Number 262 • March 30, 1995

Advance Data

From Vital and Health Statistics of the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

Office Visits for Glaucoma: United States, 1991–92

by Susan M. Schappert, M.A., Division of Health Care Statistics

Introduction

During the 2-year period 1991–92, there were an estimated 17.5 million visits made to nonfederally employed, office-based physicians in the United States at which the principal, or first-listed, diagnosis was glaucoma—an average of 8.7 million visits per year. An additional 3.2 million visits over this same period included glaucoma as the second- or third-listed diagnosis.

This report presents national estimates pertaining to glaucoma-related office visits. These estimates are based upon data collected in the National Ambulatory Medical Care Survey (NAMCS), a national probability sample survey conducted by the Division of Health Care Statistics of the National Center for Health Statistics, Centers for Disease Control and Prevention. Statistics are presented on patient characteristics, physician practice characteristics, and visit characteristics for visits with a diagnosis of glaucoma.

The 1991 and 1992 National Ambulatory Medical Care Surveys shared identical survey instruments, definitions, and procedures. The resulting 2 years of data have been combined to provide more reliable estimates. In most cases, the estimates, percent distributions, and rates presented in this report reflect average annual estimates based on the combined 1991 and 1992 data. Figures representing 2-year totals rather than averages are noted as such in the text.

A copy of the Patient Record form, the survey instrument used by participating physicians to record information about their patients' office visits, is shown in figure 1. In item 11 of the form, physicians are requested to record a principal diagnosis (the diagnosis most closely associated with the patient's most important reason for visit) as well as any other current diagnoses. Up to three diagnoses are coded and classified according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (1) for each visit. This report focuses primarily on office visits at which the patient's principal diagnosis was recorded as glaucoma (ICD–9–CM codes 365.0–365.9). Such visits are termed "glaucoma visits" throughout this report.

It is necessary to keep in mind that the estimates presented in this report are based on a sample, rather than on the entire universe of office visits, and, as such, they are subject to sampling variability. The technical notes at the end of this report include a brief discussion of the sample design, sampling errors, and guidelines for use in evaluating the precision of NAMCS estimates. Additional reports summarizing general findings from the 1991 and 1992 NAMCS have been published (2–4).

Patient characteristics

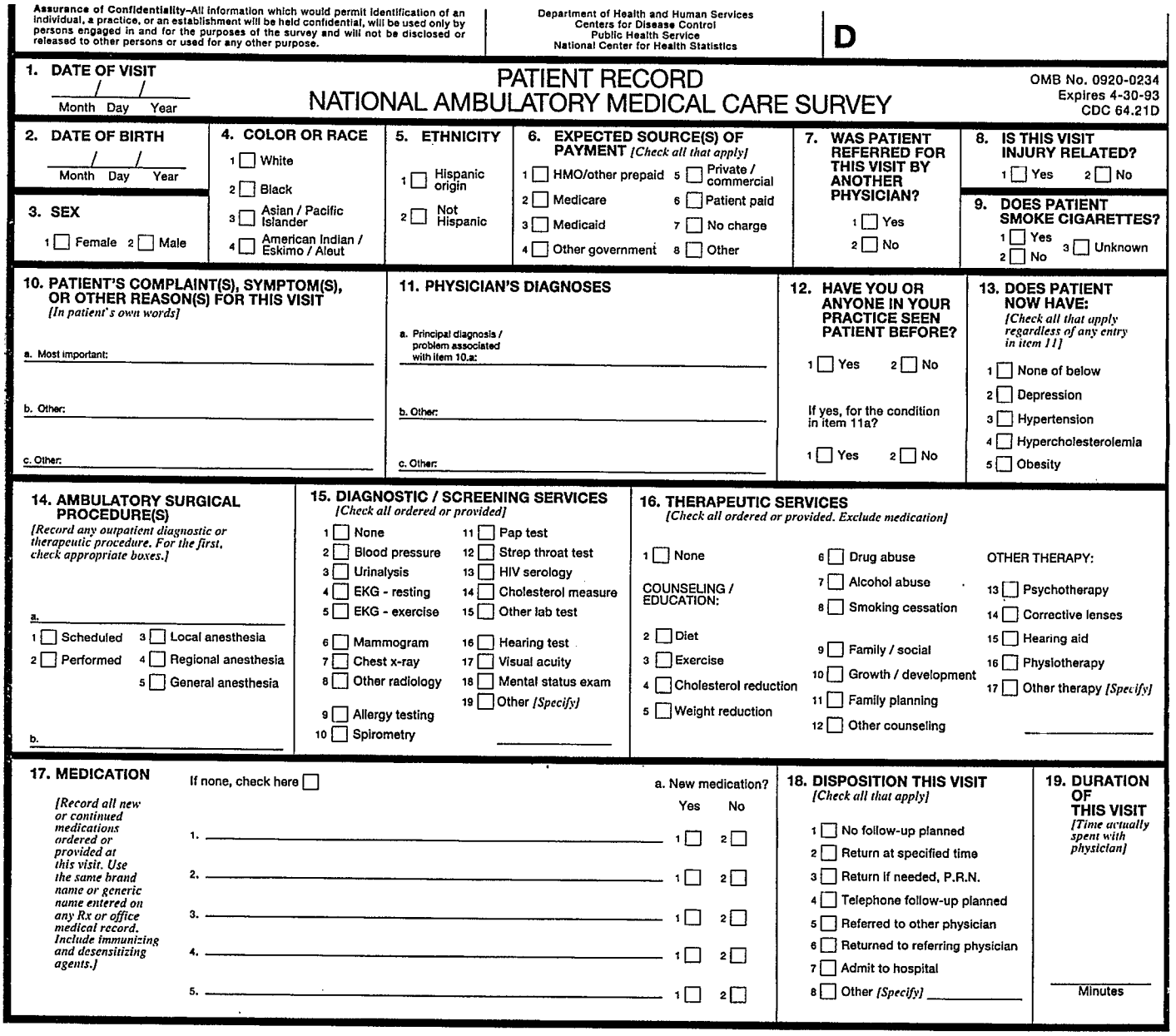
Visits with a principal diagnosis of glaucoma are described in terms of the patient's age, sex, and race, and geographic region of the visit in table 1. The overwhelming majority of glaucoma visits were made by persons 45 years of age and over (92.8 percent), and more than half (61.3 percent) were made by females. About nine-tenths (88.3 percent) of the visits were made by white persons.

The overall rate of office visits with a principal diagnosis of glaucoma was 3.5 visits per 100 persons per year. Visit rates rose with age, and significant increases were noted in each age group after the age of 44, that is, among persons 45–54 years, 55–64 years, 65–74 years, and 75 years and over. (Visit estimates for persons under the age of 25 years were not statistically reliable and have been omitted from the age analysis.) The visit rate was highest for persons 75 years of age and over—an average of 26.8 visits per 100 persons per year (figure 2).

The glaucoma visit rate was higher for females than for males overall, with

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics

CENTERS FOR DISEASE CONTROL AND PREVENTION



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
Centers for Disease Control
Public Health Service
National Center for Health Statistics

D

PATIENT RECORD
NATIONAL AMBULATORY MEDICAL CARE SURVEY

OMB No. 0920-0234
Expires 4-30-93
CDC 64.21D

1. DATE OF VISIT — Month / Day / Year
2. DATE OF BIRTH — Month / Day / Year
3. SEX — 1 Female 2 Male
4. COLOR OR RACE — 1 White 2 Black 3 Asian / Pacific Islander 4 American Indian / Eskimo / Aleut
5. ETHNICITY — 1 Hispanic origin 2 Not Hispanic
6. EXPECTED SOURCE(S) OF PAYMENT [Check all that apply] — 1 HMO/other prepaid 2 Medicare 3 Medicaid 4 Other government 5 Private / commercial 6 Patient paid 7 No charge 8 Other
7. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN? — 1 Yes 2 No
8. IS THIS VISIT INJURY RELATED? — 1 Yes 2 No
9. DOES PATIENT SMOKE CIGARETTES? — 1 Yes 2 No 3 Unknown
10. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT [In patient's own words] — a. Most important: b. Other: c. Other:
11. PHYSICIAN'S DIAGNOSES — a. Principal diagnosis / problem associated with item 10.a: b. Other: c. Other:
12. HAVE YOU OR ANYONE IN YOUR PRACTICE SEEN PATIENT BEFORE? — 1 Yes 2 No. If yes, for the condition in item 11a? 1 Yes 2 No
13. DOES PATIENT NOW HAVE: [Check all that apply regardless of any entry in item 11] — 1 None of below 2 Depression 3 Hypertension 4 Hypercholesterolemia 5 Obesity
14. AMBULATORY SURGICAL PROCEDURE(S) [Record any outpatient diagnostic or therapeutic procedure. For the first, check appropriate boxes.] — a. 1 Scheduled 2 Performed 3 Local anesthesia 4 Regional anesthesia 5 General anesthesia. b.
15. DIAGNOSTIC / SCREENING SERVICES [Check all ordered or provided] — 1 None 2 Blood pressure 3 Urinalysis 4 EKG - resting 5 EKG - exercise 6 Mammogram 7 Chest x-ray 8 Other radiology 9 Allergy testing 10 Spirometry 11 Pap test 12 Strep throat test 13 HIV serology 14 Cholesterol measure 15 Other lab test 16 Hearing test 17 Visual acuity 18 Mental status exam 19 Other [Specify]
16. THERAPEUTIC SERVICES [Check all ordered or provided. Exclude medication] — 1 None. COUNSELING / EDUCATION: 2 Diet 3 Exercise 4 Cholesterol reduction 5 Weight reduction 6 Drug abuse 7 Alcohol abuse 8 Smoking cessation 9 Family / social 10 Growth / development 11 Family planning 12 Other counseling. OTHER THERAPY: 13 Psychotherapy 14 Corrective lenses 15 Hearing aid 16 Physiotherapy 17 Other therapy [Specify]
17. MEDICATION [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 No. 1. 2. 3. 4. 5.
18. 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]
19. DURATION OF THIS VISIT [Time actually spent with physician] — Minutes

Figure 1. Patient Record form

females making an average of 4.2 visits per 100 for each year compared with 2.8 visits per 100 males. While increasing rates by age were observed for both females and males, age-specific rates were not found to be significantly different by sex in any age category.

The rate of visits with a principal diagnosis of glaucoma was not significantly different for white persons than for black persons. White persons made an average of 3.7 visits per 100 persons per year compared with 3.0 visits per 100 black persons. For persons ages 45 years and over, the rates for white persons and black persons were 10.6 and 10.9 visits per 100, respectively. Further analysis of age-specific visit rates by race was hampered by the fact that visit estimates for black persons in several of the age groups were too low to ensure statistical reliability. Aggregation of the estimates into broader categories (for example, 65 years and over and 75 years and over) showed rates for black persons that appeared to be substantially larger than for white persons in these age groups, but none of the apparent differences were statistically significant because of the high standard errors associated with the low estimates.

The lack of difference in race-specific visit rates for glaucoma is noteworthy because it has been found that black persons tend to have higher intraocular pressure, the main determinant and risk factor for glaucoma, than white persons (5), that glaucoma is the most common cause of irreversible blindness among black Americans (6), and that black Americans are at a higher risk of primary open-angle glaucoma than are their white counterparts (7). Javitt et al. have noted that glaucoma is six to eight times more prevalent among black persons in this country, but that black persons are not receiving care for open-angle glaucoma at the same rate as older white Americans (8).

Table 1. Number, percent distribution, and annual rate of office visits with a principal diagnosis of glaucoma by patient's age, sex, race, and geographic region of the visit, averaged over a 2-year period: United States, 1991–92

Selected patient and visit characteristics	Number of visits in thousands	Percent distribution	Visit rate per 100 persons[1]
All visits	8,742	100.0	3.5
Age			
Under 25 years	*58	*0.7	*0.1
25–44 years	564	6.5	0.7
45–54 years	720	8.2	2.7
55–64 years	1,315	15.0	6.2
65–74 years	2,831	32.4	15.4
75 years and over	3,254	37.2	26.8
Sex			
Female	5,359	61.3	4.2
Under 25 years	*45	*0.5	*0.1
25–44 years	*265	*3.0	*0.6
45–54 years	414	4.7	3.0
55–64 years	697	8.0	6.3
65–74 years	1,809	20.7	17.8
75 years and over	2,128	24.3	27.9
Male	3,382	38.7	2.8
Under 25 years	*12	*0.1	*0.0
25–44 years	*299	*3.4	*0.7
45–54 years	*306	*3.5	*1.6
55–64 years	618	7.1	6.2
65–74 years	1,021	11.7	12.4
75 years and over	1,126	12.9	24.8
Race			
White	7,721	88.3	3.7
Black	934	10.7	3.0
Other	*87	*1.0	*0.9
Geographic region			
Northeast	1,662	19.0	3.3
Midwest	1,724	19.7	2.8
South	3,644	41.7	4.3
West	1,711	19.6	2.1

[1]Based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population for July 1, 1991, and July 1, 1992, averaged over the 2-year period.

Comparative data from the National Hospital Ambulatory Medical Care Survey show that black persons accounted for about one-third (36.6 percent) of the glaucoma visits made to hospital outpatient departments (OPD's) in 1992 compared with white persons (61.3 percent). However, the estimated number of OPD visits with this principal diagnosis was only 278,000 overall, resulting in estimates that were too low to permit meaningful analysis by race and age.

Office visit rates did not differ statistically by geographic region of the country, except that the rate was higher in the South (4.3 visits per 100 persons) than in the West (2.1 visits per 100 persons).

Physician practice characteristics

About three-quarters (76.8 percent) of all glaucoma visits during 1991–92 were made to ophthalmologists. The remainder (23.2 percent) were made to other specialists, including physicians who described themselves as glaucoma specialists. (Because the American Medical Association's (AMA) master file, upon which the determination of physician specialty for NAMCS purposes is based, did not have a separate specialty code for physicians reporting themselves to the AMA as glaucoma specialists, such physicians were classified as "other" specialists both in the AMA masterfile and in the NAMCS.)

Glaucoma was the second most frequently reported principal diagnosis at office visits to ophthalmologists after cataract, accounting for 15.3 percent of the visits to this specialty (table 2). It should be noted that the ranked order presented in this and other tables in this report may not always be reliable because some estimates may not be statistically different from other near estimates due to sampling variability.

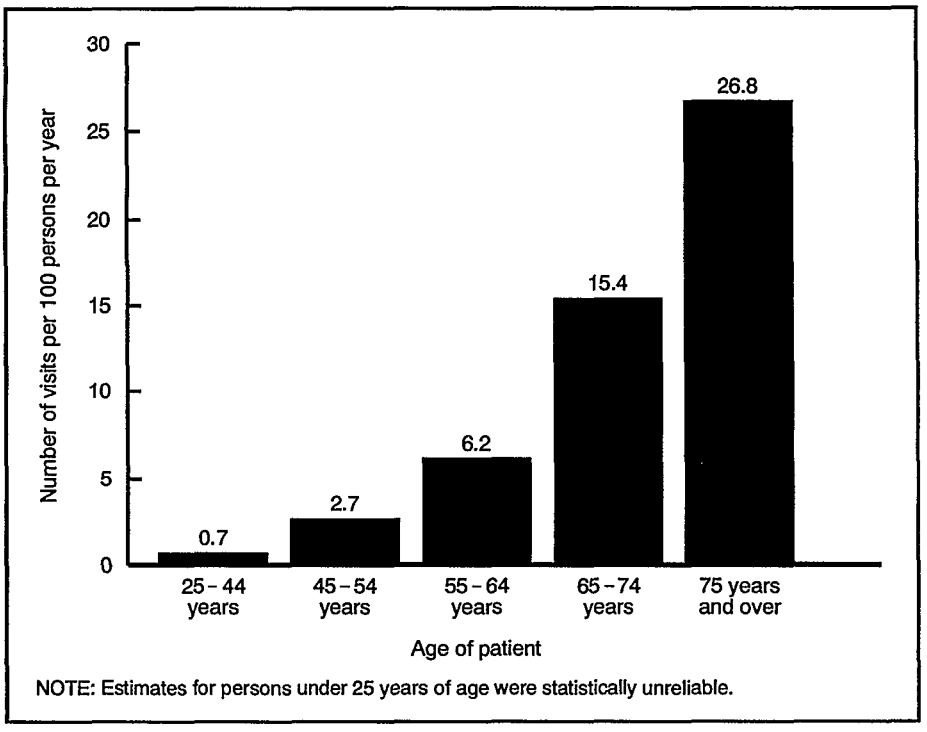
Visit characteristics

Referral status and prior-visit status

Data pertaining to patient's referral status and prior-visit status are shown in table 3. Only 6.8 percent of all glaucoma visits during 1991–92 were the result of a referral by another physician. However, of all visits made by new patients (that is, patients who had not seen the physician previously), about two-thirds (68.1 percent) were recorded as referrals from another physician. In contrast, about one-third (31.6 percent) of all nonglaucoma visits made by new patients (that is, visits with a principal diagnosis other than glaucoma) were the result of referrals from other physicians.

The majority (89.1 percent) of glaucoma visits were made by patients who were making return visits to the physician for care of their condition. Ten percent of the visits were made by new patients. However, by age group, 17.3 percent of the visits by persons 45–64 years were made for new problems, compared with 9.0 percent of those 65 years of age and over. "New problem" visits include those made as a new patient or as a continuing patient.

The chronic nature of glaucoma is highlighted by the fact that among all return visits for the care of previously treated problems, glaucoma was the fifth most frequently recorded principal diagnosis related to illness or injury. Among visits with this principal diagnosis, there were 4.1 return visits recorded during the 2-year period for



NOTE: Estimates for persons under 25 years of age were statistically unreliable.

Figure 2. Annual rate of office visits with a principal diagnosis of glaucoma by age of patient, averaged over a 2-year period: United States, 1991–92

Table 2. Annual number and percent distribution of office visits to office-based ophthalmologists by the 10 most frequently mentioned principal diagnoses, averaged over a 2-year period: United States, 1991–92

Principal diagnosis and ICD–9–CM code[1]	*Number of visits in thousands*	*Percent distribution*	*Cumulative percent*
All visits	43,884	100.0	...
Cataract .366	7,196	16.4	16.4
Glaucoma .365	6,715	15.3	31.7
Disorders of refraction and accommodation .367	5,871	13.4	45.1
Organ or tissue replaced by other means .V43	2,731	6.2	51.3
Other retinal disorders .362	2,214	5.0	56.3
Other disorders of eye .379	1,961	4.5	60.8
Special investigations and examinations .V72	1,838	4.2	65.0
Disorders of conjunctiva .372	1,605	3.7	68.7
Diabetes mellitus .250	1,335	3.0	71.7
Inflammation of eyelids .373	1,296	3.0	74.7
All other diagnoses	11,121	25.3	100.0

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

every visit that was recorded as a new problem encounter (table 4).

Expected source of payment

In item 6 of the Patient Record form the physician is asked to list the expected source of payment for the visit; more than one source may be listed by the physician for each visit. Medicare was the expected source of payment at 61.9 percent of visits with a principal diagnosis of glaucoma, followed by private insurance (36.6 percent), payment made by the patient (18.8 percent), Medicaid (8.0 percent), and HMO/prepaid plan (7.1 percent) (table 5).

Reason for visit

In item 10a of the Patient Record form, the physician is asked to record the patient's most important complaint, symptom, or other reason for the visit using the patient's (or patient surrogate's) own words. These responses have been classified and coded using the *Reason for Visit Classification for Ambulatory Care* (RVC) (9). This classification is divided into eight modules, or groups of reasons. These are shown in table 6. The disease module accounted for the highest percent of visits with a first-listed diagnosis of glaucoma (46.9 percent), indicating that the majority of visits were made by persons whose condition had been diagnosed previously and was known to them. This finding corresponds with the high return visit ratio found among glaucoma visits that was discussed earlier. The disease module was followed by the diagnostic, screening, and preventive module (27.2 percent), the treatment module (9.7 percent), and the symptom module (9.4 percent).

Diagnostic and screening services

The majority (82.3 percent) of glaucoma visits included a visual acuity examination ordered or provided by the physician, compared with 4.8 percent of all other office visits (that is, visits that did not list glaucoma as a principal diagnosis). Overall, 82.5 million office visits included a visual acuity exam during 1991–92, and glaucoma was the most frequently recorded principal diagnosis at these visits, accounting for 17.4 percent of the total.

About one-third (32.7 percent) of glaucoma visits included one diagnostic service ordered or provided by the physician; about half (52.4 percent) included two diagnostic services. With the exception of visual acuity, none of the specified categories was reported at frequencies high enough to yield reliable estimates, and 54.2 percent of the visits reported "other" diagnostic services that were unspecified as to type. Data on diagnostic services are shown in table 7.

Principal diagnosis

Glaucoma is classified into more specific diagnoses according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (1). Of the total number of glaucoma visits made during 1991–92, the majority (63.2 percent) were coded as unspecified glaucoma (ICD–9–CM code 365.9); 20.7 percent were open-angle glaucoma (ICD–9–CM code 365.1); and 14.0 percent were coded as

Table 3. Number and percent distribution of office visits with a principal diagnosis of glaucoma by referral status and prior-visit status, averaged over a 2-year period: United States, 1991–92

Visit characteristic	Number of visits in thousands	Percent distribution
All visits	8,742	100.0
Referral status		
Patient was referred by another physician	597	6.8
Patient was not referred by another physician	8,144	93.2
Prior-visit status		
New patient	877	10.0
Old patient	7,864	90.0
New problem	*74	*0.9
Old problem	7,790	89.1

Table 4. Number and percent of office visits and return visit ratio for the 10 most frequent principal diagnoses among return visits for the care of previously treated problems, averaged over a 2-year period: United States, 1991–92

Principal diagnosis and ICD–9–CM code[1]	Number of visits in thousands	Percent	Return visit ratio[2]
All return visits	443,996	100.0	. . .
Essential hypertension .401	23,552	5.3	4.0
Normal pregnancy .V22	20,655	4.7	2.4
Health supervision of infant or child .V20	12,643	2.8	2.1
Suppurative and unspecified otitis media .382	12,067	2.7	0.9
Diabetes mellitus .250	11,810	2.7	3.4
General medical examination .V70	9,346	2.1	0.5
Acute upper respiratory infections .465	8,774	2.0	0.4
Glaucoma .365	7,790	1.8	4.1
Asthma .493	7,678	1.7	2.4
Allergic rhinitis .477	6,737	1.5	1.9

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (1).
[2]Return visit ratio is the ratio of visits made by previously seen patients for the care of previously treated problems to visits made for the treatment of new problems. "New problem" visits may be made by either new or old patients.

Table 5. Number and percent distribution of office visits with a principal diagnosis of glaucoma by expected source(s) of payment, averaged over a 2-year period: United States, 1991–92

Expected source(s) of payment[1]	Number of visits in thousands	Percent distribution
All visits	8,742	100.0
Medicare	5,409	61.9
Private/commercial insurance	3,196	36.6
Patient-paid	1,641	18.8
Medicaid	700	8.0
HMO/other prepaid plan[2]	624	7.1
Other government	412	4.7
Other	*249	*2.9
No charge	*105	*1.2
Unknown	*66	*0.8

[1]Numbers may not add to totals because more than one expected source of payment may be reported per visit.
[2]HMO is health maintenance organization.

borderline glaucoma (ICD–9–CM code 365.0). Visits for glaucoma are described by specific diagnosis in table 8.

The prominence of glaucoma as a principal diagnosis among office visits by older adults is underscored by the finding that for persons in the age groups 65–74 and 75 years and over, it was the third most frequently reported principal diagnosis, accounting for 3.2 percent of the diagnoses among those 65–74 years and 4.4 percent of the diagnoses among those 75 years and over. For visits by all age groups, glaucoma was the 10th most frequently reported morbidity-related principal diagnosis and the 13th most frequent principal diagnosis during 1991–92. (Morbidity-related diagnoses are defined here as those classifiable to disease or injury, in contrast to nonillness- or noninjury-related visits. Examples of visits with diagnoses that are not morbidity related would include visits for routine pregnancy examination or general medical examination.)

Concomitant diagnoses

About one-quarter (26.4 percent) of glaucoma visits had a second diagnosis listed on the Patient Record form, and 9.1 percent included a third diagnosis. Cataract was the most frequently reported second- or third-listed diagnosis, showing up at about 12.5 percent of all visits with a principal diagnosis of glaucoma.

Physician's checklist of selected conditions

In item 13, which was added to the Patient Record form for 1991, physicians were requested to report if the patient had any of four medical conditions—hypertension, hypercholesterolemia, obesity, and depression—regardless of what was coded as the first, second, or third diagnosis in item 11 of the Patient Record form. At 11.2 percent of glaucoma visits, physicians checked hypertension as an accompanying condition. However, virtually none of the glaucoma visits during 1991–92 included a second or third diagnosis of hypertension in item 11 of the Patient Record form. This suggests that physicians tend to underreport existing chronic conditions as a diagnosis in item 11.

Therapeutic services

Therapeutic services ordered or provided at glaucoma visits are shown in tables 9–11. Medication therapy was the most frequently mentioned therapeutic service at glaucoma visits,

Table 6. Number and percent distribution of office visits with a principal diagnosis of glaucoma by patient's principal reason for visit, averaged over a 2-year period: United States, 1991–92

Principal reason for visit and RVC code[1]	*Number of visits in thousands*	*Percent distribution*
All visits	8,742	100.0
Symptom module .S001–S999	825	9.4
Vision dysfunctions .S305	536	6.1
All other	*289	*3.3
Disease module .D001–D999	4,096	46.9
Glaucoma .D415	4,041	46.2
All other	*55	*0.7
Diagnostic, screening, and preventive module .X100–X599	2,380	27.2
Other and unspecified diagnostic tests .X370	1,972	22.6
Eye examination .X230	*315	*3.6
All other	*93	*1.0
Treatment module .T100–T899	846	9.7
Progress visit, not otherwise specified .T800	542	6.2
All other	*304	*3.5
Test results module .R100–R700	*84	*1.0
Other[2] .U990–U999	511	5.8

[1]Based on "A Reason for Visit Classification for Ambulatory Care" (RVC) (9).
[2]Includes problems and complaints not elsewhere classified, entries of "none," blanks, and illegible entries. None of the visits had reasons coded in the injuries and adverse effects module (J001–J999) or the administrative module (A100–A140).

Table 7. Number and percent distribution of office visits with a principal diagnosis of glaucoma by diagnostic and screening services, averaged over a 2-year period: United States, 1991–92

Diagnostic and screening services ordered or performed at the visit[1]	*Number of visits in thousands*	*Percent distribution*
All visits	8,742	100.0
None	1,208	13.8
Visual acuity	7,196	82.3
Other[2]	5,110	58.5
Number of diagnostic and screening services ordered or performed at the visit		
None	1,208	13.8
One	2,862	32.7
Two	4,579	52.4
Three or more	*93	*1.1

[1]Numbers may not add to totals because more than one category may be reported per visit.
[2]54.2 percent of glaucoma visits included unspecified diagnostic services; none of the specific diagnostic services listed on the Patient Record form (with the exception of the visual acuity examination) were recorded at frequencies large enough to provide estimates that were statistically reliable.

Table 8. Number and percent distribution of office visits with a principal diagnosis of glaucoma by detailed diagnosis, averaged over a 2-year period: United States, 1991–92

Principal diagnosis and ICD–9–CM code[1]	*Number of visits in thousands*	*Percent distribution*
All visits	8,742	100.0
Borderline glaucoma .365.0	1,222	14.0
Preglaucoma, unspecified .365.00	792	9.1
Other borderline glaucoma .365.01,365.02	*39	*0.5
Ocular hypertension .365.04	391	4.5
Open-angle glaucoma .365.1	1,809	20.7
Open-angle glaucoma, unspecifed .365.10	808	9.2
Primary open-angle glaucoma .365.11	932	10.7
Other open-angle glaucoma .365.12,365.13	*69	*0.8
Primary angle-closure glaucoma .365.2	*186	*2.1
Unspecified glaucoma .365.9	5,525	63.2

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

recorded at 79.6 percent of visits (table 9). This is significantly higher than the 63.3 percent of all other visits at which medication therapy was mentioned. Nonmedication therapy was mentioned at 12.4 percent of glaucoma visits, with counseling (4.9 percent), corrective lenses (4.4 percent), and other therapy (5.4 percent) recorded by the physician as either ordered or provided at the visit.

As used in the NAMCS, the term "drug" is interchangeable with the term "medication" and includes all new or continued medications ordered or provided at the visit, including both prescription and nonprescription preparations, immunizing agents, and desensitizing agents. The term "drug mention" refers to each mention of medication on the Patient Record form. Because doctors can record more than one drug per visit, the total number of drug mentions will generally be higher than the number of visits. The term "drug visit" refers to any visit in which at least one drug is ordered or provided by the physician. An earlier report is available that describes the method and instruments used in collecting and processing NAMCS drug data (10).

There were about 27.7 million drug mentions at glaucoma visits during 1991–92, an average of 13.8 million mentions per year. This yields an average of 2.0 drug mentions per drug visit or 1.6 drugs ordered or provided per visit overall.

About one-third of glaucoma visits included a single medication (33.6 percent), while approximately one-fifth (21.6 percent) listed two medications and one-quarter (24.4 percent) listed three or more medications.

As expected, most of the drugs prescribed were classified as ophthalmic drugs, specifically agents used to treat glaucoma (59.6 percent) and ocular anti-infective and anti-inflammatory agents (9.6 percent). Drug mentions at glaucoma visits are listed in table 10 by therapeutic classification, based on the *National Drug Code Directory, 1985 edition* (11).

The majority of drugs mentioned at glaucoma visits were single-ingredient preparations (91.3 percent), were prescribed as trade names rather than generics (71.4 percent), and were

Table 9. Number and percent distribution of office visits with a principal diagnosis of glaucoma by therapeutic services, averaged over a 2-year period: United States, 1991–92

Therapeutic services ordered or provided at the visit[1]	*Number of visits in thousands*	*Percent distribution*
All visits	8,742	100.0
Medication therapy		
New or continuing medication	6,962	79.6
Visits without mention of medication	1,779	20.4
Number of new or continued medications		
None	1,779	20.4
One	2,938	33.6
Two	1,889	21.6
Three	1,589	18.2
Four or more	545	6.2
Nonmedication therapy		
None	7,659	87.6
Other counseling[2]	425	4.9
Corrective lenses	386	4.4
Other therapy	470	5.4
Ambulatory surgery		
None	8,125	92.9
One or more procedures	616	7.1

[1]Numbers may not add to totals because more than one category may be reported per visit.
[2]Counseling other than the specified categories of diet, exercise, weight reduction, alcohol abuse, smoking cessation, and family/social.

Table 10. Number and percent distribution of drug mentions by therapeutic classification for office visits with a principal diagnosis of glaucoma, averaged over a 2-year period: United States, 1991–92

Therapeutic classification[1]	*Number of drug mentions in thousands*	*Percent distribution*
All drug mentions	13,835	100.0
Ophthalmic drugs	10,930	79.0
Agents used to treat glaucoma	8,241	59.6
Ocular anti-infective and anti-inflammatory agents	1,330	9.6
Miscellaneous ophthalmic preparations	1,199	8.7
Mydriatics and cycloplegics	*160	*1.2
Cardiovascular-renal drugs	1,138	8.2
Diuretics	807	5.8
Other	*330	*2.4
Other[2]	1,767	12.8
Unclassified/miscellaneous	*511	*3.7

[1]Therapeutic class is based on the standard drug classification used in the *National Drug Code Directory, 1985 Edition* (11).
[2]Includes the following classifications: anesthetic drugs, antimicrobial agents, psychopharmacologic drugs, gastrointestinal agents, metabolic and nutrient agents, hormones and agents affecting hormonal mechanisms, immunologic agents, skin/mucous membrane, oncolytics, drugs used for pain relief, and respiratory tract drugs.

available only by prescription (92.8 percent).

Drug mentions at glaucoma visits are displayed in table 11 according to their most frequently occurring generic ingredients. Timolol was the generic ingredient that appeared most frequently, showing up in 21.4 percent of all glaucoma drug mentions. Pilocarpine was also prominent, occurring in 16.6 percent of drug mentions at glaucoma visits.

Ambulatory surgical procedures

The 1991 NAMCS added a new item pertaining to whether ambulatory surgery was scheduled or performed at the current visit. Physicians were asked to record up to two ambulatory surgical procedures per visit. These were coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification, Volume 3* (ICD–9–CM) (1).

Ambulatory surgery was recorded at an estimated 1.2 million glaucoma visits over the 2-year period (an average of 616,000 visits per year), and a total of 1.3 million procedures were scheduled or performed. The proportion of glaucoma visits with mention of ambulatory surgery (7.1 percent) is not significantly different than the 6.0 percent of visits with principal diagnoses other than glaucoma that included ambulatory surgery in 1991–92.

While no specific ambulatory procedures were recorded at frequencies large enough to obtain reliable estimates, all of the surgical procedures mentioned were related to the eye and included operations on the iris, ciliary body, sclera, and anterior chamber; iridotomy and simple iridectomy; operations on the lens; operations on the retina, choroid, vitreous, and posterior chamber; and operations on the orbit and eyeball (ICD–9–CM, Volume 3, codes 12–14, 16).

Disposition of visit

Nine of ten glaucoma visits (93.3 percent) resulted in a scheduled return visit. In contrast, 62.0 percent of all other visits included a scheduled return visit. The predominance of this type of disposition among glaucoma visits is mirrored in the correspondingly high return visit ratio that was discussed previously. Data on disposition of visit are shown in table 12.

Duration of visit

The mean duration of physician-patient contact for glaucoma visits was 21.7 minutes, compared with 17.3 minutes for office visits in general. Mean duration does not include visits in which no face-to-face contact with the physician occurred. Physician-patient contact only includes the time spent in actual face-to-face contact between physician and patient. Data on duration

Table 11. Number, percent distribution, and therapeutic classification for the five most frequently occurring generic ingredients in drug mentions at office visits with a principal diagnosis of glaucoma, averaged over a 2-year period: United States, 1991–92

Generic ingredient[1]	Number of drug mentions in thousands	Percent distribution	Therapeutic classification[2]
All mentions	13,835	100.0	...
Timolol	2,957	21.4	Agents used to treat glaucoma
Pilocarpine	2,295	16.6	Agents used to treat glaucoma
Betaxolol hydrochloride	1,284	9.3	Agents used to treat glaucoma
Dipivefrin	1,055	7.6	Agents used to treat glaucoma
Levobunolol hydrochloride	911	6.6	Miscellaneous ophthalmic preparations

[1]Frequency of mention combines single-ingredient agents with mentions of the agent as an ingredient in a combination drug.
[2]Therapeutic classification is based on the *National Drug Code Directory, 1985 Edition* (11). In cases where a generic ingredient had more than one therapeutic classification, it was listed in the category which occurred with the greatest frequency.

Table 12. Number and percent distribution of office visits with a principal diagnosis of glaucoma by disposition and duration of visit, averaged over a 2-year period: United States, 1991–92

Visit characteristic	Number of visits in thousands	Percent distribution
All visits	8,742	100.0
Disposition of visit[1]		
Return at specified time	8,154	93.3
Other[2]	814	9.3
Duration of visit		
0 minutes[3]	*39	*0.4
1–5 minutes	754	8.6
6–10 minutes	1,657	19.0
11–15 minutes	1,936	22.1
16–30 minutes	1,809	20.7
More than 30 minutes	2,547	29.1

[1]Numbers may not add to totals because more than one disposition may be reported per visit.
[2]None of the other specific disposition categories had frequencies large enough to provide estimates that were statistically reliable.
[3]Visits at which there was no face-to-face contact between the physician and the patient.

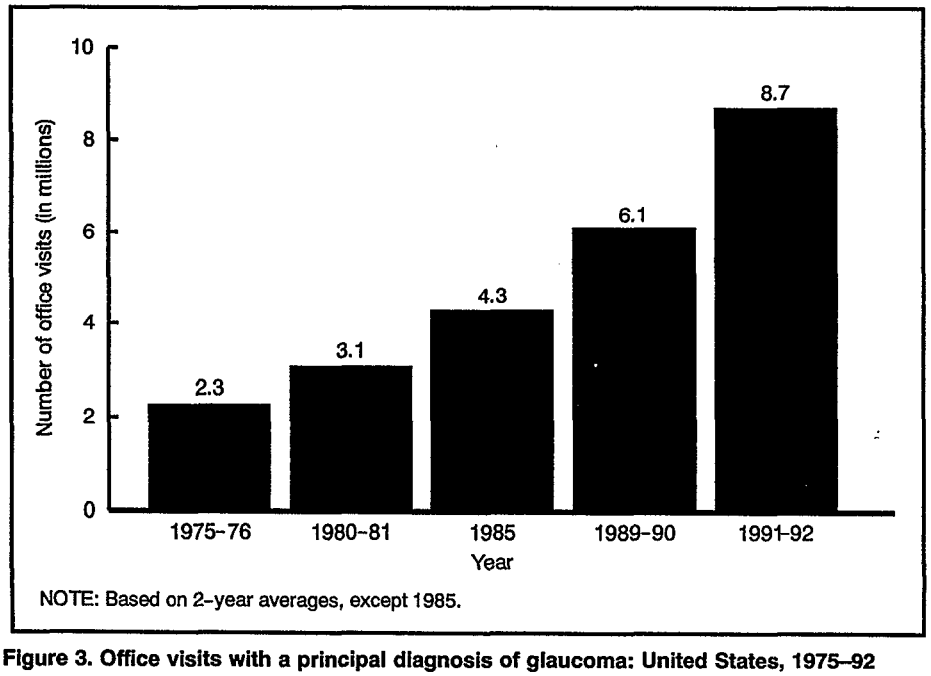


Figure 3. Office visits with a principal diagnosis of glaucoma: United States, 1975–92

of glaucoma visits are shown in table 12.

Visits with a second or third diagnosis of glaucoma

In addition to the estimated total of 17.5 million office visits with a first-listed diagnosis of glaucoma during 1991–92, there were 3.2 million office visits at which a second or third diagnosis was listed as glaucoma. Visits in which the second or third diagnosis was glaucoma were not found to differ significantly from visits in which the principal diagnosis was glaucoma in terms of the age, sex, or race of patients.

At office visits in which glaucoma was the second- or third-listed diagnosis, the principal diagnosis was listed within the major ICD–9–CM coding class of disorders of the eye and adnexa (ICD–9–CM codes 360–379) 62.9 percent of the time. No specific diagnosis was recorded at frequencies high enough to provide reliable estimates, although the frequency of visits with a principal diagnosis of cataract approached statistical reliability.

Glaucoma visits between 1975 and 1992

In 1975, glaucoma was the ninth most frequently mentioned morbidity-related principal diagnosis among persons 65 years of age and older; by 1992, it was the fifth. Overall, glaucoma visits were estimated at 4.5 million during 1975–76, an average of 2.3 million per year. However, the average for 1991 and 1992 was 8.7 million—an increase of 284.6 percent (figure 3). Visits for glaucoma by age and sex of patients between 1975 and 1992 are shown in table 13. Race data have been omitted from the table because glaucoma visit estimates for the black population prior to 1989 were statistically unreliable when using NAMCS data.

Annual rates of glaucoma visits between 1975 and 1992 for the U.S. population in general are shown in figure 4, using both crude and age-adjusted rates. Both the crude and the age-adjusted rates for 1991–92 were

Table 13. Number, percent distribution, and annual rate of office visits with a principal diagnosis of glaucoma by patient's age and sex: United States, 1975–92

Patient characteristic	Year				
	1975–76	1980–81	1985	1989–90	1991–92
	Number of visits in thousands[1]				
All visits	2,273	3,080	4,304	6,093	8,742
Age					
Under 25 years	*75	*45	*62	*27	*58
25–44 years	*138	233	*214	*234	564
45–64 years	827	994	1,218	1,537	2,035
65–74 years	706	897	1,356	1,891	2,831
75 years and over	527	910	1,454	2,405	3,254
Sex					
Female	1,398	1,864	2,610	3,847	5,359
Male	875	1,215	1,695	2,246	3,382
	Percent distribution				
All visits	100.0	100.0	100.0	100.0	100.0
Age					
Under 25 years	*3.3	*1.5	*1.4	*0.4	*0.7
25–44 years	*6.1	7.6	*5.0	*3.8	6.5
45–64 years	36.4	32.3	28.3	25.2	23.3
65–74 years	31.0	29.1	31.5	31.0	32.4
75 years and over	23.2	29.6	33.8	39.5	37.2
Sex					
Female	61.5	60.5	60.6	63.1	61.3
Male	38.5	39.5	39.4	36.9	38.7
	Visit rate per 100 persons[2]				
All visits	1.1	1.4	1.8	2.5	3.5
Age					
Under 25 years	*0.1	*0.0	*0.1	*0.0	*0.1
25–44 years	*0.3	0.4	*0.3	*0.3	0.7
45–64 years	1.9	2.3	2.7	3.3	4.3
65–74 years	5.2	5.8	8.2	10.5	15.4
75 years and over	6.7	10.2	14.1	20.8	26.8
Sex					
Female	1.3	1.6	2.2	3.1	4.2
Male	0.9	1.1	1.5	1.9	2.8

[1]Figures are shown as 2-year averages, except for 1985.
[2]Based on Bureau of the Census estimates of the civilian noninstitutionalized population for July 1 of each survey year. Rates for combined years are based on an average of the population estimates for July 1 of each year of the 2-year period. Survey years from 1975–85 did not include Alaska or Hawaii.

significantly higher than those reported in 1975–76.

Visit rates increased for the age groups 45–64 years, 65–74 years, and 75 years and over between 1975 and 1992 (figure 5). Among persons 65 years of age and over, the rate of glaucoma visits went from 5.7 visits per 100 persons in 1975 to 19.9 visits per 100 persons in 1992. Visit rates increased for both sexes between 1975 and 1992. Significant differences were noted in the overall glaucoma visit rates for males compared with females in each of the years analyzed, except for 1975–76.

About one-quarter (23.2 percent) of glaucoma visits were made by persons 75 years of age and over in 1975–76, but 37.2 percent of the total were made by this age group in 1991–92. There was a corresponding decrease in the percent of visits made by persons 45–64 years, from 36.4 percent of visits in 1975–76, to 23.3 percent in 1991–92. The percent of visits made by persons 65–74 was not found to differ significantly between 1975 and 1992.

Reasons for the substantial increase in rates of glaucoma-related office visits during 1975–92 are unclear. Data from the National Health Interview Survey (NHIS) show an increase in the overall rate of persons reporting a glaucomatous condition, from 5.7 conditions per 1,000 persons in 1977 to 10.4 conditions per 1,000 persons in 1991 (12,13). Age-specific rates for glaucoma were not available from the NHIS during the 1970's, but an increase in glaucomatous conditions was noted among persons 65 years of age and over between 1982 and 1991, from 41.8 conditions per 1,000 persons to 57.0 conditions per 1,000 persons (14).

In 1991, the National Eye Institute of the National Institutes of Health issued new government guidelines for glaucoma testing that advise all Americans ages 60 and older and black Americans ages 40–59 to receive glaucoma screening tests at least once every 2 years. This heightened awareness of the need for early detection of glaucoma, in combination with new diagnostic procedures such as laser tomographic scanners and Fourier ellipsometry that yield more precise measurements than are possible with photography and ophthalmoscopes (15), may result in even higher visit rates for glaucoma than are seen in the 1991–92 NAMCS survey data.

References

1. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th Revision, Clinical Modification. Washington: Public Health Service. 1980.
2. Schappert SM. National Ambulatory Medical Care Survey: 1991 summary. Advance data from vital and health statistics; no. 230. Hyattsville, Maryland: National Center for Health Statistics. 1993.
3. Schappert SM. National Ambulatory Medical Care Survey: 1991 summary. National Center for Health Statistics. Vital and Health Stat 13(116).
4. Schappert SM. National Ambulatory Medical Care Survey: 1992 summary. Advance data from vital

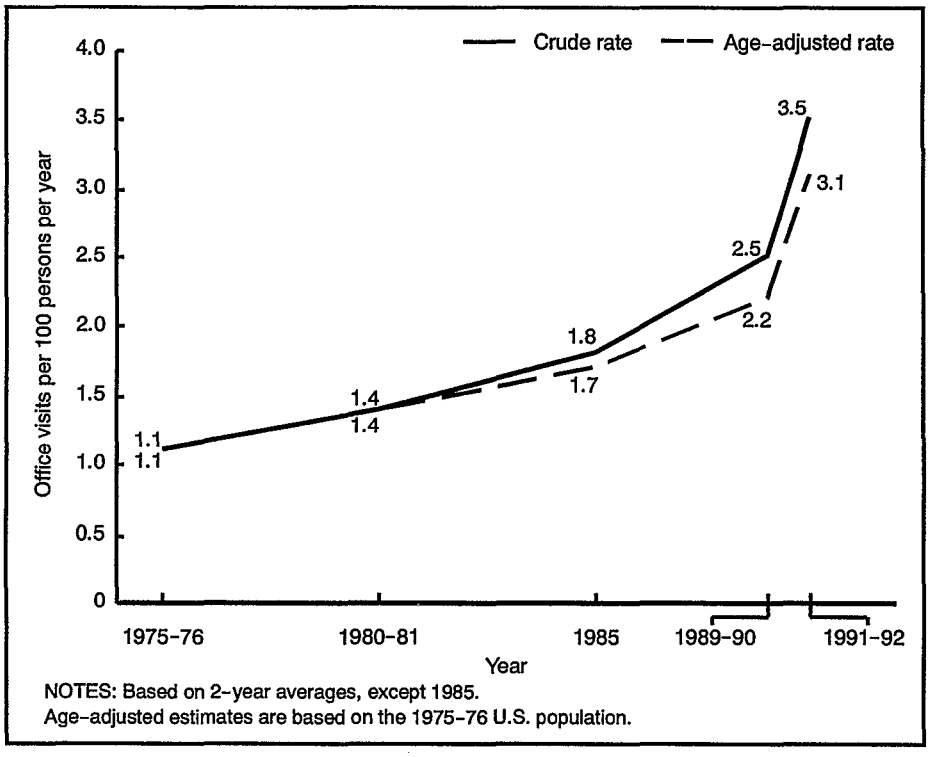


Figure 4. Annual rate of office visits with a principal diagnosis of glaucoma: United States, 1975–92

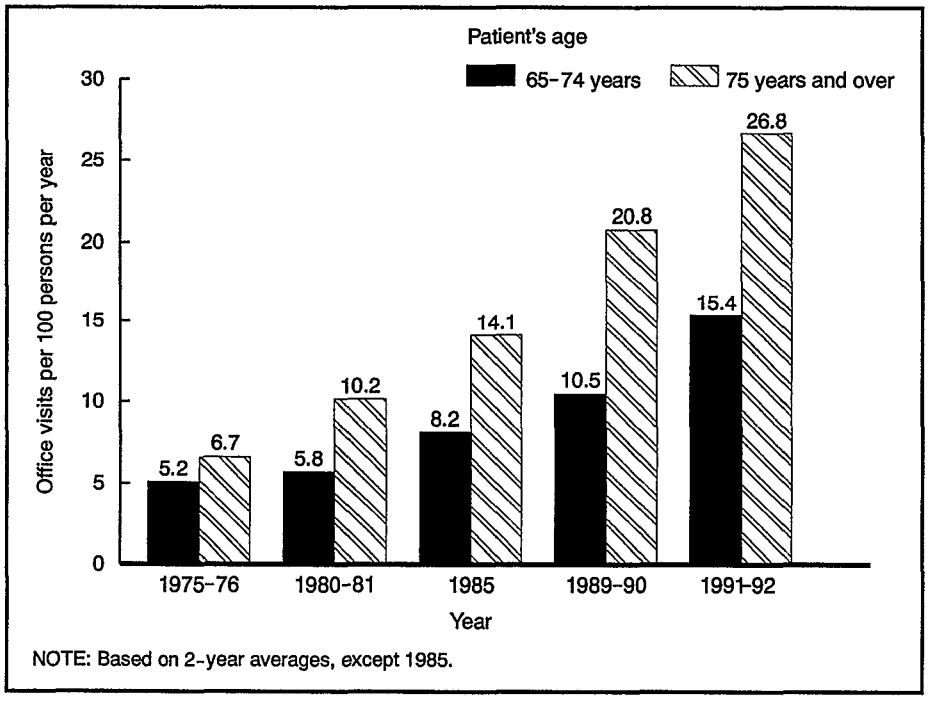


Figure 5. Annual rate of office visits with a principal diagnosis of glaucoma by patients 65–74 years and 75 years and over: United States, 1975–92

and health statistics; no. 253. Hyattsville, Maryland: National Center for Health Statistics. 1994.
5. Hoskins HD, Kass MA (eds). Becker-Shaffer's Diagnosis and Therapy of the Glaucomas, 6th ed. St. Louis: C.V. Mosby. 1989.
6. Danyluk AW, Paton D. Diagnosis and Management of Glaucoma. Clinical Symposia. 1991. Vol. 43. No. 4. 2–2.
7. Tielsch JM, Sommer A, Katz J, Royall RM et al. Racial Variations in the Prevalence of Primary Open-angle Glaucoma. Journal of the American Medical Association. 1991. 226:369–74.
8. Javitt JC, McBean AM, Nicholson GA, Babish JD et al. Undertreatment of Glaucoma among Black Americans. New England Journal of Medicine. 1991. 325:1418–22.
9. Schneider D, Appleton L, McLemore T. A reason for visit classification for ambulatory care. National Center for Health Statistics. Vital and Health Stat 2(78). 1979.
10. Koch H, Campbell W. The collection and processing of drug information. National Ambulatory Medical Care Survey, 1980. National Center for Health Statistics. Vital and Health Stat 2(90). 1982.
11. Food and Drug Administration. National Drug Code Directory, 1985 Edition. Washington: Public Health Service. 1985.
12. Feller, Barbara A. Prevalence of selected impairments, United States, 1977. National Center for Health Statistics. Vital and Health Stat 10(134). 1981.
13. Adams PF, Benson V. Current estimates from the National Health Interview Survey, 1991. National Center for Health Statistics. Vital and Health Stat 10(184). 1992.
14. National Center for Health Statistics. Current estimates from the National Health Interview Survey: United States, 1982. Vital and Health Stat 10(150). 1985.
15. Cotton P. Glaucoma: Detection before Damage, Fewer Side Effects May Be Possible. Journal of the American Medical Association. 1990. 264:1793.

Technical notes

Source of data and sample design

The information presented in this report is based on data collected in the National Ambulatory Medical Care Survey (NAMCS) over the 2-year period from January 1991 through December 1992. 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. The PSU's are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships (for some PSU's in New England). For 1991, a sample of 2,540 nonfederal, office-based physicians was selected from master files maintained by the American Medical Association and American Osteopathic Association. Physicians were screened at the time of the survey to ensure that they were eligible for survey participation. Of those screened, 1,887 physicians were eligible (in-scope) to participate in the survey. The remaining 653 physicians were ineligible (out-of-scope) due to reasons of being retired, employed primarily in teaching, research, or administration, or other reasons. The physician response rate for the 1991 NAMCS was 72 percent.

For 1992, a sample of 3,000 nonfederal, office-based physicians was selected from master files maintained by the American Medical Association and American Osteopathic Association. Of those screened, 858 physicians were ruled ineligible (out-of-scope); 2,142 were in-scope for the survey. The physician response rate for the 1992 NAMCS was 71 percent.

Sample physicians were asked to complete Patient Record forms (figure 1) for a systematic random sample of office visits occurring during a randomly assigned 1-week reporting period. Responding physicians completed 33,795 Patient Record forms in 1991 and 34,606 Patient Record forms in 1992.

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, Health Care Survey Section, Research Triangle Park, North Carolina.

For 1992, several changes were made in the sample design of the NAMCS that should be considered in the interpretation of the survey results. In an effort to even the precision of estimates across each of the physician specialty strata in the sample design, the decision was made to increase the proportion in the sample of specialists in general surgery, psychiatry, otolaryngology, and neurology. Although this would result in a corresponding decrease in the sample of the larger physician specialties, most notably general and family practice, internal medicine, and pediatrics, the precision of these estimates tended to be much higher relative to the smaller specialties, and it was expected that the end result would be an acceptable balance of precision levels across all strata.

However, the reduced number of general practitioners, internists, and pediatricians sampled in 1992, coupled with the high percents of sampled physicians in these specialties who were determined to be ineligible (out-of-scope) for survey participation, resulted in low numbers of survey respondents in these categories and a lowering of the precision of these estimates relative to other survey years, especially when disaggregated by other variables such as race. Because visits made by black patients were often found to be clustered among the sampled physicians and were more likely to be made to general and family practitioners, which were undersampled in 1992, it is recommended that caution be exercised when interpreting differences in race data and individual physician specialties.

Despite the difference in sample sizes, the 1991 and 1992 surveys were identical in terms of survey instruments, definitions, and procedures. The resulting 2 years of data have been combined to provide more reliable estimates. All estimates, percent distributions, and rates presented here, unless otherwise noted, reflect 1991 and 1992 data that were averaged over the 2-year period.

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.

Relative standard errors (RSE's) for estimated numbers of office visits, expressed as 2-year averages for the period 1991–92, are shown in table I. Relative standard errors for estimated numbers of drug mentions, also expressed as 2-year averages, are

Table I. Approximate relative standard errors for estimated numbers of office visits: National Ambulatory Medical Care Survey, 1991–92

Estimated number of office visits (expressed as annual averages) in thousands	*Relative standard error in percent*
50	78.4
100	55.5
250	35.2
346	30.0
500	25.0
1,000	17.8
2,500	11.6
5,000	8.5
10,000	6.5
25,000	4.9
50,000	4.2
100,000	3.8
250,000	3.6
500,000	3.5

NOTE: The smallest reliable estimate for visits to aggregated specialties is 346,000 visits per year (or a 2-year total of 691,000 visits). Estimates below this figure have a relative standard error greater than 30 percent and are deemed unreliable by NCHS standards.

Example of use of table: An aggregrate estimate of 10 million visits per year has a relative standard error of 6.5 percent or a standard error of 650,000 visits (6.5 percent of 10 million).

Table II. Approximate relative standard errors for estimated numbers of drug mentions: National Ambulatory Medical Care Survey, 1991–92

Estimated number of drug mentions (expressed as annual averages) in thousands	Relative standard error in percent
50	109.0
100	77.2
250	48.9
500	34.7
674	30.0
1,000	24.7
2,500	16.0
5,000	11.7
10,000	8.8
25,000	6.5
50,000	5.5
100,000	4.9
250,000	4.6
500,000	4.4

NOTE: The smallest reliable estimate of drug mentions to aggregated specialties is 674,000 drug mentions per year (or a 2-year total of 1,347,000 mentions). Estimates below this figure have a relative standard error greater than 30 percent and are deemed unreliable by NCHS standards.

Example of use of table: An aggregrate estimate of 25 million drug mentions per year has a relative standard error of 6.5 percent or a standard error of 1,625,000 drug mentions (6.5 percent of 25 million).

Table IV. Approximate standard errors of percents for estimated numbers of drug mentions: National Ambulatory Medical Care Survey, 1991–92

Base of percent (visits, expressed as annual averages, in thousands)	Estimated percent						
	1 or 99	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
	Standard error in percentage points						
50	10.8	23.7	32.7	43.6	49.9	53.4	54.5
100	7.7	16.8	23.1	30.8	35.3	37.7	38.5
250	4.9	10.6	14.6	19.5	22.3	23.9	24.4
500	3.4	7.5	10.3	13.8	15.8	16.9	17.2
1,000	2.4	5.3	7.3	9.7	11.2	11.9	12.2
2,500	1.5	3.4	4.6	6.2	7.1	7.6	7.7
5,000	1.1	2.4	3.3	4.4	5.0	5.3	5.5
10,000	0.8	1.7	2.3	3.1	3.5	3.8	3.9
25,000	0.5	1.1	1.5	2.0	2.2	2.4	2.4
50,000	0.3	0.8	1.0	1.4	1.6	1.7	1.7
100,000	0.2	0.5	0.7	1.0	1.0	1.2	1.2
250,000	0.2	0.3	0.5	0.6	0.7	0.8	0.8
500,000	0.1	0.2	0.3	0.4	0.5	0.5	0.6

Example of use of table: An estimate of 20 percent based on an estimate of 10 million drug mentions per year has a standard error of 3.1 percent or a relative standard error of 15.5 percent (3.1 percent divided by 20 percent).

presented in table II. Standard errors for estimated percents of visits and drug mentions are displayed in tables III and IV.

Alternatively, relative standard errors for 2-year averages may be calculated using the following general formula, where x is the average of interest in thousands multiplied by 2 to obtain the 2-year total, and A and B are the appropriate coefficients from table V. The relative standard error obtained in this way applies to both the 2-year total and the 2-year average.

$$RSE(x) = \sqrt{A + \frac{B}{x}} \cdot 100$$

Similarly, relative standard errors for percents 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 (and the denominator is the 2-year aggregate estimate rather than the average), using the appropriate coefficient from table V. (The 2-year aggregate is obtained by multiplying the average estimate by 2.)

$$RSE(p) = \sqrt{\frac{B \cdot (1-p)}{p \cdot x}} \cdot 100$$

Table III. Approximate standard errors of percents of estimated numbers of office visits: National Ambulatory Medical Care Survey, 1991–92

Base of percent (visits, expressed as annual averages, in thousands)	Estimated percent						
	1 or 99	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
	Standard error in percentage points						
50	7.8	17.1	23.5	31.3	35.9	38.4	39.2
100	5.5	12.1	16.6	22.2	25.4	27.1	27.7
250	3.5	7.6	10.5	14.0	16.1	17.2	17.5
500	2.5	5.4	7.4	9.9	11.4	12.1	12.4
1,000	1.7	3.8	5.3	7.0	8.0	8.6	8.8
2,500	1.1	2.4	3.3	4.4	5.1	5.4	5.5
5,000	0.8	1.7	2.4	3.1	3.6	3.8	3.9
10,000	0.6	1.2	1.7	2.2	2.5	2.7	2.8
25,000	0.4	0.8	1.1	1.4	1.6	1.7	1.8
50,000	0.3	0.5	0.7	1.0	1.1	1.2	1.2
100,000	0.2	0.4	0.5	0.7	0.8	0.9	0.9
250,000	0.1	0.2	0.3	0.4	0.5	0.6	0.6
500,000	0.1	0.2	0.2	0.3	0.4	0.4	0.4

Example of use of table: An estimate of 20 percent based on an estimate of 25 million visits per year has a standard error of 1.4 percent or a relative standard error of 7.0 percent (1.4 percent divided by 20 percent).

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 inference is based on the two-tailed t-test. The Bonferroni inequality was used to establish the critical value for statistically significant differences (0.05 level of significance) based on the number of possible comparisons within a particular variable or (combination of variables) of interest. Terms relating to differences such as "greater than" or "less than" indicate that the difference is statistically

Table V. Coefficients appropriate for determining relative standard errors by type of estimate and physician groups: National Ambulatory Medical Care Survey, 1991–92

Type of estimate and physician specialty	Coefficient for use with estimates in thousands	
	A	B
Visits		
Overall totals	0.001157131	61.31199989
General and family practice	0.007330504	54.54704362
Osteopathy	0.01402452	18.13642054
Internal medicine	0.008718567	55.2168744
Pediatrics	0.007994386	35.33091768
General surgery	0.006685247	10.65103125
Obstetrics and gynecology	0.00919584	25.59962011
Orthopedic surgery	0.005641337	24.20372144
Cardiovascular diseases	0.01383253	12.58489271
Dermatology	0.01275351	10.28901849
Urological surgery	0.008000282	11.92853664
Psychiatry	0.009414736	12.88530675
Neurology	0.01314774	5.36720816
Ophthalmology	0.007938148	23.84517495
Otolaryngology	0.007549396	8.0936265
All other specialties	0.01537018	35.00317779
Drug mentions		
Overall totals	0.001853163	118.69462
General and family practice	0.009085669	100.96778
Osteopathy	0.01658477	23.4739982
Internal medicine	0.01148498	103.21387
Pediatrics	0.01245118	26.73517786
General surgery	0.03935224	8.06806796
Obstetrics and gynecology	0.01454044	31.24058408
Orthopedic surgery	0.01568053	23.3833057
Cardiovascular diseases	0.01575914	24.23751806
Dermatology	0.01299377	15.94507357
Urological surgery	0.01867719	10.6886669
Psychiatry	0.01430555	15.99374434
Neurology	0.01593433	6.67244993
Ophthalmology	0.0251486	25.1381195
Otolaryngology	0.008374063	12.25916054
All other specialties	0.0226229	57.79950436

significant. A lack of comment regarding the difference between any two estimates does not mean that the difference was tested and found to be not significant.

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.

Drug mention—A drug mention is the physician's entry on the Patient Record form 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. Physicians may report up to five medications per visit.

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

Office—An office is the space identified by a physician as a location for his or her ambulatory practice. Offices customarily include consultation, examination, or treatment spaces that patients associate with the particular physician.

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.

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. Excluded from the NAMCS are visits where medical care was not provided, such as visits made to drop off specimens, pay bills, make appointments, and walk-outs.

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

Suggested citation

Schappert SM. Office visits for glaucoma: United States, 1991–92. Advance data from vital and health statistics; no. 262. Hyattsville, Maryland: National Center for Health Statistics. 1995.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics
6525 Belcrest Road
Hyattsville, Maryland 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

To receive this publication regularly, contact the National Center for Health Statistics by calling 301-436-8500

DHHS Publication No. (PHS) 95-1250
5-0783 (3/95)

BULK RATE
POSTAGE & FEES PAID
PHS/NCHS
PERMIT NO. G-281