UT SYSTEM POPULATION HEALTH

Strategic Plan

The University of Texas System
FOURTEEN INSTITUTIONS. UNLIMITED POSSIBILITIES.

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Suggested Citation:

Lakey D, Valerio M, Elerian N, et al. (2019). UT System Strategic Population Health Strategic Plan. Austin, TX. University of Texas System.

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The University of Texas System

For more than 130 years, The University of Texas System has been committed to improving the lives of Texans and people all over the world through education, research and health care.

The University of Texas System is one of the nation's largest systems of higher education, with 14 institutions that educate more than 228,000 students. Each year, UT institutions award more than one-third of all undergraduate degrees in Texas and almost two-thirds of all health professional degrees. With about 20,000 faculty – including Nobel laureates – and more than 80,000 health care professionals, researchers, student advisors, and support staff, the UT System is one of the largest employers in the state.

The UT System ranks third in the nation in patent applications, and because of the high caliber of scientific research conducted at UT institutions, the UT System is ranked No. 1 in Texas and third in the nation in federal research expenditures. In addition, the UT System is home to three of the nation's National Cancer Institute Cancer Centers – UT MD Anderson, UT Southwestern and UT Health San Antonio – which must meet rigorous criteria for world-class programs in cancer research.

Table of Contents

Dear Friends, Colleagues, and Fellow Texans,

The state of Texas is among the nation's leaders in many areas, including population growth and economic output. In the health arena, The University of Texas System institutions are recognized leaders and innovators in health care delivery, public health, biomedical research, and health workforce education. Texas' population is diverse and growing, and is more than just a reflection of the nation's diversity; it's a vision of what the United States may look like in the future.

Texas also faces considerable population health challenges. We lead the nation in the number of individuals who are uninsured. Our coastal region is uniquely vulnerable to natural disasters. Our border with Mexico is the longest in the nation and brings with it bi-national health challenges that few other states in the nation confront. Racial and ethnic health disparities are significant within our rural, suburban, and urban communities.

There are also significant geographic disparities found across and within our communities. New methods for analyzing and mapping data have allowed us to pinpoint significant differences that exist even across adjacent census tracts or zip codes. In many ways, our zip codes can be more predictive of our health outcomes than our genetic codes.

UT System is committed to addressing the health needs of Texans through our research, care delivery, and educational and workforce training. In this Population Health Strategic Plan for Fiscal Years 2019-2024, prepared at the request of the UT System Board of Regents, we outline a strategy focused on our institutions and their unique strengths and opportunities. Our institutions are committed not only to providing exceptional health care to their patients, but to working in partnership with their communities to identify and implement programs that will improve the health of all people and inform practices and standards across the United States.

Our process

This plan was developed by a group of population health leaders from the UT health and medical institutions as part of the newly established UT Collaboration for Population Health Innovation and Improvement (UT CoPHII). A key premise of the planning process was that an overarching UT System plan could not be developed in isolation from the population health plans of our individual campuses. Institutional plans were therefore first developed by internal population health teams, with ongoing input from UT CoPHII colleagues and leadership, and then approved by the institutions' leadership.

Working from the institutional plans, the UT CoPHII leadership team identified cross–institutional themes, challenges, and opportunities, and then synthesized unifying priorities for the UT CoPHII collaborative. Six key objectives were identified and are the focus of this UT System wide strategic plan. These objectives are:

1. Increase UT System collaborations to address population health.
2. Develop strategies to promote data sharing, repository use and analytics.
3. Increase use and reach of telemedicine for delivery of primary and secondary care.
4. Promote cancer prevention and screening.
5. Prioritize mental health and expansion of integrated mental health services.
6. Advance health and health care workforce development.

Undergirding all six objectives is a deep commitment to addressing health disparities and reducing equity and access challenges faced by our communities. Texas faces many health challenges beyond the ones listed above, but the members of UT CoPHII believe that these six objectives will enable our institutions to move forward collectively, are attainable within the time frame of this strategic plan, and will facilitate the ability of our institutions to collaborate on additional initiatives in the future. These six areas will set the stage for UT System institutions to build on their national leadership in population health and to significantly improve health in their respective communities and across the state of Texas.

UT System alone cannot solve all the population health needs of our great state, but we are committed to engagement and partnership across our institutions and within the communities of which we are part. We are dedicated to reducing health disparities throughout the state. And we will work to disseminate broadly and freely the methods and strategies for sustainable change that emerge from our work. Thank you for your interest in this initiative and in improving health for all Texans.

David L. Lakey, MD

Vice Chancellor for Health Affairs
Chief Medical Officer
The University of Texas System
Texas Commissioner of Health (2007-2015)

THE POPULATION HEALTH PLAN FOR THE UNIVERSITY OF TEXAS SYSTEM

The Purpose of this Plan

The purpose of this Population Health Strategic Plan is twofold. The first is to improve health in Texas by decreasing key health disparities in the state. The second is to identify key overarching population health priorities to focus on over the next 3-5 years to expand on UT System's leadership role in state and national population health improvement. To do so, key infrastructural and health issues were selected that can be addressed during this 3-5-year window. UT System fully realizes that to dramatically improve health and decrease disparities in the Texas population, other Texas university systems, agencies and institutions must play key and complementary roles.

This plan is not designed to address all the population health issues in Texas. Rather, by building on the many strengths of UT institutions in this arena, and by addressing key gaps, UT System will position itself to assume leadership in confronting key population health issues and in enhancing the collaboration and learning between sister institutions. The UT System, with its statewide network of campuses, should be a catalyst for such educational partnerships and research collaborations.

The Population Health Strategic Plan represents the work of the UT System Population Health Initiative, the University of Texas health institutions and the two new medical schools (UT Austin Dell Medical School and the UT Rio Grande Valley School of Medicine). Together, these institutions worked to identify pressing priorities in population health and potential strategies for addressing them. The goal is to leverage System-wide capacity and cross-disciplinary expertise to address and promote the needs of Texans. From reducing infant and maternal mortality in East Texas to improving liver cancer prevention in Latinos, the focus will be on identification, dissemination and implementation of best practices to improve health outcomes across the state. To do so, access to and sharing of data that best represents health at the local community level must be improved. Partnerships with local providers and organizations must be formed in order to tailor implementation efforts to the local community and cultural context. And the social determinants of health and their impact on health outcomes over the course of the life span must be accounted for.

Facing the Facts: Health Outcomes Must be Improved

The United States ranks first globally in health care expenditures, with an estimated 17.9% of GDP, or roughly $3 trillion-dollar aggregate annual cost, dedicated to health spending. Yet health outcomes in the United States remain poor. Of the 35 Organization for Economic Co-operative and Development (OECD) nations, the United States ranks 26th in average life span, at 79 years. Infant mortality rates are worse than 28 of the 35 other OECD nations, coming in just below Hungary. Although the U.S. has made progress in reducing the burden of infectious disease and tobacco use, preventable hospitalizations, and the overall number of uninsured, rates of

TEXAS HEALTH RANKINGS

10th in smoking rates

34th **in overall health**

23rd in infant mortality

28th in health disparities

44th in health of women and children

38th in health of seniors

cardiovascular disease, premature death, drug-related deaths, and obesity are increasing nationwide. This context translates to the state of Texas.

Over the last decade, Texas has improved its overall rankings, compared to other states, in key indicators of health. In 2017, the American's Health Rankings (AHR) report ranked Texas as the 34th healthiest state overall, while its ranking ranged from 42nd to 39th between 2008 and 2012. Areas in which Texas does well compared to its peers include a low rate of drug-related deaths, relatively low smoking rates (14.3% , ranking #10), relatively high rates of high school graduation, and low prevalence of frequent mental distress. Noted challenges include having the highest uninsured rates in the nation, having low levels of primary care physicians, and having high rates of diabetes. Texas' infant mortality rate is 23rd in the nation, at 5.8 per 1,000 births; its premature deaths (7,175) is 23rd; and its obesity ranking is 43rd. Texas ranked 44th in the AHR's 2017 "Health of Women and Children" report and 38th in its 2017 "Senior Report."

The Role of Health Disparities

To understand health in Texas, one must understand that "health" is not equally distributed across the state. Certain populations have better or worse health outcomes than others.

Understanding racial, ethnic and geographic disparities is key to developing a coherent population health strategic plan, and is one of the primary perspectives through which this plan was developed.

Texas is the most racially diverse state in America. According to the Texas Demographic Center, Texas has a 2018 projected population of almost 29 million, of whom 41.5% classify themselves as Hispanic or Latina/o, 40.3% as White, 11.4% as Black or African American, 4.8% as Asian, and 6.9% as Other. Examples of racial health disparities include:

- A three-year shorter life span of Black Texans compared to Whites and Hispanics.
- Infant mortality among Black Texans that is twice as high compared to other racial groups.
- Almost one-third of Hispanics and 14 percent of Blacks in Texas do not have health insurance as compared to 10 percent of Whites.
- Rates of HIV/ AIDS infection that are four times higher in Blacks.

Despite these staggering racial disparities, Texas ranks in the middle (28th) nationally in racial disparities in health. This does not mean Texas is

RACIAL DISPARITIES IN HEALTH

-3
3-year shorter life span of Blacks compared to Whites and Hispanics

2x
infant mortality among Blacks is twice as high compared to other racial groups

30%
higher rates of heart disease in Blacks

50%
higher rates of stroke mortality in Blacks

4x
higher rates of HIV/AIDS infection among Black Texans

doing well, but rather that the whole nation must do better at addressing disparities.

Texas also has significant geographic disparities. These geographic disparities can be as profound as the ethnic and racial disparities, and often can compound the problem. One example is the difference in health outcomes between rural and metropolitan regions of Texas. The "Health Status of Northeast Texas 2016" report, produced by The University of Texas System and UT Health Science Center at Tyler, demonstrated that if Northeast Texas (a region the geographic size of West Virginia and with a population of 1.3 million) was an independent state, it would be one of the unhealthiest states in America (Table 1).

Likewise, the South Texas Health Status Review[2] by UT Health San Antonio demonstrated that the Texas-Mexico Border (a 38 county region with a population of over 4 million-people) has significantly higher rates of several infectious diseases (including tuberculosis), higher rates of obesity and diabetes, higher rates of several cancers (liver, stomach and cervical), and higher levels of birth defects than Texas as a whole. Geographic disparities can also occur at a much smaller level, with contiguous zip codes[3] in a metropolitan area having very disparate health outcomes.

A final disparity is the profound difference in overall health outcomes for people with mental illness. In Texas, individuals with severe mental

Table 1. Age-adjusted mortality rates for Top 5 causes of death per 100,000 people: Northeast Texas compared to Texas (2014)

	Texas Rate	Northeast Texas Rate	Rate Difference	% higher rate in Northeast Texas	TX State Rank*	Northeast TX "State" Rank
Heart disease	169.9	226.4	56.5	33%	33rd	49th
Cancer	152.9	162.8	9.9	6%	13th	25th
Chronic lower respiratory disease	40.5	56.7	16.2	40%	21st	47th
Stroke	41.6	53.2	11.6	28%	38th	51st
Unintentional injuries	37.3	48.0	10.7	29%	9th	34th
All causes	**745.3**	**889.7**	**144.4**	**19%**	**31st**	**45th**

* A rank of 1=best (lowest) rate, 51=worst (highest) rate, with Northeast Texas included as a U.S. "state"
Data source: National Center for Health Statistics on CDC WONDER database. Rates are per 100,000 population.

illness live approximately 28 years less than the general population. This reduced life span is not due to suicide, but rather to the increased burden of chronic diseases such as diabetes and tobacco-related heart and cardiovascular disease.

Underlying Principles of the UT System Population Health Strategic Plan

Several models and frameworks were used to inform the development of the UT System's strategic population health approach.

Population Health

"Population Health" is a relatively new term in the health field, with varying perceptions of what it means. Health care executives, for instance, may relate it to the management of specific patient populations, with a focus on frequent utilizers of health care and the provision of special outreach and services to those patients. Other people may see the term as a synonym for traditional public health efforts, or, more broadly, as a general description of what we do collectively to keep society healthy.

For this strategic plan, the starting place is Kindig and Stoddart's definition from their seminal 2003 article, "What is Population Health?"[4] wherein they define population health as "the health outcomes of a group of individuals, including the distribution of such outcomes within groups."

Kindig and Stoddart also cite the definition of the Canadian Federal/Provincial/Territorial Advisory Committee on Population Health, which describes the population health approach as one that focuses on "interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations."[5]

The population health perspective is one that has to bring the public health sector together with the medical care sector to focus on improving health outcomes throughout a community.

The Triple Aim of Health Care Improvement

Improving the overall health of the Texas population will require Texans to think differently about how to improve health. Instead of just focusing on the availability and quality of care for those already sick, there is a need to focus on how to keep people healthy and how to better use limited resources. One framework to drive these improvements is the Triple Aim model developed and promoted by the Institute for Healthcare Improvement. The three components of the Triple Aim are:[6]

1. Improving the patient experience of care
2. Improving the health of populations
3. Reducing the per capita cost of health care

These three goals inform the UT System Population Health Strategic Plan, as does a broader commitment to using patient data, national data, and an understanding of the local context to move from a generalized approach to health to a tailored population health approach.

The Social Determinants of Health

A truly strategic population health approach must look beyond the walls of the exam room to the social and environmental factors that affect the health of communities, including the decisions people make about their own health, their socioeconomic status, and the environments and

places in which they live and work. An awareness of the social determinants of health is integrated into each approach within strategic plan.

A Call to Action for Higher Education

The Population Health Strategic Plan is informed by "Strategic Planning in Population Health and Public Health Practice: A Call to Action for Higher Education," by Phelps, Madhavan, Rappuoli et al. The article calls on institutions of higher learning to train the next generation of public health workers to think strategically and holistically about public and population health planning.[7]

UT System is poised to disseminate its approaches to population health beyond single metrics and narrow focuses, and to develop and train students, faculty and communities to improve population health and public health practice through collaborative engagement.

Academic Health Systems' Third Curve

The strategic plan is also informed by "Academic Health Systems' Third Curve: Population Health Improvement," by Washington, Coye, and Boulware. In their formulation, academic health systems have made great strides in addressing and improving the "first curve" of individual patient care, as well as the "second curve" of population health management (which deals with the health of specific populations that seek care at their institutions). The next frontier for these systems is taking responsibility for the "third curve" of population health improvement.

They write: "The goal of population health improvement is to enhance the health of all individuals in a population, often characterized as a city, zip code area, or specific geography. Compared with the first and second curves, the third curve requires greater emphasis on factors and influences unrelated to health care."

This broader effort toward population health improvement seeks to take responsibility not just for those who seek care at UT institutions, but all of those who are part of the communities in which the institutions reside, whether or not they're patients.

Development of Institutional Population Health Plans

Over the past year, all eight UT health institutions, including the two new medical schools at UTRGV and UT Austin, focused on the development of institutional population health strategic plans. These plans were developed through a series of internal and community meetings, surveys, and data analyses. The UT institutions identified the major health challenges in their communities and opportunities for their institution to make a difference.

The UT System Population Health Strategic Plan represents this cross-institutional work. Together, the institutions have identified the key local priorities in population health along with potential strategies for addressing those needs through education and workforce development, technology development and data sharing, and expansion of access to evidence-based interventions and preventive and primary care treatments.

Summaries of the individual institutions' strategic plans and full institution plans are available at the UT System Population Health website. (http://utsystempophealth.org)

Catchment area map of UT health and medical instututions

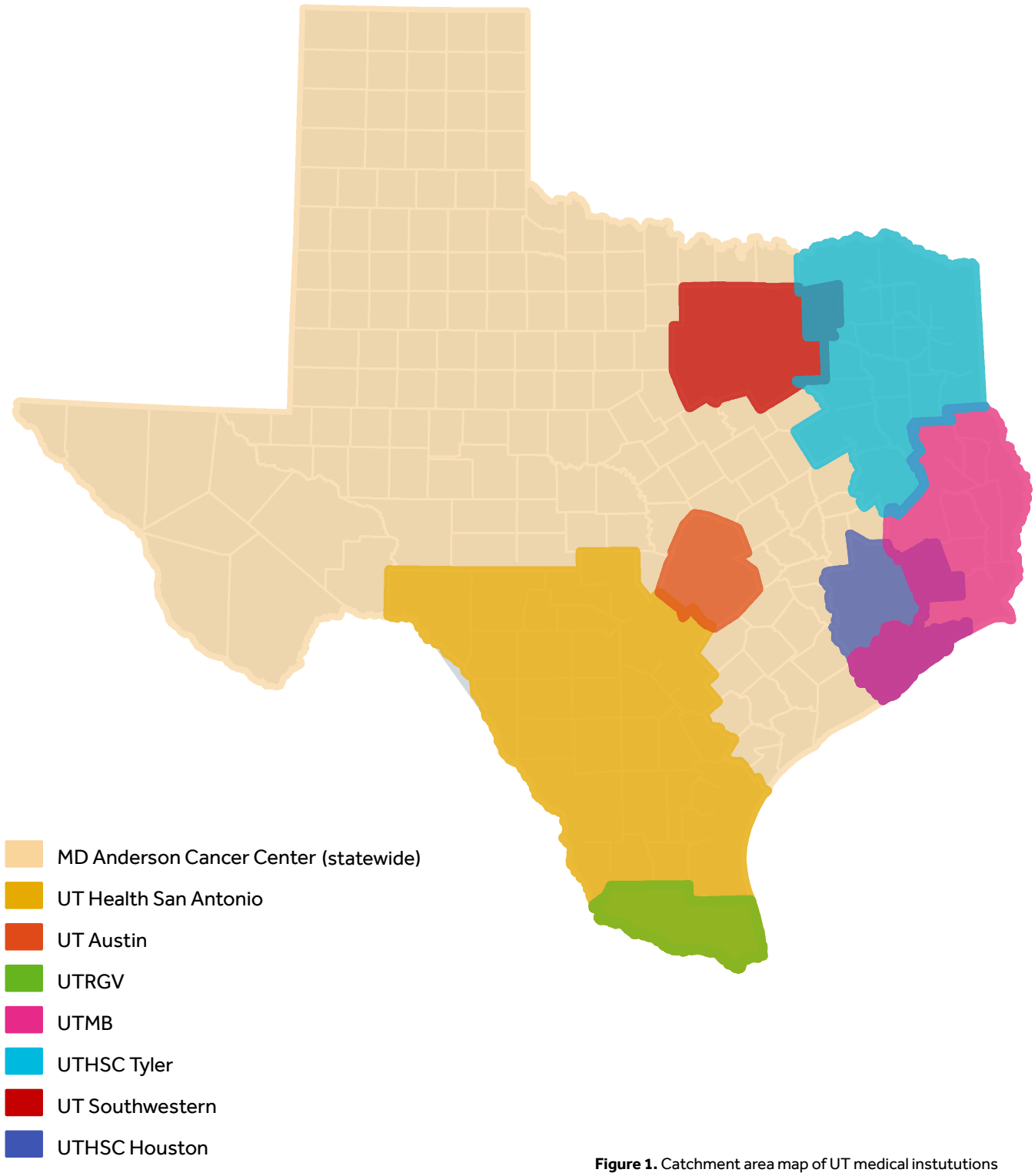


Figure 1. Catchment area map of UT medical instututions

UT CoPHII's Recommendations

Drawing from the strategic population health plans developed by UT's six health institutions and two new medical schools, the UT CoPHII leadership team identified cross-institutional themes, challenges, and opportunities. The team synthesized unifying priorities for the UT CoPHII collaborative and identified six key objectives, along with a set of recommendations for each objective.

Objective 1: Increase UT System Collaborations to Address Population Health

- Support and expand UT Systemwide collaborations.
- Identify and promote institutional regional population health infrastructure.
- Identify UT System institutions' best practices for information dissemination and program implementation.
- Identify additional ways to partner with Texas agencies and other university systems to address key health issues.
- Develop and implement a systemwide set of competencies in population health for inclusion in undergraduate, graduate and professional schools.
- Work together to identify and secure funding for population health improvement.

Objective 2: Develop Strategies to Promote Data Sharing, Repository Use and Analytics

- 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.

Objective 3: Increase Use and Reach of Telemedicine for Delivery of Primary and Secondary Care

- Increase use of telemedicine to address health disparities and gaps in care coverage for rural populations.
- Identify and address community telemedicine use and acceptability to ensure reach and acceptance of telehealth care model.
- Train providers and clinical leadership to advance the use of telemedicine and telementoring across Texas.
- Develop and maintain telemedicine technology to address population health priorities, including the collection of data to evaluate reach and implementation.

• **Objective 4:** Promote Cancer Prevention and Screening

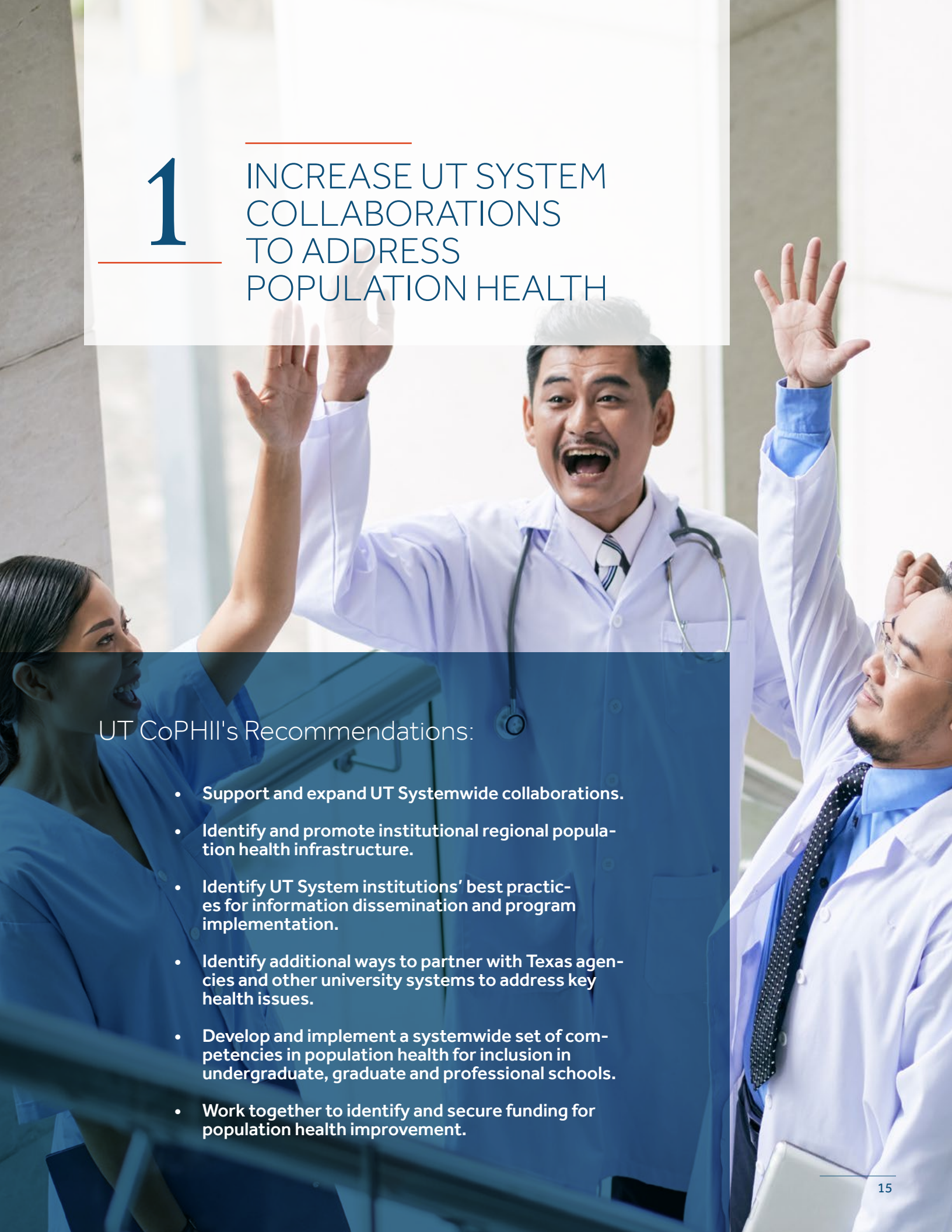
- Expand and improve prevention and screening efforts using population data.
- Disseminate evidence-based community cancer prevention strategies targeting tobacco control.
- Expand HPV cancer prevention and colorectal cancer screening.
- Address emerging cancer prevention needs, including chronic hepatitis.

Objective 5: Prioritize Mental Health and Expansion of Integrated Mental Health Services

- Identify best practices to encourage mental health screening in primary care.
- Expand the use of telehealth to enhance access to mental health care.
- Identify strategies to promote community understanding of mental health as a means to increase use of needed services and reduce stigma related to mental health diagnosis.
- Increase the mental health workforce through training and recruitment.
- Continue to develop partnerships between academic institutions and the state mental health inpatient and outpatient systems.
- Develop a collaborative mental health research agenda for Texas.

Objective 6: Advance Health and Health Care Workforce Development

- Integrate population health in medical and health professions education.
- Incorporate the social determinants of health into the education and training of current and future health care professionals.
- Advance the skill sets of the health and health care workforce to improve population health in Texas.



1 INCREASE UT SYSTEM COLLABORATIONS TO ADDRESS POPULATION HEALTH

UT CoPHII's Recommendations:

- **Support and expand UT Systemwide collaborations.**
- **Identify and promote institutional regional population health infrastructure.**
- **Identify UT System institutions' best practices for information dissemination and program implementation.**
- **Identify additional ways to partner with Texas agencies and other university systems to address key health issues.**
- **Develop and implement a systemwide set of competencies in population health for inclusion in undergraduate, graduate and professional schools.**
- **Work together to identify and secure funding for population health improvement.**

Population Health Objective 1

INCREASE UT SYSTEM COLLABORATIONS TO ADDRESS POPULATION HEALTH

Systemwide Collaboration

UT System plays a key leadership role in addressing the health needs of Texas. Over the last several years, the Population Health Initiative in the Office of Health Affairs has developed multiple statewide collaboratives, many times in partnership with key health-related state agencies. These projects include:

- The Texas Collaborative for Healthy Mothers and Babies (TCHMB), which is funded by the Texas Department of State Health Services (DSHS)
- The Texas Health Improvement Network, or THIN, the creation of which was directed by Texas House Bill 3781 of the 84th Legislature
- The UT Eliminate Tobacco Use initiative
- The Mental Health Workgroup, which includes the chairs of the psychiatry departments at UT Health institutions and non-UT institutions, as well as local and state mental health department representatives.

These collaboratives have proven fruitful, resulting in changes in state health policy, new funding allocations, and quality improvement in key areas. This collaborative-building strategy needs to be expanded to drive further improvements in population health.

Indeed, no educational or medical institution in Texas alone can fully address the health challenges Texas faces. Too often UT institutions, and even faculty within an individual institution, work in isolation. A key message from the UT CoPHII members was that collaboration within and among institutions needs to be enhanced. UT CoPHII members noted that even within their institutions, there were faculty working on similar projects without knowledge of one another.

To avoid duplication and lack of coordination, partnerships among UT System institutions that are focused on population health need to be expanded and strengthened. Furthermore, there is a deep desire to identify clear projects that, through partnerships, will foster success in obtaining additional extramural funds. This is already starting to take place, as several of the UT CoPHII members have recently partnered on applications to Cancer Prevention Research Institute of Texas (CPRIT) and other funding agencies. Partnerships are especially

Participants in the inaugural Healthier Texas Summit, which was a collaboration between UT System and nonprofit IT'S TIME TEXAS dedicated to reducing the burden of preventable chronic disease.

Dr. Patrick Hodges, a neonatologist at Dell Children's Medical Center, is part of a collaboration between UT Austin Dell Medical School and Seton Healthcare that is working to predict — and prevent — health complications that commonly arise in premature infants.

advantageous to the smaller and newer health institutions, which may have difficulty securing these grants on their own, but could bring a rural or border expertise to these grant applications and thus strengthen them.

To address duplication of efforts and lack of internal coordination, several UT institutions are in the process of developing administrative centers for their population health initiatives. For example, a key component of the UT Health Science Center at Tyler strategic plan is building the School of Community and Rural Health, which will lead and coordinate population health efforts for the institution. The UT Austin and UTRGV medical schools have established Departments of Population Health. MD Anderson recently established their Department of Cancer Prevention and Population Sciences. Population health activity is ongoing at UT Health San Antonio through the Center for Research to Advance Community Health (ReACH), the Institute for Health Promotion Research, the Institute of Integration of Medicine and Science (IIMS), the UT School of Public Health in San Antonio, and the School of Nursing. UTMB Galveston engages in population health activities through multiple units, including its Institute for Translational Sciences (CTSA home), the East Texas Area Health Education Centers (AHECs), and the Department of Preventive Medicine and Community Health, which houses graduate and professional degree programs in Public Health and Population Health Sciences. Along those lines, UTHealth in Houston and other institutions believe their population health efforts would be enhanced significantly by establishing similar structures.

Developing cross-site data sharing is key to addressing the health needs of Texans. Through ongoing collaborations, new platforms can be developed, and existing platforms expanded, for dissemination of data and information. This would serve to position UT System as a statewide leader and national model in using surveillance, epidemiological practices, and technologies to monitor population health and identify specific regional needs.

Finally, the system has not yet harnessed the capacity for evaluating these efforts across institutions to inform the dissemination and implementation of best practices. Ongoing efforts and practices will lead to further collaborations across institutions and communities that promote community-engaged population health approaches.

As next steps in enhancing collaborations to address population health, the members of UT CoPHII recommend the following:

- Support and expand UT Systemwide collaborations.
- Identify and promote institutions' regional population health infrastructure.
- Identify UT System institutions' best practices for information dissemination and program implementation.
- Identify additional ways to partner with Texas agencies and other university systems to address key health issues.
- Develop and implement a systemwide set of competencies in population health for inclusion in undergraduate, graduate and professional schools.
- Work together to identify and secure funding for population health improvement.

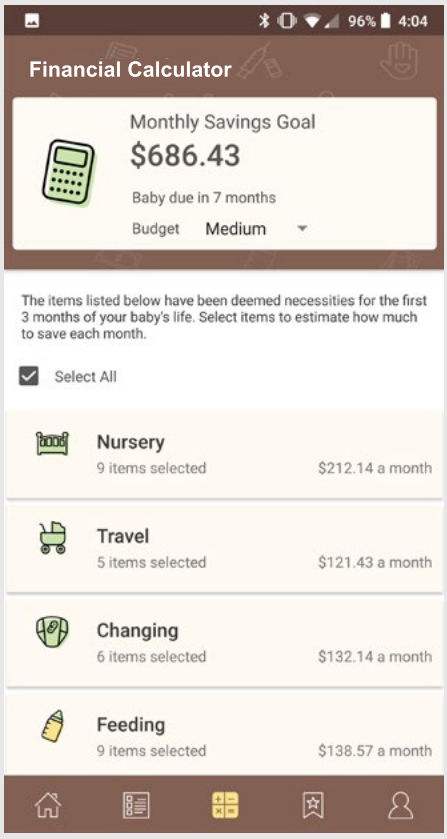
Methods to achieve these goals:

- Further develop state and UT System institution-wide collaborations and partnerships to address population health priorities.
- Facilitate multi-institutional initiatives to improve the collection, analysis, sharing, and use of population health and statewide data sources.
- Identify opportunities for enhanced collaboration on population health training and best practices.
- Train UT System institutions in the use of tools and strategies to assess and address population health needs in their regions using Systemwide expertise.
- Partner with regional population health partners and facilitate cross-institutional programs.
- Support individual UT institutions as they develop their center, programs, or strategies to coordinate population health initiatives.

Examples

- University of Texas Collaborative on Population Health Innovation and Improvement (UT CoPHII) is a population health learning collaborative of all UT Health Science Centers and the two new UT medical schools that aims to develop actionable strategic plans for each institution and the UT System as a whole.

- Texas Safe Babies, funded by the Department of Family and Protective Services, is a collaboration between UT Health Science Center at Tyler, UT System, UT Austin, Baylor College of Medicine, and hospitals designed to evaluate hospital-based interventions that are thought to prevent abuse, especially abusive head trauma, in the first year of life.



A screenshot from the Father's Playbook, a smart phone app for expecting fathers that is being developed, in collaboration with the Center for Health Communication at UT Austin, as part of the Texas Safe Babies project.

- The Texas Collaborative for Healthy Mothers and Babies (TCHMB), funded by the Texas Department of State Health Services, is a multi-disciplinary network made up of health professionals throughout the state whose mission is to advance health care quality and patient safety for all Texas mothers and babies.

- The Texas Health Improvement Network (THIN), established by the 84th Texas Legislature and attached administratively to the UT System, is a multi-disciplinary, multi-institutional collaboration designed to address urgent health care challenges in Texas. Based on the triple aim of health care and advised by a 24-member advisory board, including representatives from multiple UT institutions, THIN is developing networks to improve health and to advise the Texas legislature on population health opportunities.

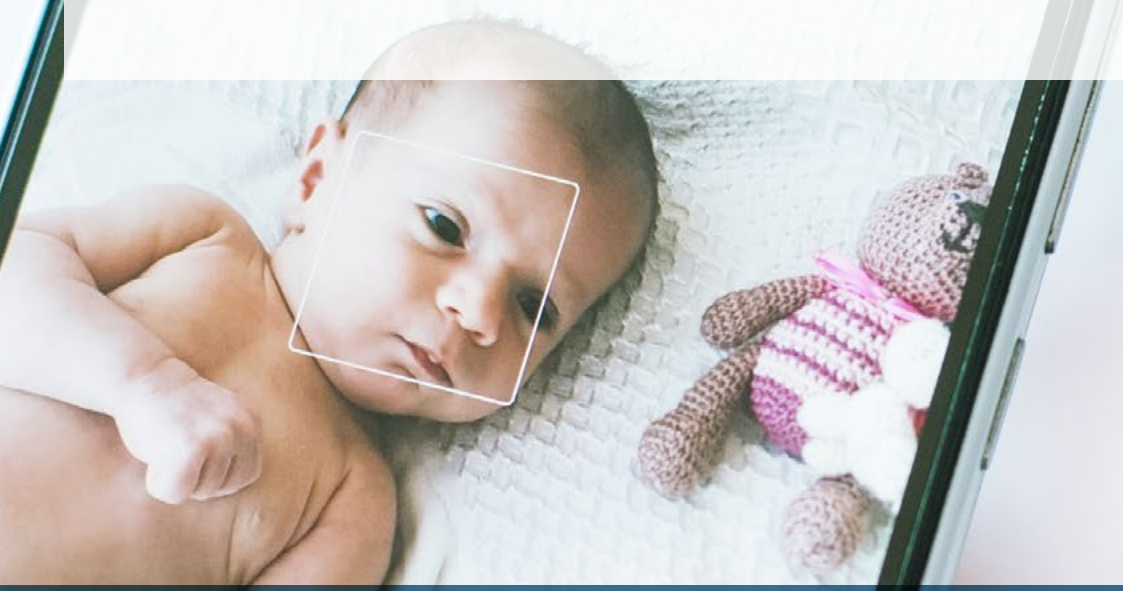
- UT Eliminate Tobacco Use, led by MD Anderson Cancer Center and UT System, is a consortium of representatives from all 14 UT institutions. Its goal is to eliminate tobacco use at all UT institutions and in the communities in which they reside. Areas of focus include tobacco use prevention, tobacco policy and enforcement, improving tobacco cessation programs for employees, and conducting research.

- The Mental Health Workgroup includes the Chairs of the Psychiatry Departments at UT Health institutions and non-UT institutions, as well as representatives from state and local mental health agencies. It meets regularly to discuss opportunities to improve coordination between the state and academic mental health providers.

- Healthier Texas is a partnership with non-profit group IT'S TIME TEXAS that is dedicated to addressing obesity, nutrition, physical fitness, and tobacco use.

- The UT Southwestern Community Registry is a novel approach toward dissemination that helps with community-academic partnerships across UT System institutions. It is supported by the UT Southwestern Center for Translational Medicine (CTSA). Currently, over 12,000 community members (approximately 46% Hispanic and 40% Black) are enrolled.

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-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.

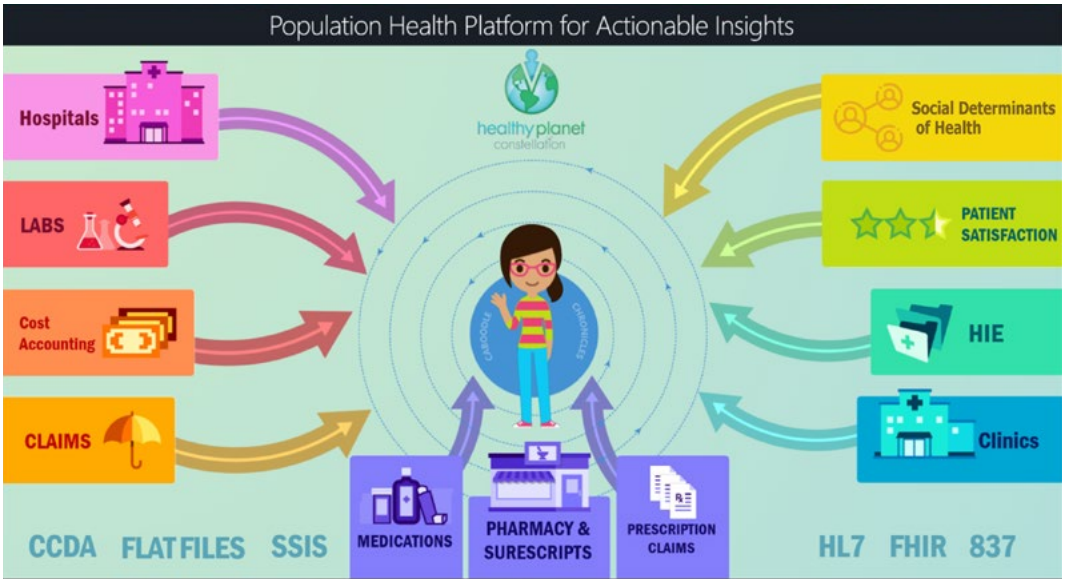
This use of big data is critical to addressing racial–and geographic health disparities, not only for identifying and spotlighting problems, but also for directing efforts and resources by UT System institutions, state and local agencies, and other stakeholders.

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.

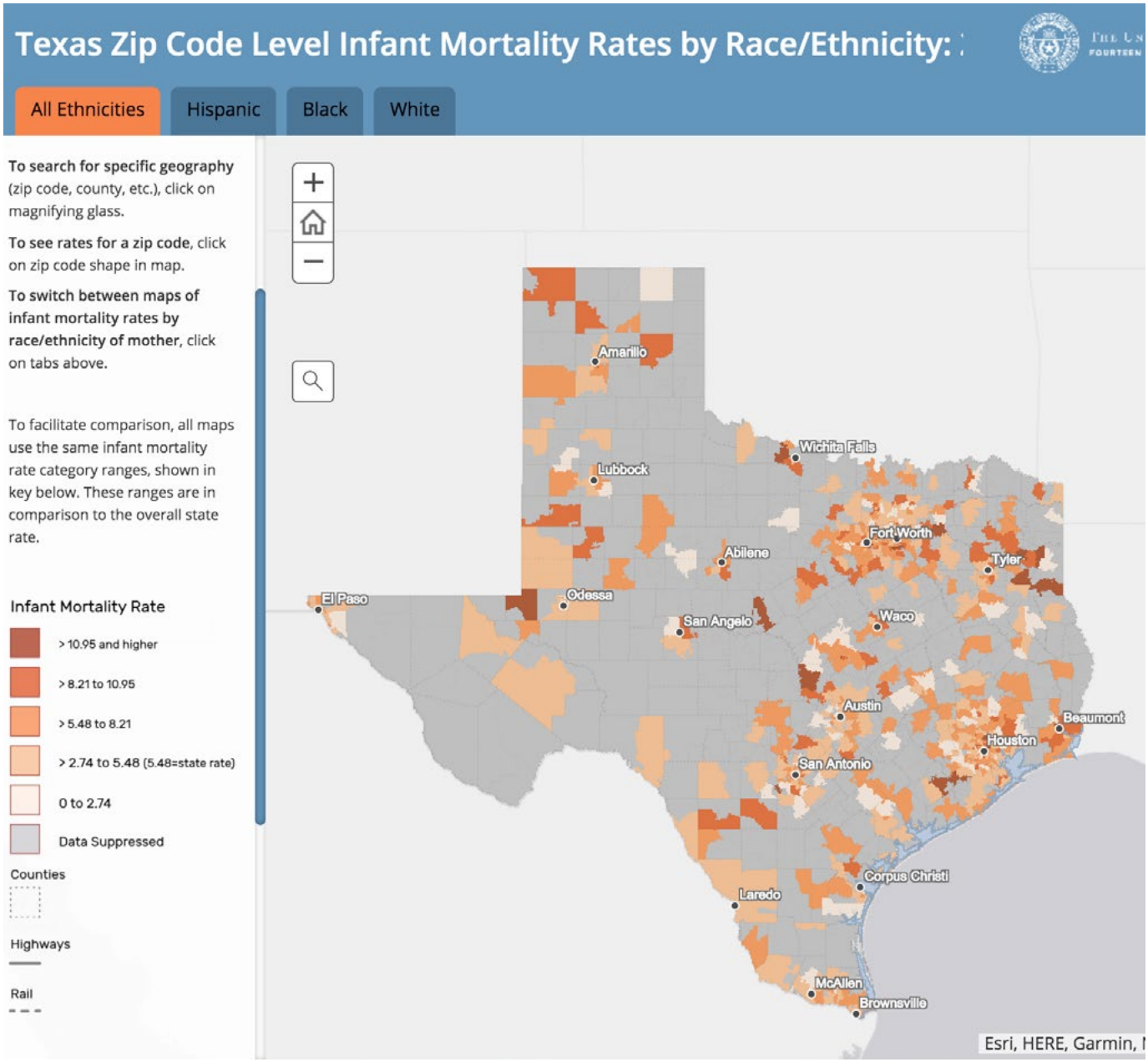
The timely availability and use of a wide range of health-related data will facilitate key collaborations within communities and across UT System institutions to identify how best to address personal and population health needs. UT System cannot achieve these goals in isolation; it must partner with 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 datasets 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.

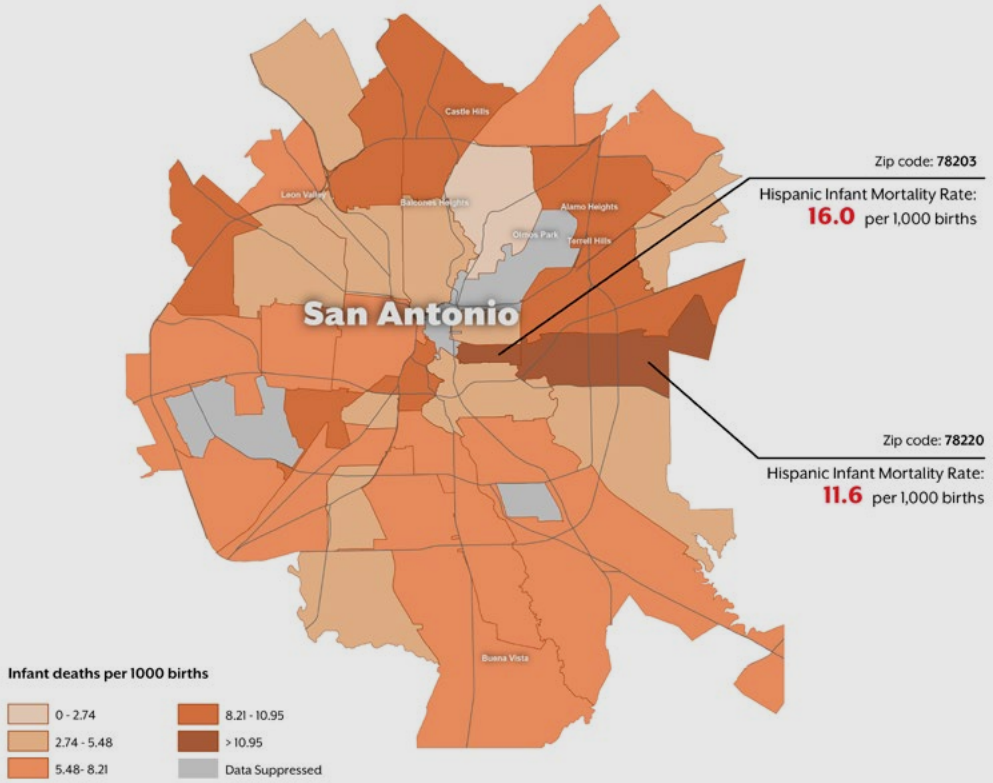
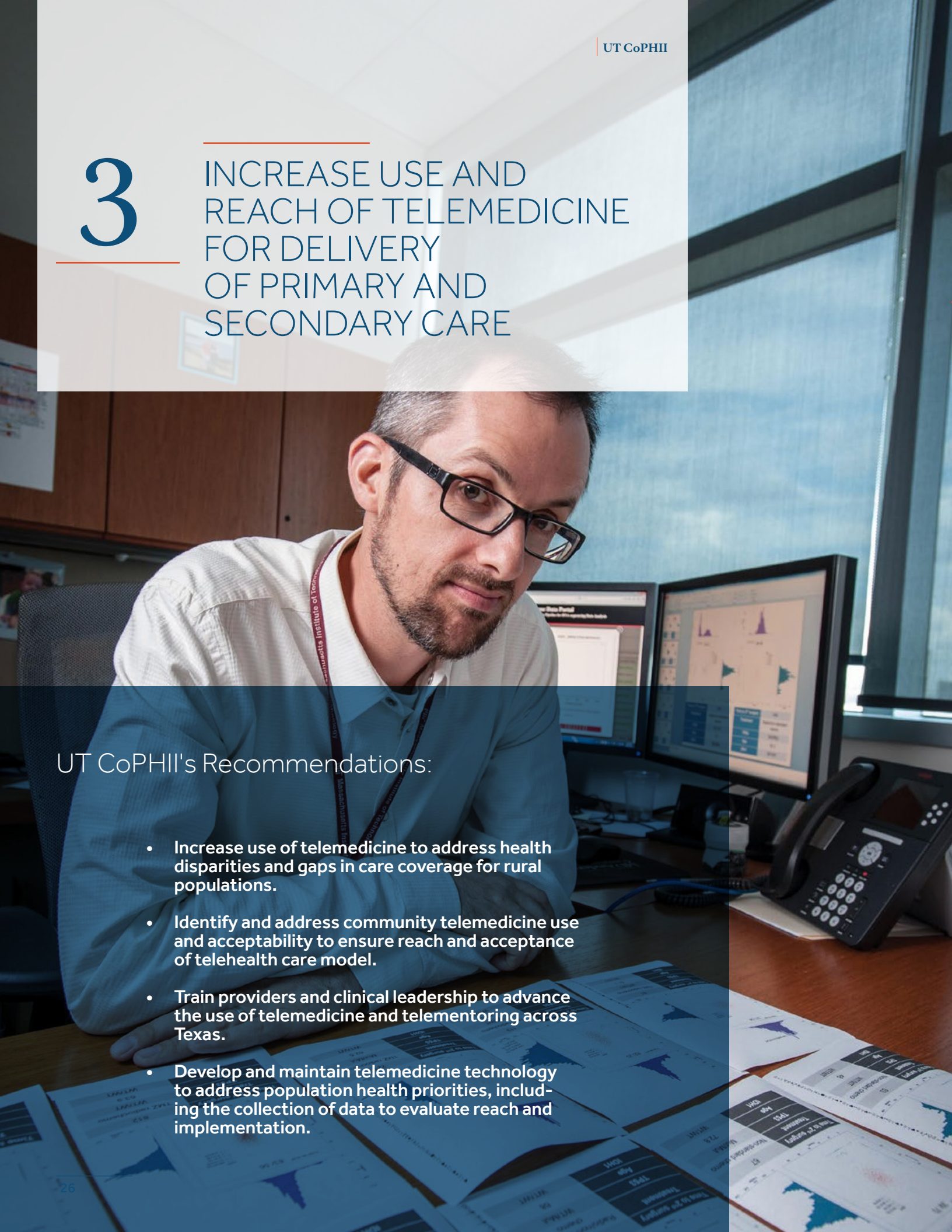


Fig 2-1. The UT System small area mapping project has recently mapped out infant mortality rates in Texas down to the zip code level, highlighting dramatic variation in rates even within a city.

3 INCREASE USE AND REACH OF TELEMEDICINE FOR DELIVERY OF PRIMARY AND SECONDARY CARE



UT CoPHII's Recommendations:

- Increase use of telemedicine to address health disparities and gaps in care coverage for rural populations.
- Identify and address community telemedicine use and acceptability to ensure reach and acceptance of telehealth care model.
- Train providers and clinical leadership to advance the use of telemedicine and telementoring across Texas.
- Develop and maintain telemedicine technology to address population health priorities, including the collection of data to evaluate reach and implementation.

INCREASE USE AND REACH OF TELEMEDICINE FOR DELIVERY OF PRIMARY AND SECONDARY CARE

Access to Care

Access to quality health care continues to be a major barrier and challenge for the uninsured or underinsured. The lack of access to care contributes to disparate outcomes in Black, Hispanic and poor populations across Texas and is largely linked to place of residence and to distance from care, particularly in rural areas.

Texas is the second largest state in the United States, with 261,797 square miles of land, and is a mix of urban, rural and frontier areas. People in rural areas often must travel considerable distances for a single health care appointment. This distance from providers increases the difficulty many people have in obtaining and maintaining access to health care. This in turn can lead to more acute care needs, uncontrolled chronic illnesses, and late-stage diagnoses of cancer. In addition, the supply of health professionals relative to population is lowest in rural and border areas.

In 2017, out of the 254 counties in Texas, 179 were designated as whole county primary care Health Professional Shortage Areas (HPSAs) due to primary care doctor to patient ratios of 1:3,500 or less. Even more Texas counties (205) were designated as whole county mental health HPSAs (see Figs. 3-1 and 3-2).

In addressing these issues of access, the integration and promotion of telehealth is vital. Telehealth is an overarching term that includes both telemedicine, in which

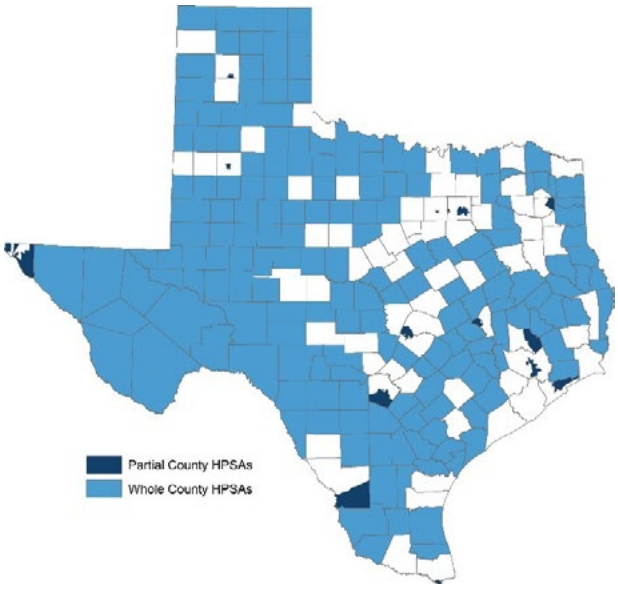


Fig 3-1. In 2017, 179 out of the 254 counties in Texas were designated as whole county primary care Health Professional Shortage Areas (HPSAs)

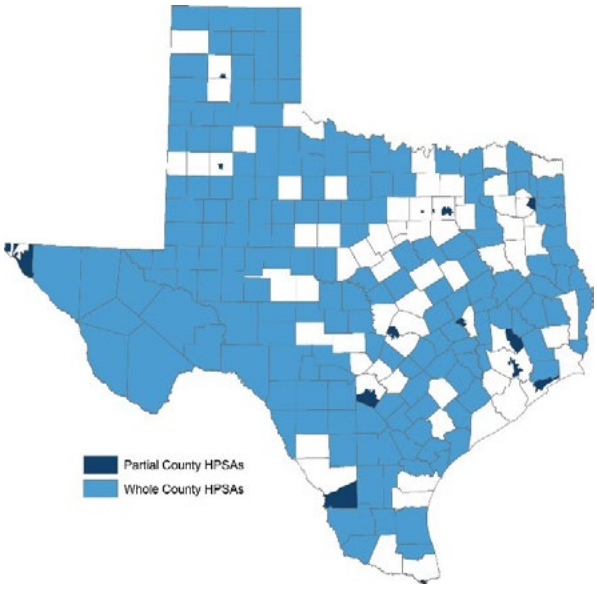


Fig 3-2. In 2017, 205 out of 254 counties in Texas were designated as whole county mental health Health Professional Shortage Areas (HPSAs).

Photo By: Wyatt McSpadden, courtesy of UT Southwestern.

high-quality clinical services are delivered remotely to individual patients, and telementoring, which involves the remote provision of expertise to professional peers. The prefix "tele" conveys that the activities are distant, typically employing communication technologies, such as teleconferencing or videoconferencing, rather than direct, face-to-face communications. The goal is to overcome barriers of geography and limited access so as to provide necessary clinical services and specialized care.

Telemedicine

Telemedicine, the use of technology to deliver health care to patients from a distance, is a proven effective strategy for overcoming certain barriers to care, particularly for communities located in rural and remote areas. Telemedicine models for addressing chronic illness, cancer screening and treatment, mental and behavioral health needs, and specialized peer care, coupled with flexible cloud-based telemedicine platforms, can increase access to care, improve quality of care, and decrease costs while building local capacity and addressing physician and provider shortages.

Telementoring

Telementoring is a peer-to-peer program of support offered by academic subspecialists to community-based providers in the delivery of new drugs, devices, or clinical practices of relevance and interest to their practices and patient populations. A prominent example, Project ECHO (Extension for Community Healthcare Outcomes), was developed at the University of New Mexico in 2003 to try to overcome referral challenges related to hepatitis C screening and management. The program forges partnerships between academic experts and community-based front-line providers in order to advance the dissemination of new and emerging standards of care, assist local communities in confronting complex or unusual cases, and increase local self-efficacy. In Texas, MD Anderson Cancer Center has developed ECHO programs to reach underserved populations in the areas of cervical cancer screening and pre-cancer management, tobacco cessation, cancer survivorship, palliative care, and skin cancer screening.

Models and Evidence Base

Telemedicine and telementoring programs are already showing impact across the U.S. and within Texas. Programs have resulted in reduced hospital admissions and re-admissions, reductions in symptoms for chronically ill patients (specifically symptoms of heart disease, diabetes, Parkinson's disease, and psychiatric distress), reduced emergency room mortality rates, and improved Global Assessment of Functioning psychological ratings.

Johns Hopkins University, for example, developed a "Hospital at Home" model, using telemedicine for Medicaid and Medicare Advantage members, and found a 19% savings over similar patients using traditional inpatient services.

A variety of studies document cost savings from telehealth programs ranging from 8% to 25% as compared to matched inpatient comparisons. One explanation for the savings relates to earlier identification of acute issues and shorter hospital stays when inpatient care is required.

A patient being examined at the telemedicine clinic at the UT System building in downtown Austin, which connects Austin-based employees to clinicians at UT Medical Branch (UTMB) in Galveston.

As next steps in increasing the use and reach of telemedicine, the members of UT CoPHII recommend the following:

- Increase use of telemedicine to address health disparities and gaps in care coverage for rural populations.
- Identify and address community telemedicine use and acceptability to ensure reach and acceptance of telehealth care model.
- Train providers and clinic leadership to advance the use of telemedicine and telementoring across Texas.
- Develop and maintain telemedicine technology to address population health priorities, including the collection of data to evaluate reach and implementation.

Methods to achieve these goals:

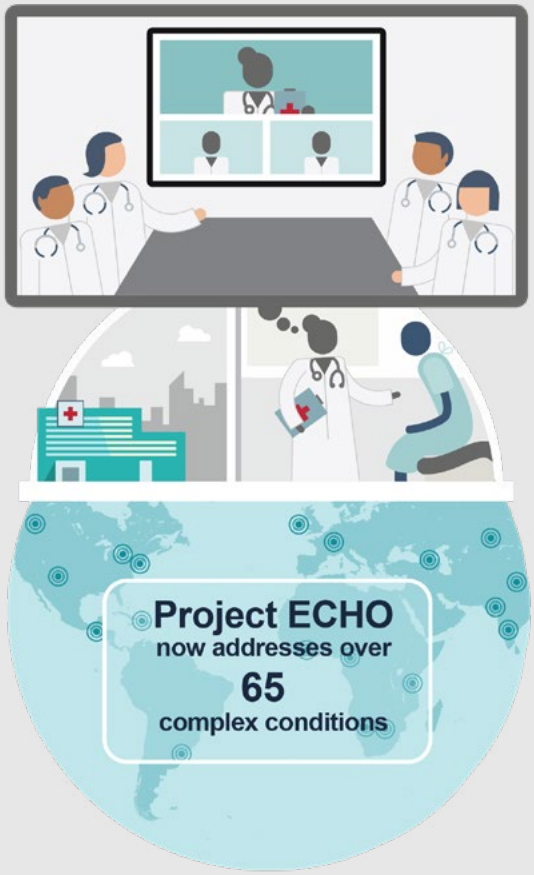
- Expand the availability of telemedicine technology to reach and serve rural and urban populations across Texas.
- Provide training in, and promote the use of, telemedicine by mental health and specialty care physicians.
- Promote the use of telemedicine as a rigorous and quality care strategy within communities.
- Identify opportunities to use the Project ECHO model of telementoring in additional specialties.
- Integrate telemedicine as a standard option for care delivery and training in practice through telementoring.
- Assist rural and urban underserved clinics and rural hospitals with the development and integration of telehealth technology.

Examples

- MD Anderson Cancer Center is designated as a Project ECHO "Oncology Superhub" and credentialed to deliver ECHO training to other health institutions and systems wishing to establish Project ECHO efforts in their institutions to address compelling needs of their catchment area populations. To date, MD Anderson has trained nine clinical care groups or organizations as ECHO hubs to replicate and further extend the model. Project ECHO has great potential to extend clinical oncology care services across the spectrum of cancer, including all aspects of screening, diagnosis, treatment, and survivorship. It also holds the potential to facilitate the delivery of clinical services in all realms of population health, and to help remedy disparities.

- In 2016, UT System working with UTMB, created the UT Virtual Health Network (VHN). The VHN is designed to create a telehealth infrastructure connecting all eight of the UT medical centers and schools to each other and to other academic medical centers as a mechanism to provide crucial specialty services across the state. Each UT Health Science Center and Medical School will serve as a hub, leveraging its areas of clinical expertise to serve patients at other facilities who normally would not have access to its health care facilities. An important feature of the VHN construct is a centralized approach to administration that empowers regional and local health care facilities to expand their clinical service offerings by utilizing telehealth technologies to access a multiplicity of clinical care services at other hubs. The hub institutions are also equipped to provide coordinated telemedical services to settings such as other hospitals and clinics, nursing facilities, schools, employee work sites, and patient residences.

- Clinicians from UTHealth in Houston are providing behavioral health services to residents at both the Vernon and Wichita Falls locations of the North Texas State Hospital via a contract with Texas Health and Human Services Commission. The potential for future expansion of the network is immense, though future clinical partners will still need to be equipped with the technology to support telemedicine from their end.



4 PROMOTE CANCER PREVENTION AND SCREENING

UT CoPHII's Recommendations:

- **Expand and improve prevention and screening efforts using population data.**
- **Disseminate evidence-based community cancer prevention strategies targeting tobacco control.**
- **Expand HPV cancer prevention and colorectal cancer screening.**
- **Address emerging cancer prevention needs, including chronic hepatitis.**

PROMOTE CANCER PREVENTION AND SCREENING

Cancer in Texas

Cancer, the second leading cause of death in Texas, is not a single disease, but many diseases characterized by the uncontrolled growth and spread of abnormal cells in the body. According to the American Cancer Society, approximately 1 in 2 men and 1 in 3 women alive today will develop some type of cancer in his or her lifetime. In 2018, 121,860 new cancer cases and 41,030 cancer deaths are expected in Texas.

Like many health conditions, there are substantial racial, ethnic and geographic disparities related to cancer in Texas. Overall cancer-related death rates are approximately 15% higher in Black than White Texans, and rates of cancer are significantly higher in northeast Texas than the rest of the state. Other variations include increased rates of cervical and liver cancer in South Texas and higher rates of mortality due to cancer in rural areas in general.

More than half of cancer cases are attributable to preventable causes (as shown in table 4-1).

Individual Prevention

One broad area of opportunity in cancer prevention is related to the effects of personal behaviors and actions an individual may take. These behaviors and actions include tobacco use, physical inactivity, poor diet, obesity, sun exposure, and underuse of cancer-related vaccines and early detection tests.

Exposure to tobacco is the single most relevant risk factor for lung cancer and at least 12 other cancers, accounting for about 30% of all cancer deaths (as shown in Table 4-1). Tobacco also contributes to heart and lung disease, leading to 20% of overall premature deaths in the U.S. Obesity has been found to contribute to approximately 20% of all cancers diagnosed, which encompasses up to 14 types of cancer. Use of vaccines can prevent some cancers.

121,860
new cancer cases in 2018, in Texas

41,030
cancer deaths expected in 2018, in Texas

1 in 2 men
alive today will develop some type of cancer in his lifetime

1 in 3 women
alive today will develop some type of cancer in her lifetime

Photo By: Wyatt McSpadden, courtesy of MD Anderson Cancer Center.

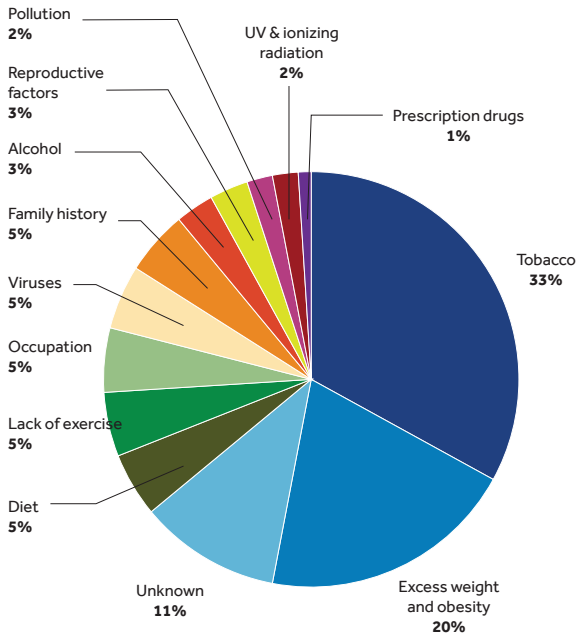
Several viruses have been linked to cancer, such as the human papilloma virus (HPV), which causes cancers of the cervix in women and is a cause of head and neck cancers in men as well as other cancers. Vaccination against HPV is the greatest opportunity to eradicate HPV-related cancers, but the HPV vaccine is underutilized in Texas, with disparate rates of uptake and completion among boys and girls. Hepatocellular cancer can be prevented by vaccination against hepatitis B and treatment of hepatitis C virus. Incidence and mortality from liver cancer has been increasing in Texas. Other common cancers that are preventable include skin cancers, which can be prevented by reducing exposure to UV radiation from the sun and indoor tanning.

Population-Level Prevention

A second important area of opportunity for cancer prevention comes at the population level. Efforts in this realm are typically led by governmental and health care organizations, often in partnership with nonprofits and other community organizations. These include policy interventions, educational initiatives aimed at the public and health care professionals, and the delivery of community-based prevention services. This approach parallels the individual approach above and supports its success.

Policy-related actions include efforts such as addressing environmental tobacco smoke exposure, raising the minimum age for purchase of tobacco products, and placing limitations on tanning bed access for minors. Public educational programs to raise awareness of cancer risk and opportunities to reduce cancer risk, and professional education to improve knowledge of prevention and screening guidelines, are critical constructs to successful cancer prevention.

While risk factors to decrease cancer incidence can be addressed, cancer mortality may also be addressed through screening, as several cancers have high-cure rates if diagnosed early through evidence-based screening. For example, screening



Preventable Causes of Cancer
Data based on Colditz, et al. Sci Trans Med., 2012 & Wolin, et al., Oncologist, 2010

Table 4-1. Exposure to tobacco is the single most important risk factor for lung cancer and at least 15 other cancers, accounting for about 30% of all cancer deaths.

Tobacco Use	**30% of all cancers**		
	Lung	Bronchus	Cervix
	Mouth and throat	Kidney	Acute Myeloid Leukemia
	Esophagus	Renal	Trachea
	Stomach	Pelvis	Larynx
	Colon and rectum	Urinary Bladder	
	Liver	Pancreas	
Obesity	**20% of all cancers**		
	Colorectal	Liver	Breast (postmenopausal)
	Gall bladder	Thyroid	Endometrial
	Stomach	Meningioma	Prostate
	Kidney	Pancreatic	Multiple myeloma
	Esophageal	Ovarian	

tests for colon cancer, breast cancer, and cervical cancer are underutilized and difficult to access in specific rural and urban areas across Texas.

The Texas Cancer Plan , which is based on the Centers for Disease Control's (CDC) National Comprehensive Cancer Control initiative, serves as a guide to cancer prevention needs and practices across the state. The MD Anderson Cancer Center Population Health Improvement Plan, developed as part of the CoPHII initiative, is another example (see Table 4-2).

The UT System is a National Leader in Cancer Treatment, Research and Control

UT System institutions have served as leaders not only in cancer treatment but also in developing, testing and delivering evidence-based cancer prevention strategies in hard-to-reach and underserved communities. The UT System includes three NCI-designated cancer centers: MD Anderson Cancer Center, the Simmons Cancer Center at UT Southwestern, and the Mays Cancer Center at UT Health San Antonio, as well as six health-related institutions that deliver cancer care for their local populations. UT System institutions contribute significantly to risk assessment, community engagement, prevention, and early screening efforts funded by the Cancer Prevention Research Institute of Texas (CPRIT), the National Cancer Institute, the CDC, the Centers for Medicare & Medicaid Services' 1115 Medicaid Waiver DSRIP funds, and philanthropic sources. Concern exists regarding the availability of these critical funding streams in the future.

UT System institutions utilize these funding sources to investigate and develop methods, deliver cancer prevention and screening programs, and test best models to address care needs in Texas. Research driven by the UT System institutions promotes the use of population data and risk assessments to improve prevention and screening efforts across Texas.

The goal is to use existing data to align current resources and efforts across UT System institutions to more effectively and efficiently reach populations most in need of cancer prevention, screening and treatment services. Meanwhile, UT System is committed to efforts within its own workforce to promote tobacco free campuses, wellness and screening programs, and evidence-based cancer prevention practices to mitigate disparities.

Leadership across the UT System should be able to utilize data to track population health patterns of cancer and identify emerging needs in specific populations across Texas. These efforts will improve understand of the local behavioral and environmental indicators associated with cancer risks at the geographic and demographic levels, and will more efficiently facilitate dissemination of cancer prevention, screening, and treatment efforts. This process will also facilitate partnerships with local health departments and community organizations to maximize dissemination and implementation efforts.

A poster from a campaign developed by the UT System Eliminate Tobacco Use initiative, which brings together tobacco control representatives from all 14 UT institutions and System administration.

As next steps in promoting cancer prevention and screening, the members of UT CoPHII recommend the following:

- Expand and improve prevention and screening efforts using population data.
- Disseminate evidence-based community cancer prevention strategies targeting tobacco control.
- Expand HPV cancer prevention and colorectal cancer screening.
- Address emerging cancer prevention needs, including chronic hepatitis.

Methods to achieve these goals :

- Use population health data to identify key subpopulation needs and cancer risks to target screening and prevention practices.
- Identify evidence-based cancer prevention, screening, and treatment strategies for dissemination and implementation across the UT System.
- Integrate treatment protocols and practices across the UT System and within communities to promote cancer prevention and screening.
- Promote wellness and screening among UT System and State of Texas employees.
- Initiate regular meetings with NCI-designated cancer centers within the UT system along with other UT health-related institutions that have an interest in cancer control programs.
- Inventory existing cancer control activities supported by the cancer centers and UT components.
- Review population-based cancer data to identify trends and emerging issues and gaps in prevention initiatives with attention to disparately impacted populations.
- Develop goals and set priorities related to cancer control within the areas of policy, education and service.
- Evaluate impact of existing programs and develop collaborative initiatives to address gaps.
- Collaborate to identify and seek external funding and provide resource expertise for advocacy efforts.
- Integrate Community Health Workers (CHW) into cancer prevention implementation and dissemination efforts to reach vulnerable populations.

Examples

- MD Anderson Cancer Center's mobile mammography program serves as a model to increase access to screening services for low-income, uninsured, asymptomatic women in Harris and Fort Bend counties by providing free screening mammograms in collaboration with community clinics. The program reduces common barriers to care including transportation, cost, and access. Additionally, the MD Anderson colorectal cancer screening program provides free testing and evaluation in collaboration with community clinics and specialty providers across Southeast Texas. These programs are supported by DSRIP funds and CPRIT grants.

- The UT Southwestern–affiliated Moncrief Cancer Center has expanded its catchment region to provide cancer prevention and survivorship services to rural populations in 36 counties to the west of Dallas and Fort Worth. Moreover, in 2016, UT Southwestern and Texas Health Resources aligned to create Southwestern Health Resources, which will be one of the largest health networks in the state. The partnership serves as an example to address community cancer services and programs.

- Twelve prevention grants from CPRIT to UT Southwestern support breast cancer prevention and early detection in the rural counties of North Texas, cancer genetic services for rural and underserved patients, community-wide cancer survivorship programming, and evidence-based colorectal cancer screening for the uninsured. One notable program is Moncrief's $1.1 million custom-built 18-wheeler, which provides mobile, comprehensive cancer survivorship services. Funded by DSRIP, professionals on board this van offer cancer surveillance using mammography or colonoscopy as well as cervical, colorectal, and breast cancer screening. Through new funding from CPRIT, and a partnership with UT Health Science Center at Tyler, this project is being expanded to northeast Texas.

- UT Health San Antonio has identified a specific area of need in its population – liver disease. Investigators are developing efforts to increase screening, identify at-risk groups, and develop prevention and treatment programs to address the specific needs of their community. Specifically, they have partnered with The University of Texas at San Antonio to develop the San Antonio Life Sciences Institute, a cooperative cancer research initiative to foster research and workforce development in the area through joint

MD Anderson Cancer Center's mobile mammography van provides free screening mammograms, in collaboration with trusted community clinics, to women in Harris and Fort Bend counties.

The UT Southwestern–affiliated Moncrief Cancer Center uses its $1.1 million custom-built 18-wheeler to provide mobile, comprehensive cancer survivorship services. Funded by DSRIP, professionals in the van offer cancer surveillance using mammography or colonoscopy as well as cervical, colorectal, and breast cancer screening

doctoral programs and research projects in biomedicine and biotechnology.

- The Project ECHO (Extension for Community Health care Outcomes) model adopted by MD Anderson Cancer Center for cervical cancer prevention and treatment in low-resource settings was developed by Dr. Arora at the University of New Mexico. The program builds capacity to reach and serve distant primary care delivery through case-based learning and co-management of patients by using videoconferencing technology. Providers receive direct input on case management from MD Anderson Cancer Center specialists and can earn Continuing Medical Education and Continuing Nursing Education credits. Current community partners include Federally Qualified Health Centers in the Rio Grande Valley, community clinics for the underserved in Houston, and community clinics in Laredo. The ECHO model is also used by MD Anderson to support a CPRIT-funded program to assist primary care clinicians in training programs to provide improved evidence-based services for cancer survivors in collaboration with UTMB, UT Health Science Center at Tyler and UT Austin Dell Medical School. The ECHO model affords greater capacity and reach using evidence-based, acceptable technologies. It stands to increase access to care in rural areas as well as to increase local capacity to serve and diagnose cancer at earlier stages and prevent cancer-related disparities in mortality and morbidity.

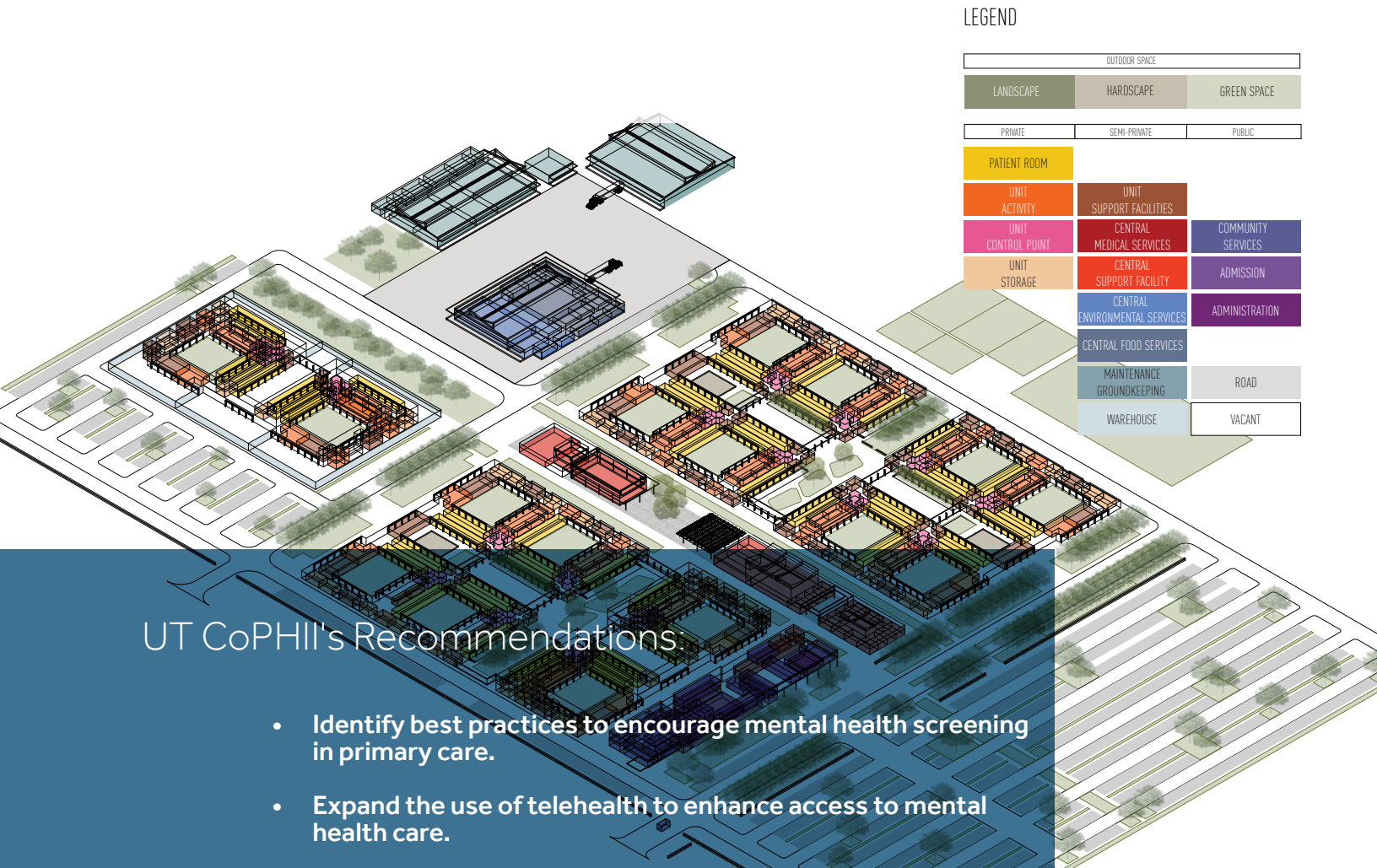
- UT Southwestern has a series of federal (NIH, AHRQ) and state (CPRIT) funded grants that have developed and implemented population health outreach strategies in Dallas County's Parkland Health and Hospital System. These interventions have dramatically increased rates of screening for colorectal and hepatocellular cancer among the large population of uninsured patients in Dallas County. Also through the Parkland safety-net system, UT Southwestern, with funding from NCI, is following cohorts of ~80,000 primary-care patients through the colon cancer screening process and ~180,000 patients for cervical screening. The NCI funding for this effort has recently been renewed for five years, which will allow UT Southwestern to ultimately collect more than a decade of data.

The Project ECHO (Extension for Community Health care Outcomes) program at MD Anderson Cancer Center uses videoconferencing technology to provide mentoring to primary care clinicians managing patients at risk for cervical cancer.

Table 4-2. MD Anderson's cancer prevention goals, drawn from the institution's population health strategic plan.

Primary Prevention Goals	Increase vaccination rate to reduce the risk of infectious disease related to cancer
	Eliminate the use of tobacco and reduce morbidity and mortality from tobacco-related cancers
	Increase adoption of evidence-based nutrition and physical activity behaviors shown to reduce obesity and cancer risk
	Reduce exposure to solar and artificial ultraviolet (UV) radiation to prevent skin cancer
Cancer Early Detection Goals	Increase proportion of early stage diagnosis through screening and early detection to reduce deaths from colon and rectum cancer, cervical cancer, prostate cancer, lung cancer, and breast cancer.
Cross-Cutting Goal	Reduce health disparities
Systems Goal	Develop and strengthen the infrastructure supporting the delivery of the most appropriate cancer prevention care services
Research Goals	Increase opportunities to access and participate in cancer research and clinical trials
	Support innovative research that will enhance the potential for medical and scientific breakthroughs in cancer
Supplemental Goal	Promote quality of life and overall health and well-being for cancer survivors and their caregivers

5 PRIORITIZE MENTAL HEALTH AND EXPANSION OF INTEGRATED MENTAL HEALTH SERVICES



UT CoPHII's Recommendations:

- **Identify best practices to encourage mental health screening in primary care.**
- **Expand the use of telehealth to enhance access to mental health care.**
- **Identify strategies to promote community understanding of mental health as a means to increase use of needed services and reduce stigma related to mental health diagnosis.**
- **Increase the mental health workforce through training and recruitment.**
- **Continue to develop partnerships between academic institutions and the state mental health inpatient and outpatient systems.**
- **Develop a collaborative mental health research agenda for Texas.**

ETRIC OF THE IDEALIZED MODEL

NNING MODERN PSYCHIATRIC CARE FACILITIES **A TEXAS HOSPITAL**

^ "Axiometric of the Idealized Model," from A Texas Hospital: Planning Modern Psychiatric Care Facilities, Rusk State Hospital and Beyond.

Courtesy of the Center for Sustainable Development, UT Austin School of Architecture.

PRIORITIZE MENTAL HEALTH AND EXPANSION OF INTEGRATED MENTAL HEALTH SERVICES

Tranforming Mental Health Care

In Texas, 6.5 million people have been diagnosed with mental illnesses and 1.5 million children live with mental health issues. Individuals with mental illness live approximately 28 years less, on average, than the general population. This decrease in life expectancy is not due to suicide, but rather to the increased burden of chronic diseases like diabetes and tobacco-related illnesses. Contributing to the mental health crisis in Texas is the shortage of psychiatrists; in 2015, 185 of the 254 counties in Texas had no psychiatrist. This adds up to 3.2 million people in Texas who are living in counties without a single psychiatrist.

Transforming mental health care through both acceleration and scaling up of evidence-based strategies across the state of Texas is essential. Approaches that integrate mental health into population health efforts are needed, as are strategies focused on early detection and treatment of mental illness in the community in which the person resides. These strategies will facilitate better health outcomes, more utilization of community resources, and more inclusion of family in the care of people with mental illness. Such approaches will also enable more people to remain integrated in their community.

To ensure uptake of this approach, UT System needs to work collaboratively with community-academic partners to:

1) Provide primary care settings with the tools for a standardized screening of mental illness, such as the Patient Health Questionnaire (PHQ9).

6.5 Million
people diagnosed with mental illness in Texas

1.5 Million
children live with mental health issues

185 Counties
with no psychiatrist

205 Counties
designated as mental health Health Professional Shortage Areas

79

51
People with severe mental illness live on average 28 years less than the general population

2) Link primary care providers and rural hospitals to mental health specialist teams through telehealth.

3) Utilize a wide-variety of genotypic, phenotypic, and patient-reported data to customize treatment plans for people with mental illness.

These approaches should promote integrated behavioral health and allow primary care providers to screen and treat patients in collaboration with a mental health specialist. They should also help link disparate systems and bring customized mental health treatment to patients in the communities in which they reside.

Beyond the workforce shortage, Texas faces a critical gap in infrastructure in behavioral health. The state mental health hospital system, for example, is in very bad condition, and five of the facilities must be totally replaced. UT System worked closely with the Texas Legislature prior to and during the 85th legislative session to demonstrate this need and to outline ways in which academic institutions and state mental health hospitals could collaborate moving forward. Fortunately, the 85th Texas Legislature invested $300 million to begin this process, and have committed to additional funding over the next two sessions to complete replacement of the facilities and improve the system.

A key component of the state's plan for replacing these facilities is that academic partnerships be developed and used to enhance the quality of mental health services provided by these facilities. Additionally, replacing these hospitals provides the opportunity for the UT health-related institutions to improve their mental health training, clinical care, and research capacity.

Members of the steering committee of the Austin State Hospital redesign effort, including (second from left) Dr. Stephen Strakowski, chair of psychiatry at UT Austin Dell Medical School. Photo courtesy of the Design Institute for Health.

As next steps in prioritizing mental health and expansion of integrated mental health services, the members of UT CoPHII recommend the following:

- Identify best practices to encourage mental health screening in primary care.
- Expand the use of telehealth to enhance access to mental health care.
- Identify strategies to promote community understanding of mental health as a means to increase use of needed services and reduce stigma related to mental health diagnosis.
- Increase the mental health workforce through training and recruitment.
- Continue to develop partnerships between academic institutions and the state mental health inpatient and outpatient systems.
- Develop a collaborative mental health research agenda for Texas

Methods to achieve these goals:

- Develop collaborative agreements between psychiatric departments across Texas to design and implement strategies to best address mental health in Texas.
- Develop, test, and integrate evidence-based mental health screening methods into primary care to better diagnose and serve Texans through the life course.
- Use available data to diagnose, customize and treat depression and other mental illness in primary care settings.
- Integrate telemedicine into Federally Qualified Health Centers (FQHCs), local mental health authorities, state hospitals, rural hospitals and health centers, and other facilities serving underserved rural and urban areas.
- Deliver mental health workforce training and continuing education services throughout the UT System and to partners in practice (mental health authorities and others).
- Work with key members of the Texas legislature to develop options to address state hospitals' infrastructure problems.
- Identify opportunities to improve mental health training, clinical care, and research capacity using UT health institutions' clinicians, faculty, residents and students.
- Collaborate with UT and non-UT chairs of psychiatry, as well as other key stakeholders, to develop an actionable mental health research agenda for Texas based on state priorities.

Examples

- Since July 2015, UT System Population Health has convened a working group to collaborate on addressing mental health in Texas. This working group includes all the UT System institutions' chairs of psychiatry as well as mental health leaders from Baylor College of Medicine, Texas Tech Health Science, Texas A&M, the University of North Texas Health Science Center, and key state agencies and philanthropic organizations. In that time, the workgroup has shared lessons learned in collaborating with their local mental health providers, developed models for partnering with state mental health hospitals, and initiated the development of a mental health research plan.

- Additionally, this working group has initiated new collaborations with the state agencies to address mental health shortages at state hospitals using telepsychiatry. Partnering with the Health and Human Services Commission (HHSC), UTHealth in Houston started a telepsychiatry program, whereby two full-time psychiatrists provide telepsychiatric support to the Wichita Falls and Vernon State Hospitals. A third collaboration is planned for the summer of 2018.

- UT Health San Antonio focuses on military populations through research and program development at the Audie Murphy VA. The program's health services research team addresses patient and caregiver needs, including epilepsy, mental health disorders, and management of clinically complex patients with mental health and chronic illness needs.

- UTRGV has a Population Health Mental Health Workgroup to better identify and address the determinants of mental health and how to best increase local capacity to serve the population.

- Since 1990, UTHealth in Houston has partnered with the state and Harris County to run the Harris County Psychiatric Center (HCPC). HCPC is the largest provider of inpatient psychiatric care in Houston, and is also the teaching hospital within McGovern Medical School at UTHealth in Houston. UTHealth manages and operates the facility on behalf of the state and county.

- The 85th Texas Legislature invested $300 million to begin the repair, replacement, and expansion of the state mental health hospital system. A number of UT institutions are leading the planning and redesign of state hospitals in their region.

    1. East Texas: The plan includes $91.5 million for planning and construction of a maximum-security facility in the current 2018-2019 biennium, and the development of a new East Texas mental health hospital. UT Health Science Center at Tyler is currently funded by HHSC for 44 of its 70 inpatient mental health beds at its current location. UT Health Science Center at Tyler psychiatric residents also train at Rusk.

    2. HCPC at UTHealth in Houston: The plan includes constructing 132 inpatient beds and 172 lower acuity, transitional beds, along with supportive housing, during this biennium. Currently UTHealth manages the HHSC- and Harris County-owned HCPC, a 274-bed teaching facility for

Staff at the UTHealth Harris County Psychiatric Center (HCPC), the largest provider of inpatient psychiatric care in Houston, during Hurricane Harvey.

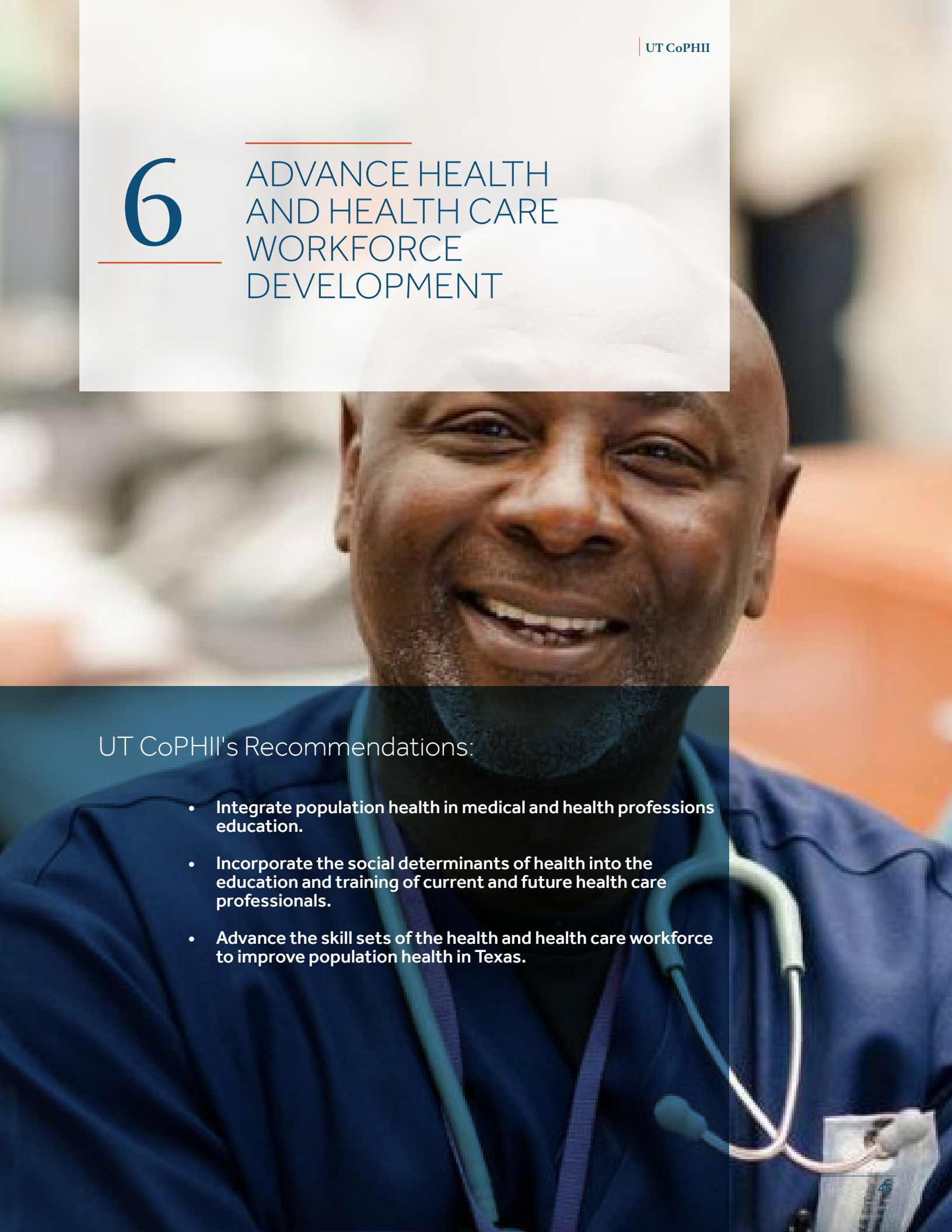
"Rendering of Unit Courtyard 2," from A Texas Hospital: Planning Modern Psychiatric Care Facilities, Rusk State Hospital and Beyond. Courtesy of the Center for Sustainable Development, UT Austin School of Architecture.

the UTHealth psychiatry department.

3. Austin State Hospital (ASH): The plan includes complete replacement and redesign of the ASH facility, with $15.5 million for pre-planning and planning. HHSC has contracted with UT Austin Dell Medical School's Department of Psychiatry to lead the planning and pre-planning work.

4. San Antonio State Hospital (SASH): The plan includes $14.5 million this biennium for the pre-planning and planning phase. UT Health San Antonio's Department of Psychiatry has partnered with multiple local entities and is the lead for the pre-planning and planning work. UT Health San Antonio currently does limited work at SASH, but believes that with the new facility this partnership will strengthen.

6 ADVANCE HEALTH AND HEALTH CARE WORKFORCE DEVELOPMENT



UT CoPHII's Recommendations:

- **Integrate population health in medical and health professions education.**
- **Incorporate the social determinants of health into the education and training of current and future health care professionals.**
- **Advance the skill sets of the health and health care workforce to improve population health in Texas.**

ADVANCE HEALTH AND HEALTH CARE WORKFORCE DEVELOPMENT

Building a Diverse Workforce

Addressing the population health issues presented in this strategic plan and future challenges will require a diverse and highly educated workforce that is skilled not only in clinical aspects, but also in technology, database management, epidemiology, health care policy, health economics, health information systems, population health management, community engagement, and more. Current and future health providers must be cognizant of the important role of the social determinants of health (SDoH) in shaping health and health outcomes. Several national reports have identified this type of diverse and interdisciplinary workforce as a key element in reducing health disparities. For example, the Institute of Medicine report "Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care" recommended increased participation of underrepresented minorities in the health workforce. The U.S. Department of Health and Human Services' "Action Plan to Reduce Racial and Ethnic Health Disparities" has as one of its major goals a plan to strengthen the health and human services workforce through fostering an understanding of the SDoH, community-based engagement, and cultural competency. The National Academy of Medicine, in its "Workforce for 21st-Century Health and Health Care" report, recommends a diverse, interdisciplinary health workforce that can work "collaboratively in interdisciplinary teams, is technically skilled, and can adeptly implement the capabilities of modern health information technology."

Given the ongoing disparities in health and the well-documented, disproportionate burden of illness in specific populations across rural and urban Texas, a focus on educating and training a diverse workforce will be critical to reduce health disparities. The extensive scope and reach of the UT System (221,000 students, health care services to 7.4 million patients) enables it to be at the forefront of innovative educational and practice approaches to improving population health.

Three Realms of Workforce Development

To truly develop a future workforce capable of addressing population-level health challenges, education and training will have to change in several different realms.

Academic

Recent trends in health and health care delivery have highlighted the need for a shift from a sickness-oriented to a preventive model of health and have resulted in a growing focus on the importance of the SDoH in addressing health disparities and improving population health. Educating health and medical professionals to embrace population health concepts is a key strategy for ensuring a future health workforce capable of delivering a holistic, culturally-competent coordinated approach to health and health care delivery.

Clinical Practice

Although physicians recognize the importance of SDoH in influencing health outcomes, there is a perception that addressing them is outside the scope of clinical practice. This is exacerbated by the absence of reimbursement for services addressing the SDoH, and the paucity of guidance available on how to integrate them in clinical settings. Raising awareness of the SDoH among health care providers is essential to future workforce development,

as is the provision of resources and technical assistance on how to collect and utilize data on the SDoH in clinical settings. The National Academies of Sciences, Engineering and Medicine (NASEM) framework for education health professionals to address the SDoH (see Figure 6-1) is an essential resource for integrating the SDoH into primary care.

Public Health and Health Care

The ongoing transformation of the health care system, from a fee-for-service model to value-based models that are patient-centric and efficient, is highlighting the need for new skill sets among the nation's health workforce. These include skills in telehealth facilitation, business processes management, data analysis to support program planning and assessment, evidence-based practice, collaborative practice, and quality improvement processes, among others. It is also important to recognize non-traditional health care workers who play a significant role in reaching vulnerable communities.

As next steps in advancing health and health care workforce development, the members of UT CoPHII recommend the following:

- Integrate population health in medical and health professions education.
- Incorporate the social determinants of health into the education and training of current and future health care professionals.
- Advance the skill sets of the health and health care workforce to improve population health in Texas.

Methods to achieve these goals:

- Develop and implement a systemwide set of competencies in population health for inclusion in undergraduate, graduate and professional schools.
- Adopt strategies that promote the diversity of the future health care workforce.
- Assess current screening practices for the SDoH at UT System health centers and at select Federally Qualified Health Centers in Texas.
- Support screening for SDoH in clinical settings.
- Facilitate and foster collaborations between clinical care and community partners to pursue evidence-based interventions to address the SDoH.
- Utilize a guiding framework, such as the National Academies of Sciences, Engineering, and Medicine's (NASEM) framework for educating health professionals to address the social determinants of health (Figure 6-1), to steer educational, community-based, and institutional approaches to addressing health disparities and promoting population health.
- Provide resources to advise clinicians on innovative ways to integrate the SDoH into clinical practice.
- Design data systems that collect and aggregate data on the SDoH to inform community- and national-level policy debates.
- Contribute evidence-based research that supports the investment in addressing the SDoH in clinical and community settings.
- Provide training and career development opportunities for public health professionals.
- Develop an inventory of current training opportunities and certificate programs across institutions to capitalize on existing successful models and to facilitate the sharing of best practices.
- Strengthen, promote, and integrate the non-traditional health workforce into health care delivery systems including community health workers (CHWs), or *promotores de salud*.

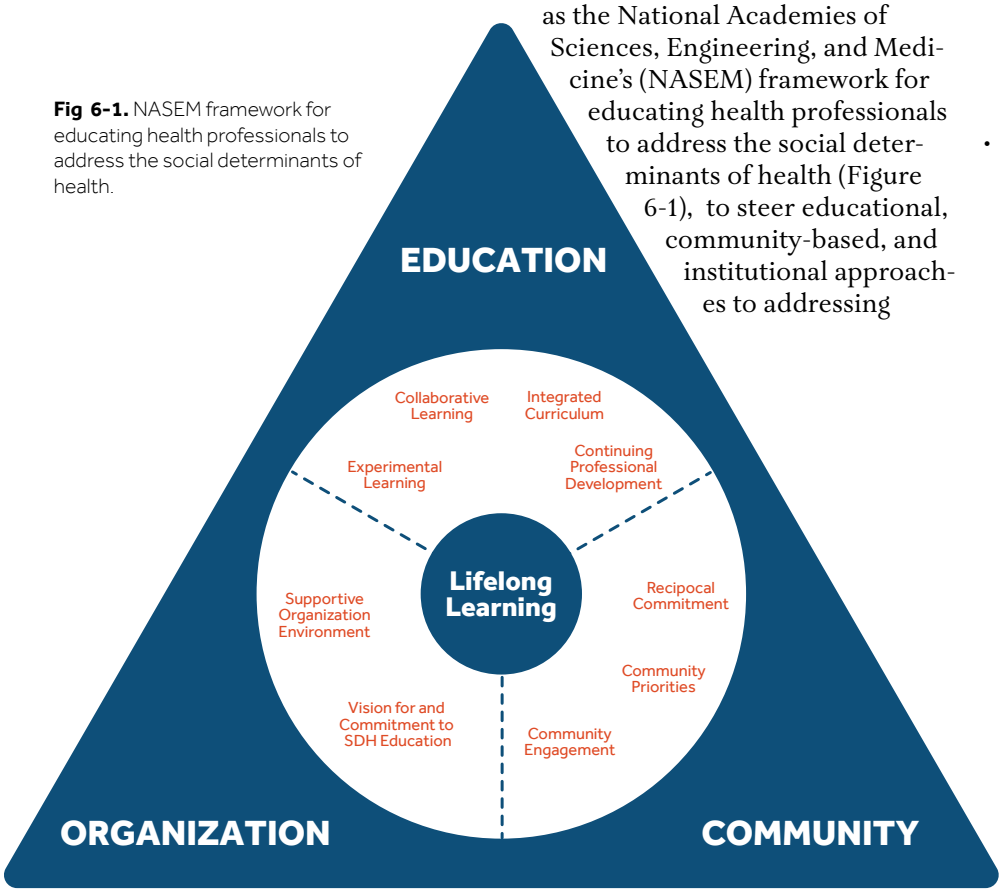


Fig 6-1. NASEM framework for educating health professionals to address the social determinants of health.

Examples

- The new UT Health Science Center at Tyler's School of Community and Rural Health, through its educational programs, is addressing the public health workforce shortage and is providing training opportunities for public health professionals.
- Area Health Education Centers (AHECs) affiliated with UT Health San Antonio serve a 38-county area, and have extensive continuing education and training opportunities for the health workforce.
- The UTRGV School of Medicine, in collaboration with the UTRGV College of Health Affairs, and in partnership with various community groups, is developing three AHECs that aim to educate interprofessional student teams about the SDoH and health disparities.
- The UTRGV School of Medicine is planning to develop UTRGV-wide courses in population health.
- The UTRGV College of Health Affairs is developing an experiential Population Health Equity course for UTRGV students to further understanding of the SDoH through experiential learning opportunities at large community health events.
- Combined degree programs: UTHealth School of Public Health in Houston and its campuses across Texas offer medical students the opportunity to simultaneously earn a medical degree and a master's degree in public health in four to five years. UTMB also offers a dual MD-MPH degree as well as a combined MD-PhD degree that leads to a PhD in Population Health Sciences with a focus on minority health and aging.
- UT System institutions have successfully integrated CHWs as conduits for health education in vulnerable populations. Several training centers and programs, funded through mechanisms such as the Delivery System Reform Incentive Payment (DSRIP) Program and Clinical Translational Science awards (CTSA) across four of the UT System institutions, have not only developed methods for the training and integration of CHWs in health care delivery, but have also found that CHWs can improve care in a number of realms, including cancer screening, type 2 diabetes management, and obesity prevention and management.
- UTRGV has incorporated CHWs in program and project delivery to colonia residents and is educating future physicians about CHWs' role in health promotion and team-based care.

A rendering of the new School of Community and Rural Health at The University of Texas Health Science Center at Tyler.

Next Steps

This population health strategic plan for The University of Texas System is the product of an extraordinary amount of work, thought, time, research, consultation, and collaboration from people across the System who are dedicated to improving the lives and health of their fellow Texans. It is also a statement of responsibility. Our obligation to care does not stop at the boundaries of our campuses, the walls of our hospitals and clinics, or the last entries on our balance sheets.

We are a public university system of the state of Texas, created by and for the people of Texas, funded by the people of Texas, entrusted with training and educating the future workforce of Texas, and overseen by a Board of Regents that is appointed by the Governor of Texas and confirmed by the Texas State Senate. Over the next five years, as we work to implement the plan, we will endeavor to honor the responsibility that these relationships impose.

Pragmatically, this will entail regular reports from the institutional teams to their campus leadership and annual reports from the systemwide collaborative to the Regents and the public. Outcome measures and process measures will be identified and tracked. The UT CoPHII leadership team will continue to meet regularly to share best practices, provide updates on progress, identify challenges, facilitate further collaboration, and reflect on and if necessary revise the specific strategies and objectives of the plan.

This is not easy work. If it were, it would have been accomplished already. Texas is a massive and complex state. Our health and medical institutions operate in major metropolitan areas as well as vast rural expanses, each region possessing its own interests and idiosyncrasies. At every level and in every organization, internal and external, there are entrenched methods of operation and care delivery, well-fortified silos, and intense competitions for resources.

To commit to advancing ambitious goals in such a daunting landscape is not naive. It is bold, and it is appropriate to the scale of responsibility with which we have been trusted. It is also, simply, what we must do.


The University of Texas System
FOURTEEN INSTITUTIONS. UNLIMITED POSSIBILITIES.