Does Family Practice at Residency Teaching Sites Reflect Community Practice?

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Background. Family medicine has aspired to train residents and conduct research in settings that closely resemble community practice. The purpose of this study was to compare the patient characteristics of the ambulatory teaching centers of a consortium of seven community-based university-affiliated family practice residency programs in northeast Ohio with the National Ambulatory Medical Care Survey (NAMCS) results for family physicians (FPs) and general practitioners (GPs).

Methods. Ninety-eight faculty and resident physicians at the residency training site of the Northeastern Ohio Universities College of Medicine collected data on all ambulatory patient visits (N = 1498) for one randomly chosen week between July 1, 1991, and June 30, 1992. We compared these data with patient visits reported in the 1990 NAMCS for FPs and GPs.

Results. The residency training sites saw slightly more children, women, blacks, and Medicare and Medicaid patients. The most common reason for an office visit in both populations was an undifferentiated symptom. Fifteen of the top 20 "reason for visit" codes were identical, as were 14 of the top 20 diagnoses. More preventive and therapeutic services were offered or performed at our residency training sites but fewer diagnostic services were performed. There were fewer consultations requested at our residency training sites but similar hospitalization rates for patients. The mean duration of visit differed by only 1 minute.

Conclusions. The residency training sites of the Northeastern Ohio Universities College of Medicine provide patient care opportunities similar to those found in a national survey of family and general practitioners.

Key words. Ambulatory care; internship and residency; family practice; primary health care research.
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The ambulatory care center has become an increasingly important site for medical education and research in the United States.[1-4] Technological advances and changes in payment systems have moved patient care from the hospital to the outpatient setting.[5,6] This shift has prompted critical review of many aspects of ambulatory care. These include efficiency, cost effectiveness, faculty time and support, curricula, case mix, and clinical experience.[7-13]

The primary setting for the training of family practice residents is the family practice center.[14] Under faculty supervision family practice residents provide continuing comprehensive care for an assigned panel of patients throughout their 3-year residency. This active "real life" practice attempts to prepare residents for the realities of independent practice.[15-17]

Family medicine has criticized prior medical research from tertiary care centers because of the selection bias. Is our research from family practice teaching sites also biased? How similar are the patients and the practice patterns of an ambulatory teaching unit to those of

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practices in the community? Holloway[18] has recently questioned the assumption that studies from teaching ambulatory sites are not representative of community practice. There are few empirical data to either support or refute the assumption. The generalizability of clinical research findings from ambulatory teaching sites depends on the demonstration of similarities in patient profile and management between the ambulatory teaching site and the community family practice.

Few studies have compared the practice profiles of family practice teaching sites and community family physicians. The original Virginia study[19] published in 1976 first described the content of family medicine. This study showed comparability between the content of teaching and nonteaching practices by diagnostic category. A later study by Rosenblatt and colleagues[20] described the structure and content of family practice but did not include family practice teaching sites. Ellsbury et al[21] compared the patient profiles of 35 senior residents in six family medicine teaching sites during the academic year 1985–1986 with the practice profile of family physicians and general practitioners in the National Ambulatory Medical Care Survey (NAMCS) of 1980–1981. Patients seen by residents were younger, had fewer chronic diseases, and presented more often for acute and pregnancy-related care than did the patients in the national survey. The differing methods of data collection and comparisons made across 5 years limit this comparison. There probably have also been changes in primary care ambulatory practice over the past decade.

The purpose of this study was twofold: (1) to describe the visiting patient characteristics of the family practice residency teaching sites in a consortium of seven community-based university-affiliated family practice residency programs in northeastern Ohio, and (2) to compare the patient profile of these teaching sites with the most recent and available (1990) NAMCS findings for ambulatory patients of family physicians and general practitioners.

Methods

The National Ambulatory Medical Care Survey is a nationwide probability survey of health providers designed to provide objective information about ambulatory medical services in the United States. The NAMCS is a continuous survey using a sample of physicians who collect data from a representative sample of their ambulatory office visits for 1 week. The survey addresses the characteristics of ambulatory patients seen in physicians' offices, the nature of their complaints, and their disposition. Patient visits to family physicians (FPs) and general practitioners (GPs) represent, on average, 30% of the ambulatory visits reported in the NAMCS.

The Northeastern Ohio Universities College of Medicine has seven affiliated community-based family practice residency training sites. These programs provide services in three communities in northeastern Ohio (Akron, Canton, and Youngstown). The seven residency programs have a combined panel of almost 40,000 registered patients. There were 126 physicians within these residencies (37 faculty physicians and 89 resident physicians) at the time of this study. The residency programs collected NAMCS information from July 1, 1991, through June 30, 1992. All faculty and second- and third-year residents at the centers were randomly assigned 1 week to collect data during the 12 months. Twenty residents who were in their first year of training were excluded because they saw too few patients in the family practice center. Eight physicians did not participate: three faculty members were not actively involved in patient care, one resident was on leave, and four other residents failed to return data collection forms. Physicians who were away during their assigned weeks were reassigned within the same month.

The residency training sites replicated the methods used in the NAMCS. The data collection period for each physician extended from Monday morning through the following Sunday evening. Receptionists entered each registering patient into the patient log and then attached the survey form to the patient's chart for the clinician to complete. Every patient receiving personal medical attention from the physician during the study week had a patient record form completed. This form included the patient's complaint(s) or reason(s) for the visit, diagnosis(es), diagnostic or screening service(s) provided, therapeutic service(s) provided, medication(s), disposition, and duration of the visit (time spent with physician only).

A supervising physician at each residency site checked each form for missing data, attempted to find those data, and then mailed the forms to the university office. The university coordinator reviewed the forms again for legibility and completeness, separated any identifying patient information from the data form, and mailed them monthly to the central coding office. The Ambulatory Sentinel Practice Network (ASPN) staff coded and entered the visit information. ASPN was simultaneously implementing the NAMCS in their network sites.

Diagnoses were coded using the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM).[22] The coding for "reasons for visit" used *A Reason for Visit Classification for Ambulatory Care*[23] developed by the American Medical Records Association

under the auspices of the National Center for Health Statistics. This coding system categorizes the patient's own words into over 4000 possible codes that can be collapsed into specific modules such as symptoms (both general and organ specific), diseases, treatments, administrative concerns, and other. Although up to three different patient complaints or concerns may be listed, we reported only the primary reason given by the patient. Medications were coded using a system developed by the NAMCS.[24,25]

We compared the descriptive data from the residency teaching sites with the 1990 NAMCS data set for family physicians and general practitioners. Statistics from NAMCS were derived by a multistage estimation procedure to produce an unbiased national estimate. To make comparisons between our data and that of the NAMCS, the standard errors for the FP and GP proportion of the NAMCS data were adjusted using the suggested correction formulas from the National Center for Health Statistics.[26] We calculated goodness-of-fit chi-square tests for comparison of categorical data. This test assesses whether the frequency distributions observed in the data from the residency training sites differed from that expected with the NAMCS proportions. Once overall differences were determined, we used pairwise *t* test comparisons to identify specific areas of difference. The Bonferroni inequality was used to establish the critical value of multiple comparisons significantly different at the $P < .05$ and $P < .01$ probability levels (two-tailed test).[27]

Results

Ninety-eight physicians at our residency teaching sites collected data from 1498 patient visits to them between July 1, 1991, and June 30, 1992. Visits to faculty physicians (34) represented 37.5% of the total visits in the sample. A comparison of the age, sex, and payment profile of the visits for this study with the visits made to the participating practices during the study year revealed no important differences.

The percentage of data missing from each category was not greater than 1% except for patient disposition (5.3%) and the identification of a presenting problem as either old or new (4.6%). The NAMCS reported an item nonresponse rate of 5% or less. These missing data were then imputed.

The ages and sexes of the visiting patients were similar in both surveys (Table 1). Although all ages and both sexes were fully represented, there were some significant differences. Visits by female patients, patients less than 5 years old, and those over 75 years of age were more frequent, while there were fewer visits by adults aged 45 to 65 years in the sample from the residency teaching sites.

Table 1. Comparison of Office Visits to University-Affiliated Residency Teaching Sites (N = 1498) and Family Physicians and General Practitioners of the NAMCS (N = 206,385,358*)

Patient Characteristics	Visits to Residency Teaching Sites, %	Visits to FPs and GPs of the NAMCS, %
Age, y†		
<5	12.3‡	8.1
5–14	7.6	8.6
15–24	12.7	11.8
25–44	27.1	28.6
45–64	18.3‡	22.7
65–74	10.9	11.4
≥75	11.0§	8.9
Sex¶		
Female	65.2‡	61.0
Male	34.8	39.0

**This number reflects the weighted universe data, not the sample data from the National Ambulatory Medical Care Survey. The National Center for Health Statistics produced those statistics (weights) by a multistage estimating procedure to make them generalizable to the nation.*
†Data for four patients at the residency teaching sites were missing.
‡P < .01.
§P < .05.
¶Data for six patients from the residency teaching sites were missing.
FPs denotes family physicians; GPs, general practitioners; NAMCS, National Ambulatory Medical Care Survey.

There were significant differences between the two patient samples in race and ethnicity. Most patients seen at our residency teaching sites and those seen by FPs and GPs in the NAMCS were white (82.8% and 84.4%, respectively). There was a greater frequency of visits by black patients to our residency teaching sites compared with the NAMCS of FPs and GPs (16.6% vs 8.6%, respectively, $P < .01$) and a lower frequency of visits by Hispanic patients (0.9% vs 5.5%, respectively, $P < .01$).

The most frequent source of payment for both patient samples differed (Table 2). Our teaching sites had a greater frequency of visits paid by private or commercial insurance, Medicaid, and Medicare than those in the practices of FPs and GPs in the national survey. In contrast, patient self-payment for visits was less frequent in our residency teaching sites than in the practices of FPs and GPs in the national survey. The practice profiles of both patient populations included all the major sources of payment.

The vast majority of visiting patients in our survey and in the national survey of FPs and GPs were self-referred (96.3% and 98.5%, respectively, $P < .01$); how-

Table 2. Expected Sources of Payment for Visits to University-Affiliated Family Practice Residency Teaching Sites (N = 1498) and Visits to Family Physicians and General Practitioners of the NAMCS (N = 206,385,358*)

Responses†	Visits to Residency Teaching Sites, %	Visits to FPs and GPs of the NAMCS, %
Private–commercial	35.4‡	28.5
Medicaid	26.7‡	12.3
Medicare	23.4‡	18.8
Patient paid	10.2‡	33.8
Health management organization	10.1‡	13.6
Other	5.0	4.9
No charge	0.3‡	0.8

**This number reflects the weighted universe data, not the sample data from the National Ambulatory Medical Care Survey. The National Center for Health Statistics produced those statistics (weights) by a multistage estimating procedure to make them generalizable to the nation.*
†There were more than one response for some visits.
‡P < .01.
FPs denotes family physicians; GPs, general practitioners; NAMCS, National Ambulatory Medical Care Survey.

Table 3. The 20 Most Common Principal Reasons for Patient Visits to University-Affiliated Residency Teaching Sites (N = 1498) and Visits to Family Physicians and General Practitioners of the NAMCS (N = 206,385,358*)

Reason for Visit	Visits to Residency Teaching Sites, Rank (%)	Visits to FPs and GPs of the NAMCS, Rank (%)
General medical examination	1 (6.5)†	3 (3.8)
Cough	2 (5.2)	1 (4.7)
Prenatal visit	3 (4.0)†	11 (2.0)
Hypertension	4 (3.7)	5 (2.5)
Blood pressure check	5 (2.9)	8 (2.3)
Earache	6 (2.4)	6 (2.4)
Abdominal pain	7 (2.4)	9 (2.3)
Back pain, NOS	8 (2.3)	4 (2.8)
Progress visit	9 (2.3)	14 (1.8)
Chest pain	10 (1.9)	15 (1.7)
Throat symptoms	11 (1.9)†	2 (4.6)
Pap smear	12 (1.9)	30 (0.9)
Headache	13 (1.8)	7 (2.3)
Diabetes mellitus	14 (1.8)	17 (1.4)
Sinus problem	15 (1.7)	23 (1.2)
Well-child care	16 (1.7)	19 (1.4)
Knee symptoms	17 (1.5)	28 (1.0)
Nasal congestion	18 (1.5)	20 (1.3)
Other ear symptoms	19 (1.4)	31 (0.9)
Shortness of breath	20 (1.4)	37 (0.6)

**This number reflects the weighted universe data, not the sample data from the National Ambulatory Medical Care Survey. The National Center for Health Statistics produced those statistics (weights) by a multistage estimating procedure to make them generalizable to the nation.*
†P < .01.
FPs denotes family physicians; GPs, general practitioners; NAMCS, National Ambulatory Medical Care Survey; NOS, not otherwise specified.

ever, our residency teaching sites had more physician referrals (3.7% vs 1.5%, respectively, $P < .01$). Visits by new patients (9.3% vs 14.7%, respectively, $P < .01$) and established patients with new problems (30.5% vs 37.7%, respectively, $P < .01$) were less frequent in our residency teaching sites than in the practices of FPs and GPs in the NAMCS. In both populations most visits were for undifferentiated symptoms; however, there were proportionately fewer of these visits made to our practices than to the practices of FPs and GPs in the NAMCS (58.2% vs 62.9%, respectively, $P < .01$). The diagnostic screening and prevention visits were much more common in the residency teaching sites than in the practices of FPs and GPs in the NAMCS (19.8% vs 13.1%, respectively, $P < .01$). There were similar distributions in our residency teaching sites and those from the national survey for several modules including treatments (5.1% and 5.4%, respectively), test results (1.1% and 1.2%, respectively), and administration (1.2% and 2.3%, respectively).

A comparison of the most common "reason for visit" responses revealed that 15 of the top 20 were identical (Table 3). The top 20 reasons for a patient encounter represented 50.2% of all presenting problems in the residency teaching sites. The most common "reason for visit" responses included visits for general medical examinations, prenatal visits, and visits for throat symptoms. Although five (cold, rash, school or employment examination, fever, and neck pain) of the top 20 "reason for visit" codes in the NAMCS of FPs and GPs were not among the top 20 given in our survey, they were found among the top 32 responses.

The most common diagnoses in both surveys were: reviewing diagnoses, diseases of the respiratory and circulatory systems, and supplemental classifications ("V" codes) that include general medical examinations and preventive care. Our survey had a greater percentage of supplemental visits than was found in the national survey of FPs and GPs (16.5% vs 10.5%, respectively, $P < .01$) and more visits for mental disorders (4.1% vs 2.5%, respectively, $P < .05$), but fewer visits for diseases of the respiratory system (16.1% vs 19.6%, respectively, $P < .01$), injury and poisoning (6.2% vs 8.7%, respectively, $P < .01$), and diseases of the musculoskeletal system and connective tissue (5.2% vs 8.0%, respectively, $P < .01$).

Table 4. The 20 Most Common Principal Diagnoses Made in Visits to University-Affiliated Family Practice Residency Teaching Programs (N = 1498) and to Family Physicians and General Practitioners of the NAMCS (N = 206,385,358*)

Principal Diagnosis	Visits to Residency Teaching Sites, Rank (%)	Visits to FPs and GPs of the NAMCS, Rank (%)
Unspecified hypertension	1 (8.3)	1 (6.4)
Otitis media, unspecified	2 (3.9)	4 (3.2)
Routine infant or child health check	3 (3.9)†	13 (1.3)
Normal pregnancy	4 (3.8)†	9 (2.0)
Acute respiratory infections	5 (3.4)	2 (4.0)
Diabetes mellitus	6 (3.0)	5 (3.0)
Bronchitis, not specified as acute or chronic	7 (2.8)	8 (2.6)
Routine or unspecified examination	8 (2.7)	3 (3.3)
Sinusitis, chronic	9 (2.3)	7 (2.7)
Allergic rhinitis	10 (1.4)	15 (1.2)
Urinary tract infection	11 (1.3)	14 (1.2)
Osteoarthritis and allied disorders	12 (1.3)	19 (1.0)
Depression	13 (1.3)	52 (0.5)
General symptoms	14 (1.3)	16 (1.2)
Asthma	15 (1.2)	18 (1.0)
Sprains/strains of sacroiliac region	16 (1.2)	42 (0.6)
Health examination, special population‡	17 (1.2)	50 (0.5)
Abdominal pain	18 (1.1)	49 (0.5)
Unspecified follow-up	19 (1.1)§	120 (0.2)
Viral influenza	20 (1.0)	47 (0.6)

**This number reflects the weighted universe data, not the sample data from the National Ambulatory Medical Care Survey. The National Center for Health Statistics produced those statistics (weights) by a multistage estimating procedure to make them generalizable to the nation.*
†P < .01.
‡Health examination, special population includes routine examinations of specific systems such as eyes/vision, ears/hearing, gynecological examinations, pregnancy examinations, radiological or laboratory examinations, and sensitization tests.
§P < .05.
FPs denotes family physicians; GPs, general practitioners; NAMCS, National Ambulatory Medical Care Survey.

The primary diagnoses in both survey samples were concordant for 14 of the top 20 (Table 4). The diagnoses found within the top 20 of our survey sample but not that of the national survey of FPs and GPs included depression, sprains and strains of the sacroiliac region, health examination of special populations (screening health examinations), abdominal pain, unspecified follow-up and viral influenza. Sprains and strains of other unspecified areas of the back and back pain and associated disorders were within the top 20 diagnoses found in the national survey of FPs and GPs. Although under various labels, back pain appeared in the top 20 diagnoses in both surveys. The other four diagnoses ranking in the top 20 found in the national survey of FPs and GPs but not in our survey sample included a category of general symptoms, acute pharyngitis, obesity, and dermatitis. Regardless of rank, the diagnoses of routine infant or well-child care, normal pregnancy, and unspecified follow-up care were proportionately more common in our patient sample.

When excluding blood pressure measurement, the percentage of office visits in each survey in which diagnostic services were ordered or provided was similar (Table 5). The variety of services provided or offered was different. More mammograms, Pap smears, and cholesterol tests were offered or provided to our patients than to those in the NAMCS. The FPs and GPs in the NAMCS ordered more chest radiographs.

Overall, more therapeutic services were provided at our residency teaching sites than in the practices of FPs and GPs surveyed nationally (56.6% vs 40.8%, respectively, $P < .01$). Our residency teaching sites had a higher percentage of visits for patient education than reported by FPs and GPs in the NAMCS (53.0% vs

Table 5. Office Visits by Diagnostic Services Made at University-Affiliated Family Practice Residency Teaching Programs (N = 1498) and to Family Physicians and General Practitioners in the NAMCS (N = 206,385,358*)

Diagnostic Services	Visits to Residency Teaching Sites (%)	Visits to FPs and GPs of the NAMCS (%)
Blood pressure	72.1†	51.2
Urinalysis	13.2	12.1
Mammogram (of women)	4.1†	2.2
Chest radiograph	2.1†	3.8
Pap test (of women)	8.4‡	6.3
HIV serology	0.2	0.1
Cholesterol measure	5.1‡	3.5
Visual acuity	0.9	1.5
Any diagnostic services provided§	41.6	43.9

**This number reflects the weighted universe data, not the sample data from the National Ambulatory Medical Care Survey. The National Center for Health Statistics produced those statistics (weights) by a multistage estimating procedure to make them generalizable to the nation.*
†P < .01.
‡P < .05.
§Any diagnostic service except checking blood pressure and medication.
FPs denotes family physicians; GPs, general practitioners; NAMCS, National Ambulatory Medical Care Survey; HIV, human immunodeficiency virus.

32.7%, respectively, $P < .01$) and about the same percentages for other counseling (18.0% and 20.9%, respectively) and psychotherapy (1.7% and 1.5%, respectively), but fewer referrals for physiotherapy (0.9% vs 2.7%, respectively, $P < .01$, respectively). Our physicians provided almost twice the amount of counseling for cholesterol reduction as the FPs and GPs in the NAMCS (5.9% vs 3.4%, respectively, $P < .01$), and almost three times the amount of counseling for smoking cessation (8.5% vs 3.0%, respectively, $P < .01$).

The physicians at the residency teaching sites recorded more medications per patient than the FPs and GPs in the NAMCS; this is true both for the mean number of medications recorded per visit (1.6 vs 1.2, respectively) and the lower percentage of visits for which there were no medications recorded (22.2% vs 30.9%, respectively, $P < .01$). Although the percentages of visits during which physicians recorded one and two medications were similar, the percentage of visits for which they recorded three or more medications was higher among physicians at the residency teaching sites than among FPs and GPs in the NAMCS ($P < .01$). The increased number of older patients in our sample did not account for the increase in medication noted.

The disposition of patient visits differed between the two surveys. Physicians scheduled patients to return at a specific time in 77.4% of the office visits to our practices, but in only 53.7% of those made to FPs and GPs in the NAMCS. Either the patient was told to return as needed (12.8% vs 29.1%, respectively, $P < .01$) or no follow-up visit was planned (5.0% vs 12.3%, respectively, $P < .01$) much less often in our practices than in those of FPs and GPs in the NAMCS. Our practices made more follow-up telephone calls than practices of FPs and GPs in the NAMCS (3.6% vs 2.7%, respectively, $P < .05$), but fewer referrals (3.2% vs 4.2%, respectively, $P < .05$). The rate of hospitalizations (0.6%) was the same in both.

The mean duration of visits found in our survey and those of practices in the NAMCS differed by only 1 minute (16 minutes vs 15 minutes, respectively). There were more 10-minute visits to the FPs and GPs in the NAMCS, whereas there were more visits lasting 15 minutes or longer to the physicians at our residency teaching sites (Figure). The modal visit duration for both populations was 15 minutes, whereas the median visit duration was 13 minutes for our patients and 12 minutes for patients visiting practices in the national survey.

Discussion

Patient visits for all ages and both sexes were well represented in both surveys. The greater frequency of visits by patients younger than 5 years of age to our practice sites is attributable to our greater participation in maternity care, as is the greater number of visits by women, more visits and diagnoses related to prenatal care, and a higher percentage of visits for Pap smears. The lack of visits from middle-aged adults is almost totally accounted for by the lower number of visits by men. The more than twofold frequency of referred patient visits in our sample may be related to the proximity and working relationships of the residency practices with affiliated tertiary care centers.

The proportion of white and nonwhite patients was similar between the two survey groups; however, our sample contained many more blacks and fewer Hispanics. This ethnic and racial distribution reflects the population of this area of northeastern Ohio.

The heterogeneous distribution of payment sources among our visits indicates that the residents at our teaching sites are exposed to a diverse socioeconomic patient population. Review of the "principal reasons for visit," the top 20 "reasons for visit," the primary diagnoses, and the top 20 diagnoses illustrates both the breadth of the presenting problems encountered by family physicians and the similarities between the two survey patient populations. The similarities are striking, whereas the differences are minor. The central message of these compari-

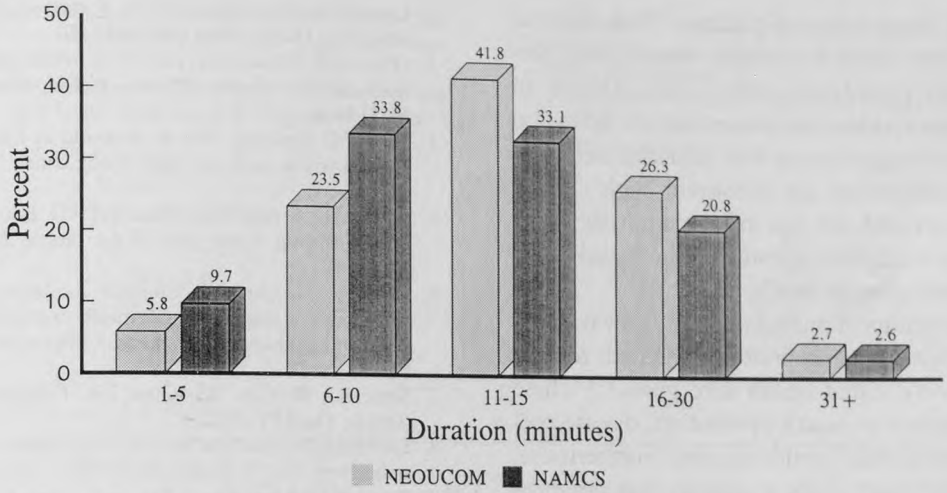

Figure. Distribution of office visits by duration of visits to the residency teaching sites of the Northeastern Ohio Universities College of Medicine (NEOUCOM) compared with visits to family physicians and general practitioners in the National Ambulatory Medical Care Survey.

sons is that this consortium of residency programs largely reflects the spectrum of family practice in the community.

Patient visits to the residency teaching sites more commonly involved three or more medications reviewed, newly ordered, or provided per visit. It is unclear whether these patients were taking more medication or the physicians at our sites simply reviewed the medications their patients were taking more regularly. If the patients were actually taking more medication, we do not know whether this indicates that our physicians had inappropriate prescribing practices or that our patients had more illnesses.

The higher percentage of visits for "diagnostic, screening, or preventive care" among patients at our residency training sites probably reflects the current emphasis in family medicine residency education on health promotion and disease prevention. This orientation is also evident by the higher percentage of visits for diagnostic or screening examinations and patient education. In spite of this orientation, there were still relatively few mammograms or human immunodeficiency virus screening tests ordered.

All our teaching programs have at least the equivalent of one full-time behavioral medicine faculty. This person provides consultation and expertise to faculty and residents concerning the biopsychosocial aspects of medical care.[28] This likely accounts for the appearance of depression in the top 20 diagnoses in our patient population and the higher percentage of diagnoses of "mental disorders" compared with patients seen by FPs and GPs of the NAMCS. The residency education may be having some success in correcting the underdiagnosis of depression in primary care.[29]

It is commonly accepted that residents are inefficient and generate higher patient care costs. In our residency training sites, however, fewer diagnostic services were offered or provided to patients than in the practices of FPs and GPs in the NAMCS, and those that were offered were recommended disease prevention and health promotion services. Those patients seen in our residency teaching sites were neither referred to other physicians nor hospitalized more frequently than those patients seen by FPs and GPs in the NAMCS.

It is also believed that physicians at training sites take significantly longer to see patients than physicians in practice. However, average visit durations for patients seen in our practices and in those of FPs and GPs in the NAMCS were very similar.

Conclusions

The residency review committee (RRC) requires that all family practice residencies have model practice sites that serve as the primary setting for residency education.[14] These teaching family practice centers must offer a "stable patient population of sufficient number and variety. . . . to ensure comprehensiveness and continuity of experiences to the residents."[14] Our data provide some insight into how well residency ambulatory teaching centers are meeting this educational goal.

Although comparison of the patients seen by FPs and GPs in the NAMCS with the patients seen at our residency sites does reveal some significant differences in both demographics and management, none of these differences is cause for educational concern. The residents

have access to a broad range of patients. That the residency teaching sites serve a younger, poorer, and predominantly female population reflects the inclusion of obstetrics in all the residency practices and the historical association of teaching practices with underinsured populations. These differences are consistent with current RRC requirements and are not of a magnitude as to interfere with the residents' exposure to the broad range of patient problems seen in family practice.

Based on the results of our survey, residency training in family medicine is appropriately oriented toward meeting the nation's stated health care goals.[1–3] These include an orientation to health promotion, disease prevention, and psychosocial health factors. Furthermore, based on this preliminary study it appears that care provided by residency programs is not more costly, at least in terms of rates of diagnostic services ordered, referrals, and hospitalizations.

Although this study illustrates the similarities between the patient visits to our residency teaching sites and to the FPs and GPs in the NAMCS, there were differences among the seven residency programs. Furthermore, practice profiles may vary considerably between residents, and our population includes faculty as well as resident physicians.

The similarities between the two sets of patient visits is striking. This supports the generalizability of primary care research at our teaching sites and responds to Nutting's call for research results that are "directly applicable to the varied patient population of other practice settings."[30]

In summary, our community-based university-affiliated consortium of family medicine programs provides education and research opportunities similar to those of practicing family physicians.

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1993 Pisacano Scholarship Winners

The Nicholas J. Pisacano, MD, Memorial Foundation, Inc. honored their first 10 Pisacano Scholars on October 18, 1993, in Washington, DC. The winners included:

Kirk Bollinger
University of Utah

Kara Cadwallader
University of California, San Francisco

Cheng-Chieh Chuang
Yale University

Eric Crall
Emory University

Kenneth Grimm
University of Pennsylvania

Penny Jeffery
University of Iowa

Linda Mann-Chien Lou
University of Washington

Katrina Posta
University of California, Los Angeles

Jamie Reedy
University of Medicine & Dentistry of New Jersey

David Turner
Dartmouth-Brown

The upcoming third and fourth-year medical students were chosen because of their academic excellence, strong character and interpersonal skills, and commitment to community service and family practice. Applications for the 1994 Pisacano Scholars Program must be received by **March 1, 1994**. For more information, contact J. Michael Pugh at (513) 398-7055 or Bonnie Griffioen at (606) 269-5626, ext 248.