FREQUENCY AND VOLUME OF NURSING SERVICE IN RELATION TO ALL ILLNESSES AMONG 9,000 FAMILIES

BASED ON NATION-WIDE PERIODIC CANVASSES, 1928-1931[1]

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IN therapeutic, preventive, and war medicine, the nurse forms a line of defense that is second only to the doctor. The prompt restoration of a patient to health often depends to a considerable extent upon the medical and nursing care which he receives, and prompt restoration to health means increased manpower.

The increased demand for nursing in the armed forces leaves fewer nurses available for civilian needs. Moreover, certain population trends complicate the nursing problem: (a) the long time trend toward an older population means an increasing need for nursing because older persons suffer more illnesses that require or at least receive nursing care (22), and (b) the recent sharp increase in the birth rate means additional nursing for mothers and infants.

It seems timely to present some quantitative data on the extent of nursing care. This study considers the amount and kind of nursing received for illness in a group of canvassed families, the diagnoses that were chiefly responsible for the nursing, the proportion of

[1] From General Morbidity Studies, Division of Public Health Methods, National Institute of Health.

This is the twentieth of a series of papers on sickness and medical care in this group of families (1-19). The survey of these families was organized and conducted by the Committee on the Costs of Medical Care; the tabulation was done under a cooperative arrangement between the Committee and the Public Health Service. Committee publications based on the results deal primarily with costs and Public Health Service publications primarily with the incidence of illness and the extent and kind of medical care, without regard to costs. As costs are meaningless without some knowledge of the extent and nature of the service received, there is inevitably some over-lapping. The Committee staff, particularly Dr. I. S. Falk and Miss Margaret Klem, cooperated in the tabulation of the data.

Special thanks are due to Dr. Mary Gover and Miss Clara E. Councell who assisted in the analysis, and to Mrs. Lily Vanzee Welch and Mrs. Dorothy Oliver who were in charge of tabulating the data.

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nursing cases and days that were hospital or home, surgical or non-surgical, and the variation in nursing care with age and sex.

Source and Character of Data

In the study of illness in a group of families in eighteen States[3] that was made by the Committee on the Costs of Medical Care (20) and the United States Public Health Service, the record for each illness included a statement of the nursing days and visits received within the twelve-month study period.

The composition and characteristics of the group of 8,758 white families which were kept under observation for twelve consecutive months in the years 1928-1931 have been considered in some detail in the first report in the series (1). These families, including a total of 39,185 individuals, resided in 130 localities in eighteen States representing all geographic sections. Every size of community was included, from metropolitan districts to small industrial and agricultural towns and rural unincorporated areas[4]. With respect to income, the distribution was reasonably similar to the estimated distribution of the general population of the United States at the time of the survey.

Each family was visited at intervals of two to four months for a period long enough to obtain a sickness record for twelve consecutive months. On the first call a record was made of the number of members of the household, together with sex, age, marital status, and other facts about each person. On succeeding visits the canvasser recorded all illness that had occurred since the preceding call, with such pertinent facts about each case as the date of onset; total

[3] The eighteen States sampled and the number of canvassed families were as follows: California (890), Colorado (386), Connecticut (100), District of Columbia (99), Georgia (544), Illinois (463), Indiana (494), Kansas (301), Massachusetts (287), Michigan (329), Minnesota (224), New York (1,710), Ohio (1,148), Tennessee (212), Virginia (412), Washington (551), West Virginia (318), Wisconsin (290). Further details about the distribution of the canvassed population are included in a preceding paper (1).

[4] Every community that was included in the study had either a local health department or some other organization employing a visiting nurse or both; therefore, the most rural areas with no organized community services are not represented.

duration of symptoms, of disability, of confinement to bed and to a hospital; whether attended by a doctor; and the nature and extent of nursing service received. Records for persons who were still sick at the preceding visit were brought up to date and when completed the termination of the case was entered. Thus there are available certain facts about the observed population, the number of illnesses suffered, and the frequency and volume of nursing services in connection with those illnesses.

Definition of Illness and Nursing Care as Recorded in Survey. An illness, for the purpose of this study, was defined as any symptom, disorder, or affection which persisted for one or more days or for which medical service[5] was received or medicine purchased. Illness included the results of both disease and injury. What was actually included as illness, however, was necessarily influenced not only by the informant's conception of sickness but also by her memory. With visits as infrequent as two to four months, it was inevitable that many of the unattended nondisabling illnesses would be terminated and forgotten before the next visit of the enumerator.

Nursing service included all care of illness by graduate and practical nurses within or outside of a hospital, and also care by visiting nurses from all types of organizations such as health departments, industrial establishments, and insurance companies. It was assumed that special or private nursing in hospitals was all done by trained nurses, designated in this paper as graduate. The services of maids and other servants were not counted as nursing even when procured because of the illness[6].

A day of nursing care refers to the service of one nurse during a shift or period of nursing; thus a case with both a day and a night nurse would count as two days of nursing for each calendar day

[5] Exclusive of dental services, eye refractions, immunizations, and health examinations rendered when no symptoms were present.

[6] Hospital care and private nursing within the hospital were considered in a preceding paper (18). A later paper will consider nursing among families of different income levels and in urban and rural areas.

that such service was continued. On the other hand, if only one nurse was employed, the calendar day was counted as only one day of nursing even though the hours were exceptionally long. The data were not recorded so that exact hours could be counted.

Classification of Causes of Illness. The diagnosis as reported by the family informant was submitted to the attending physician for confirmation or correction and his diagnosis substituted for the one given by the family. While reports could not be obtained from all attending physicians, the replies indicated that the housewife usually reported with reasonable accuracy the diagnosis which the physician had given to the family[7].

Considering an illness in the sense of a continuous period of sickness, only 4.3 per cent were designated as due to more than one cause. In general, the more important or more serious cause was assigned as primary, except where a disease like pneumonia is commonly recognized as following measles or influenza, in which case the antecedent condition was taken as primary[8]. In this paper some tables are based on sole or primary causes only and others include the contributory causes; each table indicates which procedure was followed.

Methods of Tabulating and Computing. In computing nursing cases per 1,000 population, illnesses that originated prior to but caused sickness during the study year are included along with cases having their onset within the period of observation; the inclusion of the illnesses with prior onset seemed necessary to give proper representation to chronic ailments. The only date of onset available was the onset of symptoms (nondisabling or disabling); therefore, prior onset does not necessarily mean that the nursing service began prior to the study year. Seven per cent of the attacks of illness had their onset prior to the year; this does not mean that in the other

[7] *See* comparison of diagnoses reported by families and by physicians in the Health Survey of 1935-1936 (23, Table 2).

[8] Further details on the method of classifying the causes of illness are included in the first report in the series (1).

93 per cent the disease always had its onset within the year, for the patient may have had preceding attacks of the same chronic disease.

Nursing days and visits refer in all instances to those *within the twelve-month study period.* In computing averages per case, both complete and incomplete cases are included as cases but the days and visits refer to those within the study year only. The incomplete cases (those with prior onset and those still sick at the last report) usually average considerably longer durations and presumably have more nursing care than the complete cases; therefore, average nursing days per case which excluded cases with prior onset would be biased toward fewer days and visits. Computation of the annual nursing days and visits per 1,000 persons includes all days and visits within the study year, whether the nursing pertains to cases that originated within or prior to the year and whether it pertains to cases that had been terminated or were still sick at the last report on the case[9]. Nursing cases with an unknown number of nursing days or visits are put in at the average per case of the same diagnosis.

Extent of Nursing Care as Measured by Various Types of Rates

The extent of nursing care in a given population group may be measured by several different types of rates: (a) percentage of cases that had nursing care of any kind, (b) cases attended by a nurse per 1,000 population, and (c) nursing days or visits per 1,000 population. All of these rates may be subdivided by considering separately (1) full-time care by a private duty nurse, (2) part-time care by a general duty nurse in a hospital, and (3) care by a nurse who visits the home one or more times during the illness. Aside from this classification, private duty nursing may be divided into (a) that given by a graduate or trained nurse, and (b) that given by a practical nurse.

[9] A preceding paper (15) shows the percentage of cases of different types that were incomplete because of prior onset or because still sick at the last report on the case.

Summary of Nursing Care for Illness at All Ages[10]. Of the total of 32,752 illnesses reported in the periodic canvasses of this study, 11.2 per cent had some nursing care of one type or another. Of these cases with some nursing, approximately half (5.7 per cent of all cases) were hospital cases without a private nurse but with the usual care of the general duty nurses for the ward or floor or wing in which they were located. Another 2.1 per cent had the full-time services of a private duty graduate nurse either in or outside of the hospital, and an additional 0.7 per cent had the full-time services of a practical nurse for one or more days or nights. The other 2.7 per cent had the services of a visiting nurse but no full-time nurse. Since some patients had the services of more than one type of nurse, the above percentages do not all represent the total cases for specific kinds of nurses. Of all cases, 2.07 per cent had a graduate nurse, 0.82 per cent had a practical nurse, and 3.70 per cent had a visiting nurse. Of the total cases, 2.77 per cent had the exclusive services for one or more days or nights of a private nurse (graduate or practical) either in or outside of a hospital, and 0.56 per cent had the exclusive services of two or more such nurses during one or more twenty-four-hour days.

Inquiry was also made as to whether any help other than that of a nurse was secured because of the particular illness. Of all illnesses, other help was secured for 1.20 per cent; in about half of these cases there was a nurse as well as other help, but in 0.59 per cent help other than a nurse was the only service secured because of the illness.

The total cases during the year with a full-time private nurse of

[10] In the following summary and throughout this paper nursing case and day rates per 1,000 for all causes and for all except female genital and puerperal causes are adjusted to the age distribution of the white population of the United States in 1930. Because of the high rates in old age and the under-representation of old people in the canvassed population, the adjusted rates are considerably higher than the crude. No adjustments for age differences have been made in any rates for specific diseases.

Percentages of cases and nursing days per case are based on actual cases and days with no adjustment for age. In some preceding papers "adjusted" percentages were com-

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any kind amounted to 26.6 per 1,000 population. The corresponding rates for graduate and practical nurses were 19.4 and 8.6 per 1,000, respectively, some cases having both kinds of nurses. The volume of private nursing care amounted to 437 days per 1,000 population, 248 for graduate and 189 for practical nursing[11]. The

puted by relating two adjusted rates instead of using numbers of cases, and "adjusted" days per case by relating adjusted rates for days and cases. Both types of measures are included in Table 1.

Rates and averages involving days of nursing are exclusive of eight exceptionally long cases; for details *see* footnote 11.

[11] The line between a practical nurse and an attendant or companion becomes vague when the illness is of long duration and the patient is not acutely sick. In this study there were eight illnesses with so much nursing (equivalent of eight months or more of the study year) as to raise doubt as to whether all of the service should be classified as nursing. These eight cases (0.9 per cent of the 907 nursing cases) had 2,541 days of nursing (16.0 per cent of the 15,898 nursing days). Each of the eight long cases had a practical nurse with an aggregate of 1,708 days (shifts); five of the eight cases also had a graduate nurse with an aggregate of 833 days (shifts). Only one of the three hospital cases had a nurse while in the hospital, with twelve days (shifts). All eight cases were nonsurgical.

In view of the long nursing duration of these few cases and their undue influence upon day rates and averages these eight cases were excluded from computations of nursing days per 1,000 population and nursing days per case. Nursing days (shifts) per 1,000, including the eight long cases were: all private duty, "adjusted" 544, crude 412; graduate "adjusted" 274, crude 236; practical "adjusted" 270, crude 176 days per 1,000. Nursing days (shifts) per case including the eight long cases were: all private duty "adjusted" 20.5, crude 17.5; graduate "adjusted" 14.1, crude 13.4; practical "adjusted" 31.5, crude 25.0 days per case. Per cent of nursing days (shifts) that were rendered in a hospital, including the eight long cases were: all private duty "adjusted" 29, crude 33; graduate "adjusted" 58, crude 58.

No exclusions were made for cases in institutions for the resident care of tuberculosis, mental, and other chronic diseases because very little private duty nursing was reported among these patients.

The eight cases with 252 or more days (shifts) of nursing care were: (1) Mental case with no days in bed but with a practical nurse 335 days of the study year. Not in hospital. (2) Heart and high blood pressure, in bed 119 days of the study year with a graduate nurse for seventy-four days and a practical nurse for 315 days. Treatment was at a clinic and at home; not in hospital. (3) Tuberculosis of spine, in bed 252 days of the study year and had a practical nurse throughout the year. Treated at clinic; not in hospital. (4) Paralytic, in bed throughout year with practical nurse the whole year; not in hospital. (5) Cancer, in bed fifty-seven days with two day and two night graduate nurses, one practical nurse and another attendant for fifty to fifty-seven days (shifts) each, and all within a period of fifty-seven calendar days; not in hospital. The record indicated so much nursing as to suggest that some was attendance other than nursing. (6) Accident, twenty days in bed; twelve days in hospital and in four of those days had two day and one night nurses, or twelve shifts. After leaving hospital had a graduate nurse for fourteen days and a practical nurse for 210 days. (7) and (8) Premature twins born in a hospital (maternity home) and stayed there with mother for twenty-one days but had no private nurse. After left hospital older children in family had whooping cough so premature twins were sent to the home of a graduate nurse and stayed for 252 days. One infant died but other had a graduate nurse for fourteen days and a practical nurse for fifty-six days in own home.

Of the five cases with from six to eight months of nursing (180 to 222 shifts) two were hospital cases and had a graduate nurse but one had only two days of such nursing. None of these were excluded from the rates.

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average nursing care by a private nurse in or outside of a hospital amounted to 14.9 days (shifts) per case, 12.3 for graduate and 19.3 for practical nurses.[12] The average nursing care in a hospital amounted to 11.0 days (shifts) per hospital case with a private nurse, presumably graduate in all or practically all instances.

Of the illnesses which confined the patient to bed for one or more days, 5.4 per cent had a full-time private nurse. Of the hospital cases (exclusive of those in institutions for tuberculosis and mental and other chronic diseases), 20 per cent had a private nurse for one or more days or nights while in the hospital, and of the total days in the same types of hospitals, 15 per cent were days with a private nurse for one or more of the two or three nursing shifts of the twenty-four-hour hospital day. Of the total cases with a private nurse, 52 per cent had such a nurse while in a hospial; of the total days and nights (shifts) of private nursing, 39 per cent were rendered in hospitals, the other 61 per cent being home nursing. Of all cases with a graduate private nurse, 70 per cent had such a nurse while in a hospital, and of all graduate nursing days and nights (shifts), 63 per cent were rendered in hospitals. The latter statements assume that all *private* nursing in hospitals was done by trained or graduate nurses.

Cases which had the services of a visiting nurse amounted to 30.8 per 1,000 population with a total of 230 nursing visits per 1,000 population; thus there were 7.5 nursing visits per case receiving such service. Of the total illnesses, 3.7 per cent had one or more visits by a nurse.

Age and Sex Variation in the Several Types of Rates. Figure 1 shows the variation with age and sex in full-time private duty nurs-

[12] The above averages consider days of one type of nursing regardless of days of the other type on the same case. The following averages consider all nursing days together: cases attended by one graduate nurse averaged 9.2 days (shifts) per case, as compared with 18.6 for those attended by one or more practical nurses; cases with two or more graduate nurses averaged 23.8 days (shifts) per case as compared with 28.7 for those with one graduate and one or more practical nurses. Cases with more than one practical nurse and more than two graduate nurses were negligible in number. These averages are exclusive of the eight cases with 252 or more days of nursing on each.

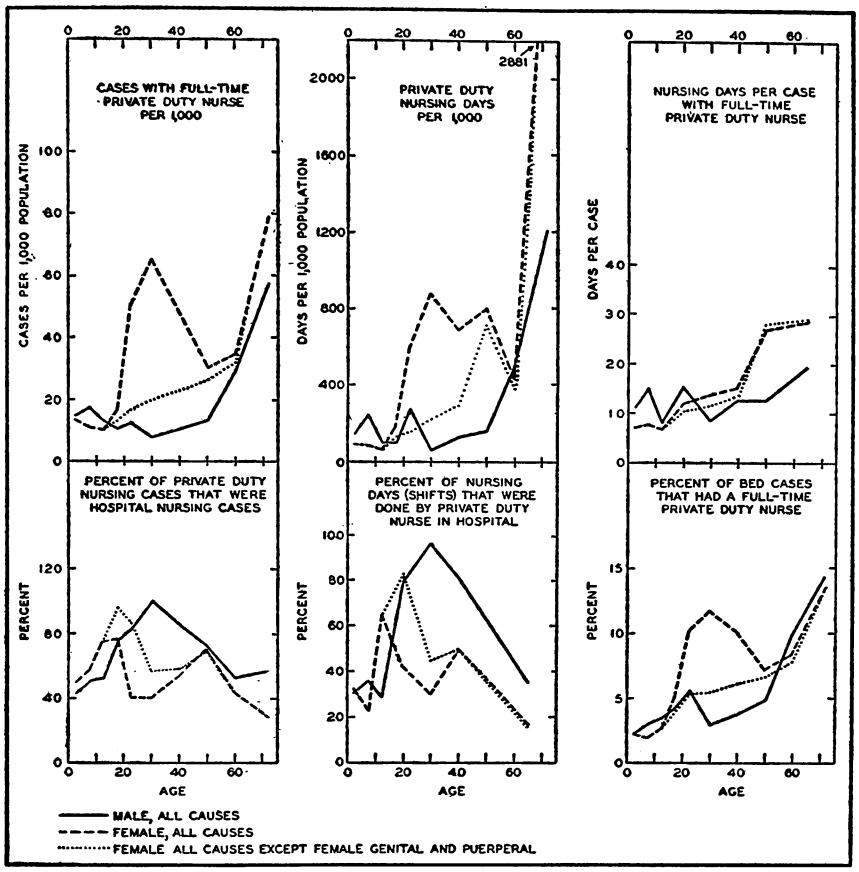

Fig. 1. Annual volume of private duty nursing among males and females of specific ages for illness from all causes as measured by various types of rates—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Scales are so made that the adjusted rate for all ages of both sexes represents an interval on the vertical rate scale that corresponds to 30 years on the horizontal age scale.)

ing by any type of nurse and Figure 2 shows similar data for full-time graduate and practical nurses and for visiting nurses. Table 1 shows these and other data by age and sex. Because puerperal and female genital diagnoses receive considerable nursing care, the rates for females are shown for all causes and for all except those diagnoses. The male genital cases are not frequent and would not materially change the curves for all causes of illness. Figure 2 compares for specific ages actual rates for the three types of nursing.

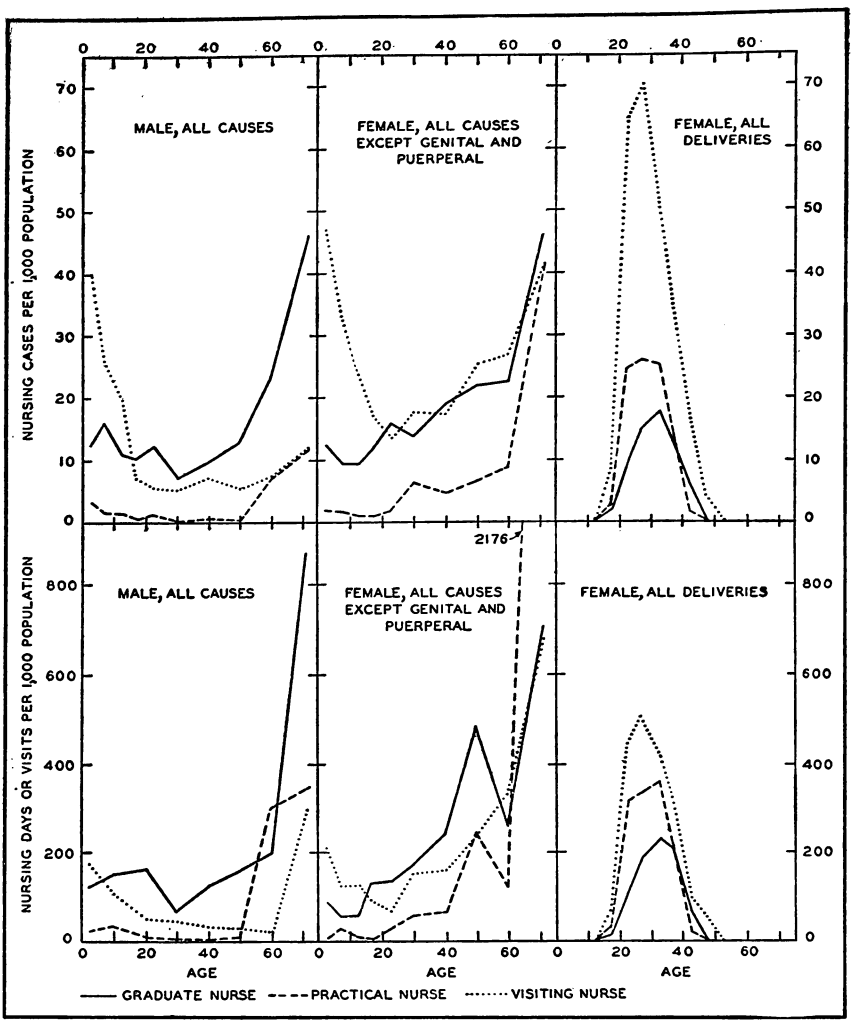

Fig. 2. Graduate, practical, and visiting nursing among males and females of specific ages for illness from all causes and from deliveries—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Although sickness rates per 1,000 are higher for children than adults, private duty nursing case and day rates are little if any higher for children. This is true of both graduate and practical nursing but visiting nursing rates are relatively high for young children (Fig. 2). Aside from the large peak of nursing for puerperal cases, private duty nursing rates for females show a rather con-

tinuous rise after 15 to 20 years, but those for men remain rather low until 40 to 50 years, due largely to the extremely low rate for practical nursing for males under 55 years of age. In the older ages both sexes show large increases, particularly practical nursing among women.

The most striking difference between the sexes is the very large peak of nursing in the childbearing ages. (Fig. 1.) Although actual peak rates from all causes are higher for graduate nursing, relative to rates for other ages the peak is much higher for practical nursing, particularly for younger women. Practical nursing is rather largely confined to women of the childbearing and old ages.

For diagnoses common to the two sexes adult women also had rather consistently more nursing cases and days than men. For all ages the rates for all private duty nursing for men were 15.7 cases per 1,000 as compared with rates for women of 35.8 for all causes and 21.6 for all except female genital and puerperal diagnoses[13]. All nursing days per 1,000 were 236 for men as compared with rates for women of 610 for all causes and 399 for all except female genital and puerperal. In connection with the higher nursing rates for adult women it should be remembered that illness of the housewife often leaves no one to care for the patient, but the housewife is available for home nursing of adult males and children.

For diagnoses common to the two sexes, the practical nursing case rate for females was 2.7 times that for males, as compared with 1.2 for graduate cases. In practical nursing days per 1,000 the rate for females was 3.5 times that for males, as compared with 1.2 for graduate days.

For males of all ages, 13 per cent of the private duty nursing cases had practical nurses, as compared with percentages for females of 37 for all causes and 24 per cent for diagnoses common to the two sexes. The percentage of private duty nursing days that were ren-

[13] Throughout this paper, benign tumors of the female genital organs and breast and other diseases of the female breast are included in the group of female genital diseases.

[illegible]	1,213	7.3	6.7	4.4	3.9	5.7	6.6	6.8	8.6	8.5	8.9	9.9	18.2
e, All Causes	302	6.4	5.4	4.4	3.9	6.2	4.5	15.2	8.9	4.6	6.2	3.5	25.8
ale, All Causes	910	7.8	7.2	4.4	3.9	5.3	6.4	6.4	7.9	9.1	9.5	11.9	16.5
ale, All Except Genital and Puerperal	510	7.7	6.6	4.4	3.9	5.3	5.6	4.9	8.8	8.8	9.2	12.4	16.5
nt of Total Cases[4] That Had Visiting Nurse													
l Sexes, All Causes	32,752	3.7	3.7	3.6	3.1	3.2	2.7	7.2	6.0	3.6	2.1	2.0	2.9
e, All Causes	14,596	1.8	2.1	3.2	2.6	2.9	1.3	1.2	.9	1.2	.9	1.0	1.2
ale, All Causes	18,146	5.0	5.0	4.0	3.5	3.5	4.0	9.6	8.3	5.2	3.2	2.9	3.8
ale, All Except Genital and Puerperal	16,606	3.0	3.1	4.0	3.5	3.6	2.9	2.2	2.3	2.2	2.9	2.8	3.8
ION (YEARS OF LIFE)													
l Sexes	38,544	——	——	5,513	5,715	4,568	3,050	2,119	5,640	5,930	3,351	1,473	908
e	18,896	——	——	2,808	2,820	2,301	1,527	894	2,402	2,979	1,845	804	487
ale	19,627	——	——	2,684	2,895	2,267	1,523	1,225	3,238	2,951	1,506	669	501

All ages includes a few of unknown age; both sexes includes a few of unknown sex.

Rates in the form of cases, days or visits per 1,000 population are adjusted by the direct method to the age distribution of the white population of the death registration States 1930 as a standard population (21); this population is given for specific ages in Table 1 of a preceding paper (4).
Figures in the "adjusted" column on days or visits per case represent the result of dividing the adjusted rate for days or visits per 1,000 by the corresponding adjusted rate for es per 1,000; figures in the "adjusted" column for percentages of cases or percentages of days or visits represent the percentage that one adjusted rate per 1,000 is of another usted rate per 1,000.

Cases represent periods of illness regardless of the number of diagnoses. Illness from accident is included along with that due to disease. Private nursing cases represent illnesses ich had a full-time graduate or practical nurse for one or more days or nights (shifts). General duty nursing in a hospital provided as part of the hospital care is not included. iting nursing cases represent those which had one or more visits by such a nurse.
Nursing cases include those with onset prior to but with nursing within the study year and those still sick and having a nurse at the end of the year of observation; nursing days l visits include only those within the study year. A nursing "day" means one nursing shift (day or night); if the case had three nurses within the twenty-four hours of a day, it s counted as three nursing "days". However, one nurse was counted as rendering only one nursing day within the twenty-four hours even though her days were long; exact hours e not recorded. In computing total nursing days or visits, nursing cases with an unknown number of days or visits were put in at an average based on cases of the same diagnosis up with known nursing days or visits.
All rates and averages in this table which involve nursing days are exclusive of eight cases each of which had eight months or more of private duty nursing, mostly by practical ses. These 0.9 per cent of the nursing cases were responsible for 16.0 per cent of the nursing days and thus would unduly influence all rates involving nursing days. See footnote 11 for details about these cases.

Total cases include those with symptoms lasting one day or longer (disabling or nondisabling); disabling cases refer to those causing inability to work, attend school, care for home, or pursue other usual activities for one day or longer regardless of age or employment status; bed cases refer to those confining the patient to bed or hospital for one day longer; for further details and rates per 1,000 see Table 1 of a preceding paper (14).

Hospital nursing cases refer to those with a private nurse while in a hospital, and hospital nursing days refer to those with a private nurse in a hospital. A few other hospital es (twenty-five for all ages) had a private nurse at home but none in the hospital.

Rates plotted in Figures 1 and 2 in broader age groups: Fig. 1, per cent of nursing days that were hospital nursing days, 15-24 years, male 80.0, female 42.8, female except 84.1; years and over, male 36.3, female 18.0, female except 16.8; nursing days per case with private duty nurse, 15-24 years, male 15.2, female 11.7, female except 10.3; 55 years and r, male 19.4, female 28.4, female except 28.8; Fig. 2, graduate nursing days per 1,000, male 5-14 years 153, 15-24 years 163; practical nursing days per 1,000, male 5-14 years 31, 24 years 7; nursing visits per 1,000, male 5-14 years 111, 15-24 years 52.

dered by practical nurses was 19 for males as compared with the percentages for females of 45 for all causes and 39 for diagnoses other than female genital and puerperal.

Of all private duty nursing cases for males 62 per cent were hospital cases with a private nurse while in the hospital, as compared with percentages for females of 48 for all causes and 58 for diagnoses common to the two sexes. The highest percentages for females occur between 10 and 25 years but for men they occur in the industrial ages between 20 and 45 years. The percentages of all nursing days that were rendered while the patient was in a hospital show even larger sex and age differences of this same kind.

It is seen in Figure 2 that visiting nursing rates in maternity cases, including pre and postnatal care, are much greater than those for full-time nursing. Some of this excess should be discounted; many of the canvassers in this study were health department nurses who gave only certain days to collecting these data, and pregnant women in the canvassed group would therefore become known to the health department and be more likely to be visited by a health department nurse. But aside from female genital and puerperal diagnoses, females of nearly every age received more visiting nursing than males of corresponding ages.

Percentage of Illnesses by Detailed Diagnosis With Nursing Service of Any Kind

This paper is concerned primarily with nursing service rendered by full-time private nurses either in the hospital or in the home, and with visiting nursing. However, a considerable number of patients who are hospitalized but do not have a private nurse receive all the needed care from the general duty nurses available as a part of hospital care. Figure 3 shows for detailed diagnoses with fifty or more total cases the percentage that had nursing service of any kind; the bars are hatched in a way to show separately the proportion with a full-time private duty nurse, a general duty nurse

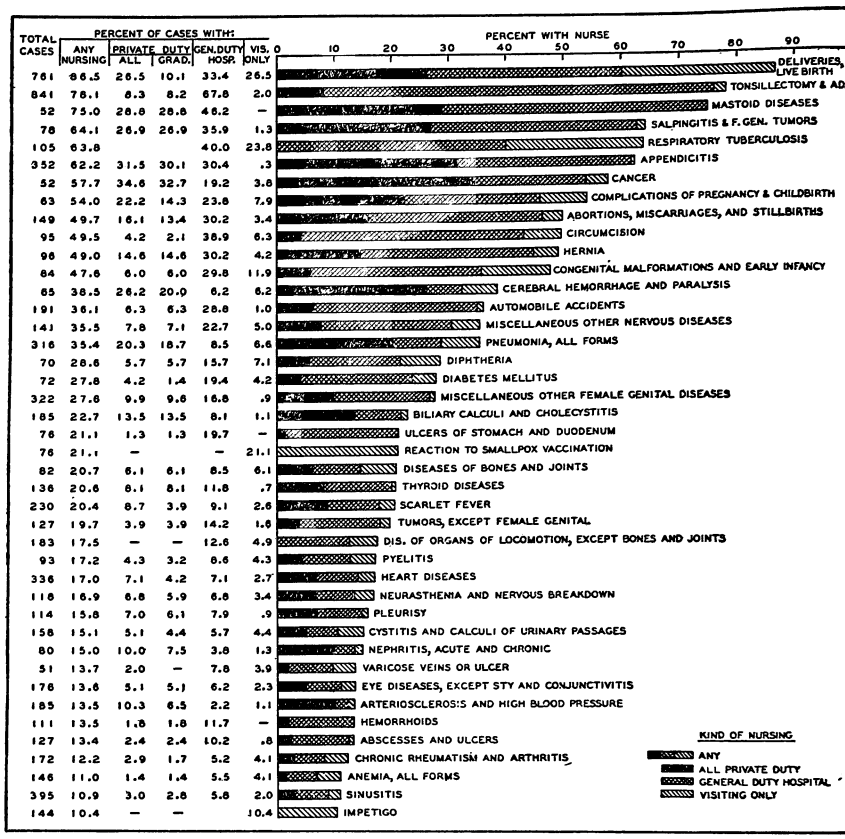

Fig. 3. Percentage of cases of detailed diagnoses that had nursing service of any kind—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole, primary, and contributory diagnoses for all specific causes with fifty or more total cases and with 10 per cent or more with some nursing service, including general duty nursing in hospitals.)

in a hospital without private nurse, and those who had only the services of a visiting nurse.

Of the deliveries with live birth, 86 per cent had some nursing service, 27 per cent by a full-time private nurse, 33 per cent by the general nurse in the hospital, and the remainder by a visiting nurse, including pre and postnatal visits. Although 78 per cent of the tonsillectomies had some nursing service, only 8 per cent had a private nurse, practically all of the service being received from the general duty nurse in the hospital. Cancer which is seventh in terms of the

proportion of cases with nursing care of any kind, had the highest percentage of cases with a private nurse, 35 per cent. Respiratory tuberculosis which is fifth in terms of any nursing service, had no private duty nursing but 40 per cent of the cases were in a hospital and had the care of the general duty nurse and an additional 24 per cent had a visiting nurse. The various diagnoses need not be cited in detail; a study of Figure 3 will indicate what kind of nursing service was received by patients with the different diseases. In some instances a high percentage with nursing care is due to high proportions hospitalized while in others it is due largely to visiting nursing service. In a few of the more serious illnesses the percentages with private duty nursing are considerable. The diagnoses shown in Figure 3 include all causes which had 4 per cent or more of the cases with a private duty nurse.

Although not shown in the bars in Figure 3, the data at the left show for each diagnosis the percentage of cases who had a graduate nurse, the remainder of the private duty nursing being rendered by practical nurses. In terms of the proportions of cases with a graduate nurse the diagnoses which had the most care are cancer, 33 per cent; appendicitis, 30 per cent; mastoid diseases, 29 per cent; and salpingitis and tumors of the ovary and uterus, 27 per cent.

In practical nursing, deliveries with live birth head the list with 16 per cent of the cases with such a nurse, followed by complications of pregnancy, 8 per cent, cerebral hemorrhage and paralysis, 6 per cent, and scarlet fever, 5 per cent. Of the eleven diagnoses with 2 per cent or more of the cases with a practical nurse, six are degenerative diseases and four relate to pregnancy, childbirth, and infancy.

In visiting nursing (Fig. 4) two diagnoses are far above all others —deliveries with live birth 47 per cent, and respiratory tuberculosis 40 per cent. For the next diagnosis, the cases in which illness or considerable reaction followed smallpox vaccination, the proportion of patients who had a visiting nurse was 21 per cent, followed by

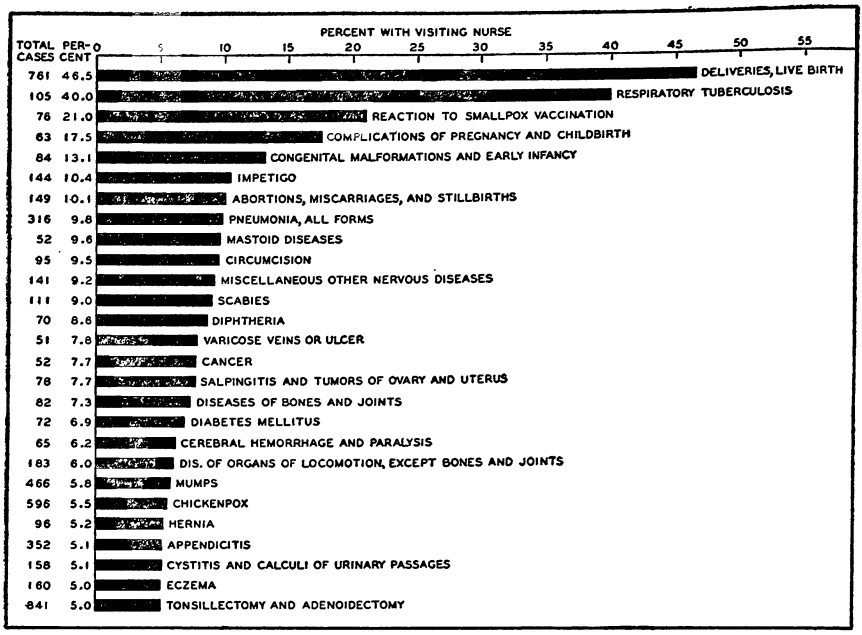

Fig. 4. Percentage of cases of detailed diagnoses that had a visiting nurse—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole, primary, and contributory diagnoses for all specific causes with fifty or more cases and with 5 per cent or more with a visiting nurse.)

complications of pregnancy, 17 per cent, and malformations and diseases of early infancy, 13 per cent. Visiting nursing of the type reported in this study centers rather largely around pregnancy, maternity and infancy, vaccination, and tuberculosis.

Important Diagnosis Groups in Nursing Service

Although the total number of illnesses with nursing care was not large, it seems worth while to consider in more detail a limited number of diseases and conditions most important as causes of nursing care. The following charts show the sixteen diagnosis groups that had fifteen or more cases with a full-time private duty nurse or fifteen or more cases with a visiting nurse or both.

Nursing Case and Day Rates. Figure 5 shows for these sixteen diagnoses nursing cases per 1,000 population under observation in terms of (a) full-time private duty nursing, separately for graduate and practical, and (b) visiting nursing. The bars are arranged for

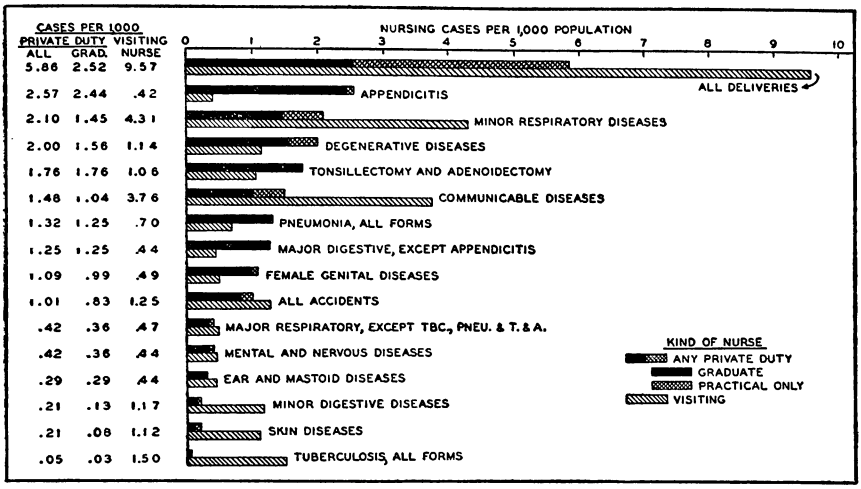

Fig. 5. Annual frequency of cases of graduate, practical, and visiting nursing for certain diagnoses per 1,000 population—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses for causes with fifteen or more cases of private duty or of visiting nursing.)

comparing the extent of private duty and visiting nursing on the same diagnosis, being arrayed according to the total private duty rates. Deliveries stand out as the diagnosis with the most frequent nursing care of all three types. The rate for visiting nurse on maternity cases (including pre and postnatal care) is more than twice the visiting rate for the next most frequent diagnosis group, minor respiratory diseases. It has already been noted that the high visiting nurse rate for maternity cases may be due in part to the fact that some of the canvassers in this study were health department employees who no doubt brought pregnancies in the surveyed families to the attention of the health authorities at an earlier stage than would occur in other families. Other diagnoses with relatively high visiting nurse rates are communicable diseases and tuberculosis. Diagnoses with relatively high case rates for private duty nurses are, in addition to deliveries, appendicitis, minor respiratory diseases, degenerative diseases, and tonsillectomy. In most of the diagnoses except deliveries, the great majority of the private duty cases had a graduate nurse.

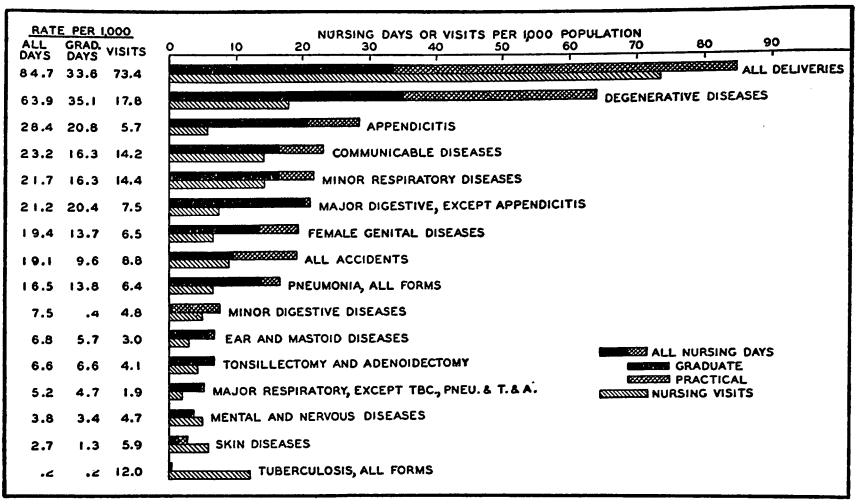

Fig. 6. Annual volume of graduate, practical, and visiting nursing days and visits for certain diagnoses per 1,000 population—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses for the sixteen causes included in Fig. 5.)

Figure 6 shows for the same sixteen diagnoses nursing days per 1,000 population for private duty nursing care (within and outside of hospitals) with separation of graduate and practical days, and the number of nursing visits per 1,000 population. In terms of nursing cases (Fig. 5) only delivery had a sizable rate for practical nurses, but in nursing days degenerative diseases, accidents, and several other diagnoses had relatively large rates for practical nurses. The difference is obviously due to the longer average days per case for practical nurses.

The average days (practical and graduate) of nursing per case with a private nurse exceed the average visits per case with a visiting nurse in nine of the thirteen diagnoses with ten or more cases of both kinds of nursing (Fig. 7). The days per case with a private duty nurse range from 33.3 for degenerative diseases to 3.8 for tonsillectomy. Visits per case with a visiting nurse range from 17.1 for major digestive diseases to 3.3 for minor respiratory diseases.

Percentage of Cases with Nursing Service. Figure 8 and Table 2 show for the same sixteen diagnoses the proportions of all cases

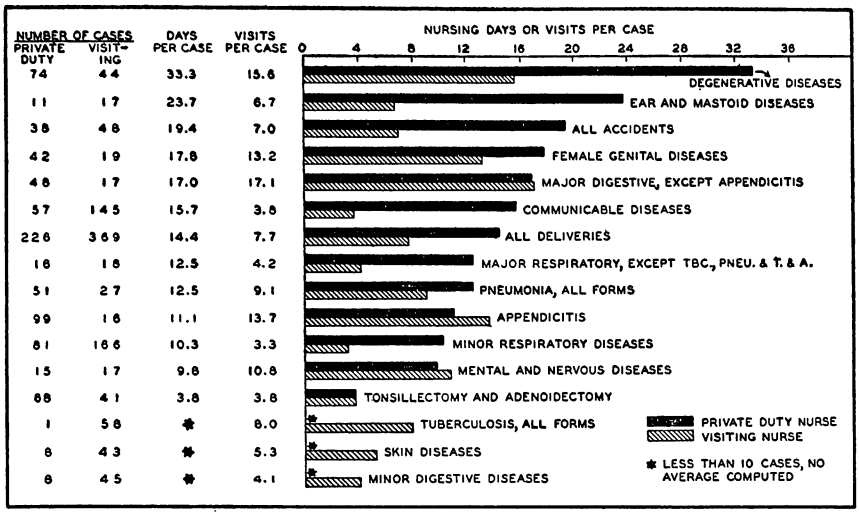

Fig. 7. Nursing days per case with a private duty nurse and nursing visits per case with a visiting nurse, for certain diagnoses—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses for the sixteen causes included in Fig. 5.)

with one or more days of private nursing with separation for graduate and practical, and with one or more visits by a nurse. At the top of the list in terms of private nursing is appendicitis with 31 per cent of the cases with such a nurse but only 5 per cent with a

Fig. 8. Percentage of cases of certain diagnoses that had graduate, practical, or visiting nurses—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses for the sixteen causes included in Fig. 5.)

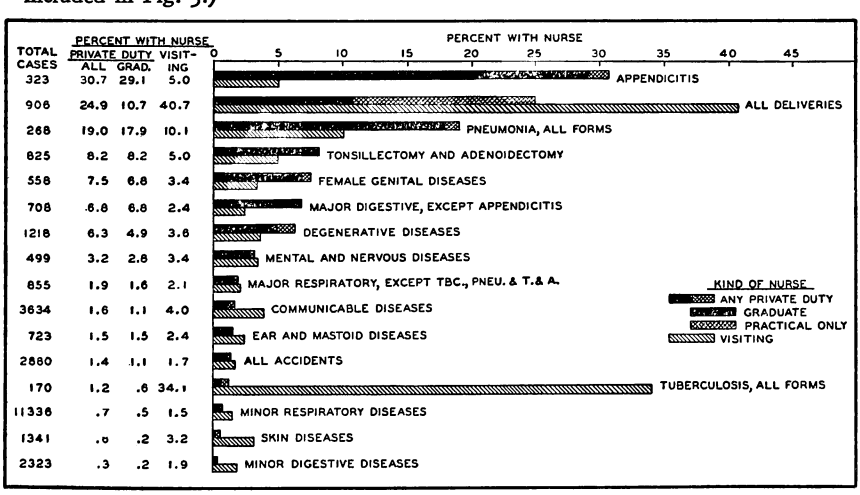

Table 2. Percentage of illnesses[1] of certain diagnoses which had nursing service of specified kinds—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses only.)

Diagnosis	Total Cases of Illness[1]	Per Cent of Cases With: Any Nursing, Including General Duty Nurse in Hospital	Full-Time Private Duty Nurse (Graduate or Practical)	General Duty Nurse in Hospital But No Private Nurse	Visiting Nurse Only	Graduate Nurse[2]	Practical Nurse[2]	Visiting Nurse[2]	Other Help[2]
	1	2	3	4	5	6	7	8	9
All Causes	32,752	11.2	2.8	5.7	2.7	2.1	.82	3.7	1.20
Tonsillectomy and Adenoidectomy	825	78.3	8.2	68.0	2.1	8.2	—	5.0	.85
Pneumonia, All Forms	268	33.2	19.0	7.5	6.7	17.9	2.61	10.1	5.22
Minor Respiratory Diseases	11,336	2.4	.7	.3	1.4	.5	.26	1.5	.33
Other Respiratory Diseases	855	8.0	1.9	4.3	1.8	1.6	.35	2.1	.58
Appendicitis	323	60.4	30.7	29.4	.3	29.1	2.48	5.0	4.64
Minor Digestive Diseases	2,323	2.9	.3	.7	1.9	.2	.13	1.9	.26
Other Digestive Diseases	708	18.5	6.8	10.3	1.4	6.8	.28	2.4	1.41
All Accidents	2,880	8.7	1.4	5.9	1.5	1.1	.31	1.7	.52
All Deliveries and Abortions	906	80.7	24.9	32.9	22.8	10.7	15.78	40.7	20.97
Female Genital Diseases	558	21.5	7.5	13.1	.9	6.8	.90	3.4	4.12
Degenerative Diseases	1,218	15.5	6.3	7.0	2.2	4.9	1.97	3.6	1.48
Communicable Diseases	3,644	6.9	1.6	1.5	3.9	1.1	.47	4.0	.38
Ear and Mastoid Diseases	723	7.9	1.5	5.0	1.4	1.5	.14	2.4	.28
Skin Diseases	1,341	5.1	.6	1.4	3.1	.2	.37	3.2	.07
Tuberculosis, All Forms	170	57.1	1.2	33.5	22.4	.6	.59	34.1	3.53
Mental and Nervous Diseases	499	13.2	3.2	7.2	2.8	2.8	.60	3.4	.60
All Other Diseases	4,175	8.4	1.4	4.6	2.5	1.2	.24	2.9	.65

[1] Cases of illness include all reported in the periodic canvasses, both disabling and nondisabling.
[2] Percentages in columns 6-9 of the table overlap in the sense that some cases had two or more types of nurses or attendants; percentages in columns 3, 4 and 5 are mutually exclusive with their total in column 2.

visiting nurse. Deliveries come second for private nurse, 25 per cent, but 41 per cent had a visiting nurse, including pre and postnatal care. For ten of the sixteen diagnoses the percentage was greater for visiting than for private duty nurse. Table 3 shows similar data in broad age groups.

Of all illnesses among males 1.8 per cent had a full-time private nurse for one or more days, as compared with percentages for females of 3.5 for all illnesses and 2.2 for all except female genital and puerperal diagnoses. Figure 9 shows by sex and for fourteen important diagnoses common to the two sexes the percentage of cases with a private nurse. The percentages with such a nurse were higher for females for nine diagnoses and higher for males for the other five causes. For visiting nursing thirteen of the same fourteen diagnoses had higher percentages with such a nurse for females than males, the only exception being tonsillectomy. Illness rates for given diagnoses are generally higher for females than males (14), and it appears that women are somewhat more likely than men to have a nurse of some kind for a given case; again it must be re-

Fig. 9. Percentage of cases of certain diagnoses among males and females that had a private duty nurse—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole, primary, and contributory diagnoses for the causes included in Fig. 5, except female genital and puerperal diagnoses.)

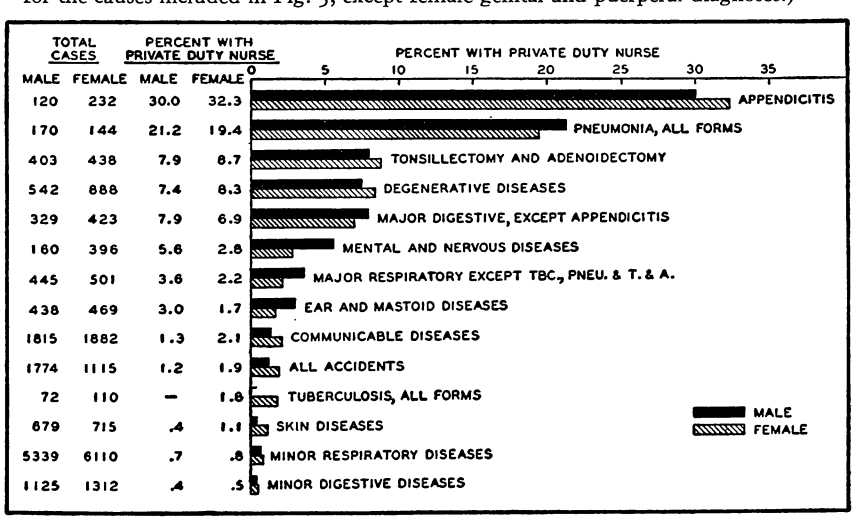

Table 3. Age variation in the percentage of illnesses[1] from certain diagnoses which had a nurse of the specified kind—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole, primary, and contributory diagnoses.)

Diagnosis	All Ages[2]	Age				All Ages[2]	Age			
		Under 5	5–14	15–44	45 and Over		Under 5	5–14	15–44	45 and Over
	Per cent of cases[1] with full-time private duty nurse of any kind					Per cent of cases[1] with visiting nurse				
Tonsillectomy and Adenoidectomy	8.3	10.1	6.4	9.0	19.2	5.0	6.0	6.2	2.4	—
Pneumonia, All Forms	20.3	14.6	19.0	27.6	31.0	9.8	11.5	7.1	10.3	9.5
Minor Respiratory Diseases	.7	.8	.5	.7	1.4	1.5	2.1	1.8	1.0	1.0
Other Respiratory Diseases	2.9	1.4	2.3	2.5	5.3	2.6	7.0	4.0	1.7	2.4
Appendicitis	31.5	*	33.3	30.4	45.5	5.1	*	2.4	5.5	13.6
Minor Digestive Diseases	.4	.4	—	.4	1.0	1.9	3.4	.6	1.6	1.0
Other Digestive Diseases	7.3	.9	3.5	7.7	11.7	2.5	5.5	—	2.1	2.8
All Accidents	1.5	.5	.9	1.4	3.7	1.7	1.8	1.6	1.5	2.7
All Deliveries and Abortions[3]	24.8	*	*	25.0	*	40.5	*	*	40.4	*
Female Genital Diseases	9.4	*	*	9.2	12.4	4.3	*	*	3.9	5.6
Degenerative Diseases	8.0	1.9	2.5	5.0	11.5	4.0	1.9	5.9	3.3	4.4
Communicable Diseases	1.7	.8	1.2	4.9	6.5	4.0	3.5	4.4	4.0	2.2
Ear and Mastoid Diseases	2.3	1.3	3.0	3.3	1.4	3.0	3.8	4.3	.9	—
Skin Diseases	.8	.4	.4	.9	1.2	3.4	7.4	4.5	1.1	2.4
Tuberculosis, All Forms	1.1	*	—	2.2	*	33.5	*	35.0	30.4	*
Mental and Nervous Diseases	3.6	1.7	—	2.8	8.2	4.0	5.2	9.5	2.8	3.0
	Number of cases with full-time private duty nurse of any kind					Number of cases with visiting nurse				
Tonsillectomy and Adenoidectomy	70	15	29	19	5	42	9	28	5	—
Pneumonia, All Forms	64	19	16	16	13	31	15	6	6	4
Minor Respiratory Diseases	85	20	17	27	21	169	57	56	41	15
Other Respiratory Diseases	27	1	4	13	9	25	5	7	9	4
Appendicitis	111	1	28	72	10	18	—	2	13	3
Minor Digestive Diseases	10	3	—	3	4	46	27	3	12	4
Other Digestive Diseases	55	1	3	26	25	19	6	—	7	6
All Accidents	43	2	8	17	15	50	7	14	18	11
All Deliveries and Abortions	226	—	—	226	—	369	—	—	365	4
Female Genital Diseases	59	—	—	47	11	27	2	—	20	5
Degenerative Diseases	114	1	3	26	84	57	1	7	17	32
Communicable Diseases	62	11	23	22	6	147	46	81	18	2
Ear and Mastoid Diseases	21	4	9	7	1	27	12	13	2	—
Skin Diseases	11	1	2	5	2	48	18	20	6	4
Tuberculosis, All Forms	2	—	—	2	—	61	3	21	28	9
Mental and Nervous Diseases	20	1	—	8	11	22	3	7	8	4

[1] Cases of illness include all reported in the periodic canvasses, both disabling and nondisabling.

[2] All ages includes a few of unknown age.

[3] The number of deliveries was large enough for five-year groups from 20 to 44 years. The precentages with graduate nurse increased rather regularly from 6 at 20-24 to 15 at 40-44 years; those for practical nurse varied irregularly from 15 to 18 per cent in the ages from 20 to 40 years but was only 4 per cent at 40-44 years. The percentages for visiting nurse were about 42 at both 20-24 and 40-44 years, with a consistent decrease from these extremes to a minimum of 37 per cent at 30-34 years.

* Less than twenty total cases (including none) and no percentage computed.

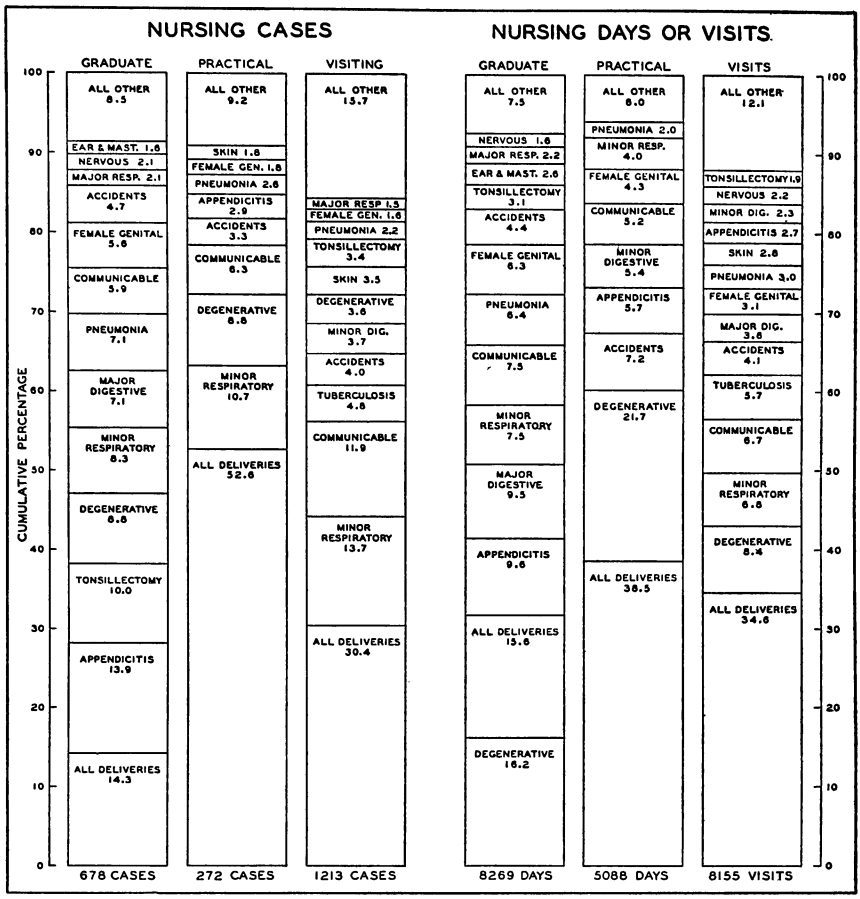

Fig. 10. Percentage of graduate, practical, and visiting nursing cases and days or visits that were due to each diagnosis— 8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses; each bar shows the 16 causes included in Fig. 5 except where less than 1.5 per cent.)

membered that the housewife often does the family nursing but cannot be her own nurse.

Nursing Case Load. The data on nursing care may be considered from the point of view of the distribution of the nurse's case load in terms of the diagnoses of the patients served. Figure 10 shows these distributions in terms of cases and days for graduate and practical nursing and in terms of cases and visits for visiting nursing.

Of the total cases with a full-time graduate nurse, 14 per cent

were deliveries, with appendicitis only slightly less. Of the practical nursing cases, 53 per cent were deliveries, with appendicitis sixth in the list with only 3 per cent. Maternity cases, including pre and postnatal care, accounted for 30 per cent of the visiting nursing cases. Minor respiratory diseases were second among practical nursing cases, 11 per cent, and second among visiting cases with 14 per cent of the total visiting cases.

Of the total graduate nursing days, 16 per cent were for the degenerative diseases with deliveries only slightly less. The same causes head the list for practical nursing days with 38 per cent for deliveries and 22 per cent for degenerative diseases[14]. Thus in days these two causes make up 60 per cent of the practical nurse's load.

Deliveries and degenerative diseases appear among the first five important causes of nursing according to nearly every measure of nursing set up in Figure 10; appendicitis and minor respiratory diseases (and their complications) appear among the first five causes according to most of the measures of nursing care; other causes are important in certain kinds of nursing but not in others.

Distribution of Cases According to Nursing Days and Visits. Table 4 shows the distribution of cases according to the days (shifts) of care by a graduate and by a practical nurse; since some cases had both types of nurses, the column for all private duty nursing is not merely the sum of the frequencies for graduate and practical nurses but a new distribution of cases according to the total days of nursing. The peculiar class intervals used are designed to put near the center of the group the round numbers that occur frequently in these reports; 7 and multiples of 7, 10, and 30 days occur with unusual frequency because the data are given by family informants rather than copied from nursing records, and because at least practical nurses are frequently hired by the week. In 12 per cent of the cases with a graduate nurse, the care was for only a single day (or

[14] With the eight long cases (*see* footnote 11) included, degenerative diseases were responsible for 18.0 per cent of all graduate and 27.6 per cent of all practical days; deliveries accounted for 14.1 per cent of graduate and 28.8 per cent of practical nursing days.

Nursing Days of Specified Duration	All Causes			All Deliveries and Abortions			All Other Causes		
	Any Private Duty Nurse	Graduate Nurse	Practical Nurse	Any Private Duty Nurse	Graduate Nurse	Practical Nurse	Any Private Duty Nurse	Graduate Nurse	Practical Nurse
Total Cases With Known Days									
Number	879	660	261	219	93	139	660	567	122
Per Cent	100	100	100	100	100	100	100	100	100
1	9.4	12.3	3.1	7.3	21.5	.7	10.2	10.8	5.7
2	7.8	9.8	4.6	2.7	5.4	1.4	9.5	10.6	8.2
3	6.5	8.2	2.7	1.8	5.4	1.4	8.0	8.6	4.1
4– 5	10.6	12.1	5.4	4.1	6.5	2.9	12.7	13.1	8.2
6– 8	14.3	15.8	11.9	11.9	12.9	11.5	15.2	16.2	12.3
9–11	9.1	7.4	13.8	16.0	9.7	20.1	6.8	7.1	6.6
12–17	18.8	13.5	31.8	32.4	11.8	42.4	14.2	13.8	19.7
18–24	9.3	8.5	10.3	11.9	9.7	12.2	8.5	8.3	8.2
25–38	6.3	5.8	6.9	8.2	10.8	6.5	5.6	4.9	7.4
39–66	4.1	4.2	3.1	2.7	3.2	.7	4.5	4.4	5.7
67 and Over	3.8	2.4	6.5	.9	3.2	—	4.7	2.3	13.9

Table 4. Percentage distribution of private duty nursing cases[1] according to days of graduate and of practical nursing—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary diagnoses only.)

[1] Some cases had both a graduate and a practical nurse. All cases are classified according to days for each type of nurse regardless of days on the same case for the other type; in days for "any private duty nurse" the cases are classified according to total days for both graduate and practical nurses.

night), as compared with 3 per cent for a practical nurse; 42 per cent of the graduate cases were for five days (shifts) or less, as compared with 16 per cent for practical nurses.

Table 5 shows similar distributions for as many of the sixteen diagnoses as had twenty-five or more cases of sole diagnosis with a private duty nurse. The percentage of cases with a nurse and the mean days per case are shown for illnesses with sole diagnosis and for complicated cases, that is, those with two or more diagnoses. For all nine diagnoses the complicated cases had higher percentages with a nurse and more nursing days per case than the uncomplicated ones.

Similar distributions of cases according to the number of nursing visits are shown in Table 6. Thirty-nine per cent of all illnesses with such a nurse had only one or two visits; for uncomplicated cases of

Nursing Days	Appendicitis	Major Digestive Diseases	Tonsillectomy and Adenoidectomy	Pneumonia, All Forms	Minor Respiratory Diseases	Communicable Diseases	Degenerative Diseases	Female Genital Diseases	Accidents
	Cases with only one diagnosis (uncomplicated)								
Total Cases With Known Nursing Days									
Number	85	37	62	40	66	48	39	29	34
Per Cent	100	100	100	100	100	100	100	100	100
1	5.9	5.4	35.5	—	4.5	6.2	7.7	—	23.5
2– 3	18.8	10.8	40.3	12.5	13.6	12.5	17.9	31.0	17.6
4– 5	20.0	16.2	4.8	25.0	13.6	12.5	2.6	10.3	11.8
6– 8	18.8	16.2	6.5	7.5	25.8	14.6	5.1	20.7	11.8
9–11	9.4	2.7	4.8	7.5	13.6	6.2	2.6	6.9	—
12–17	12.9	16.2	3.2	25.0	25.8	12.5	15.4	13.8	11.8
18–24	10.6	10.8	4.8	12.5	1.5	14.6	7.7	6.9	8.8
25 and Over	3.5	21.6	—	10.0	1.5	20.8	41.0	10.3	14.7
Mean Nursing Days Per Nursing Case[2]	8.7	15.5	3.8	12.4	8.8	16.6	30.3	15.2	17.5
Per Cent of Cases With a Nurse	29.6	5.8	8.0	16.7	.6	1.4	4.2	5.8	1.2
	Cases with two or more diagnoses (complicated)								
Total Cases With Known Nursing Days	24	17	7	24	15	11	67	29	7
Mean Nursing Days Per Nursing Case[2]	22.4	19.1	9.6	16.5	19.3	16.8	44.5	16.6	25.6
Per Cent of Cases With a Nurse	41.0	17.2	14.0	31.2	2.4	7.1	17.3	23.6	17.3

Table 5. Percentage distribution of private duty[1] nursing cases of certain diagnoses according to the number of nursing days—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

[1] Includes both graduate and practical nursing.
[2] Eight cases with 252 days or more of nursing care are excluded from the computation of mean days per case. *See* footnote 11 for details about these cases.

communicable disease 71 per cent received only one or two visits.

Nursing for Surgical and Nonsurgical Cases

Of all illnesses reported in this study 2.8 per cent had a full-time private nurse for one or more days or nights either in or outside of a hospital; 20.3 per cent of the hospital cases had such a nurse while in the hospital and 1.4 per cent of the nonhospital cases had a private nurse. Of the surgical hospital cases, 24 per cent had a private

Nursing Visits	Sole or Primary Diagnoses			Sole Diagnosis Only						
	All Causes	All Deliveries and Abortions	All Other Causes	Communicable Diseases	Minor Respiratory Diseases	Tonsillectomy and Adenoidectomy	Minor Digestive Diseases	Degenerative Diseases	Accidents	Tuberculosis
Total Cases With Known Visits										
Number	1,180	365	815	133	143	35	44	35	47	52
Per Cent	100	100	100	100	100	100	100	100	100	100
1– 2	38.7	20.8	46.7	71.4	60.8	45.7	56.8	14.3	42.6	26.9
3– 4	20.3	17.3	21.7	15.8	23.8	40.0	25.0	8.6	29.8	19.2
5– 6	10.2	12.9	9.0	3.0	8.4	2.9	6.8	20.0	4.3	15.4
7– 8	6.7	11.5	4.5	1.5	.7	8.6	4.5	2.9	4.3	7.7
9–10	5.8	11.2	3.4	.8	2.1	—	2.3	8.6	2.1	5.8
11–12	5.4	12.1	2.5	.8	1.4	—	—	5.7	2.1	3.8
13–19	6.1	9.6	4.5	3.8	2.8	2.9	2.3	8.6	6.4	13.5
20–29	3.8	4.1	3.7	2.3	—	—	—	11.4	2.1	3.8
30–39	.7	.5	.7	—	—	—	—	5.7	2.1	1.9
40 and Over	2.2	—	3.2	.8	—	—	2.3	14.3	4.3	1.9

Table 6. Percentage distribution of visiting nursing cases of certain diagnoses according to the number of nursing visits—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

nurse while in the hospital, as compared with 15 per cent for nonsurgical hospital cases. These figures may be compared with 1.9 per cent with a private nurse for surgical nonhospital cases and 1.4 for nonsurgical nonhospital cases.

Of all cases with a full-time private nurse, 52 per cent had a private nurse while in a hospital. Of all surgical cases with a private nurse, 95 per cent had a private nurse while in a hospital, as compared with 24 per cent for all nonsurgical cases with a private nurse.

Of the total cases with a full-time private nurse, 40 per cent were surgical; these surgical cases account for 37 per cent of the days (shifts) of private duty nursing, exclusive of the eight long cases previously discussed. Of the hospital cases with a private nurse while in the hospital, 72 per cent were surgical, but of the nonhospital cases with a private nurse only 4 per cent were surgical. These various figures indicate a considerable concentration of private duty nursing service in hospitals, particularly on hospital surgical cases.

Visiting nursing service is somewhat less concentrated on hospital and surgical cases. Of all illnesses reported in this study 3.7 per cent had one or more visits from a nurse; 10.9 per cent of the hospital cases and 3.1 per cent of the nonhospital cases had such nursing service. Of the surgical hospital cases 5.9 per cent had a visiting nurse either before or after the period of hospitalization, as compared with 18.9 per cent for nonsurgical hospital cases. These figures may be compared with 3.4 per cent with a visiting nurse for surgical nonhospital cases and 3.1 per cent for nonsurgical nonhospital cases.

Of all cases with a visiting nurse, 21 per cent were hospital cases. Of the surgical cases with a visiting nurse, 71 per cent were hospital cases, as compared with 16 per cent for nonsurgical cases with such a nurse.

Of all cases with a visiting nurse, 10 per cent were surgical and 90 per cent nonsurgical; of the hospital cases with a visiting nurse before or after the period of hospitalization, 33 per cent were surgical and of the nonhospital cases with such a nurse 4 per cent were surgical.

Fig. 11. Percentage of surgical and of nonsurgical cases of certain diagnoses that had a private duty nurse—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole, primary, and contributory diagnoses for as many of the sixteen causes included in Fig. 5 as had fifty or more of either surgical or nonsurgical cases and 3.0 per cent or more with a nurse for either category.)

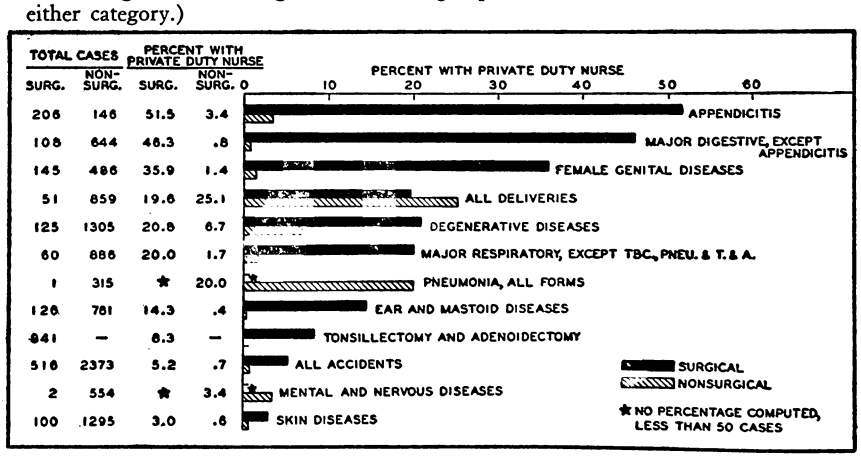

Figure 11 compares for important diagnoses the percentage of surgical and nonsurgical cases with a full-time private nurse for one or more days. Of the twelve diagnoses, nine had enough of both surgical and nonsurgical cases to use as a basis for percentages; of these nine diagnoses, eight had definitely higher percentages of surgical than of nonsurgical cases with a private nurse. Appendicitis is at the top of the list with a private nurse for 51 per cent of the surgical cases and 3 per cent of the nonsurgical. The excesses for surgical cases were extremely large for nearly every diagnosis. Deliveries, pneumonia, and degenerative diseases were the only diagnoses which had considerable percentages of nonsurgical cases with a private nurse.

Summary

Data on the frequency of illness and nursing care were recorded for a twelve-month period between 1928 and 1931 by periodic canvasses of 8,758 white families in 130 localities in eighteen States. The surveyed families include representation from nearly all geographic sections, from rural, urban, and metropolitan areas, from all income classes and of both native and foreign-born persons. Visits were made at intervals of two to four months. Illnesses causing symptoms for one day or longer were recorded, together with the number of cases with a private duty or visiting nurse and the days and visits within the study year.

Of all illnesses 11.2 per cent had some nursing service. In about half of the cases with nursing service, the nursing was done by the general duty hospital nurse as a part of the hospital care; 2.1 per cent had a full-time private duty graduate nurse, 0.7 per cent a practical nurse and 2.7 per cent had a visiting nurse only. Of all cases 3.7 per cent had a visiting nurse alone or with some other type of nursing, 0.8 per cent had a practical nurse alone or with a graduate nurse, and 1.2 per cent had some additional domestic help because of the illness.

Of the bed cases 5 per cent had a full-time private nurse and 20 per cent of the hospital cases had such a nurse while in the hospital, but only 1.4 per cent of the nonhospital cases had a private nurse. Of the illnesses with a graduate private nurse 70 per cent had such a nurse while in a hospital and of all graduate nursing days and nights (shifts) 63 per cent were rendered in hospitals. Of all hospital cases 10.9 per cent had a visiting nurse before or after the period spent in the hospital, but only 3.1 per cent of the nonhospital cases had such a nurse.

Of all surgical cases 15 per cent had a full-time private nurse as compared with 2 per cent for nonsurgical cases. Of the surgical hospital cases 24 per cent had a private duty nurse while in the hospital, as compared with 15 per cent for nonsurgical hospital cases. Neither surgical nor nonsurgical nonhospital cases had much nursing, 1.9 and 1.4 per cent respectively. Surgical cases of appendicitis had the highest proportion with a private nurse (51 per cent) with other abdominal operations (major digestive) a close second (46 per cent). Surgical cases rather consistently had much more nursing than nonsurgical cases of the same diagnosis.

Graduate private nursing amounted to 19.4 cases and 248 days, and practical nursing to 8.6 cases and 189 days per 1,000 population under observation. Visiting nursing amounted to 30.8 cases and 230 visits per 1,000 population. Aside from a very large excess in the childbearing ages for both private duty and visiting nursing cases and also for nursing days and visits, nursing rates tend to rise with age after 15 and particularly after 45 years. Although there is somewhat more nursing under 5 years than in adolescence, the excess is not striking.

In terms of all kinds of nursing, delivery with live birth (including pre and postnatal care) had a higher percentage of cases with a nurse than any other diagnosis (86 per cent). Approximately one-sixth of this nursing was done by a graduate private nurse, one-sixth by a practical private nurse, one-third by the general duty hospital

nurse, and one-third by a visiting nurse. In all private duty nursing delivery was fifth in the percentage with such a nurse (27 per cent). The diagnoses with higher percentages with a private duty nurse were cancer (35 per cent), appendicitis (32), mastoid diseases (29), and salpingitis and female genital tumors (27 per cent). The diagnoses with the highest percentages of cases with a visiting nurse were delivery (47 per cent), respiratory tuberculosis (40), smallpox vaccinations (21), complications of pregnancy and childbirth (17), and congenital malformations and diseases of early infancy (13 per cent).

Females had more cases with a private nurse and more days of nursing per 1,000 population than was true of males. Females also had a higher percentage of their illnesses attended by a full-time private nurse; these statements are true even when female genital and puerperal diagnoses are eliminated. The excess in visiting nursing for females over males was considerably greater than for private duty nursing. These excesses in nursing for females, particularly visiting nursing, are rather consistently true for the various diagnoses for which nursing care was frequent.

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