

## Medication Therapy in Office Visits for Hypertension: National Ambulatory Medical Care Survey, 1980

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According to data collected by the National Center for Health Statistics by means of the National Ambulatory Medical Care Survey, patients with essential hypertension made an estimated 25.1 million visits to office-based physicians in 1980. During these visits there were about 46.5 million mentions of drugs, either new or continued, for an average of 1.85 drug mentions per visit.

The National Ambulatory Medical Care Survey (NAMCS) is a probability sample survey conducted annually by the Division of Health Care Statistics of the National Center for Health Statistics. The technical notes at the end of this report provide brief information about the source of the data, sampling errors, and definitions of terms. A complete description of the survey including limitations and definitions was published in *Vital and Health Statistics*, Series 13, No. 44.<sup>1</sup>

Until 1980, an item on the Patient Record form (figure 1) indicating whether or not medication therapy was offered by the physician was the only available information from NAMCS regarding drug utilization by office-based physicians. In 1980, the item was expanded to include the reporting of specific drugs, prescription or nonprescription, ordered or provided by any route of administration during the visit (see figure 1, item 11). The methodology used to collect and process this drug information is described in *Vital and Health Statistics*, Series 2, No. 90.<sup>2</sup>

Data on drugs utilized during visits with essential hypertension as the principal (first-listed) diagnosis

are presented in this report. In order to report accurately what the physician prescribed, drug mentions used in this report are based on the physicians' entries on the Patient Record forms. These entries may be brand or generic names of prescription or over-the-counter drugs. "Drug mentions" includes all drugs listed in item 11, parts a and b. Part b, it should be noted, may relate to diagnoses other than hypertension. Therefore, it is assumed that medications described in this report were ordered for patients with hypertension but may not necessarily be therapeutic agents for that condition.

### Medication therapy status and number of medications

During 1980, hypertension was the leading illness-related principal diagnosis and accounted for 9 percent of all visits. In about 89 percent of these visits patients were provided medication therapy (table 1). This proportion exceeded the average proportion of drug visits for all diagnoses (63 percent). Table 1 shows that a hypertension visit with one drug ordered or provided was the most likely event (36 percent), and proportions of visits decreased as the number of drugs increased. This paralleled the average prescription pattern shown in figure 2, except that proportions of visits for hypertension were higher in every category greater than zero.

### Drug mentions

Table 2 shows the number of visits for hypertension by sex, age, and race of the patient, and by problem status and major reason for the visit. The number and percent of visits in which one or more drugs were mentioned are shown. These two sets of visit frequencies provide the denominators for the drug mention rates (DMR) and the drug intensity rates (DIR). The numerator for both rates is the number of all-listed

<sup>1</sup>National Center for Health Statistics, T. Ezzati and T. McLemore: The National Ambulatory Medical Care Survey, 1977 Summary, United States, January-December 1977. *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.

<sup>2</sup>National Center for Health Statistics, H. Koch: The collection and processing of drug information, National Ambulatory Medical Care Survey, United States, 1980. *Vital and Health Statistics*. Series 2-No. 90. DHHS Pub. No. (PHS) 82-1364. Public Health Service. Washington. U.S. Government Printing Office. In press.

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, Education, and Welfare Public Health Service Office of Health Research, Statistics, and Technology National Center for Health Statistics		A No. 001735	
<b>1. DATE OF VISIT</b> _____/_____/_____ <small>Month Day Year</small>		<b>PATIENT RECORD</b> <b>NATIONAL AMBULATORY MEDICAL CARE SURVEY</b>			
<b>2. DATE OF BIRTH</b> _____/_____/_____ <small>Month Day Year</small>	<b>3. SEX</b> 1 <input type="checkbox"/> FEMALE 2 <input type="checkbox"/> MALE	<b>4. COLOR OR RACE</b> 1 <input type="checkbox"/> WHITE 2 <input type="checkbox"/> BLACK 3 <input type="checkbox"/> ASIAN/PACIFIC ISLANDER 4 <input type="checkbox"/> AMERICAN INDIAN/ALASKAN NATIVE	<b>5. ETHNICITY</b> 1 <input type="checkbox"/> HISPANIC ORIGIN 2 <input type="checkbox"/> NOT HISPANIC	<b>6. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT</b> <i>[In patient's own words]</i> a. MOST IMPORTANT _____ b. OTHER _____	
<b>7. MAJOR REASON FOR THIS VISIT</b> <i>[Check one]</i> 1 <input type="checkbox"/> ACUTE PROBLEM 2 <input type="checkbox"/> CHRONIC PROBLEM, ROUTINE 3 <input type="checkbox"/> CHRONIC PROBLEM, FLAREUP 4 <input type="checkbox"/> POST SURGERY/POST INJURY 5 <input type="checkbox"/> NON-ILLNESS CARE (ROUTINE PRENATAL, GENERAL EXAM., WELL BABY, ETC.)		<b>8. DIAGNOSTIC SERVICES THIS VISIT</b> <i>[Check all ordered or provided]</i> 1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> LIMITED HISTORY/EXAM. 3 <input type="checkbox"/> GENERAL HISTORY/EXAM. 4 <input type="checkbox"/> PAP TEST 5 <input type="checkbox"/> CLINICAL LAB TEST 6 <input type="checkbox"/> X-RAY 7 <input type="checkbox"/> BLOOD PRESSURE CHECK 8 <input type="checkbox"/> EKG 9 <input type="checkbox"/> VISION TEST 10 <input type="checkbox"/> ENDOSCOPY 11 <input type="checkbox"/> MENTAL STATUS EXAM. 12 <input type="checkbox"/> OTHER <i>(Specify)</i> _____		<b>9. PHYSICIAN'S DIAGNOSES</b> a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 6a. _____ b. OTHER SIGNIFICANT CURRENT DIAGNOSES _____	
<b>10. HAVE YOU SEEN PATIENT BEFORE?</b> 1 <input type="checkbox"/> YES    2 <input type="checkbox"/> NO ↓ IF YES, FOR THE CONDITION IN ITEM 9a? 1 <input type="checkbox"/> YES    2 <input type="checkbox"/> NO		<b>11. MEDICATION THERAPY THIS VISIT</b> <input type="checkbox"/> NONE <i>[Using brand or generic names, record all new and continued medications ordered, injected, administered, or otherwise provided at this visit. Include immunizing and desensitizing agents]</i> a. FOR PRINCIPAL DIAGNOSES IN ITEM 9a. 1. _____ 2. _____ 3. _____ 4. _____ b. FOR ALL OTHER REASONS. 1. _____ 2. _____ 3. _____ 4. _____			
<b>12. NON-MEDICATION THERAPY</b> <i>[Check all services ordered or provided this visit]</i> 1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> PHYSIOTHERAPY 3 <input type="checkbox"/> OFFICE SURGERY 4 <input type="checkbox"/> FAMILY PLANNING 5 <input type="checkbox"/> PSYCHOTHERAPY/THERAPEUTIC LISTENING 6 <input type="checkbox"/> DIET COUNSELING 7 <input type="checkbox"/> FAMILY/SOCIAL COUNSELING 8 <input type="checkbox"/> MEDICAL COUNSELING 9 <input type="checkbox"/> OTHER <i>(Specify)</i> _____		<b>13. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN?</b> 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO		<b>14. DISPOSITION THIS VISIT</b> <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> _____	
				<b>15. DURATION OF THIS VISIT</b> <i>[Time actually spent with physician]</i> _____ <small>Minutes</small>	

Figure 1. Patient Record from the National Ambulatory Medical Care Survey

Table 1. Number and percent distribution of office visits for essential hypertension, by medication therapy status and number of medications: United States, 1980

<i>Medication therapy status and number of medications</i>	<i>Number of visits in thousands</i>	<i>Percent distribution</i>
Total .....	25,137	100.0
<b>Medication therapy status</b>		
With medication .....	22,282	88.6
Without medication .....	2,855	11.4
<b>Number of medications</b>		
None .....	2,855	11.4
1 .....	8,932	35.5
2 .....	6,894	27.4
3 .....	3,561	14.2
4 .....	2,040	8.1
5 or more .....	856	3.4

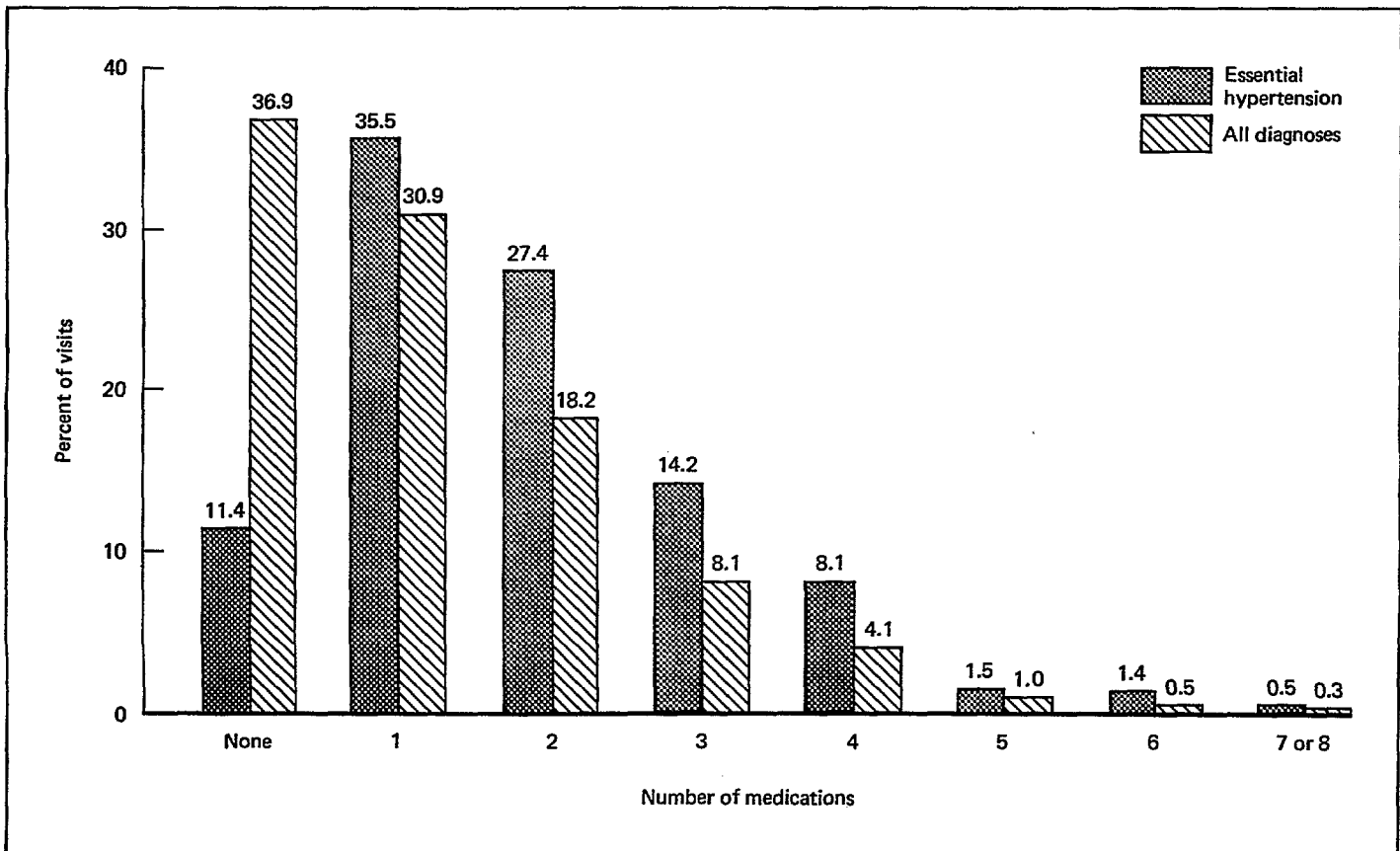


Figure 2. Percent of office visits for essential hypertension and for all diagnoses by number of medications: United States, 1980

Table 2. Number of office visits for essential hypertension, number and percent of drug visits, and number of all-listed drug mentions, drug mention rate, and drug intensity rate, by selected characteristics: United States, 1980

Selected characteristic	Office visits			All-listed drug mentions (number in thousands)	Drug mention rate per visit <sup>2</sup>	Drug intensity rate per visit <sup>3</sup>
	All visits (number in thousands)	Drug visits <sup>1</sup> (number in thousands)	Percent of drug visits			
Total .....	25,137	22,282	88.6	46,484	1.85	2.09
Sex						
Female .....	15,787	14,203	90.0	30,365	1.92	2.14
Male .....	9,350	8,079	86.4	16,119	1.72	2.00
Age						
Under 45 years .....	3,019	2,532	83.9	5,068	1.68	2.00
45 years and over .....	22,118	19,750	89.3	41,416	1.87	2.10
Race						
White .....	22,048	19,507	88.5	40,965	1.86	2.10
Black .....	2,940	2,637	89.7	5,245	1.78	1.90
Other .....	*148	*138	*93.2	*274	*1.85	*1.99
Problem status						
New problem .....	2,155	1,692	78.5	3,380	1.57	2.00
Old problem .....	22,981	20,590	89.6	43,103	1.88	2.09
Major reason for visit						
Acute problem .....	1,985	1,611	81.2	3,218	1.62	2.00
Chronic problem, routine .....	19,209	17,339	90.3	36,471	1.90	2.10
Chronic problem, flareup .....	2,114	1,946	92.1	4,376	2.07	2.25
Postsurgery or postinjury .....	*81	*63	*78.6	*197	*2.43	*3.13
Nonillness care .....	1,748	1,322	75.6	2,221	1.27	1.68

<sup>1</sup>A visit in which one or more drugs were ordered.<sup>2</sup>All-listed drugs ÷ number of visits.<sup>3</sup>All-listed drugs ÷ number of drug visits.

drug mentions. Using for the denominator the total number of visits for hypertension (25.1 million) and for the numerator the total number of drug mentions during hypertension visits (46.5 million) yields a drug *mention* rate of 1.85 drugs per hypertension visit. Using *drug visits* (22.2 million) for the denominator yields a drug *intensity* rate of 2.09 drugs per hypertension visit in which a drug was mentioned. While the DMR provides an average drug use for hypertension visits, the DIR shows that when patients do receive medication therapy during office visits they are likely to receive an average of 2.09 drugs. The DIR is always higher than the DMR because it is based on only those visits in which one or more drugs are utilized, except in the rare case where drug visits equal all visits. The DMR was higher for hypertension than for the average of all diagnoses regardless of the patient's age group. As figure 3 shows, the DMR increased as the age group of the patient with hypertension increased. The curve for all diagnoses shows a similar pattern, but the rates for hypertension were consistently higher. The DMR was higher for females than for males, but other rates detailed in table 2 did not vary significantly, probably due to the large sampling error associated with these relatively small estimates.

## Drug status characteristics

Table 3 provides information about the drugs that were utilized for hypertension patients. The entry status, or more specifically the physician's prescribing mode, in about 80 percent of the 46.5 million drug mentions was the brand name; 18 percent were entered by their generic names. An example of the former is Hydrodiuril; the latter, hydrochlorothiazide. Both entries represent the same drug. The proportion designated by brand names during hypertension visits (80 percent) exceeded the average of 71 percent similarly entered during visits for all diagnoses.<sup>3</sup>

Most drugs (92 percent) were prescription drugs (Rx) with nonprescription or over-the-counter (OTC) drugs accounting for only 6 percent. (Table 4 shows that of all drugs entered by *brand names*, 95 percent were prescription drugs and 5 percent were OTC drugs.) About 73 percent of the drugs mentioned consisted of a single ingredient, suggesting the poten-

<sup>3</sup>National Center for Health Statistics, H. Koch: Drugs most frequently used in office-based practice: National Ambulatory Medical Care Survey, 1980. *Advance Data From Vital and Health Statistics*, No. 78. DHHS Pub. No. (PHS) 82-1250. Public Health Service. Hyattsville, Md., May 13, 1982.

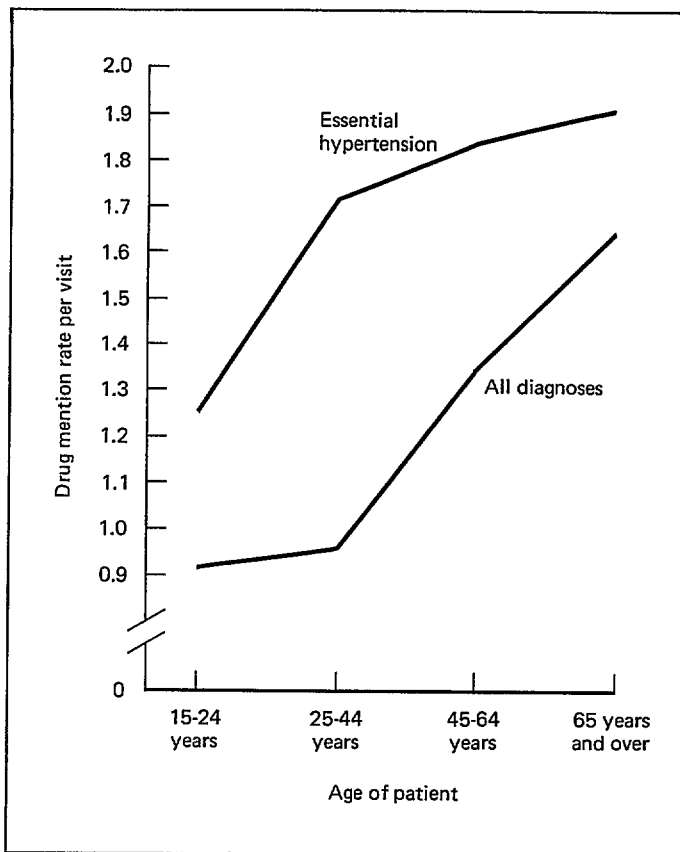


Figure 3. Drug mention rate per office visit for essential hypertension and for all diagnoses, by age of patient: United States, 1980

tial for ordering by generic name. On the average, 69 percent of drugs mentioned for all visits regardless of diagnosis were single ingredient drugs.

Only 6 percent of the total drug mentions during hypertension visits consisted of drugs under the regulatory control of the Drug Enforcement Administration, compared with 9 percent during visits for all diagnoses.

## Most frequently mentioned drugs

The 30 drugs listed in table 5 accounted for about 60 percent of all drug mentions in office visits for hypertension. The reader is cautioned that the ranking may be somewhat artificial because some estimates do not differ significantly from other near estimates due to sampling variability.

As may be expected, 2 therapeutic categories, hypotensive agents and diuretics, were predominant among drug mentions when patients visited for hypertension. (In NAMCS, therapeutic categories were based on the classification system of the American Hospital Formulary Service.<sup>4</sup>) Of the 30 listed drugs,

10 are hypotensive agents, 9 are diuretics, 4 are cardiac drugs, and 2 are replacement solutions (potassium). Only one is a tranquilizer.

The most frequently utilized generic substances are shown in table 6. The data in this table represent the utilization of the generic substance regardless of whether the substance was prescribed by brand or generic name. The form of use indicates whether the substance was used as a single ingredient or in combination with other substances. Hydrochlorothiazide (10.5 million) was clearly the most frequently used generic ingredient. About 53 percent of its use was in combination with other drugs. Some generic drugs such as diazepam, digoxin, furosemide, ibuprofen, metoprolol, metolozone, nadolol, and prazosin were never prescribed in combination with another substance. Others, such as spironolactone and triamterene, were almost always found in combination prescriptions.

Additional data on medication therapy in office visits for hypertension, as well as for other diagnoses, will appear in a future *Vital and Health Statistics* publication. Questions regarding this report may be directed to the Ambulatory Care Statistics Branch by calling 301-436-7132.

<sup>4</sup>American Society of Hospital Pharmacists, Inc., *The American Hospital Formulary Service*. Washington. Jan. 1980.

Table 3. Number and percent distribution of all-listed drug mentions in office visits for essential hypertension, and percent distribution for all diagnoses, by drug status characteristics: United States, 1980

<i>Drug status characteristic</i>	<i>Hypertension</i>		<i>All diagnoses</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Percent distribution</i>
Total .....	46,484	100.0	100.0
<i>Entry status</i>			
Generic name .....	8,495	18.3	24.2
Brand name .....	37,067	79.7	71.2
Therapeutic effect .....	649	1.4	3.2
Undetermined .....	*272	*0.6	1.5
<i>Prescription status</i>			
Prescription (Rx) drug .....	42,664	91.8	82.6
Nonprescription (OTC) drug .....	2,899	6.2	12.6
Undetermined .....	921	2.0	4.9
<i>Composition status</i>			
Single ingredient .....	34,037	73.2	69.0
Combination .....	11,038	23.8	24.4
Multivitamin .....	*487	*1.1	2.0
Undetermined .....	921	2.0	4.6
<i>Federal control status</i>			
Controlled .....	2,673	5.8	8.6
Uncontrolled .....	42,889	92.3	86.5
Undetermined .....	921	2.0	4.9

Table 4. Percent distribution of brand name drug mentions in office visits for hypertension by drug status characteristics: United States, 1980

<i>Drug status characteristic</i>	<i>Percent distribution</i>
<i>Prescription status</i>	
Prescription (Rx) drug .....	95.4
Nonprescription (OTC) drug .....	4.6
<i>Composition status</i>	
Single ingredient .....	70.9
Combination .....	28.0
Multivitamin .....	1.1

Table 5. Number and percent distribution of most frequently mentioned drugs in office visits for essential hypertension, described by principal generic ingredient(s) and principal therapeutic category: United States, 1980

<i>Name of drug</i> <sup>1</sup>	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Principal generic ingredient(s)</i> <sup>2</sup>	<i>Principal therapeutic category</i> <sup>3</sup>
All drug mentions . . . . .	46,484	100.0	...	...
Dyazide . . . . .	2,583	5.6	triamterene, hydrochlorothiazide	diuretics
Hydrochlorothiazide . . . . .	2,449	5.3	hydrochlorothiazide	diuretics
Aldomet . . . . .	2,284	4.9	methyldopa	hypotensive agents
Inderal . . . . .	2,090	4.5	propranolol	cardiac drugs
Hydrodiuril . . . . .	1,836	4.0	hydrochlorothiazide	diuretics
Hygroton . . . . .	1,779	3.8	chlorthalidone	diuretics
Lopressor . . . . .	1,569	3.4	metoprolol	hypotensive agents
Lasix . . . . .	1,325	2.9	furosemide	diuretics
Aldoril . . . . .	910	2.0	methyldopa, hydrochlorothiazide	hypotensive agents
Diuril . . . . .	869	1.9	chlorthiazide	diuretics
Ser-ap-es . . . . .	787	1.7	reserpine, hydralazine, hydrochlorothiazide	hypotensive agents
Aldactazide . . . . .	786	1.7	spironolactone, hydrochlorothiazide	diuretics
Reserpine . . . . .	730	1.6	reserpine	hypotensive agents
Apresoline . . . . .	650	1.4	hydralazine	hypotensive agents
Potassium . . . . .	644	1.4	potassium replacement solution	replacement solution
Slow-K . . . . .	619	1.3	potassium replacement solution	replacement solution
Esidrix . . . . .	588	1.3	hydrochlorothiazide	diuretics
Valium . . . . .	578	1.2	diazepam	sedatives or hypnotics
Motrin . . . . .	557	1.2	ibuprofen	hypotensive agents
Minipres . . . . .	529	1.1	prazosin	hypotensive agents
Corgard . . . . .	479	1.0	nadolol	cardiac drugs
Lanoxin . . . . .	447	1.0	digoxin	cardiac drugs
Influenza virus vaccine type A, B . . . . .	415	0.9	influenza virus vaccine	vaccines
Enduron . . . . .	402	0.9	methyclothiazide	diuretics
Catapres . . . . .	402	0.9	clonidine	hypotensive agents
Aspirin . . . . .	*362	*0.8	aspirin	analgesics and antipyretics
Digoxin . . . . .	*353	*0.8	digoxin	cardiac drugs
Enduronyl . . . . .	*344	*0.7	methyclothiazide, deserpidine	hypotensive agents
Diabinese . . . . .	*319	*0.7	chlorpropamide	anti-diabetic agents
Vitamin B-12 . . . . .	*303	*0.7	vitamin B-12	vitamin B complex
Residual . . . . .	18,496	39.8	...	...

<sup>1</sup>Based on the physicians entry on the Patient Record form. The entry may be a brand or generic name. Inclusion of trade names for identification only and does not imply endorsement by the U.S. Public Health Service or the Department of Health and Human Services.

<sup>2</sup>If one generic ingredient is listed, the physician's entry is the generic drug or the physician's entry is a brand name drug which consists chiefly of a single generic ingredient.

<sup>3</sup>Based on the classification system of the American Hospital Formulary Service (A.H.F.S.).

Table 6. Number and percent distribution of drugs used in office visits for essential hypertension by form of use, according to most frequently used generic substances: United States, 1980

Generic substance	Number in thousands	Total	Form of use	
			Single ingredient	In combinations
			Percent distribution	
Aspirin . . . . .	730	100.0	65.6	33.4
Chlorothiazide . . . . .	1,304	100.0	69.2	30.8
Chlorthalidone . . . . .	2,435	100.0	78.5	21.5
Clonidine . . . . .	737	100.0	62.4	37.6
Diazepam . . . . .	588	100.0	100.0	-
Digoxin . . . . .	800	100.0	100.0	-
Furosemide . . . . .	1,325	100.0	100.0	-
Hydralazine . . . . .	1,763	100.0	44.5	55.5
Hydrochlorothiazide . . . . .	10,536	100.0	46.8	53.2
Ibuprofen . . . . .	557	100.0	100.0	-
Metoprolol . . . . .	1,583	100.0	100.0	-
Methyclothiazide . . . . .	784	100.0	53.8	46.2
Methyldopa . . . . .	3,410	100.0	68.2	31.8
Metolazone . . . . .	405	100.0	100.0	-
Nadolol . . . . .	479	100.0	100.0	-
Prazosin . . . . .	542	100.0	100.0	-
Propranolol . . . . .	2,379	100.0	94.1	5.9
Rauwolfia . . . . .	437	100.0	61.2	38.8
Reserpine . . . . .	2,665	100.0	30.7	69.3
Spirolactone . . . . .	847	100.0	7.1	92.9
Triamterene . . . . .	2,612	100.0	1.1	98.9

**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 standards of reliability or precision (more than 30 percent relative standard error)
- # Figure suppressed to comply with confidentiality requirements



## Technical notes

### Source of data and sample design

The information presented in this report is based on data collected by the National Center for Health Statistics through its National Ambulatory Medical Care Survey (NAMCS) during 1980. The target universe of NAMCS includes office visits made within the conterminous 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.

NAMCS utilizes a multistage probability sample design that involves samples of primary sampling units (PSU's), physicians' practices within PSU's, and patient visits within physician practices. For 1980 a sample of 2,959 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 1980 was 77.2 percent. Sampled physicians were asked to complete Patient Records (figure 1) for a systematic random sample of office visits taking place during a randomly assigned weekly reporting period. During 1980, responding physicians completed 46,081 Patient Records, on which they recorded 51,372 drug mentions. Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained during an induction interview. The National Opinion Research Center, under contract to the National Center for Health Statistics, was responsible for the survey's field operations.

For a more detailed discussion of the limitations, qualifications, and definitions of the data collected in the NAMCS, see *Vital and Health Statistics*, Series 13, Number 44.

Estimates presented in this report differ from the estimates reported in the National Medical Care Utilization and Expenditure Survey (NMCUES), another program of the National Center for Health Statistics (NCHS). The variation in estimates is due to differences in survey populations, data collection methodology, and definitions. The NMCUES, co-sponsored by NCHS and the Health Care Financing Administration (HCFA), is a national panel survey of households which collected information on visits to physicians' offices and hospital outpatient departments. Preliminary survey data as well as a discussion of the survey methodology are forthcoming from NCHS and HCFA.

### Sampling errors and rounding of numbers

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 surveyed. The relative standard error of an estimate is obtained by dividing the standard error by the estimate itself and is expressed as a percent of the estimate. Relative standard errors of selected aggregate statistics are shown in tables I and III. Standard errors for estimated percents of visits are shown in table II and IV. Tables I and II should be used to obtain the standard error of a specific drug mention (e.g., Dyazide). Tables III and IV should be used to obtain the standard error of a group of drug mentions (e.g., all drugs prescribed for hypertension).

Estimates of office visits have been rounded to the nearest thousand. For this reason detailed figures within tables do not always add to totals. Rates and percents were calculated on the basis of original, unrounded figures and will not necessarily agree precisely with percents calculated from rounded data.

### Definitions

An *ambulatory patient* is an individual presenting himself for personal health services who is neither bedridden nor currently admitted to any health care institution on the premises.

A *physician eligible for NAMCS* is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) currently in office-based practice 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.

An *office* is a place that the physician identifies as a location for his ambulatory practice. Responsibility

Table I. Approximate relative standard errors of estimated numbers of office visits based on all physician specialties: NAMCS, 1980

Estimated number of office visits in thousands	Relative standard error in percent
500	27.3
1,000	19.5
2,000	14.1
5,000	9.4
10,000	7.3
20,000	5.9
50,000	4.9
100,000	4.5
550,000	4.1

Example of use of table: An aggregate of 75,000,000 visits has a relative standard error of 4.7 percent, or a standard error of 3,525,000 visits (4.7 percent of 75,000,000).

Table II. Approximate standard errors of percents of estimated numbers of office visits based on all physician specialties: NAMCS, 1980

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 percent					
500	2.7	5.9	8.1	10.8	12.4	13.5
1,000	1.9	4.2	5.7	7.6	8.7	9.5
2,000	1.3	2.9	4.0	5.4	6.2	6.7
5,000	0.8	1.9	2.6	3.4	3.9	4.3
10,000	0.6	1.3	1.8	2.4	2.8	3.0
20,000	0.4	0.9	1.3	1.7	2.0	2.1
50,000	0.3	0.6	0.8	1.1	1.2	1.3
100,000	0.2	0.4	0.6	0.8	0.9	1.0
500,000	0.1	0.2	0.3	0.3	0.4	0.4

Example of use of table: An estimate of 30 percent based on an aggregate of 15,000,000 visits has a standard error of 2.4 percent, or a relative standard error of 8 percent (2.4 percent ÷ 30 percent).

ity over time for patient care and professional services rendered there generally resides with the individual physician rather than an institution.

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.

A *drug mention* is the physician's entry of a pharmaceutical agent ordered or provided—by any route of administration—for prevention, diagnosis, or treatment. Generic as well as brand-name drugs are included, as are nonprescription as well as 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.

Table III. Approximate relative standard errors of estimated number of drug mentions based on all physician specialties: NAMCS, 1980

Estimated number of drug mentions in thousands	Relative standard error in percent
1,000	27.3
2,000	19.7
5,000	13.2
10,000	10.1
20,000	8.2
50,000	6.8
100,000	6.2
300,000	5.8
650,000	5.7

Example of use of table: An aggregate estimate of 75,000,000 drug mentions has a relative standard error of 6.5 percent or a standard error of 4,875,000 mentions (6.5 percent of 75,000,000).

Table IV. Approximate standard errors of percents of estimated numbers of drug mentions based on all physician specialties: NAMCS, 1980

Base of percent (number of drug mentions 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					
1,000 .....	2.7	5.8	8.0	10.7	12.2	13.3
2,000 .....	1.9	4.1	5.7	7.6	8.7	9.4
5,000 .....	1.2	2.6	3.6	4.8	5.5	6.0
20,000 .....	0.6	1.3	1.8	2.4	2.7	3.0
100,000 .....	0.3	0.6	0.8	1.1	1.2	1.3
600,000 .....	0.1	0.2	0.3	0.4	0.5	0.5

Example of use of table: An estimate of 30 percent based on an aggregate of 12,500,000 drug mentions has a standard error of 4.1 percent or a relative standard error of 13.7 percent (4.1 percent ÷ 30 percent).

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