A COMPARATIVE ANALYSIS OF CANCER RATES FOR INDIANA'S 10 PUBLIC HEALTH DISTRICTS

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ABSTRACT

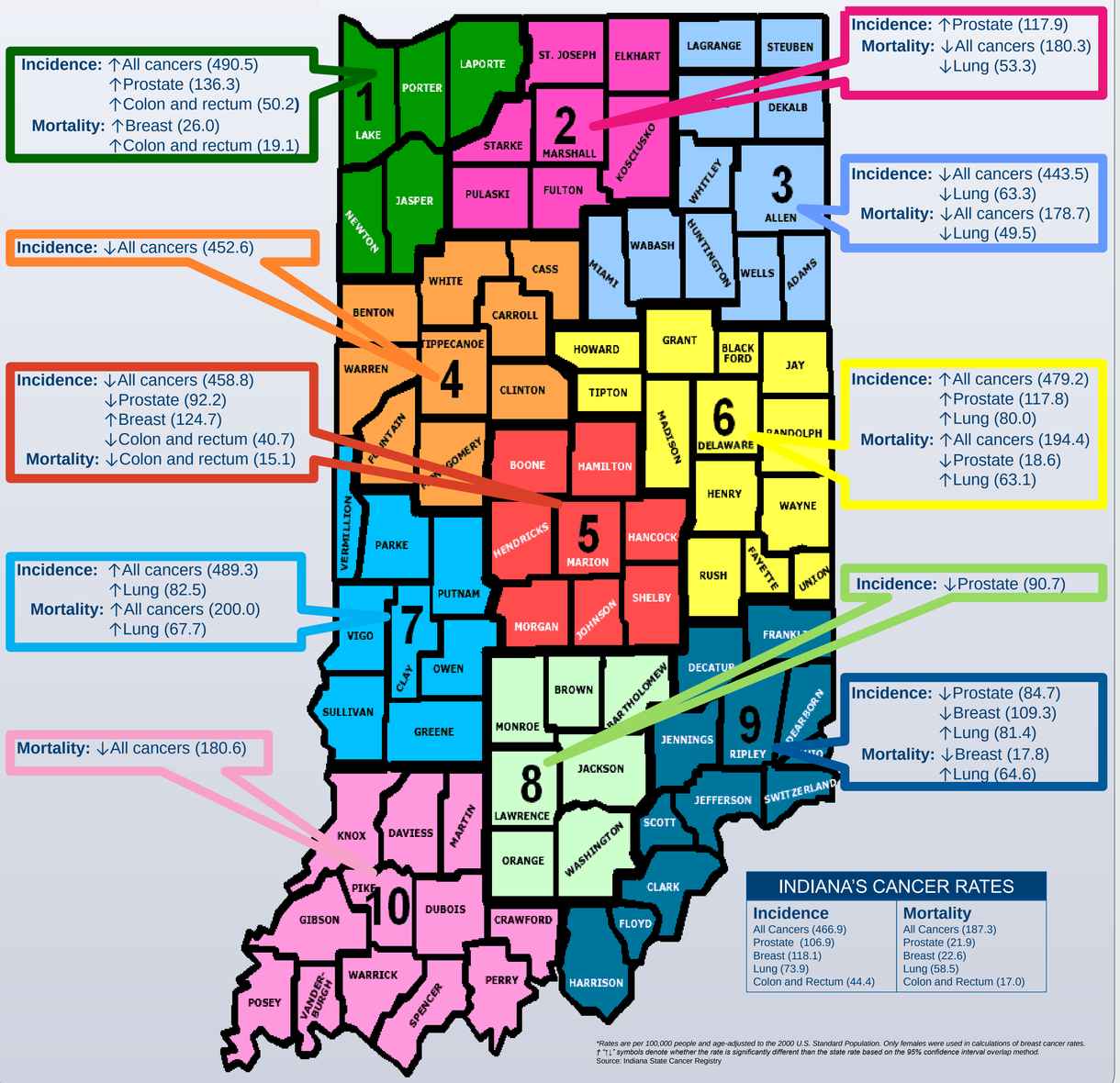
To tackle high cancer incidence and mortality rates of lung, female breast, colorectal and prostate cancer in Indiana's Public Health Districts (PHD), organized district level cancer coalitions met and continue to meet to discuss ways to improve these cancer rates in their communities. While district-level data is readily available via the Indiana State Cancer Registry's Data Generator, a comparative analysis is not. In addition, inclusion of county-level data in the online data generator cannot occur as many have numbers too small for reporting or producing stable rates. With growing interest in the establishment of district-level coalitions, the need arose for a report containing district-level cancer incidence and mortality data for the top four cancer sites, (lung, colorectal, breast and prostate) for Indiana's 10 public health districts and counties. The project considered each health districts individually and comparatively with the other nine districts, as well as to Indiana as a whole. Use of an internally available graphical user interface called *CanStat* facilitated the process, allowing the cancer epidemiologist to extract cancer registry data and place it in Excel spreadsheets. Confidence interval comparisons determined significant differences between rates. Our presentation will show how *CanStat*, the spreadsheet layout and subsequent findings led to the final report. The results provided a backdrop to guide the cancer control planning efforts of not only governmental entities and district coalitions, but also non-profit health agencies that serve the communities within each district. Other benefits include using the results to support cancer risk factor modifications at a local level. In addition, it opens up the possibility of providing the state legislature targeted information in regards to cancer rates among their constituents. This enhances their ability to have a full understanding Indiana's cancer incidence and mortality rates.

We acknowledge the Centers for Disease Control and Prevention, for its support of the Indiana State Cancer Registry, under cooperative agreement 5U58DP000838-03 awarded to Indiana State Health Department. The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

RESULTS

INDIANA'S PUBLIC HEALTH DISTRICTS

With Cancer Rates* Significantly Different† than the State's



INDIANA'S CANCER RATES	
Incidence	**Mortality**
All Cancers (466.9)	All Cancers (187.3)
Prostate (106.9)	Prostate (21.9)
Breast (118.1)	Breast (22.6)
Lung (73.9)	Lung (58.5)
Colon and Rectum (44.4)	Colon and Rectum (17.0)

*Rates are per 100,000 people and age-adjusted to the 2000 U.S. Standard Population. Only females were used in calculations of breast cancer rates.
† "↑↓" symbols denote whether the rate is significantly different than the state rate based on the 95% confidence interval overlap method.
Source: Indiana State Cancer Registry

METHODS

Use of an internally developed graphic-user interface called *CanStat* produced incidence and mortality rates for this analysis from data in Indiana's State Cancer Registry. The software, through a series of windows, allows the user to specify a wide variety of custom reports. After making initial selections in the first window (Figure 1), the next dialog box (Figure 2) appears offering a variety of options for output. The "recoded fields" section lists variables for rows, columns and page. District, race, sex, year and site variables were used to produce data for the analysis of PHDs. Values for each field appear in the box on the right where subgroups under each selected variable were included or excluded based on the desired output. Statistics chosen in this case included counts, rates and 95% confidence intervals. An output format in HTML created tables that can be opened and saved in Microsoft Excel. Worksheets in Excel were cell referenced to others containing data, and formulas were developed to determine confidence interval overlap between Indiana and each PHD. Those without overlap were identified as significant with conditional formatting set to highlight the cell yellow and the text red when this was the case (Figure 3).

Figure 1.

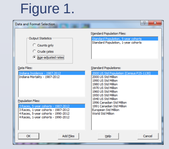


Figure 2.

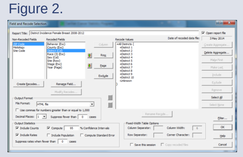
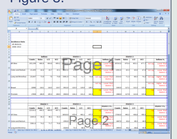


Figure 3.



REFERENCES

Indiana State Cancer Registry
http://www.in.gov/isdh/24360.htm

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