Category: Community-Engaged Data Collection, Analysis, and Dissemination – Work in Progress – Faculty

Identifying Cancer Screening Gaps Across Nebraska Through a Catchment-Centered Population Health Assessment

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1. Background

Early detection is one of the most effective ways to reduce the burden of cancer, yet many Nebraskans continue to experience gaps in recommended screening. These differences appear across race, ethnicity, and rural residence. To better understand these gaps, the Fred & Pamela Buffett Cancer Center (FPBCC) developed the Population Health Assessment Survey (PHAS), a community-centered tool designed to capture the perspectives and experiences of adults across the state. The survey was created to complement national data sources and provide more direct insight into the needs of Nebraska communities. By gathering this information from residents themselves, PHAS helps identify screening disparities that can guide future outreach and education.

2. Goals

The project aimed to describe screening patterns for breast, cervical, colon, prostate, lung, and skin cancers and examine how these patterns vary by rurality and race or ethnicity. Both weighted and un-weighted estimates were generated to better reflect Nebraska's population structure. The goals were to identify communities with lower uptake of screening, highlight the cancer types showing the widest gaps, and identify opportunities where communication or access could be strengthened. These findings were intended to support community engagement, program development, and partnerships with health care organizations across the state.

3. Solutions and Methods

PHAS was administered statewide to adults aged 18 years and older. Items were adapted from the Behavioral Risk Factor Surveillance System and the Health Information National Trends Survey to align with national standards while remaining responsive to local priorities. The survey instrument was reviewed by the Community Advisory Board, and their feedback was incorporated to strengthen community relevance and clarity. Weighting followed an iterative proportional fitting process using age, sex, race or ethnicity, and rurality. Screening outcomes were summarized descriptively, and comparisons between weighted and unweighted estimates were used to assess the influence of demographic adjustment. Analyses focused on race or ethnicity and rurality because these factors consistently shape cancer outcomes in Nebraska.

4. Outcomes

The survey identified several clear disparities. Cervical cancer screening was higher among non-Hispanic white respondents (about 69 percent weighted) than among non-Hispanic Black respondents (about 49 percent). Colon cancer screening was more common among urban residents (about 68 percent) and lowest in frontier areas (about 52 percent). Prostate cancer screening was highest among frontier residents (about 87 percent), with lower levels in rural and urban regions. Lung cancer screening was highest among Hispanic respondents (about 55 percent). Skin cancer screening remained low among minority groups. These differences highlight gaps in prevention and access across communities.

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5. Lessons Learned and Future Directions

The PHAS process demonstrated the value of a community-centered assessment tailored to a cancer center's catchment area. Weighting improved the accuracy of population estimates and helped reveal disparities that might be underestimated in unweighted data. Frontier and rural areas showed distinct needs across cancer types. Future work will integrate PHAS findings into the FBPCC Community Outreach and Engagement strategic plan, strengthen collaboration with local health departments, and continue survey implementation to support equitable early detection across the state.