Description of a Formal Affiliation Between a School of Pharmacy and a Managed Care Organization

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OBJECTIVE: To provide pharmacy students with the skill necessary to enter practice.

DESIGN: A formal affiliation between a managed care organization (MCO) and a school of pharmacy. The collaborative activities are extensive and include student and residency training, didactic instruction, research, and patient care.

CONCLUSIONS: Colleges of pharmacy must develop innovative alliances with practice environments outside the traditional institution. Collaboration with managed care settings is critical to the development of student skills. Colleges of pharmacy and MCOs need to develop collaborative arrangements to jointly fulfill their missions. If appropriately constructed and managed, these affiliations can benefit both organizations.

KEYWORDS: Managed care, Residency, Student education, School of pharmacy

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Dramatic changes in health care delivery in recent years have challenged the relevance of practice curricula in schools and colleges of pharmacy. Pharmacy is not alone in this situation, as academic medicine has struggled to train physicians who can practice in managed care environments. ¹ Most academic health centers (AHCs) are undergoing change to enable them to compete in their markets and train students and residents. One way to broaden training experiences is to affiliate with external health systems. Despite the need for collaboration between health professions schools and managed care, few formal agreements exist. In a recent report, only eight formal affiliation agreements between medical schools and managed care organizations (MCOs) could be identified.²

The Academy of Managed Care Pharmacy (AMCP) has worked to design coursework that can be incorporated into curricula at individual colleges of pharmacy. AMCP also has developed the diplomat program, in which liaison relationships between AMCP members and colleges of pharmacy have been established. The American Association of Colleges of Pharmacy and AMCP have appointed a joint task force to design training programs and workshops to educate faculty about managed care principles.

Despite these efforts, incorporation of managed care principles into didactic curricula or experiential programs has been limited. Some colleges of pharmacy offer rotations in managed care settings. Often the number of these experiences is limited, and many students do not have the opportunity to participate. In addition, rotations in managed care have great diversity between sites. Some are administrative or deal with population-based strategies to alter prescribing behavior; others are similar to traditional community externships, primary care, drug information, or medical specialty clerkships, but with a cost/quality/satisfaction focus.

AFFILIATION AGREEMENTS

The formal memorandum of agreement between the University of Colorado School of Pharmacy (School) and the

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Kaiser Permanente Rocky Mountain Division was initiated in 1995. The agreement generally describes the missions of the two organizations and establishes joint missions in teaching, patient care, and research. Although this agreement established a formal relationship, it did not specify the extent to which Kaiser pharmacists would provide teaching or clerkships; these matters were negotiated through two other agreements (see below). However, this agreement did establish a mechanism for appointing all clinical pharmacy specialists at Kaiser to the School faculty.

University of Colorado Health Sciences Center policies prevent the School from paying preceptors or health systems for student clerkships. Therefore, innovative alternatives had to be considered to offset the time Kaiser personnel spend teaching students. In 1996, the School needed additional managed care clinical rotations in light of the expansion of its Pharm.D. program. Therefore, under another formal agreement, the School provided funds designed for residency training within the Kaiser Pharmacy Department, which has in turn received administrative approval to fund a residency. This mechanism has successfully served the School and Kaiser as a method to offset Kaiser's costs for providing clerkship education.

Finally, in 1996 an agreement to jointly and equally fund a faculty position was completed. This full-time faculty member spent approximately 75% of his or her time in one of the large hub Kaiser medical office facilities where primary care pharmacy services are provided.

SELECTED SCHOOL OF PHARMACY PROGRAMS

The School has two departments: the Department of Pharmaceutical Sciences and the Department of Pharmacy Practice. All collaborations between Kaiser and the School occur within the Department of Pharmacy Practice.

At the time of this writing, the Department of Pharmacy Practice employed 21 full-time faculty. This includes nonpractice faculty in pharmacoepidemiology, pharmacoepidemiology, and pharmacy administration. Full-time faculty members are paid 100% through the School, even though they may receive partial funding from another source such as University Hospital, where most of the School's full-time clinical faculty practice. The School and the University Hospital operate a pharmacy practice residency and specialized residencies in critical care, nutrition support, drug information, oncology, neurology, and primary care.

The Department of Pharmacy Practice also has approximately 50 adjunct faculty (nonpaid) who are appointed within the department. These faculty are clinical pharmacy specialists in Denver-area hospitals, clinics, or health systems. They either provide direct patient care or are pharmacy administrators. Most adjunct faculty members have completed specialized residencies or fellowships or have equivalent experience and many are board certified in a specialty such as pharmacotherapy, nutrition support, oncology, or psychiatry. To maintain adjunct faculty status, individuals must provide a consistent level of didactic, clerkship, and other services to the School. These adjunct faculty are distinct from the preceptors who provide externship training for traditional hospital or community pharmacy (outpatient pharmacy) rotations.

Prior to 1995, the School had limited numbers of faculty who practiced in ambulatory or primary care settings. A strategic objective to expand in this area is underway. Several ambulatory care clinical faculty have been hired to practice in University Hospital-affiliated clinics. Because Kaiser had established extensive clinical pharmacy services in primary care clinics, the affiliation between the two programs helped the School meet its goal of increasing primary care experiences.

As a result of the formal agreement 19 Kaiser clinical specialists and administrators are appointed within the School. This includes one adjunct professor, one adjunct associate professor, and 17 adjunct assistant professors. The adjunct professor and the adjunct associate professor were appointed because they held professor and associate professor titles, respectively, at academic institutions prior to joining Kaiser. New policies established by the School in 1997 allow Kaiser faculty to be promoted through the ranks from adjunct assistant professor to adjunct associate professor and eventually to adjunct professor.

SELECTED KAISER PERMANENTE PROGRAMS

Kaiser Permanente provides care for more than 341,000 members in the Denver-Boulder region. The Rocky Mountain Division of Kaiser is consistently rated one of the best managed care organizations in the country. Kaiser provides a full range of pharmacy services, including outpatient pharmacies and clinical pharmacy services. Kaiser does not own hospitals in this division but rather contracts for inpatient services.

For five years, Kaiser has increased the number of ambulatory care clinical pharmacy specialists who practice in the primary care clinics. All these specialists have Pharm.D. degrees with specialty residencies or fellowships in ambulatory care. Most are board-certified pharmacotherapy specialists who practice in primary care clinics and provide direct patient care. In addition, these specialists provide academic detailing, target drug programs focusing on quality and cost issues, and provide drug information services to the providers in their clinics.

Kaiser clinical pharmacy specialists are responsible for a centralized clinical pharmacist-managed anticoagulation service for Kaiser members in the Denver-Boulder area (approximately 4,000 patients). Pharmacists also manage a cardiac risk clinic for high-risk patients throughout the region. Kaiser clinical pharmacy services operates an international travel clinic for members in three Kaiser regions (about 900,000 KP members). This service, which is open to the general public, provides immunization recommendations and preventive drug therapy for foreign travel. Specialty clinical pharmacy services are provided in infectious diseases, oncology, and drug information. The latter service is enhanced through sharing with the much larger California division of Kaiser, via a cofunded drug information...
specialist based there, as well as having a full-time clinical pharmacy specialist in Denver.

Kaiser also operates a centralized Call Center staffed by more than 100 registered nurses (RNs) and appointment clerks who provide advice to patients and make medical office appointments. A team of clinical pharmacists has been immensely successful in the Kaiser Call Center answering drug-related questions from the RNs and members.

In addition to the residency covered by the formal memorandum of understanding, Kaiser provides funding (excluding benefits) for a jointly administered primary care specialty residency. This resident equally splits time between the School and Kaiser. This joint residency was first funded by Kaiser in 1994 as a demonstration of support for the new Pharm.D. program and to enhance pharmacy practice in the community. The clinic provided by the resident is an overall benefit to the school because the resident can extend primary care clinical activity provided by the faculty. Kaiser also operates another primary care specialty residency and one managed care administrative residency. The Kaiser residents conduct nearly all of their rotations within the Kaiser integrated system.

SERVICES PROVIDED BY KAISER TO THE SCHOOL

Extensive collaboration exists between the two organizations. The activities provided, which are listed in Tables 1 and 2, are designed to be mutually beneficial to both organizations and to fit within the missions of both entities.

Classroom Teaching

Since 1997, Kaiser clinical pharmacy specialists have provided approximately 100 hours of didactic instruction in courses such as therapeutics (both B.S. and Pharm.D.), nonprescription drugs (B.S.), and clinical services leadership (Pharm.D.). These pharmacists also served as facilitators for problem-based learning and clinical skills sessions. The Clinical Services Leadership course is coordinated by a Kaiser clinical administrator. Administrators from Kaiser and other health care institutions shared in teaching this course.

Experiential Training

Kaiser participates in the School's externship program and the Pharm.D. clerkship program. During the 1996–1997 academic year, Kaiser's pharmacists precepted 36 B.S. and 11 Pharm.D. students for a total of 53 six-week rotations. During the 1997–1998 academic year, 11 Pharm.D. students were precepted on five different rotations for 17 six-week rotations.

The B.S. pharmacy students were each assigned to a Kaiser clinic pharmacy location with a pharmacist preceptor to complete a general community/ambulatory rotation. Each week of the rotation included specific assignments that focused on the issues of pharmacy and managed care, including discussions on disease state management (diabetes and asthma) and drug interaction cases; evaluating journal articles; counseling patients; and advising and dosage selection for patients receiving nonprescription drugs. Students also were scheduled to visit specialty practice areas within Kaiser such as home care, ambulatory care, oncology clinic, travel clinic, and the emergency care unit.

The Pharm.D. students were assigned to a clinical pharmacy specialist in a specific practice site who was also an adjunct faculty member at the School. These rotations included ambulatory care, general medicine, surgery, managed care administration, mental health, infectious disease, drug information, and emergency medicine. As the programs of Kaiser evolve, future clerkships may be offered in home care, prevention, research, and disease management.

All clerkship and externship experiences are coordinated at Kaiser by an internal Externship Committee, also monitors and provides feedback to preceptors on their performance.

Other Services

The School is currently designing a new entry-level, outcome-based curriculum. Individuals from Kaiser serve as critical members of the advisory group to the curriculum committee. This

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<th>Table 1. Services and Programs Provided by Kaiser Permanente Clinical Pharmacy Specialists to the School</th>
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<td><strong>Activity</strong></td>
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<tr>
<td>Didactic lectures</td>
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<td>Course development and management</td>
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<td>Problem-based learning</td>
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<td>Externships for B.S. students</td>
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<td>Clerkships for Pharm.D. students</td>
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<td>Clerkship and externship coordination</td>
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<td>Committees</td>
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<td>Residency position</td>
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<td>Strategic planning</td>
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input serves to include both a market perspective and a managed care perspective regarding curricular competencies. The promotion committee also has utilized faculty from Kaiser when nontenure-track faculty are being considered for retention or promotion. Kaiser adjunct faculty have also served on the Dean's Advisory, Pharm.D. Admissions, and Clerkship Committees, as well as the Nontraditional Pharm.D. Committee.

The School has included adjunct faculty from the community in strategic planning efforts. In particular, the Department of Pharmacy Practice involved Kaiser faculty when developing its current strategic plan.

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<tr>
<th>Activity</th>
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<tr>
<td>Adjoint faculty positions</td>
<td>All Kaiser clinical pharmacy specialists and clinical pharmacy administrators are appointed to the faculty in the School of Pharmacy (School)</td>
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<tr>
<td>Joint faculty positions</td>
<td>One full-time School faculty member funded 50/50 who spends approximately 75% of time providing clinical pharmacy and other services to Kaiser</td>
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<tr>
<td>Residency position and funding</td>
<td>One residency position funded by the School and conducted entirely at Kaiser School pays all benefits for the joint Kaiser/School Primary Care Specialty Residency (Kaiser funds the salary)</td>
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<tr>
<td>Residency accreditation</td>
<td>The School funds costs and manages the ASHP residency accreditation for the joint Kaiser/School residency</td>
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<td>Certificate programs</td>
<td>Certificate program in pharmaceutical economics and outcomes developed at School; Kaiser faculty may participate in this training program</td>
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<tr>
<td>Continuing education (CE)</td>
<td>All adjunct faculty at Kaiser obtain reduced registration fees. Kaiser faculty are frequently paid presenters at School-sponsored CE presentations. Kaiser CE programs are submitted to the School for review and accreditation by the American Council on Pharmaceutical Education.</td>
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<tr>
<td>Research funding</td>
<td>School provides seed grants to encourage research collaboration.</td>
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<td>Joint research</td>
<td>Several joint research projects are underway; assistance from School faculty with pharmacoeconomic expertise is provided to Kaiser.</td>
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<tr>
<td>Strategic planning</td>
<td>School faculty have participated in Kaiser strategic planning activities.</td>
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SERVICES AND PROGRAMS PROVIDED BY THE SCHOOL TO KAISER

Academic Appointments and Faculty
As noted previously, all Kaiser clinical pharmacy specialists and clinical pharmacy administrators are appointed as adjunct faculty of the School, most at the rank of adjunct assistant professor. These appointments are formalized between the chairman of the Department of Pharmacy Practice in the School and the pharmacy operations director at Kaiser. The duration of each appointment is three years and may be renewed at the end of that time. Adjunct faculty are expected to provide didactic teaching, clerkship instruction, and other services to the School. In return, these faculty may attend faculty meetings, utilize School facilities (rooms, laboratories, slide-making equipment), and receive library privileges.

The School recently added another academic title, that of clinical instructor, for preceptors who teach students on traditional community pharmacy and outpatient pharmacy rotations. This rank may include Kaiser pharmacists in the outpatient pharmacies. In order to maintain this title, this faculty will need to routinely precept students, obtain 15 hours per year of continuing education (CE is not mandatory in Colorado), and attend an School program to improve teaching methods at least once every two years.

Residency Stipends and Support
The joint primary care specialty residency discussed above is funded by Kaiser. However, benefits are paid by the School. In addition, the School and University Hospital recently received accreditation by the American Society of Health System Pharmacists (ASHP) for all of the residencies operated by the hospital and the School. One of these specialty residencies is in primary care. As part of the accreditation process, the School included the joint Kaiser/School primary care residency. The School paid all of the accreditation fees and costs associated with the ASHP site team visit.

Education and Training
Adjunct faculty receive reduced registration fees at School-sponsored CE programs. Many adjunct faculty from Kaiser have been paid speakers at the major CE programs provided by the School. A major event for the School is the winter CE program. At each of the past three winter programs, Kaiser faculty have presented lectures and conducted workshops in their areas of expertise in primary care. Kaiser faculty are very involved in the "didactic" portion of the nontraditional Pharm.D. program offered over the Internet.

The School currently has a program in pharmaceutical economics and outcomes and plans to develop official Center of Excellence status in the near future. This program provides training and education in pharmacoeconomic principles, formulary management, development of guidelines for formulary submission, management of prescription databases, and related
topics. The first training program was a Certificate Program in Pharmaceutical Economics offered to pharmacy practitioners in the community in March and April 1998. Five Kaiser pharmacists completed this 7.5-day certificate program. Kaiser pharmacists also will be invited to participate in future programs. When the program in pharmaceutical economics and outcomes becomes an official Center, Kaiser faculty will be invited to join.

Research
Several collaborative research projects have been conducted by Kaiser faculty and School faculty. Some of these have evolved from required residency projects; one such example was published in the medical literature. Kaiser faculty have utilized faculty with pharmaco economics expertise from the School as collaborators.

To stimulate collaborative research, the Department of Pharmacy Practice initiated a seed-grant program to promote research collaboration between adjunct faculty and full-time School faculty. This $5,000 competitive award requires that the principal investigator be an adjunct faculty member and that a full-time School faculty member serve as a coinvestigator. Kaiser faculty have successfully competed for this award.

BENEFITS TO THE SCHOOL AND KAISER

This affiliation provides many benefits to the school. The school obtains access to a large core of residency- and fellowship-trained clinical pharmacy specialists who provide a cost-effective approach to both didactic and clerkship instruction. Kaiser faculty provide an expertise and a managed care perspective that the school otherwise could not obtain in the Denver area. No other health system in Colorado (including the University) has so many primary care specialists practicing in ambulatory clinics. The Kaiser department also provides additional clerkship experiences in the other specialty areas noted above, and numerous outpatient pharmacy externship rotations for B.S. students.

The affiliation provides additional residencies that increase the opportunities for the school’s graduates. While not a direct benefit to the school, Kaiser also hires numerous pharmacy student interns who provide a unique perspective to their classmates who practice in other environments.

Finally, the inclusion of this large core of highly skilled practitioners and administrators enriches the overall program by providing high-quality input into committees, faculty meetings, and strategic planning efforts.

One of the major benefits to Kaiser is the academic affiliation provided to its pharmacy staff. All the clinical pharmacy specialists are highly trained and qualified to serve as clinical faculty members in colleges of pharmacy. Their activities for the School serve to enrich their professional careers.

The increased residency training provided by the affiliation has benefited Kaiser in several ways. First, it has provided additional staffing for important clinical pharmacy service activities.

Second, the residencies have served as a source of potential employees who are familiar with the Kaiser system.

The loss of experiential training sites witnessed by many colleges of pharmacy suggests that sites that provide clerkships view students as a cost or liability. However, studies have found that when Pharm.D. students are given responsibility for making patient-specific recommendations, 90% of their recommendations are accepted by physicians, and that more than 90% of these recommendations were considered somewhat significant. Sauer and colleagues determined that Pharm.D. students were responsible for 43% of initial patient work-ups, 34% of the patient information and education episodes, and 25% of the inservice programs to physicians. Abel recently described Pharm.D. student activities that were documented to save his institution $7,000 per student rotation. The clerkship program was documented to be worth four full-time equivalents.

Academic health centers, and colleges of pharmacy in particular, will need to develop innovative alliances with practice environments to maintain their relevance. Most importantly, colleges of pharmacy and MCOs will need to develop collaborative arrangements to jointly fulfill their missions. If appropriately constructed and managed, these affiliations can offer major benefits to both organizations.

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12. Abel S. Presentation at the American Association of Colleges of Pharmacy Section of Teachers of Pharmacy Practice business meeting held at the American Society of Health-System Pharmacists Midyear Clinical Meeting, Atlanta, GA: 1997 Dec 8.