

Cancer in Iowa

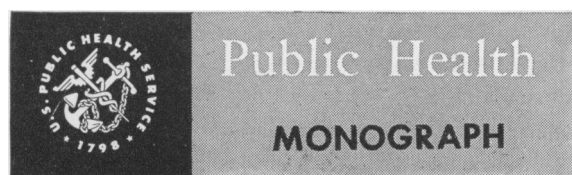
Of each 100,000 Iowa residents, 509 persons had cancer during 1950; 347 of these were first diagnosed during the year. Females had a slightly higher incidence rate than males. When adjustments are made for the age distribution of the population, the Iowa incidence rate for all sites excluding skin, 253, was 12 and 9 percent below the respective figures for the combined 10 cities (286) and the 4 northern cities (277) recently surveyed by the National Cancer Institute of the Public Health Service. Much of this differential can be attributed to a lower rate in rural Iowa. The rate for urban Iowa agreed well with that reported for the four northern cities.

In Iowa, 76 percent of the newly diagnosed cancer cases were confirmed microscopically. This was essentially the same as the combined figure from surveys of the 10 urban areas. The urban-rural differential in this respect was small—77 percent contrasted to 73 percent—which suggested about equal reliability of diagnoses in the two population groups. In view of the proportion of cases with microscopic confirmation in Iowa, it may be noted that most comparisons and inferences drawn from the Iowa data remained essentially unchanged, whether based on total newly diagnosed cases or solely on those meeting exacting diagnostic criteria.

Among Iowa males, cancer occurred most frequently in the digestive system, skin, genital organs, buccal cavity, and respiratory system. Among females, the order was genital organs, breast, digestive system, and skin. The leading specific sites for males were prostate, stomach, large intestine, and lung; for females, breast, cervix, and large intestine.

Incidence rates in the urban population were higher than in the rural population for such primary sites as lung, larynx, and cervix. Several lines of indirect evidence, based partly

on examination of the data for internal consistency, support the hypothesis that these differences are real. There was little difference in the incidence of cancer of the corpus uteri, breast, prostate, and digestive system among urban and rural residents.



No. 37

The accompanying summary covers the principal findings presented in Public Health Monograph No. 37, published concurrently with this issue of Public Health Reports. The authors are with the National Cancer Institute, National Institutes of Health, Public Health Service, Bethesda, Md., and the Iowa State Department of Health, Des Moines, Iowa.

Readers wishing the data in full may purchase copies of the monograph from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. A limited number of free copies are available to official agencies and others directly concerned on specific request to the Public Inquiries Branch of the Public Health Service. Copies will be found also in the libraries of professional schools and of the major universities and in selected public libraries.

• • •

Haenszel, William, Marcus, Samuel C., and Zimmerer, Edmund G.: Cancer morbidity in urban and rural Iowa. Public Health Monograph No. 37 (Public Health Service Publication No. 462). 85 pages. Illustrated. U. S. Government Printing Office, Washington, D. C., 1956. Price 20 cents.

Excluding cancers of the lymphatic tissue and the hematopoietic system, two-thirds of the newly diagnosed cancers were localized at time of diagnosis. One of four had spread to adjacent tissue or regional lymph nodes, and 1 of 10 had metastasized to remote tissues. More cancers in males were diagnosed while localized (71 percent, excluding lymphatic tissue and hematopoietic system) than in females (63 percent). This resulted not from a systematic sex differential for certain sites but from the preponderance of breast cancer among women, for which the probability of early diagnosis has been relatively poor. The greatest variable in stage at diagnosis was shown with regard to primary site. To illustrate, only 49 percent of cancers involving the digestive system were diagnosed while localized compared to 86 percent for buccal cavity. In general, the proportion of localized cases was higher for the more accessible sites.

Of every 100 residents with newly diagnosed cancer in Iowa, 75 were alive 6 months after diagnosis, and 66 were still alive after 1 year. There was no difference in the urban and rural experience with respect to survival. Stage at diagnosis had the most pronounced effect on survival rates. Of cancer cases diagnosed while localized, 81 percent survived 12 months as contrasted to 45 percent of those with regional involvement and 27 percent, with remote metastasis. Uterus and large intestine are among the sites exhibiting the greatest range in survival rates for cases in early and late stages. Survival rates for certain sites, such as pancreas and lung, are extremely poor even when diagnosed early.

With respect to primary site of cancer, agreement between data on medical records and on death certificates was good. For most primary sites, comparisons between urban and rural areas based on incidence and mortality rates were in close agreement.

Morbidity data reported from Denmark generally show findings similar to those from Iowa with respect to urban-rural differentials. Both showed substantial differentials in incidence for all sites combined (exclusive of skin, lymphatic tissue, and hematopoietic system). For lung and bronchus, both sets of data exhibited a much more pronounced urban-rural differen-

tial among males. They agreed on two distinct urban-rural patterns for cervix and corpus uteri. Neither the Danish nor Iowa data supported impressions of higher skin cancer incidence rates among rural populations as reported in medical textbooks.

The age and sex patterns of cancer incidence in Iowa conformed generally to those reported from morbidity surveys elsewhere. Incidence of cancer increased rapidly during late adult life for both sexes. Although female rates for all ages combined exceeded those for males, females experienced lower rates at ages under 10 and over 65.

Although most cancers tend to appear in late adult life, some forms occur relatively frequently among young people. Less than 5 percent of the newly diagnosed cases in Iowa occurred among persons under 35, whereas one-fourth of cancers of the brain and endocrine glands, not elsewhere classified, and one-fifth of those in the skeleton and hematopoietic system were in this age group.

Carcinoma constituted 86 percent of the newly diagnosed, microscopically confirmed cases of cancer in Iowa, a figure in close agreement with that from the 10-city morbidity surveys. Within Iowa there was no difference in this respect between urban and rural residents. Adenocarcinoma was more frequent among females, whereas epidermoid carcinoma was the leading type among males. One site—breast—accounted for much of the preponderance of adenocarcinomas among females. Leukemia was the most frequent histological type encountered at ages under 15. Thereafter, carcinomas became increasingly predominant.

During 1950, 6,979 cancer patients were hospitalized for a total of 159,316 days, an average of 23 days per patient. The average length of stay did not differ for patients from urban and rural areas. Cancers of the digestive system alone accounted for about one-third of the total hospital days. Of the newly diagnosed resident cases, 59.2 percent were hospitalized within 1 year after diagnosis. The first course of hospitalization for newly diagnosed cases accounted roughly for three-fifths of the total hospital days devoted to cancer treatment. The average duration of first hospitalization was 20 days.