GWF

GEOSPATIAL WORLD FORUM

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Geospatial World Forum 2024
United States Pavilion Panel Display
Department of Veterans Affairs (VA)

10 April 2024

Department of Veterans Affairs (VA) Geospatial Use Cases

VETERANS AFFAIRS GIS STRATEGY & INTEGRATION WITH POLICY

- VA Enterprise GIS Strategy
- VA State Policy Profiles

INTEGRATING GIS ENTERPRISE-WIDE

- GIS Modeling to reduce data duplication from ~170M addresses to ~40M addresses
- VA Integrated Operations Center
- Risk & Hazard Exposure Tool
- National Surveillance Tool for Emergency Management
- Tracking of Information Technology resources for Emergency Management responses
- Executive Travel of Senior Executive Leadership

VETERAN HEALTH ADMINISTRATION – PEOPLE (Veterans and Workforce)

- VHA Planner's Portal: Data Viewer
- VHA Planner's Portal: Population Calculator
- Staff Tracking for Data Analytics

VETERAN HEALTH ADMINISTRATION – PRACTICE (Services)

- Health Equity: VHA Veterans Geography of Opportunity Tool
- Dentistry: Analysis of Utilization & Quality Indicators
- Spinal Cord Injury and Disorders (SCI/D): Telehealth Utilization
- Access to Care: Cardiology & Community Care
- Access: Potential Future Appointments Utilization

VETERAN HEALTH ADMINISTRATION – PLACE (Infrastructure/Facilities)

- National Facility Locator: Network of providers
- VHA Planner's Portal: New Facility Scenario Builder Application
- GIS Mapping Inside VA Medical Facilities
- GIS Mapping of VA Medical Center Campus Utilities
- Leveraging GIS for Market Area Assessments

NATIONAL CEMETERY ADMINISTRATION

- Gravestone level detail

GIS STRATEGY AND INTEGRATION WITH POLICY

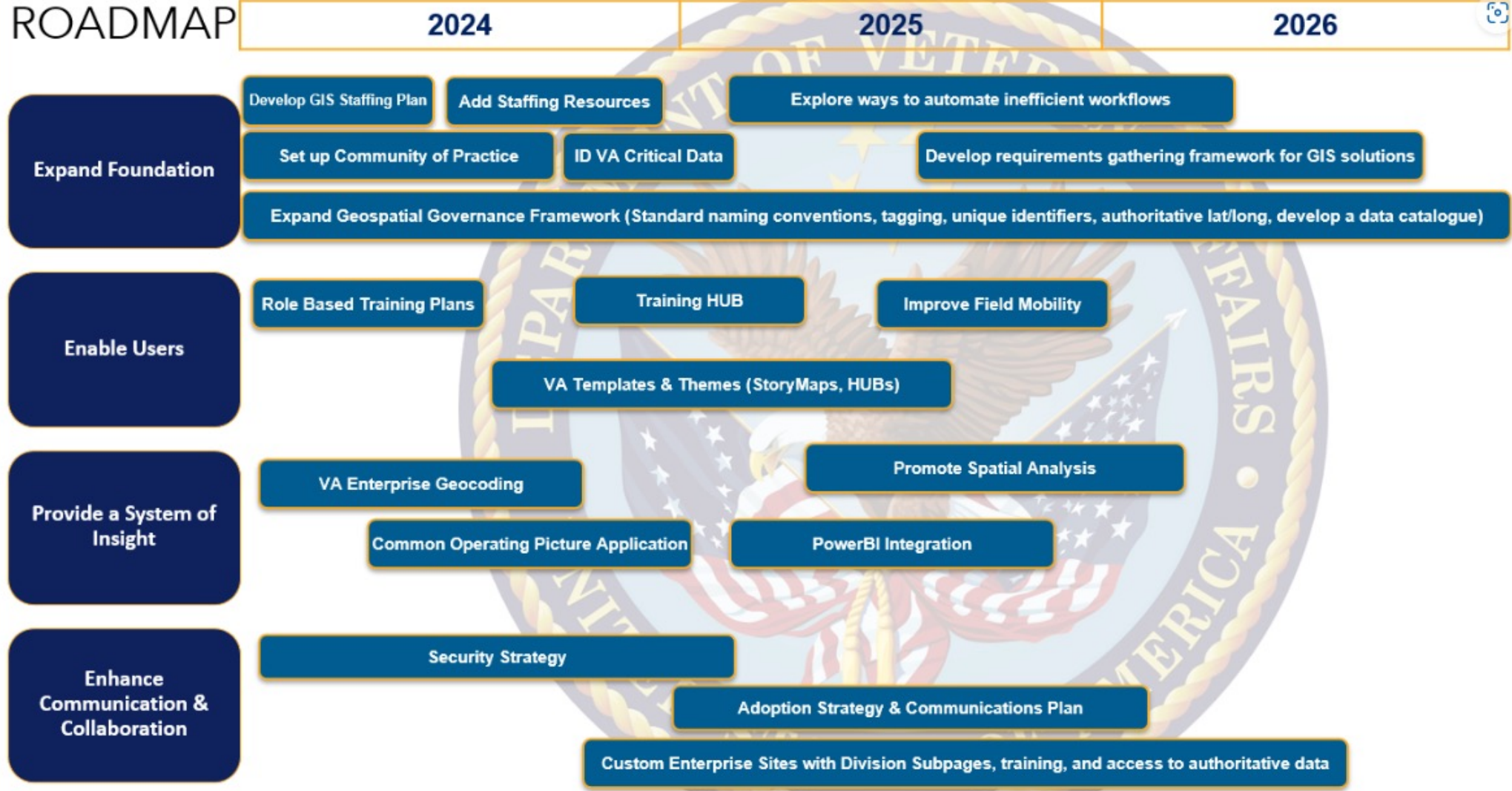Current Use of GIS & Desired Future State of GIS

Data collected included a self assessment of current use of spatial data and technology in each office and/or Administration that participated in the workshop series. We referenced the ArcGIS 9 Common Patterns of Use to understand how much GIS is implemented in the department through a self-ranking exercise. We then used the patterns of practice to guide which spatial technology each division was most interested in developing for their future state.
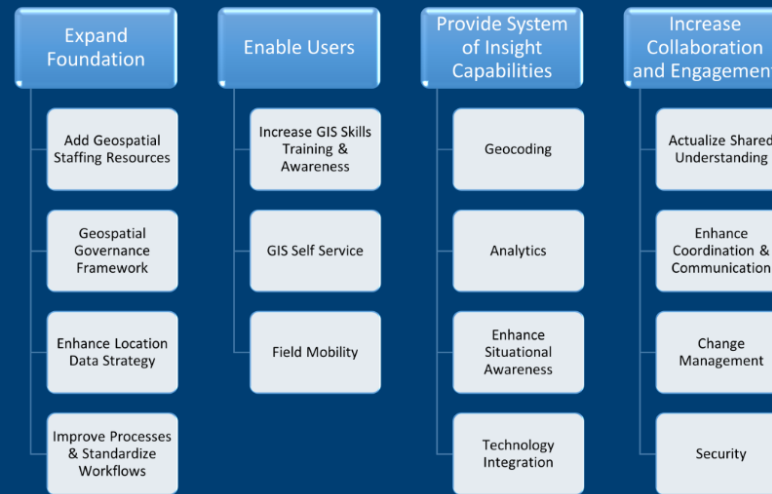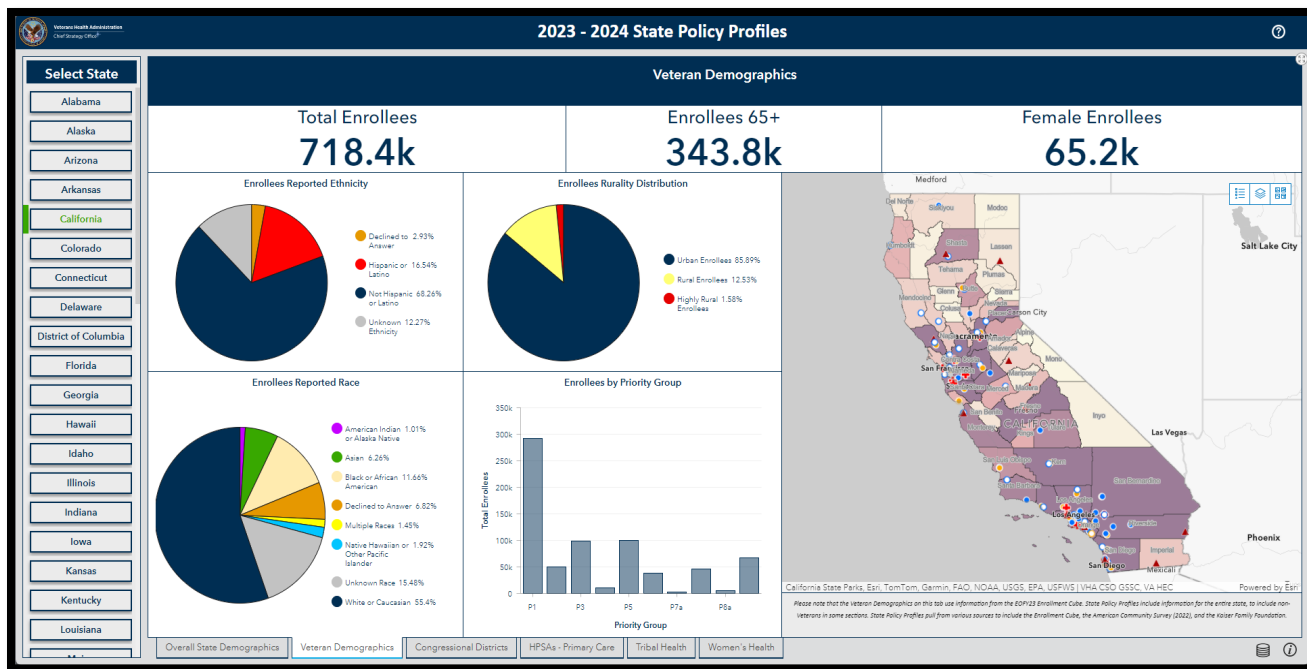
- Published first ever VA Spatial Strategy in 2023 as a part of the VA Data Strategy.

- Geospatial Mission: To integrate data-driven strategic level geospatial analyses for effective decision making and innovative solutions through close collaboration with business partners to create the best experience for all Veterans.

- GIS strategy is organized around a set of 4 themes and 15 Actions.

ROADMAP

	2024	2025	2026

Expand Foundation
- Develop GIS Staffing Plan
- Add Staffing Resources
- Explore ways to automate inefficient workflows
- Set up Community of Practice
- ID VA Critical Data
- Develop requirements gathering framework for GIS solutions
- Expand Geospatial Governance Framework (Standard naming conventions, tagging, unique identifiers, authoritative lat/long, develop a data catalogue)

Enable Users
- Role Based Training Plans
- Training HUB
- Improve Field Mobility
- VA Templates & Themes (StoryMaps, HUBs)

Provide a System of Insight
- VA Enterprise Geocoding
- Promote Spatial Analysis
- Common Operating Picture Application
- PowerBI Integration

Enhance Communication & Collaboration
- Security Strategy
- Adoption Strategy & Communications Plan
- Custom Enterprise Sites with Division Subpages, training, and access to authoritative data

Choose VA

U.S. Department of Veterans Affairs
Veterans Health Administration

- Integrated GIS with Policy Analysis to provide GIS support for Veterans Health Administration's (VHA) annual State Policy Profile reports that are published for each of the 50 States and the District of Columbia.

- Created 6 static maps for each report totaling 306 static maps.

- Developed an interactive web GIS dashboard to allow for a dynamic and consolidated view of all the State Policy Profiles.
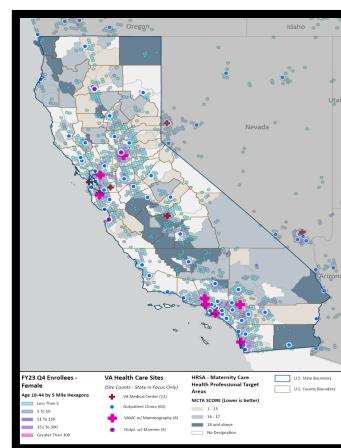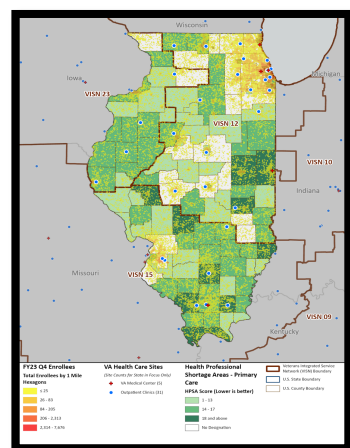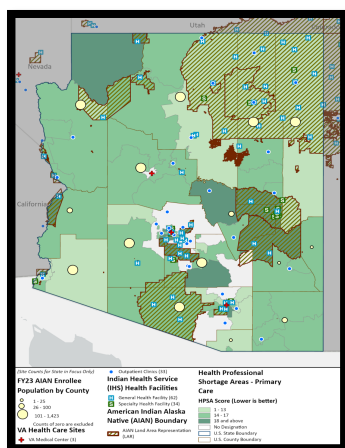
ENTERPRISE-WIDE VA GIS APPLICATIONS

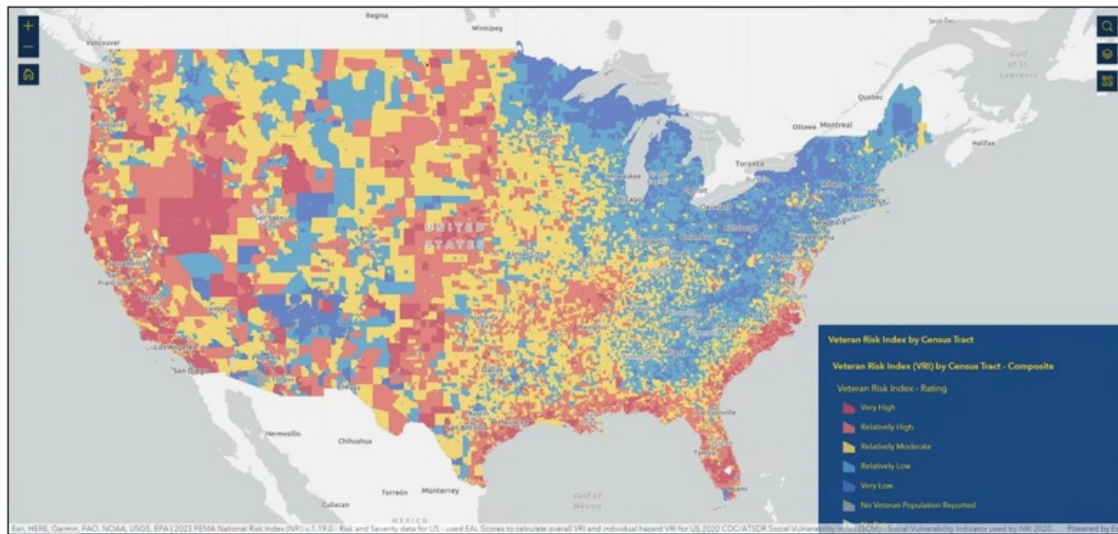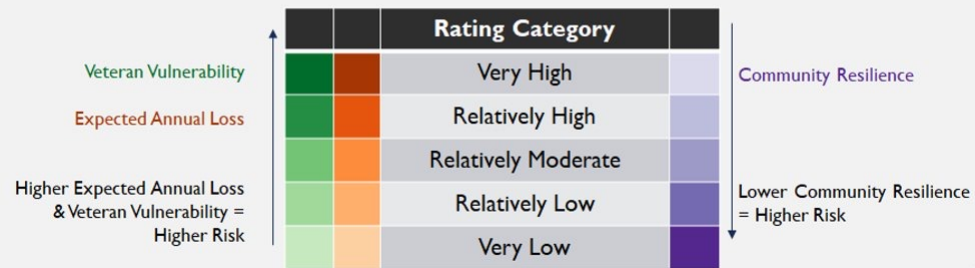# Enterprise-Wide GIS: Standards for Modeling of Geospatial Data
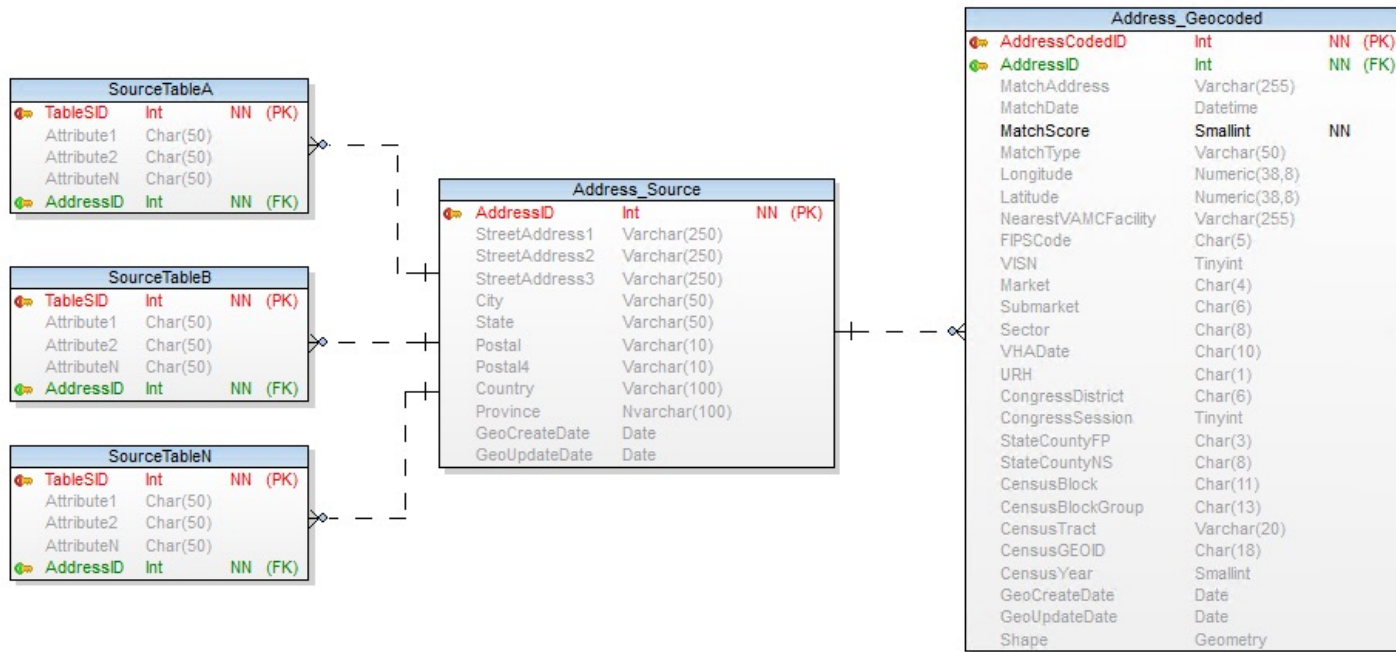
- Using best practices and normalization to:

  - Reduce data duplication & decrease storage from ~170M to 40M addresses

  - Increase query performance and eliminate bottlenecks

  - Allow for easier integration with other data sources and models

  - Streamline bulk data updates

- Development and production of hard copy and web-based GIS products to support emergency management operations and decision making.

- Analysis and modeling of spatial data from various environments and mission areas to support emergency management activities.

- Maintenance of geospatial databases and mission critical datasets to facilitate and coordinate GIS information sharing efforts with internal and external partners.

- Strategic support for Department level GIS integration and VA spatial data strategy efforts.

- An online data analysis & visualization application available to Department of Veterans Affairs (VA) staff that enables a shared understanding of risk among VA leadership and staff nationwide.
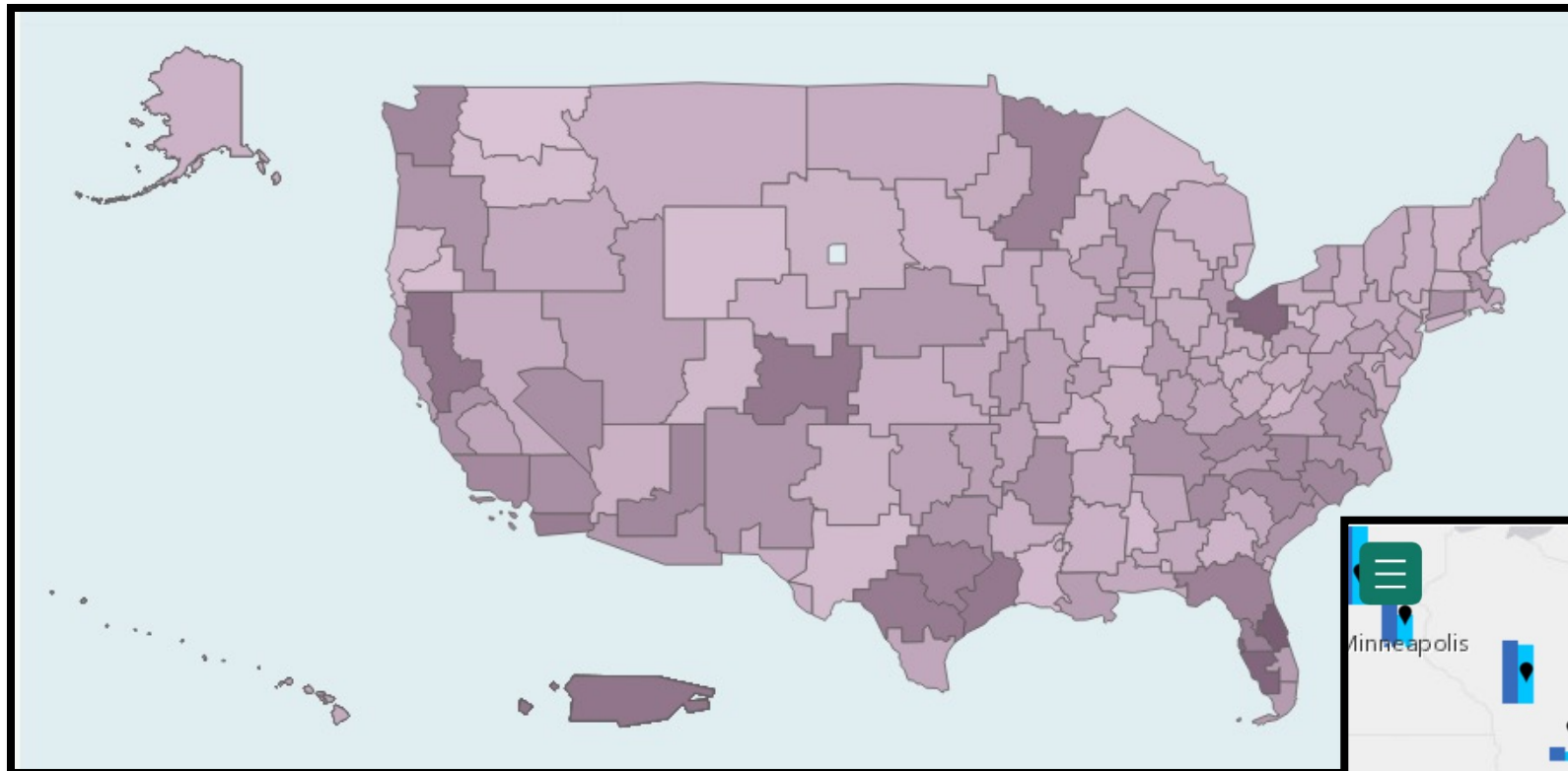
- This report summarizes what we know about the status of COVID-19 patients who have been tested or treated at VA facilities.

- Available to the public at: https://www.accesstocare.va.gov/Healthcare/COVID19NationalSummary

Enterprise-Wide GIS: VA National Surveillance Tool (NST)

- (Left) Tracking Respiratory Viruses of COVID-19 as of 2022.

- (Below) Tracking community level of COVID-19 positive and vaccination.
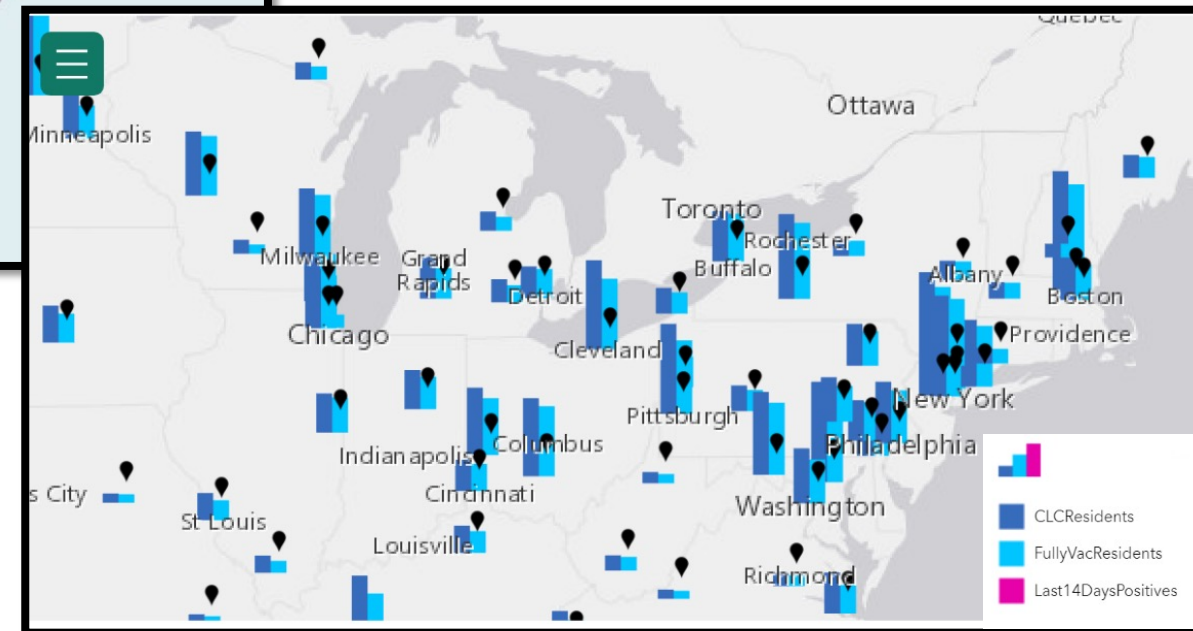
The Veterans Affairs (VA) National Surveillance Tool (NST), developed under the auspices of the VA Director of Biosurveillance, is a collaborative effort between numerous offices from VA, Veterans Health Administration (VHA), and the Office of Information and Technology (OIT). The COVID-19 NST is intended to help VA Leadership and Staff make faster decisions about testing criteria, bed capacity, and overall patient care. The NST is transitioning to seasonal reporting and monitoring of high consequence pathogens.

- Real time tracking of IT resources with the effect of weather, wildfires, and other events that map impact operations within the VA.
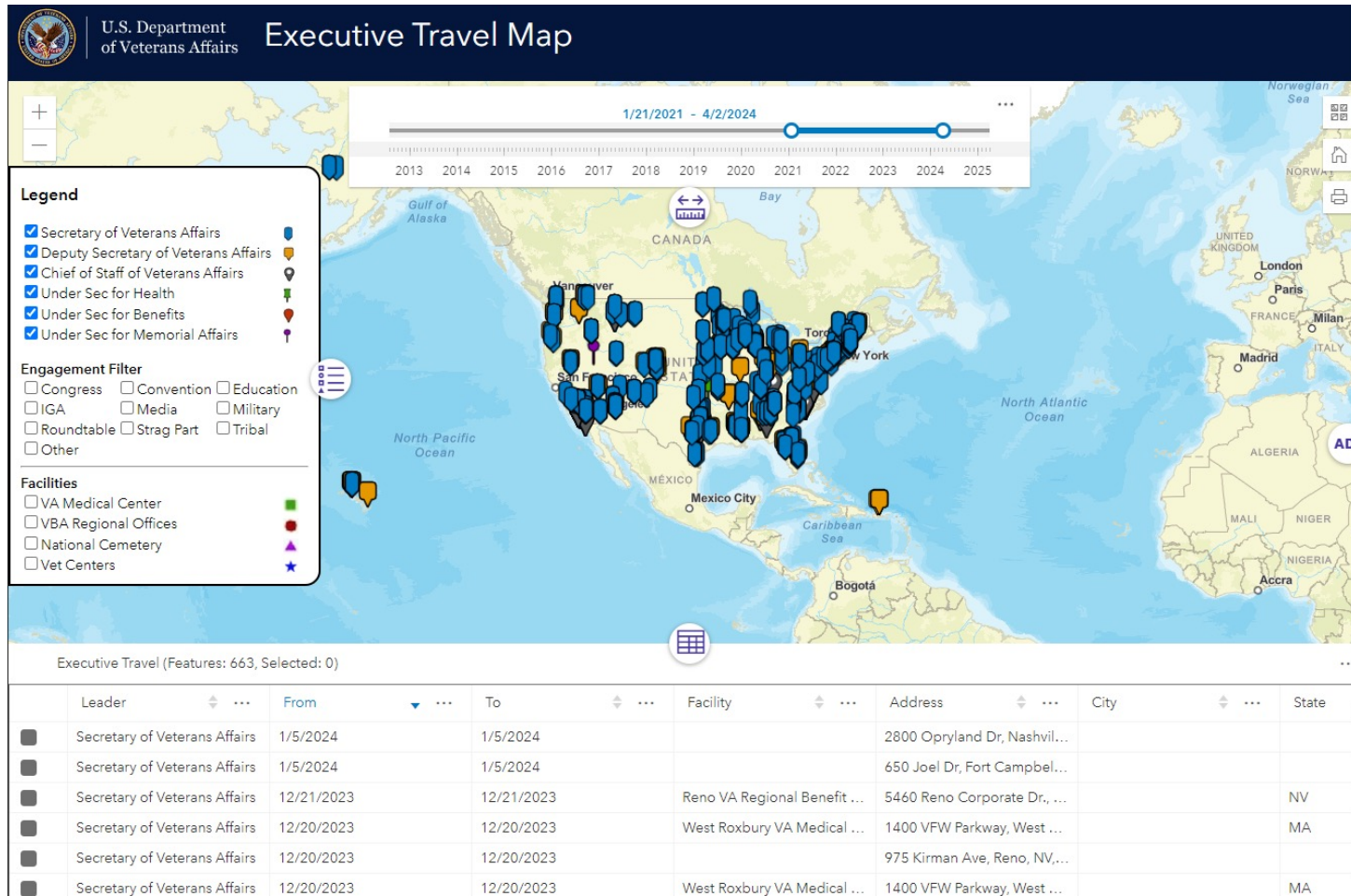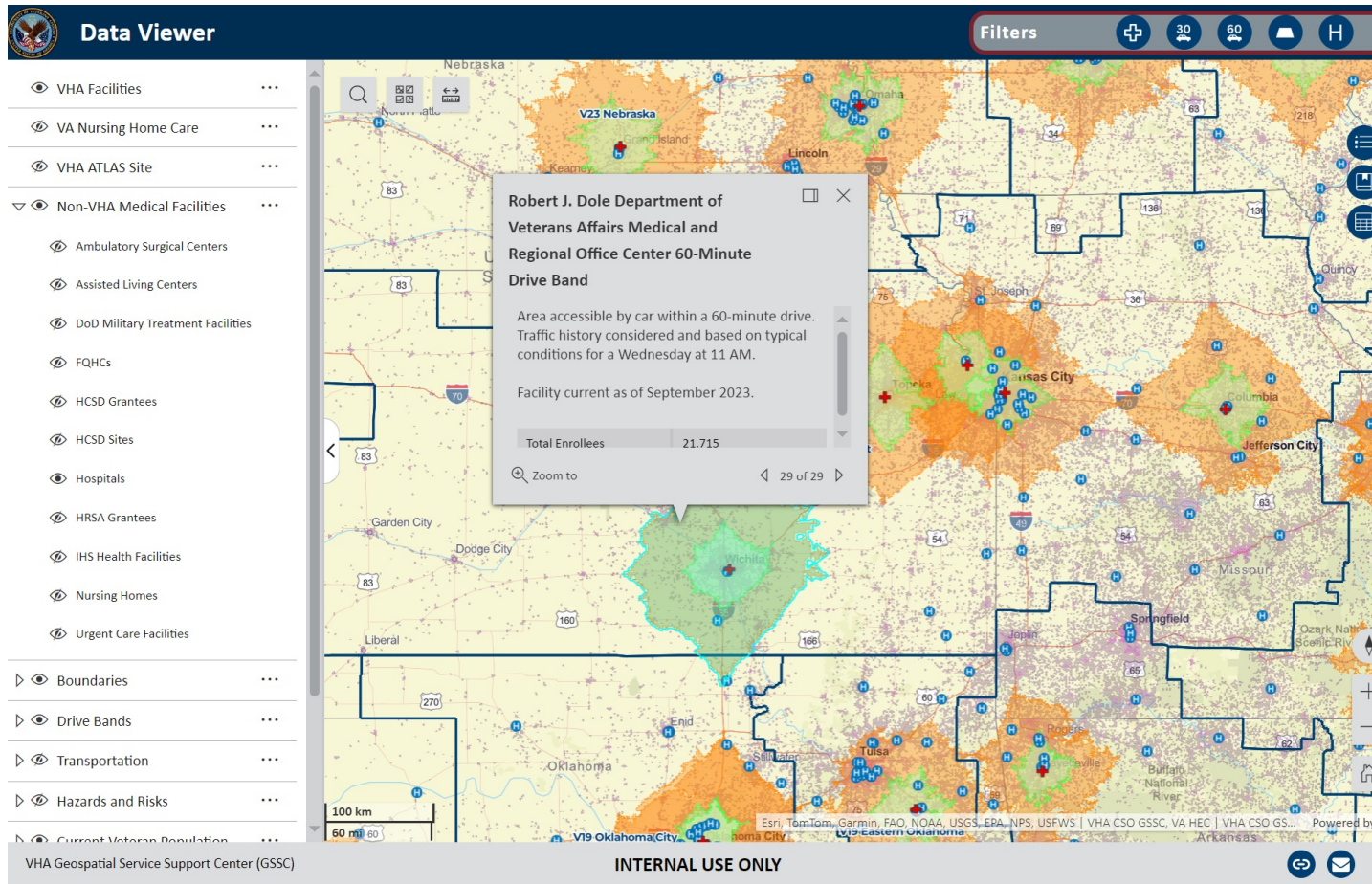
- Tracks the travel patterns of the top 6 VA officials.
  - Identifies areas with little to no travel
  - Enhances Senior Executive Leader engagement with Veterans and Staff at the local level

- Allows filtering on interactions with various types of groups.

- Standardizes travel records across senior leaders.
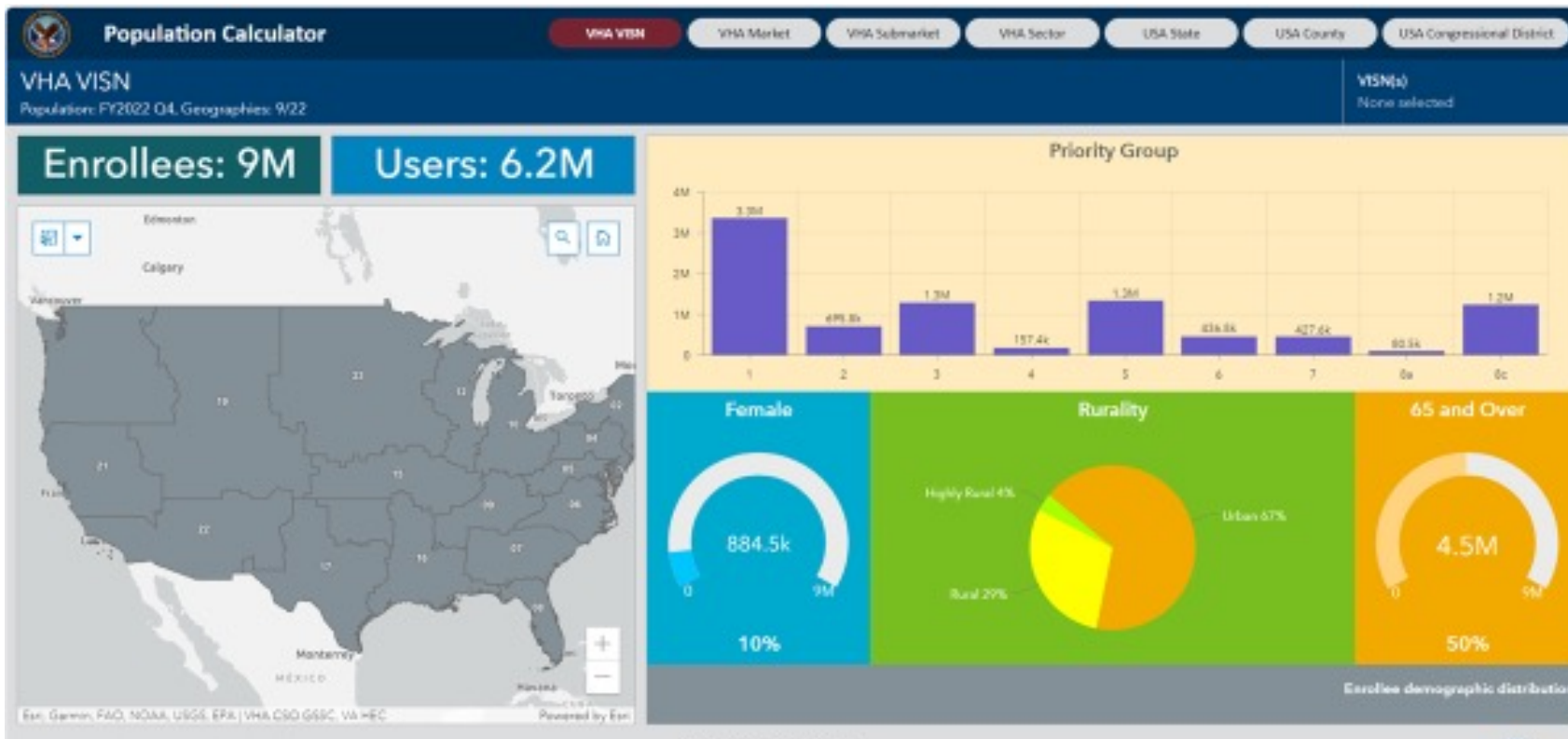
HEALTHCARE ADMINISTRATION - PEOPLE

- Allows VHA Planners the ability to view a variety of decision-making data on an interactive mapping application.

- Incorporates key datasets used by VHA Planners to assess healthcare at the Enterprise-wide strategic level down to the healthcare facility level.

- Includes Veteran enrollee population within a healthcare market to include all healthcare facilities, and existing facility drive time coverage.

VHA GIS Planner's Portal: Population Calculator

- GIS analysis application developed to provide VHA Planners current Veteran population data to include enrollment, users, and key demographics.

- Provides different views of the Veteran population from multiple levels to include Sub-Market areas up through the Enterprise-Wide level; and by, State, County, and Congressional District boundaries.
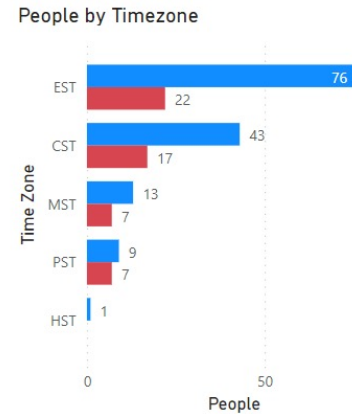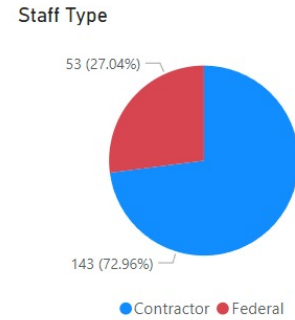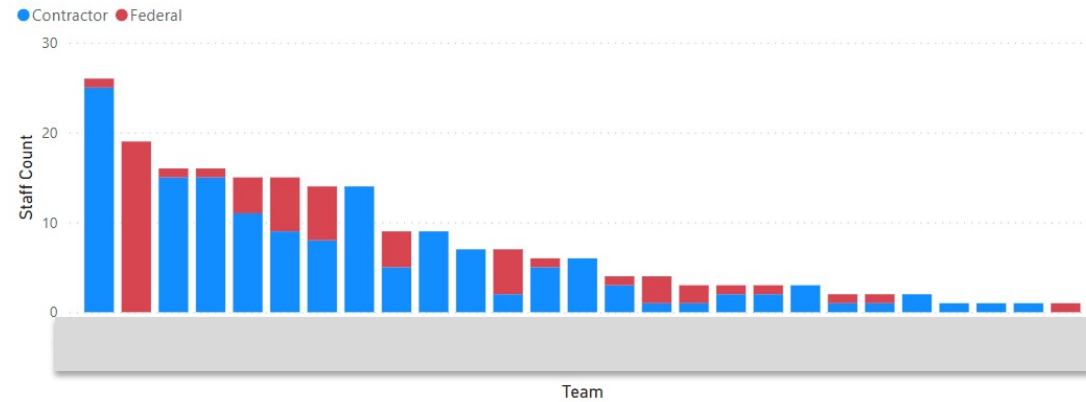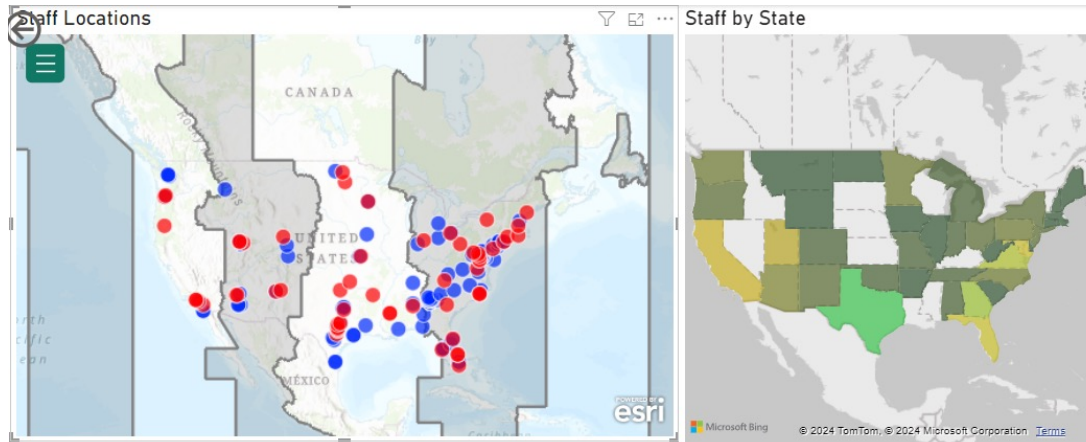
- Identify patterns of staff and locations

- Allow for on-demand filtering

- Integration into non-GIS software such as Power BI

HEALTHCARE ADMINSTRATION - PRACTICE

- GIS was integrated in the VHA Office of Health Equity to develop the VHA Veterans Geography of Opportunity Tool.

- This interactive web GIS application combines county level veteran population and VHA enrollee data with open-source health and vulnerability indicators, such as the County Health Rankings and 2020 CDC/ATSDR Social Vulnerability Index.

Chicago-Area VA Medical Centers (VAMC)

Census Tract Assignment by VAMC
- Brown (537)
- Lovell (556)
- Hines (578)

60-Minute Drive Time Toward Facility
- Brown (537)
- Lovell (556)
- Hines (578)

Captain James A. Lovell Federal Health Care Center

Edward Hines Junior Hospital

Jesse Brown Department of Veterans Affairs Medical Center

Lake Michigan
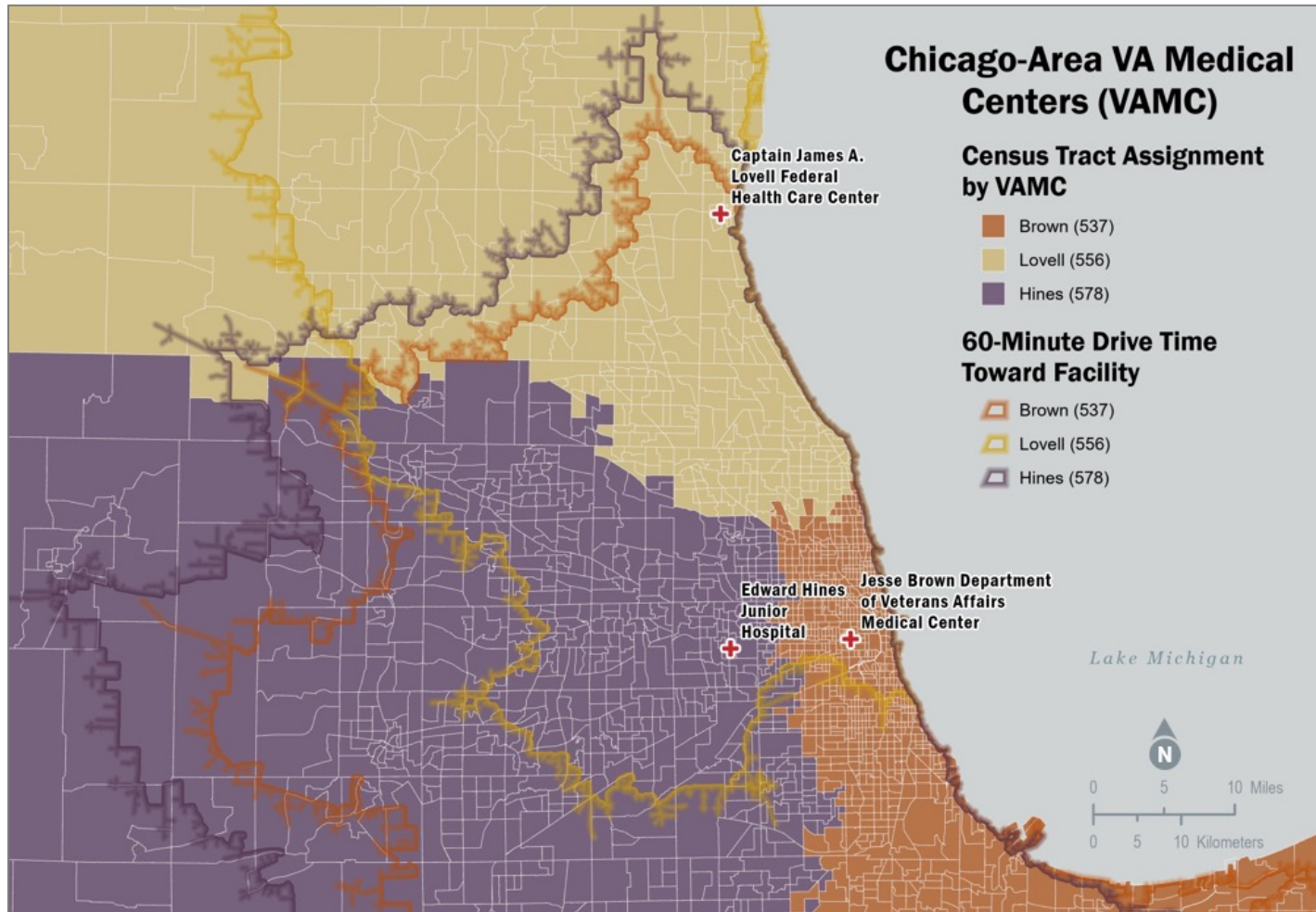
- GIS was integrated in the VHA Office of Dentistry to allocate census tracts to facilities based on dental care utilization in the previous fiscal year.

- This analysis yielded distinct geographic patterns in facility utilization, due to factors such as distance and public transit dependence.

- Using census tracts as opposed to units such as counties allows the Office of Dentistry to more accurately estimate future utilization and demand for providers and equipment.

Dental Quality Indicators

Quality Indicator 2: Professional Fluoride   Quality Indicator 3: Periodic Oral Evaluation   Quality Indicator 4: Periodontal Preventative Care   Quality Indicator 5: Primary Dental Provider

QI2: Professional Fluoride
Percentage
90% – 100%
85% – 89%
0% – 84%
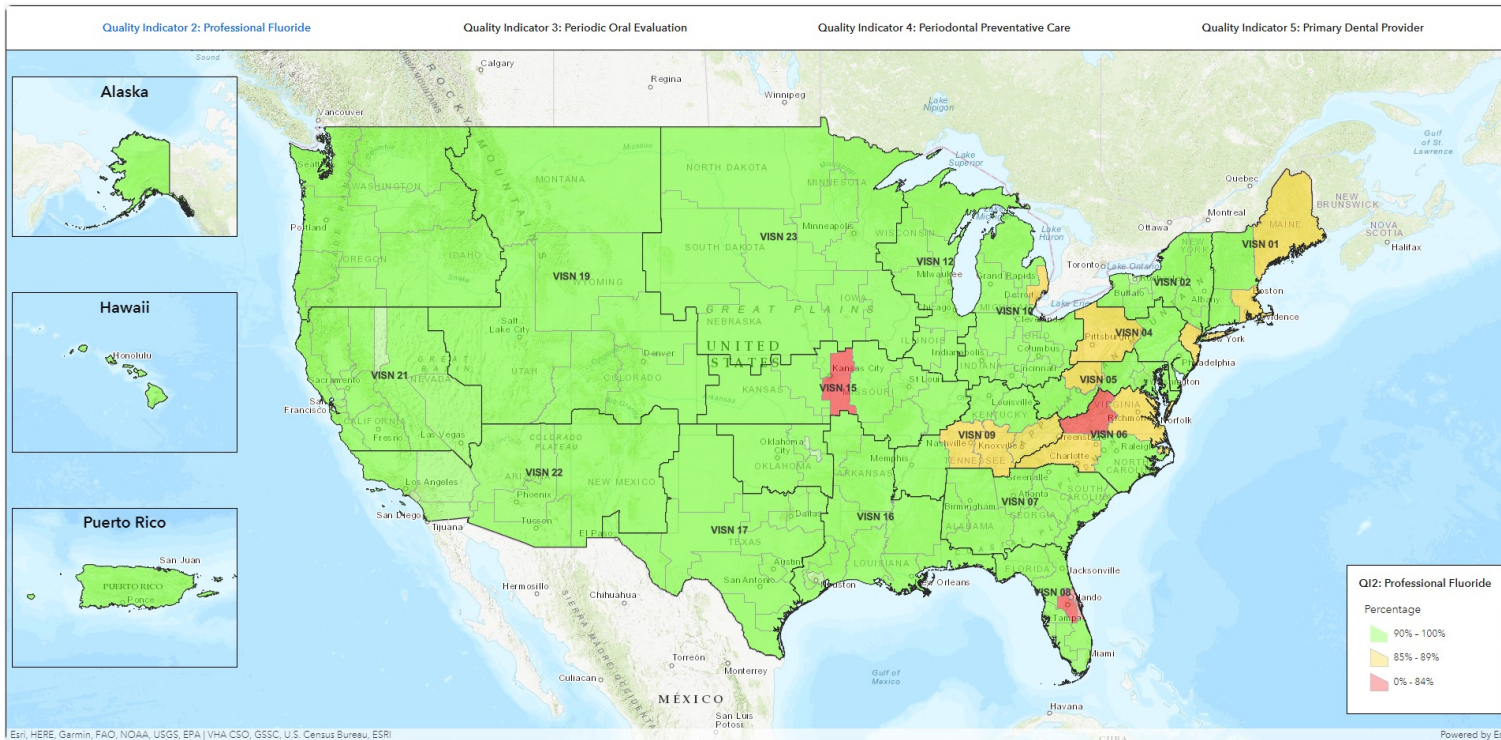
- Dental Quality Indicators by submarket for January 2024.
- The quality indicators are monthly measures where all sites aim to meet the target/goal in green.

Edentulism

Prepared By: Yetunde Akindahunsi, MHA, FAC - COR Level II, FAC- P/PM
Health System Specialist
Dental Informatics and Analytics Directorate
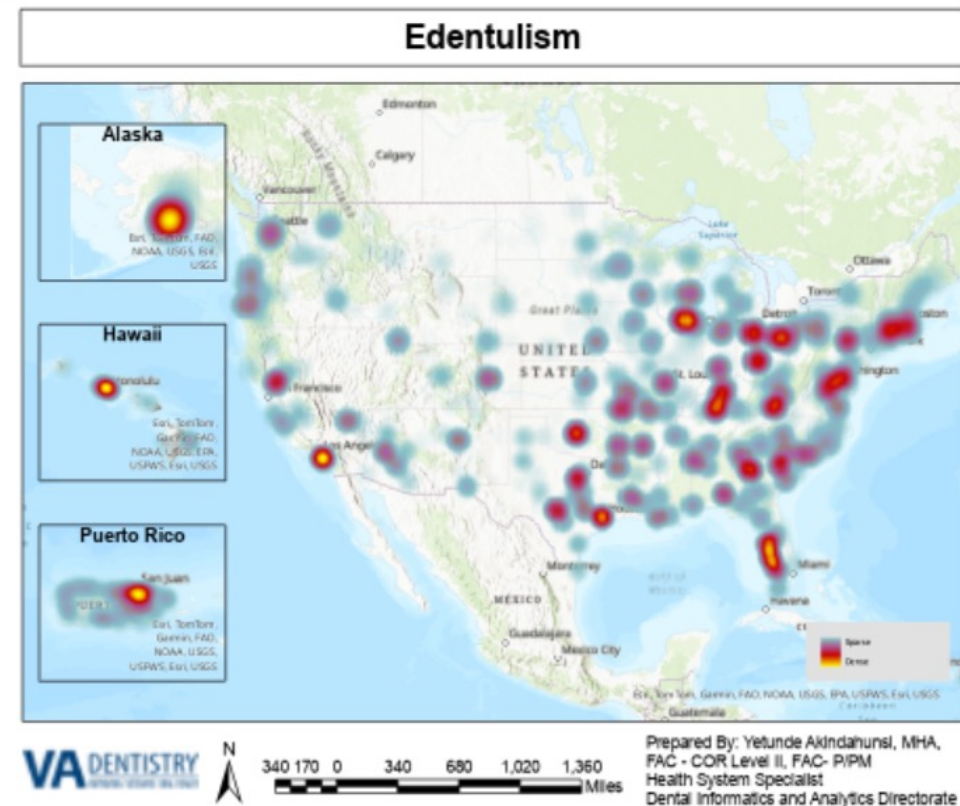
- Edentulism is the state of being edentulous, or without natural teeth.

- Implications of this helps VA to determine if certain areas need dental specialist like prosthodontists who make dentures.

VHA Spinal Cord Injury and Disorder Patient Telehealth Utilization by County

SCI/D National Program Office

VHA Spinal Cord Injury and Disorder Patient Telehealth Utilization by County
SCI/D National Program Office

Percent of Patients per County with 1+ Telehealth Appointments

2019:
- 81% - 100% (51)
- 61% - 80% (13)
- 41% - 60% (98)
- 21% - 40% (215)
- 01% - 20% (1994)
- 0% (717)

2020:
- 81% - 100% (312)
- 61% - 80% (283)
- 41% - 60% (582)
- 21% - 40% (483)
- 01% - 20% (717)
- 0% (712)

2021:
- 81% - 100% (509)
- 61% - 80% (436)
- 41% - 60% (600)
- 21% - 40% (335)
- 01% - 20% (495)
- 0% (711)

2022:
- 81% - 100% (222)
- 61% - 80% (133)
- 41% - 60% (347)
- 21% - 40% (510)
- 01% - 20% (1148)
- 0% (773)

2023:
- 81% - 100% (645)
- 61% - 80% (442)
- 41% - 60% (504)
- 21% - 40% (305)
- 01% - 20% (525)
- 0% (768)

Choose VA

U.S. Department of Veterans Affairs
Veterans Health Administration