

# advancedata

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## Office-Based Ambulatory Care for Patients 75 Years Old and Over: National Ambulatory Medical Care Survey, 1980 and 1981

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### Introduction

This report offers a statistical description of the care provided in the physician's office to patients 75 years old and over. This segment of the population, comparatively small in the past, is projected to increase dramatically over the next few decades. For the health community this increase means the emergence of problems not encountered before. To anticipate these problems and to furnish the resources necessary to solve them, the Nation's health planners need information about the health needs of the advanced aging and the treatment settings where these needs are met.

Although it is important to examine the care provided to the advanced aging in the Nation's hospitals and nursing homes, it is shortsighted to accept inpatient care as the model by which the health problems and treatment of all aging patients are judged. It is also necessary to examine outpatient settings, especially the doctor's office, where most of the advanced aging still seek their health care.

To establish normative patterns for the office-based care of the advanced aging, the authors combined the 1980 and 1981 findings of the National Ambulatory Medical Care Survey, an annual sample survey of office-based physicians conducted from 1973 through 1981 by the National Center for Health Statistics. The patient universe examined was the age group 75 years old and over, which was divided, where detailed analysis was indicated and possible, into 5-year subgroups. The statistical bases for the report are shown in table 1.

The following aspects of the office visit will be successively examined:

- Sex of patient.
- Physician's diagnoses.
- Patient's symptoms.

Table 1. Number and percent distribution of office visits by age and sex of patient: United States, 1980 and 1981

Patient age and sex	Office visits	
	Number in thousands	Percent distribution
All office patients . . . . .	1,160,922	100.0
All patients		
Under 75 years old . . . . .	1,078,468	92.9
75 years old and over . . . . .	82,454	7.1
75-79 years old . . . . .	43,309	3.7
80-84 years old . . . . .	24,713	2.1
85 years old and over . . . . .	14,431	1.3
Female		
Under 75 years old . . . . .	646,220	55.7
75 years old and over . . . . .	53,498	4.6
75-79 years old . . . . .	27,497	2.4
80-84 years old . . . . .	16,430	1.4
85 years old and over . . . . .	9,571	0.8
Male		
Under 75 years old . . . . .	432,248	37.2
75 years old and over . . . . .	28,956	2.5
75-79 years old . . . . .	15,813	1.4
80-84 years old . . . . .	8,284	0.7
85 years old and over . . . . .	4,860	0.4

NOTE: Figures may not add to totals due to rounding.

- Medications ordered or provided.
- Nonmedication therapy.
- Former visit status and referrals.
- Disposition and duration.
- Physician's specialty.

The data presented are estimates, based on a sample of office visits rather than on the actual number, and, thus, are subject to sampling variability. The smaller an estimate, or any percent or ratio based on that estimate, the more imprecise it is likely to be; this applies particularly to the 5-year, sex-age subgroups. An asterisk preceding any estimate indicates that it exceeds 30 percent relative standard error. Guidelines for judging the precision of estimates are provided in the Technical notes at the end of this report, along with a brief description of the survey design.

For greater ease of reference, the textual discussion will sometimes use the following designators:

- *AG* group: patients 75 years old or over.
- *Younger* group: patients under 75 years of age.

## Data Highlights

### General

Over the 2-year period from January 1980 through December 1981, patients in the *AG* group made an estimated 82,454,000 visits to the offices of non-Federal physicians practicing in the coterminous United States. This amounted to an average of five visits per year for each person in the subpopulation over 74 years of age. (For the younger subpopulation, the average was about three visits per year.) Slightly over one-half (53 percent) of these 82,454,000 visits were made by patients 75–79 years old, another 30 percent by patients 80–84 years old, and the remaining 17 percent by patients in the open-ended subgroup over 84 years of age (table 1). Similar to the pattern found for most age subgroups, visits by *AG* females substantially outnumbered visits by *AG* males, by a margin that increased to almost two to one in the older two subgroups. In large part, this gender difference among the very old is a function of relative longevity, reflecting an average life expectancy that in 1981 was 77.9 years for women versus 70.4 years for men.

### Diagnoses

For the majority of *AG* visits (52 percent), multiple diagnoses were the rule (table 2). The National Ambulatory Medical Care Survey (NAMCS) allows for the processing of up to three of these diagnoses per visit. Of these, the first-listed is designated as the principal diagnosis, for the reason that it is the one most closely associated with the patient's chief presenting symptom and thus usually commands the physician's immediate attention. For patient groups among which a single diagnosis is the rule, an analysis by principal problem is probably adequate to describe the diagnostic mix typical of the group. At the *AG* visit, however, where coexisting problems are the rule, a broader perspective seems indicated, one that accounts for the overall impact of a disease entity, whether first listed or coexistent.

Thus the approach used in tables 3–5 is to cumulate mentions of a diagnosis as a first-, second-, or third-listed problem to produce an all-listed diagnosis. For example, essential hypertension was a first-listed diagnosis at 10 percent of *AG* visits but an all-listed problem at 17 percent; the circulatory diseases

Table 2. Percent of office visits with multiple diagnoses by age and sex of patient: United States, 1980 and 1981

Patient age and sex	Percent of visits with multiple diagnoses
All patients	
Under 75 years old.....	31.1
75 years old and over .....	52.4
75–79 years old.....	50.0
80–84 years old.....	54.6
85 years old and over .....	56.5
Female	
Under 75 years old.....	30.6
75 years old and over .....	52.1
75–79 years old.....	48.3
80–84 years old.....	54.8
85 years old and over .....	58.4
Male	
Under 75 years old.....	31.7
75 years old and over .....	53.2
75–79 years old.....	53.0
80–84 years old.....	54.2
85 years old and over .....	52.8

as a group accounted for 28 percent of all principal diagnoses but appeared as coexisting problems at yet another 27 percent producing an all-listed proportion of 55 percent.

Table 3 ranks the 25 diagnoses most frequently present at *AG* visits. Clearly apparent is the dominant presence of certain chronic diseases and their sequelae. The major afflictions of the ambulatory aging (essential hypertension, ischemic heart disease, diabetes, osteoarthritis, and cataract) are ranked high on the list for both *AG* males and females. One notable difference between the sexes is the presence of two male-specific conditions, hyperplasia and malignant neoplasm of the prostate. Ranked among the 10 problems most frequently encountered among *AG* males, these diseases are especially evident among male patients in the subgroup 75–79 years. Among the other problems listed in table 3, the most substantial differences between male and female rankings were apparent for the following:

- Hypertensive heart disease (ranked 8th among *AG* females, 26th among males).
- Neurotic disorders (ranked 15th among females, 42d among males).
- Chronic airway obstruction (ranked 8th among *AG* males, 52d among females).

It is interesting to observe that among these most frequent problems, there was no mention of a "senile" mental condition. In tables 4 and 5, the specific diagnoses are gathered into diagnostic groups.

At *AG* visits, the following diagnostic groups exceeded the rate of mention the level found for the younger group:

- *Diseases of the circulatory system*—Present at a startling 55 percent of *AG* visits, these conditions dramatically

**Table 3. Number of mentions per 1,000 office visits of patients 75 years old and over by the 25 all-listed diagnoses most frequently mentioned and ranks of diagnoses by sex: United States, 1980 and 1981**

Rank	Most frequent all-listed <sup>1</sup> diagnoses and ICD-9-CM code <sup>2</sup>	Number of mentions per 1,000 visits	Rank order by sex of patient		
			Females	Males	
1	Essential hypertension . . . . .	401	174	1	1
2	Chronic ischemic heart disease . . . . .	414	95	2	2
3	Diabetes mellitus . . . . .	250	67	4	3
4	Osteoarthritis and allied disorders . . . . .	715	60	3	7
5	Cataract . . . . .	366	51	5	5
6	Heart failure . . . . .	428	44	7	4
7	Cardiac dysrhythmias . . . . .	427	36	9	6
8	Arthropathies, other and unspecified . . . . .	716	36	6	14
9	Glaucoma . . . . .	365	28	10	13
10	Hypertensive heart disease . . . . .	402	26	8	*26
11	Angina pectoris . . . . .	413	23	12	11
12	Other disorders of eye . . . . .	379	23	11	15
13	Heart disease; ill-defined descriptions and complications . . . . .	429	20	14	17
14	Atherosclerosis . . . . .	440	20	13	19
15	Chronic airway obstruction NEC <sup>3</sup> . . . . .	496	17	*52	8
16	Other disorders of urethra and urinary tract . . . . .	599	17	16	16
17	Cerebrovascular disease, other and ill-defined . . . . .	437	16	26	12
18	Other and unspecified anemias . . . . .	285	15	17	21
19	Neurotic disorders . . . . .	300	15	15	*42
20	Other malignant neoplasm of skin . . . . .	173	14	27	18
21	Acute upper respiratory infections . . . . .	465	14	18	*29
22	Malignant neoplasm of prostate . . . . .	185	13	...	9
23	General symptoms . . . . .	780	13	23	*22
24	Hyperplasia of prostate . . . . .	600	12	...	10
25	Other retinal disorders . . . . .	362	12	19	*38

<sup>1</sup>All-listed diagnosis: Cumulates mentions as 1st-, 2d-, or 3d-listed diagnosis.  
<sup>2</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.  
<sup>3</sup>Not elsewhere classified.

dominated the arena of office-based AG care. In relative proportions, they were about equally evident among AG females and males. Their rate of mention, largely due to the growing presence of heart failure, hypertensive heart disease, and cardiac dysrhythmias, continued to increase for both sexes beyond the 84th year.

- *Diseases of the musculoskeletal system*—Although both sexes showed a marked increase, it was among the AG females that these conditions were more frequently encountered, underscoring a need for early use of postmenopausal treatment with hormones and calcium replacement. Mention rate did not increase for either sex beyond the 84th year.
- *Eye disorders*—Three times as frequent at AG visits, both AG males and females were affected, and the mention rate continued to increase beyond the 84th year.
- *Diseases of the endocrine glands (chiefly diabetes)*—Nearly twice as frequent at AG visits, both AG males and females were affected about equally. For neither sex was there an increase in mention rate beyond the 84th year.
- *Neoplasms*—Increased rates of mention, though evident for both sexes, were more substantial among AG males, chiefly owing to an estimated 1,000,000 mentions of malignant neoplasm of the prostate. For neither sex was there an increasing rate of mention beyond the 84th year.
- *Diseases of the blood and blood-forming organs (chiefly unspecified anemias)*—One of the less frequently mentioned diagnostic groups, these conditions increased in

mention rate for both AG females and AG males. The relatively small number of mentions precluded further analysis among the AG subgroups.

- *Digestive disorders*—Mention rate increased for AG females while remaining about the same for AG males.
- *Diseases of the genitourinary system*—Mention rate more than doubled for AG males while decreasing by one-half among AG females. Chiefly responsible was the substantial presence among male patients of prostatic hyperplasia. For neither sex was there evidence of increasing rate of mention beyond the 84th year.

For the following diagnostic groups, the AG mention rate either fell below or roughly equaled the rate found among younger office patients:

- *Infectious and parasitic diseases*—Mention rate was about one-third the rate observed among younger patients.
- *Mental disorders (dominantly nonpsychotic)*—With this group, though minor in rate of mention, the rate among AG females was almost double that found among AG males.
- *Diseases of the respiratory system*—Rather than the acute, self-limiting problems typical of younger patient groups, among AG patients it is the presence of the chronic respiratory problems, for example, chronic airway obstruction, that chiefly accounted for the relatively large rates of mention of this diagnostic category. This presence was most evident among AG males in the subgroup 80–84 years.

**Table 4. Number of mentions per 1,000 office visits of patients by age, sex, and selected diagnostic groups composed of all-listed diagnoses: United States, 1980 and 1981**

<i>All-listed diagnoses<sup>1</sup> (in selected diagnostic groups) and ICD-9-CM code<sup>2</sup></i>	<i>All patients</i>		<i>Females</i>		<i>Males</i>	
	<i>Under 75 years</i>	<i>75 years and over</i>	<i>Under 75 years</i>	<i>75 years and over</i>	<i>Under 75 years</i>	<i>75 years and over</i>
	Number of mentions per 1,000 visits					
Infectious and parasitic diseases . . . . . 001-139	44	15	43	15	45	16
Neoplasms . . . . . 140-239	33	76	34	54	31	116
Endocrine, nutritional, and metabolic diseases and immunity disorders . . . . . 240-279	70	104	80	103	56	106
Diseases of endocrine glands . . . . . 240-259	39	81	43	80	32	82
Diseases of blood and blood-forming organs . . . . . 280-289	9	26	11	27	7	24
Mental disorders . . . . . 290-319	66	38	67	46	63	24
Nonpsychotic disorders . . . . . 300-316	57	33	59	40	55	20
Diseases of nervous system and sense organs . . . . . 320-389	123	206	112	217	140	187
Diseases of central nervous system . . . . . 320-349	10	16	10	17	10	*14
Eye disorders . . . . . 360-379	57	155	54	164	60	139
Diseases of circulatory system . . . . . 390-459	143	540	128	540	166	541
Essential hypertension . . . . . 401	69	174	69	201	69	124
Ischemic heart disease . . . . . 410-414	26	131	17	120	40	153
Other selected circulatory diseases . . . . .	27	186	24	181	34	195
Heart failure . . . . . 428	5	44	4	41	6	48
Cardiac dysrhythmias . . . . . 427	6	36	6	33	8	43
Hypertensive heart disease . . . . . 402	6	26	6	33	6	*13
Heart disease; ill-defined descriptions and complications . . . . . 429	3	20	2	21	4	20
Cerebrovascular disease; other and ill-defined . . . . . 437	1	17	1	11	1	26
Atherosclerosis . . . . . 440	1	20	1	21	2	18
Angina pectoris . . . . . 413	5	23	4	21	7	27
Diseases of respiratory system . . . . . 460-519	175	110	154	94	206	138
Diseases of digestive system . . . . . 520-579	60	81	55	89	69	65
Diseases of genitourinary system . . . . . 580-629	82	70	109	52	41	102
Diseases of skin and subcutaneous tissue . . . . . 680-709	75	57	71	56	81	60
Diseases of musculoskeletal system . . . . . 710-739	97	167	94	192	100	121
Arthropathies . . . . . 711-716	29	103	33	121	23	69
Symptoms, signs, and ill-defined conditions . . . . . 780-799	54	60	54	58	54	63
Injury and poisoning . . . . . 800-999	107	62	81	68	146	51

<sup>1</sup>All-listed diagnosis: Cumulates mentions as 1st-, 2d-, or 3d-listed diagnosis.<sup>2</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.

- *Diseases of the skin and subcutaneous tissue*—Although skin diseases were generally more of a problem in the younger patient group than they were at AG visits, they showed their highest single rate of mention among AG females over 84 years old.
- *Symptoms, signs, and ill-defined conditions*—Recourse by physicians to this vaguest of diagnostic categories was no more common among AG office patients than it was among their younger counterparts.
- *Injury and poisoning* (chiefly accidents)—Though relatively less frequent among the less active AG group, for example, the rate for AG males decreased by two-thirds, the consequences of injury were much more serious for the advanced aging.

### Symptoms

Formal diagnoses represent the objective bases on which the successful management of AG care principally depends. But also clinically relevant are the more subjective aspects of AG care, as represented by the complaints and symptoms that AG patients present. Indeed, a significant part of AG treatment may be almost wholly symptomatic; for example, the treatment of degenerative joint disease. As with the diagnoses,

the National Ambulatory Medical Care Survey processes up to three of the patient's self-expressed symptoms per visit, the first-listed entry being the most important from the patient's point of view. Continuing the approach applied in forming the all-listed diagnoses, the findings in tables 6 and 7 cumulate mention as a first-, second-, or third-listed symptom to produce an all-listed symptom.

Listed in table 6 are the 25 symptoms most frequently presented at AG visits. At about one-half of all AG visits, one or more of these symptoms appeared. For most of them there is a ready linkage to the 25 diagnoses in table 3.

Gender differences in the ranking of these symptoms were uncommon. When they did occur, they generally showed a close parallel to the male-female differences found among the provenant diagnoses. For example, anxiety and nervousness, symptoms three times as frequent among AG females, are chiefly associated with a diagnosis of neurotic disorder, which is also found in a three to one ratio favoring AG females. (It deserves comment, however, that the overall findings testify to the relatively high degree of emotional health enjoyed by AG patients, whether male or female. This is further attested to by the finding that a symptom of depression was presented at fewer than 1 percent of AG visits.)

**Table 5. Number of mentions per 1,000 office visits of patients by age and selected diagnostic groups composed of all-listed diagnoses: United States, 1980 and 1981**

All-listed diagnoses <sup>1</sup> (in selected diagnostic groups) and ICD-9-CM code <sup>2</sup>	All patients			Females			Males		
	75-79 years	80-84 years	85 years and over	75-79 years	80-84 years	85 years and over	75-79 years	80-84 years	85 years and over
Number of mentions per 1,000 visits									
Neoplasms . . . . . 140-239	87	62	65	62	42	50	130	102	95
Endocrine, nutritional, and metabolic diseases and immunity disorders . . . . . 240-279	110	103	89	117	93	81	98	123	105
Diseases of endocrine glands . . . . . 240-259	86	84	59	93	74	55	74	104	*69
Mental disorders . . . . . 290-319	42	33	34	49	44	*38	31	*11	*24
Nonpsychotic disorders . . . . . 300-316	37	27	*30	44	37	*34	*25	*8	*21
Diseases of nervous system and sense organs . . . . . 320-389	199	203	235	218	205	234	166	198	237
Eye disorders . . . . . 360-379	151	149	177	170	146	176	118	153	181
Diseases of circulatory system . . . . . 390-459	498	567	623	480	581	641	522	539	586
Essential hypertension . . . . . 401	172	178	171	192	202	219	137	125	*76
Ischemic heart disease . . . . . 410-414	122	141	142	109	134	127	146	155	172
Other selected circulatory diseases <sup>3</sup> . . . . .	161	199	242	158	189	240	164	221	247
Diseases of respiratory system . . . . . 460-519	110	122	86	97	101	74	134	164	110
Diseases of digestive system . . . . . 520-579	81	83	75	88	99	75	69	*51	*75
Diseases of genitourinary system . . . . . 580-629	69	71	71	45	60	61	111	93	*89
Diseases of skin and subcutaneous tissue . . . . . 680-709	55	53	69	51	46	86	63	68	*36
Diseases of musculoskeletal system . . . . . 710-739	171	162	164	195	185	195	130	115	102
Arthropathies . . . . . 711-716	100	100	117	118	116	140	69	66	*73
Symptoms, signs, and ill-defined conditions . . . . . 780-799	53	70	64	51	66	66	56	78	*59
Injury and poisoning . . . . . 800-999	67	59	50	73	66	54	58	*44	*41

<sup>1</sup>All-listed diagnosis: Cumulates mentions as 1st-, 2d-, or 3d-listed diagnosis.  
<sup>2</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM).  
<sup>3</sup>Includes heart failure (ICD 428); cardiac dysrhythmias (ICD 427); hypertensive heart disease (ICD 402); heart disease, ill-defined descriptions and complications (ICD 429); cerebrovascular disease, other and ill-defined (ICD 437); atherosclerosis (ICD 440); and angina pectoris (ICD 413).

It is noteworthy that the top-ranked symptom, dizziness, does not permit as easy a linkage to diagnosis as the linkage evident for most of the other symptoms on the list. Transient cerebral ischemias, for example, were associated with fewer than 5 percent of the dizziness visits. Worthy of exploration are the possible effects of the more intensive use of drugs in AG treatment.

A complaint of pain was presented at roughly 21 percent of the 82,454,000 AG visits, a proportion only slightly greater than the comparable proportion (20 percent) found among patients under 75 years old. Of these 17,123,000 pain-associated AG visits, five diagnostic categories accounted for a clearly dominant proportion (76 percent).

Category	Percent of all pain-associated visits
Diseases of the musculoskeletal system . . . . .	34.0
Diseases of the circulatory system . . . . .	18.5
Diseases of the digestive system . . . . .	9.2
Injuries . . . . .	8.1
Diseases of the nervous system and sense organs . . . . .	6.2

The findings in table 7 express the sex-age dispersions of the pain-associated AG visits. They reveal that pain was more apparent among the AG females than among the males, reaching its highest proportion (23.4 percent) among females in the

subgroup 80-84 years. Beyond the 84th year, the proportion of pain-associated visits declined among female patients while remaining roughly the same among the male subgroup.

**Medication Therapy**

Figure 1 illustrates the prominent role played by drugs in the office-based care of the advanced aging. Seven of every ten AG visits were *drug visits*; that is, they involved the utilization of one or more medications. For four of these seven drug visits, drug therapy was the only form of treatment applied.

To assess the volume and nature of the drug therapy applied by office-based practitioners, survey procedure required that the physician respondents list up to eight of the medications that they ordered or provided in the course of the visit. Non-prescription as well as prescription drugs were recorded and, along with any new drugs, continuing drugs were listed, if the patient was specifically instructed during the visit to continue the medication. The resulting drug mentions were distributed according to the age and sex patterns shown in table 8.

It is clearly evident that the average rate of drug mentions for the AG group well exceeded the rate of use found for the younger group. Two major indicators support this more intensive use of drug therapy:

- An estimated 70 percent of AG visits were drug visits, an increase of 9-10 percent over the proportion found for drug visits by the younger group.

**Table 6. Number of mentions per 1,000 office visits of patients 75 years old and over by the 25 all-listed symptoms most frequently presented and rank of symptoms by sex: United States, 1980 and 1981**

Rank order by sex of patient	Most frequent all-listed <sup>1</sup> symptoms	Number of mentions per 1,000 visits	Rank order by sex of patient	
			Females	Males
1	Dizziness	38	1	3
2	Vision dysfunctions	34	2	7
3	Back pain	32	4	2
4	Leg pain	31	3	6
5	Cough	28	6	4
6	Chest pain	27	5	8
7	Shortness of breath	26	9	1
8	General weakness	26	8	5
9	Knee pain	20	7	*25
10	Skin lesion	20	11	9
11	Abdominal pain	19	13	10
12	Headache	18	10	*18
13	Foot and toe pain	17	14	11
14	Tiredness and exhaustion	15	16	*13
15	Hip pain	15	15	*16
16	Abnormal sensations of the eye	14	12	*40
17	Head cold	12	20	*14
18	Shoulder pain	12	18	*22
19	Anxiety and nervousness	12	17	*51
20	Abnormal pulsations and palpitations	11	19	*23
21	Nausea	10	27	*19
22	Frequency and urgency of urination	10	32	*15
23	Generalized pain, site unspecified	10	22	*30
24	Symptoms of fluid abnormalities	10	21	*34
25	Skin irritations	9	24	*32

<sup>1</sup>All-listed symptom: Cumulates mentions as 1st-, 2d-, or 3d-listed symptom.

- Roughly 44 percent of AG visits involved the provision of multiple drugs, an increase of about one-third over the multiple-use proportion found at visits by younger patients.

Within the AG group, there were significant gender differences in these two measures of drug intensity:

- The proportion of drug visits was higher among the AG females than among the males. (For both sexes, however, the proportion did not show an increase beyond the 84th year.)
- The relative exposure to multiple drugs was substantially greater among AG females, especially in the older two subgroups but, again, for both sexes it did not appear to increase beyond the 84th year.

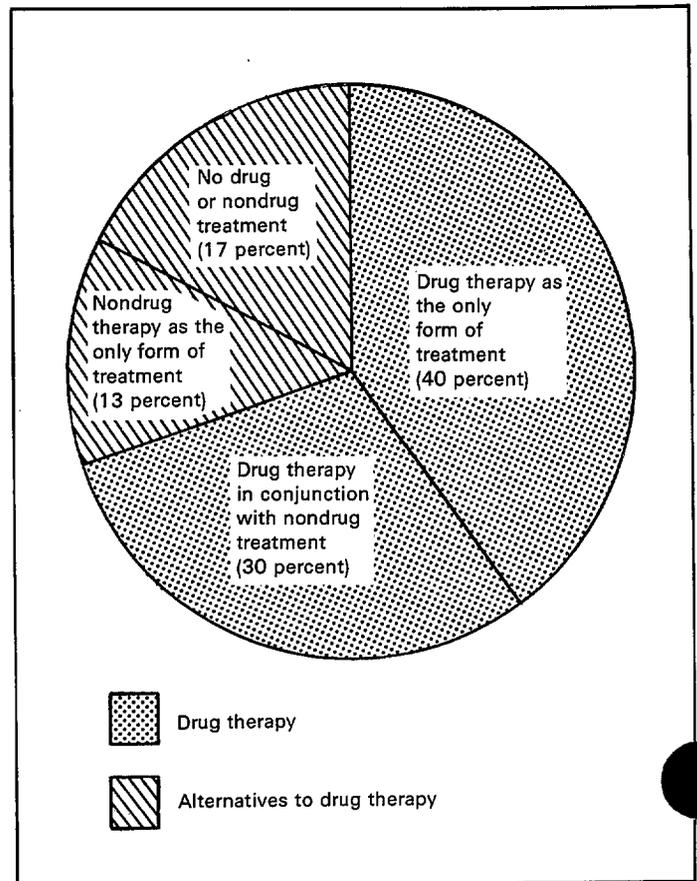
Table 9 offers a ranked listing of the 25 drugs most frequently ordered or provided at AG visits. Two agents, hydrochlorothiazide (a diuretic) and digoxin (a cardiac drug) head the list by a considerable margin. Most of the other listed agents also link rather closely to the most frequent diagnoses listed in table 3 and the most frequent symptoms listed in table 6.

**Table 7. Percent of office visits with symptomatic pain by sex and age of patient: United States, 1980 and 1981**

Patient sex and age	Percent of visits with symptomatic pain <sup>1</sup>
Female	
Under 75 years old	19.3
75 years old and over	22.4
75-79 years old	22.5
80-84 years old	23.4
85 years old and over	20.2
Male	
Under 75 years old	20.0
75 years old and over	17.8
75-79 years old	19.3
80-84 years old	16.4
85 years old and over	15.6

<sup>1</sup>Cumulates visits where symptomatic pain was a 1st-, 2d-, or 3d-listed reason for visiting the doctor.

Because the more frequent use of multiple medications at the AG visits may increase the threat of adverse interactions, the concomitant use of drugs needs detailed exploration not possible in this brief report. It may be instructive, however, to cite the 10 agents that most commonly appeared in conjunction



**Figure 1. Percent distribution of office visits of persons 75 years and over by treatment modality: United States, 1980 and 1981**

**Table 8. Number and percent distribution of drug mentions, percent of office visits with at least 1 drug mention, and percent of office visits with multiple drug mentions, by age and sex of patient: United States, 1980 and 1981**

Patient age and sex	Drug mentions		At least 1 drug mention	Multiple drug mentions
	Number in thousands	Percent distribution	Percent of visits	
All office patients .....	1,330,746	100.0	61.8	30.9
All patients				
Under 75 years old .....	1,195,419	89.8	61.2	29.9
75 years old and over .....	135,327	10.2	69.5	44.0
75-79 years old .....	68,652	5.2	68.8	42.5
80-84 years old .....	41,914	3.1	70.4	45.8
85 years old and over .....	24,761	1.9	70.1	45.1
Female				
Under 75 years old .....	712,725	53.6	60.9	29.6
75 years old and over .....	91,301	6.8	70.8	45.4
75-79 years old .....	44,783	3.4	69.5	43.4
80-84 years old .....	29,402	2.2	72.1	47.4
85 years old and over .....	17,117	1.3	72.2	47.6
Male				
Under 75 years old .....	482,695	37.2	61.7	30.3
75 years old and over .....	44,026	3.3	67.2	41.3
75-79 years old .....	23,869	1.8	67.6	40.9
80-84 years old .....	12,512	0.9	67.1	42.5
85 years old and over .....	7,644	0.6	66.0	40.4

**Table 9. Number of mentions per 1,000 office visits of the 25 drugs most frequently ordered or provided for patients 75 years old and over and rank by sex: United States, 1980 and 1981**

Rank	Name of drug (generic)	Therapeutic effect	Number of mentions per 1,000 visits <sup>1</sup>	Comparable rank	
				Females	Males
1	Hydrochlorothiazide .....	Diuretic	126	1	2
2	Digoxin .....	Cardiac drug	109	2	1
3	Furosemide .....	Diuretic	69	3	3
4	Triamterene .....	Diuretic	46	4	4
5	Aspirin .....	Analgesic, and so forth	43	5	6
6	Propranolol .....	Cardiac drug	42	6	5
7	Methyldopa .....	Antihypertensive agent	36	7	13
8	Potassium replacement solutions .....	Replacement solution	35	9	9
9	Vitamin B-12 .....	Vitamin	32	10	12
10	Nitroglycerin .....	Vasodilating agent	32	11	10
11	Isosorbide .....	Vasodilating agent	29	14	8
12	Reserpine .....	Antihypertensive agent	27	12	17
13	Multivitamins, general .....	Vitamin	25	13	21
14	Acetaminophen .....	Analgesic and antipyretic	23	16	14
15	Chlorthalidone .....	Diuretic	23	15	16
16	Dihydroergotamine .....	Treatment of migraine	20	19	15
17	Ibuprofen .....	Analgesic, anti-inflammatory	20	17	*31
18	Meclizine .....	Antinauseant	19	18	28
19	Theophylline .....	Spasmolytic agent	18	38	11
20	Iron preparations .....	Anti-anemia agent	17	20	27
21	Phenobarbital .....	Sedative	17	23	22
22	Chlorpropamide .....	Antidiabetic agent	17	25	23
23	Papaverine .....	Spasmolytic agent	16	21	*37
24	Spirolactone .....	Diuretic	15	26	*35
25	Tetracycline .....	Antibiotic	15	32	24

<sup>1</sup>Includes mentions of an agent as a single-ingredient drug and its mentions as an ingredient of a combination drug.

with the ranking drug, hydrochlorothiazide. In rank order of frequency of co-occurrence these were as follows:

Rank	Drug
1	Triamterene
2	Digoxin
3	Methyldopa
4	Spironolactone
5	Reserpine
6	Propranolol
7	Hydralazine
8	Potassium replacement solutions
9	Aspirin
10	Furosemide

In tables 10 and 11 the individual agents are grouped into therapeutic classes. Generally, there was a predictable relationship between the mention rate of a given drug class and that of its associated diagnosis or symptom.

For the following drug classes the AG mention rate showed an increase over the average level found for younger office patients:

- Analgesics.
- Antineoplastic agents and estrogens. (When the estrogens used in the treatment of prostatic carcinomas are added to the formal class of antineoplastic agents, there is a predictable increase for AG males in the overall rate of antineoplastic mentions.)
- Cardiovascular-renal agents (including the spasmolytic agents used to relieve symptoms of the urinary tract).
- Gastrointestinal drugs (including the spasmolytic agents used in the symptomatic treatment of gastrointestinal hypermotility).
- Hematologics.
- Insulins and antidiabetic agents.

**Table 10. Number of mentions per 1,000 office visits of drugs ordered or provided for patients under 75 years old and over 74 years old by selected drug categories: United States, 1980 and 1981**

Selected drug categories <sup>1</sup>	All patients		Females		Males	
	Under 75 years	75 years and over	Under 75 years	75 years and over	Under 75 years	75 years and over
	Number of mentions per 1,000 visits					
All drug mentions	1,108	1,641	1,103	1,707	1,117	1,520
Antihistamine drugs	79	28	73	34	88	18
Anti-infective agents (systemic)	187	94	176	85	204	109
Antineoplastic agents	8	9	10	9	5	*9
Autonomic drugs	42	48	41	52	43	40
Blood formation and coagulation	13	31	15	29	9	36
Cardiovascular drugs	96	367	81	385	117	333
Cardiac drugs	39	175	31	177	51	172
Antihypertensive agents	36	97	35	115	37	65
Vasodilating agents	19	92	15	89	27	96
Central nervous system drugs	179	261	187	290	168	209
Analgesics and antipyretics	96	159	94	173	99	132
Antidepressants	17	20	20	24	13	*13
Major tranquilizers (for example: thorazine)	8	10	8	12	8	*7
Minor tranquilizers (for example: diazepam), sedatives, and hypnotics	40	57	44	66	35	38
Respiratory and cerebral stimulants	12	10	15	12	6	*6
Replacement solutions	12	36	12	39	11	31
Diuretics	65	215	68	226	61	194
Expectorants and cough preparations	33	16	30	13	37	21
Ophthalmic drugs	30	74	28	72	34	76
Agents used to treat glaucoma	4	28	4	29	6	26
Mydriatics and cycloplegics	3	10	3	*7	3	*14
Anti-infective and anti-inflammatory agents	19	26	17	24	21	30
Gastrointestinal drugs	39	76	38	85	40	59
Antacids	6	11	6	11	6	*11
Laxatives	6	18	6	20	5	*13
Emetics and anti-emetics	6	19	7	22	5	*15
Miscellaneous (chiefly agents used to treat duodenal ulcer)	9	12	8	14	11	*9
Hormones and synthetic substances	93	125	112	127	64	121
Adrenals (systemic)	33	38	33	40	34	34
Estrogens	11	16	17	13	*1	21
Insulins and antidiabetic agents	17	46	16	43	18	51
Thyroid and antithyroid	9	15	13	18	3	*9
Serums, toxoids, and vaccines	41	18	34	22	51	*12
Skin preparations	91	70	90	66	93	77
Spasmolytic agents	17	46	13	40	23	56
Vitamins	36	68	49	75	18	56
Vitamin B complex	10	38	12	41	7	33

<sup>1</sup>Drug categories are adapted from 2 sources: The therapeutic categories of the American Hospital Formulary Service, reproduced with permission of the American Society of Hospital Pharmacists, and the drug classes used in the *National Drug Code Directory*, 1982 edition.

**Table 11. Number of mentions per 1,000 office visits of drugs ordered or provided for patients 75 years old and over by age, sex, and selected drug categories: United States, 1980 and 1981**

Selected drug categories <sup>1</sup>	All patients			Females			Males		
	75-79 years	80-84 years	85 years and over	75-79 years	80-84 years	85 years and over	75-79 years	80-84 years	85 years and over
	Number of mentions per 1,000 visits								
All drug mentions . . . . .	1,585	1,696	1,716	1,629	1,790	1,788	1,509	1,510	1,573
Anti-infective agents (systemic) . . . . .	92	103	83	82	99	70	109	112	107
Autonomic drugs . . . . .	47	47	52	54	50	53	36	*42	*49
Blood formation and coagulation . . . . .	26	34	43	*22	*29	51	34	*44	*27
Cardiovascular drugs . . . . .	353	379	389	370	406	392	323	324	381
Cardiac drugs . . . . .	162	187	195	166	185	195	155	190	195
Antihypertensive agents . . . . .	94	101	101	109	126	116	69	*51	*72
Vasodilating agents . . . . .	93	91	92	89	94	82	97	83	113
Central nervous system drugs . . . . .	267	277	217	292	318	234	224	195	183
Analgesics and antipyretics . . . . .	160	166	141	172	189	146	139	121	131
Major tranquilizers (for example: thiorazine) and antidepressants . . . . .	34	29	20	41	35	*22	*23	*18	*13
Minor tranquilizers (for example: diazepam), sedatives, and hypnotics . . . . .	57	66	40	65	81	*45	42	*36	*31
Replacement solutions . . . . .	29	40	54	28	44	64	29	*32	*34
Diuretics . . . . .	195	227	254	200	241	276	187	197	210
Ophthalmic drugs . . . . .	73	70	87	70	74	83	79	63	95
Gastrointestinal drugs . . . . .	69	73	99	72	94	106	65	*32	*86
Hormones and synthetic substitutes . . . . .	132	127	100	142	117	101	115	147	99
Adrenals (systemic) . . . . .	38	41	35	40	44	*37	35	*33	*32
Insulins and antidiabetic agents . . . . .	48	48	38	51	35	*32	41	73	*48
Skin preparations . . . . .	65	69	88	56	66	97	80	74	*69
Spasmolytic agents . . . . .	44	46	52	40	37	47	51	65	*61
Vitamins . . . . .	59	71	91	70	74	91	40	67	*90

<sup>1</sup>Drug categories are adapted from 2 sources: The therapeutic categories of the American Hospital Formulary Service, reproduced with permission of the American Society of Hospital Pharmacists, and the drug classes used in the *National Drug Code Directory*, 1982 edition.

- Ophthalmic drugs.
- Sedatives, hypnotics, and minor tranquilizers. (The increase is apparent only for AG females; it seems at least partly linked to the increased presence of symptomatic pain.)
- Vitamins.

For the remaining drug classes, the AG mention rate either fell below or roughly equaled the rate for younger office patients.

- In spite of the increased presence of inflammatory disorders among AG patients, it is noteworthy that the mention rate for the systemic, anti-inflammatory agents differed little between AG sufferers and the younger patients. In contrast, the use of the nonsteroidal anti-inflammatory agents (not treated as a separate class in tables 10 and 11) nearly doubled for AG patients, increasing from 69 mentions per 1,000 visits for the younger group to a rate of 124 mentions per 1,000 visits for the AG group. It is evident that the nonsteroidals were preferred for the routine maintenance therapy that is so much a part of AG care.
- Parallel with the diagnostic findings in table 5, skin preparations, although their average use is more intensive among the younger patients, showed their highest single rate of mention among AG females over 84 years of age.
- Finally, there was a noteworthy decrease between younger and older patients in the mention intensity of two sensitive drug categories, controlled drugs and combination drugs. For controlled drugs the mention proportion declined from

8-9 percent for the younger group to about 6 percent for the AG patients. The controlled drugs most frequently mentioned in AG care were the minor tranquilizers or sedatives. For combination drugs the mention proportion decreased from 25 percent for the younger group to about 20 percent among the AG patients, the decline being most apparent among the opioid-nonopioid combinations.

**Nonmedication therapy**

In sheer volume, the role of nonmedication therapy in AG care is by no means as imposing as that played by drug therapy. This is apparent from figure 1, which shows that nonmedication therapy was ordered or provided at fewer than one-half (43 percent) of AG visits, at about two-thirds of which it occurred concomitantly with the use of one or more drugs.

Of six nonmedication procedures ordered or provided in AG care (table 12), five either fell below or roughly equaled their proportionate use among patients under 75 years of age. These were physiotherapy, office surgery, psychotherapy, diet counseling, and family or social counseling. Three of these procedures warrant comment.

- *Office surgery*—Although relatively less frequent among the AG group as a whole, surgical procedures showed their highest single intensity of use among AG females in the subgroup over 84 years of age. (This was chiefly due to surgical intervention in the treatment of the senile keratoses.)

**Table 12. Number and percent of office visits of patients, by age and nonmedication therapy ordered or provided: United States, 1980 and 1981**

Nonmedication therapy <sup>1</sup>	All patients				
	Under 75 years	75 years and over	75-79 years	80-84 years	85 years and over
	Number of visits in thousands				
All office visits.....	1,078,468	82,454	43,309	24,713	14,431
	Percent of visits				
No nonmedication therapy.....	53.6	56.6	57.0	56.7	55.5
Physiotherapy.....	4.9	4.1	4.2	4.1	3.8
Office surgery.....	7.5	5.9	5.7	5.1	7.9
Psychotherapy or therapeutic listening.....	5.1	3.0	3.1	2.9	*2.7
Diet counseling.....	8.1	8.1	8.1	8.3	7.6
Family and social counseling.....	2.1	1.4	1.2	*1.6	*1.3
Medical counseling <sup>2</sup> .....	22.8	26.4	26.1	26.3	27.5

<sup>1</sup>Selected procedures.

<sup>2</sup>Probably also includes instruction on drugs provided.

NOTE: Figures may not add to totals due to rounding.

- *Psychotherapy or therapeutic listening*—Along with the diagnostic and symptomatic evidence examined earlier, the infrequent resort to these procedures among AG patients offers further testimony to a relatively high degree of emotional health.
- *Family and social counseling*—One reason for the minimal use of these procedures may derive from the fact that they were marginal to treating the kind of specific, physiologically rooted morbidity that dominates AG visits. (It is estimated that 94 percent of all AG visits were strongly illness oriented.) But the main reason is probably that AG patients simply did not need this kind of counseling to the extent required by aging patients in other treatment environments. The same survivor toughness that produced fewer emotional problems among the ambulatory aging

may have enabled them to cope independently with family and social problems.

As the form of counseling most directly applicable to the practical, on-going management of chronic illness, it was predictable that *medical counseling*—to include instruction in the use of drugs—would be relatively more common among AG patients than among younger counterparts.

**Other visit characteristics**

As a group, AG patients seldom changed doctors; about 92 percent of their visits were made to the physician with whom they had an established relationship (table 13). Thus continuity of care is seen to be a hallmark in the management of the aging, ambulatory patient. Of their visits to other physicians (8 percent), about one-half were referred by the parent physician.

**Table 13. Percent distribution of office visits of patients by referral status and patient-problem status, according to age: United States, 1980 and 1981**

Referral status and patient-problem status	All patients				
	Under 75 years	75 years and over	75-79 years	80-84 years	85 years and over
	Number of visits in thousands				
All office visits.....	1,078,468	82,454	43,309	24,713	14,431
	Percent distribution				
All office visits.....	100.0	100.0	100.0	100.0	100.0
Referral status					
Referred by another physician.....	4.5	3.9	3.9	3.0	5.3
Not referred.....	95.5	96.1	96.1	97.0	94.6
Patient-problem status					
New patient.....	14.8	8.3	8.4	7.2	9.7
Established patient.....	85.1	91.8	91.7	92.8	90.4
New problem.....	22.9	13.9	14.5	13.5	12.7
Continuing problem.....	62.2	77.9	77.2	79.3	77.7

NOTE: Figures may not add to totals due to rounding.

Voluntary doctor selection probably occurred at fewer than 4 percent of AG visits.

About 8 of every 10 AG visits was a return (progress) visit, usually for one or more of the chronic problems discussed earlier. The presentation of new problems by AG patients generally signaled the onset of one of the sequellae of the long-standing, chronic diseases, for example, diabetic retinopathy aggravated by hypertension.

Although the average proportion of referrals did not differ significantly between the AG and the younger group, there was a noteworthy increase in referred visits among AG patients in the subgroup over 84 years of age (table 13). Earlier diagnostic evidence suggests that this increased need for specialized attention was chiefly the result of three intensifying conditions: circulatory problems, eye disorders, and skin diseases.

In their followup instructions to AG patients, physicians were substantially more specific than they were with the younger group (table 14), because the conditions monitored were, in large part, intensifying problems that offered little or no hope for complete remission. Thus the disposition instruction "return at specified time" was markedly more frequent at AG visits. "Telephone followup," a monitoring procedure certainly less taxing to the aging, was, on the average, no more frequent among AG patients than among younger patients.

Findings suggest that physicians spend more time in face-to-face contact with AG patients than they do with younger patients, but, on the average, this increased encounter time only amounted to an additional 1 or 2 minutes (table 14). The longest average duration of contact, between 17 and 18 minutes, occurred with AG patients 80 years old and over. Probably

much of this increased contact time was due to the need for relatively more medical counseling and instruction in the use of medications.

**Providers**

The final aspect of AG care to be explored is that of the doctors of medicine and osteopathy providing the care (table 15). Four providers, general physicians, family physicians, internists, and ophthalmologists, accounted for three-fourths of the AG visits. It is noteworthy that two of these providers—the general physician and the family physician—are *generalists*, in the breadth of their clinical scope and in the demographic fact that their patients range from one end of the age continuum to the other. Their combined visit proportion (36 percent) constitutes the largest single share of the 82,454,000 AG visits, exceeding the comparable proportion (33 percent) found for the group under 75 years old.

Next in relative frequency are the visits to internists. Their proportion of AG visits (23 percent) was double the comparable proportion found for the younger group. Although internists qualify as generalists in many of their practice characteristics, it is probably their specialist skills in managing the circulatory diseases that account chiefly for their prominent position in AG care.

The increased presence of eye disorders among AG patients (tables 4 and 5) is predictably paralleled by the increased frequency of their visits to the ophthalmologist.

With diagnostic correlates that are obvious, it was expected that nearly two-thirds of the 3,197,000 referred visits

**Table 14. Percent distribution of office visits of patients by visit disposition and duration, according to age: United States, 1980 and 1981**

Disposition and duration	All patients				
	Under 75 years	75 years and over	75-79 years	80-84 years	85 years and over
	Number of visits in thousands				
All office visits.....	1,078,468	82,454	43,309	24,713	14,431
	Percent of visits				
All office visits.....	100.0	100.0	100.0	100.0	100.0
Disposition <sup>1</sup>					
No followup.....	11.9	5.7	6.2	5.6	4.4
Return at specified time.....	59.7	72.8	72.3	72.8	74.2
Return if needed.....	23.2	16.6	16.0	17.0	16.0
Telephone followup.....	3.4	3.5	3.3	3.2	4.4
Admit to hospital.....	2.2	3.3	3.2	2.9	4.2
Duration <sup>2</sup>					
0 minute <sup>3</sup> .....	2.6	1.8	1.8	2.0	*1.7
1-10 minutes.....	43.4	34.1	35.9	32.0	32.3
11-30 minutes.....	47.9	58.5	57.1	60.8	59.4
31 minutes or more.....	6.1	5.5	5.3	5.2	6.7
Mean visit duration <sup>4</sup> in minutes.....	15.8	16.7	16.4	17.1	17.4

<sup>1</sup>Selected alternatives. Therefore, figures will not add to totals.  
<sup>2</sup>Figures may not add to totals due to rounding.  
<sup>3</sup>No face-to-face encounter between physician and patient.  
<sup>4</sup>Includes only face-to-face encounters between physician and patient.

**Table 15. Percent distribution of office visits of patients by specialty of the attending physician according to sex and age of patient: United States, 1980 and 1981**

Physician specialty	All patients		Females		Males	
	Under 75 years	75 years and over	Under 75 years	75 years and over	Under 75 years	75 years and over
Number of office visits in thousands						
All office visits . . . . .	1,078,468	82,454	646,220	53,498	432,248	28,956
Percent distribution						
All office visits . . . . .	100.0	100.0	100.0	100.0	100.0	100.0
General and family practice . . . . .	32.6	36.4	32.4	37.8	33.0	33.8
Internal medicine . . . . .	11.6	23.1	11.2	23.1	12.2	23.0
General surgery . . . . .	5.2	5.5	4.9	5.5	5.8	5.3
Obstetrics and gynecology . . . . .	10.0	1.0	16.6	1.5	-	-
Orthopedic surgery . . . . .	4.9	3.2	3.7	3.8	6.7	1.9
Cardiovascular disease . . . . .	1.2	2.9	0.9	2.4	1.6	3.9
Dermatology . . . . .	4.5	3.4	4.5	3.7	4.4	3.0
Urology . . . . .	1.6	3.3	0.9	1.2	2.5	7.2
Psychiatry . . . . .	2.9	*0.4	2.8	*0.4	3.1	*0.4
Neurology . . . . .	0.6	*0.4	0.5	*0.4	0.6	*0.6
Ophthalmology . . . . .	4.8	12.6	4.6	13.2	5.2	11.6
Otolaryngology . . . . .	2.3	1.6	2.0	1.5	2.7	1.8
All other specialties . . . . .	17.7	6.2	15.0	5.5	22.2	7.5

NOTE: Figures may not add to totals due to rounding.

made by AG patients would be to five specialists:

Specialists	Percent of referred visits
Internist . . . . .	16.3
General surgeon . . . . .	15.5
Ophthalmologist . . . . .	14.6
Orthopedic surgeon . . . . .	*10.9
Dermatologist . . . . .	*7.9

**Summary**

Office-based ambulatory care of the advanced aging may be generally characterized by the following features:

- Female patients accounted for two-thirds of the care.
- At most of the visits the physician had to cope with multiple diagnoses.
- Most of the morbidity encountered took the form of long-term, physiologically rooted, chronic diseases or their sequelae.
- The sharply reduced prospect for complete cure led to an emphasis on routine maintenance care carefully monitored by the physician.
- The strong, illness-based focus led to a reduced use of nonillness care, including measures that were considered marginal to the direct management of the illness (for example, family and social counseling).
- Drug therapy was markedly more frequent than other treatment mechanisms. It was relatively more intense with females than with males.

- The increased use of multiple drugs created more potential for adverse interactions.
- Physicians gave evidence of an increased conservatism in the use of controlled and combination drugs.
- There is a need for further study of the possible linkage between the increased intensity of drug use and such frequently occurring symptoms as dizziness and blurred vision.
- Mental and emotional illness, including what is loosely referred to as "senility," was a relatively minor problem for both sexes.
- An increase in the female use of sedatives, hypnotics, and minor tranquilizers may be due less to the existence of emotional illness than to the increasing presence of symptomatic pain.
- A long-standing relationship between physician and patient is the rule. Referrals are relatively infrequent, as is voluntary doctor shopping.
- Most of the care, general or specialized, occurred in the offices of three primary care physicians: the general physician, the family physician, and the internist.
- The average contact between physician and patient lasted about 17 minutes, only about 1 minute longer than the average contact with younger patients.
- These oldest of office patients display a certain survivor toughness of mind and body that needs further exploration—especially among patients in the oldest, open-ended subgroup.

## 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 yearlong sample survey of office-based care conducted by the National Center for Health Statistics. Findings for two survey years, 1980 and 1981, were combined to produce the estimates. 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 the survey, as are visits to anesthesiologists, pathologists, and radiologists.

**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**

<i>Estimated number of office visits or specific drug mentions in thousands</i>	<i>Relative standard error in percent</i>
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).

NAMCS uses a multistage probability sample design that involves a step-wise sampling of primary sampling units, physicians' practices within primary sampling units, and patient visits within physicians' practices. The physician sample (5,805 for the 2-year period) was selected from master files maintained by the American Medical Association and the American Osteopathic Association. Those members of the sample who were in scope and available participated at a rate of 77.3 percent. Responding physicians completed visit records for a systematic random sample of their office visits during a randomly assigned 7-day reporting period. During the combined years 1980 and 1981, responding physicians completed 89,447 visit records, of which 6,384 were records of visits by patients 75 years old or over. Characteristics of the physician's practice, such as primary specialty, were obtained or confirmed 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 sampling 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. Standard errors for estimated percents of visits (or for rates per 1,000 visits reduced to percents) are shown in table II.

The determination of statistical inference is based on a one-sided *t*-test with a critical value of 1.645 (0.05 level of confidence). Terms relating to differences, such as "exceeded" or "fell below" indicate that the differences are statistically significant. Terms such as "similar" or "roughly equal" mean that no statistical significance exists between the estimates be-

**Table II. Approximate standard errors of percents of estimated numbers of office visits based on all physician specialties: National Ambulatory Medical Care Survey, 1980**

<i>Base of percent (number of office visits in thousands)</i>	<i>Estimated percent</i>					
	<i>1 or 99</i>	<i>5 or 95</i>	<i>10 or 90</i>	<i>20 or 80</i>	<i>30 or 70</i>	<i>50</i>
	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 divided by 30 percent).

ing compared. Estimates have been rounded to the nearest thousand.

Any questions regarding these findings or the survey procedures that produced them may be addressed to—

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**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 (more than 30 percent relative standard error)
  - # Figure suppressed to comply with confidentiality requirements
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