

# PENNSYLVANIA

Pennsylvania Cancer Registry; PA Health and Human Services Delivery Center, Division of Health Informatics (DHI); PA Department of Health, Division of Statistical Registries, Pennsylvania Cancer Registry

## Interactive Cancer Statistics Dashboard

# NATIONAL PROGRAM OF CANCER REGISTRIES SUCCESS STORY

**SUMMARY:** Using business intelligence software, the DHI created an interactive, user-friendly dashboard for exploring cancer incidence, mortality, trend, survival, risk, and prevalence statistics among Pennsylvanians.

<https://www.health.pa.gov/topics/HealthStatistics/CancerStatistics/dashboard/Cancer-Dashboard.aspx>

**CHALLENGE:** During the last year, the DHI had derived statistics on cancer trends, cancer risks, and limited duration prevalence and hadn't yet determined how to publish this new data. The department's current online query system, EDDIE, works well for users who know in advance what data they need. Other users needed a more guided approach to accessing, viewing and understanding cancer statistics.

The "Cancer Incidence and Mortality - Executive Summary" report did not easily allow executive staff to see the current state of cancer in Pennsylvania. The report consisted of many data tables with little context and few visualizations. The DHI sought to improve this report to highlight key statistics and indicators.

**SOLUTION:** The DHI used the Cancer Statistics Dashboard as a pilot project for close collaboration on a statistical report. Statisticians used version-controlled files with the Git software and organized work with Microsoft Visual Studio Team Services.

Initially the DHI attempted to create a static report that combined the content of its "Cancer Incidence and Mortality - Executive Summary" and "Cancer Facts and Figures" reports. This new report was to provide a clearer summary of the state of cancer in Pennsylvania and highlight any important results. The DHI sought input from external stakeholders at every step of the report development process to assess whether their statistical needs were being met. As more and more suggestions were being implemented, and more functionality was being asked for, the DHI decided that a more interactive format was needed to allow users the flexibility to easily view and stratify the data by cancer, sex, race, stage, age, year, county, etc. They chose to build a dashboard using Microsoft Power BI software.

Since publishing the dashboard on 7/31/2018, DHI has received a considerable amount of praise from both internal and external users. Users most often comment on the wealth of information contained in

the dashboard and how easy it is to use.

For example, the Pennsylvania Breast and Cervical Cancer Early Detection program known as the HealthyWoman program has been investigating breast cancer disparities in Pennsylvania. To do this, they needed a way to better monitor the trends of breast cancer, specifically by race. This functionality was added to the dashboard. The HealthyWoman program can now monitor and report on disparities with greater ease. This one aspect of the dashboard greatly increases the HealthyWoman program's capacity to target Pennsylvania's populations most in need of screening services.

In addition, the Pennsylvania Comprehensive Cancer Control Program used the Cancer Dashboard to review cancer incidence and survival rates for colorectal, HPV-related, lung, and prostate cancers. Counties with highest incidence and lowest survival rates were identified and targeted for local implementation mini grant funding. The Dashboard facilitated the allocation of resources to achieve maximum impact and assists program staff in data driven decision making.

**SUSTAINING SUCCESS:** The format of this dashboard allows additional content and visualizations to be easily added. Some of the future updates include adding data for the Asian or Pacific Islander and Hispanic populations, adding a map of cancer survival percentages, and adding new sections for complete prevalence estimates and projections of incidence and mortality.

Microsoft updates their Power BI software monthly. DHI staff keep abreast of these additions and make improvements to the dashboard where applicable. Maintenance of the dashboard is well controlled. Because the code used to prepare the data is version controlled, any staff member who works on the dashboard can easily revert the entire project back to a previous state, compare changes over time, and see who made any changes.

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