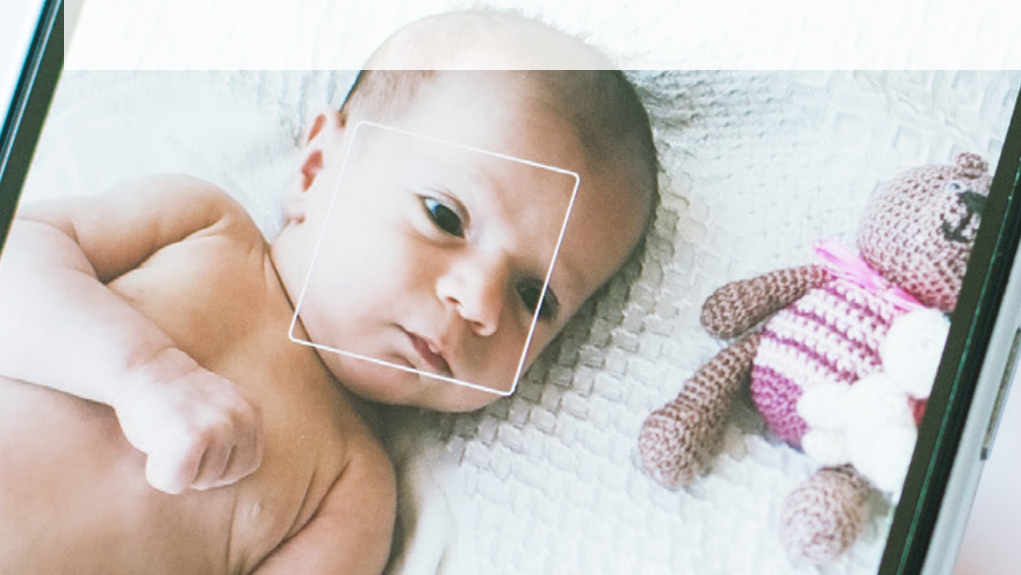


# 2

## DEVELOP STRATEGIES TO PROMOTE DATA SHARING, REPOSITORY USE AND ANALYTICS



### UT CoPHII's Recommendations:

- Identify and improve population health data availability, access, assessment, and monitoring.
- Develop cross UT System institutional data storage and sharing.
- Increase UT System's capacity for advanced data capture, integration, management, and analytics.
- Expand state, county and community infrastructure to enhance data sharing and use.

## DEVELOP STRATEGIES TO PROMOTE DATA SHARING, REPOSITORY USE AND ANALYTICS

### An Era of Big Data

We live in an era where big data analysis is being used to drive improvements in transportation, marketing, banking, and various other sectors of the economy. Unfortunately, health care and health programs nationwide are not taking advantage of these opportunities. Specifically, Texas has not used health and health care data to identify and focus priorities in health and in the coordination and management of health care delivery systems as effectively as other states. In many ways, Texas state health data are used more for historic or retrospective reporting purposes than for improving population health. Access to and use of quality data will be key to both developing and delivering targeted population health initiatives across Texas.

This use of big data is critical to addressing racial- and geographic health disparities, not only for identifying and spotlighting problems, but also for directing

efforts and resources by UT System institutions, state and local agencies, and other stakeholders.

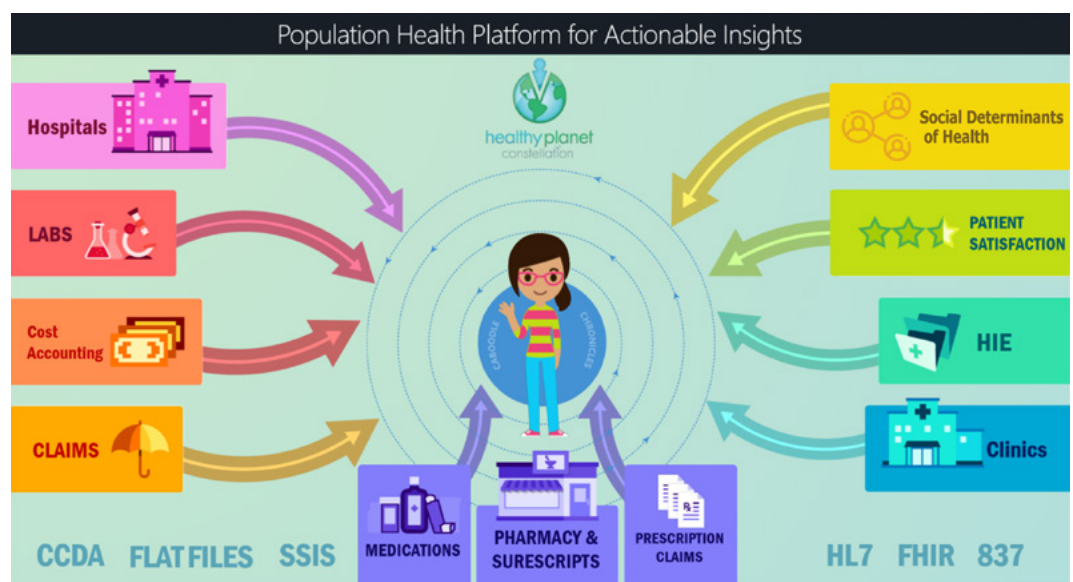
### Health Data Sharing within UT System

In May 2016, The University of Texas System invested \$12.4 million to develop the Health Intelligence Platform (UT-HIP), a tool to enable all of UT System's health care institutions to work together to achieve improved costs, efficiency, and improvement of quality of care through data-based health care planning and delivery. Aggregated

patient information will be used to better understand how to impact populations and groups, how to reduce disease risk, and how to improve outcomes for all Texans.

UT-HIP is being designed to deliver information and analytics for actionable insights that can empower improvements in health care quality and value. The key goals for UT-HIP are:

- **Identify** overall costs and patient outcomes across the institutions.
- **Illuminate** value by measuring cost variability of payers to



A visualization of how the Health Intelligence Platform (UT-HIP) will enable multiple institutions to collect and utilize patient and population data.

identify the greatest opportunities for cost reduction and outcome prioritization.

- **Improve** selected conditions with value initiatives.

The UT-HIP Executive Steering Committee members were surveyed to help determine the priorities for the program. The results ranked the following as the top priorities:

**Priority 1: Inpatient Quality**

Use UT-HIP data and the Vizient Clinical Database (CDB) to identify performance opportunities and variation in inpatient care. The Vizient CDB is a collaboration of 97% of U.S. academic medical centers, 50 health systems, and 160 community hospitals to identify health care quality improvement opportunities.

**Priority 2: Population Health**

Population health management is an emerging theme in health care delivery for improving the health of the people served in clinics, hospitals, and campuses through targeted interventions using technology as a vehicle for the greatest community impact. UT-HIP will identify solutions that provide the greatest impact and value for the communities the system serves, along with

regional and state population health improvement efforts.

**Improving Availability of Statewide Population Health Data**

Population health improvement should be data driven. The data must be sufficiently recent and granular to drive local and regional population health activities and decision making. A key to success is improving UT System’s institutional capacity for collecting and using complex data that span health care use and service access across sectors. These local and state level data sources will help identify regional population health needs, drivers of health care costs and outcomes, and programmatic needs across Texas.

Moving beyond morbidity and mortality requires going beyond health care data to include data on health-related behaviors, social and economic status, and the physical environment to identify health risks and meet the needs of current and future Texans. In addition, these expanded data should identify key target areas for disseminating and implementing best practices and for

focusing UT System institutional resources. To be useful, these data require a secure and flexible storage platform as well as accessible and useful tools for visualizing them so that a wide variety of users can extract actionable information.

Maximizing the usefulness of these data requires a diverse workforce of researchers, data analysts, designers, and GIS programmers skilled in accessing, integrating, analyzing and communicating electronic health records and non clinical health data. UT System institutions are well positioned to be national leaders in discovering, interpreting, and communicating meaningful patterns in data. They can help provide requisite expertise to enable state and local health care providers, state and local agencies, and the UT System itself to use these data sets to inform and impact health efforts in Texas.

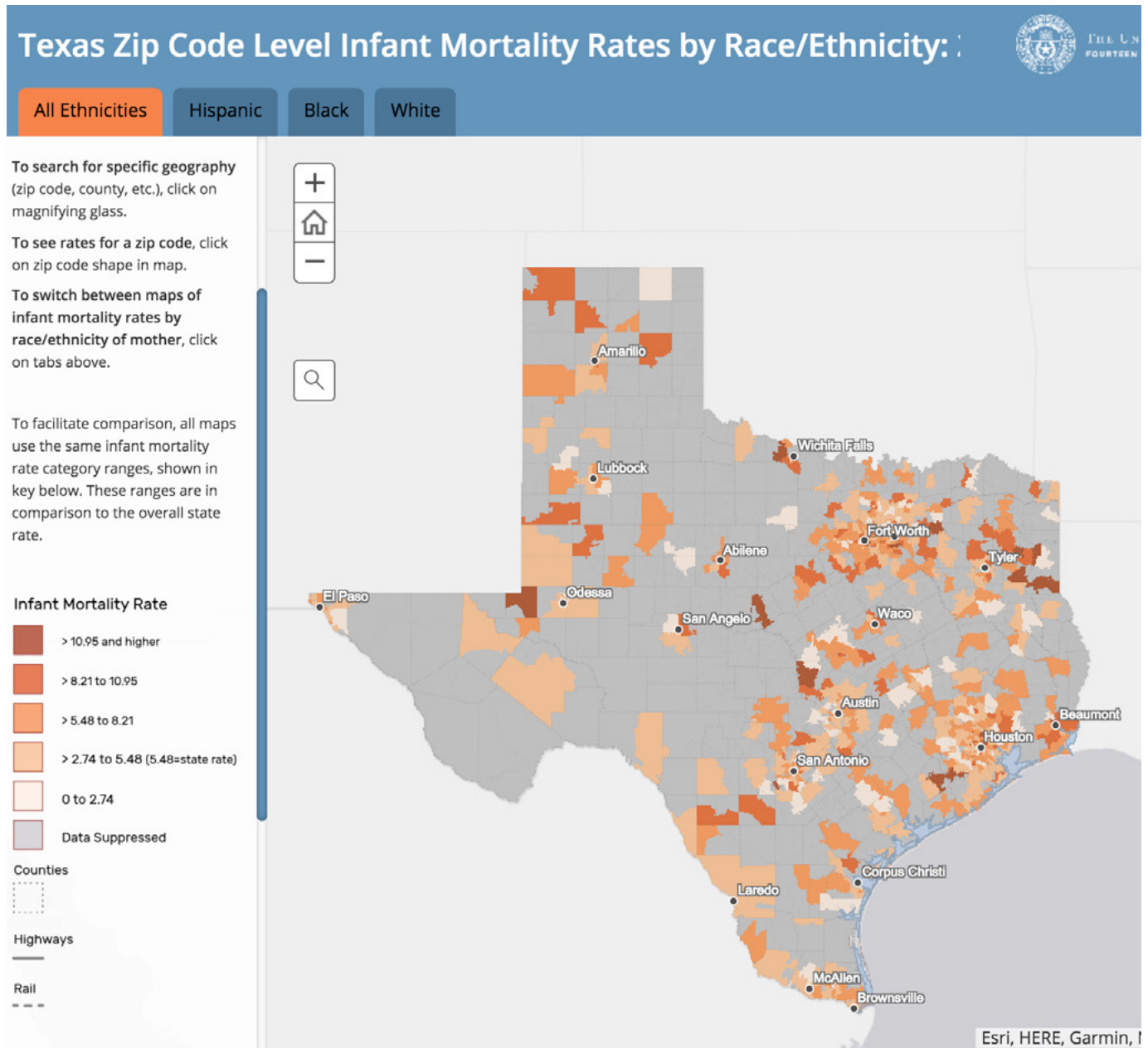
The timely availability and use of a wide range of health-related data will facilitate key collaborations within communities and across UT System institutions to identify how best to address personal and population health needs. UT System cannot achieve these goals in isolation; it must partner with community and local organizations in obtaining accurate local data. In return, UT System must provide value to these organizations’ efforts to meet population health needs by using local and state-level data to interpret and map hot spots in a timely manner, and by providing resources and expertise to help address the challenges that have been identified. Having rich, diverse, and timely data will not only support decision making and resource allocation but can also support funding proposals for population health programming.

Information housed at the  
 UTHealth Center for  
 Healthcare Data covers  
**MORE THAN 65%**  
 of Texans.

To best accomplish the goal of improving availability of statewide population health data, UT System will connect existing data sources across institutions and link these with data on key social determinants of health to develop cross-institutional interventions. There must

also be training of multidisciplinary health information developers, analysts, and users who can increase the UT System's biomedical and population health informatics capacity. Finally, secure exchanges of data will be developed across institutions, with local partners, and with

available networks like the Clinical and Translational Science Awards (CTSAs), the National Patient-Centered Clinical Research Network (PCORNet), and others.



A screenshot of the zip-code level analysis of infant mortality rates in Texas that was done by UT System Population Health researchers.

**As next steps in promoting data sharing, repository use, and analytics, the members of UT CoPHII recommend the following:**

- Identify and improve population health data availability, access, assessment, and monitoring.
- Develop cross-institutional data storage and sharing.
- Increase UT System's capacity for advanced data capture, integration, management, and analytics.
- Expand state, county and community infrastructure to enhance data sharing and use.

**Methods to achieve these goals:**

- Identify data availability and gaps in local, state and other data sources to develop strategies to obtain data.
- Complete the development of UT-HIP's scalable, secure, and accessible data storage platforms.
- Develop training and methods for local users to access, visualize, analyze, and interpret these data and promote strategies to enhance data quality and use for mapping and tracking population health patterns of chronic disease and key indicators of health.
- Work with state agencies to improve coordinated access to state health data.
- Work with health communication partners to frame, visualize, and disseminate data.

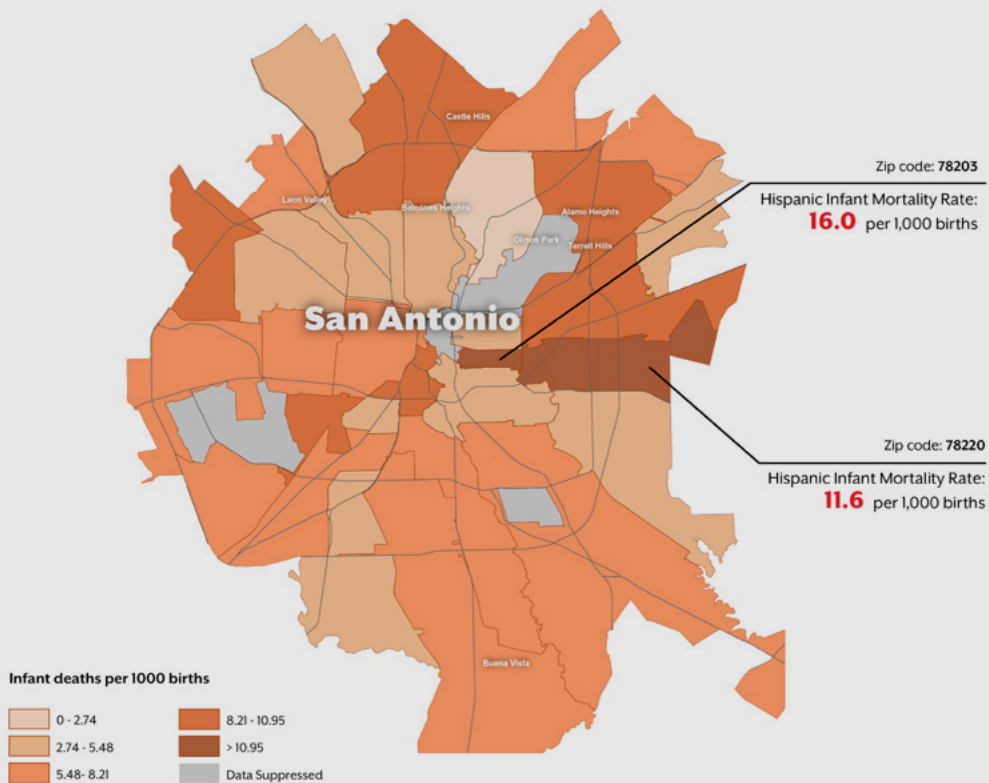
## Examples

- Dr. Linda Highfield and colleagues from UTHealth School of Public Health received an Accountable Health Communities grant from the Centers for Medicare & Medicaid Services to address the social factors that affect the health of Medicare and Medicaid beneficiaries in Harris County. The five-year project will work to evaluate the social needs of Medicaid and Medicare beneficiaries by utilizing an innovative screening tool that will be offered to patients when they seek medical care at any one of the partner clinical sites. Using a tablet, patients can record their health needs as well as other factors that may adversely impact individual health, such as food insecurity, housing instability, utilities, transportation or

interpersonal violence. The tablet will then provide a customized list of community resources to the beneficiaries who may be at high-risk for poor health outcomes.

- The UT System small area mapping project has recently mapped out infant mortality (death before the age of one year). Merged data from birth and death certificates and other measures allowed the calculation of the rate of infant mortality for each zip code with more than 400 births over a four-year time period. These rates are now available in an interactive map that shows the zip code level infant mortality rates for the overall population, and by race (Figure 2-1).
- The Center for Healthcare Data (located at the UTHealth School of

Public Health campus in Houston) houses several administrative that cover health care utilization for more than 65% of the Texas population, including data sets from Blue Cross Blue Shield, Medicaid, Medicare, and Truven Market Scan. Data are made available for approved research studies designed to enhance and expand the body of knowledge regarding utilization of health care services, quality, costs, payment systems, and policy reform. Additionally, the Center for Healthcare Data provides consultative and analytical services to the state of Texas, and has certification as a CMS Qualified Entity.



**Fig 2-1.** The UT System small area mapping project has recently mapped out infant mortality rates in Texas down to the zip code level, highlighting dramatic variation in rates even within a city.