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Advance Data

From Vital and Health Statistics of the National Center for Health Statistics

Office Visits to Internists, 1989

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According to data from the 1989 National Ambulatory Medical Care Survey (NAMCS), an estimated 692.7 million visits were made to office-based ambulatory care physicians in the United States. Of this total, an estimated 78.8 million, or 11.4 percent, were to physicians specializing in internal medicine.

The NAMCS is a year-long probability sample survey of office-based non-Federal physicians practicing in the United States. The NAMCS was conducted annually from 1973 to 1981, again in 1985, and resumed being annual in 1989 by the Division of Health Care Statistics, National Center for Health Statistics, Center for Disease Control. The survey sample is selected from visits to doctors of medicine and osteopathy who are engaged in office-based ambulatory care, the location where most Americans seek their health care. The NAMCS excludes both physicians who specialize in anesthesiology, pathology, or radiology and physicians who are principally engaged in teaching, research, or administration. The survey excludes visits made to hospital emergency rooms or hospital outpatient departments.

The figures presented in this report are estimated from a sample, not the entire universe of visits to physicians' offices, and therefore are subject to sampling variability. The technical notes at the end of the report provide guidelines for judging the precision of the estimates. A copy of the patient record form used for the data collection is shown in figure 1, which will serve useful while reading the results. Definitions used in the survey are also included and can be found in the technical notes section.

Internists included in the NAMCS are sampled from those physicians designated as such in the American Medical Association (AMA) and the American Osteopathic Association (AOA) master files. These are self-classified internists whose specialty is then confirmed at the time of the NAMCS interview. About 70 percent of the internists in the NAMCS sample have indicated internal medicine as their only specialty, while the remaining 30 percent indicated a second specialty in the AMA or AOA files. In addition, approximately two-thirds of the internists in the sample are board certified, usually in internal medicine, while the remaining one-third were not.

Data highlights

Of the 13 largest specialties, internal medicine places third just behind pediatricians and just before obstetricians and gynecologists in the percent of visits made to ambulatory care physicians (table 1). During the 12-month period from March 1989 to March 1990, the percent of visits to internists (11.4 percent) was not statistically different from the percent of visits in 1985 (11.6 percent) (figure 2).

Patient characteristics

The patients visiting internists tend to be older than average; the mean visit age for internists is 54.8 years while visits to all physicians is 39.9 years (table 2). About 92 percent of internists' visits are

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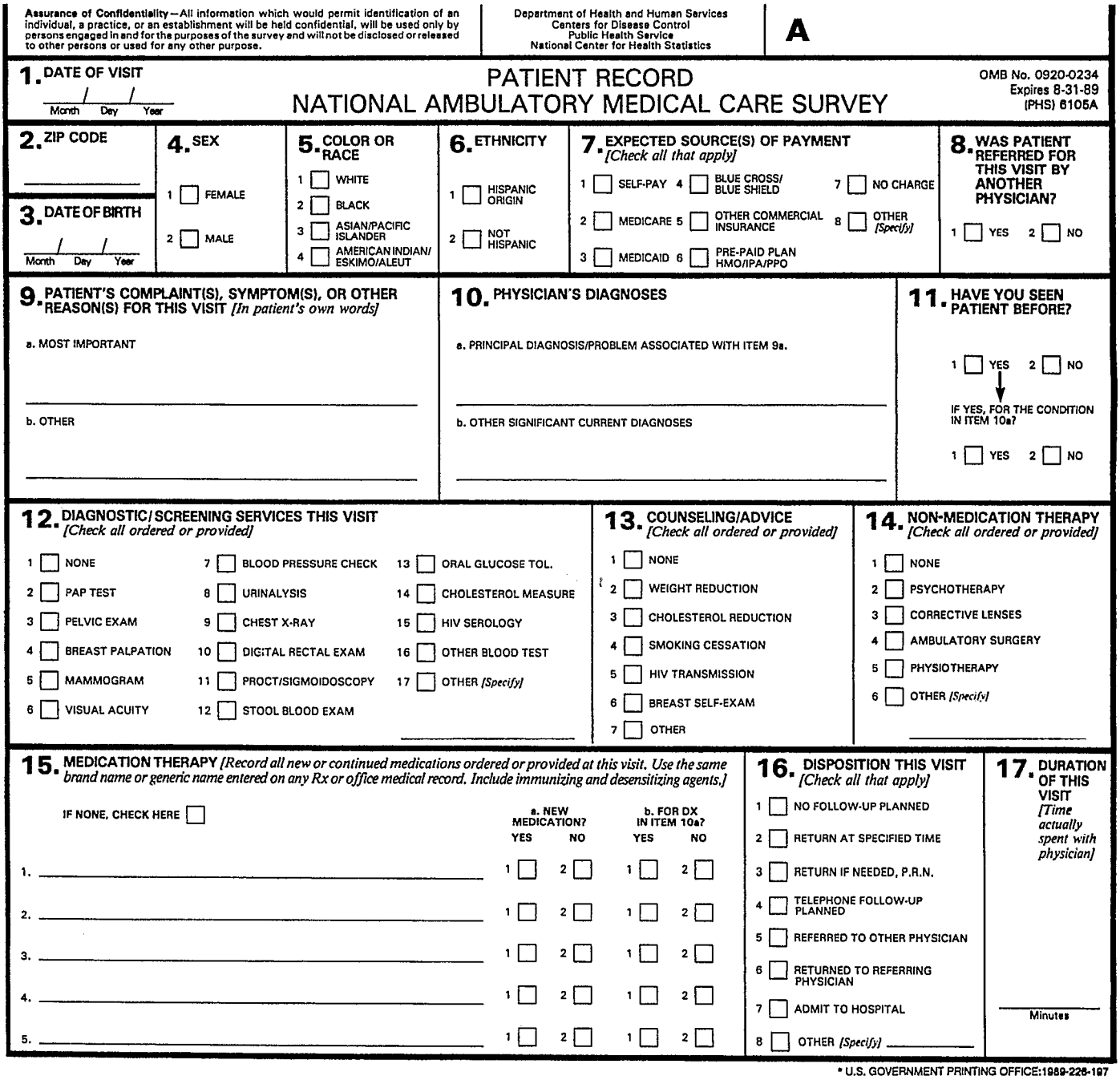

Assurance of Confidentiality—All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to other persons or used for any other purpose.

Department of Health and Human Services
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A

PATIENT RECORD
NATIONAL AMBULATORY MEDICAL CARE SURVEY

OMB No. 0920-0234
Expires 8-31-89
(PHS) 6105A

1. DATE OF VISIT — Month / Day / Year

2. ZIP CODE

3. DATE OF BIRTH — Month / Day / Year

4. SEX
1 FEMALE
2 MALE

5. COLOR OR RACE
1 WHITE
2 BLACK
3 ASIAN/PACIFIC ISLANDER
4 AMERICAN INDIAN/ ESKIMO/ALEUT

6. ETHNICITY
1 HISPANIC ORIGIN
2 NOT HISPANIC

7. EXPECTED SOURCE(S) OF PAYMENT [Check all that apply]
1 SELF-PAY
2 MEDICARE
3 MEDICAID
4 BLUE CROSS/ BLUE SHIELD
5 OTHER COMMERCIAL INSURANCE
6 PRE-PAID PLAN HMO/IPA/PPO
7 NO CHARGE
8 OTHER [Specify]

8. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN?
1 YES 2 NO

9. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT [In patient's own words]
a. MOST IMPORTANT
b. OTHER

10. PHYSICIAN'S DIAGNOSES
a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 9a.
b. OTHER SIGNIFICANT CURRENT DIAGNOSES

11. HAVE YOU SEEN PATIENT BEFORE?
1 YES 2 NO
IF YES, FOR THE CONDITION IN ITEM 10a?
1 YES 2 NO

12. DIAGNOSTIC/SCREENING SERVICES THIS VISIT [Check all ordered or provided]
1 NONE
2 PAP TEST
3 PELVIC EXAM
4 BREAST PALPATION
5 MAMMOGRAM
6 VISUAL ACUITY
7 BLOOD PRESSURE CHECK
8 URINALYSIS
9 CHEST X-RAY
10 DIGITAL RECTAL EXAM
11 PROCT/SIGMOIDOSCOPY
12 STOOL BLOOD EXAM
13 ORAL GLUCOSE TOL.
14 CHOLESTEROL MEASURE
15 HIV SEROLOGY
16 OTHER BLOOD TEST
17 OTHER [Specify]

13. COUNSELING/ADVICE [Check all ordered or provided]
1 NONE
2 WEIGHT REDUCTION
3 CHOLESTEROL REDUCTION
4 SMOKING CESSATION
5 HIV TRANSMISSION
6 BREAST SELF-EXAM
7 OTHER

14. NON-MEDICATION THERAPY [Check all ordered or provided]
1 NONE
2 PSYCHOTHERAPY
3 CORRECTIVE LENSES
4 AMBULATORY SURGERY
5 PHYSIOTHERAPY
6 OTHER [Specify]

15. MEDICATION THERAPY [Record all new or continued medications ordered or provided at this visit. Use the same brand name or generic name entered on any Rx or office medical record. Include immunizing and desensitizing agents.]
IF NONE, CHECK HERE

	a. NEW MEDICATION? YES	a. NEW MEDICATION? NO	b. FOR DX IN ITEM 10a? YES	b. FOR DX IN ITEM 10a? NO
1.	1	2	1	2
2.	1	2	1	2
3.	1	2	1	2
4.	1	2	1	2
5.	1	2	1	2

16. DISPOSITION THIS VISIT [Check all that apply]
1 NO FOLLOW-UP PLANNED
2 RETURN AT SPECIFIED TIME
3 RETURN IF NEEDED, P.R.N.
4 TELEPHONE FOLLOW-UP PLANNED
5 REFERRED TO OTHER PHYSICIAN
6 RETURNED TO REFERRING PHYSICIAN
7 ADMIT TO HOSPITAL
8 OTHER [Specify]

17. DURATION OF THIS VISIT [Time actually spent with physician]
Minutes

* U.S. GOVERNMENT PRINTING OFFICE:1989-228-197

Figure 1. Patient record form

over 25 years of age, and nearly 40 percent of the visits are 65 years of age or older. The patient visit rate increases with age from a low of 2.3 visits per 100 persons for those patients under 15 years of age to about 128 visits per 100 persons 75 years of age and over. These relationships generally are true for both male and female visits. Although female patients account for the majority of internist visits (58 percent), the visit rate for females is not statistically different from that for males.

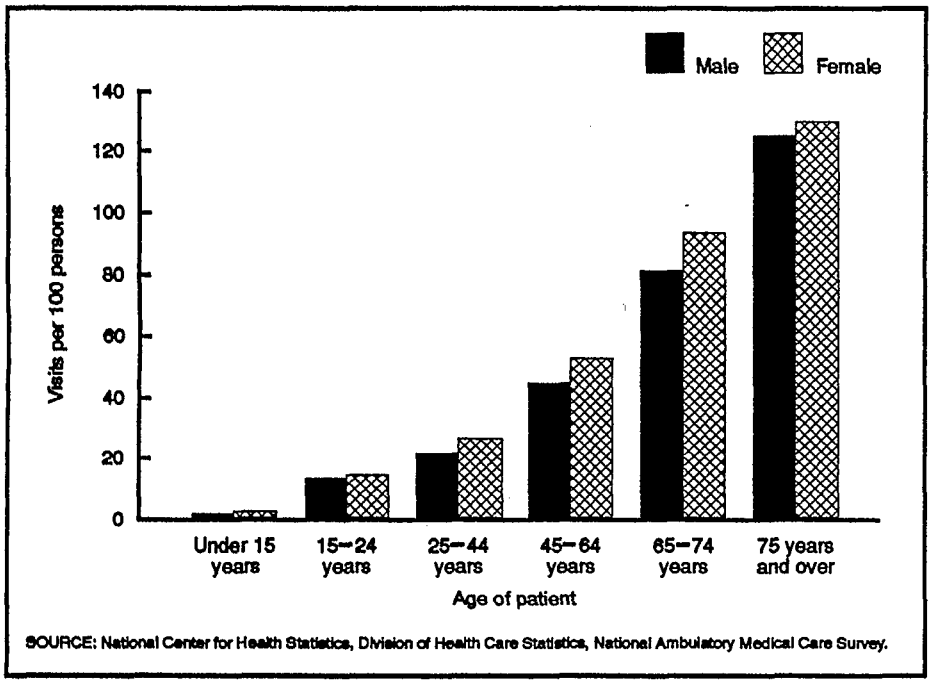
White persons accounted for most of the visits to internists (approximately 81 percent) as compared with black persons (approximately 13 percent). These percentages closely represent the general distribution of the population; hence, the similar visit rates. As shown in table 3, white and black persons have visit rates that are not statistically different—33.2 visits per 100 persons for blacks and 31.2 visits per 100 persons for whites. Between races there was no statistical difference by the gender of the patient. The distribution of those visits again followed that of the general population.

Expected sources of payment

Patients' self-payment (including copayments and deductibles) was the expected source of payment in 31.7 percent of the visits to internists; Medicare was 30.3 percent; prepaid plans (HMO, IPA, or PPO) was 21.0; other commercial insurance was 20.1;

Table 1. Number and percent distribution of office visits, by selected physician specialties: United States, 1989

Selected specialty	Number of visits in thousands	Percent distribution
All visits	692,702	100.0
General and family practice	206,301	29.8
Pediatrics	87,411	12.6
Internal medicine	78,816	11.4
Obstetrics & gynecology	58,381	8.4
Ophthalmology	38,761	5.6



SOURCE: National Center for Health Statistics, Division of Health Care Statistics, National Ambulatory Medical Care Survey.

Figure 2. Visit rate to internists by age and sex: United States, 1989

Table 2. Number, percent distribution, and rate of office visits to internists by sex and age: United States, 1989

Sex and age	Number of visits in thousands	Percent distribution	Visits per 100 persons
All visits	78,816	100.0	32.4
Both sexes			
Under 15 years	1,253	1.6	2.3
15–24 years	5,008	6.4	14.1
25–44 years	19,352	24.6	24.6
45–64 years	22,824	29.0	49.5
65–74 years	15,758	20.0	88.4
75 years and over	14,621	18.6	128.4
Male	33,142	42.1	28.1
Under 15 years	*473	0.6	1.7
15–24 years	2,410	3.1	13.7
25–44 years	8,645	11.0	22.4
45–64 years	9,877	12.5	44.8
65–74 years	6,447	8.2	81.2
75 years and over	5,290	6.7	125.7
Female	45,674	58.0	36.4
Under 15 years	780	1.0	3.0
15–24 years	2,598	3.3	14.5
25–44 years	10,707	13.6	26.7
45–64 years	12,947	16.4	53.8
65–74 years	9,311	11.8	94.1
75 years and over	9,331	11.8	130.0

and Blue Cross/Blue Shield was 10.1 percent. Medicaid was used least as a source of payment, 3.7 percent (table 4).

Patient status

Most of the patients who visited the internist in 1989, 96.6 percent, had not been referred by another physician; the remaining patients, 3.4 percent, had been referred for that particular visit. New patients represented an estimated 15.7 percent of the visits and old patients (patients previously seen) having new problems represented 25.0 percent of the visits. Most of the visits, however, were from patients that had preexisting or old problems, 59.4 percent (table 5).

Patient's reason for visit

The principal reason for visit to the internist, as expressed by the patient, is shown in tables 6 and 7. The principal reason for visit is the problem, complaint, or reason listed first in item 9A of the patient record form. These data have been classified and coded according to the Reason for Visit Classification for Ambulatory Care (RVC) (1).

The RVC is divided into seven modules (or groups of reasons) as detailed in table 6. The symptoms module was the most often cited, 57.2 percent of all the reasons for visit. Within the symptoms module, symptoms of the respiratory and musculoskeletal systems had the largest number of visits with 13.7 and 12.3 percent, respectively. The disease module, which consists largely of known chronic conditions, accounted for 14.1 percent, and the diagnostic, screening, and preventive module accounted for 12.4 percent.

Table 7 lists the 20 most common reasons for visit that accounted for approximately 47 percent of all visits to the internist. The general medical exam, 6.2 percent, was the most frequent principal reason for visit. Cough accounted for 4.7 percent of the visits, an increase from 3.1 percent in 1985. Compared with 1985, two additional symptoms

Table 3. Number, percent distribution, and rate of office visits to internists by race and sex: United States, 1989

Race and sex	Number of visits in thousands	Percent distribution	Visits per 100 persons
All visits[1]	78,816	100.0	32.4
Race and sex			
Black	9,924	12.6	33.2
Male	3,868	4.9	27.7
Female	6,056	7.7	38.0
White	64,022	81.2	31.2
Male	27,642	35.1	27.6
Female	36,380	46.2	34.5
Other[2]	2,913	3.7	35.0
Male	1,118	1.4	27.5
Female	1,795	2.3	42.1

[1]Detail does not add to total because unspecified category, 1,957,000 visits, is included in total.
[2]Includes Asian/Pacific Islander and American Indian/Eskimo/Aleut.

Table 4. Number and percent distribution of the expected source of payment to office visits of internists: United States, 1989

Source of payment	Number of visits in thousands	Percent distribution
All visits[1]	78,816	100.0
Self-pay	24,974	31.7
Medicare	23,902	30.3
Medicaid	2,920	3.7
Blue Cross/Blue Shield	7,949	10.1
Other commercial	15,834	20.1
Pre-paid plan, HMO/IPA/PPO	16,536	21.0
Other[2]	4,449	5.6

[1]Will not add to 100 percent because more than one category could have been chosen.
[2]Includes no charge, other, and unknown.

Table 5. Number and percent distribution of patient referral status and visit status: United States, 1989

Referral and visit status	Number of visits in thousands	Percent distribution
All visits	78,816	100.0
Patient referred		
Yes	2,706	3.4
No	76,110	96.6
Visit status		
New patient	12,336	15.7
Old patient-new problem	19,700	25.0
Old patient-old problem	46,780	59.4

Table 6. Number and percent distribution of office visits to internist by principal reason for visit module: United States, 1989

Principal reason for visit module and RVC code[1]	Number of visits in thousands	Percent distribution
All principal reasons for visit	78,816	100.0
Symptom module .S001–S999	45,113	57.2
General symptoms .S001–S099	6,494	8.2
Symptoms referable to respiratory system .S400–S499	10,795	13.7
Symptoms referable to digestive system .S500–S639	6,208	7.9
Symptoms referable to the musculoskeletal system .S900–S999	9,699	12.3
Disease module .D001–D999	11,107	14.1
Diagnostic, screening, and preventive module .X100–X599	9,734	12.4
Treatment module .T100–T899	5,648	7.2
Injury and adverse effects module .J001–J999	2,012	2.6
All other modules[2]	5,201	6.6

[1]Based on "A Reason for Visit Classification for Ambulatory Care" (RVC) (1).
[2]Includes test results and administrative modules and uncodable and blank entries.

appeared in 1989 in the 20 most common reasons for visit: physical examination required for employment and nasal congestion.

Physician's diagnosis

Data on the principal diagnosis rendered by internists are shown in tables 8 and 9. The principal diagnosis is the first listed in item 10 of the patient record form. These data were coded and classified according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (2).

Table 8 categorizes the diagnoses by the major systems of the body as defined by the ICD–9–CM. The most frequent diagnoses were for diseases of the circulatory system, 19.6 percent of the visits, and for diseases of the respiratory system, 15.4 percent of the visits. The majority of the diagnoses made by internists were for diseases, with only 5.4 percent of the diagnoses contained in the supplementary classification. This is well below the percent for all physicians, 15.3 percent, in 1989 (3). Supplementary classifications contain categories for diagnoses other than diseases such as general medical exams, normal pregnancy exams, and personal history.

The 20 conditions most frequently diagnosed by internists are shown in table 9. Essential hypertension was the most commonly diagnosed condition and represented 9.6 percent of the visits, down from 11.2 percent in 1985, and was the most frequent diagnosis in 1989 for all visits to all physicians (3). Diabetes mellitus, the second most common diagnosis by internists, represented 4.8 percent of the visits. Within the top 20 diagnoses in 1989, there are many noteworthy changes when compared with 1985. There was a significant increase of disorders of lipoid metabolism, 0.5 percent to 2.2 percent, and other and unspecified disorders of the back, 0.7 percent to 1.5 percent.

Allergic rhinitis and abdominal pain and other abdominal symptoms

Table 7. Number, percent distribution, and cumulative percent, by the 20 most common principal reasons for visits to internists: United States, 1989

Rank	Most common principal reason for visits and RVC code[1]	Number of visits in thousands	Percent distribution	Cumulative percent
	All principal reasons for visit	78,816	100.0	---
1	General medical exam .X100	4,886	6.2	6.2
2	Cough .S440	3,674	4.7	10.9
3	Hypertension .D510	2,872	3.6	14.5
4	Stomach pain, cramps and spasms .S545	2,784	3.5	18.0
5	Blood pressure test .X320	2,301	2.9	20.9
6	Back symptoms .S905	2,228	2.8	23.7
7	Chest pain and related symptoms .S050	2,133	2.7	26.4
8	Symptoms referable to throat .S455	1,742	2.2	28.6
9	Headache, pain in head .S210	1,724	2.2	30.8
10	Shortness of breath .S415	1,430	1.8	32.6
11	Diabetes mellitus .D205	1,391	1.8	34.4
12	Tiredness, exhaustion .S015	1,260	1.6	36.0
13	Vertigo-dizziness .S225	1,227	1.6	37.6
14	Leg symptoms .S920	1,221	1.5	39.1
15	Physical exam required for employment .A100	1,145	1.5	40.6
16	Nasal congestion .S400	1,062	1.3	41.9
17	Knee symptoms .S925	996	1.3	43.2
18	Lower back symptoms .S910	968	1.2	44.4
19	Head cold, upper respiratory infection .S445	958	1.2	45.6
20	Arthritis .D900	917	1.2	46.8

[1]Based on "A Reason for Visit Classification for Ambulatory Care" (RVC) (1).

Table 8. Number and percent distribution of office visits to internists by major *International Classification of Diseases, 9th Revision, Clinical Modification* class: United States, 1989

Principal diagnoses and ICD–9–CM codes[1]	Number of visits in thousands	Percent distribution
All diagnoses	78,816	100.0
Infectious and parasitic diseases .001–139	1,737	2.2
Neoplasms .140–239	1,955	2.5
Endocrine, nutritional, and metabolic diseases and immunity disorders .240–279	7,534	9.6
Mental disorders .290–319	1,951	2.5
Diseases of the nervous system and sense organs .320–389	2,797	3.5
Diseases of the circulatory system .390–459	15,470	19.6
Diseases of the respiratory system .460–519	12,155	15.4
Diseases of the digestive system .520–579	5,853	7.4
Diseases of the genitourinary system .580–629	3,062	3.9
Diseases of the skin and subcutaneous tissue .680–709	1,887	2.4
Diseases of the musculoskeletal system and connective tissue .710–739	8,083	10.3
Symptoms, signs and ill-defined conditions .780–799	5,143	6.5
Injury and poisoning .800–999	4,654	5.9
Supplementary classifications .V001–V082	4,258	5.4
All other diagnoses[2]	654	0.8
Unknown diagnoses[3]	1,623	2.1

[1]Based on *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (2).
[2]Includes diseases of the blood forming organs (280–289); complications of pregnancy, childbirth, and the puerperium (630–676); congenital anomalies (740–759); and certain conditions originating in the perinatal period (760–779).
[3]Includes blank diagnoses, noncodable diagnoses, and illegible diagnoses.

also joined the top 20 diagnoses made by internists in 1989. Angina pectoris had a statistically significant fall from the top 20 diagnoses, from 1.3 percent in 1985 to 0.7 percent in 1989. Neurotic disorders also dropped from the list as well, from 1.4 percent in 1985 to 0.9 percent in 1989.

Still on the list of the top 20 diagnoses but having a statistically significant drop in the percent of visits since 1985 is chronic ischemic heart disease except angina pectoris, which in 1985 made up 3.3 percent of the visits compared with 2.1 percent in 1989. The top 20 diagnoses represented 46.5 percent of all the visits to internists in 1989, an increase from 43.0 percent in 1985.

Diagnostic services and counseling

During 17.3 percent of the visits to internists, no diagnostic tests were ordered or performed, up from 14.1 percent in 1985. About 64.2 percent of visits to internists included a blood pressure check and 25.4 percent included other blood tests. The use of these diagnostic services by internists is two to three times higher than the corresponding percents for all other physicians, probably reflecting the high percent of visits for circulatory diseases seen by internists (table 10).

On the patient record form, item 13 asks if the physician provided counseling, advice, or instructions to patients for any of the health conditions listed. In 1989 internists advised patients on weight reduction during 13.1 percent of the visits and on cholesterol reduction during 8.0 percent of the visits. For a smaller percent of visits the physician counseled the patient on smoking cessation, 3.2 percent, and breast self-exam, 2.1 percent. The physician counseled, advised, or educated patients during 21.1 percent of the visits on other topics not listed (table 11). These percentages are approximately equal to or higher than the corresponding figures for all other physicians in 1989 (3).

Medication therapy

Approximately three-quarters (75.4 percent) of the visits to internists in 1989 were "drug" visits, that is, visits in which the patient was administered or prescribed some type of medication. Overall, this represents about 14.3 percent of all medications prescribed or administered by office-based ambulatory care physicians in the United States. In about one-third (32.7 percent) of the patient visits, one drug was prescribed or administered and in approximately one-fifth (19.2 percent) of the visits two drugs were prescribed or administered, similar to the percents for internists in 1985 (table 12).

Of those drugs prescribed or administered, over 26.8 percent were cardiovascular-renal drugs, specifically including antihypertensive agents, 10 percent, and diuretics, 7.3 percent. Drugs used for the relief of pain accounted for 12.2 percent

Table 9. Number, percent distribution, and cumulative percent of office visits to internists by the 20 most common principal diagnoses: United States, 1989

Rank	Most common principal diagnoses and ICD–9–CM code[1]	Number of visits in thousands	Percent distribution	Cumulative percent
	All principal diagnoses	78,816	100.0	---
1	Essential hypertension .401	7,583	9.6	9.6
2	Diabetes mellitus .250	3,797	4.8	14.4
3	Acute upper respiratory infections of multiple or unspecified sites .465	2,825	3.6	18.0
4	General medical exam. V70	2,392	3.0	21.0
5	Osteoarthrosis and allied disorders .715	1,939	2.5	23.5
6	Disorders of lipoid metabolism .272	1,751	2.2	25.7
7	Bronchitis, not specified acute or chronic .490	1,730	2.2	27.9
8	Other forms of chronic ischemic heart disease .414	1,665	2.1	30.0
9	Chronic sinusitis .473	1,350	1.7	31.7
10	Other and unspecified arthropathies .716	1,270	1.6	33.3
11	General symptoms .780	1,230	1.6	34.9
12	Cardiac dysrhythmias .427	1,216	1.5	36.4
13	Asthma .493	1,168	1.5	37.9
14	Other and unspecified disorders of the back .724	1,155	1.5	39.4
15	Chronic airway obstruction .496	1,036	1.3	40.7
16	Acute pharyngitis .462	1,000	1.3	42.0
17	Symptoms involving respiratory system and other chest symptoms .786	950	1.2	43.2
18	Heart failure .428	905	1.1	44.3
19	Allergic rhinitis .477	854	1.1	45.4
20	Other symptoms involving abdomen and pelvis .789	845	1.1	46.5

[1]Based on *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (2).

Table 10. Number and percent distribution of office visits to internists by type of diagnostic service ordered or provided: United States, 1989

Type of diagnostic service(s) ordered or provided	Number of visits in thousands	Percent distribution
All visits[1]	78,816	100.0
Other blood test	20,015	25.4
Blood pressure check	50,599	64.2
Urinalysis	11,204	14.2
Cholesterol measure	7,821	9.9
Chest X-ray	5,129	6.5
Stool-blood exam	4,131	5.2
Digital rectal exam	3,675	4.7

[1]Detail may not add to total because more than one diagnostic service was possible during the patient visit.

Table 11. Number and percent distribution of office visits to internists by counseling/advice: United States, 1989

Counseling/advice	Number of visits in thousands	Percent distribution
All visits[1]	78,816	100.0
None	48,239	61.2
Weight reduction	10,363	13.1
Cholesterol reduction	6,326	8.0
Smoking cessation	2,527	3.2
HIV transmission	*241	0.3
Breast self-exam	1,670	2.1
Other	16,643	21.1

[1]Detail may not add to total because more than one category was possible during visit.

and respiratory tract drugs accounted for 10.9 percent of the medication prescribed or administered by internists (table 13). (This classification is adopted from the therapeutic categories of the National Drug Code, 1985 (4).)

Hydrochlorothiazide, amoxicillin, and furosemide are the three most frequent generic ingredients prescribed or administered by the internist, accounting for 3.3, 2.3, and 2.2 percent, respectively, of the drugs mentioned (table 14).

Disposition and duration of visit

While at the internist's office, 20.2 percent of the patients saw the physician 6 to 10 minutes, 39.1 percent of the patients saw the physician 11 to 15 minutes, and 27.1 percent of the patients saw the physician 16 to 30 minutes. These estimates of minutes include only the time the patient spent with the physician and do not include time spent by the patient waiting for the physician or time while care was provided by someone other than the physician. A visit of zero minutes, one in which the patient had no face-to-face contact with the physician but received care from a member of the physician's staff, accounted for 1.7 percent of the visits—not statically different from 1985. The mean duration of the visits in 1989 was 17.9 minutes (excluding zero minutes) as compared with the mean duration of 19.3 minutes in 1985 (table 15).

Most of the patients that visited the internist were instructed to return at a specific time, 65.3 percent, similar to the percent for all specialties, 61.3 percent (3). The patient was to return if needed in 19.7 percent of the visits and was admitted to the hospital in only 1.0 percent of the visits (table 15).

Table 12. Number and percent distribution of office visits to internist by type of visit and number of medications prescribed or ordered: United States, 1989

Type of visit and number of medications	Number of visits in thousands	Percent distribution
All visits	78,816	100.0
Type of visit		
Non-drug visit (0 medications)	19,403	24.6
Drug visit	59,412	75.4
Number of medications		
1	25,775	32.7
2	15,120	19.2
3	9,221	11.7
4	4,517	5.7
5	4,779	6.1

Table 13. Number and percent distribution of office visits to internists, by therapeutic category: United States, 1989

Therapeutic category[1]	Number of visits in thousands	Percent distribution
All drug mentions	147,807	100.0
Antimicrobial agents	14,054	9.5
Hematologic agents	2,074	1.4
Cardiovascular-renal drugs	39,582	26.8
Antihypertensive agents	14,802	10.0
Diuretics	10,853	7.3
Psychopharmacologic drugs	5,919	4.0
Gastrointestinal agents	12,391	8.4
Metabolic and nutrient agents	7,437	5.0
Hormones and agents affecting hormonal mechanisms	13,847	9.4
Skin/mucous membrane	4,152	2.8
Neurologic drugs	3,225	2.2
Drugs used for relief of pain	18,045	12.2
General analgesics	8,667	5.9
Respiratory tract drugs	16,134	10.9
Antitussives, expectorants, and mucolytics	4,947	3.3
Unclassified/miscellaneous	6,506	4.4
All others[2]	4,441	3.0

[1]Therapeutic class based on the standard drug classification used in the National Drug Code Directory, 1985 edition.
[2]Includes anesthetic drugs, antidotes, radiopharmaceuticals/contrast media, immunologic agents, oncolytics, ophthalmic drugs, otologic drugs, and antiparasitic agents.

Table 14. Number and percent distribution for the 20 most frequently used generic ingredients by internists: United States, 1989

Rank	Generic substance[1]	Number of mentions in thousands[1]	Percent distribution
1	Hydrochlorothiazide	4,860	3.3
2	Amoxicillin	3,360	2.3
3	Furosemide	3,257	2.2
4	Digoxin	3,189	2.2
5	Acetaminophen	2,801	1.9
6	Insulin	2,742	1.9
7	Potassium replacement solutions	2,494	1.7
8	Ranitidine	2,456	1.7
9	Naproxen	2,411	1.6
10	Aspirin	2,402	1.6
11	Atenolol	2,247	1.5
12	Levothyroxine	2,230	1.5
13	Triamterene	2,228	1.5
14	Theophylline	2,222	1.5
15	Verapamil	2,200	1.5
16	Enalapril	2,194	1.5
17	Diltiazem	1,991	1.3
18	Captopril	1,949	1.3
19	Nitroglycerin	1,897	1.3
20	Codeine	1,830	1.2

[1]Frequency of mention combines single-ingredient agents with mentions of the agents as an ingredient in a combination drug.

References

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3. DeLozier JE, Gagnon RO. 1989 Summary: National Ambulatory Medical Care Survey. Advance data from vital health statistics; no. 203. Hyattsville, Maryland: National Center for Health Statistics, 1991.

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Table 15. Number and percent distribution of office visits to internists by duration and disposition: United States, 1989

Duration and disposition of visit	*Number of visits in thousands*	*Percent distribution*
All visits	78,816	100.0
Duration of visit[1]		
Zero minutes	1,311	1.7
1–5 minutes	3,938	5.0
6–10 minutes	15,918	20.2
11–15 minutes	30,851	39.1
16–30 minutes	21,391	27.1
31–60 minutes	4,845	6.1
61 or more minutes	562	0.7
Disposition of visit		
No followup planned	5,339	6.8
Return at specific time	51,494	65.3
Return if needed	15,506	19.7
Telephone followup planned	6,268	8.0
Referred to other physician	3,591	4.6
Referred to referring physician	*329	0.4
Admit to hospital	821	1.0
Other	1,087	1.4

[1]Mean duration of visit 17.9 minutes.

Technical notes

Sources of data and sample design

The information presented in this report is based on data collected by means of the National Ambulatory Medical Care Survey (NAMCS) from March 20, 1989, through March 18, 1990. The target universe of NAMCS includes office visits made in the United States by ambulatory patients to nonfederally employed physicians who are principally engaged in office practice, but not in the specialties of anesthesiology, pathology, or radiology. Telephone contacts and nonoffice visits are excluded.

A multistage probability sample design is used in NAMCS, involving samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within physician practices. For 1989, a sample of 2,535 non-Federal, office-based physicians was selected from master files maintained by the American Medical Association and American Osteopathic Association (the sample included 213 internists of which 148 were eligible for the survey). The physician response rate for the 1989 NAMCS was 74 percent (64 percent for internists). Sample physicians were asked to complete patient records (see figure 1) for a systematic random sample of office visits occurring during a randomly assigned 1-week reporting period. Responding physicians completed 38,384 patient records (2,724 patient records were filled out by internists).

Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained from the physicians during an induction interview. The U.S. Bureau of the Census, Housing Surveys Branch, was responsible for the survey's data collection. Processing operations and medical coding were performed by the National Center for Health Statistics, Hospital Discharge and Ambulatory Care Survey Section, Research Triangle Park, North Carolina.

Sampling errors

The standard error is primarily a measure of the sampling variability that occurs by chance when only a sample, rather than an entire universe, is surveyed. The relative standard error of an estimate is obtained by dividing the standard error by the estimate itself; the result is then expressed as a percent of the estimate. Approximate relative standard errors of selected aggregate statistics are shown in table I, and the relative standard errors of the estimated number of drug mentions are shown in table II. Relative standard errors for aggregate visits and drug estimates may be calculated using the following general formula, where x is the aggregate of interest in thousands, and A and B are the appropriate coefficients from table IV.

$$\mathrm{RSE}(x) = \sqrt{\mathrm{A} + \frac{\mathrm{B}}{X}} \cdot 100.0$$

Approximate relative standard errors for estimates of the percent of visits are shown in table III. The relative standard errors for percent may be calculated using the following general formula, where p is the percent of interest and x is the denominator of the percent in thousands, using the appropriate coefficient from table IV.

$$\mathrm{RSE}\,(p) = \sqrt{\frac{B \cdot (1-p)}{p \cdot x}} \cdot 100.0$$

Table I. Relative standard errors for estimated numbers of office visits for the National Ambulatory Medical Care Survey: United States, 1989

Estimated number of office visits in thousands	*All specialties*	*Internists*
	Relative standard error (RSE) in percent	
100	69.7	61.8
200	49.4	44.6
300	40.4	37.1
400	35.0	32.7
500	31.4	29.7
700	26.6	26.0
1,000	22.4	22.7
2,000	16.1	18.3
5,000	10.6	14.9
7,000	9.2	14.2
10,000	8.0	13.7
30,000	5.7	12.7
50,000	5.1	12.5
100,000	4.6	12.4
690,000	4.1	...

NOTE: Internist 30% RSE=488,000; all specialties 30% RSE=547,000.

Example of use of table: An aggregate estimate of 5 million visits to an internist has a relative standard estimate of 14.9 percent or a standard error of 745 thousand visits (14.9 percent of 5 million).

Table II. Relative standard errors for estimated numbers of drug mentions for the National Ambulatory Medical Care Survey: United States, 1989

Estimated number of drug mentions in thousands	*All specialties*	*Internists*
	Relative standard error (RSE) in percent	
100	89.6	50.1
200	63.4	37.1
300	51.9	31.5
400	45.0	28.4
500	40.3	26.3
700	34.2	23.7
1,000	28.7	21.5
2,000	20.6	18.7
5,000	13.6	16.8
7,000	11.8	17.2
10,000	10.3	16.1
30,000	7.2	15.2
50,000	6.5	15.5
100,000	5.8	15.4
200,000	5.5	...
700,000	5.2	...

NOTE: Internist 30% RSE=883,000; all specialties 30% RSE=912,000.

Example of use of table: An aggregate estimate of 2 million drug mentions by an internist has a relative standard estimate of 18.7 percent or a standard error of 374 thousand drug mentions (18.7 percent of 2 million).

Adjustments for nonresponse

Estimates from NAMCS data were adjusted to account for sample physicians who were in scope but did not participate in the study. This adjustment was calculated to minimize the impact of response on final estimates by imputing to nonresponding physicians data from visits to similar physicians. For this purpose, physicians were judged similar if they had the same specialty designation and practiced in the same PSU.

Test of significance and rounding

In this report, the determination of statistical significance is based on a two-sided t-test. The Bonferroni inequality was used to estimate the

Table III. Standard errors for percents of estimated numbers of office visits for the National Ambulatory Medical Care Survey: United States, 1989

Base of percent (visits in thousands)	Estimated percent					
	1 or 99	5 or 95	10 or 90	20 or 80	30 or 70	50
	Standard error in percentage points					
200	4.9	10.7	14.8	19.7	22.6	24.6
500	3.1	6.8	9.3	12.5	14.3	15.6
1,000	2.2	4.8	6.6	8.8	10.1	11.0
2,000	1.6	3.4	4.7	6.2	7.1	7.8
5,000	1.0	2.2	3.0	3.9	4.5	4.9
10,000	0.7	1.5	2.1	2.8	3.2	3.5
13,000	0.6	1.3	1.8	2.4	2.8	3.1
20,000	0.5	1.1	1.5	2.0	2.3	2.5
50,000	0.3	0.7	0.9	1.3	1.4	1.6
100,000	0.2	0.5	0.7	0.9	1.0	1.1
600,000	0.1	0.2	0.3	0.4	0.4	0.5

Example of use of table: An estimate of 30 percent based on an aggregate estimate of 13 million visits has a standard error of 2.8 percent or a relative standard error of 9.3 percent (2.8 percent divided by 30 percent).

Table IV. Coefficients appropriate for determining relative standard errors by type of estimate and physician specialty for the National Ambulatory Medical Care Survey: United States, 1989

Type of estimate and physician specialty	Coefficient	
	A	B
Visits		
Overall totals	0.00161075	48.44516000
Internal medicine, all other specialties	0.01498303	36.73205078
Drug mentions		
Overall totals	0.00258400	79.97392437
Internal medicine, all other specialties	0.02100443	61.17468803

critical value for statistically significant differences (.05 level of confidence). Terms relating to differences such as "higher," "less," and so forth indicate that the difference is statistically significant. Terms such as "similar" or "no difference" mean that no statistical significance exists between the estimates being compared. In the tables, estimates of office visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals. Rates and percents were calculated from original unrounded figures and do not necessarily agree with percents calculated from rounded data.

Definition of terms

Ambulatory patient—An ambulatory patient is an individual seeking personal health services who is not currently admitted to any health care institution on the premises.

Physician—A physician is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) who is currently in office-based practice and who spends some time caring for ambulatory patients. Excluded from the NAMCS are physicians who are hospital-based; who specialize in anesthesiology, pathology, or radiology; who are federally employed; who treat only institutionalized patients; or who are employed full time by an institution and spend no time seeing ambulatory patients.

Office—Offices are the premises physicians identify as locations for their ambulatory practice; these customarily include consultation, examination, or treatment spaces that patients associate with the particular physician.

Visit—A visit is a direct personal exchange between an ambulatory patient and a physician (or a staff member working under the physician's supervision), for the purpose of seeking care and rendering personal health services.

Drug mention—A drug mention is the physician's entry of a pharmaceutical agent—by any route of administration—for prevention, diagnosis, or treatment. Generic as well as brand-name drugs are included, as are nonprescription and prescription drugs. Along with all new drugs, the physician also records continued medications if the patient was specifically instructed during the visit to continue the medication.

Drug visit—A drug visit is a visit in which medication was prescribed or provided by the physician.

Symbols	
- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision

*U.S. Government Printing Office: 1992 — 312-093/40026

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