

Can I find a doctor?

Availability of primary care physicians in the San Francisco Bay Area

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Abstract

Objectives Primary care physicians function as “gatekeepers” in many managed care systems. With the rapid growth of managed care enrollment, it is crucial that patients have adequate access to primary care physicians. We investigated factors associated with new-patient appointment availability of primary care physicians in the San Francisco Bay Area.

Study Design Observational cohort.

Population Cross-sectional survey of primary care physician offices in 2 San Francisco Bay Area counties (n=438).

Outcomes Measured New-patient appointment availability.

Results Seventy-five percent of primary care physicians participating in managed care had an appointment available for a new patient. Appointments were more likely to be available with primary care physicians who had been in practice for 10 years or less (odds ratio [OR]=4.2; 95% confidence interval [CI], 1.7–10.3), compared with more established physicians; and with primary

care physicians who had graduated from a medical school outside of the United States (OR=3.5; 95% CI, 1.7–7.3), compared with US graduates.

Appointments within 30 days were less available with female primary care physicians (OR=0.4; 95% CI, 0.2–0.7) than for male primary care physicians.

Conclusions The limited availability of appointments for new patients may create barriers to primary care in the San Francisco Bay Area, a region with high managed-care penetration.

Recent studies and reports have examined the effect of physician supply on patient access to health care.^{1,2} However, physician availability is affected not only by distribution of practices, but by whether a patient can actually make an appointment with a provider.

The availability of primary care physicians is central to access to care in most managed care plans. Managed care systems often designate the primary care physician as the “gatekeeper,” the decision maker about patients’ referrals to specialists. Within this kind of system, a patient may not be able to obtain nonemergent care, including specialty care, without access to a primary care physician.

Furthermore, with at least 12% of people changing providers each year,^{3,4} it is not uncommon for an individual to need to find a new primary care physician who participates in their health plan. The amount of effort needed to find a

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primary care physician who is accepting new patients, and the possibility of waiting more than a month for an appointment, may affect an individual's access to care.

Because access to a primary care physician may be limited by these factors, our goal was to characterize the availability of a new-patient appointment with a primary care physician in the northern California counties of Alameda and San Francisco. We further examined whether physician characteristics (eg, sex, years of experience in practice) were associated with appointment availability.

■ METHODS

Study sample

The focus of the study was to examine the availability of primary care physicians for adults between the ages of 18 and 64 years with employer-sponsored insurance in the San Francisco Bay area. Interviewers, posing as patients, made telephone calls to primary care physician's offices, to parallel the experience of an actual patient seeking a new primary care provider. Current print and online directories of 3 large, open managed care plans available to employees of a large employer were reviewed.

These managed care plans function through an Independent Practice Association model. Two of the 3 plans require primary care physicians to be gatekeepers for all care within the system; ie, a patient must obtain a referral from the primary care physician to have a specialist visit covered by the insurance. The third plan allows patient self-referral to a specialist, but with a higher copay and deductible than with a specialist visit that has been approved by the primary care physician. Physicians working for Kaiser Permanente, the only closed-HMO plan in the study area, were excluded because Kaiser requires a member identification number prior to making an appointment.

Physicians were chosen if they were listed in each of the 3 plan directories, if they had practice addresses in the counties of Alameda or San Francisco, if they listed specialties of internal

A patient may not be able to obtain specialty care without a primary care physician

medicine or family medicine, and if their stated primary activity was clinical care. Doctors of osteopathy were not included.

This selection process identified 469 office-based physicians. Thirty-one physicians were determined to be ineligible during the data collection process (eg, did not meet the original study criteria when the interviewer called). The final study sample was 438 physicians.

Information on 157 physicians was available from the 1997 American Medical Association (AMA) Masterfile, including sex, race/ethnicity, medical school attended, and year of graduation from medical school. For physicians not listed in this older version of the Masterfile, the physician's sex was obtained either at the time of the interview or from an online plan directory that had this information.

For physicians not listed in the Masterfile or for those with missing information on race/ethnicity, Asian race was determined by investigator review of last names; race/ethnicity for all others was coded as "missing." Medical school location and year of graduation from medical school for all physicians were obtained from the physician lookup feature of the Medical Board of California Web site.

Data collection

Interviewers made telephone calls to primary care providers' offices from July 1999 to January 2000. The interviewers posed as patients new to the area, to parallel the experience of an actual patient seeking a new primary care provider.

Telephone calls were made between 9 AM and 5 PM, Monday through Friday. Once an appointment representative for the primary care physician was reached, the interviewer attempted to make an appointment for an initial physical examination, using a standard script. The interviewer

The length of time to appointment among these physicians ranges from zero to 151 days

stated that she was a new employee, and was in the process of choosing a health plan, based on which insurance plans the primary care physician she was calling currently accepted. If asked what her insurance choices were, the interviewer named the 3 managed care plans used for selecting physicians for the study. If asked for an insurance card number, the interviewer stated that she would bring the appropriate insurance card to the appointment, and would cancel the appointment in advance if the insurance card had not arrived in time for the appointment. If asked, the interviewer stated that she had no urgent health problems. If an appointment was available for a date more than 2 weeks away, the interviewer booked the appointment and canceled it within 1 business day of the initial call.

If the appointment date was less than 2 weeks away, the interviewer noted the time and date but did not book the appointment.

Interviewers recorded information on appointment availability, date and time of appointment, and reason for unavailability. This study was approved by the Committee on Human Research, University of California, San Francisco.

Data and statistical analysis

Several potential predictors of physician availability were examined, including physician's sex, race/ethnicity, years since graduation from medical school, medical school location, county of practice, and median per capita income of the zip code in which the practice was located. Descriptive statistics on these demographic factors were generated according to appointment availability with Pearson χ^2 tests.

We analyzed the ability to get a new-patient appointment with a given primary care physician using a multivariate logistic regression model. Variables were included in the model based on a

priori hypotheses. A new race/ethnicity category was created for the logistic regression models by combining African American, Latino, and other, due to small numbers for these groups.

The length of time to an available appointment was also examined. Time to appointment was dichotomized into early appointment (within 0–30 days) and late appointment (>30 days' wait).

RESULTS

Of the 438 physicians included in the final sample, 328 (74.9%) had an appointment available for a new patient with managed care insurance. Availability varied by physician race/ethnicity, medical school location, years since graduation from medical school, and the median per capita income of the residents in the zip code of the primary care physician's practice (**Table 1**).

Appointments were not available for several reasons. Of the 110 primary care physicians who had no appointment available to new patients, 87 (79.1%) were not accepting new patients because of a full practice. Three (2.7%) were on leave or were about to retire. Ten (9.1%) receptionists were unable to book an appointment either because they did not have access to schedules far enough in advance, or because of a basic communication difficulty during repeated calls. One (0.9%) primary care physician was only accepting referred patients. One (0.9%) primary care physician saw only monolingual Chinese-speaking patients.

Eight (7.3%) primary care physicians classed as unavailable required some form of screening, separate from inquiries about insurance or intake assessment forms, before a new patient could be considered for an appointment. Of these 8 physicians, receptionists for 5 said that the physician needed to speak directly with the patient to determine eligibility (not related to insurance), and 1 required a receptionist-administered telephone interview that would be shared with the primary care physician. One required that a written personal questionnaire be filled out and returned for this purpose. The sole

TABLE 1

Characteristics of physicians in study

Characteristic	N (%)	Appointment available (% of total)
Sex		
Male	328 (74.9)	74.7
Female	110 (25.1)	75.5
Race/ethnicity		
White	170 (38.8)	68.8
Asian	117 (26.7)	74.4
African American	7 (1.6)	85.7
Latino	4 (0.9)	100
Other	8 (1.8)	100
Missing	132 (30.1)	80.3
County		
Alameda	217 (49.5)	74.7
San Francisco	221 (50.5)	75.1
Years since graduation from medical school		
≤10	61 (13.9)	88.5*
11–20	123 (28.1)	74.8
>20	254 (58.0)	71.7
Medical school location		
US	344 (78.5)	71.5†
Foreign	94 (21.5)	87.2
Yearly median income of residents in zip code of practice‡		
Low	148 (33.8)	75.7§
Middle	144 (32.9)	81.3
High	146 (33.3)	67.8
Total	438 (100)	74.9

* $P=.02$ for χ^2 comparing differences in appointment availability by years since graduation from medical school.

† $P<.01$ for χ^2 comparing differences in appointment availability by medical school location.

‡ Low: \$5,106–\$22,370; middle: \$22,371–\$36,507; high: \$36,508–\$51,926.

§ $P=.03$ for χ^2 comparing differences in appointment availability by yearly median income of residents in zip code of primary care physician's practice.

TABLE 2

Characteristics associated with appointment availability (multivariate logistic regression)

Characteristic N=438	OR	95% CI
Sex		
Male	—	—
Female	0.7	0.4–1.3
Race/ethnicity		
White	—	—
Asian	0.8	0.4–1.5
African American/ Latino/other	6.5	0.8–52.7
Missing	1.7	1.0–3.0
County		
Alameda	—	—
San Francisco	1.7	1.0–2.8
Years since graduation		
≤10	4.2	1.7–10.3
11–20	1.1	0.6–1.9
>20	—	—
Medical school location		
US	—	—
Foreign	3.5	1.7–7.3
Yearly median income of residents in zip code of practice*		
Low	1.7	0.9–3.1
Middle	2.1	1.1–4.0
High	—	—

OR, odds ratio; CI, confidence interval
 * Low: \$5,106–\$22,370; middle: \$22,371–\$36,507; high: \$36,508–\$51,926

remaining primary care physician did not accept current smokers as patients.

Predictors of appointment availability

Recent graduates were more likely to have an appointment available than more established physicians (OR=4.2; 95% CI, 1.7–10.3) (Table 2). Foreign medical school graduates were also more likely to have an appointment available than US-educated physicians (OR=3.5; 95% CI, 1.7–7.3). Primary care physicians practicing in middle-income zip codes were more likely to have a new-patient appointment than those with offices in high-income zip codes (OR=2.1; 95% CI, 1.1–4.0).

Predictors of length of time to appointment

The length of time to appointment among those primary care physicians with an available appointment ranged from 0 (same-day appointment) to 151 days; the median was 13 days. Seventy-five percent of appointments were available within 30 days. As shown in Table 3, female primary care physicians were significantly less likely than male primary care physicians to have an appointment available within 30 days (OR=0.4; 95% CI, 0.2–0.7).

DISCUSSION

These results suggest that in a highly capitated urban area in California, access to primary care physicians may be restricted for patients seeking a new provider. The median waiting time for a new-patient appointment was 13 days, but the range was wide, from same-day appointments to 151 days of waiting time.

The most common reason for primary care physician unavailability was a “full practice.” In addition, a few primary care physicians required some form of screening before they would consider accepting a new patient into their practice. These screening practices may be a barrier to care. Under current managed care systems, appointment unavailability and long length of wait affect not only primary care services, but also access to specialty care.

This study gathered information on physician availability by means of research assistants posing as patients. We believe that surveying physicians using concealed intent was necessary to directly assess the experience of patients. This design was chosen to minimize inaccurate and potentially biased information.

Similar studies

At least 3 previous studies have used this method to obtain direct information on physician availability. After surveying ambulatory care clinics in 10 US cities, the Medicaid Access Study Group reported a difference in the length of waiting time to an appointment according to insurance status.⁵ Schwartz et al,⁶ who studied New York City obstetricians, found that only 42% of pregnant women were able to obtain a prenatal appointment with a physician, with waiting times ranging from 2 days to 7 weeks. Gifford,⁷ in a survey of Chicago area obstetricians, found that 36% accepted new Medicaid patients, and that fewer obstetricians worked in the poorest zip codes.

Physicians' characteristics

Certain characteristics of the physicians were associated with availability or time to appointment. Female primary care physicians were significantly less likely to have an "early" appointment (within 30 days) available compared with male primary care physicians. Primary care physicians who had graduated from a medical school outside the US were more available than those who had attended a school in the US. Less experienced primary care physicians were more available than more experienced providers.

We were not able to analyze the availability of African American and Latino physicians separately due to their small numbers. When physicians identifying themselves as African American, Latino, or "other" were combined, the result did not significantly predict availability. The dearth of African American and Latino primary care physicians was striking: these 2 groups comprised only 2.5% of the study sample (n=11).

TABLE 3

Physician characteristics associated with early appointment availability* (multivariate logistic regression)

Characteristic N=309	OR	95% CI
Sex		
Male	—	—
Female	0.4	0.2–0.7
Race/ethnicity		
White	—	—
Asian	1.5	0.7–3.3
African American/ Latino/other	0.4	0.1–1.6
Missing	1.0	0.5–2.0
County		
Alameda	—	—
San Francisco	0.8	0.4–1.5
Years since graduation		
≤10	0.5	0.2–1.1
11–20	0.9	0.4–1.6
>20	—	—
Medical school location		
US	—	—
Foreign	2.0	0.9–4.5
Yearly median income of residents in zip code of practice[†]		
Low	1.0	0.5–2.1
Middle	0.7	0.3–1.6
High	—	—

OR, odds ratio; CI, confidence interval

* Early appointment is within 0–30 days; late appointment is over 30 days' wait

† Low: \$5,106–\$22,370; middle: \$22,371–\$36,507; high: \$36,508–\$51,926.

Patients may have difficulty obtaining access to primary care because practices are closed to new patients

Limitations

Our study has several limitations. By excluding pediatricians, we were unable to determine primary care physician availability in Independent Practice Association plans for children in the study area. Osteopathic and general practitioners were also excluded; however, these practitioners comprise only a small percentage of primary care physicians in the study area. Information about physician race/ethnicity was frequently unavailable, which limits our ability to make conclusions about the effect of race/ethnicity. Moreover, to minimize missing data on race, we assumed Asian ethnicity for primary care physicians with Asian-origin surnames, and these assumptions may be a source of bias. We repeated analyses without the Asian race assumptions and found a similar lack of association for race in the multivariate models.

Also, we examined only new-patient availability. We do not know what proportion of adults in the study area have an established primary care provider. However, Medical Expenditure Panel Survey data have shown that 73% of the US population has an office-based usual source of health care, and almost 12% of families have members who change their usual source of care each year.³

If these figures are similar for the San Francisco Bay Area population, then finding a new primary care physician is important for a significant number of people in our study area each year. Because this study dealt only with primary care providers in 2 counties of the San Francisco Bay Area, the results may not be generalizable to other regions.

Because our study goal was to characterize the availability of primary care physicians who were gatekeepers in open managed care plans, we obtained information on appointment availability for routine examinations. Results may have differed if we had sought appointments for an

urgent health care issue. Finally, we examined access to care in an Independent Practice Association–model managed care system. These findings may not be generalizable to other types of managed care models.

Conclusions

Physician availability is necessary for access to care within managed care plans. By defining primary care physician availability not only as presence in an area, but also as willingness to accept new patients, we are able to better identify potentially unmet needs for primary care. This study demonstrates that in the San Francisco Bay area, patients may experience moderate difficulty in obtaining access to primary care because practices are “closed” to new patients. Managed care plans should consider whether provider availability limits access to medical services in a specific region.

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