Managed Care Teaching and Research in South Dakota

South Dakota is one of the few states where third-party prescriptions accounted for less than 50% of the retail dollar volume in 1998.¹ In recent years, however, the growth of third-party prescriptions has reached double-digit figures consistent with the rest of the Midwest. Enrollment in managed care plans is also increasing, as employees in both the government and the private sector are being offered a choice of more plans. In 1998, 69% of Medicaid recipients were in managed care—much more than the national average of 53%.²

The South Dakota State University College of Pharmacy serves students primarily from the Midwest; the student body is composed mainly of students from South Dakota (59%), Minnesota (24%), and Iowa (11%). The college admits 60 students to the entry-level Doctor of Pharmacy (Pharm.D.) program and also offers a post-B.S. Pharm.D. program in collaboration with the University of Minnesota. The college's mission is to prepare competent pharmacy practitioners well versed in the principles of pharmaceutical care.

Managed Care in the Curriculum

The entry-level Pharm.D. curriculum was developed based on outcomes statements drafted by the curriculum committee and ability outcomes described by the American Association of Colleges of Pharmacy (AACCP) Commission to Implement Change in Pharmaceutical Education.³ Curricular outcomes with respect to "management" encompass behavioral objectives in the basic tenets of the U.S. health care system, particularly principles of managed care. Previously, the term *managed care* was mentioned frequently by faculty in a number of courses; however, nowhere in the college's curriculum was *managed care* defined or explained.

In the revised Pharm.D. curriculum, the sequence of pharmacy administration courses introduce, explain, and implement managed care concepts in the final

three years of the four-year professional program. Basic concepts with respect to the third-party industry, including managed care and the pricing of third-party prescriptions, are introduced in the Professional Resources Management course.

Students in this course undertake a group (of four or five students) assignment to develop a proposal for a pharmaceutical care service that uses management and marketing concepts to implement a cognitive service in a community

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setting. The students are also required to market the service to managed care organizations. As part of the proposal, the students develop a rationale to justify reimbursement for the service based on cost/benefit analysis.

To ensure that students acquire a comprehensive understanding of managed care, and to integrate other managed care concepts such as pharmacoeconomics into a more logical course package, a new course entitled U.S. Health Care Systems was created. Since the time it takes for university and regent approval to place a new course into the curriculum is lengthy, a method was found to give students immediate access to some of the new course material. A three-credit course, Current Issues in Pharmacy Practice, is still

on the books but is no longer taught. Its title was used for a course that includes the material from the mandatory two-credit Ethics in Healthcare Practice course, along with material on health systems, including managed care.

While there was some overlap, for the most part the ethics component was presented as a freestanding two-credit course taught three hours per week for 10 weeks. The health systems material was presented for three hours per week for five weeks. Of the 15 contact hours, approximately four hours of lecture time were spent specifically discussing managed care and managed care pharmacy. Many of the other topics discussed in the five-week period also related to managed care.

Material was provided via handouts and recommended readings so that students would be familiar with the topic before the class lecture and discussion.

In fall 2000, the U.S. health systems course was taught for the first time as a freestanding, two-credit course to students in their professional year. The text was *Delivering Health Care in America: A Systems Approach* by Shi and Singh (Aspen Publishers). Additional materials and speakers on such topics as managed care and pharmacy practice, drug-utilization review/medication utilization evaluation, quality assurance and improvement, and pharmacoeconomics, supplemented the text.

The diversity of materials made assessing student knowledge difficult at times. Yet it offered the opportunity to use a number of methods, such as group projects and pharmacoeconomic analyses, along with traditional assessment methods. Chapter review questions and terminology in the text provided the basis for small- and large-group discussions.

During the fourth professional year, rotations provide experience with patient-care activity in a variety of health care settings. In addition to required rotations, students also take elective rotations in their area of interest. Some students have taken the Managed Care Clerkship under

the supervision of staff members at national prescription benefits management companies. Future plans include providing a semi-structured elective rotation with emphasis on managed care concepts. The current pharmacy-administration elective rotation provides exposure to pharmacy management concepts, including managed care in pharmacy practice.

Health Care and Managed Care Research

The pharmacy administration faculty at South Dakota State University conducts pharmaceutical care policy research primarily using secondary data sources. Research conducted by faculty member Rajender Aparasu has received nationwide attention. Research on medication use in the elderly, which revealed that 1 in 20 prescriptions in outpatient clinics involved potentially inappropriate medication, was reported in several newspapers, including the *Washington Post* and the Minneapolis *Star Tribune*, and in health magazines like *Hippocrates*.⁴

His group's recent research on psychotropic prescribing revealed that potentially inappropriate psychotropic drugs were prescribed for elderly patients in 27.2% of outpatient visits involving a psychotropic agent.⁵ The findings suggest the need for increased pharmacist involvement and the use of pharmaceutical care programs, including drug-utilization reviews and formulary management, to improve the quality of prescribing for the elderly. Aparasu received a grant from the Agency for Healthcare Research and Quality/

National Institutes of Health to evaluate inappropriate psychotropic use by community-dwelling elderly persons in the United States.

A faculty study on medication-related morbidity, which revealed that 7.7 medication-related visits are made to physician offices annually for every 1,000 persons, was presented in testimony before the U.S. Congress during the Medicare prescription benefit discussions and is part of the Congressional Record.⁶ A recent comprehensive study of medication-related morbidity showed that 2.73 million ambulatory visits were made in 1996 for treatment of adverse effects of medications, with a majority (88%) of these to physicians' offices and the remaining 12% to outpatient and emergency departments.⁷ These findings suggest that utilization patterns for medication-related problems can pose a significant burden on ambulatory care resources. Implementing programs involving pharmacists to prevent or effectively manage the adverse effects of medications could prove beneficial from both cost and quality perspectives.

Conclusion

While managed care has entered South Dakota more slowly than in most of the nation there is a wide diversity of managed care in the Midwest. The exposure students at the South Dakota State University College of Pharmacy receive to managed care concepts prepares them to understand and use those concepts no matter where they will practice. Future plans of the college include working with regional managed care programs to pro-

vide learning experiences for students and research opportunities for faculty.

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