THE POTENTIAL OF PREPAID GROUP PRACTICE IN COMMUNITY MEDICINE TEACHING PROGRAMS

EUGENE VAYDA

Expanding medical technology has produced specialization, fragmentation of medical care and a delivery system that is haphazard and frustrating to the consumer. His difficulty in finding an acceptable point of entry into the system has contributed to his increasing utilization of the emergency room as a substitute for primary medical care. Approximately 60 per cent of all emergency room visits are nonurgent; a result of the failure of the personal physician system for patients regardless of socioeconomic class.[1]

Throughout history, medicine has been a faithful mirror to society.[2, 3] The same society that in 1910 demanded a scientific basis for medical practice now asks that technology be augmented by personalized comprehensive health services. Despite the success of curative medicine, preventive measures and presymptomatic diagnosis have lagged behind because the point of entry for preventive services has not been well defined and such services are inadequately covered by existing health insurance. As scientific knowledge has increased, the number of general family physicians has steadily decreased. In 1931, 83 per cent of all physicians were general practitioners; in 1967, 28 per cent of physicians were in general practice. An additional 14 per cent were in general internal medicine and pediatrics, but the

proportion of these that could be classified as primary physicians is not known.[4, 5]

Medical schools that responded to the Flexner Report are now asked to make the benefits of scientific knowledge in medicine available to all.[6] As Sanazaro has said,[7]

> Medical schools and universities must regroup their resources and direct them, within appropriate academic limitations, to devising and testing new means of delivering medical care. The public is demanding another miracle of medicine: an effective antidote to the splintering of patient care. In our search for this touchstone, the principles of comprehensive care must be operationally defined and effectively incorporated into the education of all physicians. As a further corollary, the physicians of the future are to be responsible for the health of communities as well as the health of individuals within those communities. To provide these physicians with a base of scientific understanding, medical schools and universities must define, in acceptable academic terms, the substance and bounds of community medicine.

It is the purpose of this paper to explore one medical care delivery system, prepaid group practice (PPGP) and its potential relation to community medicine and the education of the personal physician. Because of a financing mechanism that removes the economic barrier at the point of utilization of services and because prepaid group practice programs serve defined populations, a community receiving comprehensive services without dollar deterrents could be incorporated in some cities into the educational system for medical students, interns and residents.

THE SETTING

Prepaid group practice is a medical care delivery system that coordinates the organization and financing of health care services.[8] Most programs are characterized by voluntary enrollment within groups and represent a fairly good cross section of the urban employed population in a community.[9] Because enroll-

ment is usually work related, few enrollees are from among the rich, the poor and the self employed. However, the Kaiser-Permanente program in Portland, Oregon, and the Health Insurance Plan of Greater New York have recently opened their enrollments on a limited basis to the poor.[10] Initially, new plans will have less than 10 per cent of total membership above the age of 65, but as a plan matures and its membership ages, its age distribution will approach that of the general population.

The mechanism of direct-service prepayment allows each family to pay or have paid on its behalf a single monthly premium that insures a wide range of health services including hospitalization, physician services in office, hospital and home as well as diagnostic laboratory and x-ray studies without fee barriers for individual services.[11] Drug benefits and ambulatory psychiatric benefits are included in many plans.[12] These plans offer a greater potential for the inclusion of organized preventive and health maintenance services that are not easily available in solo or group fee-for-service practice.

Evidence indicates that the quality of medical care is significantly improved in prepaid group practice programs. Studies by Shapiro indicate a decrease in infant mortality among subscribers to the Health Insurance Plan (HIP) in a comparative study with residents of New York City who were not members of HIP.[13] The decrease in hospitalization in prepaid group practice programs and the decrease in certain surgical procedures (hysterectomy, tonsillectomy, appendectomy) have been reported in studies that compared prepaid group practice enrollees with those insured under other plans.[14, 15] The use of a unit record and the constant exposure of each group physician's work to his colleagues can improve performance and quality of care.[16]

Present Educational Settings

The Citizen's Commission on Graduate Medical Education,[17] Coggeshall,[18] Haggerty[19] and Darley and Somers[20] have advanced the recommendation that to train physicians to provide comprehensive personal health services, their undergraduate and

postgraduate medical education should occur in group practice settings. Although they refer to group practice in general, the continued references to a defined population base as a foundation for comprehensive services best fits prepaid group practice. Fee-for-service multispecialty group practice also has important implications in the teaching of comprehensive care.[21] Glaser feels that efficient forms of group practice will be the backbone of medicine ten years from now and he urges a diversity of group practice programs.[22]

Despite a growing interest in comprehensive care, medical schools, because of their primary commitment to research and education, have been reluctant to assume additional service responsibilities.[23, 24] Prepaid group practice programs provide service as their major function. Affiliations between medical schools and these programs can combine service, teaching and research in such a way that each institution performs its specific functions and profits from the activities of the other. Such affiliations or cooperative arrangements can produce complex problems for both institutions. The integration of the group physician and the full-time faculty member in the teaching hospital will require recognition on the part of each institution of the special problems of the other with regard to service, teaching and research. Clinical faculty and hospital staff appointments for group physicians are essential and the group physician will, in turn, have to meet the requirements for staff appointment in the teaching hospital. If the prepaid group practice program does not operate its own hospital, the teaching hospital will be used for the hospitalization of health plan members. Continuity of care can be assured only if the group physician has continuing responsibility for the care of his hospitalized patients. When necessary, referral to hospital based subspecialists who are full-time faculty members will provide them with a source of patients whose problems are in their particular areas of competence and interest.

The outpatient departments of major teaching hospitals, municipal hospitals and community hospitals have traditionally

been the site of teaching in ambulatory medicine. Such settings can effectively teach the technical aspects of medicine, but they are unsuited to teach comprehensive care or continuity because they fail to provide it. The outpatient department substitutes technology for the inadequacies of its delivery system. Outpatient populations are drawn from a narrow socioeconomic segment of the population. The satisfaction of clinic patients has not been a concern of the outpatient departments providing such care. Community representation on the governing boards of Office of Economic Opportunity sponsored neighborhood health centers has afforded poverty populations with audible voices for the first time and their dissatisfaction is now clearly heard.[25] Consumer satisfaction in prepaid group practice programs can easily be measured because of regularly scheduled meetings with consumer groups and the opportunity that each subscriber has to re-enroll or drop the plan each year.[26]

The outpatient department and the private practice of medicine characterize the two-class system of medical care found in the United States. Medical students observe that one kind of behavior is permissable for the "clinical material" found in the outpatient department or the ward service, but entirely different behavior will be expected of them by their private patients. Some students are angered by this dichotomy, but many unconsciously incorporate these attitudes, which perpetuate two classes of medical care.[27]

Many students are taught ambulatory medicine in special teaching clinics associated with the general outpatient department. The importance of the doctor-patient relation and continuity of care are emphasized. When the teaching experience is over the patients are returned to the "real world" of the outpatient department with its discontinuity and disinterest. High-quality, personalized medical services must be found in the entire department and not only in teaching clinics. Students are keenly aware of the differences between teaching clinics and the outpatient department.[28] Students must work at a slower pace than experienced physicians, but other than pace,

no differences should be found between the teaching environment and the service environment.

The Yale Family Health Care Project is an experimental model of a prepaid primary care health center that has assumed responsibility for the ongoing care of a small number of families. Medical students in their third and fourth years elect this service for a minimum of one year. With the guidance of pediatrician and internist preceptors the students become the physician members of the primary health care team (family health nurse, health aid and nutritionist) that assumes responsibility for the provision of comprehensive health services for families in the project. When a student leaves, his patients continue under the care of another student or a family health care preceptor. Additional support is provided by the other members of the health team (social worker, psychiatrist and gynecologist). The patient is not sent back to the outpatient department when the student's clerkship is completed.[29]

A prepaid group practice program provides one-class continuous care for all health plan members regardless of socioeconomic class. Ambulatory care teaching in such a program would take place in the same setting where all care was provided. Teachers and students working together side by side would provide the same high level of comprehensive services for all patients.[30]

Historical Background of Cooperative Arrangements

Prepaid group practice is essentially an urban phenomenon. Programs now exist in New York, California, Michigan, Ohio, Oregon, Hawaii, District of Columbia, Washington, Minnesota, Pennsylvania and Missouri.[31] Two programs are now operating in Ontario, Canada. A program is in the planning stage in Rhode Island. Harvard and Johns Hopkins have established programs that are now operating and two programs at Yale are in the pre-operational stage. There are 23 medical schools in the United States in cities where prepaid group practice programs are located.[32] This represents approximately 20 per cent

of all United States medical schools, and the lessons learned by affiliations and cooperative arrangements could serve as models for the development of relations between new plans and additional medical schools. Such information would be useful for medical schools that wanted to establish their own prepaid comprehensive programs.

Lee has indicated that medical schools have been reluctant to affiliate with programs that "show students what practice is like." He feels that it is possible to provide an experience that heightens student motivation and emphasizes, in a setting outside the university hospital environment, the application of scientific medicine and that such an experience should not be viewed with alarm, but should be seen as another technique in the teaching of community medicine.[33] He further states that although medical faculties have viewed outsiders with suspicion and a concern that they would prove antiintellectual or unscientific, the danger of subversion is nil and faculties should welcome ideas and scientific knowledge from outside sources.[34]

The experience gained from the merger discussions between Western Reserve University and the Cleveland Community Health Foundation in 1962, is illustrative of the institutional problems of merger and suggests that, at least initially, cooperative arrangements are to be preferred. Merger without total control would have represented a significant departure from medical school tradition. The labor sponsorship of the Cleveland prepaid program made the merger unacceptable to many medical school alumni, trustees and faculty members. Yedidia concluded after a description of the merger negotiations,[35]

> Long established institutions are unlikely to undertake such far reaching adjustments. Once a new pattern establishes itself outside existing institutions common interests may lead to co-operative relations between comprehensive health service centers and existing establishments.

Prepaid group practice plans are by no means actively interested in seeking such affiliations. Because of their primary service orientation and their need for financial self-sufficiency, they

view educational activities involving medical undergraduates and graduates with restraint. Their own institutional rigidities may become as difficult to overcome as those of the medical school. If medical schools accept the training of physicians who will practice medicine as their responsibility, the medical schools must actively seek out such cooperative arrangements. Only ten per cent of physicians enter academic medicine[36] so a major emphasis must be placed on the education of the vast majority of physicians who will have patient care as a major responsibility. The medical school needs the prepaid group practice program far more than the program needs the medical school.

Advantages and Problems of Joint Arrangements

The advantages for prepaid group practice programs in such arrangements make joint undertakings possible. Among the inducements to the programs are:

1. Help with physician recruiting.
2. Provision of teaching outlets for physicians, which increase their career satisfactions and contribute to stability of medical groups.[37]
3. Potential for improving quality of care.
4. Elimination of the need to duplicate highly specialized services and costly equipment already available at the university medical center.

Among the advantages to the medical school, in addition to the opportunity for medical student education in a community-based comprehensive care unit, are:

1. An opportunity to demonstrate and study changing methods of medical practice.
2. A resource for the special training of graduates interested in comprehensive health care careers (teaching, clinical practice and administration).
3. Because of the defined population base of a prepaid group

practice program, opportunities exist for research in medical care delivery and the natural history and treatment of disease and medical student training in such research methodology.

4. A closer tie between the university and the community.
5. A continuing source of hospitalized patients for teaching in clinical medicine.

Prepaid health care programs will have many concerns that must be considered.

The economic implications of teaching programs. Although educational activities may potentially improve the quality of medical care, only a small percentage of the health care dollar can be used for education. Established prepaid group practice programs can be expected to spend only a small percentage of the health care dollar for educational purposes. Newer programs will be able to afford less than older, established ones. The cost of medical education has long been hidden in service and research costs. It must be separated and met by appropriate education funds. Medical school faculty engaged in such comprehensive care teaching may be housed in the group practice facility. If group practice physicians teach they must have an appropriate portion of their incomes paid directly from educational funds. The majority of this money will almost inevitably be provided by government. Additional costs stemming from extra paramedical personnel and space requirements must also be financed with funds designated specifically for medical education.

The use of private patients for teaching and the effect of medical undergraduates and graduates on health plan members. This represents a serious problem, but it is only one part of a more serious problem; the use of only indigent or nonprivate patients for teaching purposes. The benefits of teaching should be made available to all patients. This includes both ambulatory and hospitalized patients. A single class without differentiation into private and nonprivate patients has been accomplished

without significant difficulty on many inpatient pediatric services. It must now be extended to all hospital and ambulatory services. Socioeconomic status has no place in the alignment of ambulatory services. Such services must be arranged by need for care.[38] Because of the additional time required for student examinations and teaching, participation of all patients should be on a voluntary basis. Because medical students work at a slow pace, a small number of patients will be required from the large prepaid population. Students should be assigned for a minimum of one year to assure continuity of care. At the conclusion of a student clerkship his patients could be transferred to another student or they could be cared for by a permanent staff physician in the prepaid program. Ideally this would be the physician who had served as the student's preceptor and already had some relation to these patients. The magnitude of the problem of patient acceptance cannot be minimized. The introduction of students should be done gradually, with a concurrent program of consumer education. The entire program is impossible, however, unless all patients are equally available for teaching purposes.

Potential Service–Education Model

The model would consist of five personal physicians (three internal medicine and two pediatrics) as a part of a primary health care team consisting, in addition, of nurse coordinator, nurse clinicians and health assistants. Because of the multispecialty nature of prepaid group practice, the other specialties will be immediately available as needed in the ambulatory facility, as are laboratory and x-ray departments. A social worker, nutritionist and various rehabilitation therapists would also be available for consultation to the primary team. One full-time obstetrician and gynecologist would serve one or two such units depending on age and sex characteristics of the population. This unit could serve between 7,000 and 10,000 health plan members. A similar proposal for a primary care unit has been made by White as a part of a regionalized health care system.[39]

This population would have approximately 125 physician visits per day. Four students could see a total of 10 to 12 patients per day. One additional physician equivalent would have to be added to the team for teaching purposes. Two to four additional combined examining-consultation rooms and one additional health aid would also be needed. The salary of the physician equivalent, as well as additional space and personnel must be paid for as a direct cost of education.

Ideally the teaching should be performed by a physician regularly engaged in patient care. If the usual clinical activities of this physician were decreased 50 per cent for each half day that he spent teaching, he would have enough time to supervise a student who was seeing one patient for a complete examination or two or three patients for minor problems or regular follow-up visits. This would decrease the productivity of each of the teaching physicians by no more than 25 per cent; consequently, approximately one additional physician equivalent would be needed for each four students who were seeing patients in the ambulatory facility half of each day.

A similar model has been proposed for resident training at the Yale-affiliated Community Health Care Center. It is felt, however, that the educational costs involved in resident training would be partially offset by the value of services provided by residents. Public health and nurse-practitioner students may also have an opportunity to spend a part of their traineeship periods in this program. Appropriate clinical and administrative personnel would be available as instructors.[40]

The other half day, when a student was not seeing patients in the ambulatory facility, could be used for an educational program related to the prepaid group practice program, the educational program of the medical center and electives. The free half day could also include home visits, hospital visits, health maintenance assignments[41] and visits with the student's own patients to specialty clinics. The student could meet with the consumer groups to learn of their satisfactions and dissatisfactions with medical care. He could also have formal instruc-

tion and carry out research projects in clinical epidemiology. He would have the opportunity to study the administration and management of the health plan. He could also work in an urgent visit clinic and share night or weekend call with an internist or a pediatrician.

Such cooperative arrangements should in no way prevent medical schools from establishing their own comprehensive care units. However, teaching of comprehensive medicine will require that more medical teaching be conducted in the community. As medical school classes increase in size, so will the need for many different comprehensive community-based teaching programs. Experience gained in cooperative arrangements with prepaid group practice programs should be useful for medical schools in further affiliations and the development of their own programs. The community medicine program of the University of Kentucky consists of affiliations with many Kentucky communities and the resulting field program for fourth-year students is a partnership of the academic group with the community.[42]

SUMMARY

Changes are long overdue in the reorganization of the delivery system for medical care. Medical schools must assume the leadership in such reorganization if they are to fulfill their obligations to society. The commitment of many medical students to effect such changes must be encouraged by revisions in the medical curriculum. Elimination of the two-class system of medical care is an urgent priority. In addition to the upgrading of care in outpatient departments, medical schools should develop cooperative arrangements with existing community medical care organizations that are already incorporating some of these reforms. These arrangements should in no way limit the development of innovative service and teaching programs by the medical schools. Students should be taught in settings that are socially relevant as well as technically competent. Because

the cost of medical education is separate from the cost of medical care or research, it must be financed separately.

Despite many problems,[43] prepaid group practice programs represent the best available model of one class comprehensive health care serving a defined population. Although institutional associations have many potential problems, both medical schools and the prepaid group practice programs should feel a joint obligation to add this opportunity for community medicine training to the medical curriculum.

REFERENCES

[1] Weinerman, E. R., Ratner, R. S., Robbins, A. and Lavenhar, M. A., Yale Studies in Ambulatory Medical Care V Determinants of Use of Hospital Emergency Services, *American Journal of Public Health,* 56, 1037–1056, July, 1966.

[2] Sanazaro, P. J., Emerging Patterns in Medical Care, *Mayo Clinic Proceedings,* 42, 777, December, 1967.

[3] Sigerist, H. E., Remarks on Social Medicine in Medical Education, *in* Roemer, M. I. (Editor), HENRY E. SIGERIST ON THE SOCIOLOGY OF MEDICINE, New York, MD Publications, Inc., 1960, pp. 360–361.

[4] United States Public Health Service, HEALTH MANPOWER SOURCE BOOK, Section 14: Medical Specialists, Washington, Division of Public Health Methods, 1962, pp. 4, 231.

[5] *Health Resources Statistics: Health Manpower and Health Facilities, 1968,* Washington, United States Public Health Service (Publication No. 1509), 1968, p. 128.

[6] Coggeshall, L. T., PLANNING FOR MEDICAL PROGRESS THROUGH EDUCATION, Evanston, Association of American Medical Colleges, 1965, pp. 25, 34–38.

[7] Sanazaro, *op. cit.,* 778–790.

[8] Saward, E. W., The Relevance of Prepaid Group Practice to the Effective Delivery of Health Services, Paper delivered at the 18th Annual Group Health Institute, Sault Ste. Marie, Ontario, Canada, June 18, 1968, and reprinted by the United States Public Health Service, 1969.

[9] Vayda, E., The Community Health Foundation of Cleveland, *Bulletin of the New York Academy of Medicine,* 44, 1309, November, 1968.

[10] Colombo, T. J., Saward, E. W. and Greenlick, M. R., The Integration of an OEO Health Program into a Prepaid Comprehensive Group Practice Plan, *American Journal of Public Health,* 59, 641–650, April, 1969.

[11] Saward, *op. cit.,* pp. 4–5.

[12] Yedidia, A., Types of Health Risk Bearers: Group Practice Prepayment Plans, *in* Eilers, R. D. and Crow, R. M., GROUP INSURANCE HANDBOOK, Homewood, Richard D. Irwin, Inc., 1965, pp. 279–287.

[13] Shapiro, S., Weiner, L. and Densen, P. M., Comparison of Prematurity and Perinatal Mortality in a General Population and in the Population of a Prepaid Group Practice, Medical Care Plan, *American Journal of Public Health,* 48, 170–187, January, 1958.

[14] Perrott, G. S., Federal Employees Health Benefits Program: III. Utilization of Hospital Services, *American Journal of Public Health,* 56, 57–64, January, 1966.

[15] Densen, P. M., Balamuth, E. and Shapiro, S., *Prepaid Medical Care and Hospital Utilization,* Hospital Monograph Series, No. 3, Chicago, American Medical Association, 1958, pp. 6–34.

[16] Vayda, E., Changing Patterns of Medical Care: The Community Health Foundation, *Bulletin of the Academy of Medicine of Cleveland,* 50, 10–12, June, 1965.

[17] Report of the Citizens Commission on Graduate Medical Education, THE GRADUATE EDUCATION OF PHYSICIANS, Chicago, American Medical Association, 1966, pp. 55–56.

[18] Coggeshall, *op. cit.,* pp. 36–38.

[19] Haggerty, R. J., Community Pediatrics, *New England Journal of Medicine,* 278, 15–20, January 4, 1968.

[20] Darley, W. and Somers, A. R., Medicine, Money and Manpower—The Challenge to Professional Education: II. Opportunity for New Excellence, *New England Journal of Medicine,* 276, 1291–1296, June 8, 1967.

[21] Jacobson, L. O. and Landau, R. L., Group Practice in the Education of Medical Students at the University of Chicago Clinics, *Bulletin of the New York Academy of Medicine,* 44, 1401–1408, November, 1968.

[22] Glaser, R. J., Discussion of Group Practice in the Education of Medical Students, *Bulletin of the New York Academy of Medicine,* 44, 1416–1419, November, 1968.

[23] Seipp, C. (Editor), *Selected Papers of John B. Grant, American Journal of Hygiene,* Monograph Series No. 21, Baltimore, Johns Hopkins Press, 1963, pp. 74–90.

[24] Haggerty, R. J., The University and Primary Medical Care, *New England Journal of Medicine,* 281, 416–422, August 21, 1969.

[25] Wise, H. B., Levin, L. S. and Karahara, R. T., Community Development and Health Education: I. Community Organization as a Health Tactic, *Milbank Memorial Fund Quarterly,* 46, 329–339, July, 1968, Part 1.

[26] Saward, *op. cit.,* pp. 17–18.

[27] McGarvey, M. R., Discussion of Group Practice in the Education of Medical Students, *Bulletin of the New York Academy of Medicine,* 44, 1420–1422, November, 1968.

[28] McGarvey, M. R., Mullan, F. and Sharfstein, S. S., A Study in Medical Action—The Student Health Organizations, *New England Journal of Medicine,* 279, 74–80, July 11, 1968.

[29] Beloff, J. S. and Willet, M., Yale Studies in Family Health Care: III. The Health Care Team, *Journal of the American Medical Association,* 205, 663–669, September 2, 1968.

[30] Engstrom, W. W., Residency Training in Internal Medicine, For What; Subspecialty Boards, What For?, *Annals of Internal Medicine,* 70, 631, March, 1969.

[31] MacColl, W. A., *Group Practice and Prepayment of Medical Care,* Washington, Public Affairs Press, 1966, pp. 17–57.

[32] Health Resources Statistics, 1968, *op. cit.,* pp. 129–131.

[33] Lee, P. V., *Medical Schools and the Changing Times,* Evanston, Association of American Medical Colleges, 1962, pp. 1–3.

[34] *Ibid.,* p. 29.

[35] Yedidia, A., Studies in Medical Care Administration. Planning and Implementation of the Community Health Foundation of Cleveland, Ohio, Public Health Publication No. 1664-3, April, 1968, pp. 19–25.

[36] Theodore, C. N. and Sutter, G. E., Distribution of Physicians, Hospitals and Hospital Beds in the U. S. by Census Region, State, County and Metropolitan Area, Chicago, American Medical Association, 1966, p. 4.

[37] Vayda, E., Stability of the Medical Group in a New Prepaid Medical Care Program, *Medical Care,* in press.

[38] Walker, J. E. C., Prospects of Ambulatory Medicine in the Teaching Hospital, *Annals of Internal Medicine,* 64, 1315–1329, June, 1966.

[39] White, K. L., Organization and Delivery of Personal Health Services: Public Policy Issues, *Milbank Memorial Fund Quarterly,* 46, 239–256, January, 1968, Part 2.

[40] MacLeod, G. K., Linkage of a Teaching Medical Center to a Prepaid Group Practice Plan, *Journal of Medical Education,* in press.

[41] Sloss, J. H., Young, W. R. and Weinerman, E. R., Health Maintenance in Prepaid Group Practice: Planning and Early Development of a Project at the Community Health Foundation of Cleveland, *Medical Care,* 6, 215–230, May–June, 1968.

[42] Deuschle, K. W. and Eberson, F., Community Medicine Comes of Age, *Journal of Medical Education,* 43, 1229–1237, December, 1968.

[43] Weinerman, E. R., Patients' Perceptions of Group Medical Care: A Review and Analysis of Studies on Choice and Utilization of Prepaid Group Practice Plans, *American Journal of Public Health,* 54, 880–889, June, 1964.

ACKNOWLEDGMENTS

The author is grateful to Drs. E. R. Weinerman, I. S. Falk, J. S. Beloff and G. K. MacLeod for their advice and suggestions in the preparation of this manuscript.