

Dashboards Show Highs, Lows of Health Care Workforce



Georgia Board of Health Care Workforce and Governor's Office of Planning and Budget



**GEORGIA
BOARD OF
HEALTH
CARE
WORKFORCE**



GOVERNOR'S OFFICE *of*
PLANNING *and* **BUDGET**

AWARD CATEGORY: Data Management, Analytics, and Visualization

STATE: Georgia

PROJECT BEGINNING DATE: 1 January 2023

PROJECT END DATE: 1 January 2024

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EXECUTIVE SUMMARY

Think twice about chewing your ice in Randolph County, Georgia. You wouldn't be breaking local custom, but if you break a tooth, you may have a hard time finding a dentist.

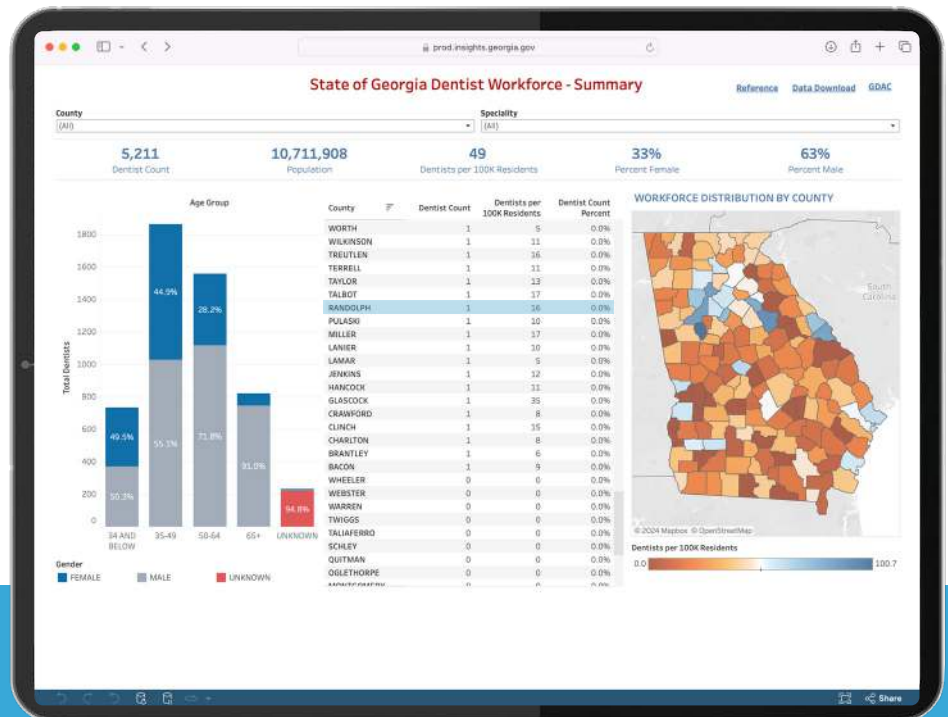
There's only one in Randolph. None in neighboring Quitman, Clay, and Webster counties. One in adjacent Terrell, and a relative glut of three each in Calhoun and Webster.

You may well find yourself driving the 45-55 non-interstate miles to Columbus or Albany for more care options. Those two "big cities" in this mostly rural, non-populous southwest part of Georgia are better bets. Or across the Alabama line to Eufala. But they all sound like painful trips, with a cold pack pressed to your jaw.

Health care providers can be scarce in rural Georgia. Care centers have struggled to remain financially viable, and open. Attracting and retaining health care professionals presents real challenges. No quick solutions have emerged. So having reliable, accessible data about the provider picture has been prioritized to inform strategies.

The Georgia Board of Health Care Workforce (GBHCW) has partnered with the Governor's Office of Planning and Budget and its Georgia Data Analytics Center (GDAC) to bring that data to life online.

Together, GBHCW and OPB created easy-to-use data visualizations showing the geographic distribution and numbers of the state's health care workforce. These publicly accessible dashboards (gdac.georgia.gov/health-0) make critical workforce profile information available to all health care stakeholders, including consumers. And they hold promise for being an ingredient of varied measures to improve health care provision in Georgia.



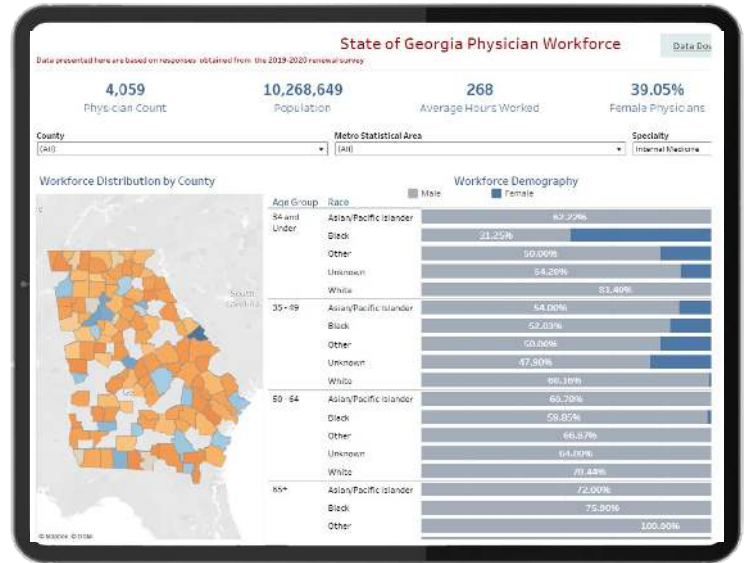
In some rural Georgia counties, church steeples outnumber health care providers. Newly created workforce dashboards can inform strategies for increasing supply by plainly illustrating where those providers are sparse or even absent.



What problem or opportunity does the project address?

GBHCW needs a clear, up-to-date picture of health care practitioners in Georgia at the county level. The new health care workforce dashboards in the Georgia Data Analytics Center paint that picture. It's hardly data for data's sake. The information facilitates better planning for health care workforce needs across public, private, for profit, and nonprofit entities.

COVID-19 proved it, if proof was needed. In a public health crisis, and in less dire circumstances, there's life-changing benefit to knowing the distribution of nurses, physician assistants (PAs), and physicians by county. The dashboards show how many practitioners are working or have an address in each Georgia county. And they're not static, like legacy reports previously distributed in PDF format. Dashboard users can interact with the data, filtering to surface what's of particular interest to them (e.g., provider demographics, specialty, geographic area) – whenever they need it. Data clarification requests, formerly handled manually by GBHCW data staff, are now less likely as dashboard users (state legislators among them) explore on their own.



Why does it matter?



GBHCW's mission is to enhance the health and wellness of Georgia residents by ensuring underserved communities in Georgia have access to health care professionals. That requires knowing where health care practitioners are operating statewide, and to accomplish that, GBHCW uses employment data gathered during the licensure process.

Having information about providers' geographic distribution and numbers helps permit administration of one of GBHCW's key tools – service-cancelable loan repayment awards. Through this program, dentists and physicians who set up full-time practice in underserved, rural Georgia counties can earn up to \$25,000 per year for as many as four years toward repayment of their education loans. PAs and nurses are eligible for similar awards of up to \$10,000 per year. Award candidates can use the health care workforce dashboards to determine Georgia counties that fit the program criteria.



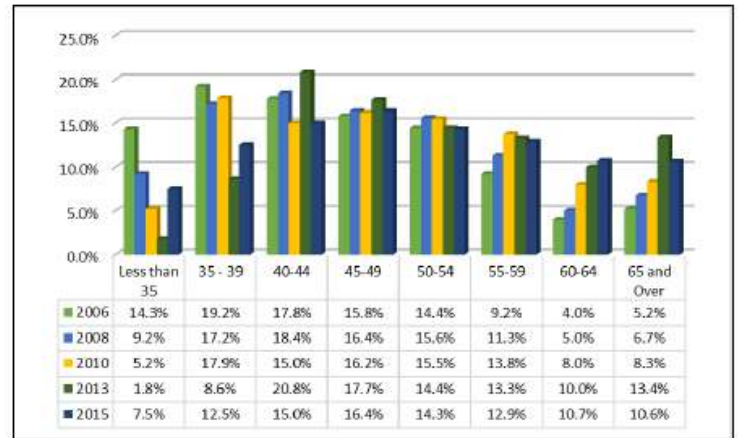
Dentists and physicians in rural Georgia counties can earn up to \$25,000 per year for as many as four years toward repayment of school loans.

Dashboard data is also available as a download for health researchers in state and beyond. Georgia citizens too can use the dashboards to see availability of health care practitioners operating in each county.

What makes it different?

GBHCW partnered with OPB's Georgia Data Analytics Center (GDAC) for data management and analytics. GBHCW also had cooperation from the Georgia Composite Medical, Nursing, and Dentistry Boards who released their data to be analyzed by GBHCW and published by GDAC. Leveraging the state funded GDAC, the health care workforce board was even able to present data not previously available. Information on distribution of nurses and dental hygienists was added, expanding beyond PAs, physicians, and dentists.

Internal Medicine Physicians by Age Group
Chart 22



- Age group 45 - 49 has the highest number of physicians practicing in the internal medicine specialty at a rate of 16.4%, the 2nd highest age group is 40 - 44 at 15.0%.
- In 2015, 51.4% of all internal medicine physicians are 49 and below and 48.6% are age 50 and above.



Dashboards show nine Georgia counties without a single physician. Twice as many more have no more than two physicians operating within their borders.

IMPLEMENTATION

What was the roadmap?

GBHCW's executive director and staff engage rigorously with various licensure boards (Georgia Composite Medical, Dentistry, and Nursing Boards) to receive data on a roughly two-year cycle. Each board approves the data sharing anew and approves and governs its online publications. Memorandums of understanding (MOU) ensure efficient data exchange and timely release of accurate data.

GBHCW facilitates a monthly meeting with all these health entities, and GDAC participates. GBHCW ensures all essential data elements are gathered. GBHCW data staff then clean analyze and standardize the data. These datasets are then securely transmitted to GDAC using the secure file transfer protocol.



GDAC's cloud-based data hosting platform allows laying a strong data foundation with access to the governed data lake house and management process. GDAC leverages Jira for the project and infrastructure management, project tracking, and identification of any associated risks.

The GDAC cloud is secured with NIST 800-53 and HIPAA compliance with data monitoring, logging, and auditing capabilities. Data is encrypted at-rest and in-transit. GDAC manages backups, patches, and monitoring with Amazon managed services. GDAC has cloud engineering and analytics administration teams with appropriate service level agreements in place. GDAC teams deliver automated data pipelines, quality checks, and normalizations that promote high data quality. Plans are in place for creating a data delivery platform for GBHCW through Snowflake for governed data access with row-level and column-level security.

Who was involved?

GBHCW's executive director engages with the state legislature, board members, and executive leaders at various licensing boards (Georgia Composite Medical, Dentistry, and Nursing Boards) to establish data-sharing agreements.

The GBHCW teams also engage with data staff at various licensing boards and their outreach coordinators to understand any data anomalies or gaps. The GBHCW teams coordinate with the GDAC team to plan data schedules and transfer data. The GDAC teams iteratively develop data visuals and review them with GBHCW and seek proper approvals before data and analytics publications.

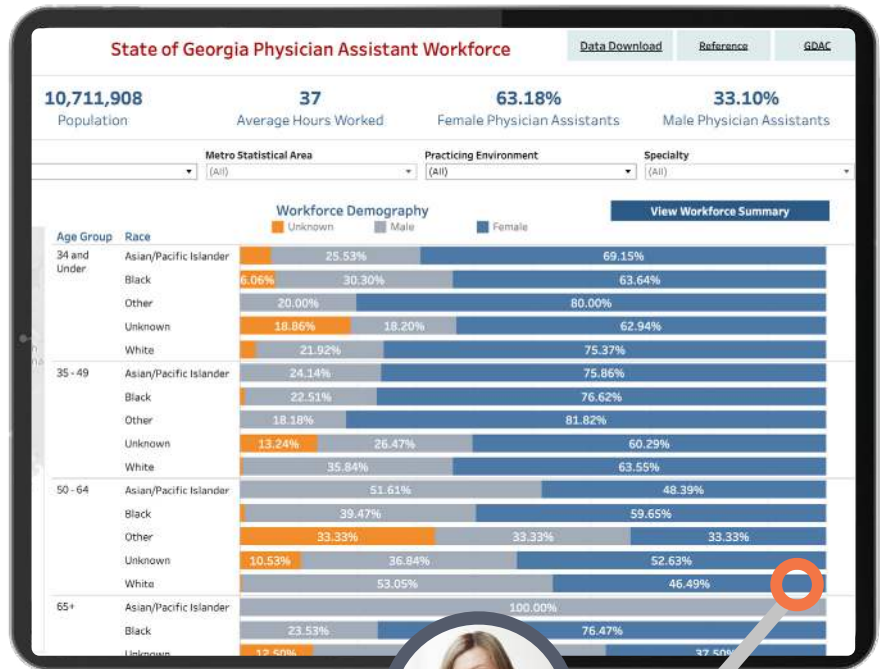
GBHCW ensures proper communication and collaboration within and across these teams to facilitate smooth data flows. Finally, these health care workforce data and metrics are made publicly available for viewing and download, promoting health care research within the state.



What did the project make better?

The pandemic amplified the importance of availability of timely and accurate frontline health care workforce data. GBHCW mobilized to make that data available by identifying and collaborating with data partners and leaning on GDAC for data processing and analytics. Cross-agency data sharing agreements were established. It proved effective, with no added costs to GBHCW. GDAC completed needed programming, ingested the data, mapped the workflows and more. Once the groundwork was laid, GBHCW was able to deliver a slate of dashboards within eight months.

The GDAC data visualization tools provide powerful interactive features. Spatial mapping capabilities allow users to engage with a Georgia county map, presenting health care workforce characteristics and demographics conveniently. State legislators, in particular, have found this valuable in gaining a comprehensive regional overview of the available health care workforce for their constituents. And public inquiries about workforce can now be referred to the dashboards which serve as a convenient one-stop shop for information.



COVID-19 proved it, even though it doesn't take a health crisis to make the point. Knowing where health care providers are operating, county by county, is in the public's interest.



