurance and risk management, biostatistics, healthcare economics, managed care essentials, medical jurisprudence, managed care ethics, technology assessment, and information systems.

First, the development teams referred to these components when determining which managed care topics were being taught in osteopathic medical schools. They then looked at the percentage of the schools that covered these components in their existing academic programs by reviewing the American Association of Colleges of Osteopathic Medicine/American Osteopathic Association (AACOM/AOA) annual osteopathic medical school 1998-1999 curriculum data.

The AACOM/AOA 1998-1999 cur-
Curriculum data showed that the osteopathic medical schools covered most of the above topics in required and/or elective courses, and/or as part of a required clinical rotation throughout the 4-year academic program. The development team also identified four other managed care related topics being covered in osteopathic medical schools: practice management, preventive medicine/health maintenance, patient health education, and home healthcare. With the inclusion of these components, 68% of all osteopathic medical schools had integrated some managed care topics into their required courses (Figure 1). This percentage of integration is almost identical in allopathic medical schools. These findings only represent topical areas being covered within various courses and do not indicate a specific managed care course. As these percentages do not reflect the number of schools offering separate courses, it is difficult to determine how extensively managed care issues are covered. Moreover, only 32% of the schools cover these topics as part
COURSE GOALS

- The goals of Healthcare Management are to help the student physician:
  - Understand healthcare economics and the continuous realignment of medical practice under managed care.
  - Conceptualize the conditions that lead to evolution and growth of managed care and the changes that have influenced the way managed care is implemented.
  - Acquire management skills and tools necessary to succeed in a managed care environment.
  - Learn how quality of care is determined, monitored, and ensured in managed care settings.
  - Gain a basic understanding of the moral and ethical issues encountered by physicians practicing in a managed care system.
  - Understand the principles behind cost-effectiveness and learn how to implement a cost-effective diagnostic and treatment plan.
  - Understand the role of evidence-based medicine (EBM) approaches, including practice guidelines, in health systems delivery.
  - Develop a working knowledge of computers and their use in clinical practice.

COURSE OBJECTIVES

- On completion of this clerkship, the student physician will be able to:
  - Define managed care and differentiate among the types of managed care organizations.
  - Describe the principle healthcare payers and various payment systems in the United States.
  - Compare cost control methods used by managed care organizations.
  - Describe types of cost containment and utilization management relative to clinical decision making.
  - Use clinical practice guidelines and analyze treatment plans taking into consideration cost and benefit distributions.
  - Explain the history and principles of population-based quality management.
  - Describe the advantages and limitations of the different techniques for measuring quality of care.
  - Identify the different organizations involved in quality assessment.
  - Describe the benefits of continuous quality improvement.
  - Identify various issues in medical ethics related to managed care.

Figure 2. Healthcare Management Clerkship goals and objectives.

of required clinical rotations, suggesting that only one third of all medical students participate in structured, managed care activities during their clinical years.

As the AACOM/AOA curriculum data did not include detailed information about managed care courses, clerkships, or rotations, the development team conducted a telephone survey of all 19 accredited colleges of osteopathic medicine. The survey showed that 3 of 19 schools (including OUCOM) had an elective stand-alone, managed care course. None of the 19 COMs had required managed care courses, clerkships, or rotations. However, the remaining 16 schools had incorporated managed care–related topics throughout their curricula, some as early as the first year. One school consolidates managed care–related topics into a preventive medicine/public health/epidemiology course.

Most schools also have programs, such as 1-day seminars, lecture series, campus days, and educational days, in which they introduce and discuss managed care issues. Thus, while the nation’s medical schools have taken steps to close the gap in managed care education at the predoctoral level, medical schools still need to be more aggressive in their efforts to affiliate with MCOs, integrate more managed care components into their curricula, and develop required stand-alone managed care courses and clerkships.

Developing a managed care clerkship curriculum

As a way of improving education in managed care for OUCOM students, the development team designed a fourth-year ambulatory managed care clerkship. With the help of on-site administrators, the college piloted the clerkship from January through May 2000 with five students (5% of the class) based at St. John West Shore Hospital in Westlake, Ohio. This hospital, located in northwest Ohio, is a member of OUCOM’s medical education consortium known as the Centers for Osteopathic Research and Education (CORE).

The clerkship provides students with a foundation for the development of managed care and a historical profile of the key healthcare stakeholders in the United States (that is, the role of hospitals, physicians, managed care companies, employers, government, and consumers). By understanding the historical profile, the partnerships, and the tugs-of-war that have occurred between these various stakeholders, medical students will have a better understanding of today’s managed care environment and future transformations in the delivery of healthcare.

The clerkship also gives students the opportunity to spend time in a managed care setting, participate in medical practice peer reviews, attend discharge plan-
ning meetings, be involved in utilization review meetings, and learn about referral and reimbursement issues. Further, students meet with individuals who work for MCOs or as consultants to the managed care industry to discuss various issues regarding cost, quality, sociopolitical, and ethical considerations surrounding managed care. To determine the educational content to incorporate into such a clerkship, the development team reviewed existing managed care curricula and reference texts. The topics considered by the team predominantly encompassed four major subject areas: managed care basics, cost-containment, quality of care, and ethical issues. The development team designed the 4-week clerkship so that each of these four subject areas would be addressed for 1 week. Figure 2 illustrates the goals and objectives for OUCOM’s 4-week, predoctoral healthcare management clerkship.

Designing the clerkship components
The clerkship components are designed to introduce students to the challenges of managed healthcare delivery’s multiple levels (that is, patient, insurance company, consultants, healthcare professionals, and hospital or MCO managers) and multiple settings, including ambulatory settings (for example, MCO, consultants’ offices, hospital). The components include a professional development seminar; clinical, hospital, and MCO experiences; interactive multimedia programs; and a weekly half-day educational series. Figure 3 illustrates the schedule of components for a typical week.

Professional development seminar
To initially expose medical students to managed care concepts and key healthcare stakeholders, managed care experts present a 1-day professional development seminar to all students prior to the start of the clerkship. After a historical overview of healthcare in the United States, representatives from the managed care industry, employer and governmental groups, hospital industry, and physician management organizations share their views about managed care. Continuous interaction between seminar presenters, key stakeholders, and students throughout the seminars opens the doors for improved communication between all participants and lays the foundation for more constructive dialogue among providers of healthcare.

Clinical experience
Students spend 2 days per week in a private practice ambulatory care setting to participate in managing the care of patients. They also work with office management to learn about compliance with patients’ healthcare plans, referrals, and billing. Faculty members provide lists of selected readings and textbooks as resources and references to help the students acquire a basic foundation of information on managed care cost, access, quality, and ethical issues. Physician preceptors give students a different managed care question to work on each week and expect students to address the learning issues pertinent to each question. As students’ “textbook” learning increases, they begin to see the actual operation of managed care in a clinical setting and to discuss issues that broaden the scope of their knowledge; traditionally, these issues would otherwise not be addressed during physician-student-patient encounters.

Hospital experience
The students spend 1 day per week with a discharge planner at the hospital. This enables the students to attend utilization review, quality assurance, and patient care management meetings. Students discuss issues such as cost-containment, quality control, infection control, patient rights, medication use, and preventive measures, including patient education and hospital performance improvement. This learning experience allows students to better understand managed care from a hospital perspective on a day-to-day basis.

Managed care organization experience
For the first 3 weeks of the clerkship, students spend 1 day per week with designated individuals at a major MCO.
During the last week of the clerkship they meet with different healthcare consultants that serve the same geographical area as the MCO.

Students spend their first MCO day in the department of healthcare finance to better understand how a managed care company works and how it addresses cost issues. Students also meet with specialists responsible for pricing, claim services, physician recruiting, credentialing, and ancillary contracting. They spend their next MCO day focused on the entire area of care management, which gives them an overview of utilization management and the profiling efforts of the MCO as it relates to physicians. Students discuss criteria for preapproval, member and provider education, and the three aspects of medical review policy: predetermination, pending claim review, and claim appeals. This allows students to have an opportunity to question key managed care players about why certain financial reimbursement policies exist, and the future direction of those policies. Students also review a patient/client case and observe how patients receive care. Students have the opportunity to talk with individuals who also have strong clinical backgrounds (eg, physicians, nurses), and to address issues from a clinical quality standpoint.

During the third week of the clerkship, the students spend the day meeting with key MCO executives in the areas of actuarial processes and underwriting, marketing, membership and billing, claims adjudication, and product management. This experience permits students to learn about preventive services, benefits administration, disbursements, payment recovery, and provider business/provider registration. This phase allows students to better understand the entire workings of the organization, the services that it provides, and the rationale behind those services. Finally, students meet with the presidents of the MCOs to get their perspective about the future direction of the specific MCO and the industry.

In the fourth week of the MCO component, the students spend a day with selected healthcare consultants actively involved with healthcare issues on a daily basis. These consultants have various financial and hospital backgrounds. This interaction enables the students to discuss issues from a broader perspective, such as the roles of hospitals, physicians, insurance companies, and government in managed care. The consultants also highlight trends in healthcare and how those trends will impact the healthcare industry and especially physicians.

**Multimedia didactic experience**

To further supplement their education, students complete the CD-ROM entitled “Understanding Managed Care: Learning the Essentials through Case Presentations,” prepared by Tufts Managed Care Institute. This four-module, case-based CD-ROM enables students to speculate on the changing role of physicians and to review the key concepts of managed care. Each module takes approximately 45 minutes to complete and complements other clerkship learning activities and components. The case studies and quiz questions not only allow students to test their managed care knowledge but also to raise additional questions for them to discuss with their physician preceptors.

**Weekly educational series**

Students attend a half-day educational series offered at their base hospital one morning per week throughout the clerkship. This experience enables them to apply what they have learned during other components of the managed care clerkship to topics presented in this forum. For example, during one of the seminars, students discussed the meaning of evidenced-based medicine and its importance for MCOs and for physicians who must substantiate their referrals.

**Designing required learning activities**

The required learning activities correspond with the goals of this clinical course and help the students accomplish course objectives. As part of the clerkship, each student physician must (1) answer pre- and postclerkship essay questions regarding managed care, (2) write a five-page essay on current issues relating to the sociopolitical aspect of managed care, and (3) complete an assignment on quality of care while working with his/her physician preceptor. They receive one half-day of open time per week to work on assignments.

**Pre- and postclerkship essay questions**

Students answer several essay questions regarding managed care to be submitted before or at the Professional Development Seminar. These questions introduce students, prior to the clerkship, to several issues crucial to managed care; these answers provide college faculty and administration with a better understanding of each student’s knowledge and thoughts on managed care. At the end of the clerkship, students answer the same essay questions and reflect on their learning outcomes and changes in their perceptions of managed care.

**Current issue paper**

This assignment focuses on helping students understand the sociopolitical aspects of managed care and the changing roles of physicians in the current healthcare environment. Students choose, summarize, and discuss a current issue by stating its importance for the hospitals, MCOs, practicing physicians, and patients. Faculty members expect students to discuss the selected issue in a broader healthcare context, compare the pros and cons of the issue, and explain possible ramifications of the opposing viewpoints. Finally, students state their thoughts and impressions concerning the ethical considerations relative to the selected issue.

**Quality-of-care activity**

This written assignment encompasses three major elements:

- Comparing an actual treatment plan for a selected patient with recommended clinical practice guidelines for that patient’s medical problem, whereby students are to note the differences between the plan and the guideline, share findings with their physician preceptor, and determine cost-effectiveness of the actual treatment plan.
- Addressing preventive care/disease...
This clerkship has provided an additional opportunity to incorporate medical informatics into the clinical education program. The students complete an interactive CD-ROM program, conduct research on the Internet on recent issues surrounding managed care, and obtain clinical practice and prevention guidelines from the Internet. These activities help students learn to locate the most current medical information. Moreover, medical informatics is becoming increasingly important for the physicians of the future. Some MCOs have started pilot projects for Web-based automated eligibility verification and referral authorization systems to reduce paperwork. The automated referral system includes critical practice guidelines, the health plan’s prescription formulary, pharmacy claims history, and a benefits matrix, which lists the treatments covered for each patient.10 Clerkship students had the opportunity to work with selected individuals and physicians at the MCO and the consulting firms to gain hands-on computer experience by actually reviewing cases, entering claims and codes using specialized software for this purpose.

During the next academic year, OUCOM will expand the clerkship to include the students based at one other hospital in its northwest CORE. Following this experience, OUCOM then plans to implement the program at all of the hospitals in the CORE system.

Comments
Managed care organizations play a dominant role in healthcare today. Consequently, physicians must understand how MCOs function and why. Thus, a strong managed care education equips osteopathic medical students with the tools they will need to provide patients with cost-effective, evidence-based care.

This clerkship attempts to create a foundation for the physician to be proactive, influential, and a patient advocate in the managed care environment to provide quality treatment for the patient. Exposing students to different managed care settings and activities, such as utilization review, referrals, and claim reviews, help them to better understand the system and become better patient advocates in the future. Knowledge of managed care and its activities has become a critical educational element for OUCOM students, because almost half of OUCOM graduates become family practitioners and thus play a pivotal role between patients and HMOs, Medicare/Medicaid, specialists, and/or hospitals.

This clerkship has provided an additional opportunity to incorporate medical informatics into the clinical education program. The students complete an interactive CD-ROM program, conduct research on the Internet on recent issues surrounding managed care, and obtain clinical practice and prevention guidelines from the Internet. These activities help students learn to locate the most current medical information. Moreover, medical informatics is becoming increasingly important for the physicians of the future. Some MCOs have started pilot projects for Web-based automated eligibility verification and referral authorization systems to reduce paperwork. The automated referral system includes critical practice guidelines, the health plan’s prescription formulary, pharmacy claims history, and a benefits matrix, which lists the treatments covered for each patient.10 Clerkship students had the opportunity to work with selected individuals and physicians at the MCO and the consulting firms to gain hands-on computer experience by actually reviewing cases, entering claims and codes using specialized software for this purpose.

During the next academic year, OUCOM will expand the clerkship to include the students based at one other hospital in its northwest CORE. Following this experience, OUCOM then plans to implement the program at all of the hospitals in the CORE system.

References