# Hospital Use by Diagnosis:

*a comparison of*
*two experiences*

*Monroe Lerner*

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UTILIZATION OF HOSPITAL SERVICES varies widely among different populations in accordance with their social settings, financing or insurance arrangements, and the availability of facilities. Given the fact of variation, a question of interest arises: Is the variation in volume of hospitalization associated with some corresponding variation in the *pattern* of illness, and therefore of the medical diagnoses leading to hospitalization? Or are patterns of illness or diagnosis basically the same at all levels of hospitalization, with the differences being confined merely to the *volume* or *level* of use? Similarly, is the variation in volume of hospital use attributable to differences among specific demographic segments of the population, or is it spread equally among all?

In an attempt to provide at least provisional answers to these questions, Health Information Foundation studied the patterns of hospitalization in two large and contrasting experiences. Hospitalization by diagnosis, age, and sex under Blue Cross Hospital Service in Indiana during 1956 was compared with the much higher level of hospitalization under the Saskatchewan Hospital Services Plan in Canada during 1957. The present discussion follows two earlier, preliminary reports dealing with the same comparison, but it represents a more comprehensive and detailed treatment of the results.*

The relatively high level of hospitalization in Saskatchewan is generally attributed to a number of "social," i.e., non-medical, factors.

*Health Information Foundation, "Hospital Use by Diagnosis: A Study in Contrasts," *Progress in Health Services*, Vol. X, No. 1, January 1961; and M. Lerner, "Hospital Use in Indiana and Saskatchewan by Diagnosis – The Use of Existing Hospital Data," address at a joint session of the American Association for the Advancement of Science and the Greater New York Area Chapter, American Statistical Association, New York, December 29, 1960 (mimeographed).

For one thing, Saskatchewan provides hospital care under a government insurance plan financed through various forms of taxation. Thus the total cost of hospital care is spread over the population, and direct cost barriers to use for the individual are removed. Also, Saskatchewan is primarily rural, and hospital use among insured populations in rural areas has been noted elsewhere to be higher than among insured populations in urban settings. Still another factor: Utilization in Saskatchewan has risen since the inception of the Plan, along with a corresponding increase in hospital beds and facilities.

Each of these factors, and no doubt others as well, is relevant to the explanation of higher use in Saskatchewan than in Indiana. And it is possible that these factors do affect substantially, not merely the volume, but also the patterning of illness and medical diagnoses leading to hospitalization. However, the purpose of this study was not to examine these non-medical factors closely. Rather, taking them as given, it was to explore in detail the patterns of medical diagnosis, total and by age and sex, associated with the large differences between the two experiences in volume of hospitalization.

## The insurance plans and their coverage

The Indiana* population studied — 843,046 — constituted about one-fifth of Indiana's estimated total population in 1956. All were covered under Blue Cross Comprehensive II Certificate of Membership. The chief method of enrollment (98 per cent) was through a group, with the remainder "group conversion." Their policy covered a maximum of 120 days of hospital care per admission (except for pulmonary tuberculosis or mental disorder, each with a maximum of 30 days). It did not cover Workmen's Compensation cases or admissions for purely diagnostic purposes or X-ray therapy.

The Saskatchewan Hospital Services Plan, a division of the Medical and Hospital Services Branch of the Provincial Department of Public Health, covers the hospitalization of residents on an insurance basis through prior payment of a "hospitalization tax." In 1957 this Plan covered 827,698 persons, or 94.2 per cent of Saskatchewan's estimated

*All data in this article, unless otherwise specified, refer to the population insured under Comprehensive II Certificate of Membership, Blue Cross Hospital Service, Indiana; and to the population insured under the Saskatchewan Hospital Services Plan, Saskatchewan, Canada. For convenience these are subsequently referred to simply as Indiana and Saskatchewan.





total population. No limit was placed on the amount of care which a beneficiary might receive at the Plan's expense from Saskatchewan hospitals as long as the attending physician considered hospital care necessary, nor were benefits withheld on the basis of age or pre-existing conditions. However, services rendered on a purely diagnostic basis were not included in the benefit schedule.

## Demographic and health characteristics of the populations

Along with differences in social characteristics and type and degree of insurance coverage, the two populations differed as well in demographic and health characteristics. These latter factors may have more

Table 1

Study Populations by Age and Sex
Indiana, 1956, and Saskatchewan, 1957

| Age group | Indiana | | | Saskatchewan | | |
|---|---|---|---|---|---|---|
| | Both sexes | Male | Female | Both sexes | Male | Female |
| | Number | | | | | |
| All ages | 843,046 | 415,662 | 427,384 | 827,698 | 426,611 | 401,087 |
| Under 20 | 339,974 | 174,985 | 164,989 | 334,297 | 171,373 | 162,924 |
| 20-34 | 201,843 | 91,868 | 109,975 | 159,969 | 78,889 | 81,080 |
| 35-49 | 183,033 | 89,274 | 93,759 | 153,809 | 77,934 | 75,875 |
| 50-64 | 95,681 | 47,097 | 48,584 | 102,172 | 54,725 | 47,447 |
| 65 and over | 22,515 | 12,438 | 10,077 | 77,451 | 43,690 | 33,761 |
| | Per cent | | | | | |
| All ages | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Under 20 | 40.3 | 42.1 | 38.6 | 40.4 | 40.2 | 40.6 |
| 20-34 | 23.9 | 22.1 | 25.7 | 19.3 | 18.5 | 20.2 |
| 35-49 | 21.7 | 21.5 | 21.9 | 18.6 | 18.3 | 18.9 |
| 50-64 | 11.4 | 11.3 | 11.4 | 12.3 | 12.8 | 11.9 |
| 65 and over | 2.7 | 3.0 | 2.4 | 9.4 | 10.2 | 8.4 |

direct relevance to differences in patterns of medical diagnosis, and they merit consideration here.

Although the two insured populations were not greatly different in total size or in sex composition, their respective age compositions did differ markedly. The oldest age group, 65 and over, constituted 9.4 per cent of the Saskatchewan population but only 2.7 per cent in Indiana (see Table 1). On the other hand the Indiana population was more heavily represented in the 20-34 and 35-49 age groups. In both insured populations there was a preponderance of males over females at 65 and over.

The death rate in Saskatchewan* in 1957, even though this was a year in which rates were generally higher than usual because of the Asian influenza epidemic, was greatly below the rate in Indiana in 1956 (not an influenza year) at ages 35 and over. At ages 65 and over the rate in Indiana (64.9 per 1,000 population) exceeded Saskatchewan's

*Death rates used in this discussion apply to the entire population of each area, not merely the insured population.

Table 2

Mortality by Age
Indiana, 1956, and Saskatchewan, 1957

| Age group | Deaths per 1,000 Population | |
|---|---|---|
| | Indiana | Saskatchewan |
| All ages | 9.6 | 7.7 |
| All ages, adjusted* | 8.0 | 6.5 |
| Under 20 | 2.3 | 2.5 |
| Under 5 | 6.2 | 6.7 |
| 5-19 | .6 | .6 |
| 20-34 | 1.3 | 1.4 |
| 35-49 | 3.7 | 2.5 |
| 50-64 | 13.4 | 9.8 |
| 65 and over | 64.9 | 52.7 |

*Adjusted to age composition of 1940 United States population.

Sources: Various reports by the U.S. Bureau of the Census, National Office of Vital Statistics, and Dominion Bureau of Statistics.





(52.7) by 23 per cent (see Table 2). The rates for the entire population (unadjusted for differences in age composition) were 9.6 per 1,000 in Indiana and 7.7 in Saskatchewan, an excess of about 25 per cent. Even when the rates for both areas were adjusted for age to the 1940 population of the United States, the Indiana rates still exceeded Saskatchewan's by 22 per cent. Only at under five years of age did the Saskatchewan rates greatly exceed those in Indiana.

A very considerable part of the difference in the mortality experience of the two groups was due to the much higher mortality prevailing in Indiana from cardiovascular-renal conditions, especially diseases of the heart. For example, the death rate in Indiana in 1956 from diseases of the heart was 369.1 per 100,000 (see Table 3), considerably above the corresponding Saskatchewan rate of 249.3. However, other components of the cardiovascular-renal group — e.g., vascular lesions affecting the central nervous system, were also considerably higher in Indiana. Other causes contributing substantially to the difference in rates were malignant neoplasms and accidents. Only for respiratory diseases among the major causes of death was Saskatchewan's rate substantially higher than Indiana's.

## Methods of analysis

The data for the Indiana portion of this study were originally collected by Blue Cross Hospital Service, Indianapolis, Indiana, from their claims records, and tabulated on ledger sheets. An early analysis was published as: *Costs of Hospital Care in Indiana 1956,* by Harry Hineman, Blue Cross Hospital Service, Indianapolis, Indiana, 1959. The ledger sheets were reworked and analyzed by Health Information Foundation with the permission of the author and his organization, and the results have since been published.*

The Saskatchewan Hospital Services Plan routinely collects and publishes administrative data in its Annual Reports.** For purposes of the present comparison, J. D. Ramsay, M.B.,*** very generously

*Health Information Foundation, "Hospital Use and Charges by Diagnostic Category," *Progress in Health Services,* Vol. IX, No. 5, May 1960; and M. Lerner, "Hospital Use and Charges by Diagnostic Category – A Report on the Indiana Study of a Blue Cross Population in 1956," *Research Series 13,* Health Information Foundation, New York, 1960.

**These provide an excellent source of data on utilization under the Plan. For additional analysis, see: F. B. Roth, et al, "Some Factors Influencing Hospital Utilization in Saskatchewan – An Interim Report," *Canadian Journal of Public Health,* 46:303-323 (August) 1955.

***Director, Research and Statistics Branch, Department of Public Health, Province of Saskatchewan.

forwarded detailed tabulations of Saskatchewan's 1957 experience. These data were for admissions* by sex, age, and detailed diagnosis and for patient-days by sex and detailed diagnosis (but not by age).

*Actually the Saskatchewan tabulations were for discharges, rather than admissions. However, these are taken to be closely equivalent to admissions as used in the Indiana tabulations. For convenience in comparing data, the term "admissions" is here used to cover all admissions or discharges.

## Table 3

### Mortality by Cause
### Indiana, 1956, and Saskatchewan, 1957

| Cause of death | Deaths per 100,000 Population | |
|---|---|---|
| | Indiana | Saskatchewan |
| ALL CAUSES | 962.2 | 767.1 |
| Infective and parasitic diseases | 14.9 | 9.2 |
| Tuberculosis (all forms) | 7.4 | 3.5 |
| Malignant neoplasms (cancer) | 147.1 | 124.2 |
| Benign and unspecified neoplasms | 2.7 | 2.4 |
| Allergic, metabolic, and blood diseases | 27.5 | 25.1 |
| Diabetes mellitus | 17.5 | 11.4 |
| Diseases of the nervous system | 131.6 | 98.8 |
| Vascular lesions affecting the CNS | 123.5 | 90.0 |
| Diseases of the circulatory system | 408.2 | 281.2 |
| Diseases of the heart | 369.1 | 249.3 |
| Arteriosclerotic and degenerative heart disease | 294.1 | 203.8 |
| Diseases of the respiratory system | 38.8 | 60.0 |
| Upper respiratory diseases | 9.5 | 11.3 |
| Influenza | 1.9 | 9.9 |
| Pneumonia | 25.6 | 33.4 |
| Bronchitis | 1.8 | 4.7 |
| Diseases of the digestive system | 32.1 | 24.7 |
| Appendicitis | 1.3 | 1.7 |
| Diseases of the genitourinary system | 20.8 | 15.7 |
| Diseases of the skin and bones, etc. | 2.5 | 2.6 |
| Congenital malformations, etc. | 51.2 | 52.3 |
| Accidents, poisonings, and violence | 77.4 | 60.1 |

Note: Population of Indiana in 1956 was estimated at 4,433,000; population of Saskatchewan in 1957 was estimated at 879,000.
Source: Same as Table 2.





However, since patient-days by sex, detailed diagnosis, *and* age were available for 1959 in the Plan's published Annual Report for that year, and since the number of patient-days used in 1959 (total and by diagnosis) did not differ greatly from the comparable figures for 1957, age-ratios by diagnosis and sex were computed from the 1959 data and applied to the 1957 experience. Thus that portion of the 1957 figures, where age is used to cross-classify patient-days (and average length of stay) by diagnosis and sex, represent estimates.

The 1957 Saskatchewan data by diagnosis, when made available to Health Information Foundation, had been classified according to the Seventh (1955) Revision of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Some minor adjustments were necessary to bring these data into line with the Indiana experience, which had been classified according to the Sixth (1948) Revision of the same International Statistical Classification. Also, the Saskatchewan data for 1959 for patient-days by age, sex and diagnosis had been classified according to List "C" of the International Statistical Classification, a shortened, special list of 50 diagnostic categories used for the tabulation of morbidity for Social Security purposes. It was therefore necessary for Health Information Foundation to tabulate the 1957 data for Saskatchewan in accordance with List "C" and to re-tabulate the Indiana data in a similar manner.*

Finally, because of the way in which the Indiana data were originally collected, it was impossible to distinguish between the sexes among beneficiaries under age 20. Therefore, in order to keep both series of data as comparable to one another as possible neither series, as presented in this report, distinguishes between the sexes under age 20. The Saskatchewan data had originally been tabulated in detailed ages, but for this analysis they were re-tabulated by Health Information Foundation into broad age groups identical to those of the Indiana data.

### Selected Measures of Use, Total and by Diagnosis

Utilization as discussed in this report is measured by admissions per 1,000 population, average duration of hospital stay per admission,

*The final system of classification used in this discussion is actually a slightly modified version of List "C". The modification consisted in combining some detailed categories in that list into 17 "major" categories of diagnosis and showing an additional 14 sub-categories (each of which is actually one of the components of a major category). For the List itself, and a discussion of the categories in it, see: World Health Organization, *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*. Vol. I, Geneva, 1957.

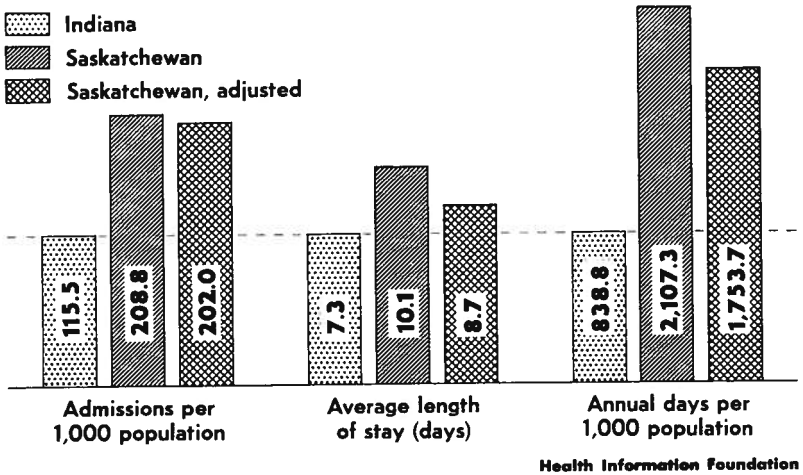
and days in the hospital (patient-days) per 1,000 population. Each measure is an annual average. Admissions and patient-days are computed against the total population, whether or not they were hospitalized in the course of the year. Average duration of stay was computed by dividing patient-days by the number of admissions. (These computations were made from the raw data, *before* rates of admissions or patient-days were computed.) Finally, the original data as furnished to Health Information Foundation provided no way of distinguishing duplicate admissions of the same individual within the total of admissions.

### Selected measures of use in the two series of data

In the Indiana Blue Cross-insured population under consideration here, there were 115.5 hospital admissions per 1,000 covered population in 1956. In Saskatchewan, however, under the Saskatchewan Hospital Services Plan, the hospital admission rate during 1957 was 208.8 per 1,000 (see Chart I). Thus the Saskatchewan rate exceeded that for Indiana by 93.3 annual admissions per 1,000, or by 80.8 per cent of the Indiana rate.

Chart I

**Selected Measures of Hospital Utilization Indiana, 1956, and Saskatchewan, 1957**








The Saskatchewan hospital experience was also higher in average length of stay. In Indiana the average length of stay was 7.3 days per admission, but patients in Saskatchewan's hospitals averaged 10.1 days, an excess of 2.8 days, or 38.4 per cent. And finally, the average number of patient-days in the hospital per 1,000 persons annually was 838.8 in Indiana and 2,107.3 in Saskatchewan, or 151.2 per cent higher in the latter.

Some proportion of the higher use in Saskatchewan, as compared to Indiana, was attributable to the differences in the age and sex composition of their respective populations. Thus the 65-and-over age group, a high-use segment of the population, constituted a larger proportion of the total in Saskatchewan than in Indiana. When the hospital use rates in Saskatchewan were computed with the age and sex composition of the Indiana population as their base, Saskatchewan's rates were reduced to 202.0 for admissions, 8.7 for average length of stay, and 1,753.7 for annual patient-days.*

Their proportionate excess over Indiana dropped to 74.9, 19.2, and 109.1 per cent for the three measures of use, respectively. Although these figures are lower than the comparable per cents when only crude rates are considered, Saskatchewan's excess of hospital use over Indiana is still of considerable magnitude.**

### Admission rates by diagnosis

In terms of the classification used here, the single most important major diagnosis among admissions in Indiana was obstetrical care,*** at 24.0 per 1,000 population, followed by respiratory diseases at 18.7 and digestive diseases at 18.0. Other leading diagnoses† were genitourinary diseases, 10.2; accidents, etc., 7.2; and circulatory diseases, 6.8 (see Chart II). These six leading major diagnoses accounted for 73.5 per cent of total admissions in Indiana.

In Saskatchewan the diagnoses recorded for admissions fell into a roughly similar pattern. The same six major diagnoses as in Indiana also

*In all tables and charts in this article, where the term "Saskatchewan, adjusted" is used, it refers to Saskatchewan rates adjusted to the age and sex composition of the Indiana population.

**However, had a finer age-and-sex adjustment been possible, this excess might be somewhat smaller.

***This category, as here used, includes both "normal delivery" and "complications of pregnancy, childbirth, and the puerperium."

†The residual category "other specified and ill-defined conditions" is excluded from the computations of rank order for each of the selected measures of hospital utilization.

Chart II

## Rank Order of Leading Major Diagnoses on Admission Indiana, 1956, and Saskatchewan, 1957

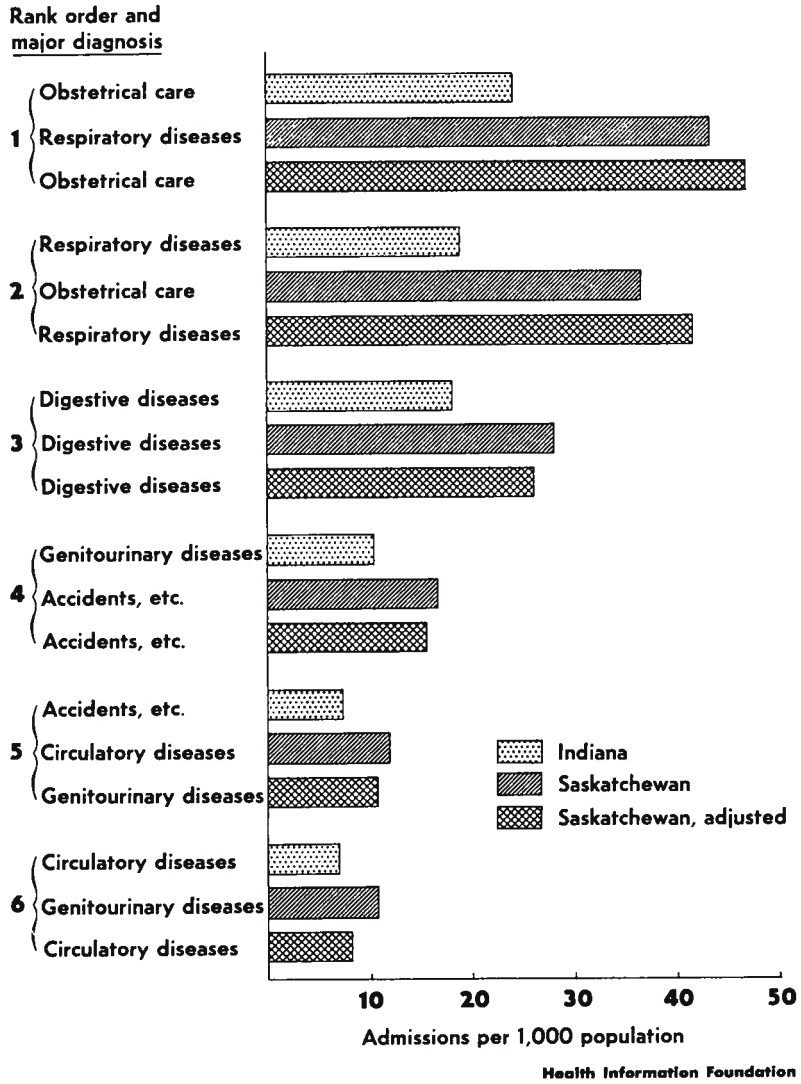







Table 4

### Per Cent Excess in Admission Rates by Diagnosis Saskatchewan, 1957, over Indiana, 1956 Six Leading Major Diagnostic Categories

| Leading Major Diagnostic Categories | Per Cent Excess over Indiana | |
|---|---|---|
| | Saskatchewan | Saskatchewan, Adjusted |
| ALL DIAGNOSES | 80.8 | 74.9 |
| Obstetrical care | 51.7 | 95.0 |
| Respiratory diseases | 131.0 | 121.9 |
| Digestive diseases | 55.0 | 45.0 |
| Genitourinary diseases | 3.9 | 3.9 |
| Accidents, etc. | 129.2 | 113.9 |
| Circulatory diseases | 73.5 | 19.1 |

constituted the six highest, but their rank order was somewhat different. Respiratory diseases led at 43.2 admissions per 1,000 population, followed by obstetrical care at 36.4; digestive diseases at 27.9; accidents, etc. at 16.5; circulatory diseases at 11.8; and genitourinary diseases at 10.6. These six diagnoses accounted for 70.1 per cent of all admissions, constituting a pattern similar to that for Indiana.

For each diagnosis these admission rates in Saskatchewan were higher than the comparable rates in Indiana, and often by a considerable margin. For example, admissions in Saskatchewan for respiratory diseases* and accidents, etc. were more than double the comparable rates in Indiana (see Table 4). The excess for circulatory diseases was just short of 75 per cent, while for digestive diseases and obstetrical care** it was over 50 per cent. Only for genitourinary diseases among

*Some part of the higher rates for respiratory diseases in Saskatchewan may have been due to the 1957-58 Asian influenza epidemic. But even under "normal" conditions, admissions for respiratory diseases are much higher in Saskatchewan than in this Indiana Blue Cross experience.

**Birth rates recorded in the official vital statistics of Saskatchewan in 1956 and 1957 were only slightly in excess of those recorded for Indiana (in each case, insured *plus* uninsured population). But this slight excess should not have been enough to account for a difference of 50 per cent in admissions for obstetrical care, as well as about the same relative difference between these two experiences in their admissions for normal delivery (the major component of obstetrical care). Interestingly, the admission rates for normal delivery in this Indiana experience were substantially lower than the official birth rate for Indiana, while in contrast, delivery admissions in this Saskatchewan experience were higher than Saskatchewan's official birth rate.

Table 5

Per Cent of Saskatchewan's Excess over Indiana in Admission Rates Accounted for by Six Leading Major Diagnostic Categories

| Leading Major Diagnostic Categories | Per Cent of Saskatchewan's Excess over Indiana | |
|---|---|---|
| | Saskatchewan | Saskatchewan, Adjusted |
| ALL DIAGNOSES | 100.0 | 100.0 |
| Obstetrical care | 13.3 | 26.4 |
| Respiratory diseases | 26.3 | 26.4 |
| Digestive diseases | 10.6 | 9.4 |
| Genitourinary diseases | .4 | .5 |
| Accidents, etc. | 10.0 | 9.5 |
| Circulatory diseases | 5.4 | 1.5 |
| Total of six categories | 66.0 | 73.7 |

these six leading categories was the proportionate excess of Saskatchewan's rates over Indiana's minor.

The six leading major diagnoses alone accounted for about two-thirds of the excess in admission rates which Saskatchewan had experienced over Indiana. Respiratory diseases by itself accounted for over one-fourth — 26.3 per cent (see Table 5). Obstetrical care at 13.3 per cent, digestive diseases at 10.6, and accidents, etc. at 10.0 per cent followed. The proportion of the total excess in admission rates accounted for by circulatory and genitourinary diseases was much less.

In addition to the six leading major diagnostic categories already discussed, the modified "C" List used in this analysis provided 11 other major diagnostic categories (making a total of 17) and 14 sub-categories. (The major categories appear in boldface type in the Appendix Tables.) Among the remaining eleven major categories, only for one — congenital malformations, etc.— was there a higher rate of admissions in Indiana than in Saskatchewan (see Appendix Table I). Similarly among the sub-categories only for one — tuberculosis (all forms) — was the admission rate higher in the Indiana experience. These diagnoses, which were exceptions to the general rule, accounted for only very small proportions of total admissions in each experience. Thus congenital malformations, etc. accounted for about two per cent of Indiana admissions and one per cent in Saskatchewan, while tuberculosis accounted for less than one-half of one per cent in each experience.





The extent to which admission rates for these remaining major categories in Saskatchewan exceeded those in Indiana varied considerably. For diseases of the skin, etc., the Saskatchewan admission rate, 5.0 per 1,000, was over three times as high as the Indiana rate, 1.5. On the other hand, for benign and unspecified neoplasms the Saskatchewan rate of 4.6 exceeded the Indiana rate of 3.6 by only about 28 per cent.

Among the sub-categories of diagnosis the range of variation in Saskatchewan's excess of admission rates over Indiana's was even greater. The highest extreme was for admissions for influenza, where the Saskatchewan rate, 7.0 per 1,000, was over 20 times higher than the Indiana rate. On the other hand for hernia of the abdominal cavity the Saskatchewan rate, 3.2 per 1,000, exceeded Indiana by only a very small proportion.

### Admission rates by diagnosis adjusted for age and sex

Among the six leading major diagnoses on admission, adjustment of Saskatchewan rates to the age and sex composition of Indiana's population resulted in a reduction in rates among four. Thus the admission rate for respiratory diseases dropped from 43.2 to 41.5 per 1,000; digestive diseases from 27.9 to 26.1; accidents, etc., from 16.5 to 15.4; and circulatory diseases from 11.8 to 8.1. But only in the last among these major categories — circulatory diseases — did adjustment affect the ratio to Indiana rates substantially. In this instance the excess of Saskatchewan's rates over Indiana's dropped from 73.5 to 19.1 per cent.

Adjustment caused no change whatever in the Saskatchewan admission rate for genitourinary diseases. For obstetrical care, however, adjustment actually raised Saskatchewan's rate substantially — from 36.4 to 46.8 per 1,000 population.* The excess of Saskatchewan's rate

*This change occurred because women in the reproductive ages (20-49) constituted a smaller proportion of the total insured population in Saskatchewan (19.0 per cent) than in Indiana (24.1 per cent).

Table 6

Rank Order by Diagnosis for Average Length of Stay
Six Leading Major Diagnostic Categories
Indiana, 1956, and Saskatchewan, 1957

| Indiana | | | Saskatchewan | | |
|---|---|---|---|---|---|
| Rank Order | Major Diagnosis | Average Length of Stay (Days) | Rank Order | Major Diagnosis | Average Length of Stay (Days) |
| 1 | Malignant neoplasms (cancer) | 15.5 | 1 | Malignant neoplasms (cancer) | 27.8 |
| 2 | Mental disorders | 15.5 | 2 | Circulatory diseases | 16.7 |
| 3 | Congenital malformations, etc. | 13.8 | 3 | Mental disorders | 15.4 |
| 4 | Circulatory diseases | 11.8 | 4 | Diseases of the nervous system | 15.3 |
| 5 | Infective and parasitic diseases | 11.1 | 5 | Congenital malformations, etc. | 14.9 |
| 6 | Diseases of the bones, etc. | 10.4 | 6 | Diseases of the blood, etc. | 14.5 |





over the Indiana rate rose from 51.7 to 95.0 per cent. And because of this reverse direction of change in obstetrical care, the proportion of the total excess of Saskatchewan's admission rates over Indiana's accounted for by the six leading major diagnoses actually rose — from about two-thirds (unadjusted rates) to almost three-fourths (adjusted rates).

As with the six leading major diagnoses on admission, so for the remaining 11 major diagnoses: Adjustment of Saskatchewan's rates to the age and sex composition of Indiana's population resulted in a reduction in rate for 8 of the 11 categories. However, in each of these instances Saskatchewan's admission rate still exceeded Indiana's. Among the 14 sub-categories of diagnosis a reduction in rate took place in 10, but for nine of these Saskatchewan's rate continued to exceed Indiana's. For three sub-categories adjustment actually raised the rate, and for one there was no change.

## Average length of hospital stay by diagnosis

Somewhat surprisingly in view of their higher admission rates for nearly all diagnoses in the modified "C" List, average length of hospital stay was also higher in Saskatchewan for nearly all diagnoses and for some by a considerable margin. However, the rank order of leading diagnoses differed in the two experiences.

Among the major diagnoses in Indiana, average length of stay was highest for malignant neoplasms (cancer) and mental disorders, each at 15.5 days (see Table 6). These were followed by congenital malformations, etc., 13.8 days; circulatory diseases, 11.8; infective and parasitic diseases, 11.1; and diseases of the bones, etc., 10.4 days. (Only one of these six categories had been listed among the six leaders in admission rates.)

The rank order pattern was quite different in Saskatchewan. Malignant neoplasms led at 27.8 days, followed by circulatory diseases, 16.7; mental disorders, 15.4; diseases of the nervous system, 15.3; congenital malformations, etc., 14.9; and diseases of the blood, etc., 14.5 days. Four of these categories were found among the six leading major diagnostic categories in average length of stay in both experiences.

Average length of stay was higher for nearly all diagnoses in Saskatchewan, and for some diagnoses this excess was considerable.

Table 7

Rank Order by Diagnosis for Rate of Patient-Days
Six Leading Major Diagnostic Categories
Indiana, 1956, and Saskatchewan, 1957

| Indiana | | | Saskatchewan | | |
|---|---|---|---|---|---|
| Rank Order | Major Diagnosis | Annual Days Per 1,000 Population | Rank Order | Major Diagnosis | Annual Days Per 1,000 Population |
| 1 | Digestive diseases | 145.3 | 1 | Digestive diseases | 263.9 |
| 2 | Obstetrical care | 109.5 | 2 | Respiratory diseases | 262.0 |
| 3 | Circulatory diseases | 80.0 | 3 | Obstetrical care | 239.8 |
| 4 | Genitourinary diseases | 70.1 | 4 | Circulatory diseases | 197.7 |
| 5 | Respiratory diseases | 64.2 | 5 | Accidents, etc. | 165.4 |
| 6 | Accidents, etc. | 63.0 | 6 | Malignant neoplasms (cancer) | 140.6 |





For malignant neoplasms it was 12.3 days, nearly as much as the Indiana figure; for diseases of the blood it was 7.2; benign and unspecified neoplasms, 5.9; diseases of the nervous system, 5.2; and for circulatory diseases it was 4.9 days longer. Even for obstetrical care Saskatchewan patients averaged 2.0 days longer in the hospital.

### Annual patient-days per 1,000 by diagnosis

The total amount of hospital use in Indiana was highest for digestive diseases, 145.3 annual patient-days per 1,000 population. Obstetrical care was second at 109.5, followed by circulatory diseases, 80.0; genitourinary diseases, 70.1; respiratory diseases, 64.2; and accidents, etc., 63.0 (see Table 7). These six first-ranking major diagnoses alone accounted for 63.4 per cent of total days of hospital use in Indiana.

In Saskatchewan digestive diseases similarly led the other major categories but at a much higher figure, 263.9 per 1,000. However, here this leading diagnosis was followed very closely by respiratory diseases at 262.0 and obstetrical care at 239.8. Fourth, fifth, and sixth, respectively, were circulatory diseases at 197.7; accidents, etc. at 165.4; and malignant neoplasms at 140.6. Thus the rank order of the six leading major diagnoses in Saskatchewan differed somewhat from Indiana, but five of these diagnoses were found among the six leaders

Table 8

Per Cent Excess in Rate of Patient-Days by Diagnosis
Saskatchewan, 1957, over Indiana, 1956
Six Leading Major Diagnostic Categories in Saskatchewan

| Leading Major Diagnostic Categories in Saskatchewan | Per Cent Excess over Indiana | |
|---|---|---|
| | Saskatchewan | Saskatchewan, Adjusted |
| ALL DIAGNOSES | 151.2 | 109.1 |
| Digestive diseases | 81.6 | 54.2 |
| Respiratory diseases | 308.1 | 250.8 |
| Obstetrical care | 119.0 | 180.5 |
| Circulatory diseases | 147.1 | 51.8 |
| Accidents, etc. | 162.5 | 108.6 |
| Malignant neoplasms (cancer) | 288.4 | 137.0 |

in both experiences. The six leading diagnoses in Saskatchewan accounted for 60.2 per cent of total use in this experience.

Annual patient-days were considerably higher in Saskatchewan than in Indiana for each of the six leading major diagnoses. For example, for respiratory diseases the excess over Indiana rates was by 308 per cent (see Table 8), and for malignant neoplasms it was not much less, 288 per cent. For obstetrical care, the Saskatchewan figure was more than double Indiana's.

These six leading major diagnoses alone accounted for about two-thirds of Saskatchewan's excess over Indiana in patient-days. Respiratory diseases alone accounted for 15.6 per cent (see Table 9). Obstetrical care followed at 10.3 per cent, and digestive and circulatory diseases each at 9.3 per cent.

Among the remaining 11 major diagnoses only one — congenital malformations, etc.— had a lower rate of annual patient-days in Saskatchewan than in Indiana. And among the sub-categories again only one — tuberculosis — had a lower rate in Saskatchewan. However here

Table 9

Saskatchewan's Excess over Indiana in Rate of Patient-Days
Per Cent of Total Accounted for by
Six Leading Major Diagnostic Categories in Saskatchewan

| Leading Major Diagnostic Categories | Per Cent of Saskatchewan's Excess over Indiana | |
|---|---|---|
| | Saskatchewan | Saskatchewan, Adjusted |
| ALL DIAGNOSES | 100.0 | 100.0 |
| Digestive diseases | 9.3 | 8.6 |
| Respiratory diseases | 15.6 | 17.6 |
| Obstetrical care | 10.3 | 21.6 |
| Circulatory diseases | 9.3 | 4.5 |
| Accidents, etc. | 8.1 | 7.5 |
| Malignant neoplasms (cancer) | 8.2 | 5.4 |
| Total of six catgeories | 60.8 | 65.2 |





too these categories represented only very small proportions of the total amount of patient-days in each experience. Among the sub-categories influenza had accounted for only 1.6 annual days per 1,000 population in Indiana, but in Saskatchewan its rate was 25 times as high, 40.4 per 1,000. This ratio was far above that for any other diagnosis.

### Patient-days by diagnosis adjusted for age and sex

Considering again the six leading categories for patient-days in the Saskatchewan experience, adjustment of the Saskatchewan rates for age and sex to the composition of Indiana's population resulted in a lowering of rates among five of the six. In each instance the declines were substantial — e.g., for circulatory diseases from 197.7 to 121.4 annual patient-days per 1,000 population; for malignant neoplasms from 140.6 to 85.8; and for digestive diseases from 263.9 to 224.0. Nevertheless, for each of these major diagnoses, although the decline as a result of age-and-sex adjustment was substantial, there was still a considerable excess over Indiana's rates.

Among the six, only obstetrical care did not decline as a result of adjustment. In fact, it increased considerably, and so did the proportion which its excess over the Indiana rate for patient-days represented of the comparable excess for all diagnoses. The excess for obstetrical care rose from 10.3 to 21.6 per cent of the total, i.e., it accounted for over one-fifth of the total excess when adjusted figures were used. It was followed by respiratory diseases at 17.6 per cent as the only category coming close to the obstetrical care figure. The total for the entire six categories was 65.2 per cent of the total excess.

Finally, for the remaining major diagnostic categories and for the sub-categories alike, adjustment of Saskatchewan's rate for patient-days to the age-and-sex composition of the Indiana population in most instances lowered these rates for specific diagnoses. However, generally the basic relationships remained unchanged in that patient-days were still higher for each diagnosis in the Saskatchewan experience.

### Age and Sex for All Diagnoses

Admission rates, average length of stay, and annual days per 1,000 population were larger for each age and sex group in the Saskatchewan

experience than in Indiana. But these differences were in general relatively largest at ages under 20 and 65 and over.

### Admissions by age and sex

Admissions per 1,000 population rose in Indiana from 77.8 at ages under 20 to 159.0 at 20-34. At 35-49 the rate dropped to 112.6, but thereafter it rose to 138.7 at 50-64 and then sharply to 220.4 at 65 and over (see Chart III). Essentially the same pattern prevailed in Saskatchewan, although the rates at each age were much higher. The corresponding figures were: 150.4 at under 20; a rise to 263.1 at 20-34; a drop to 181.6 at 35-49; a rise once again to 217.8 at 50-64; and thereafter a sharp rise to 390.3 at ages 65 and over. The highest relative excess of Saskatchewan rates over Indiana—93 per cent—was at ages under 20; the lowest—57 per cent—was at ages 50-64; but at 65 and over the excess again rose to 77 per cent.

In both experiences admission rates for females at ages 20-34 and 35-49 exceeded those for males by a wide margin (see Appendix

Chart III

**Hospital Admissions by Age**
**Indiana, 1956, and Saskatchewan, 1957**

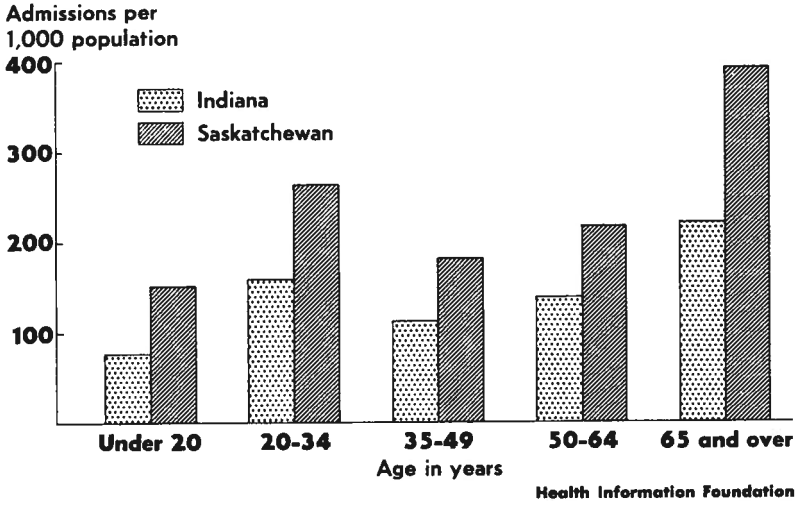





Chart IV

**Average Length of Hospital Stay by Age**
**Indiana, 1956, and Saskatchewan, 1957**

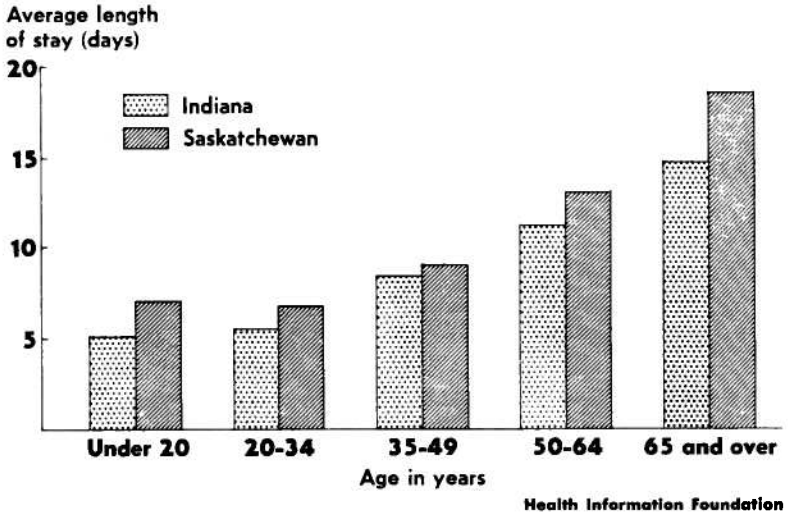



Table II), and this was true even with obstetrical care excluded. At ages 50-64 and 65 and over, again in both experiences, admission rates for females also exceeded those for males, but the margin of excess was much smaller.

### Length of stay by age and sex

In the Indiana experience, length of stay rose steadily with age — from 5.1 days at ages under 20 to 14.7 at 65 and over (see Chart IV). However, in this Saskatchewan experience there was a drop from the under-20 figure, 7.0 days, to 6.8 at 20-34, and thereafter a rise to 18.6 days at 65 and over. The smallest differences between the two experiences was at 35-49, when average length of stay in Saskatchewan exceeded that in Indiana by only 0.7 days, or 8 per cent of the Indiana figure. The largest differences were at ages under 20 and 65 and over. At under 20 Saskatchewan exceeded Indiana by 1.9 days or 37 per cent, while at 65 and over the comparable excess was 3.9 days or 27 per cent.

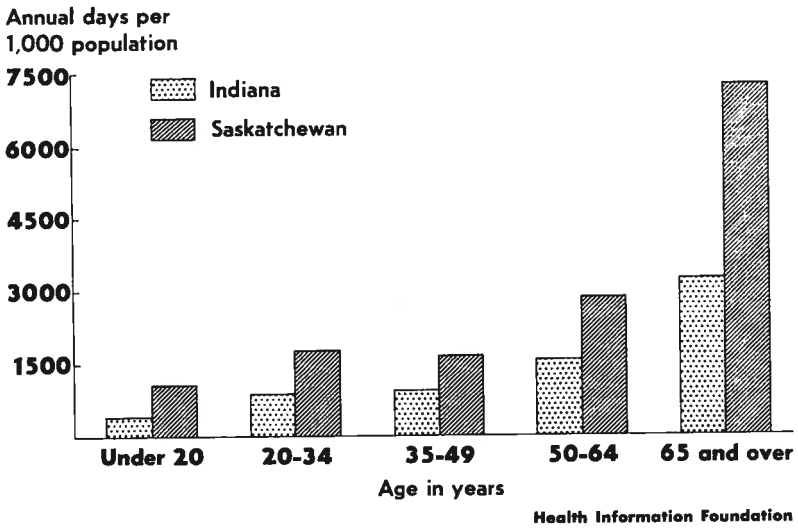
At ages above 20 (the only ages for which the tabulation by sex was available), males in both experiences exceeded females in their average length of stay by a considerable amount. This was particularly true at ages 20-34, when average length of stay for males exceeded that for females by 33 per cent in Indiana and 22 per cent in Saskatchewan. At ages 65 and over the usual pattern of male-female differential was reversed in Indiana and average length of stay for females exceeded that for males by 1.5 days.

### Patient-days by age and sex

Finally, for patient-days the rates in both experiences were much higher at the upper than at the middle and younger ages. In Indiana annual patient-days per 1,000 population rose from 395.2 at ages under 20 (see Chart V) to 3,249.9 at 65 and over. In Saskatchewan the comparable rise was from 1,047.9 to 7,258.5. Another way of saying

Chart V

**Annual Hospital Days by Age**
**Indiana, 1956, and Saskatchewan, 1957**






this is that in Indiana each beneficiary under age 20 *averaged* 0.4 days in the hospital annually, but at 65 and over it was 3¼ days. In Saskatchewan, the comparable figures were 1 day and 7¼ days.

The Saskatchewan rates exceeded the Indiana by considerable margins at all ages, but their relative excess was lowest at ages 35-49 (76 per cent) and highest at under 20 (165 per cent) and 65 and over (123 per cent). Female patient-days exceeded the rates for males at all ages above 20 in both experiences. In the reproductive ages (20-34 and 35-49) their rates were higher by a considerable margin, but even with obstetrical care omitted from the comparison their excess over males at these ages was still noteworthy.

## Age and Sex by Diagnosis

Patterns of illness requiring hospitalization vary according to the age-and-sex composition of the population. Thus each stage of the life-cycle is particularly subject to certain hazards or disabilities, but upon the onset of biological maturity this pattern varies sharply by sex. Generally similar variation at each stage of the life-cycle and by sex occurred in the two experiences under consideration here.

### Ages under 20

Under age 20 respiratory diseases generally dominated the scene in illness leading to hospitalization. This category led in admissions by a considerable margin in both Indiana and Saskatchewan (see Chart VI). It far outdistanced the other categories for annual patient-days in Saskatchewan. However in Indiana it was exceeded in this respect (see Appendix Table III) by only the barest of margins by "congenital malformations, etc." (86.3 and 86.7, respectively, annual days per 1,000 population).

Respiratory diseases accounted for 44 per cent of all admissions in this age group in Indiana and 43 per cent in Saskatchewan. It accounted for 22 per cent of all patient-days in Indiana and 29 per cent in Saskatchewan. Its most important component in both experiences was upper respiratory diseases. Although the admission rates for congenital malformations, etc. were low, the average duration of stay was long. Digestive diseases (especially appendicitis) and accidents, etc., were also important diagnostic categories in both experiences alike. In

Chart VI

## Leading Major Diagnoses as Per Cent of Total At Ages Under 20, Admissions and Annual Hospital Days Indiana, 1956, and Saskatchewan, 1957

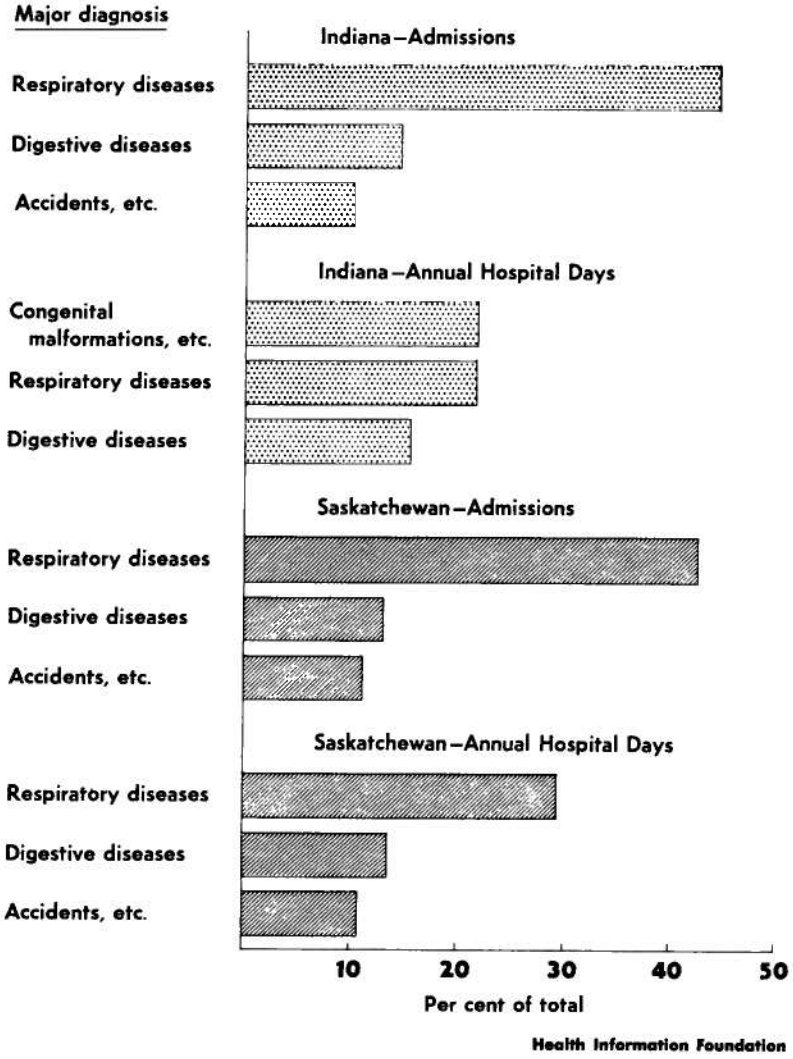
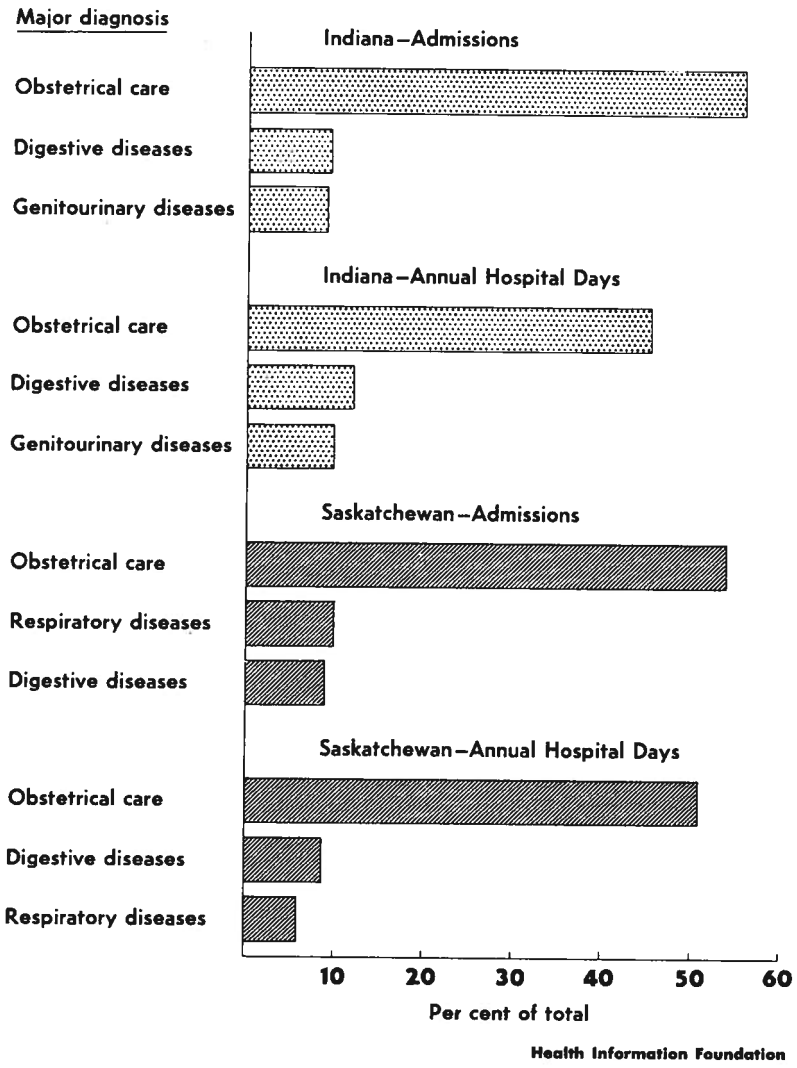






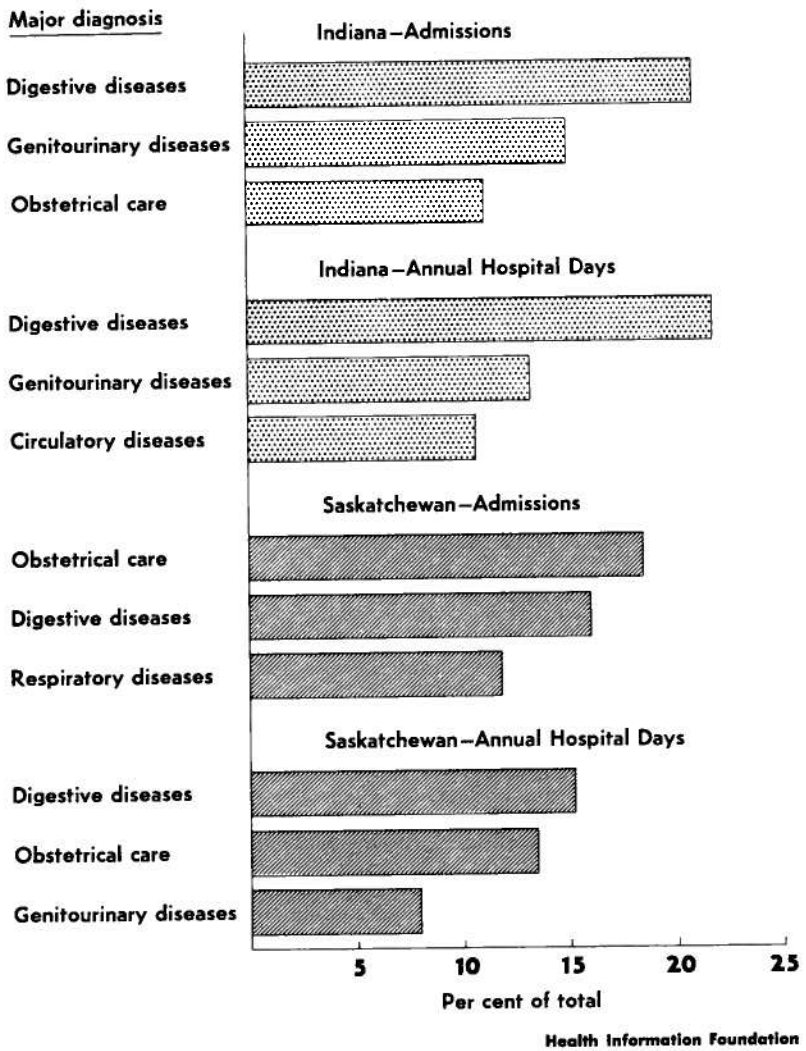

Chart VII

## Leading Major Diagnoses as Per Cent of Total Ages 20-34, Admissions and Annual Hospital Days Indiana, 1956, and Saskatchewan, 1957



## Chart VIII

## Leading Major Diagnoses as Per Cent of Total Ages 35-49, Admissions and Annual Hospital Days Indiana, 1956, and Saskatchewan, 1957








## Chart IX

## Leading Major Diagnoses as Per Cent of Total Ages 50-64, Admissions and Annual Hospital Days Indiana, 1956, and Saskatchewan, 1957

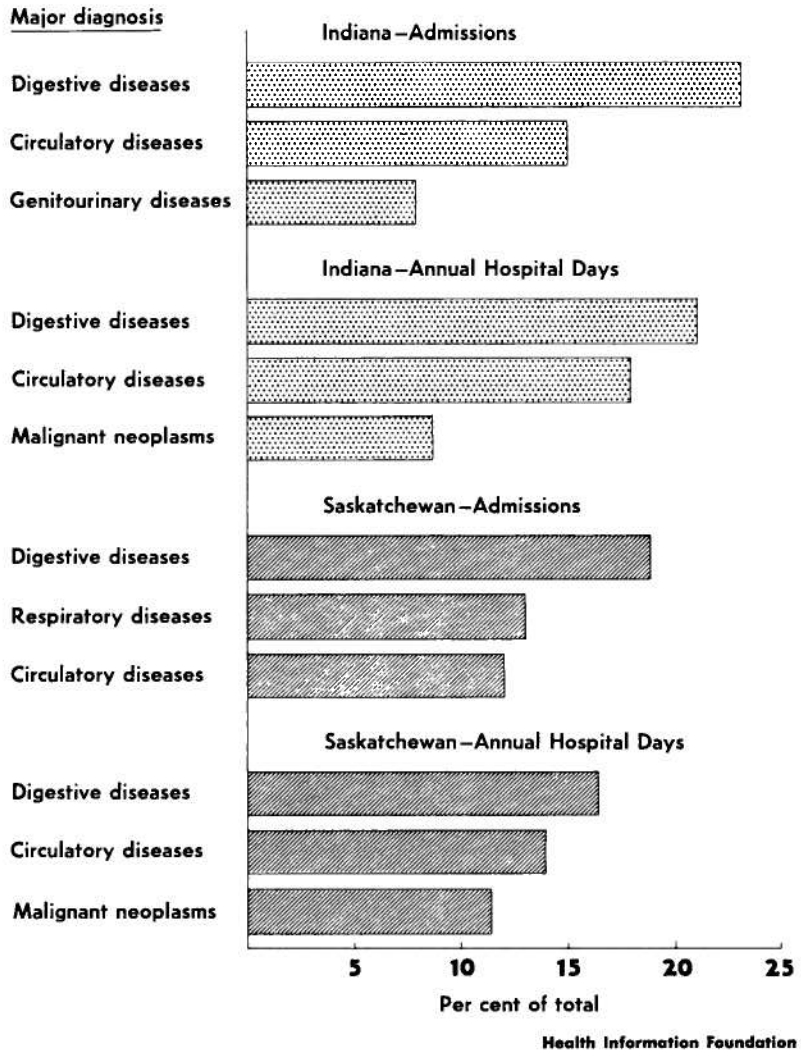
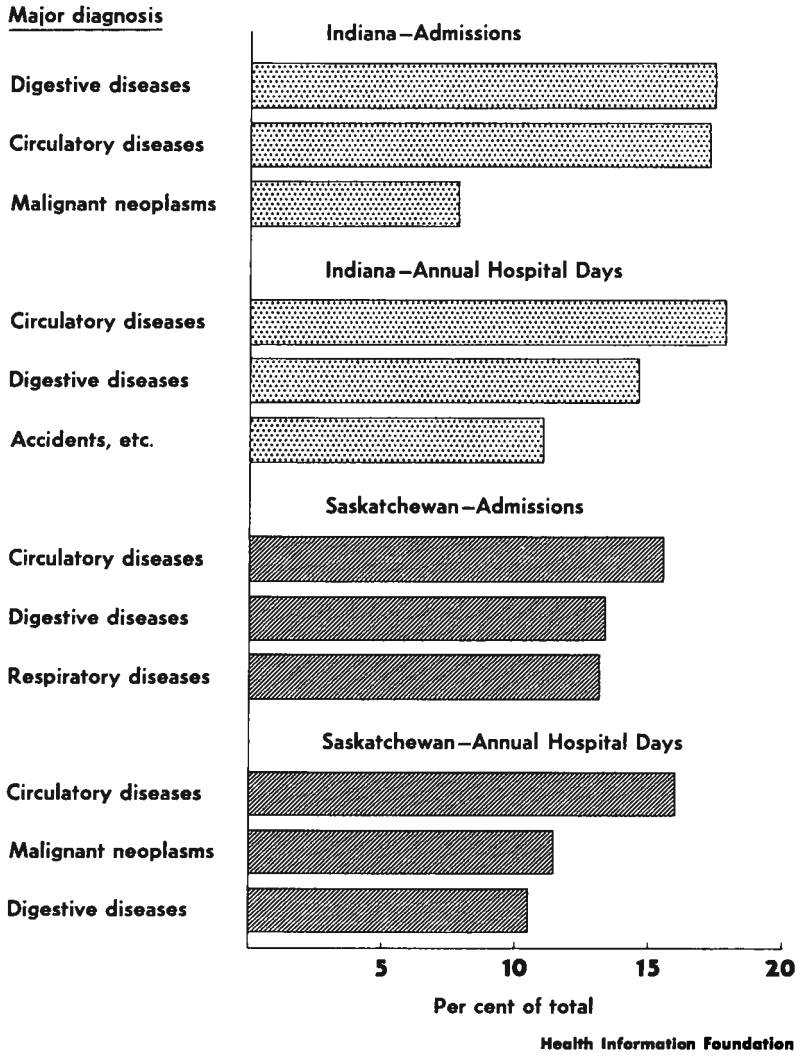


Chart X

## Leading Major Diagnoses as Per Cent of Total Ages 65 and Over, Admissions and Annual Hospital Days Indiana, 1956, and Saskatchewan, 1957








each of these instances, and for the remaining major categories and sub-categories of diagnosis, the Saskatchewan rates generally exceeded the Indiana rates for admissions, length of stay, and annual days per 1,000 population.

### Ages 20-34

At 20-34 obstetrical care was by far the most important category in both Indiana and Saskatchewan for admissions and patient-days (see Appendix Table IV). It accounted for 56 per cent of all admissions in Indiana and 54 in Saskatchewan, while for patient-days the comparable proportions were 45 and 51 per cent, respectively (see Chart VII). Following obstetrical care in importance in Indiana was digestive diseases. In Saskatchewan, however, while digestive diseases ranked second in patient-days, respiratory diseases ranked second in admissions.

The preponderance of obstetrical care in the diagnostic pattern was even more marked if only females are considered. Among females at 20-34, obstetrical care accounted for 66 per cent of all admissions in both experiences, and 57 per cent of all patient-days in Indiana against 65 per cent in Saskatchewan (see Appendix Table XII). Among males digestive diseases predominated in Indiana — 29 per cent of all admissions and 27 per cent of all patient-days. In Saskatchewan, again, respiratory diseases led in admissions and digestive diseases in patient-days (see Appendix Table VIII).

### Ages 35-49

At 35-49 in the Indiana experience digestive diseases led in admissions and in patient-days. This diagnosis accounted for 21 and 22 per cent, respectively, of total admissions and patient-days (see Chart VIII). In Saskatchewan digestive diseases was the leading diagnosis in patient-days, accounting for 15 per cent of the total, but for admissions obstetrical care still remained the most important category. Genitourinary diseases ranked second in admissions and patient-days in Indiana, but third in patient-days in Saskatchewan (see Appendix Table VI).

Among males in this age group, digestive diseases were consistently paramount in admissions and patient-days in both Indiana and Saskatchewan (see Appendix Table IX). They accounted for 31 per

cent of all admissions in Indiana and 30 per cent of all patient-days, while in Saskatchewan the comparable figures were 23 and 21. Circulatory diseases were second among males in this age group in Indiana, accounting for 13 per cent of all admissions and 15 per cent of patient-days. In Saskatchewan, on the other hand, respiratory diseases were second in admissions, while accidents, etc., were second in patient-days.

Obstetrical care was still an important category among females in this age group. It was first in admission and patient-days in Saskatchewan, accounting for 28 and 20 per cent of the total, respectively (see Appendix Table XIII). It was not nearly this important in Indiana. Genitourinary diseases were first in the Indiana experience, accounting for 20 per cent of admissions and 18 per cent of patient-days. Digestive diseases was another important category among females at these ages, ranking second in both experiences for admissions (actually, tied with obstetrical care for this ranking in Indiana) and for patient-days.

### Ages 50-64

Digestive diseases were by far the most prominent among all major diagnoses in the middle years. This category easily led in both experiences (see Chart IX); it accounted for 23 per cent of all admissions in Indiana and 21 per cent of all patient-days, while in Saskatchewan the comparable figures were 19 and 16, respectively. Circulatory diseases became prominent for the first time in this age group, ranking second in admissions and patient-days in Indiana and patient-days in Saskatchewan. Among admissions in Saskatchewan, however, this category was exceeded by respiratory diseases (see Appendix Table VII). Genitourinary diseases and malignant neoplasms became important categories at these ages.

Digestive diseases were by far the most important also among males (see Appendix Table X) and among females (see Appendix Table XIV). They were exceeded, however, among males in Indiana for patient-days by circulatory diseases. Respiratory diseases, malignant neoplasms, and genitourinary diseases were leading categories among both sexes alike.

### Ages 65 and over

Finally, at 65 and over, circulatory diseases assumed a position of greater prominence than digestive (see Chart X). It led in patient-days





in Indiana (18 per cent of total) and in admissions and patient-days in Saskatchewan (16 per cent of total). Its rate for admissions in Indiana was 38.1 per 1,000 (see Appendix Table VIII), just behind the 38.5 for digestive diseases. Each of these categories accounted for 17 per cent of the total. Other important categories at this age were malignant neoplasms, respiratory diseases, and accidents.

The pattern was basically similar for males (see Appendix Table XI) and females (see Appendix Table XV). Circulatory diseases led for both, followed by digestive diseases, respiratory diseases, and accidents.

## Summary and Conclusions

In the two experiences compared here, hospital use was much higher in Saskatchewan than in Indiana. A small part of the higher use in Saskatchewan resulted from differences in the age-and-sex compositions of the two populations. But no one single age-and-sex group was crucial in this matter, and higher use was spread throughout the entire population.

Also, hospital use was higher among nearly all major diagnostic categories and among most of the sub-categories. This was true when the entire population was considered, but also for each age-and-sex group. The two leading contributors among the major diagnoses to higher use in Saskatchewan were obstetrical care and respiratory diseases. The excess for obstetrical care was concentrated among females aged 20-49, but it was also reflected in the figures for the total population. The excess for respiratory diseases was substantial for each age-and-sex group as well as for the total population.

But these two major diagnostic categories were important in both experiences alike. In general the diagnostic patterns in the two experiences were remarkably similar. What differed primarily was the volume or level of use.

### Comment

The research reported here is subject to many limitations. For one thing, the comparison between the two series of data can be only as good as the original data-gathering processes, over which this author had no control. Also, along these same lines, the methods used in

gathering the two series of data, especially with reference to determining the diagnostic categories, were not entirely similar in all respects.

For another thing, the comparison itself by no means *fully* answers the broader question to which it was addressed: Is the variation in volume of hospitalization associated with some corresponding variation in the *pattern* of illness, and therefore of the medical diagnoses leading to hospitalization? These were only two hospital experiences which were being compared, hardly representative of the enormous range of variation in hospital use. Also, it was unfortunate that 1957 was the year to which the Saskatchewan data applied, because the Asian influenza epidemic of that year may have influenced the Saskatchewan data to some extent.

Nevertheless, despite these limitations, it does provide at least partial and tentative answers to the question. Perhaps these answers are the best which can be obtained as long as hospital statistics remain in their present underdeveloped state. It is hoped that this study will stimulate further inquiry along the same lines, as well as further development and accumulation of hospital data.





# Appendix

# Tables

Appendix Table I

**Selected Measures of Hospital Utilization, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | | SASKATCHEWAN, adjusted | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 115.5 | 7.3 | 838.8 | 208.8 | 10.1 | 2,107.3 | 202.0 | 8.7 | 1,753.7 |
| Infective and parasitic diseases | 1-11 | 1.6 | 11.1 | 17.1 | 3.4 | 10.9 | 36.6 | 3.3 | 10.9 | 35.9 |
| Tuberculosis (all forms) | 12 | 3 | 17.4 | 4.4 | .1 | 15.1 | 1.6 | .1 | 16.0 | 1.6 |
| Malignant neoplasms | 12 | 2.3 | 15.5 | 36.2 | 5.1 | 27.8 | 140.6 | 3.3 | 26.0 | 85.8 |
| Benign and unspecified neoplasms | 13 | 3.6 | 5.1 | 18.3 | 4.6 | 11.0 | 50.2 | 5.0 | 10.5 | 52.3 |
| Allergic and metabolic diseases | 14-17 | 2.8 | 9.4 | 26.4 | 6.9 | 12.7 | 87.2 | 5.7 | 11.4 | 65.1 |
| Diseases of the thyroid gland | 15 | 8 | 9.2 | 6.3 | 1.0 | 12.7 | 13.2 | 1.1 | 12.0 | 13.2 |
| Diabetes mellitus | 16 | 1.1 | 12.3 | 13.3 | 2.4 | 16.1 | 39.1 | 1.6 | 15.4 | 24.7 |
| Diseases of the blood, etc. | 18 | .5 | 7.3 | 3.4 | .8 | 14.5 | 10.9 | .6 | 11.7 | 7.0 |
| Mental disorders | 19 | 1.5 | 15.5 | 23.7 | 2.9 | 15.4 | 45.3 | 2.9 | 15.2 | 44.2 |
| Diseases of the nervous system | 20-22 | 2.3 | 10.1 | 23.4 | 6.5 | 15.3 | 99.0 | 4.8 | 11.7 | 56.1 |
| Vascular lesions affecting the CNS | 20 | .7 | 19.3 | 12.5 | 2.3 | 28.1 | 63.8 | 1.0 | 26.7 | 26.7 |
| Diseases of the circulatory system | 23-27 | 6.8 | 11.8 | 80.0 | 11.8 | 16.7 | 197.7 | 8.1 | 15.0 | 121.4 |
| Diseases of the heart | 24-26 | 3.3 | 14.7 | 49.0 | 8.1 | 18.2 | 147.2 | 4.6 | 16.9 | 77.6 |
| Arteriosclerotic and degenerative heart disease | 25 | 2.5 | 15.3 | 38.7 | 5.6 | 19.7 | 109.6 | 2.9 | 19.0 | 55.0 |
| Hypertension | 26 | .7 | 12.1 | 8.2 | 2.1 | 14.6 | 30.4 | 1.2 | 13.6 | 16.3 |
| Diseases of the respiratory system | 28-34 | 18.7 | 3.4 | 64.2 | 43.2 | 6.1 | 262.0 | 41.5 | 5.4 | 225.2 |
| Upper respiratory diseases | 28-29-34 | 14.2 | 2.2 | 32.0 | 20.9 | 4.1 | 84.8 | 21.1 | 3.8 | 79.4 |
| Influenza | 30 | .3 | 5.4 | 1.6 | 7.0 | 5.7 | 40.4 | 6.6 | 5.1 | 33.5 |
| Pneumonia | 31 | 3.0 | 7.8 | 23.1 | 10.0 | 9.9 | 99.0 | 9.0 | 9.0 | 81.0 |
| Bronchitis | 32 | 1.2 | 6.2 | 7.5 | 5.1 | 7.1 | 37.7 | 4.8 | 6.5 | 31.3 |
| Diseases of the digestive system | 35-40 | 18.0 | 8.1 | 145.3 | 27.9 | 9.5 | 263.9 | 26.1 | 8.6 | 224.0 |
| Appendicitis | 36 | 3.4 | 6.1 | 20.5 | 4.9 | 8.9 | 43.2 | 5.1 | 8.7 | 44.2 |
| Hernia of abdominal cavity | 37 | 3.1 | 7.1 | 22.1 | 3.2 | 12.1 | 39.3 | 2.8 | 11.1 | 31.0 |
| Diseases of the gallbladder | 39 | 2.9 | 10.8 | 30.7 | 4.7 | 12.1 | 56.8 | 4.1 | 11.3 | 46.3 |
| Diseases of the genitourinary system | 41-42 | 10.2 | 6.9 | 70.1 | 10.6 | 11.4 | 121.8 | 10.6 | 9.1 | 96.6 |
| Obstetrical care | 43 | 24.0 | 4.6 | 109.5 | 36.4 | 6.6 | 239.8 | 46.8 | 6.6 | 307.1 |
| Diseases of the skin, etc. | 44-45 | 1.5 | 7.9 | 11.8 | 5.0 | 9.0 | 45.1 | 4.8 | 8.4 | 40.2 |
| Diseases of the bones, etc. | 46-47 | 3.6 | 10.4 | 37.9 | 7.1 | 13.9 | 98.6 | 6.2 | 13.0 | 80.3 |
| Congenital malformations and early infancy diseases | 48 | 2.6 | 13.8 | 35.5 | 2.1 | 14.9 | 30.8 | 2.1 | 14.8 | 31.1 |
| Other specified and ill-defined conditions | 49 | 8.3 | 8.8 | 73.0 | 18.0 | 11.8 | 212.4 | 14.8 | 10.1 | 150.0 |
| Accidents, poisonings, and violence | 50 | 7.2 | 8.7 | 63.0 | 16.5 | 10.0 | 165.4 | 15.4 | 8.5 | 131.4 |

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Appendix Table II

**Selected Measures of Hospital Utilization, by Age and Sex**

**Indiana, 1956, and Saskatchewan, 1957**

| Age and Sex | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|
| | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| TOTAL | 115.5 | 7.3 | 838.8 | 208.8 | 10.1 | 2,107.3 |
| Under 20 years | | | | | | |
| Both sexes | 77.8 | 5.1 | 395.2 | 150.4 | 7.0 | 1,047.9 |
| Over 20 | | | | | | |
| Both sexes | 141.0 | 8.1 | 1,138.6 | 248.3 | 11.4 | 2,825.0 |
| Male | 86.3 | 9.7 | 841.7 | 172.7 | 13.6 | 2,343.5 |
| Female | 191.1 | 7.4 | 1,410.9 | 329.3 | 10.1 | 3,341.0 |
| 20-34 | | | | | | |
| Both sexes | 159.0 | 5.5 | 876.7 | 263.1 | 6.8 | 1,788.4 |
| Male | 55.4 | 6.9 | 383.4 | 98.3 | 7.9 | 780.5 |
| Female | 245.6 | 5.2 | 1,288.9 | 423.4 | 6.5 | 2,769.2 |
| 35-49 | | | | | | |
| Both sexes | 112.6 | 8.4 | 940.4 | 181.6 | 9.1 | 1,653.3 |
| Male | 73.9 | 8.5 | 627.9 | 117.0 | 9.3 | 1,089.7 |
| Female | 149.4 | 8.3 | 1,237.8 | 248.0 | 9.0 | 2,232.1 |
| 50-64 | | | | | | |
| Both sexes | 138.7 | 11.3 | 1,573.4 | 217.8 | 13.1 | 2,851.2 |
| Male | 135.5 | 11.4 | 1,551.3 | 189.9 | 13.2 | 2,503.4 |
| Female | 141.7 | 11.3 | 1,594.8 | 250.1 | 13.0 | 3,252.3 |
| 65 and over | | | | | | |
| Both sexes | 220.4 | 14.7 | 3,249.9 | 390.3 | 18.6 | 7,258.5 |
| Male | 218.4 | 14.1 | 3,074.3 | 385.0 | 18.7 | 7,202.1 |
| Female | 222.8 | 15.6 | 3,466.6 | 397.3 | 18.5 | 7,331.6 |

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Appendix Table III

**Selected Measures of Hospital Utilization**
**Both Sexes, Ages Under 20, by Diagnosis**
**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 77.8 | 5.1 | 395.2 | 150.4 | 7.0 | 1,047.9 |
| Infective and parasitic diseases | 1-11 | 2.2 | 9.6 | 20.9 | 4.9 | 10.7 | 53.0 |
| Tuberculosis (all forms) | 1-2 | .1 | 19.1 | 1.9 | * | 20.6 | .9 |
| Malignant neoplasms | 12 | .3 | 12.8 | 3.7 | .4 | 25.1 | 9.1 |
| Benign and unspecified neoplasms | 13 | 1.6 | 4.0 | 6.4 | 1.2 | 9.1 | 11.3 |
| Allergic and metabolic diseases | 14-17 | 1.1 | 6.6 | 7.1 | 4.0 | 7.3 | 29.2 |
| Diseases of the thyroid gland | 15 | .1 | 5.9 | .5 | .2 | 9.6 | 1.6 |
| Diabetes mellitus | 16 | .2 | 10.9 | 2.3 | .5 | 11.6 | 6.1 |
| Diseases of the blood, etc. | 18 | .5 | 6.0 | 3.1 | .4 | 13.6 | 4.9 |
| Mental disorders | 19 | .2 | 13.3 | 2.1 | .6 | 10.1 | 5.7 |
| Diseases of the nervous system | 20-22 | 1.8 | 4.6 | 8.4 | 5.7 | 6.5 | 37.6 |
| Vascular lesions affecting the CNS | 20 | .1 | 15.2 | .8 | * | 24.0 | .7 |
| Diseases of the circulatory system | 23-27 | .7 | 10.5 | 7.9 | 1.1 | 19.2 | 21.2 |
| Diseases of the heart | 24-26 | .1 | 9.4 | .9 | .1 | 12.4 | 1.8 |
| Arteriosclerotic and degenerative heart disease | 25 | * | 5.8 | .1 | * | 17.1 | .6 |
| Hypertension | 26 | * | 11.8 | .3 | * | 10.8 | .2 |
| Diseases of the respiratory system | 28-34 | 34.0 | 2.5 | 86.3 | 64.2 | 4.8 | 307.8 |
| Upper respiratory diseases | 28-29, 34 | 27.6 | 1.7 | 46.2 | 37.2 | 3.2 | 119.0 |
| Influenza | 30 | .3 | 4.8 | 1.3 | 7.6 | 4.0 | 30.5 |
| Pneumonia | 31 | 4.4 | 6.7 | 29.1 | 12.1 | 9.2 | 110.8 |
| Bronchitis | 32 | 1.7 | 5.5 | 9.7 | 7.3 | 6.5 | 47.5 |
| Diseases of the digestive system | 35-40 | 11.3 | 5.5 | 61.7 | 19.5 | 7.4 | 143.9 |
| Appendicitis | 36 | 4.0 | 5.4 | 21.2 | 7.2 | 8.6 | 61.7 |
| Hernia of abdominal cavity | 37 | 2.7 | 4.2 | 11.1 | 1.9 | 9.9 | 19.0 |
| Diseases of the gallbladder | 39 | .2 | 7.2 | 1.7 | .1 | 11.2 | 1.4 |
| Diseases of the genitourinary system | 41-42 | 3.7 | 3.7 | 13.7 | 3.6 | 6.9 | 24.7 |
| Obstetrical care | 43 | * | 6.0 | .3 | 6.4 | 8.4 | 54.2 |
| Diseases of the skin, etc. | 44-45 | 1.4 | 6.5 | 9.0 | 4.7 | 9.8 | 46.2 |
| Diseases of the bones, etc. | 46-47 | 1.2 | 8.0 | 9.5 | 2.4 | 13.6 | 32.7 |
| Congenital malformations and early infancy diseases | 48 | 6.2 | 14.0 | 86.7 | 4.4 | 15.3 | 67.6 |
| Other specified and ill-defined conditions | 49 | 3.8 | 6.7 | 25.8 | 10.0 | 8.7 | 86.7 |
| Accidents, poisonings, and violence | 50 | 7.8 | 5.4 | 42.6 | 16.9 | 6.6 | 112.1 |

*Less than 0.05

Health Information Foundation





Appendix Table IV

**Selected Measures of Hospital Utilization**
**Both Sexes, Ages 20-34, by Diagnosis**
**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 159.0 | 5.5 | 876.7 | 263.1 | 6.8 | 1,788.4 |
| Infective and parasitic diseases | 1-11 | 1.1 | 12.1 | 13.2 | 3.0 | 8.6 | 25.9 |
| Tuberculosis (all forms) | 1-2 | .2 | 17.9 | 3.4 | .1 | 13.7 | 1.2 |
| Malignant neoplasms | 12 | .7 | 11.2 | 8.0 | .9 | 19.4 | 18.0 |
| Benign and unspecified neoplasms | 13 | 4.1 | 4.4 | 18.2 | 5.3 | 8.1 | 43.1 |
| Allergic and metabolic diseases | 14-17 | 2.0 | 7.1 | 14.2 | 3.5 | 10.5 | 36.5 |
| Diseases of the thyroid gland | 15 | .9 | 6.5 | 5.8 | 1.1 | 12.5 | 13.6 |
| Diabetes mellitus | 16 | .6 | 9.6 | 5.6 | .9 | 13.2 | 11.6 |
| Diseases of the blood, etc. | 18 | .2 | 7.1 | 1.8 | .3 | 8.9 | 2.8 |
| Mental disorders | 19 | 2.1 | 14.3 | 30.5 | 3.5 | 15.5 | 53.4 |
| Diseases of the nervous system | 20-22 | 1.0 | 6.6 | 6.5 | 1.9 | 7.5 | 14.2 |
| Vascular lesions affecting the CNS | 20 | .1 | 17.3 | 1.9 | .1 | 12.4 | 1.6 |
| Diseases of the circulatory system | 23-27 | 3.8 | 7.8 | 29.5 | 3.6 | 11.5 | 41.3 |
| Diseases of the heart | 24-26 | .5 | 9.4 | 4.3 | .7 | 15.1 | 10.7 |
| Arteriosclerotic and degenerative heart disease | 25 | .3 | 10.0 | 2.7 | .2 | 15.1 | 3.3 |
| Hypertension | 26 | .1 | 7.3 | .8 | .2 | 11.9 | 2.1 |
| Diseases of the respiratory system | 28-34 | 8.5 | 3.6 | 31.2 | 26.1 | 4.2 | 108.6 |
| Upper respiratory diseases | 28-29, 34 | 6.9 | 3.0 | 20.8 | 12.8 | 3.7 | 47.6 |
| Influenza | 30 | .2 | 4.4 | 1.1 | 6.0 | 4.0 | 24.2 |
| Pneumonia | 31 | 1.0 | 7.5 | 7.2 | 5.3 | 5.5 | 29.2 |
| Bronchitis | 32 | .4 | 5.3 | 2.1 | 2.0 | 3.8 | 7.6 |
| Diseases of the digestive system | 35-40 | 15.1 | 7.0 | 105.2 | 23.8 | 6.6 | 155.8 |
| Appendicitis | 36 | 4.5 | 5.9 | 26.8 | 5.7 | 7.9 | 45.1 |
| Hernia of abdominal cavity | 37 | 2.0 | 7.3 | 14.3 | 2.1 | 8.1 | 17.0 |
| Diseases of the gallbladder | 39 | 2.3 | 9.0 | 20.5 | 3.3 | 9.7 | 31.6 |
| Diseases of the genitourinary system | 41-42 | 14.2 | 6.0 | 85.5 | 13.2 | 6.2 | 82.4 |
| Obstetrical care | 43 | 88.7 | 4.5 | 398.6 | 142.2 | 6.4 | 910.1 |
| Diseases of the skin, etc. | 44-45 | 1.5 | 7.4 | 10.9 | 4.6 | 6.1 | 28.2 |
| Diseases of the bones, etc. | 46-47 | 3.5 | 8.7 | 30.4 | 4.8 | 12.3 | 58.5 |
| Congenital malformations and early infancy diseases | 48 | .2 | 9.6 | 1.8 | .8 | 8.4 | 6.7 |
| Other specified and ill-defined conditions | 49 | 6.5 | 6.8 | 44.0 | 12.1 | 7.9 | 95.6 |
| Accidents, poisonings, and violence | 50 | 5.8 | 8.1 | 47.2 | 13.5 | 8.0 | 107.3 |

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Appendix Table V

**Selected Measures of Hospital Utilization**

**Both Sexes, Ages 35-49, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 112.6 | 8.4 | 940.3 | 181.6 | 9.1 | 1,653.3 |
| Infective and parasitic diseases | 1-11 | 1.0 | 12.7 | 12.1 | 1.9 | 11.1 | 20.6 |
| Tuberculosis (all forms) | 1-2 | .3 | 17.3 | 5.3 | .1 | 20.4 | 2.5 |
| Malignant neoplasms | 12 | 3.1 | 13.8 | 42.9 | 3.7 | 21.8 | 81.3 |
| Benign and unspecified neoplasms | 13 | 5.9 | 5.2 | 30.9 | 10.3 | 10.9 | 111.9 |
| Allergic and metabolic diseases | 14-17 | 4.0 | 9.0 | 35.6 | 5.8 | 11.1 | 64.6 |
| Diseases of the thyroid gland | 15 | 1.6 | 9.0 | 14.3 | 1.7 | 12.9 | 22.0 |
| Diabetes mellitus | 16 | 1.2 | 10.4 | 12.7 | 1.4 | 13.5 | 18.7 |
| Diseases of the blood, etc. | 18 | .4 | 7.7 | 2.7 | .7 | 7.6 | 5.4 |
| Mental disorders | 19 | 2.7 | 15.3 | 41.8 | 4.8 | 15.0 | 73.0 |
| Diseases of the nervous system | 20-22 | 1.7 | 10.0 | 17.3 | 2.6 | 9.8 | 25.2 |
| Vascular lesions affecting the CNS | 20 | .5 | 14.2 | 7.2 | .5 | 13.3 | 7.2 |
| Diseases of the circulatory system | 23-27 | 10.0 | 10.0 | 100.8 | 9.7 | 12.2 | 119.1 |
| Diseases of the heart | 24-26 | 3.6 | 13.5 | 48.2 | 4.0 | 14.6 | 58.4 |
| Arteriosclerotic and degenerative heart disease | 25 | 2.6 | 13.8 | 35.4 | 2.3 | 16.3 | 37.9 |
| Hypertension | 26 | .7 | 11.8 | 8.2 | .9 | 13.5 | 11.9 |
| Diseases of the respiratory system | 28-34 | 6.6 | 5.8 | 38.4 | 21.4 | 6.2 | 133.0 |
| Upper respiratory diseases | 28-29, 34 | 3.7 | 4.4 | 16.2 | 8.7 | 5.2 | 45.1 |
| Influenza | 30 | .3 | 6.0 | 1.8 | 4.2 | 6.2 | 26.4 |
| Pneumonia | 31 | 1.9 | 8.4 | 15.8 | 6.0 | 8.0 | 47.9 |
| Bronchitis | 32 | .7 | 6.5 | 4.6 | 2.5 | 5.5 | 13.6 |
| Diseases of the digestive system | 35-40 | 23.7 | 8.7 | 205.3 | 29.3 | 8.6 | 251.3 |
| Appendicitis | 36 | 2.1 | 7.4 | 15.8 | 2.9 | 9.1 | 26.0 |
| Hernia of abdominal cavity | 37 | 3.6 | 8.0 | 28.6 | 3.1 | 10.9 | 34.4 |
| Diseases of the gallbladder | 39 | 5.0 | 10.2 | 51.4 | 6.9 | 10.2 | 69.9 |
| Diseases of the genitourinary system | 41-42 | 16.9 | 7.4 | 124.3 | 16.1 | 8.3 | 134.2 |
| Obstetrical care | 43 | 12.6 | 5.1 | 63.8 | 33.7 | 6.7 | 225.6 |
| Diseases of the skin, etc. | 44-45 | 1.5 | 8.0 | 12.0 | 4.4 | 7.2 | 31.9 |
| Diseases of the bones, etc. | 46-47 | 5.9 | 10.4 | 61.3 | 9.2 | 11.9 | 110.0 |
| Congenital malformations and early infancy diseases | 48 | .1 | 6.8 | .6 | .4 | 17.7 | 6.8 |
| Other specified and ill-defined conditions | 49 | 10.6 | 8.7 | 92.3 | 14.9 | 10.1 | 150.8 |
| Accidents, poisonings, and violence | 50 | 5.9 | 9.8 | 58.2 | 12.7 | 8.5 | 108.6 |

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Appendix Table VI

**Selected Measures of Hospital Utilization**

**Both Sexes, Ages 50-64, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 138.7 | 11.3 | 1,573.4 | 217.8 | 13.1 | 2,851.2 |
| Infective and parasitic diseases | 1-11 | 1.4 | 14.3 | 20.0 | 1.6 | 17.1 | 27.1 |
| Tuberculosis (all forms) | 1-2 | .8 | 16.6 | 13.0 | .1 | 21.1 | 2.9 |
| Malignant neoplasms | 12 | 8.1 | 17.0 | 138.2 | 11.3 | 28.9 | 325.8 |
| Benign and unspecified neoplasms | 13 | 4.8 | 7.2 | 34.2 | 6.0 | 13.9 | 84.2 |
| Allergic and metabolic diseases | 14-17 | 7.1 | 10.9 | 77.3 | 12.2 | 14.4 | 174.8 |
| Diseases of the thyroid gland | 15 | 1.4 | 8.3 | 11.4 | 2.4 | 12.6 | 29.9 |
| Diabetes mellitus | 16 | 3.8 | 13.2 | 49.5 | 5.2 | 15.5 | 81.0 |
| Diseases of the blood, etc. | 18 | .7 | 9.3 | 6.1 | 1.2 | 10.1 | 12.0 |
| Mental disorders | 19 | 2.5 | 17.4 | 44.3 | 5.5 | 15.6 | 85.9 |
| Diseases of the nervous system | 20-22 | 4.9 | 12.0 | 59.0 | 7.2 | 18.0 | 130.7 |
| Vascular lesions affecting the CNS | 20 | 2.1 | 16.8 | 35.1 | 3.4 | 25.5 | 87.2 |
| Diseases of the circulatory system | 23-27 | 20.9 | 13.6 | 284.6 | 26.1 | 15.3 | 399.6 |
| Diseases of the heart | 24-26 | 13.8 | 15.3 | 211.0 | 18.3 | 16.5 | 302.3 |
| Arteriosclerotic and degenerative heart disease | 25 | 10.6 | 16.0 | 170.5 | 12.3 | 18.1 | 221.9 |
| Hypertension | 26 | 2.9 | 11.7 | 34.4 | 5.2 | 12.2 | 63.1 |
| Diseases of the respiratory system | 28-34 | 10.0 | 8.2 | 81.8 | 28.3 | 8.9 | 251.3 |
| Upper respiratory diseases | 28-29, 34 | 4.8 | 7.0 | 33.3 | 7.7 | 7.9 | 61.2 |
| Influenza | 30 | .4 | 6.6 | 2.6 | 7.1 | 7.5 | 52.9 |
| Pneumonia | 31 | 3.3 | 9.7 | 32.7 | 8.9 | 10.8 | 96.6 |
| Bronchitis | 32 | 1.5 | 8.6 | 13.1 | 4.6 | 8.7 | 39.9 |
| Diseases of the digestive system | 35-40 | 32.2 | 10.3 | 333.5 | 41.1 | 11.4 | 468.6 |
| Appendicitis | 36 | 1.6 | 9.6 | 15.7 | 1.7 | 13.2 | 21.9 |
| Hernia of abdominal cavity | 37 | 5.5 | 9.5 | 52.1 | 5.8 | 13.2 | 77.0 |
| Diseases of the gallbladder | 39 | 7.9 | 11.7 | 91.9 | 11.3 | 12.1 | 136.9 |
| Diseases of the genitourinary system | 41-42 | 11.1 | 9.1 | 101.3 | 14.0 | 14.0 | 196.4 |
| Obstetrical care | 43 | .1 | 7.6 | .6 | .1 | 8.1 | .8 |
| Diseases of the skin, etc. | 44-45 | 1.8 | 11.1 | 20.0 | 5.7 | 8.2 | 46.2 |
| Diseases of the bones, etc. | 46-47 | 7.3 | 12.0 | 87.2 | 13.4 | 13.1 | 175.6 |
| Congenital malformations and early infancy diseases | 48 | .1 | 4.0 | .2 | .3 | 17.0 | 5.7 |
| Other specified and ill-defined conditions | 49 | 17.4 | 10.2 | 176.6 | 26.0 | 10.4 | 272.0 |
| Accidents, poisonings, and violence | 50 | 8.3 | 13.0 | 108.5 | 17.8 | 10.9 | 194.5 |

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Appendix Table VII

**Selected Measures of Hospital Utilization**

**Both Sexes, Ages 65 and Over, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 220.4 | 14.7 | 3,249.9 | 390.3 | 18.6 | 7,258.5 |
| Infective and parasitic diseases | 1-11 | 1.6 | 15.4 | 23.9 | 2.6 | 12.5 | 32.3 |
| Tuberculosis (all forms) | 1-2 | .5 | 17.0 | 9.1 | .4 | 6.4 | 2.3 |
| Malignant neoplasms | 12 | 17.3 | 16.8 | 291.7 | 28.3 | 29.5 | 835.0 |
| Benign and unspecified neoplasms | 13 | 4.3 | 7.1 | 30.3 | 4.1 | 15.7 | 65.1 |
| Allergic and metabolic diseases | 14-17 | 9.0 | 14.9 | 134.7 | 21.6 | 17.2 | 372.0 |
| Diseases of the thyroid gland | 15 | .6 | 18.9 | 10.9 | 1.6 | 14.1 | 22.5 |
| Diabetes mellitus | 16 | 6.2 | 16.1 | 99.8 | 12.3 | 18.2 | 223.8 |
| Diseases of the blood, etc. | 18 | 1.6 | 9.9 | 15.4 | 2.9 | 22.1 | 63.5 |
| Mental disorders | 19 | 2.7 | 18.9 | 52.1 | 5.0 | 18.2 | 91.1 |
| Diseases of the nervous system | 20-22 | 15.9 | 18.8 | 299.2 | 26.0 | 24.8 | 643.8 |
| Vascular lesions affecting the CNS | 20 | 9.6 | 24.3 | 233.4 | 18.3 | 29.8 | 546.6 |
| Diseases of the circulatory system | 23-27 | 38.1 | 15.3 | 581.3 | 60.7 | 19.3 | 1,171.7 |
| Diseases of the heart | 24-26 | 31.7 | 15.6 | 494.0 | 52.3 | 19.7 | 1,028.2 |
| Arteriosclerotic and degenerative heart disease | 25 | 25.8 | 15.9 | 409.9 | 38.1 | 20.8 | 793.4 |
| Hypertension | 26 | 5.7 | 14.1 | 80.8 | 13.3 | 16.0 | 212.7 |
| Diseases of the respiratory system | 28-34 | 15.5 | 10.5 | 162.7 | 51.7 | 12.6 | 651.1 |
| Upper respiratory diseases | 28-29, 34 | 5.1 | 7.9 | 40.8 | 9.4 | 13.2 | 124.4 |
| Influenza | 30 | .7 | 6.7 | 4.4 | 12.2 | 10.5 | 127.8 |
| Pneumonia | 31 | 7.2 | 13.1 | 94.9 | 20.4 | 14.6 | 296.3 |
| Bronchitis | 32 | 2.5 | 9.1 | 22.6 | 9.7 | 10.6 | 102.3 |
| Diseases of the digestive system | 35-40 | 38.5 | 12.4 | 478.3 | 52.6 | 14.4 | 759.9 |
| Appendicitis | 36 | 1.2 | 11.2 | 13.0 | 1.3 | 16.3 | 21.2 |
| Hernia of abdominal cavity | 37 | 7.2 | 10.7 | 77.3 | 8.2 | 16.2 | 132.5 |
| Diseases of the gallbladder | 39 | 9.0 | 14.8 | 133.6 | 14.5 | 14.9 | 216.2 |
| Diseases of the genitourinary system | 41-42 | 15.4 | 13.7 | 210.0 | 20.5 | 24.3 | 498.4 |
| Obstetrical care | 43 | — | — | — | — | — | — |
| Diseases of the skin, etc. | 44-45 | 2.3 | 11.4 | 26.3 | 7.2 | 14.0 | 100.6 |
| Diseases of the bones, etc. | 46-47 | 8.3 | 16.1 | 134.0 | 19.8 | 17.3 | 341.8 |
| Congenital malformations and early infancy diseases | 48 | — | — | — | .2 | 11.5 | 2.2 |
| Other specified and ill-defined conditions | 49 | 33.9 | 13.2 | 449.5 | 60.2 | 17.3 | 1,039.8 |
| Accidents, poisonings, and violence | 50 | 15.9 | 22.7 | 359.6 | 26.9 | 21.9 | 590.2 |

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Appendix Table VIII

**Selected Measures of Hospital Utilization**

**Males, Ages 20-34, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 55.4 | 6.9 | 383.4 | 98.3 | 7.9 | 780.5 |
| Infective and parasitic diseases | 1-11 | 1.1 | 11.0 | 12.4 | 3.1 | 9.3 | 29.0 |
| Tuberculosis (all forms) | 1-2 | .2 | 17.3 | 4.1 | .1 | 3.3 | .3 |
| Malignant neoplasms | 12 | .5 | 14.1 | 6.8 | .8 | 23.2 | 17.4 |
| Benign and unspecified neoplasms | 13 | 3.1 | 5.7 | 17.8 | 1.7 | 8.0 | 13.5 |
| Allergic and metabolic diseases | 14-17 | 1.1 | 7.0 | 7.6 | 2.2 | 12.6 | 27.9 |
| Diseases of the thyroid gland | 15 | .2 | 7.3 | 1.3 | .3 | 20.0 | 6.3 |
| Diabetes mellitus | 16 | .4 | 9.5 | 4.1 | 1.0 | 12.5 | 12.4 |
| Diseases of the blood, etc. | 18 | .1 | 2.5 | .3 | .1 | 2.4 | .2 |
| Mental disorders | 19 | 1.3 | 15.4 | 19.3 | 1.8 | 18.8 | 34.4 |
| Diseases of the nervous system | 20-22 | .9 | 5.9 | 5.4 | 1.8 | 8.0 | 14.2 |
| Vascular lesions affecting the CNS | 20 | .1 | 9.2 | 1.0 | .1 | 14.4 | 1.8 |
| Diseases of the circulatory system | 23-27 | 3.4 | 8.5 | 29.1 | 2.5 | 13.3 | 33.5 |
| Diseases of the heart | 24-26 | .7 | 10.2 | 6.7 | .6 | 17.5 | 10.9 |
| Arteriosclerotic and degenerative heart disease | 25 | .5 | 10.6 | 5.2 | .3 | 20.1 | 5.1 |
| Hypertension | 26 | .1 | 9.0 | 1.3 | .2 | 9.3 | 2.1 |
| Diseases of the respiratory system | 28-34 | 8.5 | 4.0 | 33.8 | 22.3 | 4.5 | 100.4 |
| Upper respiratory diseases | 28-29, 34 | 6.7 | 3.3 | 22.1 | 12.4 | 4.2 | 51.7 |
| Influenza | 30 | .3 | 4.2 | 1.3 | 3.9 | 5.2 | 20.5 |
| Pneumonia | 31 | 1.2 | 7.0 | 8.5 | 4.7 | 5.1 | 24.3 |
| Bronchitis | 32 | .3 | 5.7 | 1.9 | 1.3 | 3.0 | 3.9 |
| Diseases of the digestive system | 35-40 | 15.9 | 6.4 | 102.8 | 20.6 | 7.2 | 148.5 |
| Appendicitis | 36 | 4.7 | 5.7 | 27.2 | 5.8 | 8.5 | 49.0 |
| Hernia of abdominal cavity | 37 | 3.1 | 7.3 | 22.9 | 3.2 | 7.8 | 25.1 |
| Diseases of the gallbladder | 39 | .7 | 8.9 | 6.2 | .6 | 10.0 | 6.5 |
| Diseases of the genitourinary system | 41-42 | 2.3 | 4.4 | 10.1 | 2.1 | 8.1 | 17.2 |
| Obstetrical care | 43 | — | — | — | — | — | — |
| Diseases of the skin, etc. | 44-45 | 1.2 | 7.7 | 9.6 | 4.5 | 7.6 | 33.9 |
| Diseases of the bones, etc. | 46-47 | 3.4 | 8.2 | 27.5 | 5.1 | 13.6 | 69.8 |
| Congenital malformations and early infancy diseases | 48 | .2 | 11.7 | 1.9 | .8 | 7.9 | 6.5 |
| Other specified and ill-defined conditions | 49 | 5.5 | 6.8 | 36.9 | 9.6 | 8.4 | 81.2 |
| Accidents, poisonings, and violence | 50 | 6.9 | 9.0 | 62.1 | 19.3 | 7.9 | 152.9 |

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Appendix Table IX

**Selected Measures of Hospital Utilization**

**Males, Ages 35-49, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 73.9 | 8.5 | 627.9 | 117.0 | 9.3 | 1,089.7 |
| Infective and parasitic diseases | 1-11 | .8 | 11.4 | 9.5 | 2.0 | 11.7 | 22.8 |
| Tuberculosis (all forms) | 12 | .2 | 18.7 | 4.2 | .1 | 44.3 | 3.4 |
| Malignant neoplasms | 12 | 1.8 | 12.2 | 21.7 | 2.4 | 18.3 | 44.1 |
| Benign and unspecified neoplasms | 13 | 2.9 | 5.4 | 15.6 | 1.7 | 8.3 | 14.5 |
| Allergic and metabolic diseases | 14-17 | 2.5 | 8.2 | 20.7 | 4.1 | 11.6 | 47.3 |
| Diseases of the thyroid gland | 15 | .7 | 7.8 | 5.4 | .5 | 12.8 | 6.1 |
| Diabetes mellitus | 16 | 1.2 | 9.4 | 10.8 | 1.6 | 13.0 | 21.0 |
| Diseases of the blood, etc. | 18 | .1 | 5.1 | .6 | .2 | 8.5 | 2.1 |
| Mental disorders | 19 | 1.6 | 14.9 | 24.3 | 2.7 | 15.0 | 40.6 |
| Diseases of the nervous system | 20-22 | 1.8 | 9.1 | 16.0 | 2.7 | 8.8 | 23.7 |
| Vascular lesions affecting the CNS | 20 | .5 | 12.7 | 6.6 | .7 | 10.3 | 6.7 |
| Diseases of the circulatory system | 23-27 | 9.7 | 9.9 | 95.7 | 8.2 | 14.2 | 116.3 |
| Diseases of the heart | 24-26 | 3.5 | 13.6 | 47.2 | 4.2 | 17.3 | 72.9 |
| Arteriosclerotic and degenerative heart disease | 25 | 2.9 | 14.4 | 41.1 | 3.0 | 18.9 | 57.6 |
| Hypertension | 26 | .4 | 10.3 | 4.6 | .5 | 13.9 | 7.5 |
| Diseases of the respiratory system | 28-34 | 5.8 | 5.4 | 31.3 | 20.1 | 5.9 | 117.6 |
| Upper respiratory diseases | 28-29, 34 | 3.4 | 4.0 | 13.4 | 8.8 | 5.1 | 45.0 |
| Influenza | 30 | .2 | 4.4 | .9 | 3.6 | 5.7 | 20.2 |
| Pneumonia | 31 | 1.7 | 8.5 | 14.4 | 6.0 | 7.3 | 43.6 |
| Bronchitis | 32 | .5 | 5.1 | 2.6 | 1.7 | 5.0 | 8.6 |
| Diseases of the digestive system | 35-40 | 22.8 | 8.2 | 186.4 | 27.2 | 8.5 | 230.8 |
| Appendicitis | 36 | 2.8 | 7.3 | 20.1 | 3.7 | 9.0 | 32.9 |
| Hernia of abdominal cavity | 37 | 5.1 | 7.8 | 39.3 | 4.3 | 10.0 | 43.2 |
| Diseases of the gallbladder | 39 | 2.0 | 10.3 | 20.8 | 2.5 | 9.6 | 23.5 |
| Diseases of the genitourinary system | 41-42 | 2.7 | 6.1 | 16.6 | 3.0 | 7.8 | 23.1 |
| Obstetrical care | 43 | — | — | — | — | — | — |
| Diseases of the skin, etc. | 44-45 | 1.3 | 12.8 | 10.4 | 4.1 | 6.5 | 26.9 |
| Diseases of the bones, etc. | 46-47 | 5.3 | 9.9 | 52.3 | 8.7 | 12.8 | 111.4 |
| Congenital malformations and early infancy diseases | 48 | .1 | 11.5 | .8 | .4 | 14.1 | 5.8 |
| Other specified and ill-defined conditions | 49 | 8.7 | 8.4 | 73.0 | 13.4 | 9.1 | 122.2 |
| Accidents, poisonings, and violence | 50 | 6.0 | 8.8 | 53.0 | 16.1 | 8.7 | 140.5 |

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Appendix Table X

**Selected Measures of Hospital Utilization**

**Males, Ages 50-64, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 135.5 | 11.4 | 1,551.3 | 189.9 | 13.2 | 2,503.4 |
| Infective and parasitic diseases | 1-11 | 1.8 | 14.7 | 25.9 | 1.5 | 17.5 | 26.2 |
| Tuberculosis (all forms) | 12 | .1 | 17.8 | 20.0 | .1 | 5.6 | .7 |
| Malignant neoplasms | 12 | 7.2 | 17.1 | 123.8 | 10.5 | 25.5 | 266.9 |
| Benign and unspecified neoplasms | 13 | 3.5 | 7.5 | 26.0 | 2.8 | 11.9 | 33.5 |
| Allergic and metabolic diseases | 14-17 | 6.1 | 10.7 | 64.5 | 9.2 | 14.6 | 133.9 |
| Diseases of the thyroid gland | 15 | .8 | 7.0 | 5.4 | .7 | 11.4 | 7.9 |
| Diabetes mellitus | 16 | 3.2 | 13.1 | 41.9 | 3.9 | 14.2 | 56.2 |
| Diseases of the blood, etc. | 18 | .6 | 9.5 | 5.9 | .8 | 11.1 | 9.3 |
| Mental disorders | 19 | 2.0 | 16.9 | 34.4 | 3.1 | 14.7 | 45.2 |
| Diseases of the nervous system | 20-22 | 5.4 | 11.0 | 59.4 | 6.4 | 19.6 | 126.4 |
| Vascular lesions affecting the CNS | 20 | 2.4 | 14.6 | 34.3 | 3.0 | 30.7 | 91.4 |
| Diseases of the circulatory system | 23-27 | 25.8 | 13.8 | 356.3 | 23.2 | 16.5 | 382.3 |
| Diseases of the heart | 24-26 | 18.1 | 15.4 | 279.4 | 17.4 | 17.6 | 306.8 |
| Arteriosclerotic and degenerative heart disease | 25 | 15.5 | 15.9 | 245.2 | 14.1 | 18.7 | 262.7 |
| Hypertension | 26 | 2.5 | 12.0 | 29.7 | 2.9 | 13.9 | 40.0 |
| Diseases of the respiratory system | 28-34 | 9.9 | 8.1 | 79.9 | 26.5 | 9.4 | 248.6 |
| Upper respiratory diseases | 28-29, 34 | 4.6 | 6.6 | 30.2 | 7.3 | 7.9 | 57.9 |
| Influenza | 30 | .4 | 7.3 | 3.1 | 5.5 | 7.7 | 42.8 |
| Pneumonia | 31 | 3.4 | 10.1 | 34.0 | 9.6 | 10.9 | 104.2 |
| Bronchitis | 32 | 1.5 | 8.2 | 12.3 | 4.0 | 10.5 | 42.2 |
| Diseases of the digestive system | 35-40 | 34.2 | 10.2 | 349.6 | 37.7 | 11.7 | 442.1 |
| Appendicitis | 36 | 2.0 | 9.0 | 18.4 | 2.1 | 12.7 | 26.9 |
| Hernia of abdominal cavity | 37 | 8.9 | 9.3 | 81.9 | 8.0 | 12.5 | 100.4 |
| Diseases of the gallbladder | 39 | 4.7 | 11.7 | 54.9 | 4.8 | 13.7 | 65.9 |
| Diseases of the genitourinary system | 41-42 | 5.7 | 10.5 | 59.7 | 9.5 | 18.2 | 173.6 |
| Obstetrical care | 43 | — | — | — | — | — | — |
| Diseases of the skin, etc. | 44-45 | 1.5 | 13.5 | 20.9 | 5.6 | 7.3 | 41.3 |
| Diseases of the bones, etc. | 46-47 | 6.1 | 10.9 | 65.8 | 11.1 | 12.5 | 138.0 |
| Congenital malformations and early infancy diseases | 48 | .1 | 4.7 | .3 | .3 | 19.5 | 5.7 |
| Other specified and ill-defined conditions | 49 | 19.2 | 10.7 | 205.3 | 24.6 | 9.8 | 240.5 |
| Accidents, poisonings, and violence | 50 | 6.4 | 11.5 | 73.6 | 17.1 | 11.1 | 189.9 |

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Appendix Table XI

**Selected Measures of Hospital Utilization**

**Males, Ages 65 and Over, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 218.4 | 14.1 | 3,074.3 | 385.0 | 18.7 | 7,202.1 |
| Infective and parasitic diseases | 1-11 | 1.4 | 14.8 | 20.3 | 2.8 | 11.5 | 32.5 |
| Tuberculosis (all forms) | 1-2 | .5 | 17.3 | 8.4 | .5 | 4.5 | 2.2 |
| Malignant neoplasms | 12 | 19.2 | 16.1 | 310.1 | 32.7 | 29.4 | 960.3 |
| Benign and unspecified neoplasms | 13 | 3.1 | 9.1 | 28.6 | 3.4 | 15.6 | 52.9 |
| Allergic and metabolic diseases | 14-17 | 7.9 | 12.8 | 100.7 | 18.1 | 17.2 | 311.5 |
| Diseases of the thyroid gland | 15 | .2 | 7.0 | 1.7 | .6 | 19.0 | 11.3 |
| Diabetes mellitus | 16 | 4.7 | 13.4 | 63.5 | 8.5 | 18.3 | 155.1 |
| Diseases of the blood, etc. | 18 | 1.6 | 10.5 | 16.9 | 2.4 | 21.0 | 49.4 |
| Mental disorders | 19 | 2.6 | 21.0 | 53.9 | 3.5 | 18.0 | 63.7 |
| Diseases of the nervous system | 20-22 | 15.7 | 17.9 | 280.8 | 25.0 | 23.8 | 594.5 |
| Vascular lesions affecting the CNS | 20 | 9.5 | 22.8 | 216.1 | 18.2 | 27.5 | 499.3 |
| Diseases of the circulatory system | 23-27 | 39.8 | 15.1 | 601.5 | 55.6 | 19.2 | 1,067.4 |
| Diseases of the heart | 24-26 | 34.2 | 15.4 | 527.5 | 49.0 | 19.7 | 964.9 |
| Arteriosclerotic and degenerative heart disease | 25 | 28.6 | 15.9 | 454.6 | 41.2 | 20.1 | 830.5 |
| Hypertension | 26 | 5.5 | 12.9 | 70.6 | 7.3 | 17.4 | 126.9 |
| Diseases of the respiratory system | 28-34 | 15.6 | 10.2 | 159.4 | 52.5 | 12.7 | 666.6 |
| Upper respiratory diseases | 28-29, 34 | 5.1 | 7.7 | 38.7 | 10.5 | 13.5 | 141.9 |
| Influenza | 30 | .6 | 5.9 | 3.8 | 11.2 | 9.5 | 106.6 |
| Pneumonia | 31 | 7.8 | 12.7 | 98.9 | 20.6 | 15.0 | 309.6 |
| Bronchitis | 32 | 2.1 | 8.6 | 18.0 | 10.1 | 10.7 | 108.1 |
| Diseases of the digestive system | 35-40 | 38.1 | 11.4 | 433.8 | 52.0 | 14.2 | 740.0 |
| Appendicitis | 36 | 1.4 | 11.1 | 15.2 | 1.6 | 15.7 | 24.4 |
| Hernia of abdominal cavity | 37 | 10.3 | 10.1 | 104.4 | 11.2 | 15.7 | 176.3 |
| Diseases of the gallbladder | 39 | 5.9 | 13.7 | 81.5 | 8.5 | 16.0 | 136.6 |
| Diseases of the genitourinary system | 41-42 | 18.4 | 14.9 | 273.9 | 28.4 | 26.7 | 758.4 |
| Obstetrical care | 43 | — | — | — | — | — | — |
| Diseases of the skin, etc. | 44-45 | 1.6 | 14.6 | 23.4 | 7.3 | 15.8 | 115.6 |
| Diseases of the bones, etc. | 46-47 | 5.5 | 13.6 | 75.6 | 16.7 | 17.0 | 283.8 |
| Congenital malformations and early infancy diseases | 48 | — | — | — | .2 | 9.7 | 1.5 |
| Other specified and ill-defined conditions | 49 | 36.6 | 12.4 | 452.8 | 63.4 | 16.8 | 1,065.9 |
| Accidents, poisonings, and violence | 50 | 11.4 | 21.3 | 242.6 | 21.0 | 20.8 | 438.1 |

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Appendix Table XII

**Selected Measures of Hospital Utilization**

**Females, Ages 20-34, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 245.6 | 5.2 | 1,288.9 | 423.4 | 6.5 | 2,769.2 |
| Infective and parasitic diseases | 1-11 | 1.1 | 13.1 | 13.9 | 2.9 | 7.9 | 22.9 |
| Tuberculosis (all forms) | 1-2 | .1 | 18.7 | 2.7 | .1 | 21.5 | 2.1 |
| Malignant neoplasms | 12 | .8 | 10.8 | 8.9 | 1.1 | 16.9 | 18.6 |
| Benign and unspecified neoplasms | 13 | 4.9 | 3.8 | 18.4 | 8.9 | 8.1 | 71.8 |
| Allergic and metabolic diseases | 14-17 | 2.8 | 7.1 | 19.8 | 4.7 | 9.5 | 44.8 |
| Diseases of the thyroid gland | 15 | 1.5 | 6.4 | 9.6 | 1.8 | 11.2 | 20.6 |
| Diabetes mellitus | 16 | .7 | 9.7 | 6.8 | .8 | 14.0 | 10.9 |
| Diseases of the blood, etc. | 18 | .4 | 8.3 | 3.0 | .5 | 10.2 | 5.3 |
| Mental disorders | 19 | 2.9 | 13.9 | 39.8 | 5.0 | 14.3 | 71.9 |
| Diseases of the nervous system | 20-22 | 1.0 | 7.1 | 7.5 | 2.0 | 7.0 | 14.2 |
| Vascular lesions affecting the CNS | 20 | .1 | 24.0 | 2.6 | .1 | 10.4 | 1.3 |
| Diseases of the circulatory system | 23-27 | 4.1 | 7.3 | 29.9 | 4.6 | 10.6 | 48.9 |
| Diseases of the heart | 24-26 | .3 | 7.8 | 2.3 | .8 | 13.2 | 10.6 |
| Arteriosclerotic and degenerative heart disease | 25 | .1 | 7.5 | .7 | .2 | 8.4 | 1.6 |
| Hypertension | 26 | .1 | 5.0 | .5 | .1 | 16.5 | 2.0 |
| Diseases of the respiratory system | 28-34 | 8.6 | 3.4 | 29.0 | 29.8 | 3.9 | 116.6 |
| Upper respiratory diseases | 28-29, 34 | 7.2 | 2.7 | 19.6 | 13.2 | 3.3 | 43.7 |
| Influenza | 30 | .2 | 4.6 | 1.0 | 8.1 | 3.4 | 27.8 |
| Pneumonia | 31 | .8 | 8.1 | 6.2 | 5.8 | 5.8 | 33.9 |
| Bronchitis | 32 | .4 | 5.0 | 2.2 | 2.7 | 6.7 | 11.2 |
| Diseases of the digestive system | 35-40 | 14.3 | 7.5 | 107.3 | 26.8 | 6.1 | 162.9 |
| Appendicitis | 36 | 4.3 | 6.1 | 26.4 | 5.6 | 7.3 | 41.3 |
| Hernia of abdominal cavity | 37 | 1.0 | 7.4 | 7.2 | 1.0 | 9.3 | 9.1 |
| Diseases of the gallbladder | 39 | 3.6 | 9.1 | 32.5 | 5.8 | 9.6 | 56.0 |
| Diseases of the genitourinary system | 41-42 | 24.2 | 6.1 | 148.6 | 24.1 | 6.1 | 145.9 |
| Obstetrical care | 43 | 162.8 | 4.5 | 731.6 | 280.6 | 6.4 | 1,795.6 |
| Diseases of the skin, etc. | 44-45 | 1.7 | 7.2 | 12.0 | 4.8 | 4.7 | 22.6 |
| Diseases of the bones, etc. | 46-47 | 3.6 | 9.1 | 32.9 | 4.4 | 10.8 | 47.5 |
| Congenital malformations and early infancy diseases | 48 | .2 | 8.2 | 1.6 | .7 | 9.0 | 7.0 |
| Other specified and ill-defined conditions | 49 | 7.3 | 6.8 | 49.9 | 14.5 | 7.5 | 109.6 |
| Accidents, poisonings, and violence | 50 | 4.9 | 7.0 | 34.8 | 7.9 | 8.0 | 63.1 |

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Appendix Table XIII

**Selected Measures of Hospital Utilization**

**Females, Ages 35-49, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 149.4 | 8.3 | 1,237.8 | 248.0 | 9.0 | 2,232.1 |
| Infective and parasitic diseases | 1-11 | 1.1 | 13.7 | 14.6 | 1.8 | 10.5 | 18.4 |
| Tuberculosis (all forms) | 1-2 | .4 | 16.5 | 6.3 | .2 | 9.4 | 1.6 |
| Malignant neoplasms | 12 | 4.4 | 14.4 | 63.1 | 5.1 | 23.5 | 119.5 |
| Benign and unspecified neoplasms | 13 | 8.9 | 5.1 | 45.4 | 19.0 | 11.2 | 212.0 |
| Allergic and metabolic diseases | 14-17 | 5.3 | 9.3 | 49.7 | 7.6 | 10.8 | 82.4 |
| Diseases of the thyroid gland | 15 | 2.4 | 9.3 | 22.7 | 3.0 | 12.9 | 38.3 |
| Diabetes mellitus | 16 | 1.3 | 11.3 | 14.4 | 1.1 | 14.2 | 16.3 |
| Diseases of the blood, etc. | 18 | .6 | 8.1 | 4.8 | 1.2 | 7.4 | 8.7 |
| Mental disorders | 19 | 3.8 | 15.5 | 58.5 | 7.0 | 15.1 | 106.2 |
| Diseases of the nervous system | 20-22 | 1.7 | 10.9 | 18.6 | 2.4 | 10.9 | 26.7 |
| Vascular lesions affecting the CNS | 20 | .5 | 15.7 | 7.9 | .4 | 18.0 | 7.6 |
| Diseases of the circulatory system | 23-27 | 10.4 | 10.2 | 105.8 | 11.3 | 10.8 | 122.0 |
| Diseases of the heart | 24-26 | 3.7 | 13.4 | 49.2 | 3.8 | 11.5 | 43.4 |
| Arteriosclerotic and degenerative heart disease | 25 | 2.3 | 13.2 | 30.0 | 1.6 | 11.1 | 17.6 |
| Hypertension | 26 | .9 | 12.4 | 11.5 | 1.2 | 13.4 | 16.4 |
| Diseases of the respiratory system | 28-34 | 7.3 | 6.2 | 45.2 | 22.7 | 6.6 | 148.7 |
| Upper respiratory diseases | 28-29, 34 | 3.9 | 4.7 | 18.8 | 8.7 | 5.2 | 45.0 |
| Influenza | 30 | .4 | 6.8 | 2.7 | 4.9 | 6.6 | 32.7 |
| Pneumonia | 31 | 2.1 | 8.3 | 17.1 | 5.9 | 8.8 | 52.2 |
| Bronchitis | 32 | .9 | 7.1 | 6.6 | 3.2 | 5.8 | 18.8 |
| Diseases of the digestive system | 35-40 | 24.6 | 9.1 | 223.4 | 31.4 | 8.7 | 272.3 |
| Appendicitis | 36 | 1.6 | 7.5 | 11.7 | 2.0 | 9.4 | 18.9 |
| Hernia of abdominal cavity | 37 | 2.1 | 8.6 | 18.5 | 1.9 | 13.1 | 25.3 |
| Diseases of the gall bladder | 39 | 7.9 | 10.2 | 80.5 | 11.4 | 10.3 | 117.5 |
| Diseases of the genitourinary system | 41-42 | 30.3 | 7.5 | 226.8 | 29.6 | 8.4 | 248.4 |
| Obstetrical care | 43 | 24.6 | 5.1 | 124.4 | 68.4 | 6.7 | 457.4 |
| Diseases of the skin, etc. | 44-45 | 1.6 | 8.2 | 13.5 | 4.7 | 7.8 | 37.0 |
| Diseases of the bones, etc. | 46-47 | 6.5 | 10.8 | 69.8 | 9.8 | 11.1 | 108.6 |
| Congenital malformations and early infancy diseases | 48 | .1 | 3.9 | .4 | .4 | 22.0 | 7.9 |
| Other specified and ill-defined conditions | 49 | 12.4 | 8.9 | 110.7 | 16.3 | 11.0 | 180.0 |
| Accidents, poisonings, and violence | 50 | 5.8 | 10.9 | 63.1 | 9.3 | 8.2 | 75.9 |

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Appendix Table XIV

**Selected Measures of Hospital Utilization**

**Females, Ages 50-64, by Diagnosis**

**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 141.7 | 11.3 | 1,594.8 | 250.1 | 13.0 | 3,252.3 |
| Infective and parasitic diseases | 1-11 | 1.1 | 13.5 | 14.2 | 1.7 | 16.7 | 28.1 |
| Tuberculosis (all forms) | 1-2 | .5 | 14.0 | 6.3 | .1 | 36.6 | 5.4 |
| Malignant neoplasms | 12 | 9.0 | 16.9 | 152.1 | 12.2 | 32.3 | 393.7 |
| Benign and unspecified neoplasms | 13 | 6.0 | 7.0 | 42.1 | 9.8 | 14.6 | 142.8 |
| Allergic and metabolic diseases | 14-17 | 8.1 | 11.2 | 89.8 | 15.6 | 14.2 | 221.9 |
| Diseases of the thyroid gland | 15 | 2.0 | 8.7 | 17.2 | 4.3 | 12.8 | 55.2 |
| Diabetes mellitus | 16 | 4.3 | 13.3 | 56.8 | 6.7 | 16.4 | 109.5 |
| Diseases of the blood, etc. | 18 | .7 | 9.2 | 6.4 | 1.6 | 9.6 | 15.1 |
| Mental disorders | 19 | 3.0 | 17.8 | 53.8 | 8.3 | 16.0 | 133.0 |
| Diseases of the nervous system | 20-22 | 4.4 | 13.2 | 58.6 | 8.2 | 16.6 | 135.7 |
| Vascular lesions affecting the CNS | 20 | 1.8 | 19.6 | 35.9 | 3.9 | 21.0 | 82.3 |
| Diseases of the circulatory system | 23-27 | 16.1 | 13.3 | 215.2 | 29.5 | 14.2 | 419.6 |
| Diseases of the heart | 24-26 | 9.6 | 15.0 | 144.6 | 19.4 | 15.3 | 297.1 |
| Arteriosclerotic and degenerative heart disease | 25 | 5.9 | 16.5 | 98.2 | 10.2 | 17.1 | 174.8 |
| Hypertension | 26 | 3.4 | 11.5 | 39.0 | 7.8 | 11.5 | 89.8 |
| Diseases of the respiratory system | 28-34 | 10.2 | 8.2 | 83.6 | 30.4 | 8.4 | 254.4 |
| Upper respiratory diseases | 28-29, 34 | 4.9 | 7.4 | 36.3 | 8.2 | 8.0 | 64.9 |
| Influenza | 30 | .4 | 5.9 | 2.1 | 8.8 | 7.4 | 64.5 |
| Pneumonia | 31 | 3.3 | 9.4 | 31.4 | 8.2 | 10.7 | 87.7 |
| Bronchitis | 32 | 1.6 | 9.0 | 13.8 | 5.3 | 7.1 | 37.3 |
| Diseases of the digestive system | 35-40 | 30.3 | 10.5 | 317.8 | 45.0 | 11.1 | 499.3 |
| Appendicitis | 36 | 1.2 | 10.6 | 13.0 | 1.1 | 14.4 | 16.1 |
| Hernia of abdominal cavity | 37 | 2.2 | 10.5 | 23.2 | 3.3 | 15.2 | 50.0 |
| Diseases of the gallbladder | 39 | 10.9 | 11.7 | 127.7 | 18.8 | 11.7 | 218.8 |
| Diseases of the genitourinary system | 41-42 | 16.4 | 8.6 | 141.5 | 19.1 | 11.6 | 222.6 |
| Obstetrical care | 43 | .2 | 7.6 | 1.3 | .2 | 8.1 | 1.7 |
| Diseases of the skin, etc. | 44-45 | 2.0 | 9.4 | 19.1 | 5.7 | 9.1 | 51.8 |
| Diseases of the bones, etc. | 46-47 | 8.4 | 12.9 | 108.0 | 16.0 | 13.7 | 218.9 |
| Congenital malformations and early infancy diseases | 48 | * | 3.0 | .1 | .4 | 14.7 | 5.6 |
| Other specified and ill-defined conditions | 49 | 15.6 | 9.5 | 148.8 | 27.7 | 11.1 | 308.4 |
| Accidents, poisonings, and violence | 50 | 10.2 | 13.9 | 142.4 | 18.7 | 10.7 | 199.7 |

*Less than 0.05

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Appendix Table XV

**Selected Measures of Hospital Utilization**
**Females, Ages 65 and Over, by Diagnosis**
**Indiana, 1956, and Saskatchewan, 1957**

| Major Categories and Sub-Categories of Diagnosis | "C" List Numbers | INDIANA | | | SASKATCHEWAN | | |
|---|---|---|---|---|---|---|---|
| | | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population | Admissions per 1,000 population | Average length of stay (days) | Annual days per 1,000 population |
| ALL DIAGNOSES | | 222.8 | 15.6 | 3,466.6 | 397.3 | 18.5 | 7,331.6 |
| Infective and parasitic diseases | 1-11 | 1.8 | 15.9 | 28.4 | 2.3 | 14.2 | 32.0 |
| Tuberculosis (all forms) | 2 | 6 | 16 7 | 9.9 | .2 | 12.0 | 2.5 |
| Malignant neoplasms | 12 | 15.0 | 17.9 | 268.9 | 22.7 | 29.7 | 673.0 |
| Benign and unspecified neoplasms | 13 | 5.6 | 5.7 | 32.4 | 5.2 | 15.7 | 80.9 |
| Allergic and metabolic diseases | 14-17 | 10.4 | 17.0 | 176.6 | 26.2 | 17.2 | 450.3 |
| Diseases of the thyroid gland | 5 | 0 | 22 5 | 22.3 | 2.9 | 12.8 | 37.1 |
| Diabetes mellitus | 6 | 8 0 | 8.0 | 144.7 | 17.2 | 18.2 | 312.8 |
| Diseases of the blood, etc. | 18 | 1.5 | 9.1 | 13.5 | 3.6 | 23.0 | 81.8 |
| Mental disorders | 19 | 3.0 | 16.7 | 49.8 | 6.9 | 18.4 | 126.6 |
| Diseases of the nervous system | 20-22 | 16.2 | 19.9 | 322.0 | 27.2 | 26.0 | 707.5 |
| Vascular lesions affecting the CNS | 20 | 9.7 | 26 2 | 254.6 | 18.5 | 32.8 | 607.7 |
| Diseases of the circulatory system | 23-27 | 35.9 | 15.5 | 556.4 | 67.4 | 19.4 | 1,306.7 |
| Diseases of the heart | 24-26 | 28.6 | 15 8 | 452.7 | 56.5 | 19.7 | 1,110.0 |
| Arteriosclerotic and degenerative heart disease | 25 | 22.3 | 15 9 | 354.9 | 34.1 | 21.9 | 745.4 |
| Hypertension | 26 | 6.1 | 15 4 | 93.5 | 21.1 | 15.4 | 323.8 |
| Diseases of the respiratory system | 28-34 | 15.5 | 10.8 | 166.7 | 50.6 | 12.5 | 630.9 |
| Upper respiratory diseases | 28-29, 34 | 5.3 | 8.2 | 43.3 | 8.0 | 12.8 | 101.6 |
| Influenza | 30 | .7 | 7.6 | 5.2 | 13.5 | 11.5 | 155.3 |
| Pneumonia | 31 | 6.5 | 13.7 | 90.0 | 20.0 | 13.9 | 279.1 |
| Bronchitis | 32 | 3.0 | 9.5 | 28.2 | 9.1 | 10.4 | 94.9 |
| Diseases of the digestive system | 35-40 | 39.0 | 13.7 | 533.2 | 53.4 | 14.7 | 785.7 |
| Appendicitis | 36 | .9 | 11.4 | 10.2 | 1.0 | 17.5 | 17.1 |
| Hernia of abdominal cavity | 37 | 3.4 | 13 0 | 43.8 | 4.2 | 17.9 | 75.9 |
| Diseases of the gallbladder | 39 | 12.8 | 15 5 | 197.9 | 22.1 | 14.4 | 319.1 |
| Diseases of the genitourinary system | 41-42 | 11.6 | 11.3 | 131.1 | 10.2 | 15.8 | 162.0 |
| Obstetrical care | 43 | — | — | — | — | — | — |
| Diseases of the skin, etc. | 44-45 | 3.2 | 9.4 | 29.8 | 7.0 | 11.6 | 81.3 |
| Diseases of the bones, etc. | 46-47 | 11.8 | 17.5 | 206.2 | 23.7 | 17.6 | 416.8 |
| Congenital malformations and early infancy diseases | 48 | — | — | — | .2 | 13.1 | 3.1 |
| Other specified and ill-defined conditions | 49 | 30.7 | 14.5 | 445.5 | 56.2 | 17.9 | 1,006.1 |
| Accidents, poisonings, and violence | 50 | 21.3 | 23.6 | 504.0 | 34.5 | 22.8 | 786.9 |

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