

City-dwellers have higher risk of late-stage cancer than rural residents

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People who live in urban areas are more likely to develop late-stage cancer than those who live in suburban and rural areas. That is the conclusion of a new study published in the June 15, 2009 issue of *CANCER*, a peer-reviewed journal of the American Cancer Society. The study's results indicate a need for more effective urban-based cancer screening and awareness programs.

Diagnosing cancer at an early stage can improve outcomes. Studies show certain groups, such as low income populations, are more likely to be diagnosed with cancer at later stages. While some studies have also found that geography can affect the timing of cancer diagnoses, research on rural-urban disparities has produced mixed and conflicting findings.

To investigate the rural and urban differences in late-stage cancer diagnoses, Sara L. McLafferty, Ph.D., of the University of Illinois and Fahui Wang, Ph.D., of Louisiana State University analyzed data from the Illinois State Cancer Registry from 1998 to 2002. The investigators noted that Illinois is an appropriate area to study because it encompasses a diverse range of geographic regions from the densely populated Chicago metropolitan area to low-density, remote [rural areas](#). They assessed late-stage cancer diagnoses of the four major types of cancer (breast, colorectal, lung, and prostate) throughout the state, comparing data from cities with those from less-populated regions.

The researchers found that for all four cancers, risk was highest in the most highly urbanized area (Chicago) and decreased as areas became

more rural. However, in the most isolated rural areas, risk was also high. Risks were considerably low among patients living in large towns in rural areas.

For colorectal and prostate cancers, and to a lesser extent breast cancer, these disparities stemmed mainly from differences in the ages and races of individuals in the various geographic areas. A high concentration of vulnerable populations and economically disadvantaged areas in Chicago and its suburbs accounted for the high rates of late-stage diagnosis found in these highly urban areas. Among the different races, the black population was particularly vulnerable to late diagnosis. In contrast, the lower rates of late-stage diagnosis in rural areas reflected the greater presence of elderly patients who have a lower risk of late-stage diagnosis, likely because of frequent doctors' visits and age-related cancer screenings.

Differences in age and race did not explain the geographic disparities seen for lung cancer, indicating that other factors—such as cancer awareness or diagnostic differences—account for the rural-urban differences in late-stage lung cancer diagnosis.

The authors conclude that their study found a reversal of the commonly held view that late-stage cancer risks are highest for rural residents. "The concentration of health disadvantage in highly urbanized places emphasizes the need for more extensive urban-based cancer screening and education programs, especially programs targeted to the most vulnerable urban populations and neighborhoods," they write.

More information: "Rural reversal? Rural-urban disparities in late-stage cancer risk in Illinois." Sara McLafferty, Fahui Wang. *CANCER*; Published Online: May 11, 2009 (DOI 10.1002/cncr.24315); Print Issue Date: June 15, 2009.

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