

DFW Catchment Data Dissemination

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1. Background

The Harold C. Simmons Comprehensive Cancer Center's (SCCC) Office of Community, Outreach, Engagement and Equity (COEE) fosters communication between the cancer center and the Dallas-Fort Worth (DFW) community. COEE is responsible for providing SCCC leaders and DFW residents with information about cancer data specific to the metroplex. The DFW catchment comprises 13 counties with 8,136,730 residents in 2023, a population larger than 38 U.S. states. This abstract describes the development, refinement, and distribution of the DFW Community Cancer Dashboard.

2. Goals

The initial goal for the dashboard was to educate cancer center investigators, staff, and trainees about the DFW cancer burden, with a focus on unique features of the region's diverse population and inequities requiring collective action. Over time, it became clear that sharing this information with the wider public would broaden its impact. Consequently, the project expanded to communicate directly with community members. The goal now is to foster bidirectional communication; use the dashboard to engage researchers and the public with accessible, accurate data on cancer; and to work together to ensure the data informs both academic research and public health actions.

3. Solutions and Methods

The Power BI dashboard displays two types of data: (1) sociodemographics, including maps, characteristics of the entire catchment and separated by regional facility service areas, and overviews of contextual factors such as the location of municipalities without 100 percent smoke-free air; and (2) cancer risk factors and outcomes, including age-adjusted incidence, mortality, and relative survival rates of most common cancers in DFW. Data and visualizations are arrayed to enable interactive exploration of data tables (e.g., selecting cancer outcome, type, region, sex, race, and ethnicity), and to illustrate disparities using visualizations comparing data by geographic region (within DFW and DFW compared to Texas and the broader U.S.) and by race and ethnicity (Hispanic or Latino, Black or African American, Asian American or Pacific Islander, white, American Indian/Alaska Native). The dashboard uses data from sources like the American Community Survey, Behavioral Risk Factor Surveillance System, and the Surveillance, Epidemiology and End Results cancer registries. Context is provided for all numerical data, including written descriptions and interpretations of key findings, to aid understanding.

4. Outcomes

Launched in June 2024, the dashboard has been viewed over 1,000 times and influenced cancer center strategic planning and outreach. It is being disseminated via Power BI, shared with the cancer center Community Advisory Board, and by word of mouth. It is a key tool for engaging different audiences and educating about cancer disparities.

5. Lessons Learned and Future Directions

During implementation, technical challenges arose, especially around adapting the dashboard for public access and understanding. This showed the importance of defining the target audience before beginning development. Future plans include adding new topics, regular updates, and Spanish translation. Additionally, the team will create infographics and ArcGIS StoryMaps spotlighting data in a streamlined

way to ensure local insights about community assets, local cancer burden, and cancer inequities are accessible to the general population.

Figure

Age-Adjusted Incidence Rate Ratios (2018-2020): Within DFW by race [white as comparison group]

Female IRRs (lower CI, upper CI)				Male IRRs (lower CI, upper CI)			
Cancer Type	Asian	Black	Hispanic	Cancer Type	Asian	Black	Hispanic
Liver and Intrahepatic Bile Duct	1.7 (1.2, 2.3)	1.6 (1.3, 2.0)	2.4 (1.9, 2.9)	Melanoma of the Skin	0.0 (0.0, 0.1)	0.0 (0.0, 0.1)	0.1 (0.1, 0.2)
Uterine Cervix	0.7 (0.5, 1.0)	1.1 (0.9, 1.3)	1.5 (1.3, 1.8)	HPV-related	0.1 (0.1, 0.3)	0.6 (0.5, 0.8)	0.4 (0.3, 0.5)
Kidney and Renal Pelvis	0.4 (0.3, 0.6)	1.2 (1.0, 1.4)	1.2 (1.0, 1.3)	Esophagus	0.4 (0.2, 0.7)	0.6 (0.4, 0.8)	0.7 (0.5, 0.9)
Uterine Corpus	0.9 (0.7, 1.0)	1.3 (1.1, 1.4)	1.1 (1.0, 1.3)	Kidney and Renal Pelvis	0.4 (0.3, 0.6)	1.1 (1.0, 1.2)	1.0 (0.9, 1.1)
Other obesity-related	0.8 (0.7, 0.9)	1.2 (1.1, 1.3)	1.1 (1.0, 1.1)	Urinary Bladder	0.4 (0.3, 0.6)	0.6 (0.5, 0.7)	0.5 (0.4, 0.5)
HPV-related	0.4 (0.3, 0.6)	0.9 (0.8, 1.0)	1.0 (0.9, 1.2)	Brain & other nervous system	0.4 (0.3, 0.7)	0.4 (0.3, 0.6)	0.7 (0.5, 0.8)
Non-Hodgkin Lymphoma	0.8 (0.6, 1.0)	0.8 (0.7, 0.9)	1.0 (0.9, 1.2)	Pancreas	0.5 (0.4, 0.7)	1.3 (1.1, 1.6)	0.7 (0.6, 0.9)
Pancreas	0.5 (0.3, 0.7)	1.4 (1.2, 1.7)	1.0 (0.9, 1.2)	Prostate	0.5 (0.5, 0.6)	1.6 (1.5, 1.7)	0.7 (0.6, 0.7)
Thyroid	1.0 (0.8, 1.2)	0.6 (0.5, 0.7)	0.9 (0.8, 1.1)	Lung and Bronchus	0.6 (0.5, 0.7)	1.2 (1.1, 1.3)	0.5 (0.4, 0.5)
Colon and Rectum	0.8 (0.7, 0.9)	1.3 (1.2, 1.4)	0.9 (0.8, 1.0)	Non-Hodgkin Lymphoma	0.6 (0.5, 0.8)	0.8 (0.7, 0.9)	0.9 (0.7, 1.0)
Esophagus	0.6 (0.2, 1.7)	1.1 (0.7, 1.8)	0.9 (0.5, 1.5)	Colorectal early onset (<50)	0.7 (0.5, 0.9)	1.2 (1.0, 1.4)	0.7 (0.6, 0.8)
Colorectal average onset (50+)	0.7 (0.7, 0.8)	1.4 (1.3, 1.4)	0.8 (0.8, 0.9)	Leukemia	0.7 (0.5, 0.9)	0.7 (0.6, 0.8)	0.7 (0.6, 0.8)
Tobacco-related	0.6 (0.6, 0.7)	1.1 (1.0, 1.1)	0.8 (0.8, 0.9)	Colorectal average onset (50+)	0.7 (0.6, 0.7)	1.4 (1.3, 1.4)	0.9 (0.9, 0.9)
AYA (all cancers, age 15-39)	0.7 (0.6, 0.7)	0.7 (0.7, 0.8)	0.8 (0.8, 0.8)	Tobacco-related	0.7 (0.6, 0.7)	1.1 (1.0, 1.1)	0.7 (0.7, 0.8)
Leukemia	0.7 (0.5, 0.9)	0.8 (0.6, 0.9)	0.8 (0.7, 0.9)	AYA (all cancers, age 15-39)	0.7 (0.7, 0.8)	0.8 (0.8, 0.9)	0.9 (0.8, 0.9)
Ovary	1.0 (0.7, 1.2)	0.9 (0.7, 1.0)	0.8 (0.7, 0.9)	Other obesity-related	0.7 (0.7, 0.8)	1.2 (1.2, 1.3)	0.9 (0.9, 1.0)
Colorectal early onset (<50)	0.7 (0.5, 0.9)	1.1 (1.0, 1.3)	0.8 (0.6, 0.9)	Colon and Rectum	0.8 (0.7, 1.0)	1.2 (1.1, 1.3)	0.9 (0.8, 1.0)
Postmenopausal female breast (50+)	0.6 (0.6, 0.6)	0.9 (0.9, 0.9)	0.7 (0.7, 0.7)	Thyroid	0.9 (0.7, 1.3)	0.4 (0.3, 0.6)	0.6 (0.5, 0.7)
Female breast	0.7 (0.6, 0.7)	1.0 (0.9, 1.0)	0.7 (0.6, 0.7)	Liver and Intrahepatic Bile Duct	1.4 (1.1, 1.8)	1.8 (1.6, 2.1)	1.6 (1.4, 1.9)
Brain & other nervous system	0.6 (0.4, 0.9)	0.7 (0.5, 0.9)	0.6 (0.5, 0.8)				
Urinary Bladder	0.3 (0.2, 0.6)	0.6 (0.5, 0.8)	0.5 (0.4, 0.7)				
Lung and Bronchus	0.5 (0.4, 0.6)	0.9 (0.8, 1.0)	0.4 (0.4, 0.5)				
Melanoma of the Skin	0.0 (0.0, 0.1)	0.0 (0.0, 0.1)	0.2 (0.1, 0.2)				

How do I interpret these? Incidence rate ratio (IRR) is a comparison of incidence rate between two groups, in which the incidence of one group is divided by incidence of the other group. An IRR >1.0 means incidence is higher in the group of interest than the comparison group, and <1.0 means a lower incidence.

Calculated from incidence rates per 100,000 and age-adjusted to the 2000 US Std Population | Rates from 2018-2020 | Source: SEER 2022