
Family Practice and the Health Care System

Free-Standing Emergency Centers and the Patient Population of Family Physicians

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To determine whether the patients of free-standing emergency centers are similar to the patients seen by family physicians, the age, sex, time of visit, diagnoses, laboratory work, and charges for 1,062 patients from two free-standing emergency centers were compared with available data on the patients seen by a national sample of family physicians. Patients from the emergency centers were predominantly in the 20- to 44-year age range (73.8 percent), were male (56.5 percent), and sought trauma-related treatment or medical examinations (51.7 percent). Laboratory tests were ordered for 30.2 percent of these patients. In contrast, family practice patients were more evenly distributed by age, were more often female (57.6 percent), and had a wide variety of diagnoses. Laboratory tests were ordered for 40.3 percent of the patients. The median free-standing emergency center charge was approximately \$10 higher than initial visit fees to family physicians in the same area.

The rapid increase of free-standing emergency centers, convenience facilities with extended hours where paying patients receive medical care

without appointments, poses some threat to more traditional systems for delivering ambulatory care. The use of the word *emergency* in the generic name for these clinics, along with their extended hours, implies competition with hospital emergency departments. An initial study by Ferber and Becker¹ suggests, however, that the presence of free-standing emergency centers has not led to a decline in emergency department visits to hospitals in their service areas. The authors hypothesize, instead, that consumers may perceive these centers as a substitute for private physicians' offices.

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If free-standing emergency centers are, in fact, being perceived by consumers as substitutes for their private physicians' offices, then the practice profiles of free-standing emergency centers and those of private physicians should be quite similar. The study reported here was carried out to determine the demographic and diagnostic similarities and differences between the patient population seeking care in two free-standing emergency centers and the patients treated in the offices of a national sample of 9,180 family physicians. The focus of the comparison is on the age, sex, time of visit, diagnosis, laboratory work, and charges for the patients seeking care in each setting. The degree of similarity or contrast between these characteristics of emergency center patients and the patients of family physicians will help to determine the extent to which these centers compete with office-based family physicians.

Methods

The two free-standing emergency centers studied belong to a chain of non-hospital-affiliated clinics in Houston, Texas. The expansion of free-standing emergency centers has been most marked in the Sunbelt of the country, and the city of Houston has one of the largest proportions of convenience clinics to population in the United States. Both clinics are located in suburban centers contiguous to major thoroughfares. The proximity of family physicians in the areas where the clinics are located was documented through a comparison of postal ZIP codes with those of the clinics in the sample to insure that emergency clinic patients had the option of care by family physicians. Office hours for the two clinics are from 7 AM to 11 PM on weekdays and from 9 AM to 8 PM on weekends and holidays with the exception of Christmas and New Year's, when the clinics are closed.

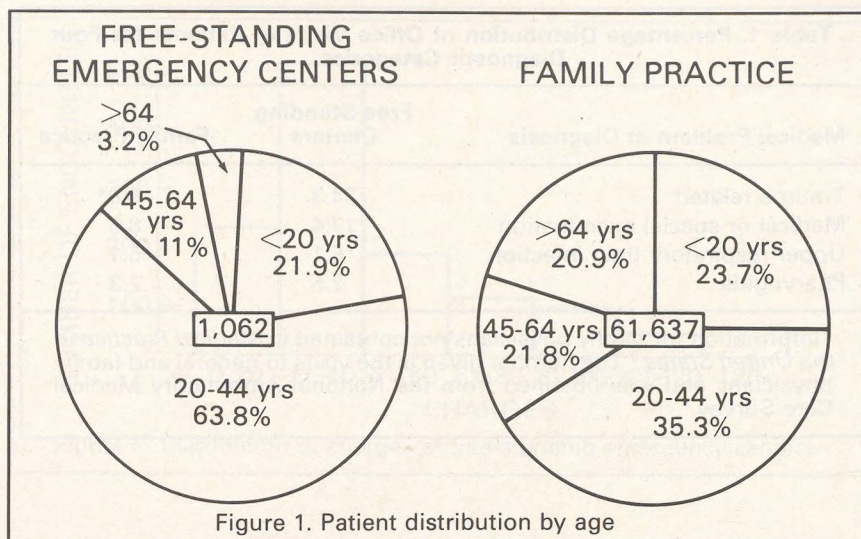
Each clinic is organized into areas specifically designated for emergency cases, pediatrics, gynecology, eye examinations, suturing, radiology, and laboratory. Eleven basic laboratory tests of hematology, chemistry, microbiology, serology, and urinalysis are performed on site. The clinics

each have a staff of four: a licensed physician, a licensed vocational or registered nurse, a registered medical technologist, and a receptionist. The physician has the title of medical director for the clinic and is responsible for physician coverage. This medical director is a salaried employee who is paid by the hour. Evening and weekend coverage is often provided by residents of a variety of specialties. The clinic medical director reports to a physician director of medical services for the company that owns and operates the free-standing emergency clinic chain. The chief executive of the company is a nonphysician.

The total number of visits in 1983 for the first clinic, clinic A, was 8,501, and for the second clinic, clinic B, was 11,765, equaling a combined census of 20,266. Clinic A opened at the beginning of January 1983. Clinic B has been open since August 1981. The two clinics in the present study advertise aggressively, including direct marketing appeals and mass-media coverage, in their efforts to attract patients.

Patient records at both clinics are source oriented rather than problem oriented and are accompanied by a form filled out by patients before they receive care. Records for 20 days were pulled in clusters of five consecutive days randomly chosen from four months of 1983: January, April, July, and October. Data tabulated were age, sex, time of visit, whether the patient claimed a family physician (this information was asked for on the sheet filled out by patients before being treated), diagnosis for visit audited, laboratory tests ordered, disposition of visit, and charges.

This information was compared with data from *Medical Practice in The United States*,² describing the practice profile of a national sample of 9,180 family physicians, 70.8 percent of whom were in office-based practices. The remaining 29.2 percent of the sample included institution-based physicians, residents, and other physicians involved in direct and nondirect patient care activities in practice arrangements neither specifically office based nor institution based, eg, corporate physicians. Data from the National Ambulatory Medical Care Survey³ are also used for comparison in a few cases to supplement the information from *Medical Practice in the United States*. The advantage of the latter publication is that it separates the practice profile of family physicians from that of



general practitioners, while the National Ambulatory Medical Care Survey groups the two.

Results

The 1,062 visits audited represent 5.2 percent of the total visits for 1983 to both clinics. The mean number of daily visits for the 20 days audited was 18.5 for clinic A and 29 for clinic B. The 1983 median weekly visit rate based on seven working days per week was 167.3 for clinic A and 237.3 for clinic B. In comparison, the median weekly patient-visit for all office-based physicians was calculated in 1982 as 108. This total does not include the hospital inpatient encounters, which constitute a significant portion of office-based physicians' workloads but are not part of free-standing emergency center physicians' work.

Figure 1 illustrates the combined distribution of patients by age for both free-standing emergency centers and for the national sample of family physicians.

Male patients represented 56.5 percent of the free-standing emergency centers' patient population compared with 42.4 percent of the family practice patients. About one half, 49.6 percent, of the emergency clinic patient sample listed the

name of a family physician on the patient information sheet attached to their medical records. Clinic patients seeking care on weekdays before 8 AM, after 5 PM and on weekends and holidays represented 55.3 percent of the sample population. Close to three fourths of the patients, 71.7 percent, in the sample were visiting the centers for the first time. Patients receiving worker's compensation for medical care represented 17.1 percent of the center's sample.

A comparison of some diagnostic frequencies for patients seen in free-standing emergency clinics and those seen by family physicians is shown in Table 1.

The incidence of trauma-related diagnoses at the free-standing emergency clinics studied is in marked contrast to the much smaller number seen in physicians' offices. Although specific figures for family physicians are lacking, the National Ambulatory Medical Care Survey³ lists 9.8 percent as the percentage of office visits for injury and poisoning to general and family physicians. This figure can be considered an approximation of the percentage of trauma patients seen by family physicians. The much larger percentage of free-standing emergency center trauma patients delineates one of the major differences between office visits to free-standing emergency clinics and

Table 1. Percentage Distribution of Office Visits of Patients for Four Diagnostic Categories

Medical Problem or Diagnosis	Free-Standing Centers	Family Practice
Trauma related	34.3	9.8*
Medical or special examination	17.4	8.5
Upper respiratory tract infection	6.1	5.1
Pharyngitis	2.5	2.3

*Information for family physicians not contained in *Medical Practice in the United States*.² The number given is the visits to general and family physicians and was obtained from the National Ambulatory Medical Care Survey.³

visits to family physicians. The relative homogeneity of diagnoses for center patients is also illustrated in Table 1. The three most frequent center diagnoses—trauma related, medical or special examination, and upper respiratory tract infection—constitute 59.4 percent of all free-standing emergency center diagnoses in the sample. This concentration of diagnoses is also in marked contrast to the much greater variety of diagnoses made by family physicians. Twenty-seven diagnoses are needed to encompass just 50 percent of the patients seen by family physicians.

Of the 1,062 patients in the free-standing emergency clinic sample, 75, or 7.0 percent, were referred elsewhere. This figure is quite similar to the percentage of referrals for the family practice patients, 7.6 percent. Center patients were referred most often to orthopedists (17 patients). Sixteen patients were referred to their own physicians, and 15 to an emergency room.

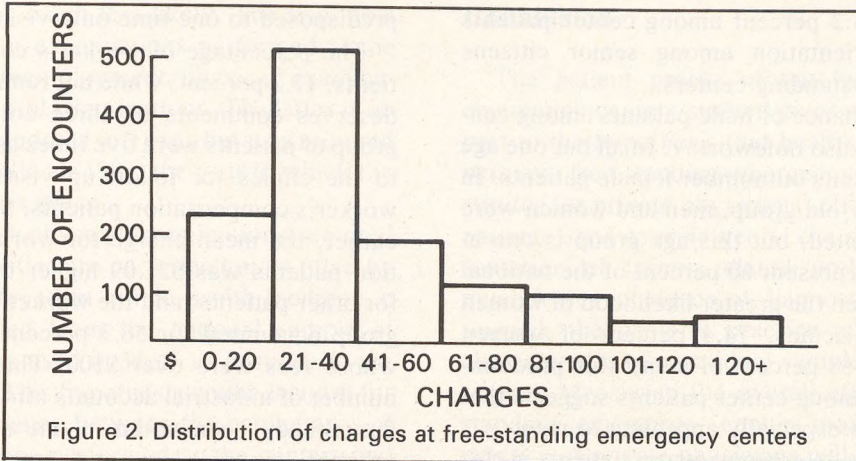
The percentage of diagnostic laboratory procedures ordered for the center patients is another area where differences exist between the Houston center physicians and the family physicians in the national sample. Laboratory procedures were ordered for 30.2 percent of the free-standing emergency center patients. The figure for the patients of family physicians was 40.3 percent. Table 2 illustrates the frequency of three common tests as ordered for center patients and for patients of family physicians.

Only in radiological tests are the percentages nearly the same. Routine laboratory tests of complete blood counts and urinalysis are ordered almost twice as often for the patients of family physicians as for the free-standing emergency clinic patients. The same is true for blood chemistry tests.

Of the free-standing emergency center visits, 70 were follow-ups for previously diagnosed problems. In 111 visits, patients were instructed to return to the center for further treatment. An additional 59 patients were counseled to return if necessary.

Charges for the free-standing emergency centers' patients ranged from no charge for clinic follow-up visits involving suture removal to \$208 for the treatment of a toe laceration and fracture. The base fee for clinic A was \$29 while for clinic B it was \$35. In both clinics 64 percent of patients were charged the base fee or less. Certain types of visits such as suture removal, shots, and school physicals were not charged the full base fee. Mean charges for the two centers combined were \$42.69. The median charges were \$35. The distribution of free-standing emergency clinic's charges is illustrated in Figure 2.

In a further analysis of charges, a marked difference in fees was apparent for the worker's compensation patients. The mean charge for these patients was \$60. Although this group made up only 182, or 17.1 percent, of the sample, they ac-



Laboratory Procedures	Free-Standing Emergency Centers	Family Practice*
Routine laboratory, complete blood count, and urine analysis	10.7	20.1
Radiology (including chest roentgenogram)	11.3	10.1
Blood chemistry	2.8	4.9

*Figures obtained from *Medical Practice in the United States*.²

counted for over one half, 58.3 percent, of the patients who were charged more than \$100.

Discussion

The comparison of patient characteristics of free-standing emergency centers with those of family physicians reveals a number of areas in which the two groups look quite different and a few areas in which they resemble one another. The differences in the age distribution of the two groups of patients is significant. The predomi-

nance of center patients aged between 20 to 44 years is striking, as this group represents a little more than one third, 35.3 percent, of the American population. Worker's compensation patients, most likely to be found in this age range, constitute 23.1 percent of the 677 free-standing emergency clinic patients in this group, a fact that offers only a partial explanation for the concentration. In contrast, the age group that visits physicians most frequently, adults aged 65 years and older, is significantly underrepresented among center patients. The over 65-year-old group constitutes 20.9 percent of family practice patients, 20.5 percent of general practice patients, and 35.2 percent of internal medicine patients. This group's represen-

tation of only 3.2 percent among center patients suggests an orientation among senior citizens away from free-standing centers.

The predominance of male patients among center's patients is also noteworthy. In all but one age group male patients outnumber female patients. In the over 64-year-old group, men and women were equally represented, but this age group is one in which women represent 60 percent of the national population. Given the greater likelihood of women to contact physicians, 74.4 percent of women compared with 68 percent of men,⁴ this predominance of men among center patients suggests that these clinics are especially appealing to men.

Free-standing emergency center patients in this study who claimed they had family physicians numbered 527, or 49.6 percent. In two previous studies,^{5,6} patients claiming physicians accounted for approximately one half of the center patients studied. Whether individuals do or do not have a personal physician does not seem to affect their decision to seek care in a free-standing emergency clinic. Kinney and Gerson⁷ in a study of a free-standing emergency clinic in Ohio found the proportion of patients with primary care physicians as high as 71.0 percent.

The issue of access to medical care is frequently cited as a causal factor in the development of free-standing emergency centers. In the study reported here, as well as in two others,^{6,7} the percentage of center patients making visits before 8 AM, after 5 PM, and on weekends was between 50 and 60 percent. The centers' extended hours and acceptance of patients on a walk-in basis are undoubtedly attractive features to many health care consumers.

The high percentage of patients who were visiting the free-standing emergency centers for the first time is probably related to the relatively short time the clinics have been open. The study reviewed records for clinic A's first year of operation. Over three fourths, 79.2 percent, of clinic A's patients were first-time users of the facility. Clinic B had been open for 16 months prior to January 1983, the first month for which records were audited. First-time users of clinic B in the sample numbered 64.7 percent. The number of pre-employment job physical examinations performed and minor trauma treated at these clinics suggests that a significant percentage of center users are

predisposed to one-time only visits.

The percentage of worker's compensation patients, 17.2 percent, while not remarkable in itself, deserves comments on three counts. First, this group of patients were five times as likely to return to the clinics for follow-up visits as were non-worker's compensation patients. Second, as noted earlier, the mean charge for worker's compensation patients was \$21.09 higher than the charges for other patients, and the worker's compensation group accounted for 58.3 percent of the patients whose fees were over \$100. Third, the growing number of industrial accounts attracted by centers has already been noted in one article as family practice groups' loss and emergency centers' gain.⁸

The distribution of office visits of free-standing emergency center patients according to diagnoses accentuates a marked difference between the convenience facilities and the practices of family physicians. The concentration of trauma-related problems presenting at the two centers studied is corroborated by a larger study of 44 centers located throughout the country.⁹ When center personnel in this national sample reported the patient problems most frequently treated by the facility, suture, lacerations, fractures, and casts were mentioned most often. In treating trauma-related problems, centers are competing with emergency departments much more than with family physicians, given the relatively small percent of accident and injury problems seen by office-based physicians.

In the area of medical and special examinations and upper respiratory tract infections, the free-standing emergency clinics studied are in clear competition with family physicians. While the percentage of upper respiratory tract infections seen at the centers is only slightly greater than that seen by family physicians, the percentage of medical or special examinations performed at the centers is double that performed by family physicians. Concerning the numbers of upper respiratory tract infections treated at emergency centers, a viable hypothesis would be that the high visibility and easy access to the convenience facilities influence individuals experiencing minor discomfort from self-limiting complaints to seek care, a decision they may not have made without these influences. But for medical or special examinations, that

possibility seems much less likely. The two most common types of examinations performed at the centers were preemployment physical examinations and premarital examinations. The latter is no longer legally mandated in Texas but was required during eight months of 1983, the year in which the visits audited took place.

It may be that physical examinations required for specific activities are performed most often by physicians employed in public health facilities, a category excluded from the national sample of family physicians used in *Medical Practice in the United States*.² This hypothesis could account for the large discrepancy between the percentages of these examinations performed at the centers and those reported by the family physicians in the sample.

The percentage of patient encounters in which laboratory tests are ordered in the centers studied, 30.2 percent, is lower than for any medical specialty except dermatology.³ Only in radiology do the centers' percentages become comparable to other medical specialties. The free-standing emergency clinics' radiology percentages slightly exceed the percentages for family physicians, but given the concentration of trauma patients seen in free-standing emergency clinics, the more frequent use of x-ray equipment is understandable. The relatively uncomplicated nature of the problems of most center patients is a likely explanation for the lack of laboratory tests ordered in the clinics studied.

Concerning charges, the base fees for the clinics studied are comparable to those reported by a larger national sample of independent free-standing emergency centers.⁹ The mean charges of the Houston centers are, however, approximately \$18 lower than those reported in the national sample. This charge may reflect lower local fees charged by Houston primary care physicians. Family physicians located in the vicinity of the centers are charging \$25 or less for initial visits in comparison with the \$29 and \$35 charged by the centers studied. Convenience facilities, in general, seem to be setting their fees somewhat higher than those charged by local physicians and significantly lower than those charged in hospital emergency departments. Here, again, the centers compete more aggressively with emergency departments than with office-based physicians.

Conclusion

The patient profile of the two free-standing emergency centers studied gives only limited support to the hypothesis that health care consumers perceive free-standing emergency centers as substitutes for private physicians' offices. The lack of patients aged over 44 years, the significant representation of trauma-related problems, and the much lower incidence of diagnostic workups distinguish the center's practice profile from that characteristic of a national sample of family physicians. Measuring the overall effect of the free-standing emergency center movement on the practice of private physicians will require years of study. At present, however, emerging patterns of free-standing emergency center visits seem to reflect clear distinctions made by patients between the care they seek in their physicians' offices and their reasons for visiting convenience clinics.

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