

Wisconsin Cancer Data Bulletin

Wisconsin Northwestern Counties with Low Cancer Incidence Rates Due to Underreporting of Cancer Cases Treated at Minnesota Facilities

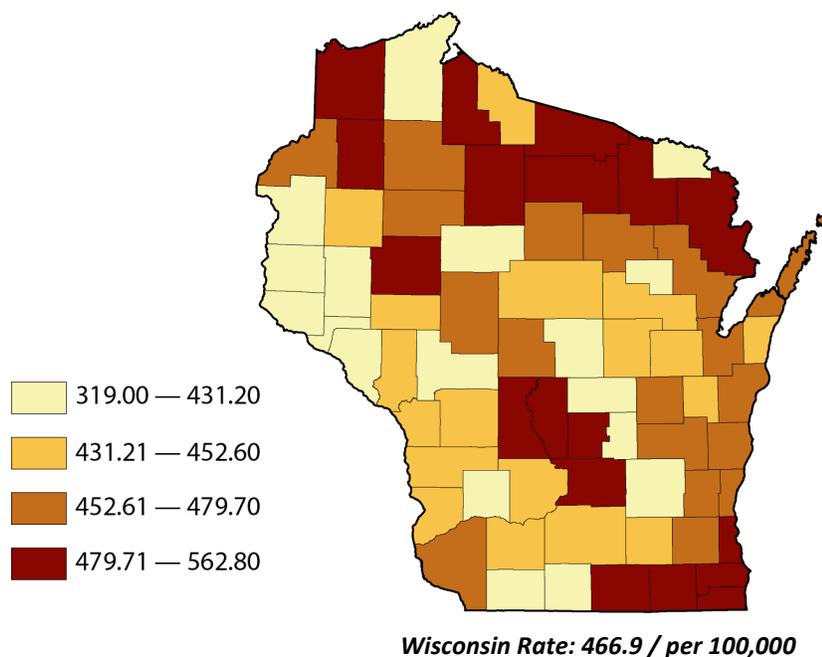
Information from the Wisconsin Cancer Reporting System

Mary Foote, Epidemiologist, WCRS

The most recent analysis conducted at the Wisconsin Cancer Reporting System found that 18 counties in Wisconsin had cancer incidence rates significantly lower than the overall state rate, based on cancer cases reported to the state cancer registry. Ten of those counties with lower incidence rates are clustered in the northwestern area (Figure 1) from which Wisconsin residents may travel to Minnesota facilities, such as the Mayo Clinic, to seek medical care.

This bulletin presents cancer data for those northwestern counties known to have probable interstate health care and lower than expected numbers of cancer cases reported to the Wisconsin Cancer Reporting System.

Figure 1. Age-Adjusted Cancer Incidence in Wisconsin Counties, 2012-2016



Wisconsin currently receives cancer case reports for Wisconsin residents from 45 other state central cancer registries, but not from the Minnesota cancer registry, the Minnesota Cancer Surveillance System. State statutes governing the Minnesota Cancer Surveillance System, as currently interpreted, do not allow data sharing with other state cancer registries. The Wisconsin Cancer Reporting System currently has voluntary contractual agreements with 29 Minnesota facilities to report Wisconsin resident cases directly to the Wisconsin central registry. However, facilities vary in their level of compliance with these agreements. The Mayo Clinic at Rochester, which serves the largest number of Wisconsin residents receiving care in Minnesota, does not have an agreement with the Wisconsin Cancer Reporting System.

Wisconsin Cancer Data Bulletin - Minnesota Border Counties

The 2012-2016 cancer data for the northwestern border counties of Wisconsin that have apparent underreporting of cancer cases show lower incidence rates than the overall Wisconsin incidence rate (Table 1).

Table 1. Cancer incidence rates for northwestern border counties with lower rates than Wisconsin, 2012-2016

County	Incidence Rate	Confidence Interval		Cancer Cases	County Population
Barron	447.8	424.0	472.8	1,446	227,302
Bayfield	412.2	374.5	453.4	529	75,074
Buffalo	409.1	368.3	453.7	401	66,392
Burnett	457.7	418.7	500.0	617	76,177
Dunn	402.0	376.3	429.0	968	220,391
Eau Claire	447.1	429.2	465.5	2,492	509,106
Pepin	364.7	313.8	422.5	200	36,531
Pierce	319.0	295.3	344.2	712	204,934
Polk	402.9	380.0	427.1	1,227	216,708
St. Croix	379.4	361.0	398.6	1,690	432,057

Wisconsin incidence rate = 466.9 (CI=464.5, 469.2)

Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services.

Notes: Rates are per 100,000 and age-adjusted to the 2000 U.S. standard population. Confidence interval are 95% for rates.

None of the northwestern counties with lower cancer incidence rates have mortality rates significantly lower than the statewide mortality rate (Table 2), indicating that not all cancer cases in these counties were reported to WCRS.

Table 2. Cancer mortality rates for northwestern border counties with lower incidence rates than Wisconsin, 2012-2016

County	Mortality Rate	Confidence Interval		Cancer Deaths
Barron	156.2	142.9	170.6	532
Bayfield	155.3	133.4	180.6	200
Buffalo	168.2	143.5	196.5	173
Burnett	194.8	171.4	221.4	272
Dunn	186.1	170.2	203.1	530
Eau Claire	156.6	140.9	173.5	386
Pepin	164.5	153.9	175.7	937
Pierce	162.6	129.7	202.5	90
Polk	160.0	146	175.2	500
St. Croix	160.5	148.3	173.4	678

Wisconsin mortality rate = 164.3 (CI=159.3, 169.4)

Source: Underlying mortality data provided by National Center for Health Statistics (www.cdc.gov/nchs). Statistics prepared by Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services.

Notes: Rates are per 100,000 and age-adjusted to the 2000 U.S. standard population. Confidence intervals are 95% for rates.



Wisconsin Cancer Data Bulletin - Minnesota Border Counties

If not reported by the health care facilities, cancer data for residents of those counties are not accessible to the state registry until after a patient's death. In that event, the Wisconsin Cancer Reporting System contacts the physician listed on the death certificate and requests more information. These Death Certificate Only designated cases are not always converted to complete cases, although they are counted as general incidence cases under National Program of Cancer Registries guidelines. Therefore, published cancer data are incomplete and missing basic diagnostic information such as stage at diagnosis.

Current published incidence rates do not adequately represent the burden of cancer in Wisconsin's northwestern counties near the Minnesota border. Furthermore, the unreported cases result in a lower state incidence rate than would be accurate if all cases were reported. Those unreported cases are not included in any reports from the Centers for Disease Control and Prevention, the North American Association of Central Cancer Registries, the American Cancer Society, or other national agencies and organizations.

Local public health departments in Wisconsin are increasingly interested in local cancer data for community-based research and cancer control projects, even though the relatively small number of cancer cases results in statistical limitations. Underreporting greatly exacerbates these statistical limitations. The increased interest in local community projects in state health plans (Healthiest Wisconsin 2020 and the Wisconsin Comprehensive Cancer Control Plan 2015-2020) now requires that the Wisconsin Cancer Reporting System publish clear cautions and explanations for the low incidence rates in the northwestern counties. In all publications, the WCRS prominently states caveats and cautions for northwestern counties to help avert misinterpretation of the low incidence rates.

Current analyses show that cancer incidence data for the northwestern border counties in Wisconsin highlighted in this report are not complete indicators of the true cancer burden in those counties. Unless the Wisconsin Cancer Reporting System has access to complete cancer incidence data for the northwestern counties, published incidence rates should be interpreted with caution due to probable underreporting. Future improvements in attaining more complete cancer incidence data are needed, as the Wisconsin Cancer Reporting System and the National Program of Cancer Registries work toward a more comprehensive data sharing process to best represent and inform all Wisconsin residents.

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