Category: Data Analysis – Work in Progress – Staff

Black-White Racial Disparities Over the Years in Prostate Cancer Rates in Southeastern Pennsylvania (SEPA)

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1. Background

Prostate cancer (PCa) is the most common cancer among men in Pennsylvania, and changes to the U.S. Preventive Services Task Force PCa screening guidelines over the last 15 years have had varying effects on the incidence and mortality rates among white and Black populations in Pennsylvania. To identify and characterize these varying effects, as well as racial and geographic disparities, this study aimed to examine the rates of invasive PCa incidence and mortality among Blacks and whites in the southeast region (Philadelphia metropolitan area) of Pennsylvania (SEPA).

2. Goals

The study aimed to identify how invasive PCa incidence and mortality rates among Black men compared to white men in two time periods, 2011-2013 and 2019-2021 in Bucks, Chester, Delaware, Montgomery and Philadelphia counties. Additionally, it sought to identify whether invasive PCa incidence and mortality rates among Blacks and whites increased or decreased from 2011-2013 to 2019-2021 in each of the five counties.

3. Solutions and Methods

Age-adjusted invasive PCa incidence and mortality rates (per 100,000 males) and 95 percent confidence intervals (CI) for self-identified white and Black men from the two time periods, 2011-2013 and 2019-2021, were pulled from the Pennsylvania Department of Health's Enterprise Data Dissemination Informatics Exchange for Bucks, Chester, Delaware, Montgomery, and Philadelphia counties. Rates from the two populations were compared. Changes in rates and 95 percent CI from 2011-2013 and 2019-2021 were calculated to assess the effects of the PCa screening updates that occurred in 2012 and 2018.

4. Outcomes

Preliminary results indicate that Black men had considerably higher invasive PCa incidence rates than white men in all counties during both time periods. While incidence rates decreased in most counties for both races, rates increased for Black (12.3, 95% CI: -67.2, 91.8) and white men (16.4, 95% CI: 7.7, 25.1) in Bucks County. Incidence rates also increased for Black men in Montgomery County (10.3, 95% CI: -27.5, 48.1). Mortality rates decreased for both races except for Black men in Delaware County where there was a slight increase (1.3, 95% CI: -16.2, 18.8). The largest decrease in mortality rates occurred among Black men in Montgomery (-17.8, 95% CI: -36.6, 1.0) and Philadelphia County (-18.9, 95% CI: -26.1, -11.7).

5. Lessons Learned and Future Directions

Overall, PCa incidence and mortality rates decreased from 2011-2013 to 2019-2021 for both races in most counties in SEPA. The 2012 and 2018 update to PCa screening guidelines may have contributed to this decline, but disparities remain, with Black men experiencing disproportionately higher rates. Rigorous evaluation of these disparities will require modeling the data. Future work should also focus on further evaluating screening patterns and how differences in access to care affect outcomes.