A Student Health HMO as a Partnership Model Within an Academic Medical Center

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The Department of Family Practice, College of Medicine, in partnership with the University of Illinois at Chicago, was responsible for the reorganization of the Student Health Service into a health maintenance organization (HMO), Campus Care. Historically, the two campuses of the University of Illinois at Chicago operated student health as an infirmary model. Reorganization of student health into the Campus Care HMO provided expanded health care services to students, preserved more health care dollars in the university system, and provided a nonincremental increase in the size and responsibility of the Department of Family Practice. One year's experience showed that while the capitation was low compared with standard HMOs, the variable and less frequent use of services by the student population resulted in a fiscally viable operation. Numerous transition difficulties were encountered, including the need for rapid systems conversion within a complex university system, reeducation of students as well as traditional university-based practitioners for operation in a managed care system, and the rapid expansion of a small family practice department. The positive experience of the University of Illinois at Chicago supports the notion that family practice is better suited to providing student health care than other primary care disciplines. Three issues are paramount to success: (1) approval, support, and protection by higher level administration from university territorialism, (2) a core family practice faculty with strong leadership and experience in high-volume clinical activity, and (3) a close examination of financial resources in light of expected utilization.
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This article describes the reorganization of the student health service at the University of Illinois at Chicago (UIC) from a traditional infirmary model to a managed care health maintenance organization (HMO)—Campus Care—within the Department of Family Practice, an academic unit of the university's College of Medicine at Chicago. The structure of the old student health service and the new student health HMO is presented, along with an examination of the financial issues and transition difficulties key to the change and its success.

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THE PREVIOUS HEALTH SERVICE

The University of Illinois at Chicago has two campus locations separated by approximately one-half mile. The former Chicago Circle Campus, or East Campus, is home to undergraduate and graduate liberal arts, education, engineering, architecture, business, and other colleges offering a full range of degree programs from bachelor through doctoral levels. The Health Sciences Center, or West Campus, houses the university's colleges of medicine, dentistry, nursing, pharmacy, associated health professions, and public health.

The makeup of university-based student health services varies dramatically nationwide, ranging from infirmary models with part-time staff to full-service clinics staffed by practicing faculty who are part of other academic units within the university.[1] Before the acquisition of the student health service by the Department of Family Practice, each campus offered completely separate and indepen-

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TABLE 1. COMPARISON OF SERVICES AVAILABLE TO STUDENTS BEFORE AND AFTER ESTABLISHMENT OF CAMPUS CARE

Fiscal Year 1987 Infirmary Model Student Health	Fiscal Year 1988 Campus Care
Routine sick care	Primary care Health maintenance, well-child care
Simple surgical procedures	Outpatient surgery and related procedures Cryosurgery Colposcopy Cervical biopsy Flexible sigmoidoscopy Cast application
Ancillary services	Ancillary services
On-site x-ray examination	On-site x-ray examination
Basic in-house laboratory tests, eg, urinalysis, blood counts	Laboratory tests On-site (urinalysis, office serology) Referred to university hospital Performed by outside contracted laboratory
Office psychotherapy	Office psychotherapy
Injections	Injections
PPD/tine	PPD/tine
Tetanus immunization	All immunizations
Antibiotics	Antibiotics
Desensitization	Desensitization
Referral to some university specialty clinics	Referral to all university specialty clinics
No after-hours care	24-hour call coverage
Little care for chronic disease	Physician management of long-term chronic disease executed in an established physician-patient relationship

dent health care services. Most of the physicians on staff were neither members of the university's College of Medicine faculty nor family practice physicians, and they did not participate in college academic and educational activities. Both the East and West Campus student health services used an infirmary model, with hours of operation from 8:00 AM to 4:30 PM and one half-day on Saturday, on the West Campus only, but no after-hours coverage. Patients could be referred to the university system, but no case management approach was employed. Table 1 shows services available to students under the previous infirmary model, last available in fiscal year 1987, as compared with the services available under Campus Care, the HMO established in fiscal year 1988.

THE NEW HEALTH SERVICE

Multiple beneficiaries were possible in the new student health HMO environment, including the students as patients, the Department of Family Practice, the University of Illinois Hospital, and the university practice group. While the Department of Family Practice had existed for over 10 years at UIC, its development in the initial years was slow, having been excluded from the mainstream of both academic clinical practice and the in-house referral system. Only during the 3 years before the acquisition of the student health service had practice activity increased. The acquisition of the student health service resulted in a nonincremental increase in practice activity and revenues generated. The student health activity has come to represent at least 65% of the clinical activity of both offices of the Department of Family Practice.

The composition of the student health service following the implementation of the HMO and acquisition by the Department of Family Practice is seen in Table 2. Staff physicians were integrated with the faculty of the Department of Family Practice, with the board-certified family physicians providing the core of practice expertise. Patrick[1] has shown that, as is the case at the University of Illinois at Chicago, student health services nationwide are anchored by family physicians.

Students now have access to care from 8 AM to 5 PM weekdays, 9 AM to 1 PM on Saturdays, and 5 PM to 7 PM one night of the week. This new system has enhanced the continuity of care provided to students. Family physicians have full inpatient admitting and attending privileges at the University of Illinois Hospital. Family physicians from the Department of Family Practice also assume call-in rotation. This 24-hour coverage provides continuity of care as well as management of after-hours problems by the same group of physicians, one of the most important new benefits for students. In addition, having primary care physicians screen after-hours emergency calls before advising treatment in the emergency department has resulted in a reduction in the number of inappropriate emergency department visits.

The entire operating budget for student health care, including all funds collected for ambulatory student health services and inpatient coverage, totals yearly between $3 million and $3.5 million. Preceding the transition, return of those funds to the university was less than 30% as service payment directly to either the University of Illinois Hospital or the physicians' practice plan, Medical Service Plan. A marked increase in revenues to University of Illinois Hospital and the Medical Service Plan under the HMO operation was realized as a result of the additional physician activity (Table 3). Table 4 compares enrollment figures for 1987 and 1988.

TABLE 2. FAMILY PRACTICE AND STUDENT HEALTH PERSONNEL

Staff	FISCAL YEAR 1987 (BEFORE CAMPUS CARE) Student Health Service Number*	FISCAL YEAR 1987 (BEFORE CAMPUS CARE) Family Practice Center Number*	FISCAL YEAR 1988 Family Practice/ Student Health Number*
Physicians			
Family physicians		5.25	5.70
Internal medicine	8.85		3.00
Gynecology	1.70		1.70
Radiology	.20		
Psychiatric social worker	1.00		
Psychologist	.53		.87
Psychiatry	1.00		.53
Visiting physician			1.00
Total	13.28	5.25	12.80
Support Staff			
Administrator	2.00	1.00	2.00
Nurse practitioner	1.70	1.00	2.00
Registered nurse	3.00		2.00
Medical and ambulatory care assistant	2.00	2.00	12.00
X-ray technician	1.00		2.00
Laboratory technician	2.00	1.00	2.00
Clerical	10.00	2.00	2.00
Clinic manager		1.00	2.00
Total	21.70	8.00	26.00

Full-time equivalent.

STRUCTURE OF THE HMO

The University of Illinois HMO for students, Campus Care, was established as a closed-staff model HMO operated by the Department of Family Practice. Only physicians of the Department of Family Practice are allowed to provide primary care, authorize referrals, or dispense from the restricted stock formulary. Although information concerning practice activity is reviewed in weekly meetings in both offices, no direct tie is made between physician remuneration and performance in the HMO.

The university requires students to pay a health service fee. This mandatory fee is waived only by a small percentage of students (approximately 2% to 3%) who represent residents in training, students whose education has been purchased by corporations, teaching assistants or research assistants, and academic or nonacademic UIC faculty taking courses while employed. Students were traditionally offered an indemnity plan for hospitalization insurance that they could waive if they had equivalent coverage through another source. Under Campus Care, students are still required to pay the $25 quarterly health

TABLE 3. COMPARISON OF FAMILY PRACTICE ACTIVITY BEFORE (FISCAL YEAR 1987) AND AFTER (FISCAL YEAR 1988) ESTABLISHMENT OF CAMPUS CARE

Selected Service Categories	All Family Practice Activity 1987	All Family Practice Activity 1988	Percent Change 1987–1988	Percent Student 1988
Initial office visit	957	6323	+560.71	77.51
Return visit	7451	24,456	+228.22	66.56
Office surgery	15	113	+653.33	75.22
Total patient visit	8423	30,892	+266.76	68.84

TABLE 4. ENROLLMENT IN STUDENT HEALTH PLAN BEFORE (FISCAL YEAR 1987) AND AFTER (FISCAL YEAR 1988) ESTABLISHMENT OF CAMPUS CARE

Enrollment Category	1987	1988	Percent Change 1987-1988
University of Illinois at Chicago enrollment	69,057	67,516	−2.23
Student health enrollment	66,985	65,587	−2.09
Full coverage enrollment*	47,700	41,573	−12.84
Waived from full coverage (paying student health fee only)	19,285	24,014	+24.52

Full coverage in 1987 included Blue Cross/Blue Shield indemnity plan; 1988 included Campus Care.

service fee, but are allowed to waive the complete HMO package if they can demonstrate comparable commercial indemnity insurance. For those students who waive the HMO, traditional ambulatory student health services are provided by the Department of Family Practice.

With the initiation of the HMO, a portion of the mandatory student health fee became a direct pass-through to the Department of Family Practice, representing a capitation of $7.50 per member per month. This funding pays for all primary care physician services, referral to specialists on an outpatient basis, and all ancillary outpatient services including diagnostic laboratory and x-ray services as well as expensive items such as computerized axial tomography, magnetic resonance imaging, and upper and lower gastrointestinal studies. In addition, a small portion of the mandated student health fee, slightly over $0.83 per member per month, funds a capitated pharmacy. Although this structure is not unique, the rapidity of its development is unusual.[2]

FISCAL EXPERIENCE

Officially published figures from the State of Illinois Department of Insurance indicate that several characteristics of Campus Care are noteworthy. The UIC Campus Care HMO ranked lowest in Illinois for inpatient days, at 69 per 1000 members, during a survey of calendar year 1987. The average HMO inpatient stay for Illinois was 438 days per 1000 members. The number of ambulatory encounters per member was also the lowest recorded for HMOs in Illinois at 0.7 per member per year. The survey average was 3.6 ambulatory encounters per member per year. Both figures reflect the population served among other issues. Students, whose average age is in the 20s, have a low hospitalization rate.

Others have examined in greater detail both the use of health resources by students[3] and the pattern of resource use over time in a prepaid group plan.[4] Students have been shown to select variably from community-based and university-based resources depending on the problems they face. The split in resource utilization appears to continue across all the student's years in the university and persists regardless of whether the student lives in a dormitory or in the community. Other research indicates that total provider visits and the proportion of well-care visits decline after the first year of membership in a prepaid group plan. The low regard in which student health services are characteristically held may also, in some cases, preclude full use of student health services by those who have a claim to those services.

All of these issues have tremendous implications for the operation of the Department of Family Practice student health HMO, given the low student premium. This premium, much below the national average, was necessitated by the economic politics of gaining university consent for conversion to a managed care system for student health. It was agreed that the total student HMO fee structure could not differ markedly from the previous fee structure of the student health service combined with the commercial indemnity plan so that approval by the Board of Trustees could be obtained. That figure for the first year of operation, fiscal year 1988, stood at $68 per quarter, slightly more than a total monthly premium of $22 per member per month. By comparison, the average monthly HMO premium for the same time in the continental United States was $79.30 per member per month, and the average premium within Illinois was $80.19 per member per month.[5] In addition, it was necessary to maintain the delicate balance between remaining fiscally viable and providing complete HMO services. That balancing act is particularly important because no supportive entity was named should a deficit develop.

STUDENT REACTIONS

Initial response from the student body was mixed. Earlier identified issues of college campus health,[6] such as expanded access to services and the availability of lifestyle-related services—eg, stress management programs, weight control, and nutritional guidance—did not surface as being critical at the University of Illinois at Chicago. Instead, students were concerned that they would be relegated to the use of only the University of Illinois Hospital for inpatient services. While the argument was more emotional than substantive, it resulted in multiple hearings during the 6 months before the actual transition. No concerns about instituting a student HMO, other than the loss of access to private physicians, emerged through multiple discussions. This apprehension, however, did

necessitate the establishment of what was termed a preferred provider organization wraparound in the HMO, allowing students to step outside the HMO for elective care and, in so doing, receive benefits equivalent to those under the previous commercial indemnity plan. It must be noted that these benefits were fairly meager, allowing only $50 for the initial in-hospital physician visit and $20 for each day thereafter. In addition, inpatient coverage required a $250 deductible and a 20% co-payment up to the first $5000, after which 100% of inpatient expenses were covered. When enrollment in the fall of 1987 was complete, over 17,000 students had enrolled in the HMO for that quarter, representing slightly more than 66% of the student body. The remaining students demonstrated comparable insurance through a commercial plan or another HMO and were allowed to waive the portion of the fee that would have provided for inpatient coverage.

Provisions were made for students to enroll their spouse and family under a slightly higher fee structure. Approximately 200 students took advantage of this provision, representing the enrollment of 300 dependents, a small number considering the overall size of the HMO.

TRANSITION DIFFICULTIES

The importance, within the complex structure of academic medical centers, of support from the administration cannot be overemphasized.[7] Although the idea for the transition originated at several levels, including the Department of Family Practice and the Office of Student Affairs, the ultimate decision to allow the transition to proceed occurred in the Office of the Vice Chancellor for Health Affairs. Deliberation in a university environment can be long and tedious, especially regarding decisions about the nature and form of clinical practice.[8] Discussion occurred and ad hoc committees met over 3 years leading up to the actual decision to begin the student health HMO. The ultimate conclusion to this administrative decision was carried out by the Office of the Dean of the College of Medicine and Interim Vice Chancellor for Health Services. Given the territorialism typical of many academic settings, the success of such a transition is absolutely dependent upon support at a higher administrative level.[7]

While others have written about the difficulties encountered when a family practice center, either community based[9] or university based,[10] assumes responsibility for an HMO, the experience at the University of Illinois showed some distinct differences. There were no residents to integrate into the practice activity, and the physician faculty overall had a great deal more active practice experience than in those situations discussed elsewhere in the literature. Nevertheless, several factors contributed to making the transition from two independent student health services into one family practice student health center less than trouble-free. First and foremost was the extremely short time frame available to accomplish such a major change—approximately 6 months. The physical renovation required in the two locations was significant, and time-related problems were compounded by the inherent difficulty of coordinating engineers, electricians, carpenters, and painters in a complex civil service system.

Health center administrators were called upon to create a new HMO system in a vacuum. The old student health service had no established quality-assurance program, chart reviews were never undertaken, and no measures of quality of care existed. Departmental meetings were never held. Since the university had never before set up an HMO, health center administrators had no models to use to establish new systems for budgeting, accounting, inventory, and funding. Once created, these new systems had to be integrated into existing university systems, and old accounts reconciled and closed out.

Within the University Hospital and Clinics, there was a general lack of knowledge of exactly how this new entity would interact with the established fee-for-service–oriented system. Significant resistance was encountered within the emergency department, ancillary service departments, and specialty clinics of the hospital. Staff, faculty, and residents unfamiliar with the HMO concept of primary care physician authorization for specialty care referral, admission to the hospital, and outpatient treatment resisted involving the student health family physicians in the decision process. Specialists, unused to dealing with primary care physicians acting as gatekeepers, were negligent in providing feedback to the primary care physician after rendering specialty care to student HMO patients. Finally, the competing goals of an educational institution training medical students and residents vs a cost-conscious managed care system often found the HMO physicians at odds with the consulting specialists as to the most appropriate and cost-effective course of treatment for HMO patients.

Smooth initial operation of the HMO suffered in part because of a lack of administrative organization and publicity about the new student health care system until after transition was completed. The school year started at the same time the HMO became operational. Second, the HMO administrative office was hindered by a lack of adequate time to prepare for the transition, which resulted in delays in registering patients, issuing identification cards, and disseminating pertinent benefit information. The result was the need to educate students, faculty, and staff about membership in an HMO while at the same time the HMO was attempting to serve its patients and operate in a cost-effective manner.

The merging of the previous student health and family

practice faculty and staff created a separate set of problems. Student health employees viewed the change as a hostile takeover, their resistance to change creating obstacles to the smooth transition to any new systems. Family practice faculty and staff resented the sudden increase in patient load and responsibility, feeling a loss of familiarity and intimacy once felt toward their previously small number of family practice patients. From a clinic seeing no more than 8500 patients per year with only five full-time–equivalent physicians, their center had developed into a busy clinic with expanded hours, more than double the number of physicians, and over 31,000 patient visits yearly. This new competitive atmosphere with larger staff required the physicians to see more patients during a day and shoulder a heavier call schedule. A large number of obstetric and prenatal patients put an additional burden on the family practice faculty.

Finally, there was the inherent difficulty of providing care to medical students and other professional students who attempted to control their own health care. Students often tried to refer themselves to specialists without seeking authorization from their primary care physician. Students have proven to be demanding and argumentative health care consumers. They are reluctant to follow the rules of the HMO regarding emergency care, to wait until morning to see their primary care physician, and to receive authorization for specialty care, requiring the physicians to constantly educate patients. Finally, the HMO encountered a "convenience store" attitude exhibited by many of the students—the feeling that the student will continue to see his or her own physician for care but will come to the HMO for laboratory and other costly ancillary testing.

DISCUSSION

The transition has been a monumental one for the Department of Family Practice, but one that has met with notable success. All parties benefited greatly from the new arrangement, particularly the students, as they enjoyed expanded services from the creation of the new HMO student health service called Campus Care. While little direct feedback has been received from the student body during the HMO's first year of operation, complaints have been minimal. It was a measure of satisfaction, however, that when a recent change in status of the University Hospital was announced, one concern students cited was for the future of Campus Care and its service to students—a far cry from the initial student opposition to the idea of an HMO. The University of Illinois Hospital has benefited markedly from return of funds formerly lost to the system. The specialty physician consultants, through appropriate referrals, have also benefited with a marked increase in dollars kept in the university system.

Students are not required to make any up-front payments, complete claim forms, or travel to off-campus sites for routine or more complicated care. The student health HMO, through its faculty of board-certified family physicians, is able to offer comprehensive care. In addition, the system is able to offer equivalent care for spouses and dependents, creating a true "family" practice atmosphere.

The Department of Family Practice has benefited with a marked increase in its clinical activity, although the age of the population is somewhat skewed, and the distribution of problems is not totally representative of family practice. The department has already begun other efforts, such as building an outpatient geriatric panel, to offset current patient population skew. In addition, the nonincremental increase in activity has placed the Department of Family Practice in a position of greater parity with other clinical departments in the university, and enhanced the department revenue generated by clinical practice. The Department of Family Practice, furthermore, has had an opportunity to demonstrate its skills in managed care and its value to an academic medical center.

The need for a strong family practice department leader to oversee and shepherd through the transition has proven to be a key variable in the success of the HMO. A university department attempting to accomplish such a transition must have a leader who can motivate others to work toward a common goal, who can look beyond the transition problems and keep moving forward, and who has the ability to expand what was done on a small scale to a more global one. It was also important that three of the full-time faculty physicians at the UIC Department of Family Practice had a combined total of over 24 years of high-volume active private practice skills.

The UIC experience supports the notion that the discipline of family practice is better suited to the provision of student health care than other primary care disciplines. In fact, examinations of managed care environments show that family physicians excel at conserving resources with no compromise in quality of patient care.[11] Because of their emphasis on service, departments of family practice are in an excellent position to provide both a financially productive activity for the department itself and a stable and growing patient base.

In summary, other university family practice departments are encouraged to examine their practice setting for opportunities of nonincremental growth. The family practice model is best suited to efficient, effective, and economical performance in a managed care setting. Three factors are paramount in achieving success: (1) support, or at least tacit approval, and some protection by high level administration against territorialism; (2) vision and

experience with high-volume practice on the part of the Department of Family Practice leadership; and (3) close examination of the financial resources in light of the expected utilization. Successful academic family practice units need to exert leadership in the area of clinical practice.

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