

## Special Article

## ARE PATIENTS' OFFICE VISITS WITH PHYSICIANS GETTING SHORTER?

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**ABSTRACT**

**Background** Many believe that managed care creates pressure on physicians to increase productivity, see more patients, and spend less time with each patient.

**Methods** We used nationally representative data from the National Ambulatory Medical Care Survey (NAMCS) of the National Center for Health Statistics and the American Medical Association's Socioeconomic Monitoring System (SMS) to examine the length of office visits with physicians from 1989 through 1998. We assessed the trends for visits covered by a managed-care or other prepaid health plan (prepaid visits) and non-prepaid visits for primary and specialty care, for new and established patients, and for common and serious diagnoses.

**Results** Between 1989 and 1998 the number of visits to physicians' offices increased significantly from 677 million to 797 million, although the rate of visits per 100 population did not change significantly. The average duration of office visits in 1989 was 16.3 minutes according to the NAMCS and 20.4 minutes according to the SMS survey. According to both sets of data, the average duration of visits increased by between one and two minutes between 1989 and 1998. The duration of the visits increased for both prepaid and non-prepaid visits. Non-prepaid visits were consistently longer than prepaid visits, although the gap declined from 1 minute in 1989 to 0.6 minute in 1998. There was an upward trend in the length of visits for both primary and specialty care and for both new and established patients. The average length of visits remained stable or increased for patients with the most common diagnoses and for those with the most serious diagnoses.

**Conclusions** Contrary to expectations, the growth of managed health care has not been associated with a reduction in the length of office visits. The observed trends cannot be explained by increases in physicians' availability, shifts in the distribution of physicians according to sex, or changes in the complexity of the case mix. (N Engl J Med 2001;344:198-204.)

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**T**HERE is a wide consensus that managed care has substantially reduced the length of patients' office visits with physicians.<sup>1-9</sup> Kenneth Ludmerer, for example, expresses this view:

Perhaps the most extraordinary development in medical practice during the age of managed care was that time, in the name of efficiency, was being squeezed out of the doctor-patient relationship. Managed care organizations, with their insistence on maximizing "throughput," were forcing physicians to churn through patients in assembly line fashion at ever-accelerating rates of speed. . . . By the late 1990s, the pressure on doctors to see more patients in less time showed no signs of abating, and many doctors were staggering under the load.<sup>1</sup>

These observations are supported by physicians' responses to surveys.<sup>10,11</sup> In a 1991 survey of young physicians, approximately 84 percent of respondents felt that they had the freedom to spend adequate time with patients. In 1997, a follow-up survey focused on young physicians in the 75 largest metropolitan areas in the United States, and only 32 percent reported that they could spend sufficient time with patients.<sup>10</sup> A comparison of the responses of young physicians in California in 1996 with those of an age-matched group of physicians from the 1991 survey of young physicians found an almost 14 percent drop in the proportion who thought they had the freedom to spend sufficient time with patients; among primary care physicians the decline was even greater (24 percent).<sup>11</sup>

Physicians have been vocal about their dissatisfaction with the changes in medical care, the growth of managed care, and their loss of professional autonomy. We report on two sources of national data that permit a more rigorous assessment of changes in the length of office visits with physicians between 1989 and 1998, a period characterized by the rapid expansion of managed care.<sup>12</sup>

**METHODS****National Ambulatory Medical Care Survey**

We analyzed data from the National Ambulatory Medical Care Survey (NAMCS) of the National Center for Health Statistics from 1989 through 1998.<sup>13-17</sup> These surveys involve multistage

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probability samples of visits to office-based physicians, excluding anesthesiologists, pathologists, and radiologists. The rate of response to the survey varied from 68 percent to 74 percent over the 10-year period. A systematic random sample of visits to each physician was selected during one randomly chosen one-week period. The number of visits sampled per year ranged from 24,715 to 43,469. The estimates we present were calculated with the weighting used by the NAMCS to adjust for nonresponse and to render estimates nationally representative.

For each visit selected, the physician or a member of the physician's staff provided information about the characteristics of the patient, the duration of the visit, the reason for the visit, any diagnoses made, and any tests and procedures performed. From 1989 through 1996, "prepaid/HMO [health maintenance organization] plans" was listed as one option for the response to a question about the expected source of payment. In 1997 and 1998, the survey asked if the patient belonged to an HMO or if the visit was covered by a capitated insurance plan. If there was a positive response to either question, the visit was classified as "prepaid." Our analyses were limited to visits during which the patient saw a physician. The duration of the visit included only the time that the physician spent in face-to-face contact with the patient. Duration was examined for visits to all physicians, for visits to primary care physicians (those in general or family medicine, internal medicine, and pediatrics), and for visits to specialists. Duration was also examined separately for new patients and established patients.

The primary diagnosis was coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification*,<sup>18</sup> and we examined changes in the duration of patients' visits for general medical examinations, for the five most common primary diagnoses in 1998 (upper respiratory tract infection, hypertension, routine checkup for an infant or child, normal pregnancy, and arthropathy and related conditions), and for the diagnoses associated with the leading causes of death in 1997 (heart disease and malignant neoplasms).<sup>19</sup> We examined changes in the provision of the 34 services — including diagnostic tests, examinations, and counseling — for which there were data from at least three years.

#### American Medical Association Data

The Socioeconomic Monitoring System (SMS),<sup>20-22</sup> an annual survey conducted by the American Medical Association (AMA) and designed to collect nationally representative information about physicians' practices, provided corroborating data. The population sampled was non-federally employed physicians who were engaged primarily in patient care and who were listed in the AMA's Physician Masterfile. The rate of response varied from 72 percent in 1989 to 52 percent in 1998. The estimates were weighted to adjust for nonresponse.

The average duration of an office visit was estimated by dividing the average number of hours the physician reported spending with patients in his or her office each week by the average number of patients the physician reported seeing per week. The duration of the visit excluded the time spent by the physician in caring for patients in other settings, performing administrative tasks, consulting over the telephone, engaging in professional activities, and performing such tasks as interpreting laboratory results or x-ray films. Questions regarding these activities were not asked of psychiatrists, radiologists, anesthesiologists, or pathologists.

The SMS and the NAMCS cover different, although overlapping, populations of physicians, and data from the SMS surveys permit only crude approximations of the length of visits. However, to the extent that patterns reported in the SMS data are similar to those found in the NAMCS, we can have additional confidence in the validity of the results.

#### Statistical Analysis

For the SMS estimates, we used published standard errors to calculate confidence intervals. SUDAAN software<sup>23</sup> that adjusts variances to account for the complex designs of the surveys was used to calculate standard errors for the NAMCS estimates. We used

t-tests to assess the differences between the mean duration of prepaid visits in a given year and the mean duration of non-prepaid visits in that year. For the NAMCS estimates, regression analyses were used to test for significant linear trends, and we present the beta coefficients for the time variable (year of survey), along with the corresponding P values. For trends that appeared to be non-linear, we computed regression models that added the exponential term for year. In no instance did adding this term improve the fit of the model; therefore, the results of these computations are not presented. Because the samples were large, even small changes are statistically significant in analyses that involve data from all 10 years. Therefore, we also constructed confidence intervals around the differences between the estimates for 1989 and those for 1998 in order to show the magnitude of change. Intervals that include zero indicate that the difference is not significant; confidence limits that approach zero indicate that the difference is not substantial.

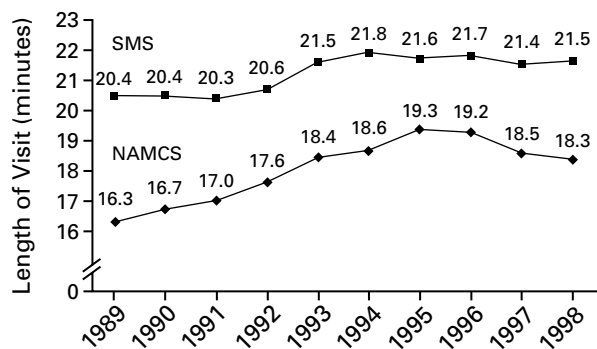
#### RESULTS

The NAMCS data indicate that the number of visits during which the patient met with a physician increased significantly by about 120 million (95 percent confidence interval, 43 million to 196 million), from 677 million visits in 1989 to 797 million in 1998. The rate of visits per 100 population increased from 278 in 1989 to 296 in 1998 — an increase of 6.5 percent — although this increase was not significant (difference, 18 visits per 100 population; 95 percent confidence interval, -12 to 48).

The data from both the NAMCS and the SMS indicate an upward trend in the duration of office visits to physicians (Fig. 1). Data from the SMS indicate that the average duration of visits increased by 1.1 minutes (95 percent confidence interval, 0.1 to 2.1) between 1989 and 1998. Data from the NAMCS indicate that the mean duration of visits in 1998 was 2.0 minutes longer (95 percent confidence interval, 1.4 to 2.7) than in 1989. The NAMCS data also show a nonsignificant decline of about 1 minute (95 percent confidence interval, -2.1 to 0.1) between 1995 and 1998.

Data from the NAMCS indicate that the number of prepaid visits more than doubled over the period studied, increasing from 102 million in 1989 (95 percent confidence interval, 85 million to 119 million) to 261 million in 1998 (95 percent confidence interval, 232 million to 290 million). Consequently, the proportion of visits that were prepaid grew from 15.4 percent of all visits in 1989 to 33.1 percent in 1998 (difference, 17.7 percentage points; 95 percent confidence interval, 13.9 to 21.4).

Data from the NAMCS (Fig. 2) also indicate that over the 10-year period, the length of prepaid visits increased by 2.5 minutes (95 percent confidence interval, 1.4 to 3.5) and the length of non-prepaid visits increased by 2.1 minutes (95 percent confidence interval, 1.3 to 2.9). In 1989, prepaid visits were about 1 minute shorter (95 percent confidence interval, 0.03 to 1.96) than non-prepaid visits ( $t=2.15$ ,  $P=0.04$ ). By 1998, this gap had shrunk to 0.6 minute (95 percent confidence interval, -0.65 to 1.93) and was not statistically significant ( $t=1.63$ ,  $P=0.11$ ).

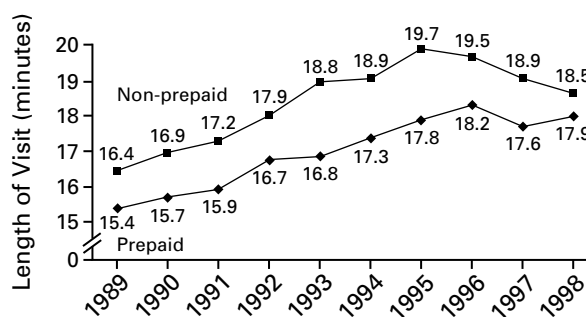


**Figure 1.** Mean Length of Office Visits to Physicians, According to the Socioeconomic Monitoring System (SMS) of the American Medical Association and the National Ambulatory Medical Care Survey (NAMCS) of the National Center for Health Statistics. For the NAMCS estimates, regression analyses were used to test for significant linear trends; the beta coefficient for the variable for year was 0.27 ( $P < 0.001$ ).

The NAMCS data indicate that the mean length of prepaid visits to primary care physicians increased by 2.0 minutes (95 percent confidence interval, 0.7 to 3.3), although the upward trend was not consistent in all the years studied (Fig. 3). Similarly, the mean length of non-prepaid visits to primary care physicians increased by 2.6 minutes (95 percent confidence interval, 1.5 to 3.7). The mean length of prepaid visits to specialists increased by 2.6 minutes (95 percent confidence interval, 0.8 to 4.3); the increase in the length of non-prepaid visits to specialists was 1.6 minutes (95 percent confidence interval, 0.5 to 2.7). Between 1995 and 1998, however, the length of non-prepaid visits to specialists declined significantly by 2.7 minutes (95 percent confidence interval, 1.1 to 4.3).

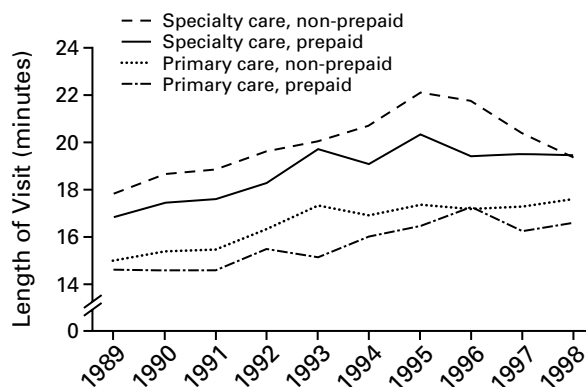
Only for psychiatrists does there appear to have been a downward trend in the length of visits. Between 1989 and 1998, the length of non-prepaid visits to psychiatrists declined by 4.5 minutes (95 percent confidence interval, -0.5 to 9.5), although the confidence interval includes zero, indicating that the difference is not significant. The samples were too small in the early years to allow reliable estimates for prepaid visits to psychiatrists, but the reduction in the length of visits appears to have been minimal (37.7 minutes vs. 36.7 minutes).

According to the NAMCS data, there was an upward trend in the duration of office visits for both established patients and new patients (data not shown). The mean length of non-prepaid visits for established patients increased by 2.2 minutes (95 percent confidence interval, 1.4 to 3.0), and the increase for new patients was 2.8 minutes (95 percent confidence interval, 1.2 to 4.5). For prepaid visits, the increase was



**Figure 2.** Mean Length of Office Visits to Physicians According to Whether the Visit Was Covered by a Prepaid Insurance Plan, 1989 through 1998.

Data are from the National Ambulatory Medical Care Survey. Regression analyses were used to test for significant linear trends; the beta coefficient for the variable for year was 0.30 for non-prepaid visits and 0.28 for prepaid visits ( $P < 0.001$  for both betas).



**Figure 3.** Mean Length of Office Visits to Physicians According to Whether the Visit Was Covered by a Prepaid Insurance Plan, for Primary and Specialty Care Visits, 1989 through 1998.

Data are from the National Ambulatory Medical Care Survey. Regression analyses were used to test for significant linear trends; the beta coefficient for the variable for year was 0.29 for non-prepaid specialty care visits, 0.26 for prepaid specialty care visits, 0.29 for non-prepaid primary care visits, and 0.26 for prepaid primary care visits ( $P < 0.001$  for all betas).

2.5 minutes for established patients (95 percent confidence interval, 1.5 to 3.6) and 4.2 minutes for new patients (95 percent confidence interval, 2.2 to 6.2).

The duration of visits for patients with common and serious primary diagnoses either increased over the 10-year period or remained stable (Table 1). There were no significant declines in the length of visits for patients with these diagnoses.

We inspected trends in the provision of 34 services ordered or performed during office visits over the 10-year period, and we present illustrative results.

ARE PATIENTS' OFFICE VISITS WITH PHYSICIANS GETTING SHORTER?

TABLE 1. MEAN LENGTH OF OFFICE VISITS TO PHYSICIANS ACCORDING TO PRIMARY DIAGNOSIS AT PREPAID AND NON-PREPAID VISITS, 1989 THROUGH 1998.

DIAGNOSIS	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TEST FOR LINEAR TREND	
											BETA COEFFICIENT*	P VALUE
minutes per visit (millions of visits)												
<b>Non-prepaid visits</b>												
Most common diagnoses or reasons for visit												
Acute upper respiratory tract illness	12.4 (22.2)	12.3 (24.4)	13.1 (20.7)	13.4 (29.2)	13.8 (21.5)	14.1 (20.2)	14.4 (20.1)	13.7 (17.7)	13.9 (20.6)	14.8 (21.0)	0.24	<0.001
Hypertension	16.3 (22.3)	16.6 (23.5)	16.9 (19.2)	17.6 (23.2)	17.7 (23.4)	18.4 (20.6)	18.0 (16.3)	17.7 (18.1)	17.2 (20.8)	17.2 (20.0)	0.11	0.07
Routine checkup for infant or child	15.3 (11.5)	15.5 (11.0)	16.7 (12.6)	17.1 (12.8)	16.1 (11.4)	14.7 (11.5)	17.5 (10.2)	19.0 (13.8)	17.1 (14.6)	18.9 (15.7)	0.34	<0.001
Normal pregnancy	12.4 (18.7)	11.7 (18.9)	13.3 (16.0)	12.5 (19.0)	13.1 (20.7)	14.9 (16.9)	16.1 (11.6)	15.2 (14.3)	15.2 (11.8)	15.1 (17.5)	0.42	<0.001
Arthropathies	17.3 (15.8)	17.1 (15.6)	18.3 (12.8)	19.1 (15.5)	18.4 (16.0)	19.0 (12.7)	20.5 (12.0)	18.6 (11.9)	17.1 (14.5)	17.8 (14.9)	0.06	0.43
General medical examination	15.7 (15.9)	16.7 (16.2)	15.8 (15.0)	18.3 (15.2)	18.4 (12.9)	21.5 (16.0)	19.9 (12.0)	19.1 (10.6)	20.0 (14.7)	21.0 (12.7)	0.58	<0.001
Leading causes of death												
Heart disease	19.7 (16.5)	20.1 (17.9)	20.0 (15.5)	20.9 (16.8)	22.8 (16.7)	21.5 (15.9)	21.7 (13.2)	21.2 (14.1)	23.0 (15.6)	19.4 (17.0)	0.14	0.20
Malignant neoplasms	18.1 (12.7)	20.1 (12.4)	16.7 (13.6)	19.5 (13.6)	19.8 (11.4)	19.8 (12.8)	22.0 (9.3)	23.6 (13.8)	20.0 (12.6)	20.7 (10.3)	0.41	0.03
<b>Prepaid visits</b>												
Most common diagnoses or reasons for visit												
Acute upper respiratory tract illness	12.3 (4.7)	11.3 (4.9)	12.0 (5.3)	13.9 (7.6)	12.9 (6.4)	12.6 (6.3)	13.4 (6.7)	13.4 (6.0)	13.6 (10.3)	13.9 (12.0)	0.20	0.03
Hypertension	15.1 (4.5)	15.8 (3.2)	15.0 (3.0)	15.9 (5.7)	16.5 (3.1)	17.5 (4.1)	17.1 (3.8)	17.7 (5.6)	17.4 (7.8)	16.5 (7.6)	0.22	0.06
Routine checkup for infant or child	15.5 (3.9)	15.9 (4.3)	15.8 (4.5)	15.2 (3.9)	16.9 (6.6)	17.8 (5.6)	17.9 (6.5)	17.1 (8.1)	16.5 (11.6)	18.7 (13.4)	0.28	0.01
Normal pregnancy	11.7 (3.6)	11.7 (3.8)	13.4 (4.1)	12.0 (10.0)	14.5 (4.6)	13.9 (5.7)	15.7 (4.9)	15.0 (7.1)	14.7 (10.0)	12.6 (12.3)	0.21	0.07
Arthropathies	15.1 (2.7)	16.5 (2.2)	17.5 (2.4)	16.9 (2.7)	17.7 (2.4)	17.0 (2.4)	20.8 (3.5)	17.3 (2.6)	17.3 (5.6)	17.1 (5.5)	0.15	0.22
General medical examination	19.0 (3.5)	18.1 (3.9)	20.0 (2.5)	19.7 (5.3)	21.2 (5.2)	19.9 (4.4)	22.3 (5.0)	18.9 (5.5)	22.6 (5.2)	23.8 (6.1)	0.48	0.02
Leading causes of death												
Heart disease	17.8 (2.2)	19.0 (1.4)	22.4 (1.4)	17.8 (1.9)	22.3 (2.3)	22.2 (2.2)	22.4 (3.3)	23.7 (2.6)	20.2 (3.5)	19.8 (5.2)	0.17	0.39
Malignant neoplasms	20.2 (1.5)	20.4 (2.2)	17.7 (1.5)	17.9 (1.4)	21.8 (2.1)	19.2 (2.3)	19.9 (2.3)	26.5 (4.7)	19.8 (3.0)	20.4 (4.0)	0.30	0.27

\*Beta represents the coefficient for the variable for year.

Only the frequency of blood-pressure examinations increased by more than 5 percent. As shown in Table 2, there were declines in the proportion of visits during which urinalysis was ordered or weight-reduction counseling was given.

DISCUSSION

The data we examined did not support the view that the length of visits to physicians has declined significantly in recent years. Although the data from one source did suggest a slight decline since 1995, that decline was more pronounced for non-prepaid visits than for prepaid visits. Given the widespread impression that the length of office visits has been decreasing substantially, we might remain skeptical of

these findings, but our two very different data sources present much the same picture. There were similar findings in other analyses of visits to primary care physicians between 1978 and 1994<sup>24</sup> and in reports that used data from the AMA.<sup>25</sup> Dissatisfaction is often generalized and may affect the way surveyed physicians answer many types of questions.<sup>26,27</sup> Dissatisfaction with the length of visits has long been a concern to physicians<sup>28</sup> and can now be attributed to managed care. There are several plausible explanations for why the length of visits has not declined.

Between 1989 and 1998, the number of office-based physicians engaged in patient care per 100,000 population increased 21 percent overall, 18 percent for primary care physicians, and 22 percent for spe-

TABLE 2. PERCENTAGE OF OFFICE VISITS TO PRIMARY CARE PHYSICIANS THAT INCLUDED SELECTED SERVICES.\*

SERVICE	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	DIFFERENCE BETWEEN MOST RECENT YEAR AND EARLIEST YEAR (95% CI)†
Services with increased frequency											
Blood-pressure examinations‡	58.2	63.1	73.5	69.3	81.5	80.6	74.6	75.4	77.8	72.6	14.4 (7.7 to 21.0)
Counseling about smoking cessation	2.8	2.8	2.4	3.2	4.2	3.7	4.2	4.1	3.3	3.8	1.0 (0.02 to 2.0)
Counseling about diet	—	—	16.6	15.1	—	—	18.6	18.1	20.3	20.1	3.5 (0.04 to 7.0)
Services with stable frequency											
Digital rectal examination	2.7	3.2	—	—	—	—	4.0	3.2	4.0	3.3	0.6 (−0.3 to 1.40)
Counseling about injury prevention	—	—	—	—	4.3	4.6	4.1	4.0	3.5	3.8	−0.5 (−1.8 to 0.97)
Counseling about exercise	—	—	10.1	7.6	10.4	8.8	12.0	10.8	12.2	12.4	2.3 (−1.0 to 5.6)
Services with decreased frequency											
Urinalysis	12.0	12.2	11.3	11.8	12.9	11.2	12.2	12.3	10.5	9.9	−2.1 (−0.4 to −3.9)
Counseling about weight reduction	8.6	8.3	5.3	5.3	8.3	7.3	6.6	4.9	—	—	−3.7 (−5.2 to −2.2)

\*Data were not collected for all services in all years.

†CI denotes confidence interval.

‡Values shown refer only to patients 18 years old and older.

cialists.<sup>29,30</sup> During the same period, there was only a 17.7 percent increase in office visits. Thus, it might be assumed that physicians have more time for each patient. The SMS data indicate that in 1989, the average number of office visits to a given physician per week was 79.1, and that this average had declined significantly, by 3.9 visits (95 percent confidence interval, 0.9 to 6.8), by 1998. Between 1989 and 1998, the average number of office hours held by office-based physicians increased nonsignificantly, by 0.1 hour (95 percent confidence interval, −0.7 to 0.9). The small decrease in the number of patient visits per week may allow longer average visits but cannot explain the trend we observed.

Female physicians spend more time, on average, with patients.<sup>31–35</sup> The increase in the number of female physicians in the workforce may counter any effect of managed care on the length of visits. Female physicians may be more attuned than male physicians to issues of communication and psychosocial issues,<sup>32,33,36,37</sup> more likely to treat new patients, or more likely to treat women patients who have more serious health problems.<sup>38</sup> The proportion of physicians in office-based practice who are women increased from approximately 12.9 percent in 1989 to 20.5 percent in 1998.<sup>29,30</sup> Data from the 1989 NAMCS indicate that visits to female physicians are about 1.2 minutes longer, on average, than visits to male physicians. Data from the AMA suggest that the average number of weekly office visits for male physicians is about 35 percent greater than the average for female physicians (Gonzalez M: personal communication). If we make projections on the basis of the 1989 data, taking into account differences in caseloads and the sex-related difference in the length of visits, the increase in the

proportion of physicians who are female would account for an increase in the average duration of an office visit to 16.5 minutes in 1998. The mean duration observed in 1998, however, was 18.3 minutes, suggesting that changes in the sex distribution of physicians are unlikely to account for much of the upward trend.

The average length of an office visit may have increased rather than declined because the case mix of office-based physicians has become more complex and therefore more time is required for each visit. There are no data available that would allow a direct evaluation of this hypothesis, but the explanation appears unlikely. The average number of annual contacts a person had with a physician increased only slightly between 1989 and 1996 (from 5.3 to 5.8).<sup>12</sup> Thus, it is unlikely that the average patient's care is more complex. Moreover, the upward trend holds both for new and established patients, for the most common diagnoses and for the diagnoses associated with the highest mortality. The age of the patient can be used as a proxy for the complexity of care required; physicians spend more time, on average, with elderly patients.<sup>39</sup> However, according to the NAMCS, the proportion of visits in which the patient was 65 years old or older increased only from 22 percent to 24 percent during the period studied, and in 1998 the average visit with an elderly patient was only 0.3 minute longer than the average visit with a younger patient.

Physicians are expected to do more now than they were in the past during each visit with a patient. Stafford and colleagues,<sup>24</sup> using NAMCS data, suggest that primary care physicians have an increased responsibility to offer preventive services. Unfortunately, the types of services that the NAMCS recorded

for each visit varied from year to year during the period studied. Moreover, they include both services that are ordered and those that are performed, allowing no way to establish who provided the services or whether they were delivered during the course of the visit with the physician.

Our analyses could not identify any clear patterns in the services that were performed or offered that can explain the trend toward longer visits. There is partial evidence (i.e., an increase in the frequency of blood-pressure examinations) that more services are being delivered. It is also possible that the number of services provided during each visit increased between 1989 and 1998. With increased numbers of treatments available, the growth of managed care, and patients who ask more questions, physicians may also spend more time explaining their decisions about treatment.

The data from the SMS provide only indirect evidence on whether physicians are spending more time on administrative tasks, which might inflate their reports of the length of time they spend with patients. The average number of hours spent per week in all professional activities (patient care, indirect care, administrative tasks, conferences, and other activities) declined significantly, by 2.2 hours (95 percent confidence interval, 1.4 to 3.0), between 1989 and 1998.<sup>20,22</sup> Since 1996, the AMA has published separate data on indirect patient care activities (such as reading x-ray films, interpreting laboratory tests, and consulting over the telephone); the time spent in such activities declined nonsignificantly, by 0.1 hour (95 percent confidence interval, -0.2 to 0.4), between 1996 and 1998.<sup>22,40</sup> Data from the AMA also indicate that in 1990 there were 1.7 full-time-equivalent administrative staff members per physician, as compared with 1.8 in 1997,<sup>22,41</sup> although the 1997 estimate is based on the sum of full-time and part-time positions and is therefore not identical to the 1990 measure.

Health plans seek to reduce attrition. Physicians understand that the time spent with patients is a factor in patients' satisfaction<sup>42</sup> and helps to retain patients in their practice. Health plans increasingly monitor patient satisfaction and may exclude physicians from their network if too many patients complain.<sup>43,44</sup> Because of such increased pressures, physicians may perceive that they are providing patients with less time than they need, despite spending as much time with them as they have spent in the past, or more. Increased competition provides a credible explanation for the lack of a decline in the length of visits, but we do not have the necessary data to test it empirically.

In summary, the data fail to support the belief among physicians and others that the growth of managed care has substantially reduced the duration of office visits. Growing competition and an increased range of services offer plausible explanations. Limitations to our study include imperfect rates of response

and the possibility that the busiest physicians were less likely to participate in the surveys. Moreover, the degree of precision with which physicians record or report the length of visits is uncertain. Nevertheless, the fact that there are consistent trends in the data from two very different sources increases our confidence in the patterns we observed.

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