

2021 NPCR VIRGINIA SUCCESS STORY

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From Data to Dashboards: Increasing Accessibility and User Engagement through Data Distribution Transformation to Digital Platforms

National Program of Cancer Registries SUCCESS STORY

SUMMARY

The Virginia Cancer Registry (VCR) took the initiative to invest early and heavily in training and development, to make good use of our preferred data visualization software, Tableau. Through these efforts, VCR transformed the lengthy, paper-copy of the Annual Burden Report to an adaptable, interactive, and user-friendly series of dashboards and partnered with the online civic analytics company, LiveStories, as a better publication distribution vehicle.

CHALLENGE

A rapidly changing world has forced many cancer registries to re-think the way they conduct business, and the VCR is no exception. The fallout of COVID-19 has altered our workflows, disrupted the way we communicate, and made it difficult to reach our internal and external stakeholders. One of the main issues that needed to be addressed, because of all this change, was how to better distribute all the data, statistics, and important information that we, as a team, work so hard to collect, aggregate, and disseminate. The VCR does not simply exist to be a centralized repository for reportable cancer data. The success of our organization as a public health entity is entwined in our ability to provide and ensure maximum accessibility to reliable and informative data. Advancements in presentation and data visualization software, data dashboards, and online civic analytics platforms are specific tools the registry explored and implemented for our benefit, but more

importantly, the benefit of our stakeholders, reporting partners, and the public.

One example of how VCR has put these new tools into action is the advancements in publication of our annual Cancer Burden Report. This data-driven report gives an overview of cancer in Virginia with the overall goal to present the latest available cancer incidence, staging, mortality, risk factor, screening, survivorship, and cost data through extensive tables, charts, and maps. As informative as the Burden Report was, it became particularly time and labor intensive to produce. Time spent on contents, citation, formatting, and editorial work alone on the earlier editions resulted in the need to modify production frequency from annually to biennially. Other challenges encountered included the associated costs for mass printing, ease of distribution, lack of interactive format, and limitations on available cancer sites. In addition, the internal agency approval process for mass printing required document review by non-data-driven entities. In one incident, erroneous edits were made to the data tables due to the entity's misinterpretation and 500 copies of the burden report with inaccurate information were printed and wasted.

SOLUTION

The VCR encourages continued education for their staff to maximize every employee's potential. To meet the needs of the mentioned challenges, VCR leadership actively sought out new ways to improve data delivery, including providing staff with additional training in

Tableau software to ensure the challenges posed were met with viable and sustainable solutions. Selecting a staff member to be the Tableau publisher within the program allowed the Epidemiology team to collaborate on multiple projects using Tableau software. This opened the door to brainstorm other areas within the program that these "transformations of data" could occur. Led by our Senior Epidemiologist, the team now has a series of dashboards designed to be easily updated, re-designed, and interpreted by the reader. The next step involved deciding what data was needed to mirror the former Burden Report's format and content. This took active collaboration with the Education and Training Coordinator. Though Tableau allows for multiple data sheets to be used simultaneously, it is more streamlined to extract all that you need into individual Incidence and Mortality report files.

RESULTS

By using Tableau and LiveStories, VCR has been able to retire the antiquated printed burden report, and shift to a more streamlined online version. VCR developed a web-based burden report dashboard, complete with interactive charts, tables, and graphs. By adding this to the VCR website, it allows anyone 24/7 access from anywhere in the world! Although the Tableau visualization-based cancer burden report includes many of the same cancer stats as the paper version, it now includes 20 cancer sites stratified by locality, race, and sex. The interactive maps, charts, and tables are more compelling and more accessible to readers. Through LiveStories, VCR can provide pertinent updates and disseminate useful data to stakeholders, reporting partners, and the public, as well as offer helpful tips on dashboard and website navigation and usage.

Using a virtual data platform has allowed the registry to reduce the time, labor, and costs of production and dissemination, while maximizing accessibility, availability, and collaborative engagement opportunities.

SUSTAINING SUCCESS

The internal working group's collaborative efforts were vital to program success in this endeavor, and the Registry's dedication to embracing innovative processes has been a driving force to this success. Methods are in place to ensure the continued success of the virtual data publications, especially during updates, trouble shooting, and staff transitions. Once the working group decided on a visualization format in Tableau, a hard copy was saved so that future data can be extracted in the same way, and a list file detailing what visualizations are needed for the individual dashboards was created. LiveStories has quickly become a mainstream platform, used by schools, civic organizations, and other government agencies across the country and can be shared on social media sites such as Facebook and Twitter! Please come check out our work via the links provided below. We hope you are as excited and pleased with it, as our VCR team is!

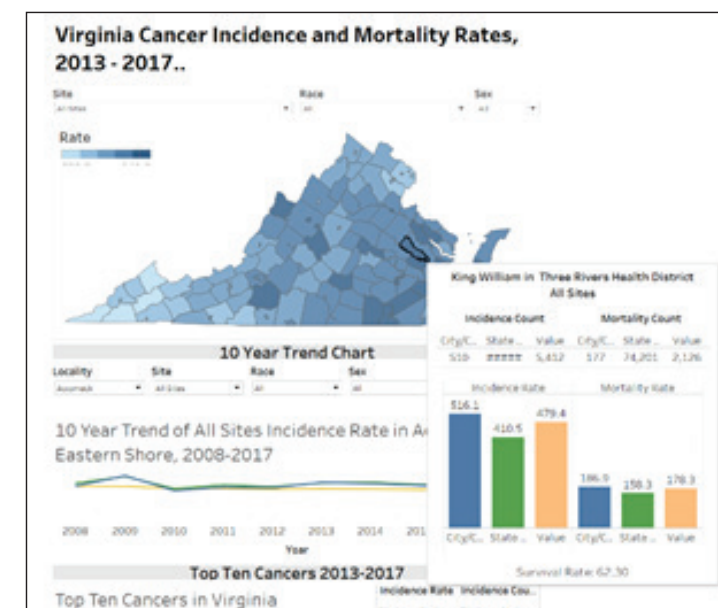
The paper version of the burden report is available on VCR website: https://www.vdh.virginia.gov/content/uploads/sites/71/2019/10/VCR_AnnualReport_final.pdf
Links to the updated data dashboards are available at: https://dataviz.vdh.virginia.gov/#/workbooks/1903?origin=card_share_link

REGISTRY CONTACT INFORMATION

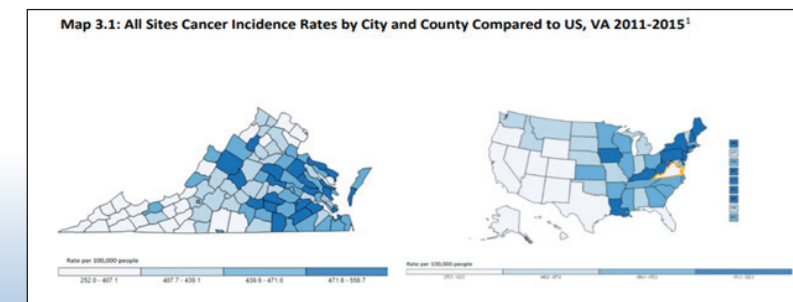
804-864-7873

<https://www.vdh.virginia.gov/virginia-cancer-registry/>

Maps/tables using interactive dashboard platform



Previous iterations of cancer data maps



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention