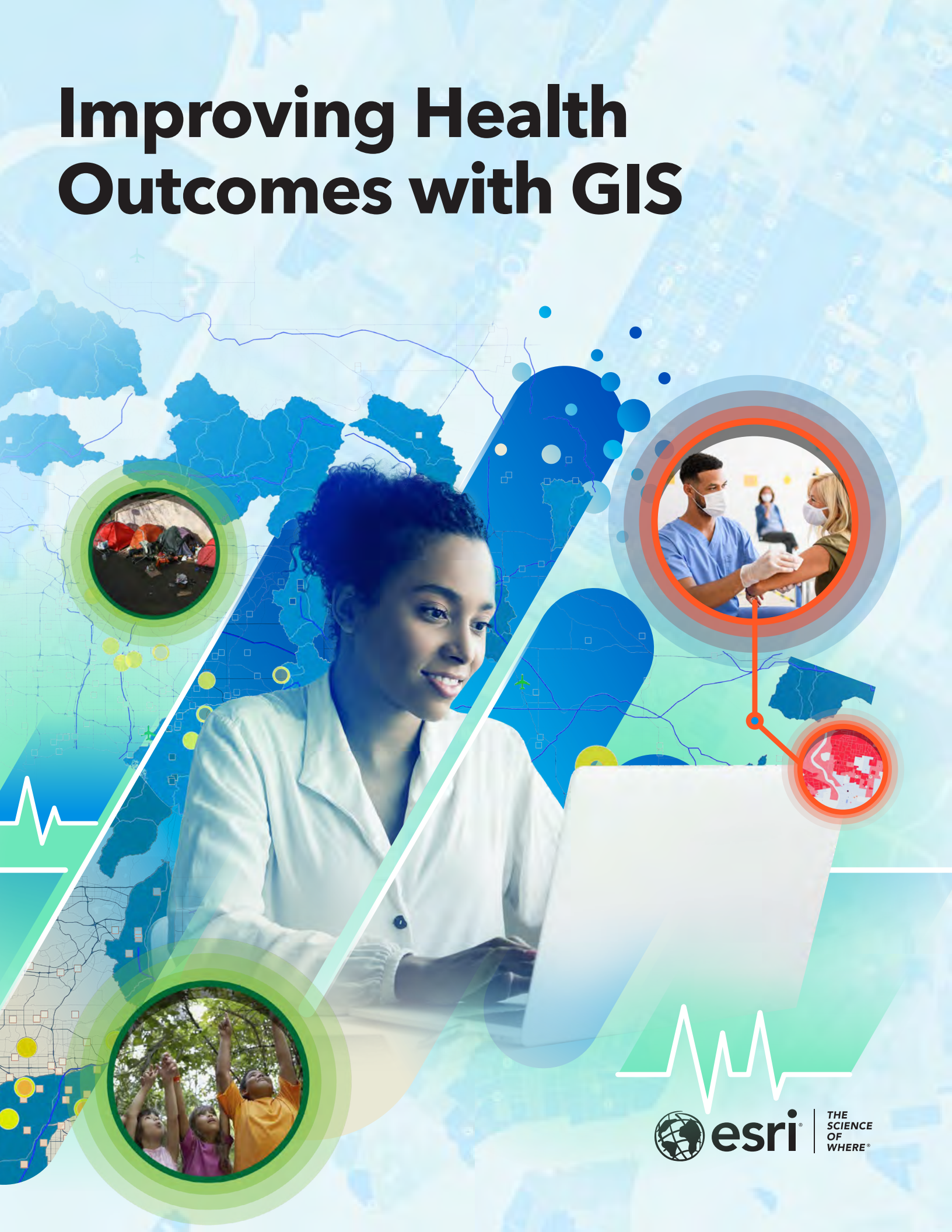


Improving Health Outcomes with GIS



esri

THE
SCIENCE
OF
WHERE®

Leveraging Location Intelligence Leads to Better Health

Health organizations are benefiting from insights that location intelligence brings to their work. Esri, the global market leader in geographic information system (GIS) technology, provides you with the tools needed to build healthier communities. Spatial data and GIS technology can underscore the coverage gaps in the populations we hope to reach, the opportunities to improve workflows, and the ability to plan for and mitigate against unforeseen events. Applied GIS leads to improved health outcomes, increased accessibility to health care, and healthier communities.

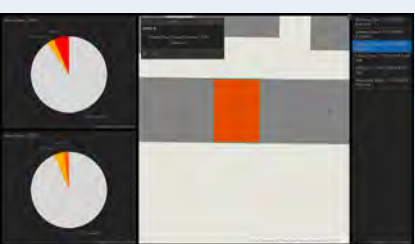
Not only are you able to enhance the patient experience with GIS technology, but you can also leverage location intelligence to better understand your communities, improve operational efficiency, and execute your strategic plans with confidence.



City and County of Denver, Colorado, aggregates 16 key health indicators used by decision-makers to adjust programs, practices, services, and funding.



State of Kansas leverages GIS as its data system, ensuring it only uses one system for all environmental health data.



Loma Linda University Medical Center combined GIS tools with its electronic health records system to ensure efficient and speedy patient visits.



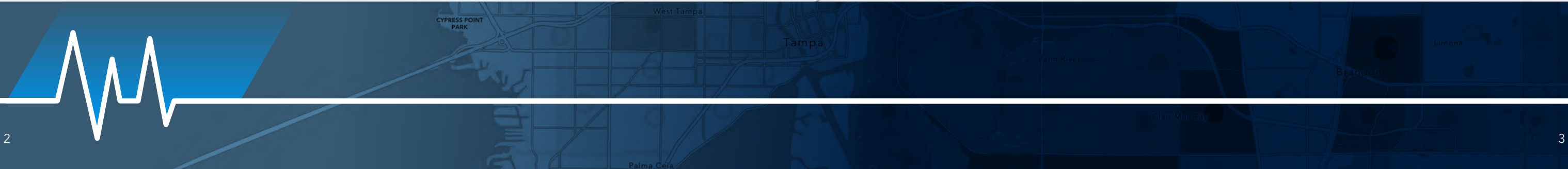
Stark County, Ohio, leverages GIS technology to address opioid-related overdoses in its communities.



Esri helps the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) gather contact tracing information in West Africa to help combat the spread of Ebola.



Johns Hopkins University stands up the first COVID-19 ArcGIS dashboard, used globally to track the COVID-19 pandemic.



An Integrated Method to Improving Health Outcomes

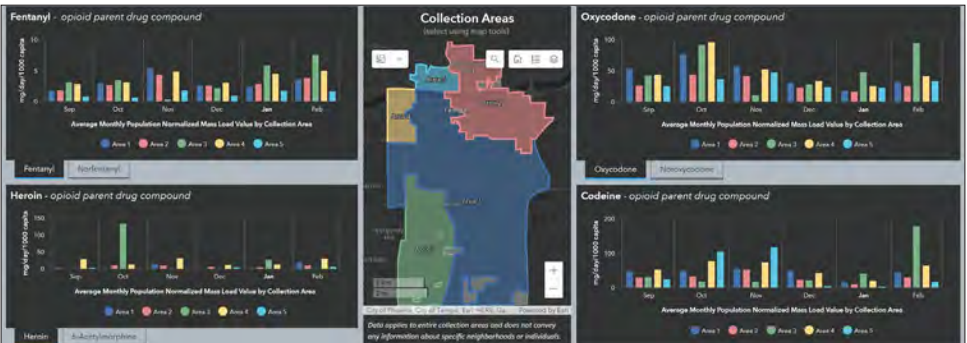


Providing Solutions for Humans in Crisis

Finding solutions for humans in crisis has been a recent rallying point in the health and human services professions. Issues such as homelessness, the opioid epidemic, racial inequities, and food insecurity have increased the public’s awareness. People are stepping forward and looking for immediate ways to address these challenges. Powerful mapping and analytics software enable organizations to respond to these priorities in crisis mode. GIS provides the framework to organize data geographically, receive real-time updates, communicate information to stakeholders, deploy tactics and allocate resources where necessary, and keep decision-makers and the community informed. With GIS, your organization can effectively execute plans to enhance the quality of life for all community members.



Leading Organizations Helping Humans in Crisis



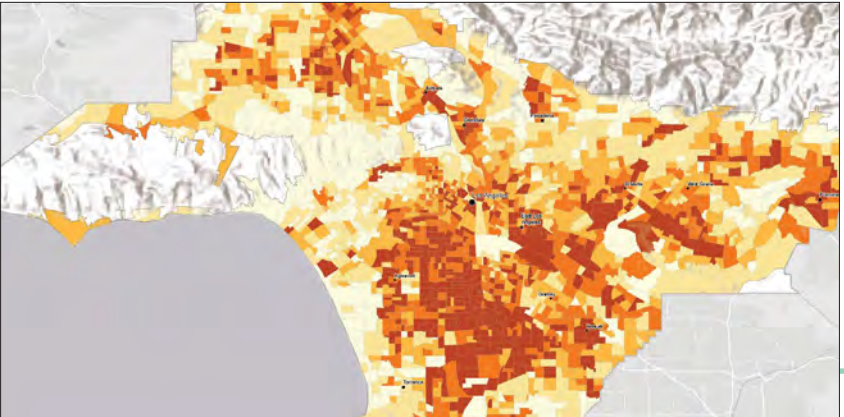
The City of Tempe, Arizona, monitors opioid use by leveraging GIS for wastewater surveillance.

Stark County, Ohio, deployed the Opioid Epidemic Outreach solution to visualize and analyze the opioid epidemic in its communities.



The City of Frederick, Maryland, conducts its federally required Point-in-Time count via the Homelessness Point-in-Time Counts solution, which collects, displays, and generates a report that meets US Department of Housing and Urban Development (HUD) requirements.

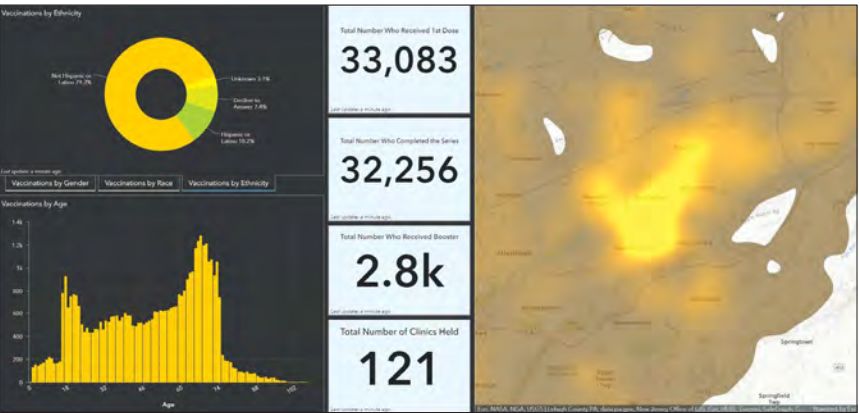
Los Angeles County, California, leverages GIS technology to identify populations experiencing homelessness to equitably deliver resources to these areas in need.



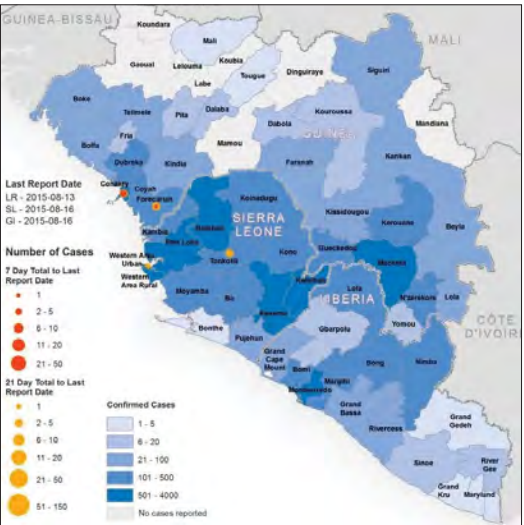
Improving Health Emergency Preparedness

Geographic information serves as the common denominator for any health emergency preparedness strategy because location data is essential to every phase of planning, response, and recovery. GIS scales to events ranging from inclement weather conditions to pandemics. It helps health organizations scope out the extent of a health crisis and predict the path forward for allocating resources equitably and monitoring processes and outcomes. Maps and apps enable health officials to coordinate efforts with other agencies and external stakeholders. The health crises preparedness community can create effective strategies by embracing GIS data, models, communication and engagement hubs, and location-centric applications.

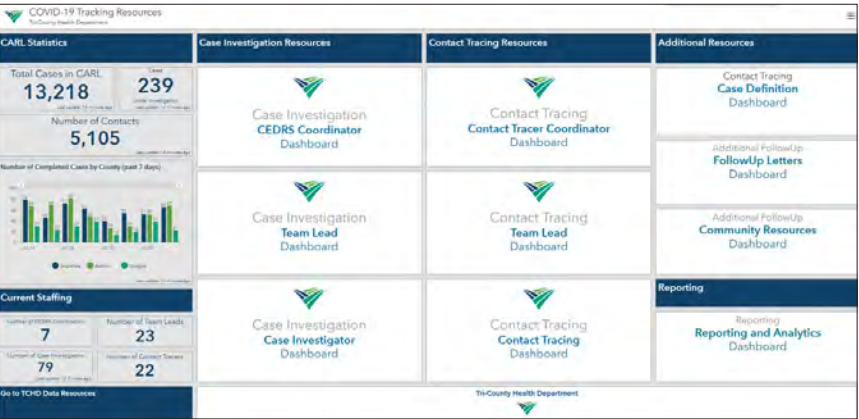
Leading Organizations Improving Health Emergency Preparedness



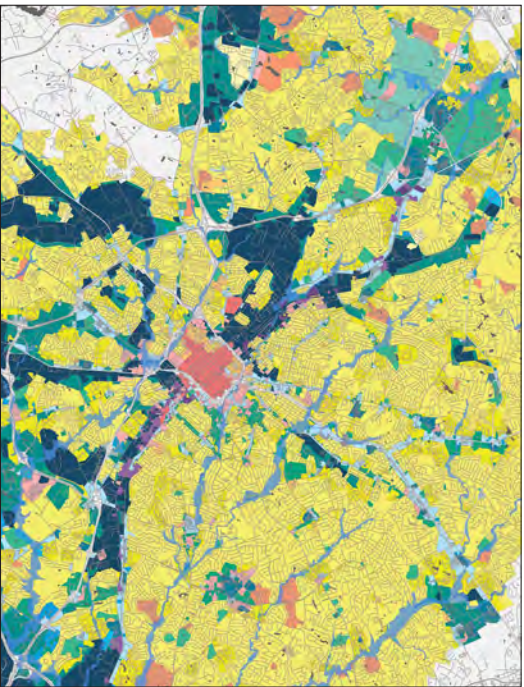
The City of Bethlehem, Pennsylvania, leveraged GIS technology to distribute COVID-19 vaccines and ensure that all communities were reached.



Esri gathered information from West Africa to map Ebola cases and provide the WHO and CDC with actionable data to combat the spread of the deadly disease.



The Tri-County Health Department in Colorado used dashboards to display COVID-19 contact tracing and easily keep track of each case, the information collected, and the data that still needs to be collected.



The City of Charlotte, North Carolina, assesses flood zones to determine which communities will be impacted the hardest.

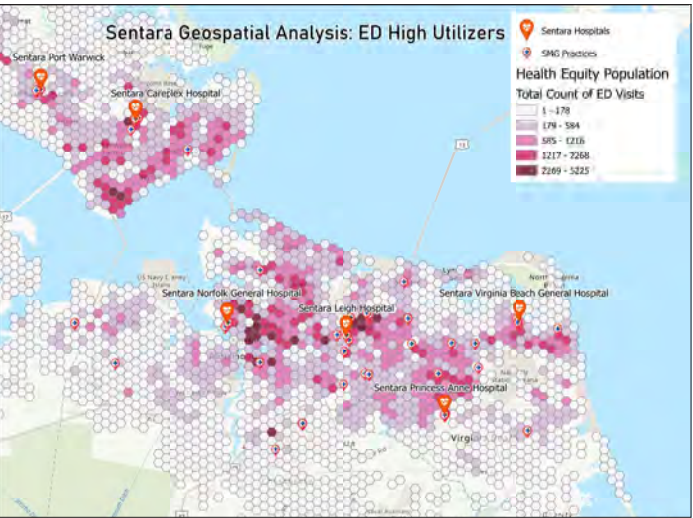


The Johns Hopkins University dashboard that visually told the world how COVID-19 was impacting communities was built using ArcGIS® Dashboards.

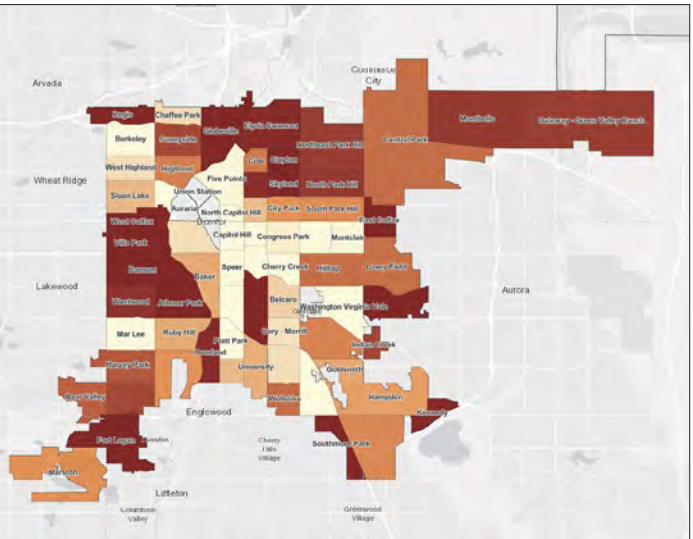
Moving toward Health Equity

Never before has there been such a focus on equity as it relates to health—specifically to ensuring that health and human services organizations address the social determinants of health and gaps in social and racial equities. These inequities involve poverty, age, living conditions, and education, and it’s important to understand the connection between where things are happening and where service gaps exist. This is where GIS technology comes in. A location-based strategy can help you create an effective approach to collecting data; performing analysis; allocating resources where they’re needed most; communicating with decision-makers; and, ultimately, achieving health equity.

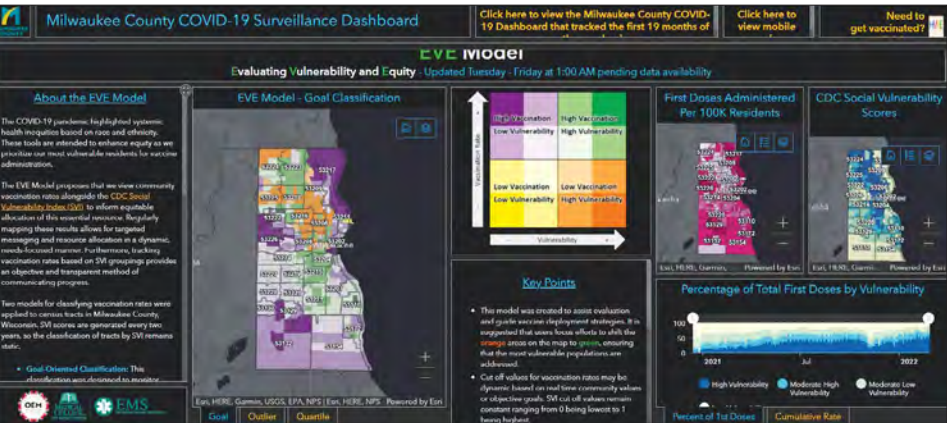
Leading Organizations Ensuring Health Equity



Sentara Healthcare uses GIS technology to identify causes of the high volume of emergency department (ED) visits to find health disparities in certain communities.

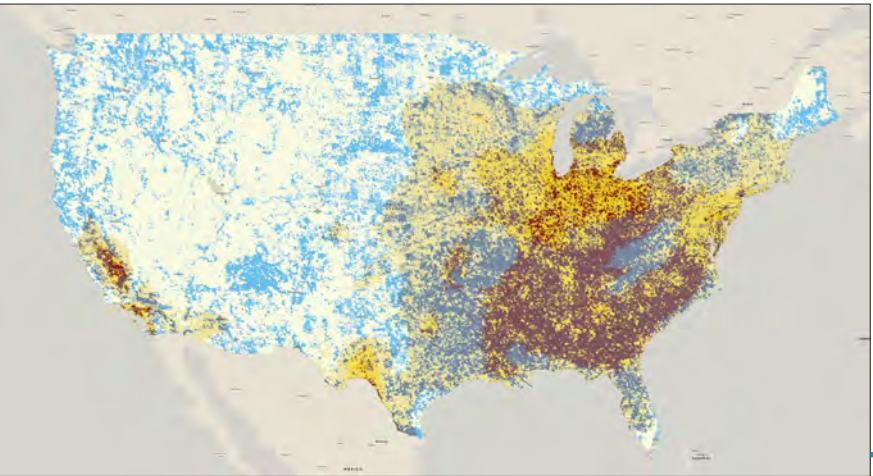


The City and County of Denver, Colorado, created an index with 16 health indicators that focus on where societal and systemic challenges may be limiting opportunities across the community. This map specifically focuses on identifying food deserts in the community.



The County of Milwaukee, Wisconsin, displayed its Evaluating Vulnerability and Equity Model on a dashboard to show decision-makers where the vulnerable communities were and who should be targeted first for vaccine distribution.

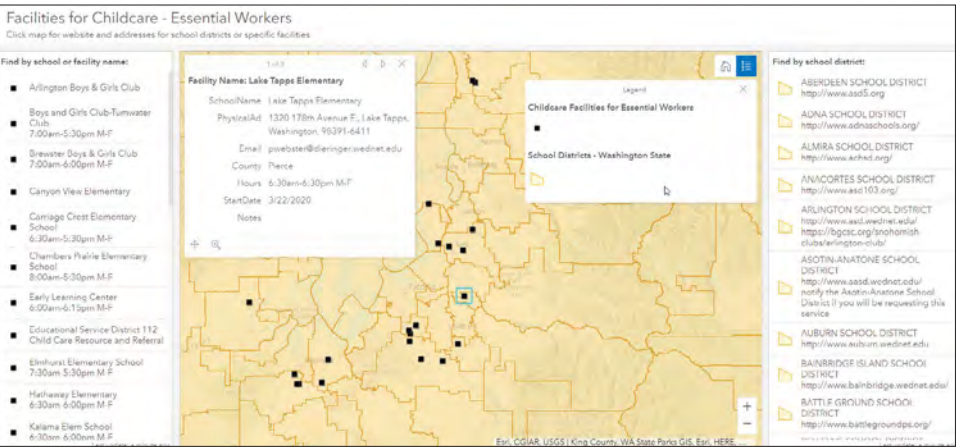
GIS technology allows you to map areas in the country with poor air quality and add a layer to that to see areas that have higher poverty rates.



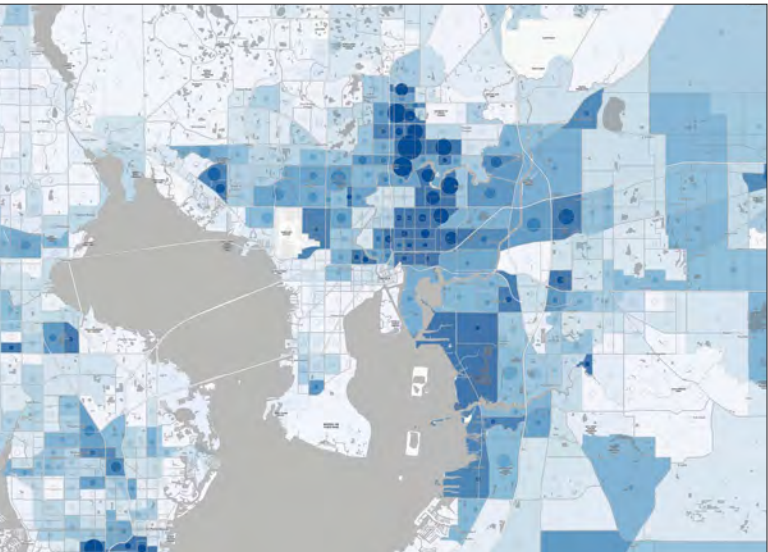
Increasing Access to Care

Access to health-care services can be impacted by barriers such as social, racial, and economic factors. Taking these impediments into consideration assists in matching care from providers, health centers, and preventive services to community needs. GIS offers a lens to better understand gaps in accessibility and shows where opportunities for market expansion exist. GIS technology allows you to analyze demographics and geospatial insight holistically to better understand what the community needs and where you can best meet those needs.

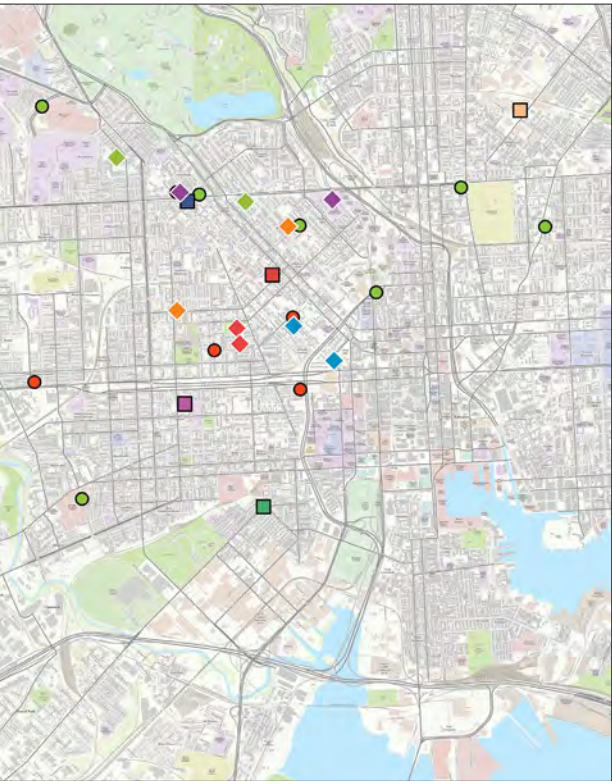
Leading Organizations Increasing Access to Care



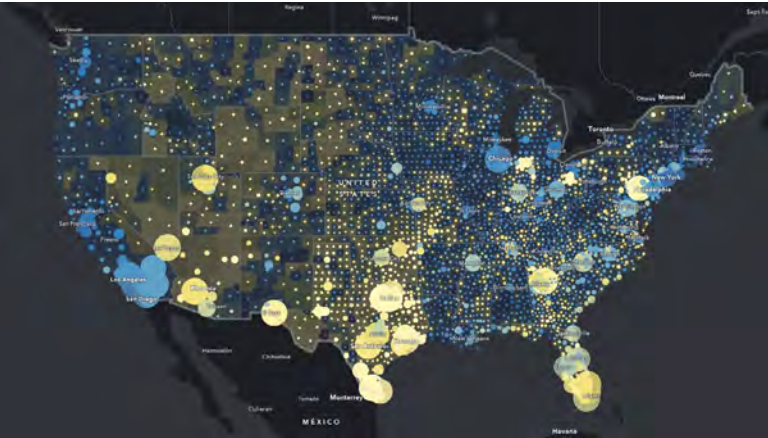
Washington State displays available childcare locations for essential workers during the COVID-19 pandemic on an easy-to-read dashboard.



The City of Tampa, Florida, uses GIS technology to map health-care coverage and see which communities do not have access to health care.



The City of Baltimore, Maryland, maps pharmacy locations in a community to see where more locations are needed.



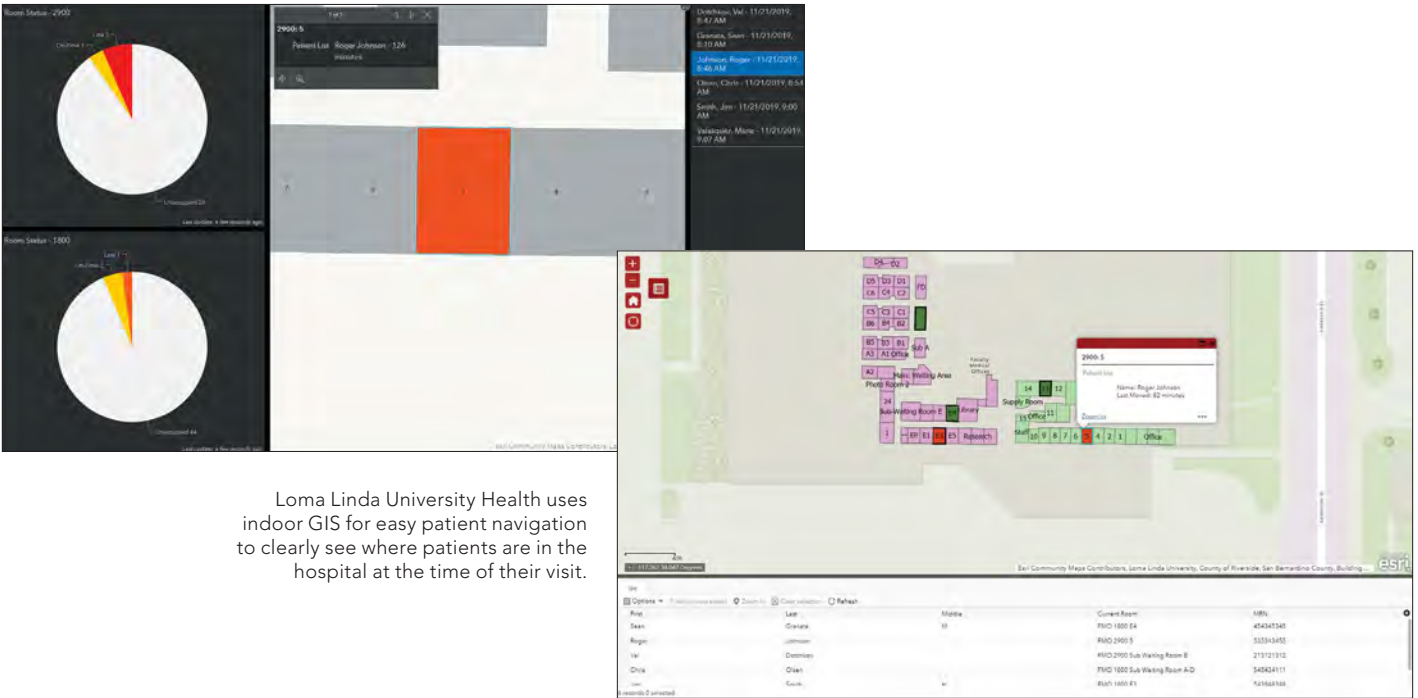
The US Census Bureau highlights communities with residents under age 65 that are uninsured in the US.

Creating Effective Strategic Plans

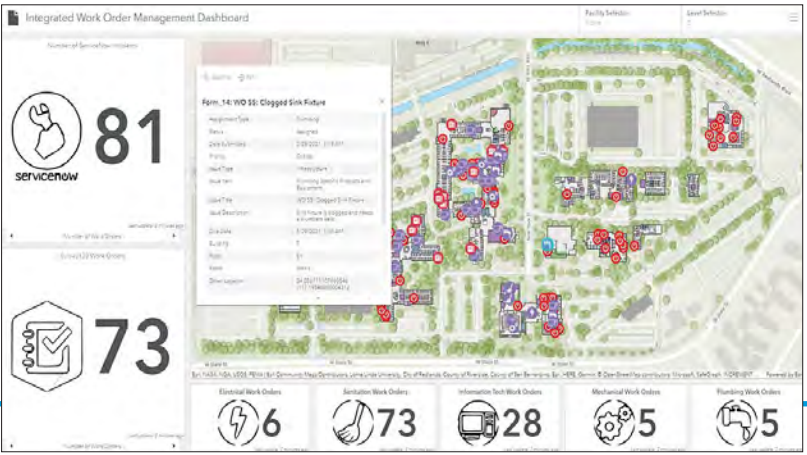
Geographic data is essential in helping health-care and health systems professionals create more effective strategic plans. Incorporating GIS into your strategic planning allows you to allocate resources efficiently; respond in real time; adjust long-term goals while considering environmental, physical, and demographic trends; and improve crisis management. You can collect information in real time and feed it back into operations dashboards for measurable impact. Geoenabling your data and enterprise systems will help you take a patient-centric approach to improving core functions; managing assets; enhancing communication; and tackling an issue in its entirety, as opposed to its individual parts.

Leading Organizations Enhancing Their Strategic Plans with GIS

Due to a nationwide baby formula shortage, a nonprofit organization, San Jose's Mother's Milk Bank, leveraged GIS technology as a business intelligence tool and was able to tailor marketing messaging based off its findings, which led to an increase in donors.



Loma Linda University Health uses indoor GIS for easy patient navigation to clearly see where patients are in the hospital at the time of their visit.



An indoor GIS facility management dashboard was used for the safe reopening of offices once COVID-19 stay-at-home orders were lifted.

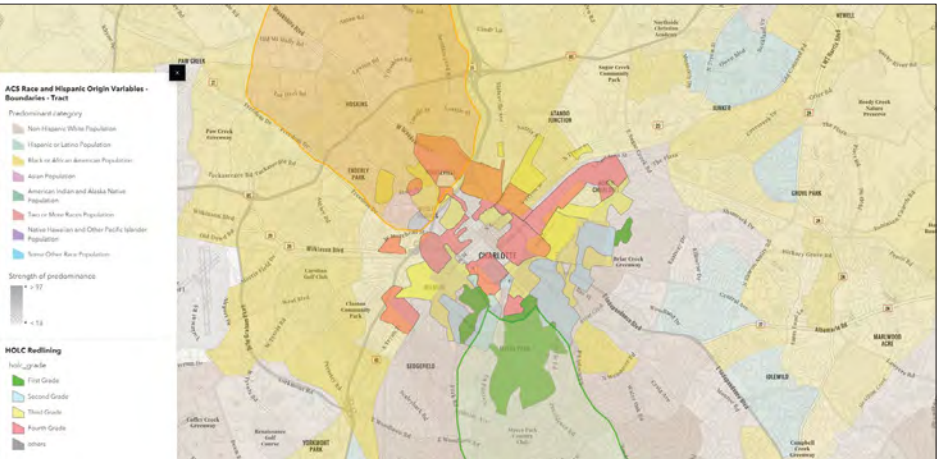
Reducing Environmental Health Impacts

When it comes to healthy environments, location plays a key role. Air quality, drinking water, food deserts, and natural disasters are all environmental factors contributing to someone’s health. With GIS, health organizations can identify areas that are being harmfully affected by their environment and promote just environmental policies. Leveraging GIS technology allows you to identify at-risk communities, apply an equity lens to your decision-making, and address the community’s exposure to harmful factors in the environment.

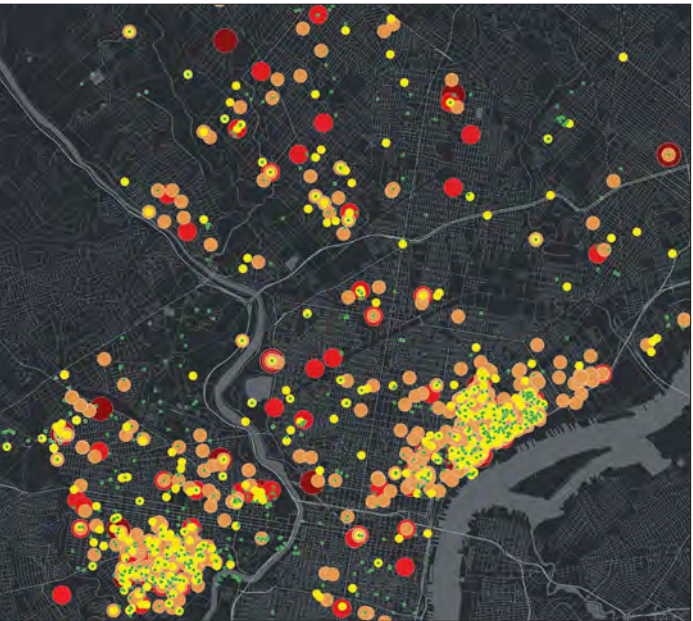
Organizations Advancing Environmental Health



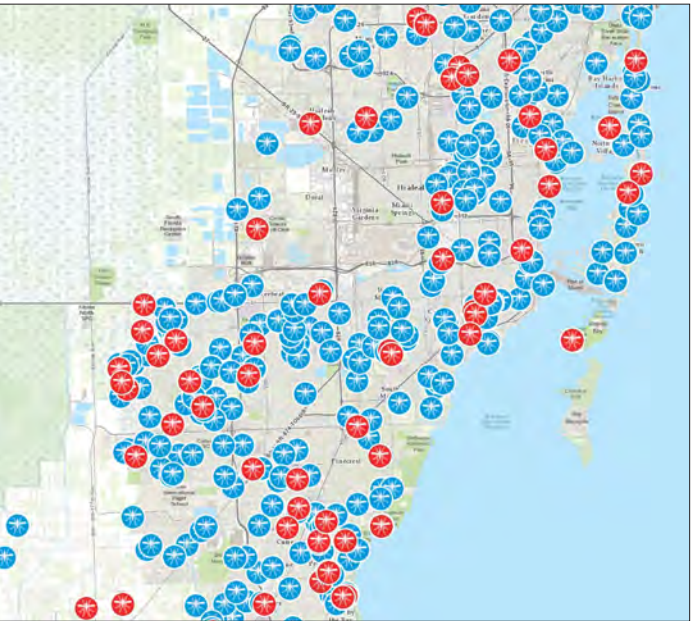
San Bernardino County, California, easily displays environmental health projects and their progress on a dashboard.



Nonprofit organization CleanAIRE NC used GIS to identify communities that are experiencing increased rates of adverse health impacts from climate change and air pollution due to a long history of environmental racism and the resultant health disparities.



The State of Pennsylvania leverages GIS technology to identify lead in soil.



The State of Florida maps mosquito nuisance calls to identify targeted areas for vector control services.

Using GIS Technology to Enhance Your Community's Quality of Life

Health organizations that leverage GIS data and solutions can advance healthy outcomes, quality of life, and improved workflows. These tools allow decision-makers to identify at-risk communities, increase awareness of available services, promote health equity, and much more. Whether you are getting started or looking to expand your GIS, our tools are designed to meet you where you are. The tools listed here will help differentiate your organization and set you as an example for others to follow.

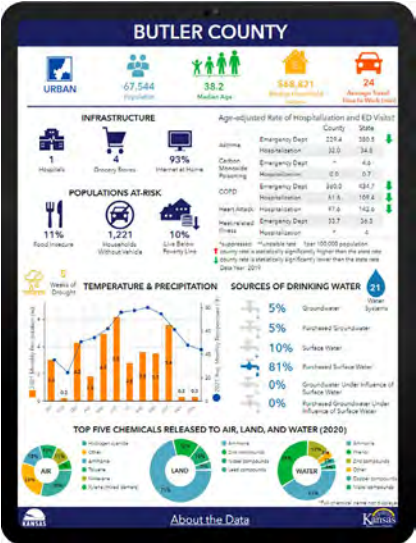
UNDERSTAND COMMUNITIES WITH ANALYSIS

ArcGIS Online

This essential part of the web-based GIS allows you to connect people, locations, and data using interactive maps, apps, and solutions.

ArcGIS Business Analyst™

Deliver programs and services that align with your organization's needs by using demographic, socioeconomic, and lifestyle data to build a more complete picture of your community.



ENHANCE COMMUNITY ENGAGEMENT

ArcGIS Hub™

Transform how you engage and collaborate with your community with an easy-to-configure community engagement platform that organizes people, data, and tools through information-driven initiatives.

ArcGIS StoryMaps™

Leverage images, maps, videos, and text in an interactive format to tell remarkable stories.



IMPROVE OPERATIONAL EFFICIENCY

ArcGIS Survey123

Collect data via web or mobile devices, even without an internet connection. Use the complete solution for creating, sharing, and analyzing surveys.

ArcGIS Network Analyst™

Use data and spatial analysis tools to expand service areas, find new facility locations, calculate drive times, and analyze populations served.

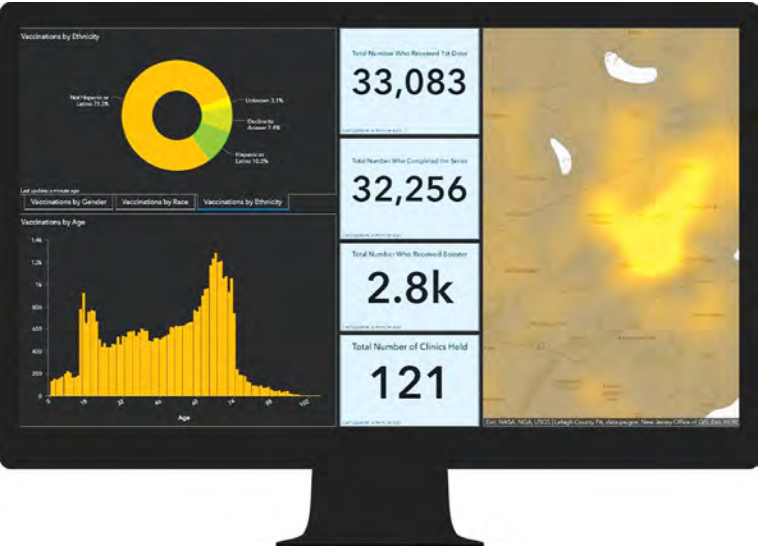
MAKE DATA-DRIVEN DECISIONS

Esri® Location Data

Access ready-to-use datasets that include demographics and behavioral and business data, with over 15,000 demographic data variables.

ArcGIS Dashboards

Present data and analytics on an intuitive and interactive screen to visualize trends, monitor status in real time, and inform stakeholders.



Incorporate these tools in your work today by connecting with our team.



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Esri, the global market leader in geographic information system (GIS) software, location intelligence, and mapping, helps customers unlock the full potential of data to improve operational and business results.

Founded in 1969 in Redlands, California, USA, Esri software is deployed in more than 350,000 organizations globally and in over 200,000 institutions in the Americas, Asia and the Pacific, Europe, Africa, and the Middle East. Esri has partners and local distributors in over 100 countries on six continents, including Fortune 500 companies, government agencies, nonprofits, and universities. With its pioneering commitment to geospatial information technology, Esri engineers the most innovative solutions for digital transformation, the Internet of Things (IoT), and advanced analytics.

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