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Cough as the Reason for Office Visits, National Ambulatory Medical Care Survey: United States, 1977-78¹

Cough was the principal reason for an estimated 29,059,242 visits to office-based physicians during 1977-78. Cough ranked fifth among all principal reasons for visits but was the *second* most frequent *symptomatic* reason given by patients (table 1).

The estimates in this report are based on data collected in the National Ambulatory Medical Care Survey (NAMCS), a probability sample survey conducted yearly by the Division of Health Resources Utilization Statistics of the National Center for Health Statistics.

Since the estimates presented in this report are based on a sample rather than on the entire universe of office-based physicians, the data are subject to sampling variability. The Technical Notes at the end of this report provide a brief explanation and guidelines for judging the precision of the estimates presented. A more detailed description of the sample design and definitions of certain terms used in NAMCS have also been published elsewhere.²

Figure 1 is a facsimile of the 1977-78 Patient Record used by participating physicians to record information about office visits. The patient's complaint, symptom, or other reason for the visit, expressed as nearly as possible in the patient's own words, is recorded by the physi-

cian in item 6. The *principal* reason is the one that in the physician's judgment was most responsible for the patient making the visit. It is the first-listed reason in this item. These data were classified and coded according to a reason for visit classification (RVC) system presented in *A Reason for Visit Classification for Ambulatory Care*.³ Since 1977 was the first year that this classification system was used, caution should be exercised in comparing the data presented in this report with those of prior years.

DATA HIGHLIGHTS

Table 2 provides the age and sex of patients who visited office-based physicians for medical care related to cough. Most of these visits (46 percent) were made by children under 15 years of age. Cough accounted for about 8 percent of all visits to pediatricians' offices, a higher proportion than to those of other specialties (table 3).

The rates of visits made because of cough were higher in the Northeast and the West than in the North Central and the South, and in metropolitan than in nonmetropolitan areas (table 4).

The principal diagnosis made by the physician for the patient who presents cough as the

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²National Center for Health Statistics: The National Ambulatory Medical Care Survey, 1977 Summary: United States, January-December 1977, by T. Ezzati and T. McLemore. *Vital and Health Statistics*. Series 13-No. 44. DHEW Pub. No. (PHS) 80-1795. Public Health Service. Washington. U.S. Government Printing Office, Apr. 1980.

³National Center for Health Statistics: A reason for visit classification for ambulatory care, by D. Schneider, L. Appleton, and T. McLemore. *Vital and Health Statistics*. Series 2-No. 78. DHEW Pub. No. (PHS) 79-1352. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1979.

Figure 1. NATIONAL AMBULATORY MEDICAL CARE SURVEY PATIENT RECORD FORM: 1977-78

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.					A 033012	
PATIENT RECORD NATIONAL AMBULATORY MEDICAL CARE SURVEY						
1. DATE OF VISIT Mo/Day/Yr _____						
2. DATE OF BIRTH Mo/Day/Yr _____	3. SEX 1 <input type="checkbox"/> FEMALE 2 <input type="checkbox"/> MALE	4. COLOR OR RACE 1 <input type="checkbox"/> WHITE 2 <input type="checkbox"/> NEGRO/BLACK 3 <input type="checkbox"/> OTHER 4 <input type="checkbox"/> UNKNOWN	5. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO	6. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT <i>(In patient's own words)</i> a. MOST IMPORTANT _____ b. OTHER _____		
7. TIME SINCE ONSET OF COMPLAINT/SYMPTOM IN ITEM 6a <i>(Check one)</i> 1 <input type="checkbox"/> LESS THAN 1 DAY 2 <input type="checkbox"/> 1-6 DAYS 3 <input type="checkbox"/> 1-3 WEEKS 4 <input type="checkbox"/> 1-3 MONTHS 5 <input type="checkbox"/> MORE THAN 3 MONTHS 6 <input type="checkbox"/> NOT APPLICABLE	8. PHYSICIAN'S DIAGNOSES a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 6a _____ b. OTHER SIGNIFICANT CURRENT DIAGNOSES _____			9. HAVE YOU SEEN PATIENT BEFORE? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO IF YES, FOR THE CONDITION IN ITEM 8a? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO	10. SERIOUSNESS OF CONDITION IN ITEM 8a <i>(Check one)</i> 1 <input type="checkbox"/> VERY SERIOUS 2 <input type="checkbox"/> SERIOUS 3 <input type="checkbox"/> SLIGHTLY SERIOUS 4 <input type="checkbox"/> NOT SERIOUS	
11. DIAGNOSTIC SERVICES THIS VISIT <i>(Check all ordered or provided)</i> 1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> LIMITED EXAM/HISTORY 3 <input type="checkbox"/> GENERAL EXAM/HISTORY 4 <input type="checkbox"/> PAP TEST 5 <input type="checkbox"/> CLINICAL LAB TEST 6 <input type="checkbox"/> X-RAY 7 <input type="checkbox"/> EKG 8 <input type="checkbox"/> VISION TEST 9 <input type="checkbox"/> ENDOSCOPY 10 <input type="checkbox"/> BLOOD PRESSURE CHECK 11 <input type="checkbox"/> OTHER <i>(Specify)</i> _____	12. THERAPEUTIC SERVICES THIS VISIT <i>(Check all ordered or provided)</i> 1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> IMMUNIZATION/DESENSITIZATION 3 <input type="checkbox"/> DRUGS (PRESCRIPTION/NONPRESCRIPTION) 4 <input type="checkbox"/> DIET COUNSELING 5 <input type="checkbox"/> FAMILY PLANNING 6 <input type="checkbox"/> MEDICAL COUNSELING 7 <input type="checkbox"/> PHYSIOTHERAPY 8 <input type="checkbox"/> OFFICE SURGERY 9 <input type="checkbox"/> PSYCHOTHERAPY/THERAPEUTIC LISTENING 10 <input type="checkbox"/> OTHER <i>(Specify)</i> _____	13. DISPOSITION THIS VISIT <i>(Check all that apply)</i> 1 <input type="checkbox"/> NO FOLLOW-UP PLANNED 2 <input type="checkbox"/> RETURN AT SPECIFIED TIME 3 <input type="checkbox"/> RETURN IF NEEDED, P.R.N. 4 <input type="checkbox"/> TELEPHONE FOLLOW-UP PLANNED 5 <input type="checkbox"/> REFERRED TO OTHER PHYSICIAN 6 <input type="checkbox"/> RETURNED TO REFERRING PHYSICIAN 7 <input type="checkbox"/> ADMIT TO HOSPITAL 8 <input type="checkbox"/> OTHER <i>(Specify)</i> _____		14. DURATION OF THIS VISIT <i>(Time actually spent with physician)</i> _____ MINUTES		

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DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

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Table 1. Number, percent, and average annual rate of office visits, by most frequent principal reasons for visit: United States, 1977-78

Principal reason for visit and RVC code ¹	Number of visits in thousands	Percent	Average annual visit rate per 1,000 persons
All reasons.....	1,154,550	100.0	2,727.1
General medical examination..... X100	59,115	5.1	139.6
Prenatal examination, routine..... X205	40,394	3.5	95.4
Symptoms referable to throat..... S455	34,884	3.0	82.4
Postoperative visit..... T205	29,674	2.6	70.1
Cough..... S440	29,059	2.5	68.6

¹Based on *A Reason for Visit Classification for Ambulatory Care (RVC)*.

Table 2. Number, percent distribution, and average annual rate of office visits with cough as the principal reason for visit by age and sex of patient: United States, 1977-78

Age and sex	Number of visits in thousands	Percent distribution	Average annual visit rate per 1,000 persons
Both sexes			
All ages.....	29,059	100.0	68.6
Under 15 years.....	13,438	46.2	132.3
15-24 years.....	3,048	10.5	38.5
25-44 years.....	4,706	16.2	42.2
45-64 years.....	4,899	16.9	56.7
65 years and over.....	2,969	10.2	66.1
Female			
All ages.....	15,769	54.3	72.0
Under 15 years.....	6,103	21.0	122.6
15-24 years.....	1,976	6.8	49.1
25-44 years.....	2,794	9.6	48.5
45-64 years.....	3,164	10.9	70.2
65 years and over.....	1,732	6.0	65.6
Male			
All ages.....	13,290	45.7	65.1
Under 15 years.....	7,335	25.2	141.5
15-24 years.....	1,072	3.7	32.1
25-44 years.....	1,912	6.6	35.5
45-64 years.....	1,735	6.0	42.1
65 years and over.....	1,237	4.3	66.7

Table 3. Number and percent of office visits with cough as the principal reason for visit, according to selected physician specialties: United States, 1977-78

Specialty	Number in thousands		Percent
	All visits	Visits for cough	
All specialties.....	1,154,550	29,059	2.5
General and family practice.....	433,936	15,185	3.5
Internal medicine.....	133,291	3,279	2.5
Pediatrics.....	114,921	8,571	7.5
General surgery.....	69,223	567	0.8
Otolaryngology.....	32,193	*25 ¹	0.8

chief complaint is recorded in item 8 of the Patient Record. Diagnostic codes are based on the Eighth Revision, International Classification of Diseases (ICDA).⁴

Table 5 contains a list of the most frequent associated diagnoses. Bronchitis (acute, unqualified, and chronic) accounted for about 30 percent of these visits.

⁴National Center for Health Statistics: *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*. PHS Pub. No. 1693. Public Health Service. Washington. U.S. Government Printing Office, 1967.

Table 4. Number, percent, and average annual rate of office visits with cough as the principal reason for visit, according to geographic region and type of area of practice: United States, 1977-78

Region and type of area	Number in thousands		Percent	Average annual visit rate per 1,000 persons
	All visits	Visits for cough		
<u>Region</u>				
Northeast.....	271,440	7,600	2.8	78.3
North Central.....	291,571	7,577	2.6	66.5
South.....	355,754	8,291	2.3	60.0
West.....	235,785	5,591	2.4	75.3
<u>Type of area</u>				
Metropolitan.....	865,549	21,365	2.5	73.8
Nonmetropolitan.....	289,001	7,694	2.7	57.5

Table 5. Number and percent distribution of office visits with cough as the principal reason for visit by principal diagnosis: United States, 1977-78

Principal diagnosis and ICDA code ¹	Number of visits in thousands	Percent distribution
Total.....	29,059	100.0
Otitis media without mention of mastoiditis.....	381	825
Acute nasopharyngitis (common cold).....	460	910
Acute pharyngitis.....	462	984
Acute laryngitis and tracheitis.....	464	602
Acute upper respiratory infection of multiple or unspecified sites.....	465	7,539
Acute bronchitis and bronchiolitis.....	466	2,177
Influenza, unqualified.....	470	798
Pneumonia, unspecified.....	486	894
Bronchitis, unqualified.....	490	6,243
Chronic bronchitis.....	491	375
Asthma.....	493	1,012
Chronic sinusitis.....	503	757
Hay fever.....	507	855
Other diseases of respiratory system.....	519	837
Symptoms referable to respiratory system.....	783	453
All other diagnoses..... residual		3,798

¹Based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA)*.

Table 6 shows the percent of visits with selected diagnostic and therapeutic services. Drug therapy (either prescription or nonprescription) was used in 92 percent of the visits related to cough, a proportion that exceeded the average of 53 percent of all NAMCS visits.

Like most visits for acute, self-limiting conditions, most visits for treatment of conditions due to cough were of short duration. Table 7 shows that about 41 percent of such visits took only 6 to 10 minutes, and another 29 percent lasted no longer than 15 minutes.

Table 6. Percent of office visits with cough as the principal reason for visit, by selected diagnostic and therapeutic services ordered or provided: United States, 1977-78

Diagnostic and therapeutic services	Percent of visits
<u>Diagnostic service</u>	
None.....	3.0
Limited exam/history	70.3
General exam/history	23.0
Clinical lab. test.....	13.6
X-ray.....	11.5
EKG	1.2
Blood pressure check.....	25.2
<u>Therapeutic service</u>	
None.....	3.3
Immunization/desensitization.....	4.3
Drugs (prescription/nonprescription).....	92.3
Diet counseling	2.7
Medical counseling	21.8

Patients were most often instructed to return if needed (43 percent of visits) or to return at a specified time (about 36 percent).

Additional data on cough and other reasons for office visits will be presented in more detail in a forthcoming publication.

Table 7. Percent distribution of office visits with cough as the principal reason for visit by duration and disposition of visit: United States, 1977-78

Duration and disposition	Percent distribution of visits
<u>Duration</u>	
Total.....	100.0
0 minutes ¹	1.2
1-5 minutes.....	15.3
6-10 minutes.....	40.8
11-15 minutes.....	29.0
16-30 minutes.....	12.7
31 minutes or more.....	*1.1
<u>Disposition²</u>	
No followup planned.....	15.8
Return at specified time.....	35.5
Return if needed, P.R.N.	43.0
Telephone followup planned.....	7.3
Referred to other physician.....	*0.8
Admit to hospital.....	1.2
Return to referring physician or other disposition.....	*0.5

¹Visits in which there was no face-to-face contact between the patient and the physician.

²Will not add to 100.0 since more than one disposition was possible.

TECHNICAL NOTES

SOURCE OF DATA

The information presented in this report is based on data collected in the National Ambulatory Medical Care Survey (NAMCS) during 1977 and 1978. The NAMCS universe is composed of office visits made within the conterminous United States by ambulatory patients to nonfederally employed physicians who are principally engaged in office practice and are not in the specialties of anesthesiology, pathology, or radiology. The National Opinion Research Center, under contract to the National Center for Health Statistics, is responsible for the NAMCS field operations.

SAMPLE DESIGN

NAMCS utilizes a multistage probability design that involves samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within physician practices. For 1977-78 a sample of 6,007 non-Federal, office-based physicians was selected from master files maintained by the American Medical Association and the American Osteopathic Association. The physician response rate for this period was 75.1 percent. Sampled physicians were requested to complete Patient Records (figure 1) for a systematic random sample of office visits taking place during a randomly assigned weekly reporting period. During 1977-78, 98,335 Patient Records were completed by responding physicians.

SAMPLING ERRORS

The standard error is primarily a measure of the sampling variability that occurs by chance because only a sample, rather than the entire universe, is sampled. The relative standard error of an estimate is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percent of the estimate. Relative standard errors for aggregate statistics are shown in tables I and II. Standard errors for estimated percentages are shown in tables III and IV.

Table I. Approximate relative standard errors of estimated number of office visits based on all physician specialties: NAMCS, 1977-78

Estimated number of office visits in thousands	Relative standard error in percent
500.....	24.9
1,000.....	17.7
2,000.....	12.7
5,000.....	8.3
10,000.....	6.2
20,000.....	4.8
50,000.....	3.8
200,000.....	3.1
1,000,000.....	2.9

Example of use of table: An aggregate of 15,000,000 visits has a relative standard error of 5.5 percent or a standard error of 825,000 visits (5.5 percent of 15,000,000).

Table II. Approximate relative standard errors of estimated number of office visits based on an individual physician specialty: NAMCS, 1977-78

Estimated number of office visits in thousands	Relative standard error in percent
500.....	27.0
1,000.....	19.6
2,000.....	14.5
5,000.....	10.3
10,000.....	8.5
20,000.....	7.4
50,000.....	6.7
100,000.....	6.4
400,000.....	6.2

Example of use of table: An aggregate of 7,500,000 visits has a relative standard error of 9.4 percent or a standard error of 705,000 visits (9.4 percent of 7,500,000).

DEFINITIONS

Ambulatory patient.—An ambulatory patient is an individual presenting himself for personal health services who is neither bed-ridden nor currently admitted to any health care institution on the premises.

Office.—An office is a place that the physician identifies as a location for his ambulatory practice. Responsibility over time for patient care and professional services rendered there

Table III. Approximate standard errors of percent of estimated numbers of office visits based on all physician specialties: NAMCS, 1977-78

Base of percent (number of office 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						
500.....	2.5	5.4	7.4	9.9	11.4	12.4
1,000.....	1.7	3.8	5.3	7.0	8.0	8.8
2,000.....	1.2	2.7	3.7	5.0	5.7	6.2
5,000.....	0.8	1.7	2.3	3.1	3.6	3.9
10,000.....	0.6	1.2	1.7	2.2	2.5	2.8
20,000.....	0.4	0.9	1.2	1.6	1.8	2.0
50,000.....	0.2	0.5	0.7	1.0	1.1	1.2
200,000.....	0.1	0.3	0.4	0.5	0.6	0.6
1,000,000.....	0.1	0.1	0.2	0.2	0.3	0.3

Example of use of table: An estimate of 20 percent based on an aggregate of 15,000,000 visits has a standard error of 1.9 percent or a relative standard error of 9.5 percent (1.9 percent ÷ 20 percent).

generally resides with the individual physician rather than an institution.

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 health services.

Physician.—A physician is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) currently in office-based practice

Table IV. Approximate standard errors of percent of estimated numbers of office visits based on an individual physician specialty: NAMCS, 1977-78

Base of percent (number of office 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						
500.....	2.6	5.7	7.9	10.5	12.1	13.1
1,000.....	1.9	4.1	5.6	7.4	8.5	9.3
2,000.....	1.3	2.9	3.9	5.3	6.0	6.6
5,000.....	0.8	1.8	2.5	3.3	3.8	4.2
10,000.....	0.6	1.3	1.8	2.4	2.7	2.9
20,000.....	0.4	0.9	1.2	1.7	1.9	2.1
50,000.....	0.3	0.6	0.8	1.1	1.2	1.3
100,000.....	0.2	0.4	0.6	0.7	0.9	0.9
400,000.....	0.1	0.2	0.3	0.4	0.4	0.5

Example of use of table: An estimate of 90 percent based on an aggregate of 3,500,000 visits has a standard error of 3.2 percent, or a relative standard error of 3.6 percent (3.2 percent ÷ 90 percent).

who spends time in caring for ambulatory patients. Excluded from NAMCS are physicians who are hospital based; physicians who specialize in anesthesiology, pathology, or radiology; physicians who are federally employed; physicians who treat only institutionalized patients; physicians employed full time by an institution; and physicians who spend no time seeing ambulatory patients.

SYMBOLS

Data not available-----	---
Category not applicable-----	...
Quantity zero-----	-
Quantity more than 0 but less than 0.05-----	0.0
Figure does not meet standards of reliability or precision-----	*

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