

VITAL & HEALTH STATISTICS

Characteristics of Pharmacists United States

Demographic and employment characteristics of licensed pharmacists in 1978-79 are described. Information is presented on their geographic distribution and supply, their practice settings, the number of hours and weeks worked, and the attraction of women and minorities into the profession. Information is also presented on those licensed pharmacists who are inactive in their profession.

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

By P. Hannah Davis, formerly with the Division of Health Care Statistics, and G. Gloria Kapantais, Office of Vital and Health Care Statistics

Introduction

Between May 1977 and June 1979, the National Center for Health Statistics conducted an inventory of all licensed pharmacists in the United States. The data were collected through two separate but parallel mechanisms.

The first was the Cooperative Health Statistics System.¹ Those States with a Cooperative Health Statistics System manpower component contract collected data on pharmacists and submitted to the National Center for Health Statistics a specified set of data elements, using standardized processing specifications. (For information on the Cooperative Health Statistics System and the data set, see appendix I.) The National Center for Health Statistics had an individual contract with each State in the Cooperative Health Statistics System, usually with the State health department. All contractors within the System developed their own questionnaires for distribution in their States. The questionnaires were required to include all of the items specified by the Center and usually had the wording and format suggested by the Center.

The second mechanism through which the data were collected used a single contractor, the American Association of Colleges of Pharmacy, to collect the same items in those States not collecting data through the Cooperative Health Statistics System. Identical questionnaires provided by the Center were mailed out in all of these States. A copy of this questionnaire appears in appendix II, with further definition of terms provided in appendix III. The questionnaire, a prototype of the individual questionnaires developed in the 23 Cooperative Health Statistics System States, was used to collect data in 27 States and the District of Columbia by the American Association of Colleges of Pharmacy. Similar data collection methodologies were used by both the Cooperative Health Statistics System State contractors and the American Association of Colleges of Pharmacy to ensure uniformity of data and to permit the statistics from both mechanisms to be merged into a single national data file.

To ensure accurate data a number of procedures for

editing and processing the data were performed. In addition, duplicate records of pharmacists holding licenses in more than one State were removed. This was necessary because pharmacists were surveyed and counted in each State in which they were licensed. The procedures for processing and editing the data and for removing duplicate records are discussed in appendix I.

States have license renewal dates at varying times of the year. In addition, some States have biennial license renewal cycles. These caused up to a 2-year delay in beginning the questionnaire mailout in some States. The questionnaire mailout spanned 2 years in order to coordinate each State's mailout with its license renewal period because it was thought that pharmacists would be more likely to complete and return questionnaires enclosed in the same envelope with license renewal forms.

Because of contractual obligations with the Center, some Cooperative Health Statistics System States submitted pharmacist data tapes for 2 consecutive years, each tape representing an annual data collection in their States. In these cases the later data tape was chosen for inclusion in the 1978-79 Survey of Licensed Pharmacists. The data collection period represented by this later tape was a date prior to June 1979, except for Oregon. Later tapes were selected not only because they provided more recent, up-to-date information, but also because they were usually of a higher quality because of the experience gained by the State contractor in data collection and in assembling at least one earlier tape for the Center.

It should be noted that although this report and the Survey of Licensed Pharmacists are labeled 1978-79, not all States collected data for the national file during these 2 years. The large majority (80 percent of the States) collected the data in 1978-79, while remaining data were collected during 1977 or 1980. The appendix table shows the particular year of each State's survey data.

Supply of pharmacists

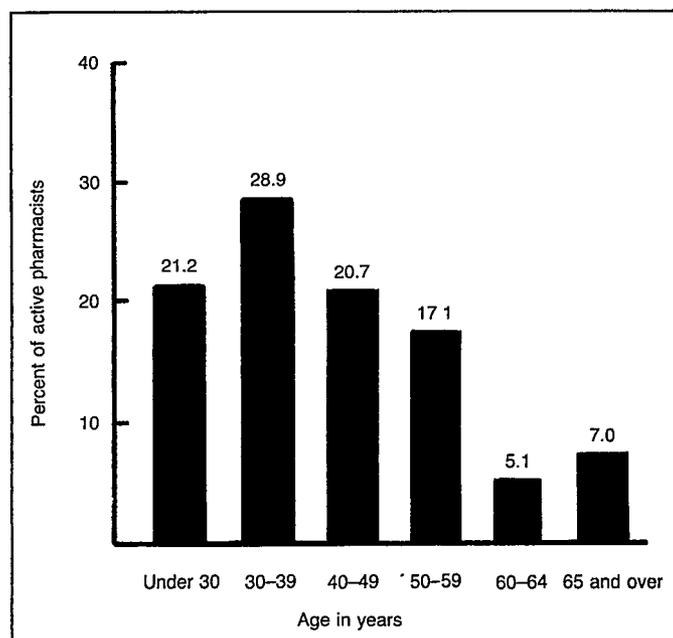
In 1978-79 there were 160,664 licensed pharmacists in the United States. The activity status of 27,417 of them was unknown; for those of known status 112,335 or 84 percent were known to be active, and 20,912 or 16 percent were known to be inactive (table 1).

As seen in table 2, the percent of active pharmacists out of the total number of licensed pharmacists drops as age increases. Ninety-five percent of pharmacists under 30 years of age were active; whereas only 79 percent of pharmacists 60-64 years of age were active. The largest decline occurred among female pharmacists, although at every age a smaller percent of licensed female pharmacists than of male pharmacists were active. Reasons for inactivity for both sexes are discussed later in this report.

Pharmacists between 30 and 59 years of age are often in their prime years of professional practice. Within these ages, 9 out of 10 licensed male pharmacists were active in the profession, compared with 8 out of 10 female pharmacists. Their activity rate was about 11 percent lower than that of males. A 1973-74 study of pharmacists showed that at that time approximately the same proportion of male pharmacists were active in their profession as in 1978-79, but only 6 out of 10 female pharmacists were active in 1973-74.²

The 1978-79 data show that 21 percent of active pharmacists were under 30 years of age, while 12 percent were 60 years and over (text figure). There seem to have been enough young pharmacists going into the profession to replace the older pharmacists who would be most likely to leave. In 1978-79, the largest group of pharmacists were 30-39 years of age (29 percent). Fifty percent of the active pharmacists responding in the survey were under 40 years of age.

Table A shows replacement ratios—the percent of pharmacists under 30 years of age divided by the percent 60 years of age and over. This ratio indicates whether there is a sufficient supply of pharmacists entering the profession (as measured by those under 30 years of age) to replace those most likely to be leaving (as measured by those 60 years and over). A value of 1.0 indicates that there are equal proportions of pharmacists under 30 years of age and 60 years and over. A value of less than 1.0 means that there is only that proportion of young pharmacists for every pharmacist 60 years of age and over. Conversely, a value greater than 1.0 indicates that there are proportionately more young pharmacists to replace those most likely to be leaving. A ratio greater than 1.0 indicates growth in the profession. In 1978-79, the Northeast had 1.12 pharmacists under 30 years of age for every pharmacist 60 years of age and over.



Text figure. Percent distribution of active pharmacists by age: United States, 1978-79

Thus, for every 8 pharmacists who were most likely to leave the profession within 5 years, 9 new pharmacists had recently entered the profession. The South had the largest ratio of young to old pharmacists—2.56 pharmacists under 30 years of age for every pharmacist 60 years and over. For each of the four regions, there was more than one pharmacist under 30 years of age for every pharmacist 60 years of age and over.

The age composition of active pharmacists in each State is presented in table 3.

Table A. Percents of active pharmacists under 30 years of age and 60 years of age and over and replacement ratios, by geographic regions: United States, 1978-79

Geographic region	Active pharmacists		Replacement ratio ¹
	Under 30 years of age	60 years of age and over	
	Percent		
Northeast	18.3	16.3	1.12
North Central . .	23.6	12.8	1.84
South	23.0	9.0	2.56
West	17.3	11.5	1.50

¹The percent of pharmacists under 30 years of age divided by the percent 60 years of age and over.

Attraction of women and minorities into the profession

In recent years, the Federal government has been interested in assimilating women and minorities into various health professions, including pharmacy. The Comprehensive Health Manpower Training Act of 1971 (PL 92-157) is one vehicle the government has used to encourage the entry of women and minorities into the health field. Section 799A of the Act prohibited health profession schools, including schools of pharmacy, from discriminating against applicants for admission on the basis of sex. Section 772 of the Act authorizes special project grants to schools of pharmacy that increase admissions and enrollment of qualified minority or low income students. The impact of the Act is primarily seen in the 1978-79 statistics, having affected students in fiscal years 1972-74. Although the legislation is only one of many factors contributing to the entry of women and minorities into the pharmacy profession, it nevertheless played a role in their increased representation.

In 1976 two other Acts were passed related to increasing female and minority participation in health professions, including pharmacy. They are the Health Professions Assistance Act (PL 94-484) and the Indian Health Care Improvement Act (PL 94-437). The impact of these Acts is not discussed here because the legislation occurred too recently to affect the data collected in 1978-79.

Women

Women have made moderate headway in moving into the pharmacy profession in the last 5 years. In 1978-79 there were 18,115 female pharmacists who were known to be active, accounting for 16 percent of the supply of active pharmacists of known sex (table 4).

In 1979 adult women (21 years of age and over) accounted for 53 percent of the U.S. adult resident population, and the participation rate for women 16 years of age and over in the civilian labor force was 52 percent.³ When the proportion of women pharmacists are compared with their proportional representation in these areas of society, they continue to remain underrepresented in the profession despite large gains in recent years. Nevertheless, female representation is higher in pharmacy than in many other health professions. For example, in medicine women are 11 percent of the non-Federal physicians.⁴ Only 4 percent of the active podiatrists⁵ and 3 percent of the active optometrists are female.⁶ Thus, although the proportion of women pharmacists is below the number of females in the general population and labor force, the profession has a higher female representation than many other health fields.

There is a large difference by sex in the principal form of employment of pharmacists (table B). The percent of female staff pharmacists is twice as large as the percent of males (69 versus 34 percent, respectively). Nearly 95 percent of women pharmacists are salaried (either as managers, assistant managers, or staff pharmacists); only two-thirds of the men are. ("Other" is excluded from the calculation since it is not known whether these pharmacists are salaried or self-employed.)

Table B. Number and percent distribution of active pharmacists by principal forms of employment, according to sex: United States, 1978-79

Principal form of employment	Male		Female	
	Number	Percent distribution ¹	Number	Percent distribution ¹
All principal forms of employment ²	94,158	100.0	18,115	100.0
Sole owner	16,069	18.4	421	2.5
Partner	8,984	10.3	474	2.8
Manager ³	27,277	31.3	3,531	21.2
Staff pharmacist	29,711	34.1	11,440	68.8
Other ⁴	5,191	6.0	771	4.6
Unknown	6,926	...	1,478	...

¹Percents may not add to 100.0 because of rounding.

²Excludes 62 pharmacists of unknown sex.

³Includes assistant managers

⁴Includes volunteers.

There is also a difference by sex in the average number of hours worked by pharmacists. The average number of hours worked per week by female pharmacists is lower than that of males at every age (table C). The trend for males is one of slightly increasing hours per week from 44 to 48 hours until 50 years of age, after which the number of hours declines slightly and then rapidly descends at 65 years of age to 29 hours. For females, the lowest average number of hours worked (except for the 65 years and over age group) occurs between 30 and 49 years of age, which are the years in which mean hours worked increase for men. It is interesting to note that the standard deviations of mean hours increase consistently by age for males, indicating more variability in the hours worked as the age of the respondents increase. Thus, for the male pharmacists 65 years of age and over the relatively large standard deviation indicates that many may work a considerable number of hours more than or less than the average of 29 hours per week. For the younger pharmacists under 30 years of age the low standard deviation indicates much less variability and suggests that many are working close to the average of 44 hours per week. The coefficients of variation (the standard deviation divided by the mean) are higher for women than for men at every age (except 65 and over). This indicates greater proportional variability in their work schedules than in men's.

Table C. Mean hours worked per week by active pharmacists and standard deviations, by sex and age: United States, 1978-79

Age	Male		Female	
	Mean hours	Standard deviation	Mean hours	Standard deviation
All ages	44.9	12.2	35.8	12.6
Under 30 years	44.3	8.4	39.3	9.5
30-39 years	46.4	10.1	32.6	13.7
40-49 years	47.9	10.8	33.6	14.1
50-59 years	46.8	11.3	34.9	13.4
60-64 years	42.9	13.2	35.7	13.9
65 years and over	28.9	17.7	27.8	16.6

Summarizing, it appears that women pharmacists participate in the work force differently than men do. They are more likely than men to be salaried, and to work fewer hours per week. From 50 to 65 years of age their average hours increase slightly. They also have (proportional to the mean) more variability than men have in their hours worked, indicating a more diverse pattern of labor force participation. "The inactive pharmacist" section discusses one of the foremost reasons that women pharmacists sometimes do not participate in the labor force at all—homemaker responsibilities. These responsibilities may also account for the irregular participation in the work force of women pharmacists.

Minorities

In 1979 there were 5,016 active minority pharmacists, who constituted 5 percent of the practicing profession (table 5). Nearly two-thirds of the minority pharmacists were Asian, and approximately one-third were black. Asians were represented in the profession by approximately twice the percent of their representation in the U.S. resident population.⁷

The number of pharmacists who indicated they were of Hispanic origin is shown by State in table 6. In 1978-79 nearly 2 percent of practicing pharmacists were of Hispanic descent. These pharmacists have an age distribution similar to that of pharmacists who were not Hispanic (table 7). However, pharmacists of Hispanic origin had a larger female representation than non-Hispanic pharmacists. Twenty-seven percent of the Hispanic pharmacists were women compared with 16 percent of the non-Hispanic pharmacists (table 8).

While approximately half the U.S. black population is located in the South,⁷ two-thirds of the active black pharmacists received their pharmaceutical education there (table 9). Since only 31 percent of all active pharmacists graduated from pharmacy schools located in the South, black pharmacists had more than double the average proportion graduating from southern schools of pharmacy. American Indians also had a disproportionate percent of active pharmacists with southern alma maters—42 percent. They were also above average in the percent graduating from schools of pharmacy located in the West—29 percent compared with an average of 13 percent for all pharmacists. However, these percents coincide with the geographic distribution of American Indians, approximately half of whom are located in the West and one-quarter in the South.⁸

Asians had the highest proportional representation of graduates from western schools of pharmacy, 53 percent compared with the 13-percent average for all pharmacists. This is not unexpected since approximately 60 percent of the U.S. Asian population is located there.⁹ Asians were also well above the average in foreign graduates, with 15 percent educated abroad, compared with only 1 percent for all pharmacists.

Pharmacists of Hispanic origin had their greatest representation in southern schools of pharmacy, from which 46 percent received their first pharmacy degrees. Their lowest representation in the United States, 7 percent, was from schools in the North Central. Approximately one-third of the Hispanic population is located in the South and 7 percent in the North Central.⁷

Ten percent of the Hispanic pharmacists received their basic professional education outside the United States, compared with 1 percent of all pharmacists. Although there was a high concentration of foreign trained graduates among Hispanic as well as among Asian pharmacists, altogether there were only 953 active pharmacists who stated in the 1978-79 survey that they were trained outside the continental United States. This low number alleviates concern about the effect of foreign training on pharmacists practicing in the United States and about the relevance of the curriculum in other countries to health problems here.

Employment setting

In 1978-79, 38,417, or 39 percent of the pharmacists known to be active practiced in independent community pharmacies as their primary settings (table 10). The independent community pharmacy was the most popular work setting. The chain pharmacy, which 28,413 or 29 percent of the pharmacists cited as their primary practice setting, was the second most popular setting. Third was hospitals, with 25,119 or 26 percent of the pharmacists. These three employment settings accounted for 94 percent of all active pharmacists.

Sex

There were differences in the employment settings of the pharmacists by sex. In 1978-79, 42 out of every 100 male pharmacists practiced in independent community pharmacies, compared with 26 per 100 female pharmacists (table

Table D. Number and percent distribution of active pharmacists by primary employment settings, according to sex: United States, 1978-79

Primary employment setting	Both sexes	Male		Female	
		Number	Percent distribution ¹	Number	Percent distribution ¹
All settings ²	112,335	94,158	100.0	18,115	100.0
Independent community pharmacy	38,405	34,256	41.5	4,149	26.4
Chain pharmacy	28,423	24,355	29.5	4,068	25.8
Clinic or medical building pharmacy	3,968	3,090	3.7	878	5.6
Nursing home	1,551	1,061	1.3	490	3.1
Hospital	19,602	14,107	17.1	5,495	34.9
Pharmaceutical manufacturer	2,476	2,332	2.8	144	0.9
College of pharmacy	1,288	1,099	1.3	189	1.2
Other	2,553	2,219	2.7	334	2.1
Unknown	14,007	11,639	...	2,368	...

¹Percents may not add to 100.0 because of rounding.

²Excludes 62 pharmacists of unknown sex.

D). Female pharmacists were proportionally twice as prevalent in hospitals as males, 35 percent compared with only 17 percent. This is partially related to the fact that female pharmacists are generally younger than male pharmacists (85 percent of the women were under 50 years of age, compared with 68 percent of the men) and more younger pharmacists work in hospitals than do older pharmacists. Likewise, older pharmacists constituted larger proportions of those practicing in independent community pharmacies. The settings with regard to the age of the pharmacist are discussed in the next section. Women were also represented in greater proportions than men were in clinics or medical building pharmacies, and in nursing homes

Age

The percent of pharmacists practicing in independent community pharmacies increased directly with age, beginning with 24 percent of the active pharmacists under 30 years of age and going up to 67 percent of those in the category 65 years of age and over (table 11). The opposite trend can be seen by age in chain pharmacies. There was a constant decrease in the proportion of pharmacists working in chain pharmacies as the age categories increased. For the "under 30" age group, 37 percent cited the chain pharmacy, while at the level of 65 years of age and over, only 15 percent did so. Hospitals were the second most popular setting for pharmacists under 30 years of age. Thirty percent practiced in one. This contrasts to the 14 percent of pharmacists 40-64 years of age who were employed in hospitals. Only 8 percent of the pharmacists who were 65 years of age and over worked in hospitals.

It is important to examine, for each practice setting, the percent of pharmacists who were in the age group 60 years and over, because they were the ones who within the next 5 years would be most likely to leave the profession. Overall, they made up 12 percent of the active pharmacists. They constituted 17 percent of the pharmacists working in independent community pharmacies. With the expansion of chain pharmacies at the expense of the independent community pharmacies and the eventual possible retirement of 1 in every 6 independent community pharmacists, it appears that independent community pharmacies may eventually close or be taken over by chain pharmacies.² If, on the other hand, a demand still exists for pharmacists in the independent community pharmacies, the free market mechanism should work in attracting young pharmacists to them.

Two other settings had at least 11 percent of the pharmacists in the potential retirement age group. They were nursing homes with 12 percent 60 years of age and over and clinics or medical building pharmacies, with 11 percent. However, for these two settings, there is a movement among young pharmacists into these practices. More than 50 percent of the pharmacists in both these settings were under 40 years of age. The percents drop considerably from 40 years of age to 59. As the proportion of the U.S. population who are of nursing home age continues to rise, the openings for new pharmacy graduates in nursing homes and in hospitals should continue to grow.

Race

The independent community pharmacy was the primary setting for two-fifths of white pharmacists (table 12). Asians had the smallest relative proportion in this setting, 16 percent. However, they formed the largest proportion of any race in hospitals, with 42 percent. This is not surprising since women and younger pharmacists tend to practice in hospitals, and Asians have more female pharmacists and pharmacists under 30 years of age than any other race has.

Black Americans and American Indians had similar distributions by employment setting. Approximately one-fourth practiced in independent community pharmacies, 28 percent in chain pharmacies, and approximately 30 percent in hospitals and nursing homes.

There was no significant difference in the percent of pharmacists in independent community pharmacies by Hispanic descent (table 12). A slightly above average percent of pharmacists of Hispanic origin did indicate that they practiced in chain pharmacies.

Principal form of employment

Table 13 indicates the principal forms of employment of active pharmacists by the States where they worked. In 1978-79, 64 percent of the workforce of pharmacists was composed of "employees." These were assistant managers, staff managers, and staff pharmacists. The approximately 5 percent of pharmacists who designated "other" (including volunteers) is not included in the percent for self-employed or salaried, since it is not known in which group they fit.

Hours and weeks worked and services rendered as a partial measure of productivity

This section discusses hours worked per week, activities performed, and weeks worked during the 12-month period prior to interview. To make a complete and meaningful analysis of productivity, it would be necessary to include the topics of absenteeism, movement in and out of the labor force, number of patients or patrons served, and quality of care and/or services. Since data on these topics were not available from the 1978-79 survey, they are omitted from this report. Without a full discussion of all these factors, totally reliable conclusions regarding productivity by selected demographic characteristics cannot be reached. Nevertheless, the available data on age, sex, race, and employment setting can provide some valuable insight into their relationship with productivity. It is only necessary that caution be exercised when interpreting or generalizing the relationships between variables, since such correlations may be dependent on concomitant variables for which data are not available.

Hours worked

In 1978-79 pharmacists worked an average of 43 hours per week, compared with an average of 45 hours in an earlier 1973-74 study.² Men in 1978-79 worked 45 hours while women tended to practice more on a part-time basis, working 36 hours per week. The same pattern had been

Table E. Number and percent distribution of active pharmacists by total hours worked per week, according to age: United States, 1978-79

Age	All active pharmacists	Total hours			
		1-35	36-45	More than 45	Unknown
		Number			
All ages	112,335	13,453	52,129	37,049	9,704
Under 30 years	23,604	1,770	14,704	5,225	1,905
30-39 years	32,264	3,030	15,765	10,960	2,509
40-49 years	23,096	1,781	9,232	10,153	1,930
50-59 years	19,059	1,727	8,069	7,638	1,625
60-64 years	5,649	916	2,443	1,728	562
65 years and over	7,844	4,157	1,741	1,261	685
Unknown	819	72	175	84	488
		Percent distribution ¹			
All ages	100.0	13.1	50.8	36.1	...
Under 30 years	100.0	8.2	67.8	24.1	...
30-39 years	100.0	10.2	53.0	36.8	...
40-49 years	100.0	8.4	43.6	48.0	...
50-59 years	100.0	9.9	46.3	43.8	...
60-64 years	100.0	18.0	48.0	34.0	...
65 years and over	100.0	58.1	24.3	17.6	...

¹Percents may not add to 100.0 because of rounding.

Table F. Percent distribution of active pharmacists by total hours worked per week, according to sex and age: United States, 1978-79

Sex and age	All active pharmacists	Total hours		
		1-35	36-45	More than 45
		Percent distribution ¹		
Male				
All ages	100.0	9.6	49.6	40.8
Under 30 years	100.0	4.1	66.1	29.8
30-39 years	100.0	4.0	53.9	42.1
40-49 years	100.0	4.2	43.5	52.2
50-59 years	100.0	6.9	46.1	47.1
60-64 years	100.0	16.7	48.1	35.2
65 years and over	100.0	58.0	24.3	17.8
Female				
All ages	100.0	31.4	57.2	11.4
Under 30 years	100.0	16.6	71.3	12.1
30-39 years	100.0	43.0	48.3	8.7
40-49 years	100.0	43.4	44.4	12.1
50-59 years	100.0	38.4	48.3	13.4
60-64 years	100.0	35.9	47.2	16.9
65 years and over	100.0	60.6	25.8	13.6

¹Percents may not add to 100.0 because of rounding.

revealed in the 1973-74 study, when men worked an average of 46 hours and women worked 34 hours.

Only about 1 in 8 pharmacists (13 percent) worked 35 hours or less per week. And nearly 3 in 8 (36 percent) worked 46 hours or more per week (table E). Thus, half the pharmacists worked 36 to 45 hours per week. Among pharmacists aged 40 to 49, nearly half (48 percent) worked more than 45 hours per week.

A larger percent of female than of male pharmacists practiced 36 to 45 hours per week (57 percent versus 50 percent). However, 41 percent of the men indicated that they worked more than 45 hours per week, whereas only

11 percent of the women worked that many hours (table F). This large difference in percents by sex in the 46-hour and over work week was true in each age category except for those 65 years and over, in which category 18 percent of the male pharmacists and 14 percent of the female pharmacists worked 46 hours or more per week. In the other age categories the differences in percents by sex ranged from an 18 percentage point difference in the under 30 years of age and in the 60-64 years of age groups to a 40 percentage point difference in the 40-49 years of age group. The work week of the male pharmacist was clearly longer than it was for the female pharmacist, at every age.

The most productive pharmacists in terms of hours worked per week were sole owners and partners, since 82 percent and 65 percent, respectively, worked 46 hours or more per week (table G). This compares with only 13 percent of the employee or staff pharmacists having a work week of this length. About 1 in every 4 staff pharmacists practiced less than a full work week (under 36 hours).

Male sole owners worked more hours per week than female sole owners did. Eighty-two percent of the men worked 46 hours or more compared with 63 percent of the women. Only 3 percent of the male sole owners worked 35 or fewer hours per week; for women it was 14 percent (table 24). Among staff pharmacists, 15 percent of the men and only 6 percent of the women had a work week of more than 45 hours. Nineteen percent of the male staff pharmacists and 38 percent of the women worked 35 or fewer hours. Employment as a staff pharmacist is one of the forms of practice in which women are able to work part time. Eight out of 10 female pharmacists working part-time were employed as staff pharmacists.

As mentioned earlier, pharmacists had a total average work week of 43 hours. On the average they spent 42 hours per week (table H), or 98 percent of their time in their primary practice setting, the work location in which they

Table G. Number and percent distribution of active pharmacists by total hours worked per week, according to principal forms of employment: United States, 1978-79

Principal form of employment	All active pharmacists	Total hours			
		1-35	36-45	More than 45	Unknown
		Number			
All principal forms of employment	112,335	13,453	52,129	37,049	9,704
Sole owner	16,490	541	2,420	13,111	418
Partner	9,458	591	2,654	6,045	168
Manager ¹	30,808	1,417	18,716	10,262	413
Staff pharmacist	41,152	9,600	25,297	5,020	1,235
Other ²	5,962	976	2,486	2,230	270
Unknown	8,465	328	556	381	7,200
		Percent distribution ³			
All principal forms of employment	100.0	12.9	50.9	36.2	...
Sole owner	100.0	3.4	15.1	81.6	...
Partner	100.0	6.4	28.6	65.1	...
Manager ¹	100.0	4.7	61.6	33.8	...
Staff pharmacist	100.0	24.0	63.4	12.6	...
Other ²	100.0	17.2	43.7	39.2	...

¹Includes assistant managers.

²Includes volunteers

³Percents may not add to 100.0 because of rounding.

Table H. Mean hours worked per week by active pharmacists, standard deviations, and percent distribution by employment settings, according to whether primary or secondary: United States, 1978-79

Employment setting	Primary employment setting			Secondary employment setting		
	Percent distribution ¹	Mean hours	Standard deviation	Percent distribution ¹	Mean hours ²	Standard deviation
All settings	100.0	42.3	17.4	100.0	7.8	5.8
Independent community pharmacy	39.1	44.2	15.5	17.3	8.8	5.5
Chain pharmacy	28.9	42.7	9.4	8.4	9.7	6.2
Clinic or medical building pharmacy	4.0	39.4	12.2	7.1	8.6	6.4
Nursing home	1.6	35.9	12.4	37.1	5.3	5.0
Hospital	19.9	39.1	8.3	15.2	9.8	6.8
Pharmaceutical manufacturer	2.5	43.3	8.5	0.6	8.5	6.9
College of pharmacy	1.3	43.3	13.1	4.6	11.1	7.9
Other	2.6	40.3	10.7	9.6	8.5	6.6
		Number				
Number of active pharmacists ³	112,335	...	...	13,160	...	...

¹Percents may not add to 100.0 because of rounding.

²Mean hours worked per week are calculated for pharmacists with a secondary employment setting. This excludes from the mean all pharmacists with only 1 practice setting. Therefore, the mean hours worked per week in the primary setting cannot be added to the mean hours worked per week in the secondary setting in order to obtain total hours worked per week.

³Includes 14,065 pharmacists with unknown employment settings.

spent the maximum hours in an average week (see survey questionnaire item 23b in appendix II, and see appendix III.) The remaining average of 1 hour was spent in their secondary practice setting (the work location in which they spent the second largest number of hours) and in any additional practice settings. Only 13 percent of the pharmacists had a secondary setting. Pharmacists who had one spent an average of 8 hours per week there. (This excludes the zero hours spent in a secondary setting by pharmacists with just one practice setting. Only pharmacists with a secondary setting are included in the average. Therefore, the 8 hours cannot be added to 42 hours in the primary setting to yield total average hours worked per week. One hour per week is the average length of time spent by all pharmacists in a secondary or additional practice setting. It includes the

zero hours spent in a secondary setting by the 87 percent of the pharmacists who had only one setting.)

The most popular secondary setting was the nursing home (table 15). Slightly more than one-third of the pharmacists with a secondary setting designated it as theirs. On the average, they spent 5 hours per week there.

Pharmacists whose primary setting was a college of pharmacy were most likely to have a secondary setting (table 15). Nearly 30 percent cited one, with 38 percent of them specifying a hospital. About one quarter of the pharmacists whose primary practice setting was a nursing home also had a secondary setting, which 25 percent of the time was the independent community pharmacy. Only 15 percent of the independent community pharmacists had a secondary setting, which was a nursing home in over half of the cases.

Pharmacists with more than one setting worked 6 hours longer per week than pharmacists with only one setting. The pharmacist who spent time in more than one setting had a 49-hour work week (with a standard deviation of 12) compared with his single-practice-setting colleagues, who worked 43 hours per week (also with a standard deviation of 12).

Activities performed

The average pharmacist had a work week of 43 hours and spent 24 hours or 56 percent of it dispensing prescriptions (table J). Most of the remaining hours were spent providing information to patients and to prescribers (4 and 3 hours, respectively) and in administrative functions (7 hours). The large standard deviations associated with these mean hours indicate wide variability in the hours spent by pharmacists in these activities.

Table J indicates that, within each activity, differences in hours by race were negligible. In addition, there were

no significant differences in hours worked in each activity by race when employment settings were held constant.

As would be expected, the primary activity of pharmacists was dispensing prescriptions; 75 percent of the pharmacists reported this as their primary service (table K). The next most mentioned primary activity was administration, as reported by 13 percent. Black pharmacists had the largest representation in administration as a primary activity (16 percent), while 13 percent of the white pharmacists reported this as their primary activity.

The mean number of hours worked by pharmacists ranged from 42 hours in the West to 45 hours in the South (table 16). In the Northeast, white and black pharmacists worked 3 hours more per week than American Indians and Asians. Asians spent 3 hours more than black pharmacists dispensing prescriptions and 5 hours fewer in administrative work. Otherwise, the hours they spent in each activity were nearly identical. American Indians spent more hours than any other race did in providing information to prescribers and patients. This

Table J. Mean hours worked per week by active pharmacists, and standard deviations, by race and primary activities performed, and number by race: United States, 1978-79

Primary activity	All races		White		Black		American Indian		Asian	
	Mean hours	Standard deviation	Mean hours	Standard deviation	Mean hours	Standard deviation	Mean hours	Standard deviation	Mean hours	Standard deviation
All activities	43	13	44	13	43	11	43	11	42	10
Providing information to prescribers	3	6	3	5	3	6	3	6	3	6
Administration	7	10	8	10	7	11	7	9	5	9
Providing information to patients	4	5	4	5	5	6	6	6	5	5
Dispensing prescriptions	24	14	24	14	24	15	22	14	23	13
Teaching and/or research	1	6	1	6	2	7	1	6	2	6
Manufacturing	1	3	1	3	1	4	1	4	1	4
Retailing	2	4	2	4	1	3	1	4	1	3
Other	1	6	1	6	1	5	1	6	1	5
Number of active pharmacists ¹	112,335		82,062		1,571		127		2,847	

¹Includes 80 pharmacists of other races, 10,040 pharmacists of unknown race, and 15,608 pharmacists with unknown primary activities.

Table K. Number of active pharmacists by race, and percent distribution by primary activity, according to race: United States, 1978-79

Primary activity	All races ¹	White	Black	American Indian	Asian	Other
Number						
Number of pharmacists ²	112,335	82,062	1,571	127	2,847	80
Percent distribution ³						
All activities	100.0	100.0	100.0	100.0	100.0	100.0
Providing information to prescribers	3.1	2.9	4.1	3.9	4.6	5.0
Administration	12.6	12.9	16.0	11.8	9.6	16.2
Providing information to patients	2.8	2.8	4.8	7.1	3.8	5.0
Dispensing prescriptions	74.9	75.2	68.5	70.9	74.7	71.2
Teaching and/or research	2.5	2.2	2.9	2.4	2.7	1.2
Manufacturing	0.7	0.7	1.1	0.8	0.9	—
Retailing	0.9	0.9	0.4	0.8	0.5	—
Other	2.4	2.4	2.3	2.4	3.1	1.2

¹Includes pharmacists of unknown race.

²Includes 15,608 pharmacists with unknown primary activities.

³Percents may not add to 100.0 because of rounding.

may be have been because as minority pharmacists they functioned more as a resource for health care, serving partially in the capacity of physicians, having assumed an information disseminating and drug counseling function that otherwise would have been performed by physicians. This may have been especially true if these pharmacists practiced in an area where they served their own people. However, this difference in hours for providing information appears to be significant only in the Northeast.

A greater percent of male pharmacists indicated administrative functions as their primary activity than did female pharmacists (14 percent versus 8 percent). Conversely, 78 percent of the female pharmacists cited dispensing prescriptions as their primary activity compared with 74 percent of the men (table L). Aside from those two activities, there is no difference by sex in the activities represented as primary by pharmacists.

Providing information to patients and prescribers was an important activity for pharmacists. However, more pharmacists under 40 years of age said that providing information

was a primary activity than did older pharmacists (table M). Teaching and research were also more popular for pharmacists under 40 years of age than for older ones. Fifty-eight percent of the younger group were involved in these activities, while only 50 percent of the active pharmacists were under 40 years of age. Retailing and administrative functions, however, were less popular as primary activities for pharmacists under 40 years of age than they were for older practitioners.

This breakdown by age supports a trend that has been noted in recent literature, that pharmacists are emerging into more medically professional roles.¹⁰ The data on age and activity indicate that younger pharmacists are less represented in retailing and administrative work and are more highly represented in the areas of providing information to prescribers and patients, and in research.

Weeks worked

Only 10 percent of pharmacists indicated they worked less than 11 months (less than 48 weeks) a year (table 17). Four out of 5 pharmacists indicated they worked 52 weeks per year (including paid vacation and sick leave). There is little difference in the distribution of weeks worked for pharmacists between 30 and 64 years of age. However, pharmacists under 30 years of age tended to work fewer weeks, with slightly less than 3 out of 4 working the entire year. New graduates beginning practice part way through the year lower the average weeks worked for this age group. Pharmacists 65 years of age and over had the largest difference in weeks worked from their younger counterparts. Only 6 out of 10 of them worked all 52 weeks. They also had the largest proportion working less than 11 months per year. These differences are probably due to two factors. First, pharmacists retiring who are 65 years of age and over stop working part way through the year, thereby reducing the average weeks worked for the entire age group. Second, pharmacists in that age group may actually cut down on the weeks they work, even when continuing to work a full week. They may take longer vacations or limited leaves of absence.

Table L. Number of active pharmacists by sex, and percent distribution by primary activity, according to sex: United States, 1978-79

Primary activity	Both sexes	Number	
		Male	Female
Number of active pharmacists ¹	96,724	81,279	15,445
		Percent distribution ²	
All activities	100.0	100.0	100.0
Providing information to prescribers	3.1	3.1	3.3
Administration	12.6	13.6	7.6
Providing information to patients	2.8	2.7	3.8
Dispensing prescriptions	74.9	74.3	78.3
Teaching and/or research	2.5	2.5	2.2
Manufacturing	0.7	0.7	0.7
Retailing	0.9	1.0	0.6
Other	2.4	2.2	3.6

¹Excludes pharmacists of unknown sex and pharmacists with unknown primary activities.

²Percents may not add to 100.0 because of rounding.

Table M. Number of active pharmacists by primary activity and percent distribution by age, according to primary activity: United States, 1978-79

Primary activity	All active pharmacists ¹	Age						
		Under 30 years	30-39 years	40-49 years	50-59 years	60-64 years	65 years and over	
		Percent distribution ²						
All activities	96,424	100.0	21.6	29.5	20.6	16.8	4.8	6.7
Providing information to prescribers	3,015	100.0	25.9	29.0	18.3	16.4	5.1	5.3
Administration	12,192	100.0	11.9	33.7	26.1	18.6	4.8	5.0
Providing information to patients	2,733	100.0	32.4	28.0	16.7	11.7	4.0	7.3
Dispensing prescriptions	72,256	100.0	22.6	28.7	20.0	16.7	4.9	7.1
Teaching and/or research	2,377	100.0	21.3	36.8	21.0	14.8	3.5	2.4
Manufacturing	684	100.0	20.3	30.1	19.6	17.8	6.3	5.8
Retailing	839	100.0	16.1	25.9	19.4	19.7	7.6	11.3
Other	2,328	100.0	26.4	28.5	17.0	17.6	5.0	5.4

¹Excludes pharmacists of unknown age and pharmacists with unknown activities.

²Percents may not add to 100.0 because of rounding.

Table N. Number and percent distribution of active pharmacists by selected weeks worked in year prior to interview, according to principal forms of employment: United States, 1978-79

Principal form of employment	All active pharmacists	Weeks worked			
		Less than 48	48-51	52	Unknown
Number					
All principal forms of employment	112,335	10,249	10,085	80,931	11,070
Sole owner	16,490	463	1,391	14,025	611
Partner	9,458	305	910	7,913	330
Manager ¹	30,808	1,668	2,532	25,736	872
Staff pharmacist	41,152	6,401	4,424	28,474	1,853
Volunteer	347	166	40	93	48
Other	5,615	787	582	3,890	356
Unknown	8,465	459	206	800	7,000
Percent distribution ²					
All principal forms of employment	100.0	9.7	9.9	80.3	...
Sole owner	100.0	2.9	8.8	88.3	...
Partner	100.0	3.3	10.0	86.7	...
Manager ¹	100.0	5.6	8.5	86.0	...
Staff pharmacist	100.0	16.3	11.3	72.4	...
Volunteer	100.0	55.5	13.4	31.1	...
Other	100.0	15.0	11.1	74.0	...

¹Includes assistant managers.

²Percents may not add to 100.0 because of rounding.

Female pharmacists were more likely than male pharmacists were to work less than 11 months per year. Twenty percent worked less than 48 weeks compared with only 8 percent of the men. A difference by sex existed in all age groups. Approximately two-thirds of the female pharmacists worked full 52-week years. The percent increases gradually until 65 years of age.

Table N indicates that the number of weeks worked per year is related to the principal form of employment. Sole owners and partners worked at least 11 months per year (97 percent of each worked 48 weeks or more). Approximately 7 out of 8 indicated they worked all 52 weeks per year. Managers and assistant managers, although salaried, worked nearly as many weeks as sole owners and partners. Ninety-five percent of the managers and assistant managers worked at least 48 weeks per year, and 86 percent worked all 52 weeks.

The inactive pharmacist

Inactive pharmacists were 16 percent of all licensed pharmacists of known activity status. They represent a potential source of manpower because they are trained and licensed and may at any time enter or return to the profession. There are additional pharmacists who were trained but who no longer are licensed and thus are not counted in the pool of potential pharmacists. These may include pharmacists who have given up their licenses because they are working in another field. Since the focus of this report is licensed pharmacists, the inactive pharmacists discussed in this section are all licensed.

The 20,912 known inactive pharmacists who were surveyed in 1978-79 are distributed by their State of residence and reason for inactivity in table 18.

In terms of potential pharmaceutical resources, 12 percent of the inactive pharmacists were seeking work in the profession. An additional 8 percent were homemakers. Less than half the inactive pharmacists (45 percent) said they were retired (table 19). The actual unemployment rate in the profession was less than 2 percent. That figure is based on the number of inactive pharmacists seeking work relative to the total number of licensed pharmacists. This is an especially low unemployment rate because it includes pharmacists who are in transition between jobs, new graduates seeking positions, and women who have decided to return to the labor force but who have not yet found employment in the profession.

Pharmacists under 30 years of age were the largest group seeking work in the profession. More than a quarter of them were either unemployed or working in another field, and, in either case, looking for work in the profession. For each age group between 30 and 60 years approximately 15 percent of the inactive pharmacists were seeking a position in pharmacy. For job hunters 60-64 years of age, the percent currently unemployed was comparable to the percents unemployed for those in the age categories between 30 and 60 years. The percent of those 60-64 years of age who were working in another field and seeking work in pharmacy dropped to half of the percents of the comparable groups in the lower age categories. Evidently, the unemployed pharmacist who was near retirement age still looked for work, but if he was working in another field, he was less likely to still be seeking a job as a pharmacist.

Fewer than half of the inactive pharmacists were 65 years of age or over (table O). Nearly one-fourth were under 40 years of age. Pharmacists under 40 years of age were inactive in the profession for the most part because they were working in other fields and were not seeking work

in pharmacy or because they were homemakers. The youngest pharmacists (under 30 years of age) also tended to be unemployed and seeking work in the profession. These were probably the newly licensed pharmacists just starting out and looking for a job. Nearly half of the inactive female pharmacists were under 40 years of age. Approximately half of them were inactive because they were homemakers. Homemaker responsibilities were virtually nonexistent as a reason for inactivity among male pharmacists.

At every age, a much higher percent of men than of women were employed in other fields and were not seeking work as pharmacists. The difference in the percents is striking.

Table O. Number and percent distribution of inactive pharmacists by age, according to sex: United States, 1978-79

Age	Both sexes	Male	Female	Sex unknown
Number				
All ages	20,912	16,997	3,845	70
Under 30 years	1,371	713	654	4
30-39 years	3,316	2,252	1,063	1
40-49 years	2,673	2,025	645	3
50-59 years	2,395	1,821	569	5
60-64 years	1,478	1,274	203	1
65 years and over	9,023	8,331	647	45
Unknown	656	581	64	11
Percent distribution ¹				
All ages	100.0	100.0	100.0	...
Under 30 years	6.8	4.3	17.3	...
30-39 years	16.4	13.7	28.1	...
40-49 years	13.2	12.3	17.1	...
50-59 years	11.8	11.1	15.0	...
60-64 years	7.3	7.8	5.4	...
65 years and over	44.5	50.7	17.1	...

¹Percents may not add to 100.0 because of rounding.

Almost 6 out of every 8 men 30-39 years of age were inactive for this reason, compared with 1 in 8 women. At 40-49 years of age, approximately 4.5 times as many men as women stated this as their reason for inactivity. Female pharmacists were more likely than male pharmacists were to be seeking work in the profession because they were unemployed rather than because they were working in other fields.

The distribution of inactive pharmacists by age was quite different for men than it was for women. One-half of the male pharmacists were 65 years of age or over compared with only 17 percent of the women. Conversely, nearly one-fifth of the inactive female pharmacists were under 30 years of age compared with 4 percent of the men. This disparity is partially related to the overall age composition of female pharmacists. Since two-thirds of all the licensed female practitioners (regardless of activity status) were under 40 years of age, it is not surprising that nearly half the inactive female pharmacists were also under 40. However, 42 percent of all the men were under 40 years of age (see table 2), and less than one-fifth of the inactive men were in that age group.

It appears that in the younger age groups, fewer female pharmacists worked in the profession than men did, either because they could not find employment or because they chose not to (for reasons such as being homemakers). In the older groups, it is not clear whether female pharmacists had a smaller percent inactive because they were working or because they had given up their licenses.

In tables P and Q the activity status for those pharmacists not reporting activity status is imputed by apportioning the 27,417 pharmacists with unknown activity status into categories in the same ratio as occurred among the 133,247 pharmacists whose activity status is known. Of the resulting 135,449 active pharmacists, the largest number was located

Table P. Active pharmacists, U.S. resident population, and active pharmacists per 100,000 people, by geographic region and division: United States, 1978-79

Geographic region and division	Active pharmacists, 1978-79 ¹	U.S. resident population in thousands, 1978 ²	Active pharmacists per 100,000 people, 1978-79
Total	135,449	222,095	61.0
Northeast	31,426	49,244	63.8
New England	8,482	12,303	69.0
Middle Atlantic	22,944	36,942	62.1
North Central	35,695	58,538	61.0
East North Central	24,673	41,509	59.4
West North Central	11,022	17,028	64.7
South	43,932	73,003	60.2
South Atlantic	20,937	35,882	58.3
East South Central	8,845	14,395	61.4
West South Central	14,150	22,725	62.3
West	24,142	41,311	58.4
Mountain	7,064	10,746	65.7
Pacific	17,078	30,565	55.9
Foreign ³	254	...	...

¹Number of active pharmacists (112,335) adjusted to include corresponding proportion of pharmacists with unknown activity status (84.306 percent of 27,417 = 23,114 additional active pharmacists) Data entries increase proportionally.

²As of July 1. Data from U.S. Bureau of the Census: Preliminary estimates of the intercensal population of States: 1970 to 1980, Series 1, Washington

³Includes pharmacists working in U.S. territories and foreign countries.

NOTE: See appendix III for States included in each geographic region and division.

Table Q. Number and percent distribution of active pharmacists by age, according to geographic region: United States, 1978-79

<i>Geographic region and age</i>	<i>Number</i>	<i>Percent distribution</i>	<i>Geographic region and age</i>	<i>Number</i>	<i>Percent distribution</i>
All regions			South		
All ages	135,449 ¹	...	All ages	43,932	100.0
Northeast			Under 30 years	10,001	23.0
All ages	31,426	100.0	30-59 years	29,561	68.0
Under 30 years	5,689	18.3	60 years and over	3,913	9.0
30-59 years	20,385	65.4	Unknown	457	...
60 years and over	5,089	16.3	West		
Unknown	253	...	All ages	24,142	100.0
North Central			Under 30 years	4,149	17.3
All ages	35,695	100.0	30-59 years	17,093	71.2
Under 30 years	8,399	23.6	60 years and over	2,749	11.5
30-59 years	22,620	63.6	Unknown	151	...
60 years and over	4,564	12.8	Foreign ²	254	...
Unknown	113	...			

¹Number of active pharmacists (112,335) adjusted to include corresponding proportion of pharmacists with unknown activity status (84.306 percent of 27,417 = 23,114 additional active pharmacists.)

²Includes pharmacists working in U.S. territories and foreign countries.

NOTE: See appendix III for States included in each geographic region.

in the South (43,932). Despite this large number, the South remained slightly below the national average of 61 active pharmacists per 100,000 population (table P). Of the divisions, New England had the highest ratio of active pharmacists per 100,000 population (69.0), while the Pacific had the lowest ratio (55.9).

Differences in the age composition of active pharmacists

in the four regions of the United States are shown in table Q. The Northeast had the largest proportion of pharmacists 60 years of age and over, while the South had the smallest proportion of pharmacists this age. The South and North Central regions had the most young pharmacists (under 30 years of age).

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6. Number of active pharmacists, by Hispanic origin and work State: United States, 1978-79	20	17. Number and percent distribution of active pharmacists by selected weeks worked in year prior to interview, according to sex and age: United States, 1978-79	29
7. Number and percent distribution of active pharmacists by age, according to race and Hispanic origin: United States, 1978-79	21	18. Number of inactive pharmacists, by reason for inactivity and State of residence: United States, 1978-79	30
8. Number and percent distribution of active pharmacists by sex, according to race and Hispanic origin: United States, 1978-79	22	19. Number and percent distribution of inactive pharmacists by reason for inactivity, according to sex and age: United States, 1978-79	31
9. Number and percent distribution of active pharmacists by geographic region of pharmacy school of graduation, according to race and Hispanic origin: United States, 1978-79	22		
10. Number of active pharmacists, by employment setting and work State: United States, 1978-79	23		
11. Number and percent distribution of active pharmacists by primary employment setting, according to age: United States, 1978-79	24		

Table 1. Number of licensed pharmacists, by activity status and work State: United States, 1978-79

<i>Work State¹</i>	<i>All licensed pharmacists</i>	<i>Activity status</i>		
		<i>Active</i>	<i>Inactive</i>	<i>Unknown</i>
All areas	160,664	112,335	20,912	27,417
Alabama	2,495	2,327	144	24
Alaska	232	124	32	76
Arizona	2,189	1,627	498	64
Arkansas	1,686	1,426	246	14
California	14,631	7,898	1,643	5,090
Colorado	2,414	1,502	394	518
Connecticut	2,605	1,790	358	457
Delaware	375	205	36	134
District of Columbia	732	555	56	121
Florida	6,856	4,414	1,251	1,191
Georgia	3,956	2,462	340	1,154
Hawaii	400	258	43	99
Idaho	716	474	101	141
Illinois	8,002	4,996	832	2,174
Indiana	3,892	3,065	416	411
Iowa	2,265	1,666	285	314
Kansas	1,581	1,193	250	138
Kentucky	2,393	1,799	196	398
Louisiana	3,108	1,655	279	1,174
Maine	647	537	88	22
Maryland	3,234	2,075	450	709
Massachusetts	5,144	4,263	827	54
Michigan	6,861	5,986	809	66
Minnesota	2,939	2,527	347	65
Mississippi	1,697	1,501	185	11
Missouri	3,708	2,952	701	55
Montana	699	474	131	94
Nebraska	1,472	1,203	257	12
Nevada	493	327	69	97
New Hampshire	571	408	84	79
New Jersey	5,800	3,568	797	1,435
New Mexico	875	709	136	30
New York	13,435	7,584	1,879	3,972
North Carolina	3,269	2,912	319	38
North Dakota	604	424	104	76
Ohio	6,501	4,202	618	1,681
Oklahoma	2,464	1,474	302	688
Oregon	1,988	1,396	228	364
Pennsylvania	8,943	5,990	1,479	1,474
Rhode Island	857	704	149	4
South Carolina	2,054	1,818	215	21
South Dakota	611	409	93	109
Tennessee	3,213	2,577	309	327
Texas	9,380	6,514	1,088	1,778
Utah	1,004	787	161	56
Vermont	307	211	36	60
Virginia	3,177	2,633	448	96
Washington	3,141	2,569	467	105
West Virginia	1,082	920	136	26
Wisconsin	3,224	2,747	447	30
Wyoming	396	244	61	91
U.S. territories	106	89	17	...
Foreign countries	240	165	75	...

¹For inactive pharmacists the work State is the place of residence. For pharmacists of unknown activity status the work State is the State of residence, mail, or licensure.

Table 2. Number and percent distribution of licensed pharmacists by activity status, according to sex and age: United States, 1978-79

Age	<i>All licensed pharmacists</i>				<i>Male</i>				<i>Female</i>				<i>Sex unknown</i>			
	Total	<i>Activity status</i>			Total	<i>Activity status</i>			Total	<i>Activity status</i>			Total	<i>Activity status</i>		
		Active	Inactive	Unknown		Active	Inactive	Unknown		Active	Inactive	Unknown		Active	Inactive	Unknown
Number																
All ages	160,664	112,335	20,912	27,417	133,474	94,158	16,997	22,319	26,147	18,115	3,845	4,187	1,043	62	70	911
Under 30 years	24,975	23,604	1,371	-	16,644	15,931	713	-	8,318	7,664	654	-	13	9	4	-
30-39 years	35,580	32,264	3,316	-	29,337	27,085	2,252	-	6,223	5,160	1,063	-	20	19	1	-
40-49 years	25,769	23,096	2,673	-	25,569	20,544	2,025	-	3,185	2,540	645	-	15	12	3	-
50-59 years	21,454	19,059	2,395	-	18,976	17,155	1,821	-	2,465	1,896	569	-	13	8	5	-
60-64 years	7,127	5,649	1,478	-	6,525	5,251	1,274	-	600	397	203	-	2	1	1	-
65 years and over	16,867	7,844	9,023	-	15,832	7,501	8,331	-	989	342	647	-	46	1	45	-
Unknown	28,892	819	656	27,417	23,591	691	581	22,319	4,367	116	64	4,187	934	12	11	911
Percent distribution																
All ages	100.0	84.3	15.7	...	100.0	84.7	15.3	...	100.0	82.5	17.5	...	100.0	47.0	53.0	...
Under 30 years	100.0	94.5	5.5	...	100.0	95.7	4.3	...	100.0	92.1	7.9	...	100.0	69.2	30.8	...
30-39 years	100.0	90.7	9.3	...	100.0	92.3	7.7	...	100.0	82.9	17.1	...	100.0	95.0	5.0	...
40-49 years	100.0	89.6	10.4	...	100.0	91.0	9.0	...	100.0	79.7	20.3	...	100.0	80.0	20.0	...
50-59 years	100.0	88.8	11.2	...	100.0	90.4	9.6	...	100.0	76.9	23.1	...	100.0	61.5	38.5	...
60-64 years	100.0	79.3	20.7	...	100.0	80.5	19.5	...	100.0	66.2	33.8	...	100.0	50.0	50.0	...
65 years and over	100.0	46.5	53.5	...	100.0	47.4	52.6	...	100.0	34.6	65.4	...	100.0	2.2	97.8	...
Unknown	100.0	55.5	44.5	...	100.0	54.3	45.7	...	100.0	64.4	35.6	...	100.0	52.2	47.8	...

Table 3. Number of active pharmacists, by age and work State: United States, 1978-79

Work State	All active pharmacists	Age						Unknown
		Under 30 years	30-39 years	40-49 years	50-59 years	60-64 years	65 years and over	
All areas	112,335	23,604	32,264	23,096	19,059	5,649	7,844	819
Alabama	2,327	506	767	488	416	66	55	29
Alaska	124	30	45	23	19	1	5	1
Arizona	1,627	274	423	324	343	107	149	7
Arkansas	1,426	302	496	256	242	40	89	1
California	7,898	1,344	2,584	1,829	1,315	369	395	62
Colorado	1,502	199	496	278	295	119	109	6
Connecticut	1,790	372	396	427	317	110	142	26
Delaware	205	26	50	69	41	9	7	3
District of Columbia	555	86	153	108	123	35	49	1
Florida	4,414	468	1,055	1,108	935	272	361	215
Georgia	2,462	607	891	463	354	78	63	6
Hawaii	258	44	89	54	44	11	12	4
Idaho	474	85	134	105	111	21	17	1
Illinois	4,996	1,069	1,536	949	744	263	416	19
Indiana	3,065	629	886	588	590	200	165	7
Iowa	1,666	494	503	272	222	84	85	6
Kansas	1,193	295	306	233	203	46	117	3
Kentucky	1,799	558	496	327	284	46	84	4
Louisiana	1,655	528	576	254	206	36	46	9
Maine	537	163	129	96	76	18	39	16
Maryland	2,075	335	626	444	357	146	154	13
Massachusetts	4,263	878	914	898	762	315	384	112
Michigan	5,986	1,490	1,433	1,214	1,088	297	458	6
Minnesota	2,527	558	726	496	425	129	157	36
Mississippi	1,501	389	516	236	224	53	78	5
Missouri	2,952	747	790	500	398	133	382	2
Montana	474	103	142	88	86	26	24	5
Nebraska	1,203	265	364	223	165	84	100	2
Nevada	327	74	96	59	41	30	23	4
New Hampshire	408	111	126	82	38	14	32	5
New Jersey	3,568	443	883	994	648	216	377	7
New Mexico	709	172	211	119	109	37	57	4
New York	7,584	1,097	1,986	1,852	1,321	481	835	12
North Carolina	2,912	699	898	558	514	106	123	14
North Dakota	424	124	125	80	61	13	19	2
Ohio	4,202	969	1,077	927	757	212	249	11
Oklahoma	1,474	351	548	220	212	60	79	4
Oregon	1,396	232	447	316	236	87	77	1
Pennsylvania	5,990	1,210	1,380	1,286	1,119	331	648	16
Rhode Island	704	221	117	160	116	41	46	3
South Carolina	1,818	528	562	295	275	62	95	1
South Dakota	409	131	93	93	51	20	20	1
Tennessee	2,577	619	859	463	353	99	133	51
Texas	6,514	1,557	2,292	1,188	971	233	255	18
Utah	787	109	225	176	187	43	40	7
Vermont	211	41	69	38	30	14	14	5
Virginia	2,633	656	789	526	422	102	125	13
Washington	2,569	420	692	553	575	174	145	10
West Virginia	920	269	258	152	160	37	43	1
Wisconsin	2,747	610	845	511	415	104	258	4
Wyoming	244	74	78	46	27	9	7	3
U.S. territories	89	9	23	23	21	4	1	8
Foreign countries	165	34	63	39	15	6	1	7

Table 4. Number of active pharmacists, by sex and work State: United States, 1978-79

<i>Work State</i>	<i>All active pharmacists</i>	<i>Male</i>	<i>Female</i>	<i>Sex unknown</i>
All areas	112,335	94,158	18,115	62
Alabama	2,327	1,992	335	-
Alaska	124	92	32	-
Arizona	1,627	1,369	256	2
Arkansas	1,426	1,262	164	-
California	7,898	6,534	1,358	6
Colorado	1,502	1,224	277	1
Connecticut	1,790	1,488	302	-
Delaware	205	166	39	-
District of Columbia	555	421	132	2
Florida	4,414	3,782	621	11
Georgia	2,462	2,049	410	3
Hawaii	258	196	62	-
Idaho	474	398	76	-
Illinois	4,996	4,173	820	3
Indiana	3,065	2,512	551	2
Iowa	1,666	1,370	295	1
Kansas	1,193	1,031	160	2
Kentucky	1,799	1,529	268	2
Louisiana	1,655	1,338	316	1
Maine	537	475	62	-
Maryland	2,075	1,719	355	1
Massachusetts	4,263	3,691	572	-
Michigan	5,986	4,991	995	-
Minnesota	2,527	2,135	391	1
Mississippi	1,501	1,305	196	-
Missouri	2,952	2,542	409	1
Montana	474	398	76	-
Nebraska	1,203	1,003	200	-
Nevada	327	283	44	-
New Hampshire	408	358	50	-
New Jersey	3,568	3,138	429	1
New Mexico	709	610	97	2
New York	7,584	6,741	843	-
North Carolina	2,912	2,393	515	4
North Dakota	424	334	90	-
Ohio	4,202	3,478	723	1
Oklahoma	1,474	1,232	242	-
Oregon	1,396	1,094	301	1
Pennsylvania	5,990	5,031	958	1
Rhode Island	704	560	144	-
South Carolina	1,818	1,508	310	-
South Dakota	409	305	104	-
Tennessee	2,577	2,138	436	3
Texas	6,514	5,319	1,192	3
Utah	787	703	84	-
Vermont	211	185	26	-
Virginia	2,633	2,099	533	1
Washington	2,569	1,985	580	4
West Virginia	920	745	175	-
Wisconsin	2,747	2,370	377	-
Wyoming	244	181	62	1
U.S. territories	89	61	27	1
Foreign countries	165	122	43	-

Table 5. Number of active pharmacists, by race and work State: United States, 1978-79

<i>Work State</i>	<i>All active pharmacists</i>	<i>White</i>	<i>Black</i>	<i>American Indian</i>	<i>Asian</i>	<i>Other</i>	<i>Race unknown</i>
All areas	112,335	90,422	1,730	144	3,048	94	16,897
Alabama	2,327	2,230	36	2	7	-	52
Alaska	124	101	-	1	4	-	18
Arizona	1,627	1,502	11	3	39	1	71
Arkansas	1,426	1,310	9	1	10	-	96
California	7,898	5,671	116	25	1,408	24	654
Colorado	1,502	1,344	7	4	34	1	112
Connecticut	1,790	1,640	14	1	6	1	128
Delaware	205	163	1	-	4	1	36
District of Columbia	555	266	173	-	28	1	87
Florida	4,414	179	4	-	2	-	4,229
Georgia	2,462	2,215	47	1	23	-	176
Hawaii	258	104	-	1	119	-	34
Idaho	474	435	-	1	7	-	31
Illinois	4,996	4,433	140	2	177	3	241
Indiana	3,065	2,825	36	1	22	-	181
Iowa	1,666	1,548	2	-	10	1	105
Kansas	1,193	1,112	2	4	6	3	66
Kentucky	1,799	1,708	9	2	1	-	79
Louisiana	1,655	1,456	89	4	31	1	74
Maine	537	501	1	-	-	-	35
Maryland	2,075	1,784	64	1	54	1	171
Massachusetts	4,263	3,489	13	3	35	11	712
Michigan	5,986	5,004	141	9	79	3	750
Minnesota	2,527	2,419	5	2	16	-	85
Mississippi	1,501	1,424	28	-	22	1	26
Missouri	2,952	2,758	78	5	20	1	90
Montana	474	448	-	1	-	-	25
Nebraska	1,203	1,151	5	-	10	-	37
Nevada	327	268	-	1	11	-	47
New Hampshire	408	351	-	-	2	-	55
New Jersey	3,568	3,173	47	2	40	-	306
New Mexico	709	598	2	3	12	1	93
New York	7,584	6,754	98	2	334	8	388
North Carolina	2,912	2,748	36	3	12	-	113
North Dakota	424	402	-	1	-	-	21
Ohio	4,202	3,892	61	3	38	1	207
Oklahoma	1,474	1,333	13	25	9	-	94
Oregon	1,396	1,280	2	4	63	6	41
Pennsylvania	5,990	142	5	-	5	-	5,838
Rhode Island	704	665	3	1	8	-	27
South Carolina	1,818	1,749	32	-	8	-	29
South Dakota	409	380	-	1	2	-	26
Tennessee	2,577	2,397	24	2	19	1	134
Texas	6,514	5,711	278	13	125	11	376
Utah	787	665	-	-	23	-	99
Vermont	211	194	-	-	1	-	16
Virginia	2,633	2,445	65	2	22	-	99
Washington	2,569	2,174	15	5	110	7	258
West Virginia	920	895	4	-	1	-	20
Wisconsin	2,747	2,653	8	2	18	3	63
Wyoming	244	222	-	-	1	-	21
U.S. territories	89	28	5	-	1	2	53
Foreign countries	165	83	1	-	9	-	72

Table 6. Number of active pharmacists, by Hispanic origin and work State: United States, 1978-79

<i>Work State</i>	<i>All active pharmacists</i>	<i>Hispanic</i>	<i>Non-Hispanic</i>	<i>Origin unknown</i>
All areas	112,335	1,671	86,481	24,183
Alabama	2,327	13	2,275	39
Alaska	124	-	103	21
Arizona	1,627	56	1,456	115
Arkansas	1,426	-	1,326	100
California	7,898	210	6,998	690
Colorado	1,502	26	1,362	114
Connecticut	1,790	10	1,657	123
Delaware	205	2	187	16
District of Columbia	555	7	466	82
Florida	4,414	227	2,480	1,707
Georgia	2,462	16	2,279	167
Hawaii	258	-	222	36
Idaho	474	2	438	34
Illinois	4,996	37	4,683	276
Indiana	3,065	15	2,829	221
Iowa	1,666	4	1,547	115
Kansas	1,193	8	1,116	69
Kentucky	1,799	5	1,721	73
Louisiana	1,655	40	1,542	73
Maine	537	3	503	31
Maryland	2,075	12	1,895	168
Massachusetts	4,263	3	3,555	705
Michigan	5,986	2	119	5,865
Minnesota	2,527	1	41	2,485
Mississippi	1,501	8	1,468	25
Missouri	2,952	21	2,838	93
Montana	474	1	444	29
Nebraska	1,203	5	1,157	41
Nevada	327	6	276	45
New Hampshire	408	3	353	52
New Jersey	3,568	18	3,332	218
New Mexico	709	86	528	95
New York	7,584	135	7,120	329
North Carolina	2,912	4	2,778	130
North Dakota	424	1	394	29
Ohio	4,202	20	3,989	193
Oklahoma	1,474	12	1,368	94
Oregon	1,396	-	94	1,302
Pennsylvania	5,990	71	5,708	211
Rhode Island	704	1	671	32
South Carolina	1,818	-	30	1,788
South Dakota	409	-	377	32
Tennessee	2,577	5	2,449	123
Texas	6,514	523	5,611	380
Utah	787	4	665	118
Vermont	211	2	195	14
Virginia	2,633	-	98	2,535
Washington	2,569	13	2,475	81
West Virginia	920	5	896	19
Wisconsin	2,747	-	31	2,716
Wyoming	244	5	217	22
U.S. territories	89	22	28	39
Foreign countries	165	1	91	73

Table 7. Number and percent distribution of active pharmacists by age, according to race and Hispanic origin: United States, 1978-79

Race and Hispanic origin	Total	Age						Unknown
		Under 30 years	30-39 years	40-49 years	50-59 years	60-64 years	65 years and over	
Number								
All active pharmacists	112,335	23,604	32,264	23,096	19,059	5,649	7,844	819
Race								
White	90,422	18,683	26,299	18,564	15,436	4,637	6,638	165
Black	1,730	344	577	346	325	60	78	-
American Indian	144	33	42	25	30	7	7	-
Asian	3,048	941	1,230	502	288	59	28	-
Other	94	27	42	10	12	1	2	-
Unknown	16,897	3,576	4,074	3,649	2,968	885	1,091	654
Hispanic origin								
Hispanic	1,671	368	480	399	313	49	61	1
Non-Hispanic	86,481	17,572	25,175	17,872	14,824	4,490	6,399	149
Unknown	24,183	5,664	6,609	4,825	3,922	1,110	1,384	669
Percent distribution ¹								
All active pharmacists	100.0	21.2	28.9	20.7	17.1	5.1	7.0	...
Race								
White	100.0	20.7	29.1	20.6	17.1	5.1	7.4	...
Black	100.0	19.9	33.4	20.0	18.8	3.5	4.5	...
American Indian	100.0	22.9	29.2	17.4	20.8	4.9	4.9	...
Asian	100.0	30.9	40.4	16.5	9.4	1.9	0.9	...
Other	100.0	28.7	44.7	10.6	12.8	1.1	2.1	...
Hispanic origin								
Hispanic	100.0	22.0	28.7	23.9	18.7	2.9	3.6	...
Non-Hispanic	100.0	20.4	29.2	20.7	17.2	5.2	7.4	...

¹Percents may not add to 100.0 because of rounding.

Table 8. Number and percent distribution of active pharmacists by sex, according to race and Hispanic origin: United States, 1978-79

Race and Hispanic origin	Total	Male	Female	Sex
				unknown
Number				
All active pharmacists	112,335	94,158	18,115	62
Race				
White	90,422	76,672	13,750	-
Black	1,730	1,212	518	-
American Indian	144	127	17	-
Asian	3,048	2,099	949	-
Other	94	77	17	-
Unknown	16,897	13,971	2,864	62
Hispanic origin				
Hispanic	1,671	1,224	447	-
Non-Hispanic	86,481	72,892	13,586	3
Unknown	24,183	20,042	4,082	59
Percent distribution				
All active pharmacists	100.0	83.9	16.1	...
Race				
White	100.0	84.8	15.2	...
Black	100.0	70.1	29.9	...
American Indian	100.0	88.2	11.8	...
Asian	100.0	68.9	31.1	...
Other	100.0	81.9	18.1	...
Hispanic origin				
Hispanic	100.0	73.2	26.8	...
Non-Hispanic	100.0	84.3	15.7	...

Table 9. Number and percent distribution of active pharmacists by geographic region of pharmacy school of graduation, according to race and Hispanic origin: United States, 1978-79

Race and Hispanic origin	Total	Geographic region of pharmacy school						Unknown
		South	West	Northeast	North Central	U.S. territory	Foreign country	
Number								
All active pharmacists	112,335	31,280	13,126	25,350	33,041	52	901	8,585
Race								
White	90,422	27,198	11,183	18,018	30,516	29	295	3,183
Black	1,730	1,128	62	170	327	1	7	35
American Indian	144	60	41	10	31	-	-	2
Asian	3,048	359	1,615	199	403	-	448	24
Other	94	19	34	16	16	-	8	1
Unknown	16,897	2,516	191	6,937	1,748	22	143	5,340
Hispanic	1,671	720	364	196	104	36	157	94
Non-Hispanic	86,481	25,907	11,254	23,920	21,517	4	727	3,152
Unknown	24,183	4,653	1,508	1,234	11,420	12	17	5,339
Percent distribution ¹								
All active pharmacists	100.0	30.7	12.9	24.9	32.4	0.1	1.0	...
Race								
White	100.0	31.2	12.8	20.6	35.0	0.0	0.3	...
Black	100.0	66.6	3.7	10.0	19.3	0.1	0.4	...
American Indian	100.0	42.2	28.9	7.0	21.8	-	-	...
Asian	100.0	11.9	53.4	6.6	13.3	-	14.8	...
Other	100.0	20.4	36.6	17.2	17.2	-	8.6	...
Hispanic	100.0	45.7	23.1	12.4	6.6	2.3	10.0	...
Non-Hispanic	100.0	31.1	13.5	28.7	25.8	-	-	...

¹Percents may not add to 100.0 because of rounding.

Table 10. Number of active pharmacists, by employment setting and work State: United States, 1978-79

<i>Work State</i>	<i>All active pharmacists</i>	<i>Independent community pharmacy</i>	<i>Chain pharmacy</i>	<i>Hospital</i>	<i>Pharmaceutical manufacturer</i>	<i>Other</i>	<i>Unknown</i>
All areas	112,335	38,417	28,413	25,119	2,477	3,844	14,065
Alabama	2,327	1,142	580	335	20	51	199
Alaska	124	28	30	40	-	4	22
Arizona	1,627	216	435	364	19	41	552
Arkansas	1,426	706	269	308	5	40	98
California	7,898	2,091	1,908	2,720	149	277	753
Colorado	1,502	511	402	380	23	28	158
Connecticut	1,790	900	323	314	34	59	160
Delaware	205	40	88	33	14	6	24
District of Columbia	555	88	109	195	5	63	95
Florida	4,414	1,279	1,294	879	44	98	820
Georgia	2,462	945	638	529	35	85	230
Hawaii	258	34	81	90	4	7	42
Idaho	474	196	137	88	5	12	36
Illinois	4,996	1,720	1,300	1,386	167	91	332
Indiana	3,065	809	1,097	568	279	86	226
Iowa	1,666	706	381	376	17	63	123
Kansas	1,193	497	294	256	16	32	98
Kentucky	1,799	748	481	397	20	44	109
Louisiana	1,655	614	475	368	34	56	108
Maine	537	204	154	83	1	7	88
Maryland	2,075	521	724	448	23	179	180
Massachusetts	4,263	1,791	725	767	66	123	791
Michigan	5,986	1,961	1,538	1,454	203	111	719
Minnesota	2,527	968	494	500	34	51	480
Mississippi	1,501	692	246	232	13	21	297
Missouri	2,952	1,129	811	754	79	93	86
Montana	474	204	115	94	4	20	37
Nebraska	1,203	485	227	239	14	57	181
Nevada	327	83	122	64	2	5	51
New Hampshire	408	171	92	73	3	7	62
New Jersey	3,568	1,702	576	538	324	127	301
New Mexico	709	252	157	154	7	34	105
New York	7,584	3,214	1,431	1,805	351	271	512
North Carolina	2,912	1,089	964	523	46	55	235
North Dakota	424	182	66	125	5	19	27
Ohio	4,202	1,350	1,491	949	88	111	213
Oklahoma	1,474	529	393	364	12	53	123
Oregon	1,396	496	365	325	10	44	156
Pennsylvania	5,990	523	1,109	1,086	66	635	2,571
Rhode Island	704	256	125	158	8	24	133
South Carolina	1,818	770	498	295	21	72	162
South Dakota	409	189	64	108	4	15	29
Tennessee	2,577	1,011	652	570	38	87	219
Texas	6,514	2,073	2,194	1,442	85	166	554
Utah	787	186	204	146	14	55	182
Vermont	211	115	37	35	2	3	19
Virginia	2,633	748	982	550	21	64	268
Washington	2,569	679	500	493	14	88	795
West Virginia	920	336	296	208	2	29	49
Wisconsin	2,747	1,108	677	795	8	48	111
Wyoming	244	116	54	33	1	17	23
U.S. territories	89	6	3	23	5	2	50
Foreign countries	165	8	5	60	13	8	71

Table 11. Number and percent distribution of active pharmacists by primary employment setting, according to age: United States, 1978-79

Primary employment setting	All active pharmacists	Age						Unknown
		Under 30 years	30-39 years	40-49 years	50-59 years	60-64 years	65 years and over	
Number								
All settings	112,335	23,604	32,264	23,096	19,059	5,649	7,844	819
Independent community pharmacy	38,408	4,994	9,235	9,300	8,045	2,426	4,279	129
Chain pharmacy	28,423	7,755	9,086	5,439	3,993	1,063	990	97
Clinic or medical building pharmacy	3,968	834	1,241	814	647	179	245	8
Nursing home	1,551	447	458	270	185	61	128	2
Hospital	19,603	6,306	6,980	2,743	2,320	649	538	67
Pharmaceutical manufacturer	2,476	206	682	775	582	158	67	6
College of pharmacy	1,288	294	457	224	217	56	36	4
Other	2,553	349	718	653	527	162	138	6
Unknown	14,065	2,419	3,407	2,878	2,543	895	1,423	500
Percent distribution ¹								
All settings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Independent community pharmacy	39.1	23.6	32.0	46.0	48.7	51.0	66.6	...
Chain pharmacy	28.9	36.6	31.5	26.9	24.2	22.4	15.4	...
Clinic or medical building pharmacy	4.0	3.9	4.3	4.0	3.9	3.8	3.8	...
Nursing home	1.6	2.1	1.6	1.3	1.1	1.3	2.0	...
Hospital	19.9	29.8	24.2	13.6	14.0	13.6	8.4	...
Pharmaceutical manufacturer	2.5	1.0	2.4	3.8	3.5	3.3	1.0	...
College of pharmacy	1.3	1.4	1.6	1.1	1.3	1.2	0.6	...
Other	2.6	1.6	2.5	3.2	3.2	3.4	2.2	...

¹Percents may not add to 100.0 because of rounding.

Table 12. Number and percent distribution of active pharmacists by primary employment setting, according to race and Hispanic origin: United States, 1978-79

Primary employment setting	All active pharmacists	Race						Hispanic origin		
		White	Black	American Indian	Asian	Other	Unknown	Hispanic	Non-Hispanic	Unknown
Number										
All settings	112,335	90,422	1,730	144	3,048	94	16,897	1,671	86,481	24,183
Independent community pharmacy	38,408	35,110	401	36	476	20	2,365	486	31,044	6,878
Chain pharmacy	28,423	24,200	451	39	790	25	2,918	516	22,592	5,335
Clinic or medical building pharmacy	3,968	3,341	151	10	234	8	224	88	3,198	682
Nursing home	1,551	667	3	3	31	-	847	18	1,347	186
Hospital	19,603	16,379	486	38	1,223	32	1,445	343	15,564	3,696
Pharmaceutical manufacturer	2,476	2,298	36	4	48	-	90	20	2,040	416
College of pharmacy	1,288	1,052	38	2	37	-	159	16	1,058	214
Other	2,553	1,759	35	3	47	-	709	32	2,238	283
Unknown	14,065	5,616	129	9	162	9	8,140	152	7,420	6,493
Percent distribution ¹										
All settings	100.0	100.0	100.0	100.0	100.0	100.0	...	100.0	100.0	...
Independent community pharmacy	39.1	41.4	25.0	26.7	16.5	23.5	...	32.0	39.3	...
Chain pharmacy	28.9	28.5	28.2	28.9	27.4	29.4	...	34.0	28.6	...
Clinic or medical building pharmacy	4.0	3.9	9.4	7.4	8.1	9.4	...	5.8	4.0	...
Nursing Home	1.6	0.8	0.2	2.2	1.1	-	...	1.2	1.7	...
Hospital	19.9	19.3	30.4	28.2	42.4	37.6	...	22.6	19.7	...
Pharmaceutical manufacturer	2.5	2.7	2.2	3.0	1.7	-	...	1.3	2.6	...
College of pharmacy	1.3	1.2	2.4	1.5	1.3	-	...	1.1	1.3	...
Other	2.6	2.1	2.2	2.2	1.6	-	...	2.1	2.8	...

¹Percents may not add to 100.0 because of rounding.

Table 13. Number of active pharmacists, by principal forms of employment and work State: United States, 1978-79

<i>Work State</i>	<i>All active pharmacists</i>	<i>Sole owner</i>	<i>Partner</i>	<i>Assistant manager</i>	<i>Manager</i>	<i>Staff pharmacist</i>	<i>Other¹</i>	<i>Employment unknown</i>
All areas	112,335	16,490	9,458	21,295	9,513	41,152	5,962	8,465
Alabama	2,327	406	231	311	147	983	61	188
Alaska	124	15	4	33	8	43	5	16
Arizona	1,627	147	38	357	138	653	68	226
Arkansas	1,426	309	163	246	85	448	72	103
California	7,898	1,000	521	1,437	463	3,461	405	611
Colorado	1,502	209	110	293	81	642	56	111
Connecticut	1,790	270	160	275	117	764	87	117
Delaware	205	26	9	48	11	80	17	14
District of Columbia	555	29	19	90	51	243	53	70
Florida	4,414	547	300	963	415	1,300	225	664
Georgia	2,462	404	260	443	329	720	131	175
Hawaii	258	16	2	75	9	109	15	32
Idaho	474	84	63	84	24	165	23	31
Illinois	4,996	719	464	914	427	2,044	211	217
Indiana	3,065	305	219	734	459	887	301	160
Iowa	1,666	315	177	282	72	643	86	91
Kansas	1,193	247	121	226	88	396	53	62
Kentucky	1,799	286	255	352	201	534	104	67
Louisiana	1,655	302	128	331	113	597	105	79
Maine	537	93	37	104	13	221	15	54
Maryland	2,075	168	133	401	220	843	173	137
Massachusetts	4,263	599	191	721	265	1,418	167	902
Michigan	5,986	750	440	197	714	2,233	88	664
Minnesota	2,527	250	64	336	94	1,131	451	201
Mississippi	1,501	374	189	205	88	526	62	57
Missouri	2,952	481	231	675	322	1,038	99	106
Montana	474	99	37	80	33	175	26	24
Nebraska	1,203	230	103	174	71	416	75	134
Nevada	327	40	14	73	13	138	5	44
New Hampshire	408	62	28	68	21	169	13	47
New Jersey	3,568	635	371	642	223	1,240	268	189
New Mexico	709	118	34	137	45	254	33	88
New York	7,584	1,120	1,015	1,333	464	2,845	492	315
North Carolina	2,912	422	340	742	328	840	95	145
North Dakota	424	102	17	67	35	153	31	19
Ohio	4,202	505	323	983	638	1,397	203	153
Oklahoma	1,474	258	129	333	153	445	69	87
Oregon	1,396	206	113	227	66	634	90	60
Pennsylvania	5,990	1,111	489	1,320	712	1,788	380	190
Rhode Island	704	71	49	121	39	300	29	95
South Carolina	1,818	262	175	337	199	566	118	161
South Dakota	409	100	34	63	22	144	24	22
Tennessee	2,577	454	287	397	281	898	68	192
Texas	6,514	958	477	1,385	445	2,586	301	362
Utah	787	127	44	140	41	332	66	37
Vermont	211	39	30	42	10	70	5	15
Virginia	2,633	270	234	505	302	1,081	113	128
Washington	2,569	366	170	332	115	899	139	548
West Virginia	920	140	83	240	97	300	35	25
Wisconsin	2,747	393	316	421	168	1,239	111	99
Wyoming	244	47	15	42	21	85	16	18
U.S. territories	89	2	2	20	5	9	3	48
Foreign countries	165	2	-	38	12	27	21	65

¹Includes volunteers.

Table 14. Number and percent distribution of active pharmacists by total hours worked per week, according to principal forms of employment and sex: United States, 1978-79

Principal form of employment and sex	Total hours				
	All active pharmacists	1-35	36-45	More than 45	Unknown
Number					
All principal forms of employment					
Both sexes	112,335	13,453	52,129	37,049	9,704
Male	94,158	8,323	42,787	35,193	7,855
Female	18,115	5,128	9,341	1,855	1,791
Sex unknown	62	2	1	1	58
Sole owner					
Both sexes	16,490	541	2,420	13,111	418
Male	16,069	483	2,330	12,855	401
Female	421	58	90	256	17
Sex unknown	-	-	-	-	-
Partner					
Both sexes	9,458	591	2,654	6,045	168
Male	8,984	444	2,534	5,854	152
Female	474	147	120	191	16
Sex unknown	-	-	-	-	-
Manager ¹					
Both sexes	30,808	1,417	18,716	10,262	413
Male	27,277	1,019	16,227	9,671	360
Female	3,531	398	2,489	591	53
Sex unknown	-	-	-	-	-
Staff pharmacist					
Both sexes	41,152	9,600	25,297	5,020	1,235
Male	29,711	5,396	19,038	4,398	879
Female	11,440	4,204	6,259	622	355
Sex unknown	1	-	-	-	1
Other ²					
Both sexes	5,962	976	2,486	2,230	270
Male	5,191	735	2,166	2,055	235
Female	771	241	320	175	35
Sex unknown	-	-	-	-	-
Employment unknown					
Both sexes	8,465	328	553	381	7,200
Male	6,926	246	492	360	5,828
Female	1,478	80	63	20	1,315
Sex unknown	61	2	1	1	57
Percent distribution ³					
All principal forms of employment					
Both sexes	100.0	13.1	50.8	36.1	...
Male	100.0	8.6	49.6	40.8	...
Female	100.0	31.4	57.2	11.4	...
Sole owner					
Both sexes	100.0	3.4	15.1	81.6	...
Male	100.0	3.1	14.9	82.1	...
Female	100.0	14.4	22.3	63.4	...
Partner					
Both sexes	100.0	6.4	28.6	65.1	...
Male	100.0	5.0	28.7	66.3	...
Female	100.0	32.1	26.2	41.7	...
Manager ¹					
Both sexes	100.0	4.7	61.6	33.8	...
Male	100.0	3.8	60.3	35.9	...
Female	100.0	11.4	71.6	17.0	...

See footnotes at end of table.

Table 14. Number and percent distribution of active pharmacists by total hours worked per week, according to principal forms of employment and sex: United States, 1978-79—Con.

Principal form of employment and sex	All active pharmacists	Total hours				Unknown
		1-35	36-45	More than 45		
Staff pharmacist		Percent distribution ³				
Both sexes	100.0	24.1	63.4	12.6	...	
Male	100.0	18.7	66.0	15.2	...	
Female	100.0	37.9	56.5	5.6	...	
Other ²						
Both sexes	100.0	17.2	43.7	39.2	...	
Male	100.0	14.8	43.7	41.5	...	
Female	100.0	32.7	43.5	23.8	...	

¹Includes assistant managers.

²Includes volunteers.

³Percents may not add to 100.0 because of rounding.

Table 15. Number and percent distribution of active pharmacists by secondary employment settings, according to primary employment settings: United States, 1978-79

Primary employment setting	All active pharmacists	Secondary employment setting								
		None or unknown	Independent community pharmacy	Chain pharmacy	Clinic or medical building pharmacy	Nursing home	Hospital	Pharmaceutical manufacturer	College of pharmacy	Other
Number										
All settings	112,335	99,943	2,262	1,183	937	4,878	2,194	75	616	1,247
Independent community pharmacy	38,417	32,932	...	386	301	3,168	1,557	25	69	379
Chain pharmacy	28,413	26,207	480	79	176	881	330	13	38	209
Clinic or medical building pharmacy	3,970	3,071	169	108	...	299	202	6	46	69
Nursing home	1,551	1,146	101	40	29	...	66	2	12	155
Hospital	19,598	16,574	1,118	388	200	427	193	14	393	291
Pharmaceutical manufacturer	2,477	2,205	155	52	5	2	28	...	9	21
College of pharmacy	1,290	919	92	31	27	19	142	5	...	55
Other	2,554	1,824	147	99	199	82	76	10	49	68
Unknown	14,065	14,065	...	...	...	...	...	...	...	...
Percent distribution ¹										
All settings	100.0	...	16.9	8.8	7.0	36.4	16.4	0.6	4.6	9.3
Independent community pharmacy	100.0	...	..	7.0	5.5	57.8	21.1	0.5	1.3	6.9
Chain pharmacy	100.0	...	21.8	3.6	8.0	40.0	15.0	0.6	1.7	9.5
Clinic or medical building pharmacy	100.0	...	18.8	12.0	...	33.3	22.5	0.7	5.1	7.7
Nursing home	100.0	...	24.9	9.9	7.2	...	16.3	0.5	3.0	38.3
Hospital	100.0	...	37.0	12.8	6.6	14.1	6.4	0.5	13.0	9.6
Pharmaceutical manufacturer	100.0	...	57.0	19.1	1.8	0.7	10.3	...	3.3	7.7
College of pharmacy	100.0	...	24.8	8.4	7.3	5.1	38.3	1.4	...	14.8
Other	100.0	...	20.1	13.6	27.3	11.2	10.4	1.4	6.7	9.3

¹Percents may not add to 100.0 because of rounding.

Table 16. Mean hours worked per week by active pharmacists, and standard deviations, by race, geographic region (with number of pharmacists), and activities performed: United States, 1978-79

Geographic region and activity	All races		White		Black		American Indian		Asian	
	Mean hours	Standard deviation	Mean hours	Standard deviation	Mean hours	Standard deviation	Mean hours	Standard deviation	Mean hours	Standard deviation
Northeast (23,994 pharmacists)										
All activities	43	13	43	13	43	12	40	17	40	7
Providing information to prescribers	3	---	3	6	3	7	7	19	3	6
Administration	8	---	8	11	8	13	2	4	3	6
Providing information to patients	4	---	4	6	5	5	7	9	5	5
Dispensing prescriptions	22	---	22	14	20	15	21	15	24	12
Teaching and/or research	2	---	2	7	2	8	0	1	2	8
Manufacturing	1	---	1	4	1	5	1	2	2	5
Retailing	2	---	2	6	2	5	2	2	1	2
Other	1	---	1	6	2	7	0	0	1	3
North Central (30,042 pharmacists)										
All activities	43	13	43	13	44	12	42	10	42	9
Providing information to prescribers	3	---	3	5	3	6	4	4	3	5
Administration	8	---	8	11	9	13	9	11	6	10
Providing information to patients	4	---	4	5	4	6	5	5	4	6
Dispensing prescriptions	24	---	24	14	25	15	18	12	23	13
Teaching and/or research	1	---	1	6	1	4	-	1	3	8
Manufacturing	1	---	1	3	1	5	2	8	1	4
Retailing	2	---	2	4	1	3	1	2	1	2
Other	1	---	1	5	1	4	1	2	1	5
South (35,689 pharmacists)										
All activities	45	12	45	12	43	11	45	10	43	10
Providing information to prescribers	2	---	2	5	3	6	3	5	3	5
Administration	7	---	7	10	6	10	7	9	4	8
Providing information to patients	4	---	5	5	5	6	6	5	5	6
Dispensing prescriptions	26	---	26	14	24	14	25	14	26	13
Teaching and/or research	2	---	1	5	2	7	1	4	2	6
Manufacturing	1	---	1	3	1	3	-	1	1	4
Retailing	2	---	2	4	1	3	2	5	1	2
Other	1	---	1	6	1	6	1	3	1	5
West (17,611 pharmacists)										
All activities	42	13	42	13	42	12	42	13	41	10
Providing information to prescribers	3	---	3	6	4	7	4	5	3	5
Administration	7	---	7	10	7	10	5	8	5	9
Providing information to patients	5	---	5	5	5	6	5	6	5	5
Dispensing prescriptions	22	---	23	13	21	15	21	14	22	13
Teaching and/or research	1	---	1	6	1	5	3	10	1	5
Manufacturing	1	---	1	3	1	3	1	2	1	3
Retailing	2	---	2	4	1	2	1	1	1	3
Other	2	---	2	7	1	6	3	10	2	6

Table 17. Number and percent distribution of active pharmacists by selected weeks worked in year prior to interview, according to sex and age: United States, 1978-79

Sex and age	All active pharmacists	Weeks worked			
		Less than 48	48-51	52	Unknown
Both sexes		Number			
All ages	112,335	10,249	10,085	80,931	11,070
Under 30 years	23,604	3,358	2,336	15,547	2,363
30-39 years	32,264	2,240	2,784	24,285	2,955
40-49 years	23,096	1,142	1,938	17,891	2,125
50-59 years	19,059	1,032	1,598	14,690	1,739
60-64 years	5,649	486	482	4,096	585
65 years and over	7,844	1,945	916	4,238	745
Age unknown	819	46	31	184	558
Male					
All ages	94,158	7,030	8,081	70,004	9,043
Under 30 years	15,931	1,823	1,487	11,073	1,548
30-39 years	27,085	1,278	2,219	21,139	2,449
40-49 years	20,544	791	1,645	16,287	1,821
50-59 years	17,155	803	1,371	13,452	1,529
60-64 years	5,251	437	448	3,836	530
65 years and over	7,501	1,859	885	4,056	701
Age unknown	691	39	26	161	465
Female					
All ages	18,115	3,218	2,004	10,926	1,967
Under 30 years	7,664	1,535	849	4,474	806
30-39 years	5,160	961	565	3,146	488
40-49 years	2,540	351	293	1,604	292
50-59 years	1,896	229	227	1,238	202
60-64 years	397	49	34	260	54
65 years and over	342	86	31	181	44
Age unknown	116	7	5	23	81
Sex unknown					
All ages	62	1	-	1	60
Both sexes		Percent distribution ¹			
All ages	100.0	10.1	10.0	79.9	...
Under 30 years	100.0	15.8	11.0	73.2	...
30-39 years	100.0	7.6	9.5	82.9	...
40-49 years	100.0	5.4	9.2	85.3	...
50-59 years	100.0	6.0	9.2	84.8	...
60-64 years	100.0	9.6	9.5	80.9	...
65 years and over	100.0	27.4	12.9	59.7	...
Male					
All ages	100.0	8.2	9.5	82.3	...
Under 30 years	100.0	12.7	10.3	77.0	...
30-39 years	100.0	5.2	9.0	85.8	...
40-49 years	100.0	4.2	8.8	87.0	...
50-59 years	100.0	5.1	8.8	86.1	...
60-64 years	100.0	9.3	9.5	81.2	...
65 years and over	100.0	27.3	13.0	59.6	...
Female					
All ages	100.0	19.9	12.4	67.7	...
Under 30 years	100.0	22.4	12.4	65.2	...
30-39 years	100.0	20.6	12.1	67.3	...
40-49 years	100.0	15.6	13.0	71.4	...
50-59 years	100.0	13.5	13.4	73.1	...
60-64 years	100.0	14.3	9.9	75.8	...
65 years and over	100.0	28.9	10.4	60.7	...

¹Percents may not add to 100.0 because of rounding.

Table 18. Number of inactive pharmacists, by reason for inactivity and State of residence: United States, 1978-79

State of residence	All inactive pharmacists	Retired	Reason for inactivity						Homemaker	Other	Unknown
			Unemployed		Working in another field						
			Seeking work in pharmacy	Not seeking work in pharmacy ¹	Seeking work in pharmacy	Not seeking work in pharmacy					
All areas	20,912	7,879	1,469	272	576	4,587	1,397	1,322	3,410		
Alabama	144	24	12	6	7	48	9	6	32		
Alaska	32	10	2	1	1	11	2	2	3		
Arizona	498	237	35	4	10	73	16	21	102		
Arkansas	246	119	7	1	8	47	4	20	40		
California	1,643	620	93	36	53	367	109	121	244		
Colorado	394	192	25	6	5	72	17	21	56		
Connecticut	358	140	29	6	14	74	28	17	50		
Delaware	36	12	1	-	-	9	10	1	3		
District of Columbia	56	25	2	1	3	12	2	2	9		
Florida	1,251	564	86	9	21	144	49	54	324		
Georgia	340	102	29	3	9	85	29	33	50		
Hawaii	43	19	3	1	1	10	2	2	5		
Idaho	101	36	4	2	2	29	8	6	14		
Illinois	832	343	49	7	23	171	77	44	118		
Indiana	416	136	13	8	11	98	52	28	70		
Iowa	285	115	16	5	9	55	19	14	52		
Kansas	250	86	10	5	2	54	21	20	52		
Kentucky	196	87	10	2	4	38	19	14	22		
Louisiana	279	101	9	3	8	80	22	31	25		
Maine	88	35	3	1	1	16	8	5	19		
Maryland	450	138	23	2	13	149	20	38	67		
Massachusetts	827	360	57	-	20	180	21	62	127		
Michigan	809	12	-	-	-	29	6	7	755		
Minnesota	347	101	34	5	12	75	27	47	46		
Mississippi	185	55	8	-	5	51	17	18	31		
Missouri	701	316	50	4	15	138	25	-	153		
Montana	131	61	9	3	2	26	11	5	14		
Nebraska	257	104	12	7	13	71	18	17	15		
Nevada	69	31	6	1	3	6	6	2	14		
New Hampshire	84	38	4	1	2	10	5	1	23		
New Jersey	797	295	69	13	17	217	56	33	97		
New Mexico	136	38	7	-	4	29	1	5	52		
New York	1,879	932	240	17	54	379	81	67	109		
North Carolina	319	88	13	15	15	69	40	55	24		
North Dakota	104	20	11	2	7	30	7	9	18		
Ohio	618	218	66	12	7	138	89	35	53		
Oklahoma	302	111	7	7	10	82	16	17	52		
Oregon	228	60	26	3	9	70	26	17	17		
Pennsylvania	1,479	648	101	26	57	392	116	103	36		
Rhode Island	149	45	23	3	10	28	11	4	25		
South Carolina	215	64	18	-	6	67	15	35	10		
South Dakota	93	38	8	1	1	17	5	7	16		
Tennessee	309	85	25	-	8	79	37	26	49		
Texas	1,088	332	50	27	35	323	84	91	146		
Utah	161	49	10	3	-	51	5	13	30		
Vermont	36	19	3	-	2	4	3	1	4		
Virginia	448	147	37	4	13	121	36	59	31		
Washington	467	151	43	5	26	112	53	29	48		
West Virginia	136	65	5	1	3	25	15	17	5		
Wisconsin	447	209	53	1	12	84	33	24	31		
Wyoming	61	25	4	-	1	16	3	3	9		
U.S. territories	17	3	1	-	-	5	2	1	5		
Foreign countries	75	18	8	2	2	21	4	12	8		

¹In a few States this was phrased as "in training in pharmacy."

Table 19. Number and percent distribution of inactive pharmacists by reason for inactivity, according to sex and age: United States, 1978-79

Sex and age	All inactive pharmacists	Reason for inactivity								
		Retired	Unemployed		Working in another field			Homemaker	Other	Unknown
			Seeking work in pharmacy	Not seeking work in pharmacy ¹	Seeking work in pharmacy	Not seeking work in pharmacy	Homemaker			
Both sexes²		Number								
All ages	20,912	7,879	1,469	272	576	4,587	1,397	1,322	3,410	
Under 30 years	1,371	9	247	72	70	263	224	267	219	
30-39 years	3,316	17	281	54	148	1,510	553	304	449	
40-49 years	2,673	56	218	52	126	1,278	300	235	408	
50-59 years	2,395	305	257	43	126	875	214	247	327	
60-64 years	1,478	663	131	15	36	268	41	120	204	
65 years and over	9,023	6,403	326	35	68	313	52	138	1,688	
Age unknown	656	425	9	1	2	80	13	11	115	
Male										
All ages	16,997	7,282	1,045	194	476	4,187	35	1,033	2,745	
Under 30 years	713	7	118	46	49	203	3	167	120	
30-39 years	2,252	11	154	34	128	1,396	8	220	301	
40-49 years	2,025	41	141	35	106	1,196	4	194	308	
50-59 years	1,821	249	197	33	98	783	5	214	242	
60-64 years	1,274	601	117	11	32	240	2	104	167	
65 years and over	8,331	5,984	310	34	62	292	12	127	1,510	
Age unknown	581	389	8	1	1	77	1	7	97	
Female										
All ages	3,845	586	424	78	99	400	1,362	289	607	
Under 30 years	654	2	129	26	21	60	221	100	95	
30-39 years	1,063	6	127	20	20	114	545	84	147	
40-49 years	645	15	77	17	20	82	296	41	97	
50-59 years	569	56	60	10	28	92	209	33	81	
60-64 years	203	62	14	4	4	28	39	16	36	
65 years and over	647	415	16	1	6	21	40	11	137	
Age unknown	64	30	1	-	-	3	12	4	14	
Both sexes²		Percent distribution ³								
All ages	100.0	45.0	8.4	1.6	3.3	26.2	8.0	7.6	...	
Under 30 years	100.0	0.8	21.4	6.2	6.1	22.8	19.4	23.2	...	
30-39 years	100.0	0.6	9.8	1.9	5.2	52.7	19.3	10.6	...	
40-49 years	100.0	2.5	9.6	2.3	5.6	56.4	13.2	10.4	...	
50-59 years	100.0	14.8	12.4	2.1	6.1	42.3	10.4	12.0	...	
60-64 years	100.0	52.0	10.3	1.2	2.8	21.0	3.2	9.4	...	
65 years and over	100.0	87.3	4.4	0.5	0.9	4.3	0.7	1.9	...	
Male										
All ages	100.0	51.1	7.3	1.4	3.3	29.4	0.2	7.2	...	
Under 30 years	100.0	1.2	19.9	7.8	8.3	34.2	0.5	28.2	...	
30-39 years	100.0	0.6	7.9	1.7	6.6	71.6	0.4	11.3	...	
40-49 years	100.0	2.4	8.2	2.0	6.2	69.7	0.2	11.3	...	
50-59 years	100.0	15.8	12.5	2.1	6.2	49.6	0.3	13.6	...	
60-64 years	100.0	54.3	10.6	1.0	2.9	21.7	0.2	9.4	...	
65 years and over	100.0	87.7	4.5	0.5	0.9	4.3	0.2	1.9	...	
Female										
All ages	100.0	18.1	13.1	2.4	3.1	12.4	42.1	8.9	...	
Under 30 years	100.0	0.4	23.1	4.6	3.8	10.7	39.5	17.9	...	
30-39 years	100.0	0.7	13.9	2.2	2.2	12.4	59.5	9.2	...	
40-49 years	100.0	2.7	14.0	3.1	3.6	15.0	54.0	7.5	...	
50-59 years	100.0	11.5	12.3	2.0	5.7	18.8	42.8	6.8	...	
60-64 years	100.0	37.1	8.4	2.4	2.4	16.8	23.4	9.6	...	
65 years and over	100.0	81.4	3.1	0.2	1.2	4.1	7.8	2.2	...	

¹In a few States this was phrased as "in training in pharmacy."

²Includes 70 inactive pharmacists of unknown sex.

³Percents may not add to 100.0 because of rounding.

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Appendix I

Technical notes on methods

Cooperative Health Statistics System

In response to a need for demographic and practice data on health professions personnel, the National Center for Health Statistics established the manpower component of the Cooperative Health Statistics System (CHSS). This system was designed to decentralize the collection of data from the Federal to the State level. The data were then to be transferred from each State in the system to the Center. CHSS never fully developed to provide health manpower data in all States,

and eventually this component of the system was terminated. While it was in operation it provided data on pharmacists for those States that were participating in the system at the time of the 1978-79 Survey of Licensed Pharmacists. The remaining States' data were collected via a contract with the American Association of Colleges of Pharmacy (AACP). The appendix table shows the contractor used in each State.

Appendix table. Year of data collection, contractor conducting Survey of Licensed Pharmacists, and response rate, by State: United States, 1978-79

<i>State</i>	<i>Data collection year</i>	<i>Contractor¹</i>	<i>Percent response rate²</i>
All States . . . . .	...	...	84
Alabama	1978	CHSS	91
Alaska	1979	AACP	82
Arizona	1979	CHSS	82
Arkansas	1979	CHSS	93
California	1979	AACP	69
Colorado	1978	AACP	85
Connecticut	1978	AACP	85
Delaware	1978	AACP	82
District of Columbia	1978	AACP	89
Florida	1978	CHSS	79
Georgia	1979	AACP	75
Hawaii	1978	AACP	89
Idaho	1977	AACP	87
Illinois	1978	AACP	77
Indiana	1979	AACP	93
Iowa	1978	AACP	89
Kansas	1977	AACP	92
Kentucky	1977	AACP	86
Louisiana	1979	AACP	63
Maine	1978	CHSS	90
Maryland	1979	AACP	84
Massachusetts	1978	CHSS	100
Michigan	1978	CHSS	92
Minnesota	1978	CHSS	95
Mississippi	1979	CHSS	86
Missouri	1978	CHSS	96
Montana	1978	AACP	92
Nebraska	1979	CHSS	97
Nevada	1978	AACP	97
New Hampshire	1978	CHSS	88
New Jersey	1978	AACP	82
New Mexico	1978	AACP	93
New York	1977	AACP	76
North Carolina	1978	CHSS	98
North Dakota	1978	AACP	94
Ohio	1978	AACP	80
Oklahoma	1979	AACP	79
Oregon	1980	CHSS	79

See footnotes at end of table.

Appendix table. Year of data collection, contractor conducting Survey of Licensed Pharmacists, and response rate, by State: United States, 1978-79—Con.

State	Data collection year	Contractor ¹	Percent response rate ²
Pennsylvania	1978	CHSS	81
Rhode Island	1978	CHSS	93
South Carolina	1978	CHSS	100
South Dakota	1977	AACP	90
Tennessee	1978	CHSS	89
Texas	1979	AACP	83
Utah	1979	CHSS	75
Vermont	1978	AACP	89
Virginia	1978	CHSS	97
Washington	1978	CHSS	90
West Virginia	1979	CHSS	99
Wisconsin	1978	CHSS	84
Wyoming	1978	AACP	84

¹CHSS — the Cooperative Health Statistics System.
²AACP — the American Association of Colleges of Pharmacy.
²Prior to the removal of duplicate records.

Minimum data set

As part of CHSS, a uniform minimum data set was developed by the Center in consultation with other producers and users of health manpower data. The minimum data set consisted of a core of basic data on 13 health occupations. For each occupation there was to be an additional occupation-specific set of data elements included in the minimum data set. Pharmacy was one of the occupations for which an additional data set was developed.

For the 1978-79 Survey of Licensed Pharmacists this minimum data set for pharmacists was the basis for the development of the data collection instrument. Data items on the individual questionnaires developed by each State participating in CHSS were to be identical. However, because legislative and administrative requirements varied among the States, the order of the questions and the wording or the format in approximately half the States' questionnaires departed from the Center's model. In a few cases, State legislation prevented the collection of certain data items considered sensitive, such as race. In addition, States were permitted to exclude from the questionnaire items for which data were already available from their State licensing board records. They were also allowed to include on their questionnaires other questions for their own information which were not part of the minimum data set. All the minimum data set items were included in the questionnaire used for data collection by AACP, which appears in appendix II. The use of the minimum data set as the basis for all questionnaires resulted in data that could be merged to produce a national file of pharmacists.

Response rate

An important factor in the validity of the data is the response rate. The lower the response rate, the more chance there is for bias to be injected into the survey results since the respondents may not be representative of the entire group of pharmacists. For this survey, the individual CHSS contractors provided the Center with the questionnaire response rates

for each of their States. These are provided in the appendix table.

Questionnaire mailout

In each State the contractor (either the AACP or CHSS State agency) worked in collaboration with the State licensing board to send the questionnaires to all licensed pharmacists. In most States the questionnaires were mailed with license renewal applications sent out by the State licensing board. The completed questionnaires were returned to the contractor, where they were coded (and also keytaped, in CHSS States). Followup questionnaires to nonrespondents were mailed out directly by the contractors. Followup mailings were supposed to occur until an 80-percent response rate in each State was reached. As many as four mailings were made to nonrespondents in some States in an effort to achieve the 80-percent response rate. The overall questionnaire response rate was 84 percent (appendix table).

Calculation

The questionnaire response rate for each State is based on the number of respondents (out of the universe that received questionnaires) who returned a questionnaire after completing one or more items called for in the data collection instrument. In some CHSS States, information that was part of the minimum data set, already available in State licensing board records, was not required to be asked for on the questionnaire but was provided directly from the existing records. Because of this data, records of nonrespondents contained data that otherwise would have been missing. When data are available on nonrespondents, the data are used in this report without distinction for response status. Thus, while a CHSS State's response rate is based on the number of returned questionnaires containing one or more completed data items, in reality there may be additional records with usable data that are not counted toward the response rate.

In States where data were collected through AACP there is also a slight adjustment of the definition of the response rate. The universe that received questionnaires constitutes

the denominator of the response rate calculation. However, that number is not the same as the actual total number of licensed pharmacists in the States involved. In States where data were collected through AACP the contractor was not notified of new addresses. As a result, a very small number of licensed pharmacists did not receive copies of the questionnaire. The response rate then in non-CHSS States is not based on the entire universe of licensed pharmacists, as it is in CHSS States, where contractors were notified of address changes and the rosters remained up-to-date. In non-CHSS States the response rate is a function of the number of licensed pharmacists who received questionnaires. However, even if some pharmacists were excluded from the response-rate calculation because they did not receive questionnaires, they remain on the State roster as licensed pharmacists and are counted in this report.

It is impossible to reflect accurately the true universe of licensed pharmacists because a very small fraction of pharmacists died during the data collection period. This attrition, however, is theoretically offset by the small number of newly licensed pharmacists who missed being surveyed.

Item nonresponse

If some pharmacists are known to be active but no other information about them is available, they appear in the unknown cells of the variables in question in the tables on active pharmacists. If a datum is missing in a table and the pharmacists are active, they appear in the "unknown" column or row for that variable only. To save space in a few of the tables, the number of pharmacists who belong in an "unknown" column or row are footnoted rather than listed in the table.

For records where there were item nonresponses but sufficient other data from which to impute missing data, imputations were performed. These imputations were limited to the following data items: year of birth, year of graduation, sex, Hispanic origin, academic degree held in pharmacy, and activity status. These are discussed more extensively in the next section, "Data editing and processing procedures." There was no extrapolation made from records having data, to fill in other records missing those data items.

Data editing and processing procedures

As the survey in each State was completed, a data tape was created. At the National Center for Health Statistics all data on the tape were subjected to computer range and logic test procedures, which were set up to flag inconsistencies and errors. The mistakes flagged were corrected through procedures established to handle common problems among States, through ad hoc routines to correct specific problems, or by contacting the contractor for clarification or even for resubmittal of the data.

Range tests were used to check that the codes for data were correct. For example, a zip code of 00000 was not acceptable. Either the correct code would be found and inserted or a missing data code would be used. Logic tests were

used to check for consistency between data items. When a pharmacist's weekly hours spent in each activity or employment setting (see appendix II, questionnaire items 23a, 23b, and 23) did not add to the total hours worked per week or did not agree with each other, the items were flagged as inconsistencies. The hours were corrected in some cases by proportionally adjusting the detail of activity or employment setting. If, however, the sum of the hours by activity matched the corresponding sum of hours by employment setting, the total hours were changed to equal the sum of the detailed hours. Similarly, a person whose year of birth was given as 1940 could not have a year of graduation of 1950. One of the variables would be adjusted using other available information such as years active in pharmacy practice. If no determination could be made, missing data codes were substituted for these data items.

Missing information for year of birth, year of graduation, sex, Hispanic origin, academic degree held in pharmacy, and activity status were imputed from other known data within the record. When year of birth was missing, it was derived from a formula using year of graduation and type of first degree held. If year of graduation was missing but year of birth was available, and the pharmacist held a first basic pharmacy degree, year of graduation was imputed using the average age at graduation for pharmacists in the file. On the rare occasion that sex was missing, it was determined from first name. If there was no first name or the name was ambiguous, it remained missing. When Hispanic origin was asked on the questionnaire and respondents answered race and left Hispanic origin blank, it was imputed that they were not of Hispanic origin. It was imputed that pharmacists had or did not have a first basic degree in pharmacy when the item "first degree held" was inconsistent with other data items. The determination of whether or not a pharmacist held a degree was based on year and school of graduation and year of birth. When activity status was missing, it was imputed on the basis of the respondent's age, of weeks worked during the past year, and/or of whether or not the respondent named a primary location of work.

Removing duplicate records

The 51 State tapes (including the District of Columbia) submitted through CHSS and AACP, when merged into a national data file, contained the total number of pharmacist licenses held in the country. Although this number is interesting and useful, from a national perspective it is far more important to focus on the number of individual health practitioners as the unit of analysis. Shortage area designation, adequacy of supply, and minority assimilation (to name some functions) depend on individuals and their work locations; and multiple counting of the same individual is not acceptable. Thus, it was necessary to remove duplicate records of pharmacists licensed in more than one State and to derive a national data file in which each pharmacist would be counted only once.

Before passage of the Privacy Act of 1974 (PL 93.579), the primary tool for removing duplicate records of individuals licensed in more than one State was the social security number.

But as the public became concerned about the potential invasion of privacy made possible by the development of high speed computers and the linking of various data systems, the Privacy Act was passed to protect confidentiality of records. The Act, among other things, established stringent conditions on the use of the social security number. Section 7(b) states the following:

Any Federal, State, or local government agency which requests an individual to disclose his Social Security number shall inform that individual whether that disclosure is mandatory or voluntary, by what statutory or other authority such number is solicited, and what uses will be made of it.

The effect of this provision was twofold. All manpower questionnaires had to comply with Section 7(b) above. Second, many State CHSS contractors were totally prohibited from asking for social security numbers by executive decree or through State legislative action. The net effect of the Privacy Act was to make it virtually impossible to collect or to use social security numbers as a means for purging the pharmacy file of duplicate records. Therefore, an alternative method to remove duplicate records was devised.

A unique identifier for each record was produced by extracting selected data from the record. The data were drawn from variables that remain relatively constant. The most valuable variables used in this process were name, date of birth, year of graduation, school name, residence, and work location. The identifiers that resulted from this linkup of variables were then computer matched. The computer matching process was done using four different sorts of the records. These sorts were required to assure that even records with miscoded, erroneous, or missing data would be matched with another record from the same individual. Thus, even though date of birth, use of first name, and so forth are subject to errors due to interpretation of handwriting, keypunching, and so forth, the procedures for deletion allowed these records to be linked with others in the file if such matching records existed.

The computer comparisons of records with matching identifiers resulted in the detection of duplicate and even multiple records of the same pharmacists. These extraneous records were deleted. The record chosen to be kept for each pharmacist was the one from the State in which he or she was working. If that datum was missing or the pharmacist was working in more than one State, other criteria for selecting the record to retain were used. This process resulted in the creation of the "unduplicated" file.¹¹ The total number of pharmacist records prior to the removal of duplicate and multiple records was 207,169. The "unduplication" process yielded a total of 160,664 records, one for each licensed pharmacist, regardless of the number of States in which licenses were held.

NOTE: A list of references follows the text.

Period of data collection

As may be seen in the appendix table, 30 States and the District of Columbia, or 61 percent, had data collections occurring during 1978; and 14 States, or 27 percent, in 1979. Five of the remaining States' data collection occurred in 1977, and only one State had a 1980 data collection.

The year of each State's data collection shown in the appendix table represents the time during which the bulk of a State's data collection occurred. This is the year in which the respondent completed the questionnaire, and it is usually the year in which the license was due to be renewed. If the license renewal deadline was in January of the following year, the year of that State's data collection was still considered to be the earlier year, since usually the questionnaires were filled out in November and December, and the data provided on the questionnaire represented the pharmacist in the earlier year.

The year of data collection for each State was used in calculating the pharmacist's age as it appears in the age tables throughout this report. For example, a pharmacist from New York with a year of birth of 1939 would be counted as 38 years old (New York's year of data collection was 1977), whereas a pharmacist in California with the same year of birth would be counted as 40 years old (California's year of data collection was 1979). The calculation was done this way because it is important to match a pharmacist's characteristics with his actual age at the time he provided the information for the questionnaire.

Consistency of data between NCHS national and State reports and reports published by individual States

This report contains data on all licensed pharmacists in the Nation. The text and tables generally deal with all known active pharmacists. This subset of pharmacists was obtained after editing and processing each State's data, merging them into a national file, and removing duplicate records. The data for each State that appear in the detailed tables in this report differ from the data included in the 1978-79 pharmacist State reports published by the National Center for Health Statistics, using the same original data.¹² The data in the State reports were edited and processed in the same way as the data for the national report, but the State reports included only pharmacists who were active and working in the State of licensure or inactive with an in-State mailing address. The data for the national report include pharmacists who remain after duplicate records were removed. This results in different numbers of pharmacists in the same State.

Furthermore, while the State reports placed all pharmacists according to the criterion that they be working in their licensure States, the national report allocated pharmacists

by work States (including military personnel who might not have been licensed in the State in which they were working), as defined in appendix III. Thus, variation exists between the national and State reports published by the National Center for Health Statistics. In addition, some of the CHSS States have published their own individual State reports describing the results of their data collections. Again, although the

original data are the same, the editing and processing differ, the descriptive constraints on the data may differ, and the State focuses only on pharmacists licensed therein, not by work State as in this report. Furthermore, the States may have collected additional data items on the pharmacists that were not submitted to the Center. Therefore, they may have data analyses for their State for which no national data exist.

Appendix II

Survey questionnaire

HRA-T57
12-76

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
Health Resources Administration
National Center for Health Statistics

O.M.B. No. 68-S-76025
APPROVAL EXPIRES 3/31/79

PHARMACY MANPOWER INFORMATION PROJECT

AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

NATIONAL ASSOCIATION OF BOARDS OF PHARMACY

- INFORMATION RESTRICTIONS:** This survey is being conducted under the authority of the following legislation:
- Health Services Research, Health Statistics and Medical Libraries Act of 1974 (P.L. 93-353) Sec. 306(b)(1)(e), 42 U.S. Code 242k; Sec. 308(a)(2)(B), 42 U.S. Code 242m
 - Comprehensive Health-Manpower Training Act of 1971 (P.L. 92-157, Sec. 772) 42 U.S. Code 295f-2
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All the information you supply will be made available to the State Licensing Board in which you are currently licensed. Data *without* individual identifiers such as name or address will be made available in non-aggregated form to agencies within the Department of Health, Education, and Welfare. Any additional or further release of information or publication will be in the form of aggregated statistical data in which individuals are grouped into categories such as age. Return of this questionnaire acknowledges your agreement to the uses, and releases by NCHS as described herein.

Those of you licensed in more than one State will be receiving more than one copy of this questionnaire. Would you please complete the entire questionnaire from those States in which you are currently residing or working. In all other States, only complete items 1 through 8.

THANK YOU FOR YOUR PARTICIPATION

DO NOT WRITE IN THIS SPACE	PART I: The information in this section will be published or released only in summary form such that individuals will be combined into groups.		DO NOT WRITE IN THIS SPACE
1. NAME			
1a. <input type="text" value="21-40"/> <input type="text" value="Last"/>		1b. Generational Identifier: <small>(Circle one if applicable)</small> <input type="checkbox"/> SR <input type="checkbox"/> JR <input type="checkbox"/> III	
1c. <input type="text" value="44-59"/> <input type="text" value="First"/>		1d. Middle Initial <input type="checkbox"/> 60	
2. PREVIOUS NAME: If your name has been changed due to court order, marriage, divorce, etc., please provide the name under which you were previously licensed in the State for which you are completing this form, in questions 2a.-2d. <small>(NOTE: The word "STATE" throughout this form refers to any of the fifty States, D.C., or territories.)</small>			
2a. <input type="text" value="61-80"/> <input type="text" value="Last"/>		2b. Generational Identifier: <small>(Circle one if applicable)</small> <input type="checkbox"/> SR <input type="checkbox"/> JR <input type="checkbox"/> III	
2c. <input type="text" value="84-99"/> <input type="text" value="First"/>		2d. Middle Initial <input type="checkbox"/> 100	
3. MAILING ADDRESS			
3a. <input type="text" value="101-150"/> <input type="text" value="Street Address"/> <input type="text" value="Street Address-Continue"/>			
3b. <input type="text" value="151-166"/> <input type="text" value="City Name"/>		3c. <input type="text" value="State or Foreign Country"/> <input type="checkbox"/> 167-168	
3d. ZIP Code <input type="text" value="169-173"/>			

DO NOT WRITE IN THIS SPACE

4. DATE OF BIRTH

Month Day Year 174-179

DO NOT WRITE IN THIS SPACE

5. BIRTHPLACE: Name of State or foreign country

180-182

6. PRINCIPAL RESIDENCE: Name of State or foreign country.

183-185

7. PRINCIPAL PLACE OF WORK IN PHARMACY: Name of State or foreign country.

186-188

(If not working, please check this box)

8a. For PHARMACY—Are you licensed by one or both States you listed in Question 6 or 7?

YES ↓

NO ↓

b. Are you currently residing or working in the State for which you are completing this questionnaire?

YES ↓

NO ↓

(Please continue with item 9)

(Please continue with Question 9)

PLEASE STOP HERE AND RETURN THIS QUESTIONNAIRE WITH YOUR LICENSE APPLICATION AND FEE TO THE STATE FROM WHICH YOU RECEIVED IT.

9. Please indicate below where you were working in pharmacy one year ago.

If you were not working in pharmacy one year ago, please check this box.

191-193

State or foreign country

County

194-196

City

ZIP Code 201-205

10. SEX: (Circle applicable number)

- 1 Male 2 Female

11. COLOR OR RACE: (Circle applicable number)

- 1 Caucasian or White
2 Negro or Black
3 American Indian/Native American
4 Oriental or Asian
5 Other (Please specify):

12. SPANISH ORIGIN OR DESCENT: (Circle applicable number)

- 1 Mexican American or Chicano
2 Puerto Rican or Boricua
3 Cuban
4 Central or South American
5 Other Spanish
6 No Spanish origin or descent

PART II: The information in this section will be published or released without individual identifiers such as name or address to agencies within the Department of Health, Education, and Welfare.

13. In what year did you receive your first professional pharmacy degree and what was the exact name of the pharmacy school at the time of your graduation?

Year 19 209-210

Name of pharmacy school at time of graduation

14. Indicate your first college of pharmacy degree. (Circle only one number)

- 1 No college or pharmacy degree (Skip to item 17)
2 Ph.C., Ph.G., Pharm.D. (Prior to 1940)
3 B.S., or B.Pharm., four-year program
4 B.S., or B.Pharm., five-year program
5 Pharm.D., six-year program

211-217

DO NOT WRITE IN THIS SPACE

15. Indicate your formal advanced training in pharmacy beyond the first professional degree. (Circle (1) YES or (2) NO for items a thru h)

- a. 1 YES 2 NO Continuing education
- b. 1 YES 2 NO Advanced training (If NO, skip to Item 17)
- c. 1 YES 2 NO Residency in hospital pharmacy
- d. 1 YES 2 NO Residency in clinical pharmacy
- e. 1 YES 2 NO Post B.S. Pharm.D.
- f. 1 YES 2 NO Master of Science
- g. 1 YES 2 NO Ph.D. or D.Sc.
- h. 1 YES 2 NO Other (Please specify):

16a. Have you been awarded an advanced degree in pharmacy?

- 1 YES ↓
- 2 NO

16b. Please indicate below your major area of concentration. (Circle only one number) (Please continue with item 17)

- 01 Pharmacy (Pharmaceutics)
- 02 Hospital Pharmacy
- 03 Clinical Pharmacy
- 04 Pharmacognosy
- 05 Pharmacology
- 06 Pharmacy Administration
- 07 Pharmaceutical (Medicinal) Chemistry
- 08 Other (Please specify):

DO NOT WRITE IN THIS SPACE

17. How many years have you been active in pharmacy since initial licensure. (Exclude periods of inactivity of six months or more.)

Years

230-231

18. During the past 12 months, how many weeks did you work in pharmacy practice or pharmacy related activities? (Include paid vacation and sick leave.)

Weeks

232-233

19. Are you currently working in pharmacy practice or pharmacy related activities for one or more hours per week? (e.g., retailing pharmaceutical research, teaching, management in pharmacy related firm, etc.)

- 1 YES (Please continue with item 20) →
- 2 NO ↓

19b. If NO, which of the following best describes your present status? (Circle only one number)

- 1 Retired
- 2 Unemployed and seeking work in pharmacy
- 3 Unemployed and not seeking work in pharmacy
- 4 Working in another field and seeking work in pharmacy
- 5 Working in another field and not seeking work in pharmacy
- 6 Home maker
- 7 Other (Please specify: disabled, etc.)

19c. What was the last month and year that you worked in pharmacy practice or pharmacy related activities?

Month Year

236-237 238-239

STOP! PLEASE RETURN THIS QUESTIONNAIRE WITH YOUR LICENSURE APPLICATION AND FEE TO THE STATE FROM WHICH YOU RECEIVED IT.

20. Principal place of work in pharmacy.

(City)

(County)

(State)

ZIP Code

250-254

240-243

244-246

247-249

21. Which of the following best describes your principal form of employment in this profession? (Circle only one number)

- 1 Sole owner-manager
- 2 Partner
- 3 Manager (Chief, Director, etc.)—Employee
- 4 Assistant Manager (Ass't. Chief, Ass't. Director; etc.)—Employee
- 5 Staff pharmacist—Employee
- 6 Unpaid worker (volunteer)
- 7 Other, (Please specify): _____

22. Do you have a formal consultant arrangement with a health care facility? (Circle appropriate number)

- 1 YES
- 2 NO

DO NOT WRITE IN THIS SPACE

DO NOT WRITE IN THIS SPACE

23. In an average week, how many hours do you work in pharmacy practice or pharmacy related activities?

Hours
257-258

23a. In an average week, how many hours are spent in each of the following types of activities?

- Providing information to prescribers and institutional clients (e.g., nursing homes, hospitals) on sick room supplies, surgical appliances, and other health related items 259-260
- Administrative, managerial 261-262
- Providing information to patients on prescriptions and nonprescription drugs, and other health related activities 263-264
- Dispensing of prescriptions 265-266
- Teaching and/or research (pharmacy related) 267-268
- Manufacturing and/or bulk compounding 269-270
- Retailing of nonhealth related merchandise 271-272
- Other (Please specify): 273-274

TOTAL

23b. In an average week, how many hours are spent in pharmacy practice or pharmacy related work in each of the following employment settings?

- Independent community pharmacy (one outlet) 275-276
- Small chain community pharmacy (2-11 outlets) 277-278
- Large chain community pharmacy (More than 11 outlets) 279-280
- Clinic or medical building pharmacy 281-282
- Nursing home 283-284
- Private hospital 285-286
- Government hospital (includes State, county, local government, and military) 287-288
- Other government (e.g., FDA, State boards of pharmacy) 289-290
- Pharmaceutical manufacturer 291-292
- Pharmaceutical wholesaler 293-294
- College of Pharmacy 295-296
- Other (Please specify): 297-298

TOTAL

COMMENTS:

Appendix III

Definitions of certain terms used in this report

All data items used in this report are defined in the same way as those in the questionnaire (appendix II).

Practice or employment settings are combined as follows:

- Chain pharmacy: small or large chain community pharmacy.
- Hospital: Government or other hospital.

Active pharmacists are placed in their work State. When work State was missing from a record, the following hierarchy was used for determining the State in which to place the pharmacist: (1) residence State when it equaled mail State, (2) licensure State when it equaled residence or mail State, (3) mail State, and (4) licensure State.

Inactive pharmacists are placed in their residence State. Mail State is used when data on residence State are missing. If both States are missing, licensure State is used.

Geographic region and division are defined as follows:

<i>Geographic region and division</i>	<i>States included</i>
Northeast	
New England	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut
Mid-Atlantic	New York, New Jersey, and Pennsylvania
North Central	
East North Central	Ohio, Indiana, Illinois, Michigan, and Wisconsin
West North Central	Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
South	
East South Central	Kentucky, Tennessee, Alabama, and Mississippi
West South Central	Arkansas, Louisiana, Oklahoma, and Texas
West	
Mountain	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada
Pacific	Washington, Oregon, Alaska, California, and Hawaii

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