MONTANA
CHRONIC DISEASE
PREVENTION & HEALTH
PROMOTION BUREAU

Key Facts

- Prostate cancer incidence has increased significantly in MT since 2014.
- Prostate cancer incidence is highest among men aged 65 to 79.
- Prostate cancer mortality has decreased significantly since 1999 and did not increase with the increased incidence.
- Healthcare providers should talk to their patients about the risk and benefits of prostate cancer screening so that men can determine if screening is right for them.
- African American men and men with a family history of prostate cancer diagnosed before the age of 65 are at higher risk for prostate cancer and are more likely to benefit from screening.

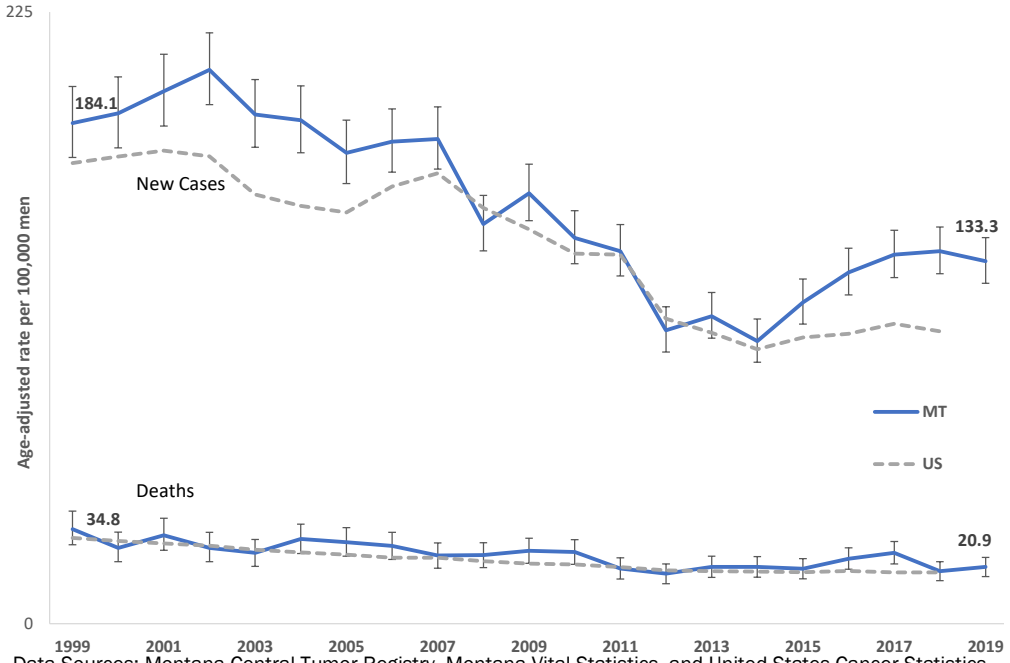
Prostate Cancer Trends in Montana

Prostate cancer is the most common type of cancer among men with about 990 new cases in Montana each year. Survival is very high among prostate cancer patients; 96% of patients survive for at least 5 years after diagnosis.[1] But prostate cancer is still the second most common cause of cancer-related deaths among men after lung cancer. About 140 Montana men die from prostate cancer each year.

Prostate cancer can be detected through screening. The Prostate Specific Antigen (PSA) test, a blood test that measures levels of proteins produced by prostate cells, along with a digital rectal exam (DRE) can provide an early signal of prostate cancer. However, screening recommendations have varied widely between organizations and over time. Screening behavior also has a high impact on incidence since many prostate cancers never cause symptoms and, without screening, would never be diagnosed. In autopsy studies of men who died of other causes, more than 20% of men aged 50 to 59 years and more than 33% of men aged 70 to 79 years were found to have prostate cancer.[2] This report explores the trends in prostate cancer incidence and mortality in Montana and the extent to which observed changes are due to changes in screening behavior.

Prostate cancer incidence was consistently decreasing in Montana and the US overall from 2007 to 2014 (Figure 1). After 2014, the trends in MT and the US diverged with Montana having a significantly higher incidence than in the US from 2014 to 2019. Prostate cancer mortality rates were about the same in MT and the US overall and have been steadily declining since 1999.

Figure 1. Incidence (new cases) and Mortality (deaths) of Prostate cancer in Montana (MT) and the United States (US), 1999—2019



Data Sources: Montana Central Tumor Registry, Montana Vital Statistics, and United States Cancer Statistics. These data were collected by cancer registries participating in the National Program of Cancer Registries (NPCR) of the Centers for Disease Control and Prevention (CDC).

Montana Cancer Control Programs

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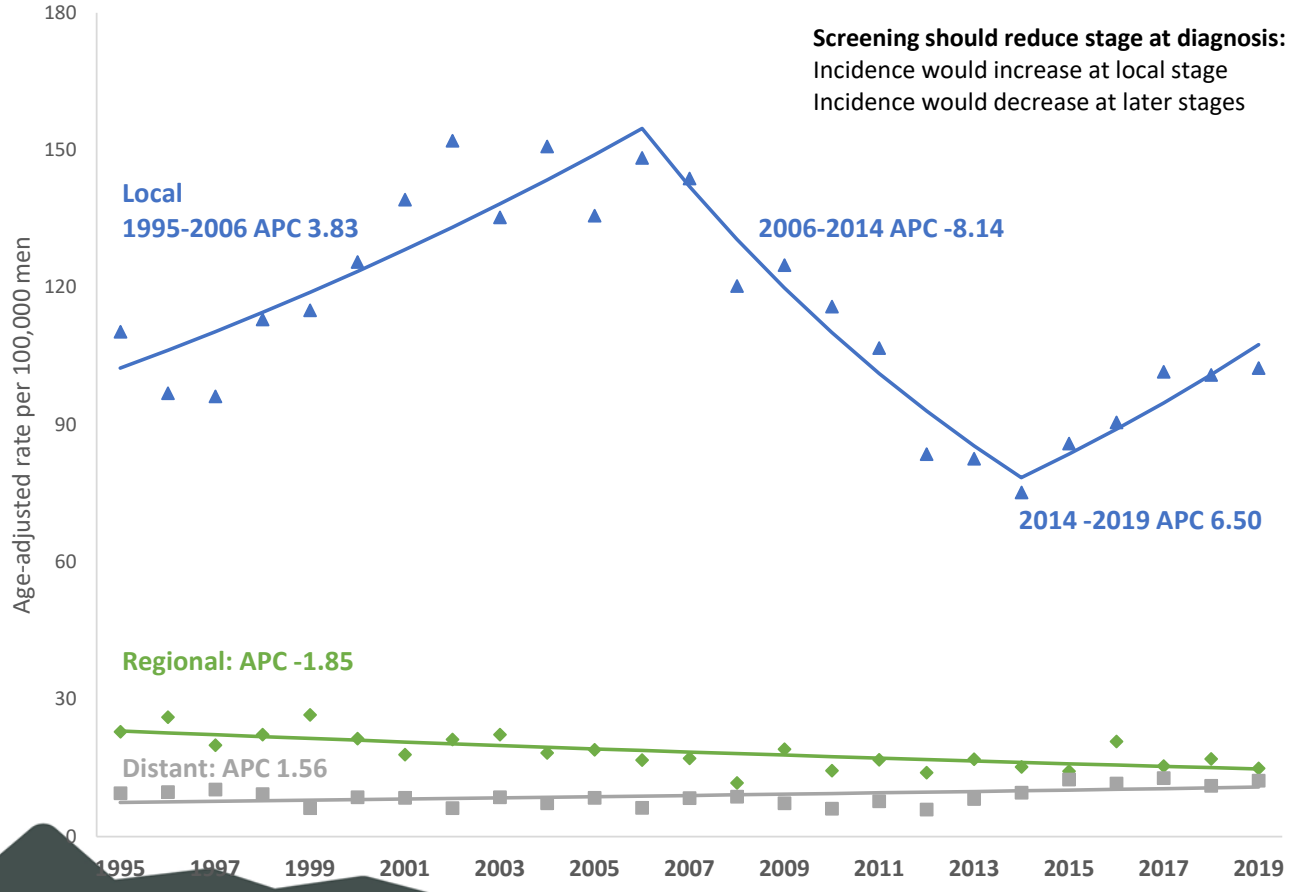
Prostate cancer incidence trends in Montana vary by stage at diagnosis. Local stage incidence increased from 1995 to 2006 with an annual percent change (APC) of almost 4% then decreased from 2006 to 2014 (APC −8.1%) and rose again from 2014 to 2019 (APC 6.5%) (Figure 2). From 1995 to 2019, regional stage incidence decreased (APC −1.9%) and distant stage incidence increased (APC 1.6%). Increased screening should increase the diagnosis of local stage disease and decrease the diagnosis of late stage disease.

Prostate cancer incidence trends were also different based on age at diagnosis. Incidence among younger men (aged 40 to 59) was low and stayed about the same from 1995 to 2019 (Figure 3). Incidence among men aged 60 to 79 increased slightly from 1995 to 2000, decreased from 2000 to 2014, and then increased again from 2014 to 2019; similar to the overall statewide rate trends. Among men aged 80 and older incidence decreased dramatically from 1995 to 2019. Men aged 65 to 79 had the highest rates from 2000 forward. Screening should reduce age at diagnosis so that incidence would increase among younger age groups that are eligible for screening and decrease among older age groups.

PSA testing was approved by the FDA to screen for prostate cancer in 1994 and many organizations recommended annual screening in men aged 50 and older until about 2008.[3] PSA testing may be beneficial to some men, especially if they are at high risk for prostate cancer, but there are also some potential problems with routine PSA testing. PSA levels may be high because of other conditions not related to cancer.[3] These "false positive" results may lead to unnecessary biopsies and potential side effects from the biopsy. Additionally, many prostate cancers will never become symptomatic and do not need to be treated. When these cases are detected and treated it is called "overdiagnosis". Follow-up of large randomized trials suggests that 20% to 50% of men diagnosed with prostate cancer through screening may be over diag-

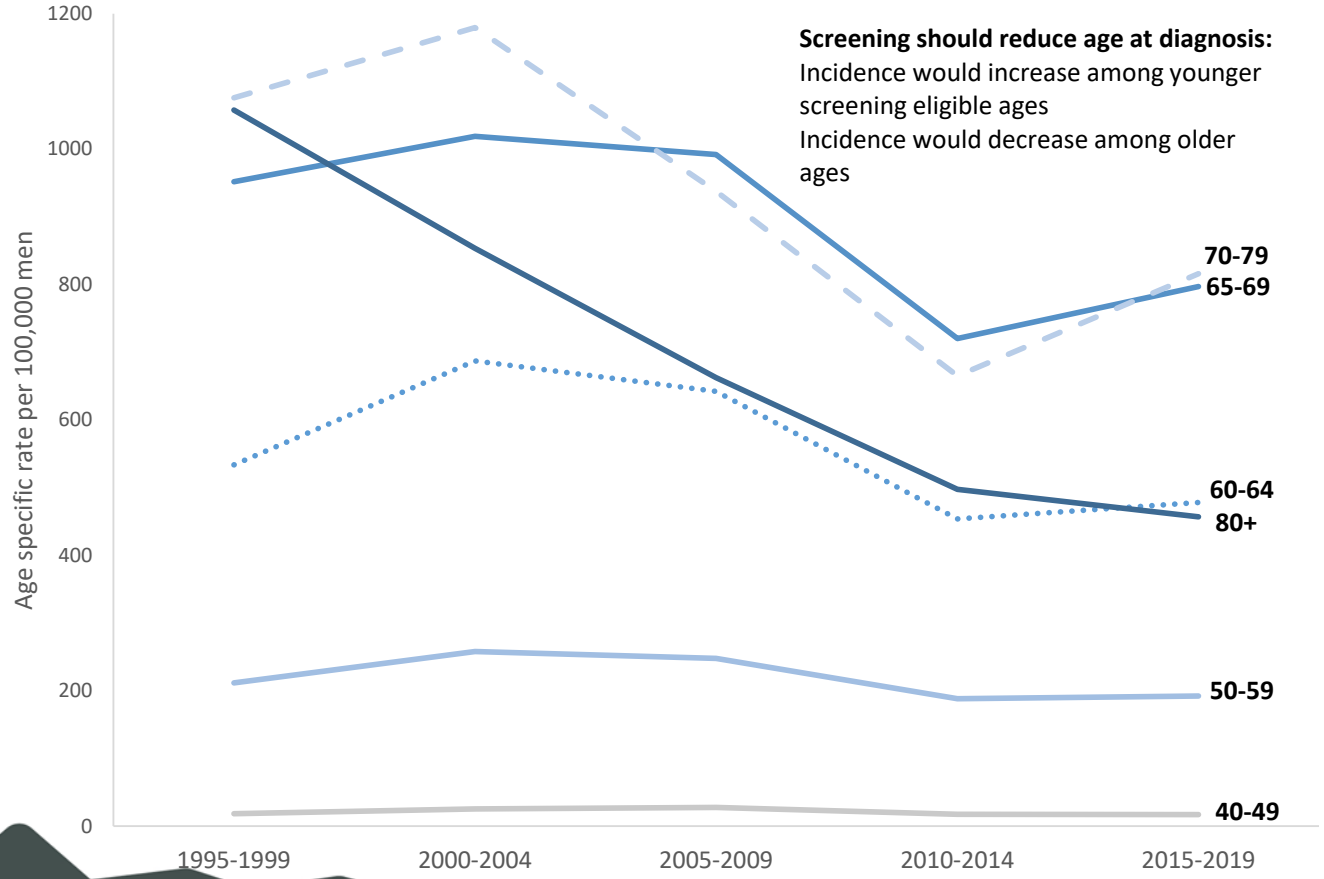
Figure 2. Age-adjusted Prostate Cancer Incidence Trends by Stage at Diagnosis, Montana, 1995—



nosed.[4] Because of the potential harms from false positives and overdiagnosis, in 2012, the United State Preventive Services Task Force (USPSTF) concluded that the benefits of screening did not outweigh the harms and recommended against routine screening for average risk men.[5] In 2018, USPSTF updated their recommendation to state that men aged 55 to 69 should discuss the potential risks and benefits of screening with their healthcare provider before undergoing screening.[5] USPSTF still recommends against prostate cancer screening for men aged 70 or older. Many other organizations have similar recommendations for prostate cancer. Like USPSTF the American Cancer Society recommends shared decision making, but recommends starting that discussion at age 50 for average risk men; 45 for African American men and men with a first degree relative diagnosed with prostate cancer before age 65; and at 40 for men with more than one first degree relative diagnosed with prostate cancer before age 65.[6]

The prostate cancer incidence trends seen in Montana since 1995 are consistent with changes in screening recommendations until 2014. The increased incidence in Montana since 2014 is mostly local stage disease diagnosed among men aged 65-79. This suggests that the change may be due to increased screening among Montana men even though there wasn't a change in screening recommendations near 2014. More men may be getting screened in Montana because of increased health insurance coverage starting in 2016. Montana Medicaid expanded eligibility as part of the Affordable Care Act on January 1, 2016 and almost 95,000 people gained coverage through the program as of 2019.[7] This increased insurance coverage did lead to a measurable rise in the utilization of other preventive health services.[7] However, there may be other factors contributing to the increased incidence.

Figure 3. Age-specific Prostate Cancer Incidence Trends, Montana, 1995—2019.



Higher risk of prostate cancer is associated with older age, African American race, and having a father or brother with prostate cancer.[8] Some behavioral risk factors have been suggested but there is not clear evidence to show they increase prostate cancer risk. As such, it is unlikely that the increased incidence is related to a change in prostate cancer risk among Montana men.

Prostate cancer mortality in Montana has not increased since 2014 and remains about the same as mortality in the U.S. overall. In fact, prostate cancer mortality continues to decrease both nationally and in Montana. This is promising and suggests that the increased incidence is not necessarily problematic. We will, however, continue to monitor prostate cancer incidence and mortality to determine if intervention is needed.

Healthcare providers should discuss the risks and benefits of prostate cancer screening with their patients to facilitate shared decision making, taking into account the individual risk of prostate cancer and the personal values of the patient.

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