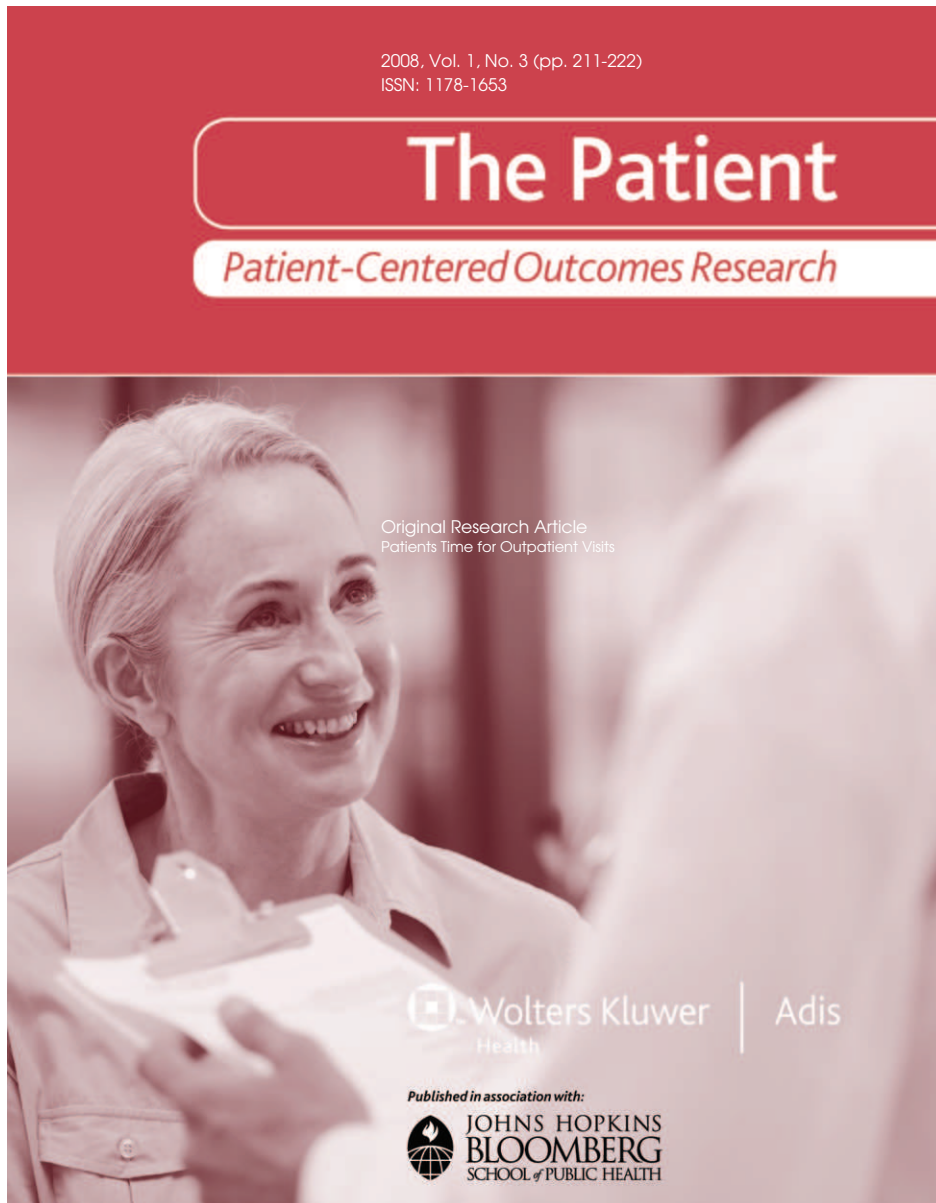


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How Much Time Do Patients Spend on Outpatient Visits?

The American Time Use Survey

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Abstract

Background: In *Crossing the Quality Chasm*, the Institute of Medicine recommended that patient-centered care should not waste patients' time and should recognize the involvement of family and friends. Studies have documented the time spent by physicians on outpatient visits, but not that spent by patients and their companions. The patient's perspective provides an important yet overlooked indicator of healthcare effectiveness.

Objective: To document how much time American patients spend on outpatient visits, for what purposes (travel, waiting, receiving services), and the time required of family members and friends.

Methods: We used data from the first 4 years (2003–6) of the American Time Use Survey (ATUS), conducted by the US Census Bureau for the Bureau of Labor Statistics, which asks respondents about their activities over a 24-hour period. ATUS is a nationally representative population-based survey that samples days continuously throughout the year. In 2003–6, 60 674 respondents aged ≥ 15 years were randomly selected from households that completed the Current Population Survey; 1621 reported seeking medical care for themselves on their survey day. We documented the percentage of the population that reported outpatient visits, the percentage who were accompanied to those visits and by whom, and the mean time spent by patients and their companions, by type of activity, and by age and sex.

Results: After weighting the data to represent the US population, we found that 3.4% of people aged ≥ 15 years reported traveling, waiting, or receiving services in connection with an outpatient visit on their survey day. The mean time for those who reported the activity was 35 minutes for travel (95% CI 33, 37), 42 minutes of waiting (95% CI 37, 47), and 74 minutes receiving services (95% CI 70, 79). Overall, 39.5% were accompanied, usually by family members. Companions spent a mean of 124 minutes per encounter (95% CI 112, 135). Nearly half of those aged ≥ 65 years were accompanied, almost always by adults only, suggesting that they may have needed help with transportation, negotiating the healthcare system, or performing cognitive and emotional tasks involved in receiving care.

Conclusion: Outpatient visits are time intensive for American patients and their families: the equivalent of 207 million 40-hour work-weeks each year. Patients and their families spend substantially more time on outpatient visits than the time with the physician reported by the annual National Ambulatory Medical Care Survey. Further research is needed on the components of outpatient visits that do not directly involve physicians. Efforts to improve care should address waiting times and recognize the involvement of family members. The ATUS could provide periodic benchmarks of patient time use as a supplement to other indicators of patient-centered care in the annual *National Healthcare Quality Report*.

Background

In its landmark report, *Crossing the Quality Chasm*, the Institute of Medicine proposed six aims for a better health system.^[1] Care should be safe, effective, patient-centered, timely, efficient, and equitable. The report recommended that patient-centered care be available in diverse forms – not just face-to-face visits; that patients receive the information needed to make their own choices; that the system not waste resources or patient time; and that it recognize the involvement of family and friends. To achieve these aims, the US healthcare system needs a wide range of information about patients and their families, including their circumstances, preferences, and experiences in the system.

The American Time Use Survey (ATUS), a new survey from the US Bureau of Labor Statistics^[2] that documents how people spend their time, offers an innovative perspective on patients' experiences. For a nationally representative sample of non-institutionalized civilian adults aged ≥ 15 years, and using a 24-hour time diary, the gold standard for measuring time use,^[3] the ATUS documents who reported outpatient visits; the amount of time they spent traveling, waiting, and receiving services; and who accompanied them. An analysis of all health-related activities in the ATUS, based on the first 2 survey years (2003–4), showed that 3.4% of the population received medical care on their survey day and spent a mean of 123 minutes per person receiving such care.^[4]

In this article, we present data for 2003–6, the first 4 survey years. The large sample allows de-

tailed examination of time spent traveling, waiting, and receiving services, and how often family or friends accompanied the patient. Previous studies have reported the time spent by physicians on outpatient visits.^[5–9] The ATUS, by contrast, provides the only nationally representative record of patients' perceptions of the time they spend on such visits. These data shed light on how efficiently the health system uses patients' time and on the involvement of family members, suggesting a new perspective on what it means for care to be 'patient centered.'

Methods

The ATUS, conducted by the US Census Bureau for the Bureau of Labor Statistics, is designed to produce "nationally representative estimates of how people spend their time."^[10,11] Households are selected from those that complete their final interview for the Current Population Survey, the nation's monthly labor force survey. After the Current Population Survey's oversampling of small states is corrected, households are stratified by race and Hispanic origin, presence and age of children, and, for childless households, number of adults, and sampled at different rates within each stratum. An individual respondent is randomly selected from people aged ≥ 15 years in each household. In 2003, 3375 households were selected each month. In 2004–6, the number was reduced to 2194 households per month for budgetary reasons.

Each month's sample is partitioned into four subgroups; one for each week of the month. Within each week, 10% of the sample is assigned to each

weekday, and 25% to each weekend day. The ATUS sample weights adjust for this oversampling of weekend days as well as for differential rates of non-response. Response rates declined slightly from 57.8% in 2003 to 55.1% in 2006.^[10,12]

The survey is conducted using computer-assisted telephone interviewing (CATI). Respondents are randomly assigned a day of the week and phoned the next day. If interviewers do not reach the respondent, they attempt subsequent contacts on the same day of the week for up to 8 consecutive weeks. The 5% of households that do not provide telephone numbers are mailed a request to call the telephone center for the interview.

During the interview, respondents are asked how they spent the 24 hours beginning 4:00 am the previous day (their 'designated day') and ending 4:00 am the day of the call. Except for common activities such as eating and sleeping, interviewers record respondents' verbatim descriptions. For activities other than personal care, respondents are asked where they were and who was in the room or accompanied them. Responses are coded independently by two interviewers who did not conduct the interview; coding differences are resolved by trained adjudicators.^[10] Each activity is assigned a 6-digit code; the first two digits indicate one of 17

major activity categories, the next four signify an intermediate category and specific activity.^[13,14] The ATUS data file shows the times that each activity began and ended.

Table I lists the activities for which we report data in this paper: activity type, ATUS title and codes, and examples of activities falling under that code.^[14] These codes represent care that the respondent sought for himself or herself; different codes are used for time spent accompanying others as they seek care. As the examples show, all types of outpatient visits are included in the ATUS – not just visits to physicians, but visits to all outpatient healthcare providers. However, the ATUS does not identify the specific type of provider seen during the outpatient visit.

To provide a descriptive account of the type of care sought, we supplemented our analysis with data obtained from another survey, the US Medical Expenditure Panel Survey (MEPS),^[15] conducted by the Agency for Healthcare Research and Quality. Although the two surveys are unrelated, the MEPS defines the universe of outpatient visits broadly, as does the ATUS. We extracted data from the 2004 outpatient event files of the MEPS, and, using the MEPS sample weights, calculated the population

Table I. Outpatient visits: activities and codes in the American Time Use Survey (ATUS), 2003–6, with examples^{[14] a}

Activity, ATUS title (codes)	Examples
Travel	
<i>Travel related to using medical services</i>	
2003 and 2004 (170804)	None provided by ATUS
2005 and 2006 (180804)	None provided by ATUS
Waiting	
Waiting associated with medical services (080403)	Waiting at the physician's office; waiting for lab test results; waiting for surgery
Receiving services	
Using health and care services outside the home (080401)	Having a doctor's appointment, a physical, dental work, eye exam, inpatient/outpatient treatment, physical therapy, seeing other healthcare practitioners Purchasing/paying for healthcare services, including elder care services Talking to/with a doctor, nurse, physical therapist, psychologist, pharmacist, or other healthcare practitioner
Using medical services, not elsewhere classified (080499)	None provided by ATUS
a Using in-home health and care services (080402) was excluded from our analysis.	

Table II. Number of respondents who reported an outpatient visit, by age group and sex, 2003–6 American Time Use Survey^a

Age (y)	Men	Women	Total
15–44	163	398	561
45–64	186	401	587
≥65	180	293	473
Total	529	1092	1621

a Unweighted. Total respondents, 2003–6: 60 674.

shares of visits accounted for by major provider types, which we report in the results.

In the 2003–6 ATUS, 1621 of 60 674 respondents reported outpatient visits in which they sought care for themselves (table II). The time pattern of activities suggested that 139 respondents (8.6%) might have had two distinct visits on the same day; the time for both visits was combined in all calculations. Although inpatient stays are included in the ATUS activity definitions, no respondents reported times long enough to suggest that they were inpatients on their survey day.

Each person who accompanied the respondent is assigned an ATUS code specifying his or her relationship to the respondent, and whether she/he was an adult or a child aged <18 years. In our analysis of respondents' companions, we excluded 'other non-household adult aged ≥18.' Our preliminary analyses indicated that this category includes the clinician present at the visit.

In addition to adjusting for the oversampling of weekend days and for non-response, the ATUS sample weights (TU06FWGT for 2003–5, TUFINLWGT for 2006) allow survey years to be combined.^[11] Confidence intervals were defined using standard errors calculated by the replicate variance method, which accounts for the increase in variance associated with clustering in the ATUS relative to the variance expected in a simple random sample of the same size.^[16,17] We used the DESCRIPT procedure in SAS-callable SUDAAN, with the replicate weights provided by ATUS, to compute the standard errors.

The response rate for the ATUS has been just under 60% instead of the 70% envisioned when the survey was being developed.^[10,11] Three design features contribute to the lower response rate:^[18] (i) the

sample is drawn from households that have participated in the Current Population Survey for 8 months (survey fatigue is the most frequent reason for refusing the ATUS); (ii) only the person selected, not a proxy, can complete the survey; and (iii) the designated day of the week cannot be changed, although interviewers can try the same day in subsequent weeks.

An analysis of the 2004 ATUS^[12] found that non-response was more often due to inability to reach respondents, despite valid contact information (60%), than to refusals (40%). Busy people (proxied by work hours and children in the household) were as likely to respond as those less busy, but socially isolated people (indicated by marital status, school-age children, homeownership, etc.) had lower response rates. Response rates were lower for men than women, and for those aged 15–45 years than older people. The authors of the analysis applied three alternative adjustments for differential response. All three produced similar estimates of mean times devoted to specific activities, evidence that differential response rates did not bias the results. While the analysis did not find significant bias, the authors could not ascertain whether non-response was related to health, because the ATUS did not ask about health. It is reassuring that the response rate is higher for older than younger people, but those of any age with serious health problems may be less likely to respond. Thus, the ATUS may be best suited for describing routine outpatient visits, rather than more intensive healthcare use. The 2006 survey included the first health data (self-reported health status, weight, and height – released in June 2008), which will permit analysis of response rates by health status.

Data, sample weights, replicate weights, questionnaires, and user's guides for each year are available at the US Bureau of Labor Statistics website.^[2] Each year's data are available in an activity file, which records activities in order of occurrence, and an activity summary file, which reports total time spent by the respondent on each 6-digit activity. Respondent and household characteristics are stored in the ATUS-CPS, respondent, and roster files.

Our research did not require Institutional Review Board approval since all the data are publicly available: the ATUS at the Bureau of Labor Statistics website;^[2] and the MEPS at the Agency for Healthcare Research and Quality's website.^[15]

Results

When respondents were weighted to reflect the non-institutionalized civilian US population, 3.4% of US adults aged ≥ 15 years reported an outpatient visit on their survey day in the years 2003–6. Women aged < 65 years were more likely than men of the same age to report a visit: 3.0% of women aged 15–44 years (95% CI 2.6, 3.4), compared with 1.6% of men (95% CI 1.3, 1.9), and 4.7% of women aged 45–64 years (95% CI 4.1, 5.2) versus 3.0% of men (95% CI 2.5, 3.5). Rates rose with age to 6.4% for women aged ≥ 65 years (95% CI 5.6, 7.2), and 6.1% for men (95% CI 5.1, 7.1).

Since the ATUS does not identify the type of provider seen during a visit, we turned to the MEPS (see the Methods section), which defines outpatient visits in a similarly broad fashion, for more information. Our calculations based on the 2004 MEPS show that 47.8% of outpatient visits were to office-based physicians. Visits to hospital outpatient departments accounted for 7.3%, emergency rooms for 2.8%. The largest shares of other office-based medical providers were dentists (15.4%), chiropractors (5.4%), physical/occupational therapists (4.2%), and nurses/nurse practitioners (3.8%). All other providers accounted for 13.3% of the total visits.

Time Traveling, Waiting, Receiving Services

Nearly all (96%) people with an outpatient visit reported traveling and/or receiving services as part of the encounter (table III). One-third (34.2%) also reported waiting. Mean travel time for those who

Table III. People who reported an outpatient visit:^a mean (95% CI) time per person who reported the activity and percentage who reported the activity, by activity, age, and sex, 2003–6 American Time Use Survey^b

Activity/Respondent age (y)	Men		Women		Total	
	minutes/day	percentage	minutes/day	percentage	minutes/day	percentage
Travel to and from services						
15–44	32 (27, 37)	94.5	34 (30, 38)	95.3	34 (30, 37)	95.0
45–64	41 (36, 47)	97.2	35 (31, 40)	96.4	38 (34, 41)	96.7
≥ 65	37 (32, 42)	97.5	33 (29, 37)	96.9	35 (31, 38)	97.1
Total	37 (34, 40)	96.4	34 (32, 37)	96.1	35 (33, 37)	96.2
Waiting for services						
15–44	30 (18, 42)	34.5	44 (31, 57)	32.3	39 (29, 48)	33.1
45–64	38 (29, 48)	29.6	43 (34, 51)	33.2	41 (35, 48)	31.9
≥ 65	48 (34, 62)	34.5	47 (35, 59)	41.8	47 (39, 56)	38.8
Total	38 (31, 45)	32.7	44 (38, 51)	35.1	42 (37, 47)	34.2
Receiving services						
15–44	86 (71, 101)	99.2	67 (59, 75)	97.7	73 (66, 81)	98.2
45–64	84 (71, 97)	98.8	72 (65, 80)	98.8	77 (70, 84)	98.8
≥ 65	86 (69, 103)	96.6	62 (55, 70)	97.7	72 (64, 80)	97.3
Total	85 (76, 94)	98.3	68 (63, 72)	98.1	74 (70, 79)	98.2
All activities						
15–44	126 (108, 143)	100	112 (101, 123)	100	117 (107, 126)	100
45–64	135 (121, 149)	100	120 (110, 130)	100	125 (117, 134)	100
≥ 65	136 (117, 154)	100	112 (102, 122)	100	122 (112, 132)	100
Total	132 (122, 143)	100	115 (108, 121)	100	121 (116, 127)	100

a Percentage of respondents receiving services is < 100 as some did not actually receive services, for a variety of reasons.

b Weighted to reflect each respondent's share of the non-institutionalized civilian population aged ≥ 15 years.

traveled was 35 minutes, mean waiting time for those who waited was 42 minutes, and mean time receiving services was 74 minutes. Mean total time was 121 minutes. Median times were somewhat lower: 30 minutes traveling, 27 minutes waiting, 60 minutes receiving services, and 100 minutes total time.

The percentage who reported waiting (34.2%) seemed low, so we speculated that waiting time may be under-reported. Waiting may be such a common component of the healthcare process that patients, especially those who wait only briefly, take it for granted and do not always report it as a discrete part of the visit. To explore this possibility, we compared total time spent waiting and receiving services for people who reported waiting and those who did not. Those who reported waiting averaged 105 minutes in total: 40 minutes waiting and 65 minutes receiving services. The mean for those who only reported receiving services was 79 minutes. The 14-minute difference in time receiving services may be a reasonable estimate of waiting time for these people.

Involvement of Family and Friends

Almost 40% of people with outpatient visits reported that someone accompanied them (table IV; the 15–44 age group is subdivided here since adolescents and young adults may still be accompanied by parents). Those aged <25 years and those aged ≥65 years were most likely to be accompanied (54.6% and 48.5%, respectively). The majority of companions (85%) were family members.

Most of those accompanied (31.5% of all patients with outpatient visits) were accompanied only by other adults; 4.5% were accompanied only by children, and 3.4% were accompanied by both children

and adults (table V). Women were more likely than men to be accompanied by children only (data not shown).

Companions spent a substantial amount of time in accompanying respondents to outpatient visits. Table V shows companions' time per person with an outpatient visit. The total amount of companions' time can be longer than patient's time because one-fifth of patients who were accompanied were accompanied by two or more people. In total, per person seeking care, companions devoted 123 minutes (children only), 235 minutes (children and adults), and 112 minutes (adults only).

People who spent ≥90 minutes receiving services, who may have been undergoing extensive testing or outpatient procedures, were more likely to be accompanied (46.7% vs 36.7%; $p < 0.001$) and more likely to be accompanied only by other adults (39.4% vs 28.5%; $p < 0.001$).

Discussion

Patients and their families spend a substantial amount of time seeking medical care. Data for 2003–6 from the nationally representative ATUS show that, on average, 3.4% of US adults aged ≥15 years had an outpatient visit each day, which required a mean of 2 hours traveling, waiting, and receiving services. Almost 40% of patients were accompanied, usually by family members, who spent another 2 hours.

According to *Consumer Reports*, patients' most common complaint about doctors is that they were kept waiting: in that 2006 survey, 24% reported that they waited ≥30 minutes.^[19] Of ATUS respondents who reported outpatient clinical encounters (a broader category than people visiting the doctor),

Table IV. Percentage (95% CI) of people with an outpatient visit who were accompanied, by age and sex, 2003–6 American Time Use Survey^a

Age (y)	Men	Women	Total
15–24	45.4 (24.3, 66.6)	61.1 (46.1, 76.0)	54.6 (40.8, 68.4)
25–44	32.7 (21.9, 43.5)	39.0 (32.3, 45.7)	37.0 (31.8, 42.2)
45–64	27.0 (19.8, 34.3)	31.8 (26.2, 37.4)	30.0 (25.5, 34.5)
≥65	48.3 (39.7, 56.9)	48.6 (41.3, 56.0)	48.5 (42.8, 54.2)
Total	36.9 (31.8, 42.0)	41.0 (37.2, 44.8)	39.5 (36.4, 42.6)

a Weighted to reflect each respondent's share of the non-institutionalized civilian population aged ≥15 years.

Table V. Percentage of people accompanied, time spent, and percentage who waited, by type of companion and age of respondent, 2003–6 American Time Use Survey^a

Respondents' age (y)	Percentage of age group	Respondent's total mean time (95% CI)	Companions' total mean time ^b (95% CI)	Percentage who reported waiting (95% CI)
Not accompanied				
15–24	45.4	106 (77, 134)		37.2 (15.5, 58.9)
25–44	63.0	110 (99, 120)		27.8 (22.2, 33.4)
45–64	70.0	111 (103, 119)		28.5 (22.5, 34.6)
≥65	51.5	108 (97, 119)		32.5 (25.7, 39.2)
Total	60.5	109 (103, 115)		29.9 (26.1, 33.7)
Accompanied by children only (<18 y)				
15–24 ^c				
25–44	11.0	104 (79, 129)	122 (82, 162)	39.9 (25.8, 54.1)
45–64	2.3	112 (69, 155)	119 (80, 157)	30.6 (1.2, 60.0)
≥65 ^c				
Total	4.5	107 (87, 127)	123 (89, 157)	36.5 (25.2, 47.7)
Accompanied by children (<18 y) and adults				
15–24 ^c				
25–44	8.4	136 (96, 176)	261 (184, 338)	30.7 (15.1, 46.4)
45–64	1.6	195 (107, 283)	321 (141, 501)	36.0 (5.1, 66.9)
≥65 ^c				
Total	3.4	145 (113, 177)	235 (171, 299)	32.5 (19.7, 45.3)
Accompanied by adults only				
15–24	45.5	142 (107, 177)	121 (90, 152)	43.0 (24.8, 61.2)
25–44	17.6	132 (108, 156)	106 (82, 130)	35.6 (23.7, 47.5)
45–64	26.1	162 (141, 183)	126 (102, 149)	40.6 (30.5, 50.7)
≥65	46.6	135 (119, 152)	101 (82, 120)	46.0 (38.2, 53.8)
Total	31.5	143 (132, 154)	112 (100, 124)	42.4 (37.8, 47.1)
Overall total	39.5	121 (116, 127)	124 (112, 135)	34.2 (31.3, 37.2)

a Weighted to reflect each respondent's share of the non-institutionalized civilian population aged ≥15 years.

b Mean per respondent, not per companion.

c Numbers based on fewer than ten respondents have been omitted.

34% said they waited. About half of those (17.1% of all those with visits) waited ≥30 minutes. Mean waiting time for those who reported waiting was 42 minutes. Waiting may be under-reported: we estimated that respondents who did not report waiting separately may have averaged 14 minutes of waiting.

National Level Estimates

Counting patients' and companions' time, the ATUS data show that 35 hours – almost a full workweek – was spent annually on outpatient visits for each person in the population aged ≥15 years. Annual time for patients was derived by multiplying

the proportion of people who report visits (0.034) by the mean time spent (121 minutes, table III), yielding 4.1 minutes per person per day, or 25 hours per year. Annual time for companions was derived by multiplying the proportion who reported visits (0.034) by the proportion who were accompanied (0.395, table IV) and the mean time spent by companions (124 minutes, table V), adding another 1.7 minutes per person per day, or 10 hours per year. Not everyone spent this much time; some spent less, others – especially elderly people – spent more.

Multiplying 35 hours per person by the 2005 population aged ≥15 years, patients and their companions spent a total of 207 million 40-hour workweeks on outpatient visits each year. This number

does not include time spent by children aged <15 years, who are not included in the ATUS, and their companions. The total makes it clear that, at both the individual and national levels, outpatient visits represent a substantial commitment of time on the part of patients and their families.

Comparison with Time Spent by Physicians

The National Ambulatory Medical Care Survey, and special surveys, show that on average physicians spend <20 minutes face to face with patients.^[5-9] The time that patients reported for receiving services was considerably longer – a mean of 74 minutes and a median of 60 minutes. Mean time is increased by about 5 minutes because we summed times for the 8.6% of the sample whose activities suggested they might have had two separate visits on their survey day; the median is unaffected. The ATUS uses 24-hour time diaries, which is the gold standard for collecting time-use data because it constrains respondents to fit the times for individual activities into the 24-hour total;^[3] thus the times are not likely to be overestimated. Rather, they are very similar to mean times reported in a study of a hospital-based outpatient teaching clinic, where patients who did not use an interpreter spent 82 minutes in the clinic, 28 of them with the provider, compared with 100 and 36 minutes for those who used an interpreter.^[20] As in the National Ambulatory Medical Care Survey, time receiving services differed little by age.^[6]

The main reason for the difference between reports of time use by physicians and patients is that an outpatient visit includes many components that do not directly involve the physician: check-in, which can require completing short forms for returning patients and longer forms for new patients; insurance verification; the trip to the examination room; time to undress if needed (and dress again afterward); tests and measures done by staff, such as height and weight, blood pressure, recording current symptoms, vision and hearing checks; preparation for exams such as the Pap smear; having blood drawn; giving a urine sample; receiving a shot; and the delays between these tasks. Researchers have

studied the content of physician-patient interactions^[5-9,21] and of physicians' work outside the examination room,^[7] but have not explored activities that take place when physicians are not present. Further attention to such activities would shed light on the different perspectives on outpatient visits. Our findings underscore that a healthcare encounter is experienced very differently by physicians and patients (and their caregivers). Evaluating patients' perceptions and experiences is critical for developing a more thorough understanding of healthcare delivery, and "a more patient-friendly approach to evidence-based medicine."^[22]

Companions and Their Role

The ATUS also reveals an important component of informal caregiving that has not been noted in the caregiving literature: accompanying patients to outpatient visits. Traditional studies of caregiving focus on direct care provided in the home, such as assistance with self-care or bill paying. Our findings reveal that caregiving extends beyond the boundaries of the patient's home. For example, we found that the mean time devoted by companions was equal to the time spent by patients themselves. Their presence and their time suggest that the concept of patient-centered care may need to be expanded beyond the patient to include companions. They too need to have their time treated with respect and may need to be involved in the discussions, exchanges of information, and decisions that occur in a clinical encounter.

Approximately half of men and women aged ≥ 65 years were accompanied, almost always by adults only, suggesting that they may have needed help with transportation, negotiating the healthcare system, or performing cognitive and emotional tasks involved in receiving care. People who are deaf or hard of hearing, for example, bring family members to help with communication.^[23] Older adults with limited vision, or who are experiencing early symptoms of cognitive decline, may also be particularly dependent on family members. *Crossing the Quality Chasm* noted that the family and friends on whom patients rely need to feel welcome and comfortable,

to be involved in decisions as appropriate, and to have their needs and contributions recognized.^[1]

Bergeson and Dean^[24] proposed criteria for a systems approach to patient-centered care: for example, patients should "have access to an appointment when they want or need it and with the clinician they choose." The ATUS shows that for many patients, appointment schedules must be coordinated with the people who will accompany them. To the extent that the companions also require medical attention, it may be helpful to coordinate visits; older spouses, for example, may benefit from having visits scheduled at similar times. The "multiple routes of practice access" suggested by Bergeson and Dean^[24] (telephone, email, drop-in visits) may be as important for companions as for patients themselves. Increasing patient participation, coordinating care across different locations, ensuring that information and support are available and that care reflects the patient's needs and interests are other laudable goals that may need to be expanded to recognize the involvement of family members, not just in home care but during clinical encounters. Our findings underscore the importance of taking a broad view of Bergeson and Dean's recommendation to improve opportunities for patients and families to participate in the care process.

Durso^[25] and Peterson^[26] focused particularly on the needs of older adults in a system that strives to be patient centered. Peterson^[26] noted that the complicated tradeoffs involved in treatment decisions for older patients must be individualized to reflect their preferences. Writing about diabetes mellitus, Durso^[25] stated that "... the patient's general health status and goals of care provide important context ... when prioritizing and balancing clinical recommendations for older adults." Again, the ATUS data suggest that these goals need to be expanded to recognize family members who accompany the elderly patient. Often, that person may be present to help with the difficult tasks of gathering information, choosing next steps in treatment, and learning about home-based healthcare regimens such as administering medications or adhering to dietary restrictions.

Patients' Time as a Starting Point for Quality-of-Care Measures

Since 2003, the annual *National Healthcare Quality Report*, developed and published by the Agency for Healthcare Quality and Research, has monitored the timeliness and patient centeredness of care, among other quality goals.^[27] Timeliness is measured as the percentage of patients who report that they did not get care for an illness or injury as soon as they wanted, and the percentage who left an emergency room without being seen; these data are supplied by the MEPS and the National Hospital Ambulatory Medical Care Survey, respectively. Patient centeredness is measured by an index, also constructed from the MEPS, which shows the percentage of patients who feel that their doctor listens to them and respects their concerns. As new measures are developed, they are added to the report.

The ATUS could provide new measures to benchmark timeliness and patient centeredness of care in the *National Healthcare Quality Report*. Two possibilities are the proportion of people who report waiting more than some length of time, such as 15 or 30 minutes; and the proportion who report that someone accompanied them. Both would serve the agency's goal of informing "a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients' wants, needs, and preferences."

A strength of these two measures is that they provide a more accurate assessment of the time spent and with whom, because the ATUS obtains data within 24 hours of the time the visit occurred. By contrast, standard measures of satisfaction with care, often collected long after the encounter, may be subject to retrospective recall bias.^[28] Such measures of satisfaction also may be biased by patients' fondness for their healthcare provider. However, like many quality (and other) indicators, neither of the measures we suggest would be a straightforward indicator of quality. Rather they would serve as starting points for further investigation on which to base policy changes.

For waiting time, the ATUS data provide a starting point for exploring how accurately and com-

pletely patients report waiting time and where that waiting takes place. As suggested earlier, some patients may not report waiting time when it is short. Furthermore, it is not possible to tell from the ATUS data whether patients reported only time waiting in the waiting room, or time waiting in the examination room as well, and whether they included time waited because they arrived early for the appointment. Although the ATUS has a procedure for including supplements to the core survey, it might work better to explore these issues through supplements to existing health surveys, such as the National Health Interview Survey (NHIS), the nationally representative health survey that has been conducted by the US National Center for Health Statistics since 1957.^[29] The supplemental questions could be based on formats often used in the NHIS, such as asking respondents to provide information about outpatient visits made in the week or 2 weeks preceding the survey. It would also be important to identify the type of provider seen, which the ATUS does not do, in order to focus quality improvement efforts.

For policy purposes, the interpretation of information about waiting would need to take into account the larger context of the costs of outpatient care to patients. Waiting time is only one of the costs of a visit. Other costs include the time spent traveling and receiving services; the out-of-pocket monetary costs associated with the visit; comfort and convenience costs such as the ease or difficulty of dealing with office staff at the visit; childcare or care for other adults necessary to make the visit possible; lost income for hourly workers; and so on. In circumstances where out-of-pocket costs for the visit itself are low or zero, waiting times are one way of allocating scarce services, so there are trade-offs between using waiting and monetary costs to limit the demands on those services. At the same time, policy makers need to recognize that time costs, particularly waiting, may discourage patients from following the ever-increasing number of recommendations for screening and other services.

The proportion of patients who are accompanied is also not a simple quality indicator for which more, or less time, is unequivocally better. Rather, we see

it as a measure of opportunity. Wolff and Roter^[30] make the point well in their article, *Hidden in Plain Sight: Medical Visit Companions as a Resource for Vulnerable Older Adults*. Based on a survey of a representative sample of >12 000 Medicare beneficiaries, they found that the majority of companions played an active role in the visit – asking questions for the patient, providing information to the physician about the patient's condition, and recording and explaining the physician's instructions for the patient. Thus, they served as a crucial link between physician and patient. This was particularly the case for older and more vulnerable patients. Their analysis showed that when companions served in this role, patients were substantially more satisfied with the visit. The ATUS data point to this opportunity for patients of all ages: simply knowing that so many people are accompanied, and that companions can serve such an important role, should encourage providers and policy makers to make better use of them.

Patients' Time in Economic Analyses

The time of patients and their families represents a substantial and valuable resource to the healthcare system. Researchers have only recently begun to study this time.^[4,31-33] The National Research Council's report, *Beyond the Market*,^[34] recommended the creation of national accounts to document productive non-market activity; the ATUS would provide data on the unpaid time of patients and caregivers for the proposed National Health Account. The Public Health Service's Panel on Cost-Effectiveness in Health and Medicine recommended that cost-effectiveness analyses include time of patients and unpaid caregivers in the costs of a health intervention,^[35] including that time can change cost-effectiveness ratios substantially.^[36,37]

Conclusions

The ATUS documents, for a nationally representative sample of adults, that traveling to outpatient visits, and waiting for and receiving services, is time intensive, averaging 2 hours for patients, and, for the 40% who were accompanied, another 2 hours for their companions. Over a year, for the US popula-

tion aged ≥ 15 years, this amounts to 207 million 40-hour work-weeks just for outpatient visits. Inpatient care, personal self-care, including the self-management crucial for chronic diseases, and care of others requires more time. Although a vast body of research has documented the financial costs of care, few studies have documented the time invested by patients. That time may be taken from paid employment, or from household tasks, childcare, or other productive, but unpaid, activities. The time costs of care, in addition to the financial costs, may be onerous to many. Our analysis is a first step toward documenting how much time is invested in maintaining and caring for one's health and toward recognizing that cost in a patient-centered system.

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