

A Single Report Type to Convey Excess Cancer Burden to Multiple Stakeholder Groups

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1. Background

Different stakeholder groups view cancer statistics through different lenses and with different aims. Researchers may be interested in extraordinary causes or disproportionate risks of cancer in their catchment area and beyond, while community outreach and engagement professionals may focus on maximizing the impact of their interventions on local population health. Community partners and advocacy groups often want digestible facts that summarize how the catchment area fares relative to the rest of the nation with regard to a particular cancer or risk factor. Meanwhile, cancer center leaders may need all the above. A challenge when disseminating catchment cancer statistics is to efficiently create rapidly digestible but data-rich visualizations that convey both the unique catchment risk and cancer burden of a region without being subject to misinterpretation across stakeholder groups. Here, we describe a single report template that we have iteratively developed which seeks to serve the needs of each of these stakeholder groups in an accessible format.

2. Goals

We have developed a report template describing excess incidence and mortality in our catchment area. With it, we simultaneously convey the excess risk of developing or dying from specific cancer types as well as the absolute population health toll in terms of the numbers of excess cases or deaths.

3. Solutions and Methods

“Excess” is defined based on a comparison of catchment area statistics from the Ohio Cancer Incidence Surveillance System with national statistics from the Cancer in North America database. In this template, we report mean catchment area and national age-adjusted incidence and mortality rates using the last five years of available data. We then show clustered horizontal bar charts comparing catchment (with 95 percent confidence intervals) to national rates with a scale of rate per 100,000 population. Finally, we report the average annual catchment cases or deaths as well as the annual excess number of cases or deaths. The excess number of cases or deaths is calculated as the absolute difference between national and catchment rates, multiplied by the five-year average catchment population size. We produce these reports examining the excess burden of individual cancer types as well as the excess burden of categories of cancer types associated with particular risk factors: tobacco, obesity, and human papillomavirus.

4. Outcomes

See the figure for an example illustrating excess incidence by risk factor, overall and stratified by the two largest racial/ethnic groups in our catchment area.

5. Lessons Learned and Future Directions

Early iterations of this report used an x-axis reflecting a percent difference between national and catchment rates. We found that, while this view was useful for researchers seeking to understand relative risk, it could also foster misunderstanding of the actual catchment population burden from less common cancers. By using a common axis (rate per 100,000) for all cancer types or risk factors and showing national and catchment rates adjacent to one another, we are able to convey both the relative magnitude of cancer burden between cancer types or risk factors, as well as the relative differences in burden within cancer types or risk factors.

Figure: Comparison of the Catchment Area and U.S. Average Annual Age-Adjusted Incidence Rate by Risk Factor Categories

