nchs advancedata

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

Number 90 • June 15, 1983

Utilization of Psychotropic Drugs in Office-Based Ambulatory Care: National Ambulatory Medical Care Survey, 1980 and 1981

by Hugo Koch, Division of Health Care Statistics, and William H. Campbell, Ph.D., University of Washington

In this report the annual findings of the National Center for Health Statistics 1980 and 1981 National Ambulatory Medical Care Survey are combined to describe the utilization of psychotropic drugs in office-based ambulatory care.

The term *utilization* is limited to the ordering or providing of a psychotropic drug by an office-based physician. It does *not* apply to patient compliance with the doctor's instruction.

As used in this report, the subject group *psychotropic drugs* is composed of the 136 psychotropic agents actually named by physician respondents in 1980 and 1981. A list of these agents appears in figure 1. Along with all *new* psychotropics ordered or provided, the physician also recorded *continued* psychotropics, if the patient was specifically instructed during the visit to continue the medication. (However, the data base does not distinguish between the *new* and the *continued* drug.) The listed agents appear as brand[1] or generic names, depending on the choice made by the physician in preparing the prescription. The group *psychotropic drugs* is divided among three subcategories.

- Category I: Anti-anxiety agents, sedatives, and hypnotics
- Category II: Antidepressants
- Category III: Antipsychotic and antimanic agents

[1] The use of trade names is for identification only and does not imply endorsement by the Public Health Service of the U.S. Department of Health and Human Services.

General findings

Over the 2-year span 1980 and 1981, combined National Ambulatory Medical Care Survey findings resulted in an estimated 1,160,921,856 visits made to office-based physicians. Of this total, 717,774,562 (62 percent) were *drug visits*, that is, visits at which one drug or more of any type was utilized. The total number of drug mentions for the 2-year span amounted to an estimated 1,330,746,129 mentions.

Visits involving one psychotropic drug or more numbered 69,269,110, about 6 percent of the overall number of office visits and about 10 percent of all drug visits. The total number of psychotropic drug mentions was 79,582,103, divided among the subcategories as follows.

	Drug mentions	
	Number in thousands	*Percent distribution*
All psychotropic drugs	79,582	100.0
Category I	48,048	60.4
Benzodiazepines	30,147	46.5
Barbituric agents	6,087	9.4
Category II	20,295	25.9
Category III	11,239	14.1

Table 1 lists the 25 psychotropic agents most frequently mentioned. They accounted for virtually four-fifths of all psychotropic mentions.

An extremely important issue in health and social policy is the use of medications having significant potential for addiction or habituation, especially because the use of such agents also creates the risk of diversion into

Psychotropic drugs

Category I
Anti-anxiety agents, sedatives, and hypnotics

Amobarbital	Coprobate	Meprobamate	Quan III
Amytal	Dalmane	Meprospan	Quiess
Anoquan	Doriden	Micrainin	Restoril
Atarax	Equagesic	Miltown	Ru-Lor
Ativan	Equanil	Nembutal	Seconal
Azene	Fiorinal	Nevrotose	Sedapap elixir
Bamo	Fiorinal with codeine	Nidar	Serax
Buff-A-Comp	Hydroxyzine	Noctec	SK-lygen
Butabarbital	Idenal	Noludar	SK-phenobarbital
Butal	Indogesic	Parest	Sopor
Buticaps	Infadorm drops	Pentobarbital	Tranxene
Butigetic	Isollyl	Pentothal	Tuinal
Butisol	Lanorinal	Phencoid	Tybratan
Carbrital	Libritabs	Phenobarbital	Valium
Centrax	Librium	Phrenilin	Valmid
Chloral hydrate	Lorazepam	Placidyl	Valobar
Chlordiazepoxide	Lotusate	Prazepam	Verstran
Clorazepate	Marnal	Quaalude	Vistaril

Category II
Antidepressants

Adapin	Elavil	Nardil	Sinequan
Amavil	Endep	Norpramin	SK-pramine
Amitriptyline	Etrafon	Nortriptyline	Surmontil
Amoxapine	Imipramine	Pamelor	Tofranil
Asendin	Limbitrol	Parnate	Triavil
Aventyl	Ludiomil	Perphenazine	Trimipramine
Desipramine	Maprotiline	Pertofrane	Vivactil
Doxepin	Marplan	Phenelzine	

Category III
Antipsychotic and antimanic agents

Chloramead	Lidone	Ormazine	Thioridazine
Chlorpromazine	Lithane	Proketazine	Thorazine
Chlorzine	Lithium	Prolixin	Tindal
Compazine	Lithobid	Promazine	Trifluoperazine
Deprol	Lithonate	Prozine 50	Trilafon
Eskalith	Loxitane	Serentil	Vesprin
Haldol	Mellaril	Sparine	
Haloperidol	Moban	Stelazine	
Inapsine	Navane	Taractan	

Figure 1. Psychotropic drugs actually named by physician respondents: United States, 1980 and 1981.

Table 1. The 25 psychotropic drugs most frequently mentioned in office-based practice, by name of drug and number and percent distribution of mentions: United States, 1980 and 1981

Rank	Name of drug[1]	Number of mentions in thousands	Percent distribution
	All psychotropic drugs	79,582	100.0
	25 drugs most frequently used		
1	Valium (diazepam)	12,562	15.8
2	Elavil (amitriptyline)	4,419	5.6
3	Dalmane (flurazepam)	4,242	5.3
4	Tranxene (clorazepate)	3,621	4.6
5	Phenobarbital	3,453	4.3
6	Atarax (hydroxyzine)	3,150	4.0
7	Sinequan (doxepin)	3,133	3.9
8	Ativan (lorazepam)	3,082	3.9
9	Librium (chlordiazepoxide)	2,912	3.7
10	Fiorinal (butalbital, aspirin, phenacetin, caffeine)	2,634	3.3
11	Mellaril (thioridazine)	2,370	3.0
12	Triavil (amitriptyline, perphenazine)	2,244	2.8
13	Tofranil (imipramine)	1,778	2.2
14	Vistaril (hydroxyzine)	1,762	2.2
15	Meprobamate	1,650	2.1
16	Limbitrol (chlordiazepoxide, amitriptyline)	1,642	2.1
17	Compazine (prochlorperazine)	1,369	1.7
18	Equagesic (meprobamate, ethoheprazine, aspirin)	1,211	1.5
19	Lithium	1,203	1.5
20	Stelazine (trifluoperazine)	1,196	1.5
21	Thorazine (chlorpromazine)	1,137	1.4
22	Centrax (prazepam)	1,111	1.4
23	Haldol (haloperidol)	1,036	1.3
24	Serax (oxazepam)	975	1.2
25	Norpramin (desipramine)	871	1.1

[1] The form of the drug name (brand or generic) represents the choice of the physician in preparing the prescription.

illicit channels. Because of these factors they are treated as *controlled* substances and placed under the regulatory authority of the U.S. Drug Enforcement Administration. The special sensitivity of the psychotropic series is evident in the NAMCS findings. More than one-half (56 percent) of all psychotropic mentions entailed the use of a controlled drug.

Because most of the psychotropic agents are under regulatory control, it comes as no surprise that there were no over-the-counter drugs among their members. The use of all psychotropics required a formal prescription by the physician. About 9 of every 10 psychotropics were prescribed by trade name. Only a relatively minor proportion (13 percent) were combination drugs, the most frequently mentioned combinations involving the addition of an analgesic ingredient to an anti-anxiety base.

Diagnosis

Proper evaluation of the patterns of psychotropic utilization requires that the data user look first to the conditions that the drugs were intended to prevent or treat. The most direct and frequent linkage occurs here. A psychotropic agent is seldom if ever utilized for the sole reason that the patient is over 65 years or a female; or that the physician is a general practitioner or a psychiatrist. It is fundamental then to examine the use of psychotropics in terms of the diagnoses rendered in office-based care. The rate of psychotropic utilization as it varied among the major diagnostic groups and with the general nature of the patient's problem is shown in table 2. Apart from the class of mental disorders, which sui generis command the highest rate of all psychotropic utilization, four other diagnostic classes exceeded the average utilization rate of 69 mentions per 1,000 visits. They are:

- Symptoms, signs, and ill defined conditions
- Diseases of the circulatory system
- Diseases of the digestive system
- Diseases of the musculoskeletal system

For these "nonmental" disorders it is the use of the Category I drugs that most clearly causes the above-average rates.

When the diagnostic findings are subjected to a finer scrutiny, the following specific diagnoses were found to be most frequently associated with psychotropic therapy:

Rank	*Diagnosis and ICD–9–CM Code*[1]	*Psychotropic mentions in thousands*
1	Neurotic disorders 300	8,834
2	Essential hypertension 401	5,536
3	Depressive disorder 311	2,675
4	Schizophrenic disorder 295	2,382
5	Affective psychosis 296	1,708

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

From the preceding correlations between diagnosis and psychotropic utilization, it is clear that the use of psychotropic therapy is most frequently associated with the chronic conditions (table 2). With the acute conditions it is much less common. With nonillness care and with the post-traumatic conditions of surgery or injury, the use of psychotropic drugs is extremely modest.

Patient characteristics

From its lowest level, for patients under 25 years, the office-based utilization of psychotropic drugs accelerates sharply in successive age groups until it reaches its highest point among middle-aged patients in the age group 45–54 years. It then begins a gradual, if fluctuating, descent among patients in the remaining years of life (table 3 and figure 2).

This pattern applies to each of the psychotropic subcategories, in large part reflecting the corresponding patterns of morbidity revealed by NAMCS diagnostic findings. For example, mental disorders, the conditions which command the highest rate of psychotropic usage, are proportionately most evident among office patients in the age group 30–50 years.

It is clear from the findings that female utilization of office-based, psychotropic therapy substantially exceeded its utilization by male patients (table 3). The imbalance favoring female patients lay almost entirely in the use of drugs in Categories I and II. For the antipsychotic and antimanic agents there was little or no difference between the sexes.

The sex-age findings show the age intervals in which the sex differences in psychotropic utilization become most manifest (table 4). Up to the 45th year, the general rate of utilization is equivalent for females and males. From the 45th year on, however, the rates diverge dramatically. In the age group 45–64 years, the female rate is roughly one-third again as high as the male rate; in the age group 65 and over, it exceeds the male rate by almost 60 percent.

These findings correlate positively with NAMCS diagnostic evidence. For example, mental disorders and essential hypertension, the conditions that command the highest rate of psychotropic utilization, were proportionately more frequent among the older female patients than among males.

Although overall psychotropic usage did not vary significantly between black and white office patients (table 4), the below-average use of antidepressants by blacks is an interesting finding, and one not clearly explicable by diagnostic correlates. (Black office patients show about the same proneness to depressive conditions as their white counterparts.) However, they visited the psychiatrist with only one-third the frequency of white patients, a fact that may partly explain the seeming anomaly. As evidenced by the findings, psychiatrists' use of antidepressants substantially exceed their use by other physicians (table 5).

Table 2. Number of office visits, number of all psychotropic drug mentions, and number of mentions per 1,000 visits, by major clinical problem: United States, 1980 and 1981

Major clinical problem	Number of visits in thousands	Psychotropic drugs							
		All psychotropic drugs		Category I[1]		Category II[2]		Category III[3]	
		Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits
All visits	1,160,922	79,582	69	48,048	41	20,295	17	11,239	11
Major diagnostic groups[4]									
Infectious and parasitic diseases	37,714	783	21	*518	14	*149	*4	*116	*3
Neoplasms	30,707	1,144	37	647	21	*153	*5	*344	*11
Endocrine, nutritional, and metabolic diseases, and immunity disorders	45,371	3,028	67	1,793	40	809	18	*426	*9
Mental disorders	47,624	25,098	527	9,863	207	9,532	200	5,703	120
Diseases of nervous system and sense organs	109,573	3,374	31	2,337	21	*505	*5	*532	*5
Diseases of circulatory system	112,344	13,038	116	9,260	82	2,717	24	1,061	9
Diseases of respiratory system	146,014	5,003	34	3,212	22	1,148	8	643	4
Diseases of digestive system	49,080	3,957	81	2,376	48	980	20	*601	*12
Diseases of genitourinary system	68,504	2,411	35	1,594	23	*575	*8	*242	*4
Diseases of skin and subcutaneous tissue	69,421	3,143	45	2,781	40	*240	*3	*122	*2
Diseases of musculoskeletal system	79,206	5,899	74	4,334	55	1,205	15	*360	*5
Symptoms, signs, and ill-defined conditions	38,526	4,722	123	3,424	89	967	25	*331	*9
Injury and poisoning	94,723	3,587	38	2,893	31	*492	*5	*202	*2
Supplementary classification (normal pregnancy, health supervision of child, and so forth	202,585	2,879	14	1,942	10	*627	*3	*310	*2
Residual	29,530	1,516	51	...		...		...	
Problem categories									
Acute problem	422,223	22,915	54	15,317	36	2,223	5	5,375	13
Chronic problem, routine	325,791	38,409	118	21,659	66	6,190	19	10,560	32
Chronic problem, flareup	106,393	12,468	117	7,007	66	2,095	20	3,366	32
Postsurgery and/or post-injury	101,792	2,134	21	1,588	16	*203	*2	*343	*3
Nonillness care	204,722	3,656	18	2,477	12	*528	*3	651	*3

[1] Anti-anxiety agents, sedatives, and hypnotics.
[2] Antidepressants.
[3] Antipsychotic and antimanic agents.
[4] Based on the *International Classification of Diseases, 9th Revision, Clinical Modification.*

Prescriber characteristics

Among office-based specialists it was, of course, psychiatrists who showed the highest rate of psychotropic utilization, especially of the Category II and III agents (table 5). After all, a substantial part of their professional effort is associated with those disorders that other specialists tend to refer for treatment, among them depressive conditions, schizophrenic disorders, and affective psychoses.

What may be surprising about the findings, as shown in table 5, is the extent that two primary care providers, the general practitioner and the internist, were involved in the utilization of psychotropic drugs. In sheer numbers of mentions they accounted for 66 percent of all Category I drugs used in office-based practice, 59 percent of the Category II drugs, and even a substantial 45 percent of the Category III drugs. Their above-average rates of psychotropic utilization appear to stem less from their clinical involvement with the mental disorders than from their treatment of the other diagnostic groups that invite the use of psychotropics, notably: symptoms,

Table 3. Number of office visits, number of all psychotropic drug mentions, and number of mentions per 1,000 visits, by patient characteristics: United States, 1980 and 1981

Patient characteristic	Number of visits in thousands	Psychotropic drugs							
		All psychotropic drugs		Category I[1]		Category II[2]		Category III[3]	
		Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits
All visits	1,160,922	79,582	69	48,048	41	20,295	17	11,239	11
Age									
Under 15 years	216,128	2,381	11	1,713	8	*307	*1	*361	*2
15–24 years	160,795	5,160	32	3,295	20	1,021	7	844	5
25–44 years	310,384	23,338	75	13,195	43	6,178	20	3,965	12
25–29 years	97,109	5,055	52	2,939	30	1,159	12	958	10
30–34 years	86,896	6,705	77	3,606	41	1,740	20	1,359	16
35–39 years	69,611	5,895	85	3,331	48	1,553	22	1,011	15
40–44 years	56,768	5,683	100	3,320	58	1,725	30	*638	*11
45–64 years	265,700	28,930	109	17,164	65	7,966	30	3,800	14
45–49 years	56,265	6,657	118	3,797	67	1,894	34	966	17
50–54 years	68,032	7,895	116	4,736	70	2,093	31	1,066	16
55–59 years	70,825	7,286	103	4,140	58	2,117	30	1,029	15
60–64 years	70,578	7,093	100	4,492	64	1,864	26	737	10
65 years and over	207,915	19,772	95	12,680	61	4,823	23	2,269	11
65–69 years	67,884	6,708	99	4,495	66	1,633	24	*580	*9
70–74 years	57,577	5,871	102	3,520	61	1,542	27	809	14
75–79 years	43,309	3,968	92	2,456	57	1,061	24	*451	*10
80 years and over	39,145	3,227	82	2,211	56	*588	*15	*428	*11
Sex									
Female	699,718	53,409	76	31,972	46	14,398	21	7,039	10
Male	461,204	26,173	57	16,076	35	5,897	13	4,200	9

[1]Anti-anxiety agents, sedatives, and hypnotics.
[2]Antidepressants.
[3]Antipsychotic and antimanic agents.

signs, and ill-defined conditions; and the circulatory, digestive, and musculoskeletal disease groups. About 30 percent of all visits to the general practitioner and 45 percent of all the internists' visits were associated with one of these "nonmental" disease groups.

Among the most-visited specialties, the lowest rates in psychotropic utilization occurred among the specialists with the largest proportion of nonillness care, the pediatrician and the obstetrician and/or gynecologist.

The differences in psychotropic utilization between doctors of medicine and doctors of osteopathy (table 5) probably reflect the fact that a clear majority of osteopathic physicians are in general practice. The general practitioners, as already noted, well exceed the average in their use of psychotropic agents.

Other visit characteristics

An examination of the utilization rates reveals that the new patient is much less likely to receive psychotropic drug therapy than the patient whom the doctor has seen before (table 6). This is especially true if the new patient has been referred by another physician. In fact, the findings suggest that a *new problem*—whether it is one presented by a new patient or one appearing for the first time in an old patient—will probably result in a use of psychotropic agents that is considerably below average. Thus newness of patient or problem (or both) seems to invite a more conservative approach toward psychotropic therapy by the prescribing physician.

Not only does this conservatism prevail at the point of entry into office-based ambulatory care, it is also evident at the end point of the visit. Of those visits that involved the prescription of one psychotropic drug or more, by far the most frequent disposition instruction—given the patient at 72 percent of visits—was to return at a specified time. (The average use of this instruction in office practice is 60 percent.) Although such specificity of return instruction was probably strongly influenced by the nature and potential seriousness of the patient's problem, it seems also to reflect a commendable desire by the physician to maintain a closer than usual surveillance on a family of drugs that has its own unique hazards of use.

Co-occurrence

Utilized at 62 percent of office visits, drug therapy (of all types) is by far the most frequent form of treatment provided in office practice. Its magnitude is com-

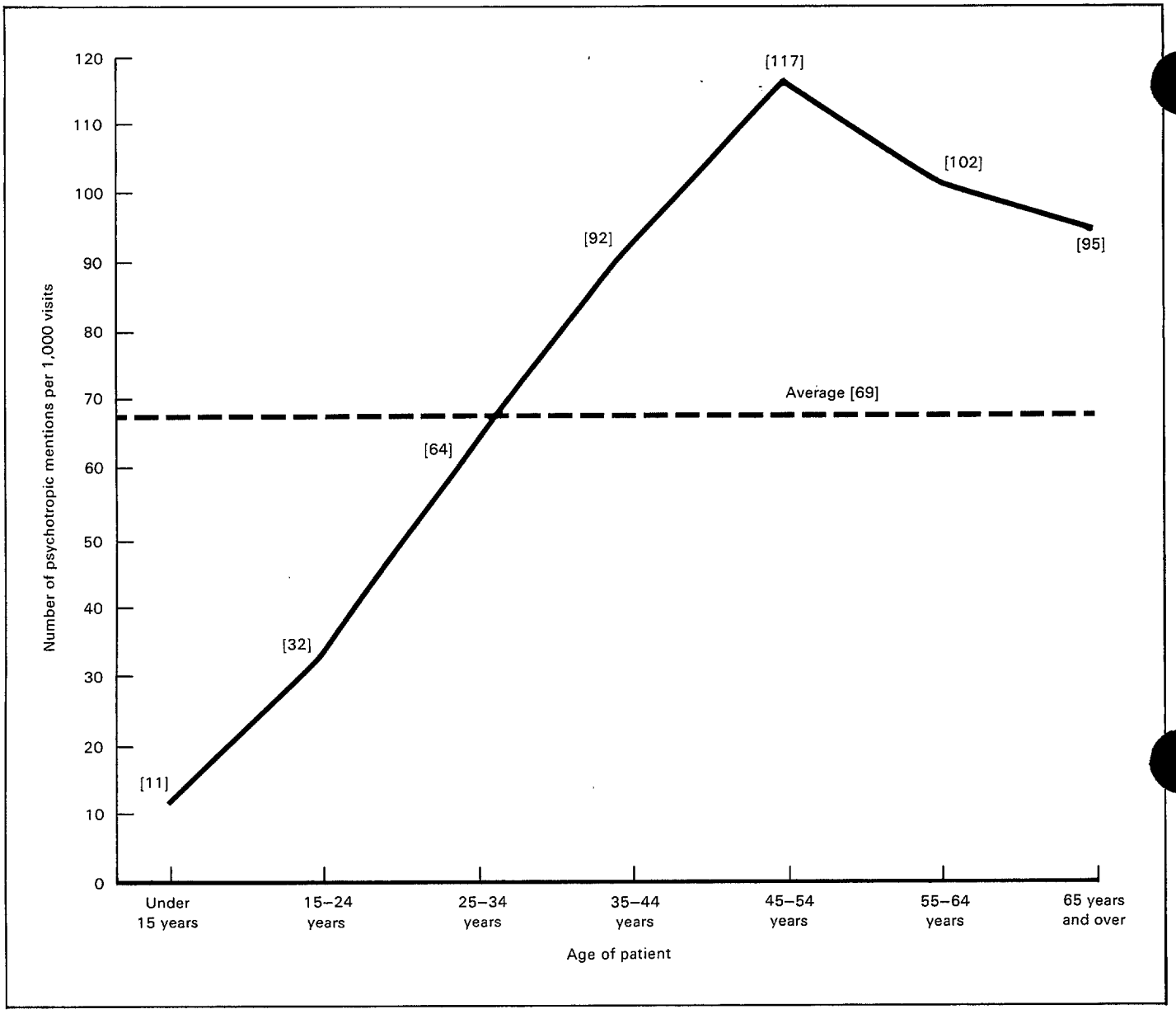

Figure 2: Psychotropic utilization rates by age of patient: United States, 1980 and 1981

pounded by the finding that physicians, when they do use a drug, tend to use more than one. The overall average is about two drugs per drug visit, but larger multiples are not uncommon, especially when the patient suffers from more than one disorder. With co-occurrence the rule rather than the exception, it is interesting—indeed mandatory—to explore the patterns of concomitant utilization of drugs, for herein lies the potential for harmful as well as helpful interactions.

In table 7 is shown the extent to which psychotropic drugs co-occur with drugs in other therapeutic families, and the co-occurrence that exists among the psychotropic subcategories themselves.

At the 69.3 million visits at which a psychotropic agent was utilized, its use (expressed as a percent of these visits) co-occurred most frequently with the use of one member or more of the following eight therapeutic families:

Co-occurring therapeutic family	*Percent of co-occurrence*
Analgesics	17
Diuretics	16
Cardiac drugs	11
Other psychotropic agents	10
Autonomic drugs	9
Hypotensive agents	8
Gastrointestinal drugs	8
Antibiotics	6

Within the psychotropic family itself, the most frequent co-occurrences existed among drugs in Categories I and II (at 3.5 million visits); next among Category I and III drugs (at 1.8 million visits). The least frequent pattern of co-occurrence was found among the drugs in Categories I and III (at 1.4 million visits).

Table 4. Number of office visits, number of all psychotropic drug mentions, and number of mentions per 1,000 visits, by patient characteristics: United States, 1980 and 1981

Patient characteristics	Number of visits in thousands	Psychotropic drugs							
		All psychotropic drugs		Category I[1]		Category II[2]		Category III[3]	
		Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits
All visits	1,160,922	79,582	69	48,048	41	20,295	17	11,239	11
SEX AND AGE									
Female									
Under 15 years	102,633	1,180	11	802	8	*143	*1	*235	*2
15–24 years	107,276	3,424	32	2,296	21	723	7	*405	*4
25–44 years	206,394	15,572	75	8,965	43	4,281	21	2,326	11
45–64 years	157,031	19,155	122	11,198	71	5,516	35	2,441	16
65 years and over	126,383	14,078	111	8,711	69	3,736	30	1,631	13
Male									
Under 15 years	113,495	1,201	11	911	8	*164	*1	*126	*1
15–24 years	53,519	1,734	32	998	19	*298	*6	*438	*8
25–44 years	103,990	7,766	75	4,230	41	1,897	18	1,639	16
45–64 years	108,668	9,776	90	5,967	55	2,451	23	1,358	12
65 years and over	81,532	5,695	70	3,969	49	1,087	13	*639	*8
RACE[4]									
White	1,037,590	71,783	69	42,740	41	18,976	18	10,067	10
Black	110,546	7,403	67	5,066	46	1,247	11	1,090	10

[1] Anti-anxiety agents, sedatives, and hypnotics.
[2] Antidepressants.
[3] Antipsychotic and antimanic agents.
[4] Excludes about 12,786,000 visits by patients of races other than white or black.

Table 5. Number of office visits and number of psychotropic drug mentions and number of mentions per 1,000 visits, by prescriber characteristics: United States, 1980 and 1981

Prescriber characteristic	Number of visits in thousands	Psychotropic drugs							
		All psychotropic drugs		Category I[1]		Category II[2]		Category III[3]	
		Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits
All prescribers	1,160,922	79,582	69	48,048	41	20,295	17	11,239	11
Most-visited specialities									
General and family practice	381,710	32,199	84	21,037	55	7,852	21	3,310	9
Internal medicine	144,172	16,559	115	10,827	75	4,047	28	1,685	12
Pediatrics	128,762	1,395	11	1,032	8	*165	*1	*197	*2
Obstetrics and gynecology	109,035	1,720	16	1,407	13	*204	*2	*109	*1
General surgery	61,013	2,392	39	1,851	30	*408	*7	*133	*2
Psychiatry	31,810	14,038	441	3,878	122	5,448	171	4,712	148
All other specialties	304,420	...	...	...	...	...	...	...	...
Professional identity									
Doctor of medicine	1,089,638	74,030	68	44,717	41	18,488	17	10,825	10
Doctor of osteopathy	71,284	5,553	78	3,331	47	1,807	25	*415	*6

[1] Anti-anxiety agents, sedatives, and hypnotics.
[2] Antidepressants.
[3] Antipsychotic and antimanic drugs.

Table 6. Number of office visits, number of psychotropic drug mentions, and number of mentions per 1,000 visits, by selected visit characteristics: United States, 1980 and 1981

Selected visit characteristic	Number of visits in thousands	Psychotropic drugs							
		All psychotropic drugs		Category I[1]		Category II[2]		Category III[3]	
		Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits	Number of mentions in thousands	Number of mentions per 1,000 visits
All visits	1,160,922	79,582	69	48,048	41	20,295	17	11,239	11
Referral status									
Referred by another physician	51,392	1,610	31	947	18	*446	9	*217	*4
Not referred by another physician	1,109,530	77,972	70	47,101	42	19,849	18	11,022	10
Patient visit status									
New patient	166,675	5,919	36	3,713	22	1,504	9	702	4
Old patient	994,247	73,663	74	44,335	45	18,791	19	10,537	11
Old patient, new problem	258,778	13,397	52	9,504	37	2,723	11	1,170	5
Old patient, old problem	735,469	60,266	82	34,831	47	16,068	22	9,367	13
Problem status									
New problem	425,453	19,316	45	13,217	31	4,227	10	1,872	4
Return visit for old problem	735,469	60,266	82	34,831	47	16,068	22	9,367	13

[1] Anti-anxiety agents, sedatives, and hypnotics.
[2] Antidepressants.
[3] Antipsychotic and antimanic agents.

Table 7. Number of drug visits at which the use of a psychotropic drug co-occurred with the use of drugs in other therapeutic categories: United States, 1980 and 1981

Selected co-occurring therapeutic category[1]	Category I[2] drug visits	Category II[3] drug visits	Category III[4] drug visits	Selected co-occurring therapeutic category[1]	Category I[2] drug visits	Category II[3] drug visits	Category III[4] drug visits
	Number in thousands				Number in thousands		
Adrenals	1,709	*438	*151	Gastrointestinal drugs	3,836	1,169	965
Analgesics	8,843	2,557	1,209	Hypotensive agents	3,842	1,649	*422
Antibiotics	3,076	995	*409	Insulins and antidiabetic agents	1,002	590	*251
Anticonvulsants	1,385	*263	*217	Skin preparations	2,883	569	*322
Antihistamine drugs	2,405	625	*443	Spasmolytic agents	1,475	547	*312
Antineoplastic agents	*169	*70	*310	Thyroid and antithyroid	1,133	552	*223
Autonomic drugs	3,480	1,959	1,685	Vasodilating agents	2,776	796	*246
Blood formation and coagulation	1,217	*336	*268	Vitamins	2,559	773	624
Cardiac drugs	5,012	2,028	795				
Diuretics	7,709	3,227	1,030	Category I drugs	...	3,482	1,381
Expectorants and cough preparations	874	*229	*31	Category II drugs	3,482	...	1,763
				Category III drugs	1,381	1,763	...

[1] Based on the pharmacologic-therapeutic classification of the American Society of Hospital Pharmacists.
[2] Anti-anxiety agents, sedatives, and hypnotics.
[3] Antidepressants.
[4] Antipsychotic and antimanic drugs.

Technical notes

Source of data and sample design

The estimates presented in this report are based on the findings of the National Ambulatory Medical Care Survey (NAMCS), a sample survey of office-based care conducted annually from 1973 through 1981 by the National Center for Health Statistics. The target universe of NAMCS is composed of office visits made by ambulatory patients to non-Federal and noninstitutional physicians who are principally engaged in office-based, patient-care practice. Visits to physicians practicing in Alaska and Hawaii are excluded from the range of NAMCS, as are visits to anesthesiologists, pathologists, and radiologists.

NAMCS uses a multistage probability sample design that involves a step-wise sampling of primary sampling units (PSU's), physicians' practices within PSU's, and patient visits within physicians' practices. The physician sample (5,805 for 1980 and 1981) was selected from master files maintained by the American Medical Association and the American Osteopathic Association. Those members of the sample who proved to be inscope and eligible participated at a rate of 77.3 percent. Responding physicians completed visit records for a systematic random sample of their office visits made during a randomly assigned weekly reporting period. Telephone contacts were excluded. During 1980 and 1981 responding physicians completed 89,447 visit records on which they recorded 97,796 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 field operations of the survey.

Sampling errors and rounding

The standard error is 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. In this report, any estimate that exceeds a relative standard error of 30 percent is marked with an asterisk. Table I should be used to obtain the relative standard error for aggregates of office visits or for mentions of drugs by specific name (for example, Valium). Table II should be used to obtain the relative standard error for drug mentions expressed as drug groups (for example, the psychotropic drug family).

In the tables of this report estimates have been rounded to the nearest thousand. For this reason, detailed estimates do not always add to totals.

Table I. Approximate relative standard errors of estimated numbers of office visits and of drug mentions when the drug is listed by product name (for example, Valium), based on all physician specialties: National Ambulatory Medical Care Survey, 1980 and 1981

Estimated number of office visits or specific drug mentions in thousands	*Relative standard error in percent*
*200	*44.8
*400	*31.7
*450	*30.0
600	26.0
800	22.6
1,000	20.2
2,000	14.5
5,000	9.5
10,000	7.1
20,000	5.6
50,000	4.4
100,000	3.9
200,000	3.6
500,000	3.5
1,000,000	3.4

Example of use of table: An aggregate estimate of 35,000,000 office visits has a relative standard error of 5.0 percent or a standard error of 1,750,000 visits (5.0 percent of 35,000,000 visits).

Table II. Approximate relative standard errors of estimated numbers of drug mentions when the drugs appear in groups (for example, the psychotropic drug family), based on all physician specialties: National Ambulatory Medical Care Survey, 1980 and 1981

Estimated number of grouped drug mentions in thousands	*Relative standard error in percent*
*200	*54.2
*400	*38.5
*600	*31.5
*650	*30.0
800	27.3
1,000	24.5
2,000	17.6
5,000	11.6
10,000	8.7
20,000	6.8
50,000	5.3
100,000	4.7
200,000	4.4
500,000	4.2
1,000,000	4.1

Example of use of table: An aggregate estimate of 30,000,000 drug mentions has a relative standard error of 7.0 percent or a standard error of 2,100,00 mentions (7.0 percent of 30,000,000 mentions).

Definitions

An *office* is a place that physicians identify as a location for their ambulatory practice. Responsibility

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

A *visit* is a direct personal exchange between an ambulatory patient seeking health care and a physician, or staff member working under the physician's supervision, who provides the health services.

A *drug mention* is the physician's entry on the visit record 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. The physician records all new drugs, and continued medications when the patient is specifically instructed during the visit to continue the medication.

An *acute problem* is a morbid condition with a relatively sudden or recent onset (within 3 months of the visit).

A *chronic problem, routine* is a morbid condition that existed for 3 months or more before the visit. The care indicated is of a regular, maintenance nature.

A *chronic problem, flare up* is a sudden exacerbation of a preexisting chronic condition.

Nonillness care denotes health examinations and care provided for presumably healthy persons. Examples are: prenatal and postnatal care, annual physicals, well-child examinations, and insurance examinations.

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

Recent Issues of Advance Data From *Vital and Health Statistics*

No. 89. Drugs Most Frequently Used in Office Practice: National Ambulatory Medical Care Survey, 1981 (Issued: April 15, 1983)

No. 88. 1981 Summary: National Ambulatory Medical Care Survey (Issued: March 16, 1983)

No. 87. Drug Utilization in General and Family Practice by Characteristics of Physicians and Office Visits: National Ambulatory Medical Care Survey, 1980 (Issued: March 28, 1983)

No. 86. Drug Utilization in Office Visits to Primary Care Physicians: National Ambulatory Medical Care Survey, 1980 (Issued: October 8, 1982)

No. 85. Summary Data From the National Inventory of Pharmacists: United States, 1978–79 (Issued October 8, 1982)

SUGGESTED CITATION

National Center for Health Statistics, H. Koch: Utilization of psychotropic drugs in office-based ambulatory care, National Ambulatory Medical Care Survey, 1980 and 1981. *Advance Data From Vital and Health Statistics,* No. 90. DHHS Pub. No. (PHS) 83–1250. Public Health Service, Hyattsville, Md., June 1983.

U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
Public Health Service
National Center for Health Statistics
3700 East-West Highway
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–NCHS

THIRD CLASS MAIL
POSTAGE & FEES PAID
PHS
PERMIT No. G29