

Systematic Identification and Investigation of Catchment Area Cancer Control Priorities

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1. Background

Cancer centers are obliged to understand and address the cancer burden specific to their catchment areas. Doing so can inform research priorities, reveal research opportunities, and guide decision making around community outreach and engagement.

2. Goals

We describe our framework for systematically compiling digestible statistics describing our 15-county northeast Ohio catchment area's cancer burden, and we detail the steps of a resulting investigation into one of the catchment area cancer control challenges that emerged.

3. Solutions and Methods

We developed a comprehensive catchment area cancer burden report modeled on the perennial "Cancer Statistics" national report by Siegel et al published in *CA: A Cancer Journal for Clinicians*. Our report provides statistics by major cancer site, sex, race/ethnicity, and county, with comparisons to state and national levels. Figures and tables emulate those of the national report, which are viewable through links within the captions. 2016-2020 Ohio incidence and mortality data came from the Ohio Cancer Incidence Surveillance System (OCISS). For trend analyses, we captured cases diagnosed 1996-2020. National case data and all population denominator data were extracted using SEER*Stat. To investigate potential drivers of specific epidemiologic patterns identified in the report, we have employed data from CDC PLACES (2021 release), a custom database linking OCISS and Ohio Medicaid data, and the Environmental Protection Agency's Risk Screening Environmental Indicators (RSEI) geographic microdata (1998-2021).

4. Outcomes

Broadly, cancer incidence and mortality in our catchment area substantially exceeds that of the nation, though long-term trends are qualitatively similar. We identified a number of instances in which the burden of specific cancer types in certain racial, ethnic, sex, or geographic subgroups differs appreciably from national statistics. One surprising finding was that catchment area Black-white disparities in liver and intrahepatic bile duct cancer (LIBDC) far exceeded what is seen nationally. Nationally, LIBDC incidence rates were 10.5 per 100,000 for Black Americans versus 7.5 for white Americans; in the catchment area, the corresponding incidence rates were 11.7 and 6.8. Nationally, mortality rates were 8.3 for Black Americans versus 5.9 for their white counterparts, while corresponding catchment area mortality rates were 11.4 and 6.0. This finding triggered subsequent analyses suggesting that:

- Much of the excess catchment burden of LIBDC is borne by Black men (e.g., mortality rate for local Black men was 18.7 deaths per 100,000)
- The highest age-adjusted LIBDC incidence and mortality were concentrated in the catchment area's northern and eastern counties
- Catchment area obesity, binge drinking, and smoking (risk factors for LIBDC) were each higher than national levels, but county-specific levels did not correspond closely with variations in LIBDC incidence/mortality
- Medicaid claims analysis showed that 61.9 percent of Black and 54.2 percent of white LIBDC catchment patients insured by Medicaid had claims related to hepatitis C management,

suggesting that hepatitis C is a major driver of LIBDC in our catchment area and may partially underlie the large Black-white LIBDC disparity

5. Lessons Learned and Future Directions

Ongoing next steps include:

- Working with community partners to improve hepatitis C case finding among the highest risk groups
- Examining EPA RSEI data to identify any communities with high estimated exposure to toxins associated with LIBCD