

To assess the relative effectiveness of various systems for the delivery of primary medical care, two approaches are used in this study, a household survey to determine factors influencing entry into a health care system, and a study of selected individuals who have received care to assess its impact. The structure and premises of the study are discussed.

The AAFP-UNC Study of the Organization, Utilization, and Assessment of Primary Medical Care

Introduction

If a medical care delivery system is to be an asset to a community, all members of the community should have access to it. Barriers which inhibit the utilization of services detract from the usefulness of the system. In addition, for those individuals who enter the system, the services provided must benefit the recipients of services. Both these considerations have major implications to the study of the delivery of primary medical care. Should one look at the residents of a community prior to their entrance into the health care system, or should one examine the effect of the system only on those persons who have gained access to it and have been "treated" by it? The first approach requires a sampling frame of community residents; the second approach starts with patients.

The current study incorporates both approaches. The community is examined through a household survey to determine the barriers and stimulants to the utilization of services, anticipating that these factors will differ both by the characteristics of respondents and by the organizational patterns of medical practice. Concomitantly, the effects of the different medical care systems on those who enter them will be evaluated through the mechanism of an "indicator case" model. This model illustrates another cross current in medical care thinking; that is, should the emphasis in assessment be on the "cure" or the "care" functions of medicine? Since comprehensive medical care includes both aspects, instruments have been developed to measure both. Necessarily, certain value judgments have been made as to the most meaningful aspects of care to investigate, and on the appropriate standards for some of these elements. Collaborating members of the American Academy of Family Physicians have been helpful in suggesting clinically pertinent dimensions for assessment and in developing standards. However, the nature of most of the dimensions chosen for study are such that interest lies in the comparative values found among different systems of practice, rather than in the relationship to any arbitrary standard.

A major variable in both phases of the study is the organization for the delivery of primary medical care. Since

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comparisons are being made in a given community among the existing delivery systems, knowledge of these systems is a necessary backdrop to both phases of the study.

Study Design

Organization of Primary Medical Care

An effort was made to conceptualize and define the various organizational patterns of primary medical care which might exist in any given community. To provide manageable boundaries for such a framework, only systems of care involved with or supervised by physicians were included, although a broader definition consistent with the concept of "health" care might have been employed. The skeletal outline of primary medical care systems is shown in Table 1. This scheme provides a framework within which additional variables can be cross classified. For example, other dimensions might be the variation in types and numbers of ancillary personnel, distance from hospital or laboratory facilities, or mode of financial reimbursement to physicians.

Health Services Utilization

The household survey was chosen as the primary means for collecting data on the determinants of utilization and non-utilization of medical care in a total community. The conceptual basis for the household survey is presented in Figure 1. This approach can be described as asking three basic questions:

- Who has symptoms?
- What behaviors result from these symptoms?
- Which medical care systems are used and by whom?

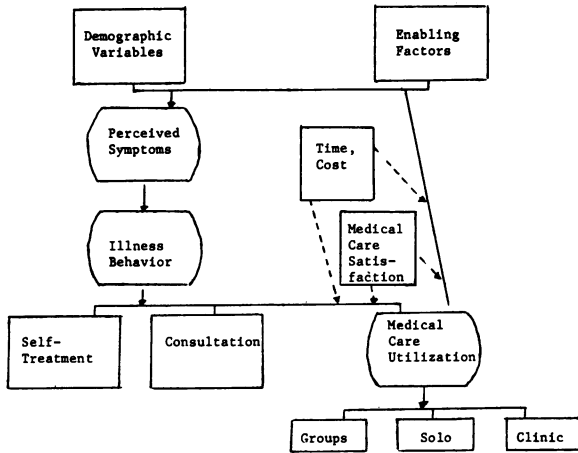
Questions 1 and 3 are answered using the total population of respondents as the study group; whereas, question 2 uses only that subset of respondents who report symptoms.

Table 1—Organization of Primary Medical Care*

- I. Individual physician
 - A. Family physician (G.P.)
 - B. Internist, pediatrician, obstetrician, etc.
- II. Two man association (two physicians in the same field)
- III. Groups—three man or more
 - A. Single specialty groups
 - B. General practice groups
 - C. Multispecialty (at least two fields of major specialty)
 - 1. 3-5 physicians
 - 2. 6-10 physicians
 - 3. 11-25 physicians
 - 4. >25 physicians
- IV. Hospital Outpatient Departments
 - A. Community Hospital
 - 1. No house staff
 - 2. House staff—officially approved training program (internship or residency)
 - B. Medical School Teaching Hospital
 - C. U. S. Government Hospital
 - 1. Veterans
 - 2. PHS
- V. Community supported sources of care
 - A. Health Department
 - B. Mental Health Center
 - C. Neighborhood Health Center
- VI. Industry supported sources of care

*This classification was developed in consultation with members of the American Academy of Family Physicians, the American Medical Association and the American Association of Medical Clinics.

Figure 1—Conceptual Basis for Household Survey



DEMOGRAPHIC VARIABLES: Age, race, sex, marital status, education, socio-economic status, duration in community, place of birth, major activity, occupation, household size, family relationship

ENABLING FACTORS: Existence of insurance, regular doctor or clinic, duration with regular doctor or clinic

PERCEIVED SYMPTOMS: Existence of symptoms, and their perceived characteristics: bother, duration, severity, amount of disability, doctor's ability to relieve

ILLNESS BEHAVIOR: Action(s) the individual takes in response to symptoms: self-treatment, consultation, medical care utilization

MEDICAL CARE SATISFACTION: Attitudes toward physicians and medical care

TIME, COSTS: Time and money spent on transportation, waiting, and charges for medical care

MEDICAL CARE UTILIZATION: Group, solo and clinic merely illustrate organizational categories of primary medical care. (See Table I.)

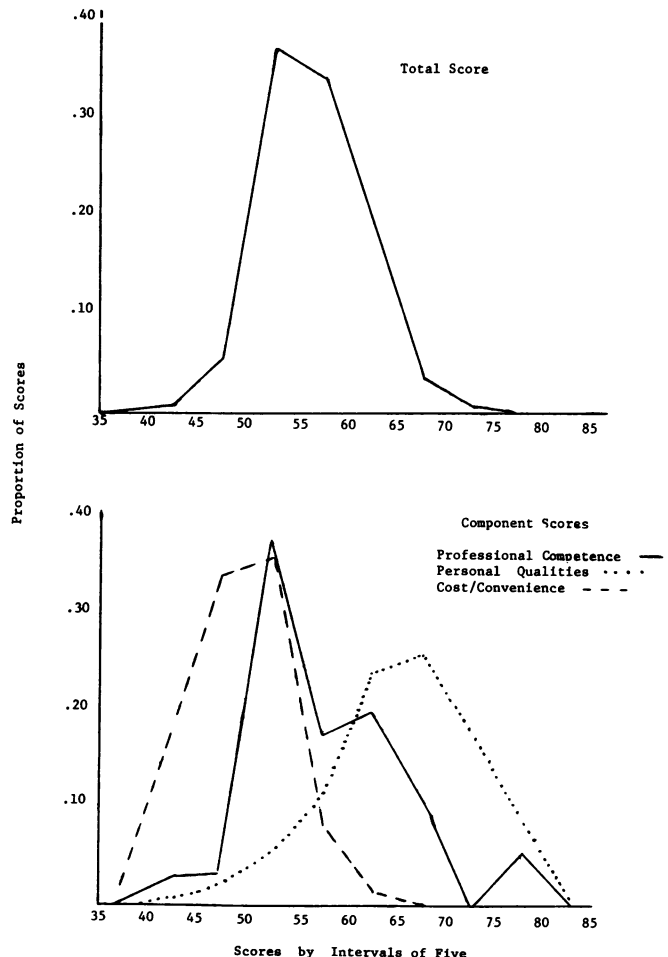
A specific household survey instrument was designed to collect data on family characteristics, symptoms and medical care utilization. Symptoms, elicited over a four week recall period, were grouped into complaint complexes according to the respondent's perception of which symptoms were due to the same condition.

To test the hypothesis of a relationship between symptom characteristics and physician utilization a discriminant function analysis was performed using survey data from a pretest in Raleigh, N.C.¹ Variables associated with physician visits in cross classification tables were used as the predictor variables. Given that a person had any type of complaint or combination of complaints, information on perceptions surrounding the complaint plus resulting disability, provided a predictor of physician utilization with a sensitivity and specificity of approximately .75. Symptoms perceived as serious, which doctors could relieve, resulting in bed-loss days and occurring among whites, were most likely to result in physician visits.

In conjunction with the household survey a separate questionnaire designed to measure attitudes toward physicians and primary medical care was administered to the Raleigh respondents.² This questionnaire was constructed using the Equal Appearing Interval technique of Thurstone.³

Each respondent received 4 different scores: a total score, and a score for each of three content areas covering

Figure 2—Frequency Distribution of Total and Component Scores



attitudes towards the professional competence of physicians, the quality of the doctor-patient relationship and the cost/convenience of the services. Scores could range from approximately 25 to 85. A high score reflects positive attitudes (satisfaction) and a low score reflects negative attitudes (dissatisfaction). The distribution of total scores and component scores are shown in Figure 2. Scores reflecting attitudes toward the quality of the doctor-patient relationship tended to be high, whereas the scores were significantly more negative in the cost/convenience area. Attitudes toward professional competence were more neutral.

Several characteristics of the respondents and their interaction with the medical care system were associated with level of satisfaction. Increased satisfaction with professional competence was associated with higher educational and occupational levels. Increased family size resulted in decreased satisfaction with costs and convenience. Having hospital insurance, a regular doctor and a recent doctor visit were correlated with higher total satisfaction scores.

Assessment of Primary Medical Care—The "Indicator Case" Model

Perhaps the most difficult task in the whole area of medical care research is an assessment of the quality of medical care. Ideally, such quality should be measured in terms of an improvement in the health status of the recipients of care. For a number of reasons information concerning changes in health status is very difficult to obtain. These reasons include both the length of time required to observe patients in order to identify major changes in health status and the innumerable variables other than the health care system which can influence health status.

In an attempt to ameliorate these difficulties, we have selected a number of conditions which can serve as indicators of the quality of care provided by the different systems of primary medical care. These conditions have been selected on the basis that either some improvement in health status can be anticipated to follow good medical care, or that a degree of unanimity exists concerning appropriate management. In addition, each condition occurs frequently in the general population and is seen commonly in clinic facilities and in the offices of physicians in private practice. The four indicator conditions selected for study are pregnancy, infancy, diabetes mellitus, and congestive heart failure. Assessment of the effectiveness of the service provided for each indicator condition is being made in terms of the following eight elements. (See Table 2.)

Elements for Assessment

Utilization—This element includes the number of physician visits, the number of different physicians visited, the number of referrals and hospitalizations.

Cost and Convenience—Included in this category are direct and indirect costs to the patient, such as dollar costs and source of payment, time spent in waiting for the physician, time between appointment request and appointment, and time spent getting to the office or clinic.

Physician Performance—The intent in this area of investigation is to assess the adequacy of the criteria used by the physician in formulating his diagnosis. For certain conditions management, rather than diagnosis, is the perti-

Table 2—Indicator Case Model; Elements for Assessment

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1. Utilization
 - Number of ID physician* visits
 - Number of different physicians visited: in ID physician's group, outside of group
 - Hospitalizations: number and length of stay
 - Referrals to: outside physicians, community agencies, outside labs
 2. Cost and convenience
 - Dollar costs for: physicians, drugs, laboratory, hospital, agencies
 - Source of payment: patient, third party
 - Time spent by patient: getting to and from doctor's office, waiting in office, waiting between appointment request and appointment
 - Transportation: kind and availability
 3. Physician performance
 - Method of diagnosis
 - Management: physical examination, laboratory tests, instructions, medication, other therapy
 4. Communication
 - Diagnosis
 - Medications
 - Supportive measures: diet, activity, self care
 - Complications
 - Where to get emergency care
 - Maintenance of contact and appointment setting
 5. Compliance
 - Appointments
 - Drugs taken
 - Instructions followed
 6. Physician awareness of patient concerns about condition
 7. Attitudes toward physicians (patient satisfaction)
 8. Outcome
 - a. Disease status
 - b. Symptomatic status
 - c. Functional status

*The "ID physician" is that physician or clinic through which the patient is enrolled into the study. The ID physician is also the patient's usual source of care.

nent issue. For each indicator condition, minimum criteria for diagnosis or management have been established with the guidance of practicing physicians from the American Academy of Family Physicians as well as other specialists.

Communication—The need for this criterion of assessment is based on the assumption that one of the more important transactions that occurs in the doctor-patient relationship is effective communication from the doctor to the patient concerning the nature of the patient's condition and the actions that should be taken. The degree to which the patient has understood and can verbalize the doctor's advice and instructions is being determined.

Compliance—In addition to understanding and remembering the physician's advice or instructions, it is obviously important to determine the degree to which this advice

modifies the patient's behavior. Behavioral compliance is being assessed in terms of kept appointments and adherence to the therapeutic regime.

Physician Awareness of Patient Concerns—In addition to communication from the doctor to the patient, it is further assumed that good medical care results in communication from the patient to the doctor. In particular, the degree to which the patient's concerns, worries and fears about his condition have been perceived by the physician need to be assessed. For this purpose, scales have been developed to measure the patient's concerns about his condition and the degree to which the physician can accurately predict these concerns.

Questionnaires, specific for each indicator condition, have been developed containing 14 to 20 items each. For each item there is a continuum of 20 response locations, representing varying attitudes ranging from the most positive to the most negative. An identical form is completed by each physician-patient pair with the patient expressing his or her attitudes, and the physician attempting to predict the responses of the patient based on his knowledge of that particular patient. The practice score is simply the mean of all the absolute differences in physician-patient paired responses on all items. The larger the score the poorer the physician's ability to predict his patients' concerns.

Our early experience with these instruments⁴ has illustrated some distinctive differences in physicians' awareness of their patients' concerns. Significant differences between practices on the same indicator condition, and within a practice on two different indicator conditions, has been demonstrated.

Attitudes toward Physicians—The same scale is used to measure patients' attitudes toward physicians and medical care in both the household survey and the indicator case phase of the study. We suspect that patient satisfaction will be related to other elements of the indicator case model, such as compliance and outcomes, as well as varying markedly among different systems of care.

Outcome—Although the appropriate measures of outcome vary for each indicator condition, attempts are being made to measure medical status, functional capability and level of symptoms.

Criteria for Admission to Study

The specific criteria establishing eligibility in the study for each indicator condition are indicated in Table 3. For pregnancy and infancy, the rationale for the first criterion concerning chronological and gestational age is to establish a uniform time period to initiate data collection on all study participants. Additionally, if patients were allowed to enter the study after the designated weeks of age or gestation, they would be too advanced developmentally for the data collection protocols to be pertinent. The remaining criteria for infancy and pregnancy are intended to establish the normality of the patient, since the intention of the study is to evaluate the care of essentially normal infants and pregnant women.

In diabetes, the rationale for the first three criteria is to include only adult onset diabetics, who do not have a high probability of complications associated with advancing age or prolonged presence of disease. The fourth criterion is an exclusion necessitated by the need for valid interview data.

Table 3—Indicator Cases; Criteria for Admission to Study

Pregnancy

1. First visit to the doctor for prenatal care occurs prior to the 21st week of gestation.
2. Gravida 1, 2, 3, or 4 with a "normal" pregnancy.
3. Complications of previous pregnancies which exclude patient from study: toxemia, stillbirth, premature birth (<2500 gm), Caesarean section, history of two or more abortions, hyperemesis gravidarum, birth of infant with a severe congenital anomaly.
4. Medical conditions which exclude patient from study: diagnosis of hypertension prior to pregnancy, renal disease requiring prior hospitalization, diabetes, congenital or rheumatic heart disease, mental retardation or psychosis, sickle cell anemia, previous sensitization to Rh factor, structural disease such as scoliosis.

Infancy

1. First visit to the doctor prior to the 4th month birthday.
2. Weight—at least 5 lb. 8 oz. at birth.
3. "Normal" at birth (no recognizable abnormalities).
4. No more than 3 children in family, including infant.

Diabetes Mellitus

1. Age at time of admission to the study is no more than 65 and no less than 30 years.
2. Age at diagnosis must be 29 years or older.
3. Duration of disease must be no more than 10 years.
4. Patients with psychosis, mental retardation or mental confusion inhibiting interview are excluded.

Congestive Heart Failure

1. Age at time of admission to study is between 50 and 75 years.
2. Majority of patients have congestive heart failure due to coronary heart disease or hypertensive heart disease.
3. Other medical diagnoses may be present.
4. Patients with psychosis, mental retardation or mental confusion inhibiting interview are excluded.

The age boundaries for congestive failure are intended to exclude young persons with failure due to unusual causes and senile individuals who would be unable to provide reliable interview data. Although no criterion concerning the specific diagnosis causing the heart failure was established, the great preponderance of cases are due to arteriosclerotic or hypertensive heart disease. Many patients have additional chronic conditions, since the age group under study is overwhelmingly afflicted with multiple diagnoses.

Plan for Data Collection

Patients with the indicator conditions are enrolled into the study at the time of a visit to a physician's office or clinic. Patients who agree to be contacted are called by the study nurse-interviewer who explains the study and makes an appointment for the first interview.

The first interview is conducted in the patient's home approximately two weeks after the identification visit. The second interview takes place four to eight months after the first, depending on the particular indicator condition.

The physician completes two questionnaires on each patient within a few days following the patient's identification visit. Since many of the items can be completed from the record by the study nurse-interviewer, the amount of time required from the physician is less than 5 minutes per patient.

Medical and cost data covering the total study period

are abstracted from records in physicians' offices, hospitals and outside laboratories. Prescription numbers on drugs being taken by patients are checked against pharmacy records to determine the drug name, dosage and schedule.

The specific data sources for each element being assessed are shown in Table 4.

Analysis of Indicator Case Data

The development of a patient score for each of the elements in the indicator case model is currently in progress. Once the individual's score is derived, the mean of the patients' scores can be taken as the practice score. The important issue becomes, then, how will these various scores for each element be used to answer the research questions? First, we would suggest that the elements be grouped into four major categories, as noted in the left-hand side of Table 5. These categories have been designated: 1) practice operation indices; 2) clinical competence; 3) doctor-patient interaction; and 4) outcomes. As was originally proposed, it is expected that differences will appear by organization of practice on

each of these four categories, or on each element within any one category. It would be unlikely that any one type of practice would appear poor in all categories or for all elements, but rather that different types of practices will exhibit various patterns. For example, one type of practice might be high on the doctor-patient interaction measures, low in the clinical competency area and equal to some other form of practice on the practice operation indices. Comparisons will be made across practices separately for each indicator condition; although it is possible for some elements that the pregnancy and infancy data could be combined, or the diabetes and congestive heart failure data might be grouped.

Fort Wayne Study Site

The selection of Fort Wayne, Indiana as a study site was largely dependent on the expressed willingness of the Fort Wayne-Allen County Medical Society membership and their Board of Directors to participate in and provide sponsorship for this research. In addition, a highly respected practicing physician agreed to serve as the local medical representative for the study. The city of Fort Wayne was also felt to be appropriate in terms of population characteristics. The total population numbered nearly 200,000 with representation from all socioeconomic groups. These factors were felt to be critically important to the ultimate success of the study, although greater diversity in organizational patterns of practice would have been desirable. Medical care in Fort Wayne is provided almost exclusively through the private sector of medicine.

A stratified random sampling procedure was undertaken to decide which practices would be asked to participate in the study. The sampling frame was all general practitioners, obstetricians, pediatricians and internists listed in the Fort Wayne Medical Society Directory. Physicians were stratified by the 8 types of practice noted in Table 6. With the exception of solo general practitioners, one hundred per cent of physicians in each organizational category were asked to participate.

Two-thirds of the physicians who were asked to participate not only agreed to do so, but continued their contribution to the study during the four months of patient enrollment and the many subsequent months of record data collection in their offices. As shown in Table 6, only 5 physicians withdrew after having started with the study. Physician refusals and withdrawals were attributed to factors such as lack of interest, invasion of privacy, too busy, and office staff rejection.

Table 7 shows the number of patients admitted to the study between April 1971 and September 1972 by type of practice. The table is divided into patients identified, those excluded, and those participating. The reasons for exclusion are outright refusal, failure to meet study criteria, and loss of patients who could not be included for the reasons indicated. Refusals comprise eleven per cent of the 1,842 patients identified.

Table 8 shows the number of patients participating by type of practice and type of indicator condition. The rather small number of congestive heart failure patients is at least partially due to the physicians' distaste for applying this label to many patients.

Table 4—Indicator Cases; Sources of Data for Elements Being Assessed

Elements	Sources of Data
1. Utilization	patient interview M.D. records hospital records
2. Cost and convenience	patient interview M.D. records hospital records laboratory records
3. Physician performance	M.D. records M.D. questionnaire
4. Communication	M.D. questionnaire patient interview
5. Compliance	M.D. records patient interview pharmacy prescription observation of patient (diabetes)
6. Physician awareness of patient conditions	patient interview M.D. questionnaire
7. Attitudes toward physician	patient interview
8. Outcome	
a. disease status	patient interview M.D. records hospital records
b. symptoms	patient interview
c. function	patient interview

Table 5—Indicator Cases; Scoring the Elements Being Assessed

	Elements	Indicator condition			
		Pregnancy	Infancy	Diabetes mellitus	Congestive heart failure
Practice	Utilization	1	1	1	1
Operation	Cost	1	1	1	1
Indices	Convenience	1	1	1	1
Clinical	Method of Diagnosis	NA	NA	3	NA
Competence	Management	2	2	2	2
	Communication	2	2	2	2
Doctor-Patient	Satisfaction	1	1	1	1
Interaction	Physician Awareness of Patient Concerns	2	2	2	2
	Compliance	2	2	2	2
	Control Status	NA	NA	3	NA
	Functional Status	3	NA	3	3
Outcome	Medical Complications	3	3	3	3
	Mother-Child Adaptation	NA	3	NA	NA
	Symptoms	3	3	NA	3
	Activity Index	NA	NA	NA	3

KEY:

NA-Not applicable to particular indicator condition

1-Both the data collected and the scoring methods are similar for all indicator conditions

2-Different data are collected but the scoring methods are similar for all indicator conditions

3-Both the data collected and the scoring methods are different for each indicator condition

Table 6—Physician Participation; Fort Wayne, Indiana

	Type of practice	No. of physicians in sampling frame*	No. of physicians contacted	Physician Withdrawals	Refusals	No. of physicians participating
Solo	General Practice	49	37	3	16	18
	Obstetrics & Gynecology	5	5	0	0	5
	Pediatrics	2	2	0	1	1
	Internal Medicine	9	9	2	3	4
Group	General Practice (2x3) (5x2)†	16	16	0	0	16
	Obstetrics & Gynecology (2x3)	6	6	0	3	3
	Pediatrics (2x2) (1x3)	7	7	0	0	7
	Internal Medicine (1x5) (1x3)	8	8	0	1	7
	Total	102	90	5	24	61
					32% of those contacted	68% of those contacted

*All licensed practicing physicians in Ft. Wayne are included with the exception of 1) those over 70 years of age, 2) those with offices outside of the study area and 3) those primarily in the practice of industrial medicine or emergency medicine.

†The parentheses contain the number of practices times the number of physicians within each practice.

Summary

This study is designed to determine the relative effectiveness of various systems for the delivery of primary medical care. Two methodologic approaches are used: a household survey to determine the factors which influence

entry into the health care system, and the indicator case model to determine the impact of medical care on the patient once he has entered the system.

The indicator case model has been applied to four indicator conditions: pregnancy, infancy, diabetes mellitus and congestive heart failure. Within the model, various ele-

Table 7—Patient Participation, Refusals and Exclusions; Fort Wayne, Indiana

	Type of practice	Patients Identified	Refusals No.	Per cent	Study criteria not met	Lost*	Patients participating
Solo	General Practice	456	55	12.1	37	69	295
	Obstetrics & Gynecology	126	9	7.1	6	14	97
	Pediatrics	60	2	3.3	7	11	40
	Internal Medicine	98	4	4.1	4	13	77
Group	General Practice	631	71	11.3	63	78	419
	Obstetrics & Gynecology	111	22	19.8	7	6	76
	Pediatrics	251	36	14.3	6	21	188
	Internal Medicine	109	10	9.2	17	16	66
	Total	1,842	209	11.3	147	228	1,258

*Residence out of study area, moved, language barrier, death, patient never presented himself at doctor's office, patient left practice, missed by office.

Table 8—Patient Participation by Indicator Condition; Fort Wayne, Indiana

	Type of practice	Pregnancy	Infancy	Diabetes	Congestive heart failure	Total
Solo	General Practice	74	121	70	30	295
	Obstetrics & Gynecology	97	0	0	0	97
	Pediatrics	0	40	0	0	40
	Internal Medicine	0	0	39	38	77
Group	General Practice	116	174	85	44	419
	Obstetrics & Gynecology	76	0	0	0	76
	Pediatrics	0	188	0	0	188
	Internal Medicine	0	0	50	16	66
	Total	363	523	244	128	1,258

ments have been identified whereby both the "cure" and "care" components of medical care can be measured. These elements are: utilization, cost/convenience, physician performance, communication from physician to patient, patient compliance, physician awareness of patient concerns, patient attitudes towards physicians and outcomes-functional, symptomatic and medical status. Patients are enrolled into the study through physicians' offices and clinics. Data concerning each patient are collected over a period of approximately six months from patient interviews, physician completion of questionnaires, and record data from physicians' offices, hospitals, laboratories and pharmacies.

The study is currently in progress in Ft. Wayne, Indiana where the entire community of primary care physicians and their patients are participating in the indicator case phase, and a probability sample of residents in 1,000 households are involved in the household survey.

Conclusion

Having presented primarily a study design, with a few comments on current operations and pretest results, we conclude with some observations. First, this study is the result of an unusual collaborative relationship between an academic institution, the Department of Epidemiology at the University of North Carolina and organized medicine, the American Academy of Family Physicians. The contribution from researchers and practitioners has been essential both to the development and to the application of this research design.

The second observation pertains to the impressions gained from the many participating physicians both in Fort Wayne and in the several pretest sites. Despite a full-time commitment to providing services, practitioners are willing to give of their time to a research activity which they see as being practice based and relevant to the real world of

medical care. They want feedback information on their practices. Physicians are asking for measures of their own performance and a comparison of their individual results with grouped data.

Another potential of the study is the educational impact. In the area of office records, comments are heard and observations are made that record data have improved in content, consistency and legibility. Several physicians have suggested that the instruments we have developed for evaluation have potential utility as educational tools.

Lastly, one must recognize the rather remarkable acceptance this study has achieved among physicians in private practice and their patients in a total community. We have gained access to medical and cost records in physicians' offices, hospitals, laboratories and pharmacies. To my knowledge, no other study has gained access to such a broad range of providers in the private sector of medical care, as has been achieved by this research in the delivery of primary medical care.

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Dr. Hulka is Associate Professor and Dr. Cassel is Professor and Chairman, Department of Epidemiology, University of North Carolina. The project upon which this publication is based was performed pursuant to Contract No. PH 110-283 between the American Academy of Family Physicians and the Public Health Service, Department of Health, Education and Welfare. The project was supported in part by the Health Services Research Center of the University of North Carolina through Research Grant 8 PO2 HS-000239 from the National Center for Health Services Research and Development. This paper was presented before the Epidemiology Section of the American Public Health Association at the One Hundredth Annual Meeting in Atlantic City, New Jersey on November 15, 1972.

By-Laws Amended by Governing Council

A new system of membership appointment, clearer role definitions, and the establishment of specific budgets marked By-laws amendments passed by the Governing Council, affecting both the Program Development and Action Boards.

Through the amendment of By-laws XII and XIII, the appointment base for each board will be altered from a non-representative basis, with each section having one representative on each board. Sections will submit panels of three names—to the Executive Board, in the case of PDB, and to the president, in the case of Action Board—from which appointments will be made.

The chairman and vice-president of the Program Development Board will still be chosen as they are now, by the Executive Board, although the terms of office of all PDB members will be shortened from four to three years. The president of the Association will continue to appoint the chairman of Action Board; the president-elect will appoint the vice-chairman. The immediate past chairman of the board will remain on the board for one year as well. The president-elect may choose to reappoint Action Board's chairman for an additional term.

The role of PDB in relation to APHA's scientific, technical, and policy activities has now been restated as responsibility for coordination of the development of technical data, standards, and the scientific basis of policy, using the existing resources represented by the sections whenever possible. In policy development, PDB will receive statements from originating units, secure additional input from other units, and approve the statements' final form for submission to the Governing Council. PDB will also be responsible for supervision of project activities, proposing project advisory committees when they are required and funding for them is available in the project itself.

Action Board's role, in relation to the policy process of the Association, has been redefined as responsibility for implementation, including the planning, development, and coordination of such implementation, using all possible APHA resources to achieve this. In policy development, Action Board will receive proposed statements from PDB and forward them to the Governing Council with a plan for implementation. If a statement is approved by the Council, the Board will then be responsible for setting "priorities for resource-allocation in pursuit of the implementation plan."

In addition, both PDB and Action Board will, for the first time, be allocated a specific annual non-personnel budget, representing a yet-to-be-determined per capita figure based on Association membership.