

HARRIS HEALTH SYSTEM

SYSTEM



THE ECONOMIC IMPACT OF THE HARRIS HEALTH SYSTEM ON HARRIS COUNTY AND THE STATE OF TEXAS

FY22

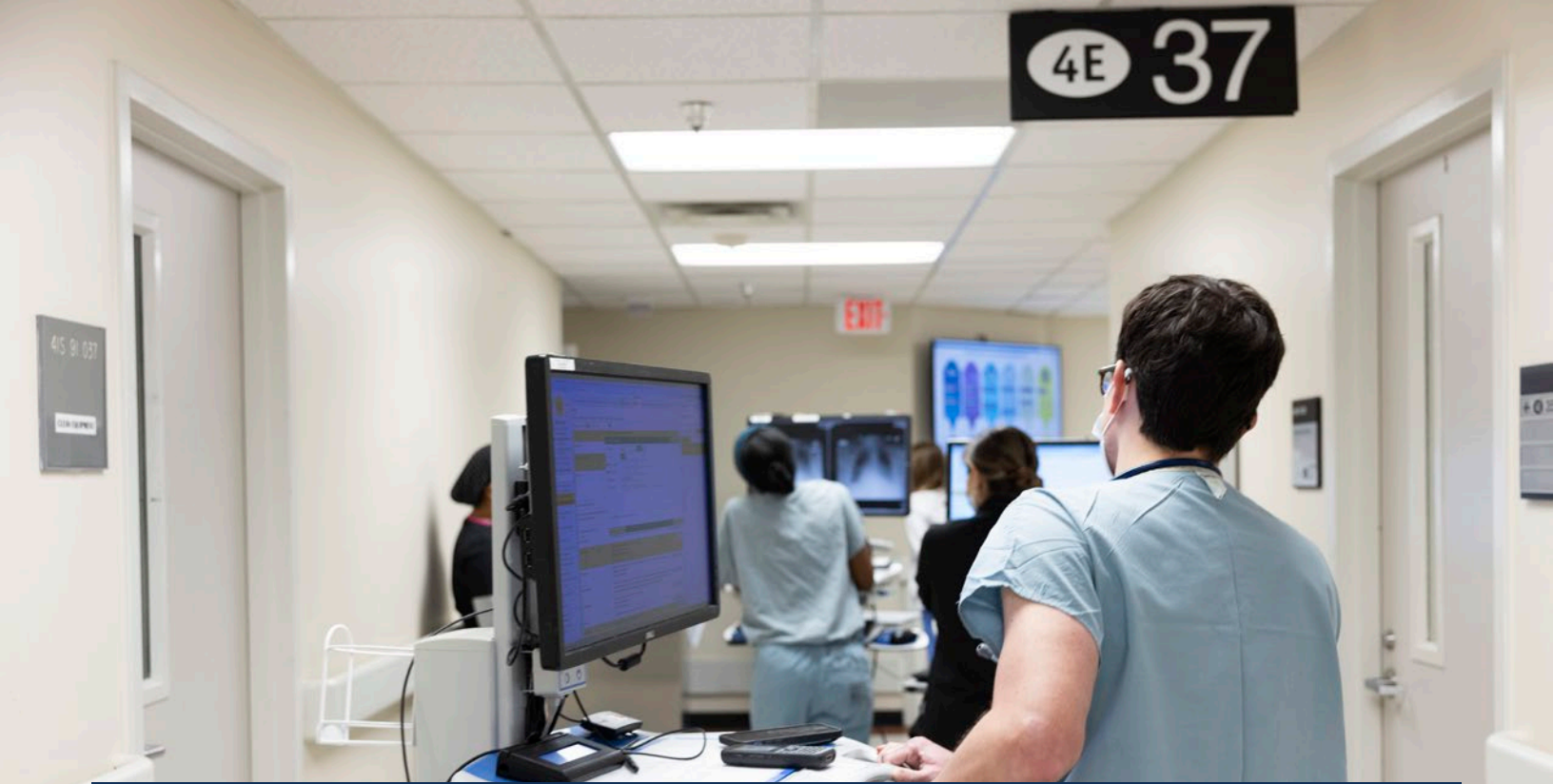


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HARRIS HEALTH SYSTEM

ECONOMIC AND COMMUNITY IMPACTS AT A GLANCE FY22



\$4.8 billion

Total economic impact in Harris County from system operations.

Every **\$1** Harris Health receives in ad valorem taxes generates **\$5.89** within the county's economy.



29,237 jobs

Total jobs supported in Harris County from system operations.

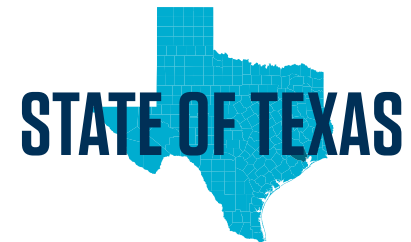
One in every **70 jobs** held by persons in Harris County is directly or indirectly related to Harris Health.



\$132.9 million

Total state and local taxes generated from system operations.

Note: This number includes taxes paid by companies doing business with Harris Health as well as taxes paid by employees of the Health System and visitors from outside of Harris County.



\$5.7 billion

Total economic impact generated by Harris Health in Texas.

More than **\$900 million** in economic impact is received by Texas communities outside Harris County because of Harris Health's operations.

34,396 jobs

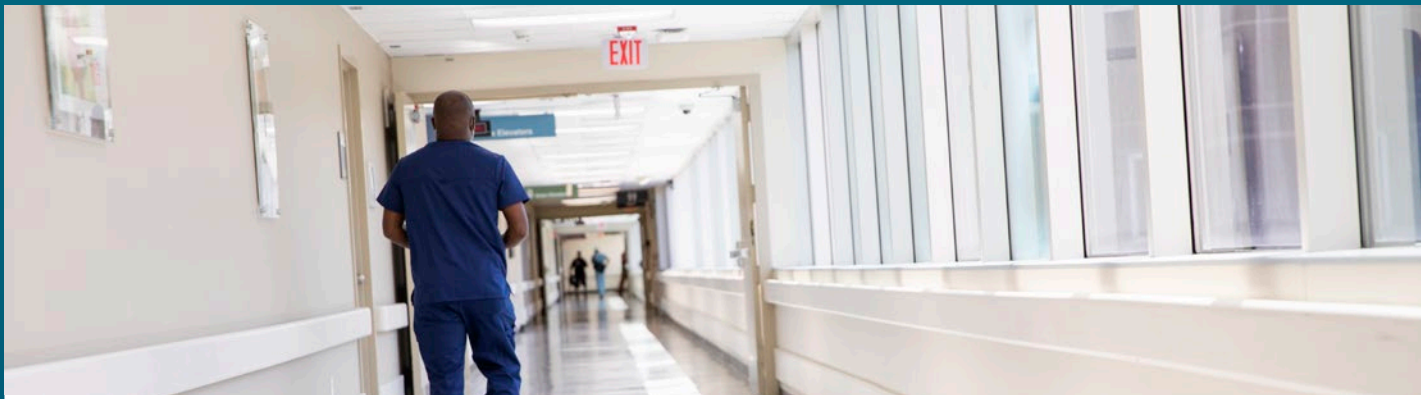
Total jobs supported throughout Texas

More than **5,000 jobs** are supported in Texas communities outside Harris County because of Harris Health's presence.

\$156.3 million

Total state and local taxes generated throughout Texas.

\$23.4 million is generated in local tax revenue for communities outside Harris County because of Harris Health's presence.



ADDITIONAL ECONOMIC IMPACTS ATTRIBUTED TO HARRIS HEALTH'S MEDICAL SCHOOL PARTNERS

\$900 million – The total annual economic impact from the 450 doctors who graduate from residency training programs yearly at Harris Health facilities that remain in Harris County to practice.

\$5.1 billion – The total annual economic impact from 2,339 physicians who provide care at Harris Health facilities but are not employed directly by Harris Health.

\$10.8 billion – The total annual economic impact of Harris Health when residents and physicians from partner medical schools who work at Harris Health facilities are added to Harris Health's total economic impact in Harris County.

Note: These benefits are in addition to the annual impact that Harris Health generates for Harris County and the state.



ECONOMIC VALUE OF HEALTH STATUS IMPROVEMENT

\$480 million – Economic value resulting from higher-than-average community health status resulting from Harris Health's population health programs.

\$81.9 million – Economic value resulting from higher-than-average quality care at Harris Health facilities.

Note: These benefits are in addition to the annual impact that Harris Health generates for Harris County and the state.



VALUE OF HEALTHCARE COST SAVINGS

\$1.8 billion in healthcare cost savings to Harris County taxpayers annually is attributed to Harris Health's primary care network.

\$500 million in healthcare cost savings from the 150 physicians who completed training at Harris Health facilities and practiced in underserved areas within the county.

\$2.3 billion in combined healthcare savings attributable to Harris Health operations and physicians who practice in underserved areas. These savings represent nearly 4 percent of the \$59.7 billion spent on healthcare by Harris County residents in 2022.

\$160 million underwritten by Harris Health in support of patients enrolled in Marketplace insurance program.

Note: These benefits are in addition to the annual impact that Harris Health generates for Harris County and the state.



VALUE OF CHARITY CARE

\$795 million in charity care was provided by Harris Health in FY22.

\$5.6 billion in total future downstream cost to be absorbed by Harris County taxpayers over the next five years if charity care is not provided to Harris County residents.

Note: These benefits are in addition to the annual impact that Harris Health generates for Harris County and the state.



CHARITABLE GIVING AND VOLUNTEERISM

\$20.9 million in the total value of charitable giving and volunteerism includes:

\$4.2 million donated to charitable organizations by Harris Health employees

\$16.7 million in value of volunteer time provided to non-profit organizations by Harris Health employees

Note: These benefits are in addition to the annual impact that Harris Health generates for Harris County and the state.



LYNDON B. JOHNSON HOSPITAL EXPANSION

\$3.3 billion in future economic impact, supporting **18,871 jobs** and generating **\$48.2 million** in state and local taxes resulting from the construction of the redevelopment of LBJ Hospital.

\$705 million in additional economic impact annually when the new LBJ Hospital is fully operational.

Note: These benefits are in addition to the annual impact that Harris Health generates for Harris County and the state. Tripp Umbach projects that the new LBJ Hospital will have a more substantial economic impact when the project is completed in 2028, in the following areas:

1) Construction impacts over five years, 2) expanded operational spending and employment once the hospital is operational, and 3) significant economic development spillover in the community, which will add even more jobs and economic opportunities for Harris County residents.





EXECUTIVE SUMMARY

Harris Health is a driving force in the Harris County economy. In FY2022 (March 2021–February 2022), Harris Health operations generated more than **\$4.8 billion** directly and indirectly in the Harris County economy. Every \$1 Harris Health receives in ad valorem taxes generates **\$5.89** in the local economy. Harris Health supports **29,237 jobs** directly and indirectly in Harris County, resulting in one in every 70 jobs in the county. Harris Health’s operations generated **\$132.9 million** in state and local taxes. These impressive economic impact numbers are based on the Health System’s operations in the Harris County economy, as defined in greater detail below.

When the economic impact of residents and physicians from partner medical schools who work at Harris Health facilities is added to Harris Health’s operational impact, the total economic footprint of Harris Health grows to **\$10.8 billion**.

In FY2022, Health System generated **\$20.9 million** in monetary contributions and value of voluntary services. Harris Health’s impact goes beyond these numbers. From fighting food insecurity to serving residents during the COVID-19 pandemic, Harris Health is committed to being a community partner dedicated to improving the health of those in need in Harris County through quality care delivery, coordination of care, and education.

Harris Health's comprehensive healthcare delivery system keeps healthcare costs lower for all county taxpayers. Harris Health's primary care network reduces healthcare costs to Harris County taxpayers annually by **\$1.8 billion**, resulting in \$2.30 in healthcare cost savings for everyone in Harris County for every \$1 in ad valorem taxes collected. In addition, community health status improvement attributed to Harris Health provides an annual boost of **\$480 million** to the Harris County economy, or nearly 1 percent of the total county economy.

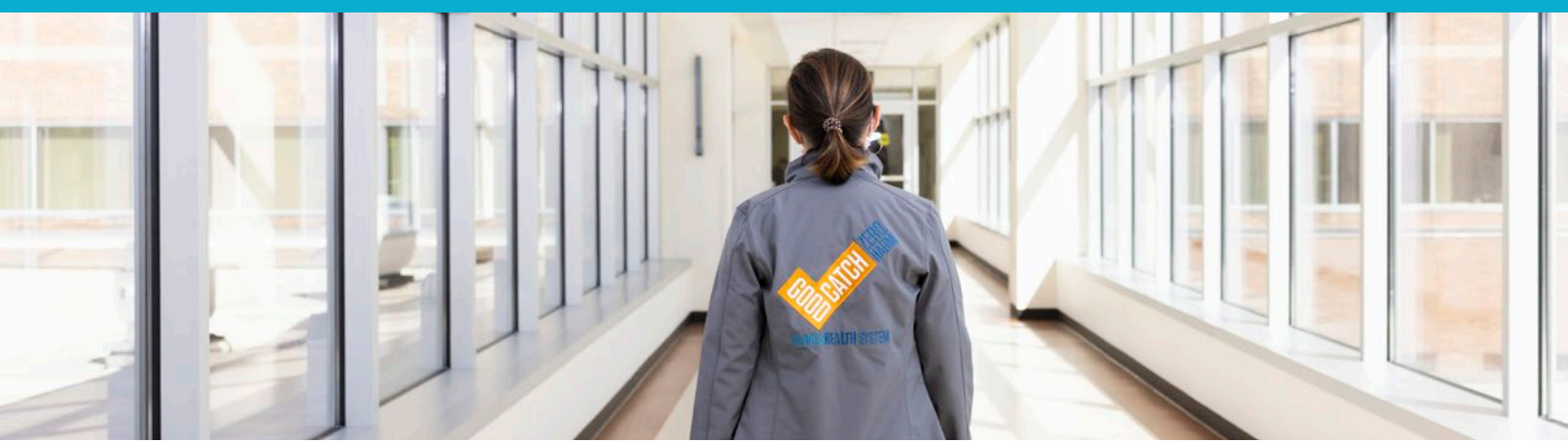
Higher-quality care provided for inpatients by Harris Health adds approximately **\$45.5 million** in direct spending and a total ripple effect of **\$81.9 million** in the Harris County economy. These figures are in addition to Harris Health's **\$4.8 billion** economic impact on the county's economy. Harris Health has underwritten more than **\$160 million** in support of patients enrolled in Marketplace insurance programs.

Providing the highest-quality care to the uninsured and underinsured of Harris County is the hallmark of the system's mission. In FY2022, Harris Health provided **\$795 million** in charity care, representing nearly 3 percent of all care provided by more than 6,000 hospitals nationally. Stated another way, Harris Health provides 170 times more charity care than the average U.S. hospital. If Harris Health did not provide charity care to more than 85,000 patients in 2022, the downstream cost to be absorbed by Harris County taxpayers would total more than **\$5.6 billion** over the next five years. Providing charity care and helping Harris County residents obtain health insurance also contribute to the financial health of the Texas Medical Center and the Houston region's healthcare ecosystem.

Harris Health is poised to increase its economic and social impact over the next five years with the redevelopment of the Lyndon B. Johnson Hospital (LBJ) campus. The announced plans for a **\$1.6 billion** construction project will generate an additional economic impact of **\$3.3 billion**, support **18,871 jobs**, and produce **\$48.2 million** in state and local tax impact over the next 20 years. The total economic impact of Harris Health operations and employment in Harris County will grow by approximately **\$705 million** when the new LBJ Hospital is fully operational. The hospital also will create and sustain approximately **4,700 jobs** in Harris County and generate **\$19.5 million** in additional state and local taxes.

A significant economic development spillover in the surrounding communities will add even more jobs and economic opportunities for Harris County residents living near LBJ Hospital. These impact numbers are in addition to the total economic impact of Harris Health and represent only the impact of the redevelopment of the LBJ campus on the Harris County economy. Inputs in the economic impact model include direct spending on construction with Harris County vendors and suppliers and indirect spending circulated through the economy.

Harris Health is embarking on a period of transformation designed to improve health across Harris County. Harris Health is committed to partnering with other community organizations to improve non-medical factors contributing to health disparities. The impact of these long-term initiatives will manifest over decades in improved health outcomes and cost savings for all Harris County residents. Healthier people are more economically productive, as better health leads to increased economic prosperity. Healthier people are more productive in the workplace, live longer, and are more concerned with saving for future financial needs. Harris Health has won numerous awards for quality care, innovation, and population health management and is a model nationally for public health systems.



STUDY OVERVIEW

To quantify the economic impacts generated by Harris Health within Harris County and the state of Texas, Harris Health retained the independent consulting firm Tripp Umbach¹ to measure the economic impact and community benefits of the Health System. Tripp Umbach has completed hundreds of similar assignments for large health systems and academic medical centers nationally since 1990.

This report serves to help stakeholders understand the significant value, in quantitative and qualitative terms, of Harris Health to Harris County and the state. It also demonstrates societal contributions to Harris County businesses and taxpayers.

This report measures Harris Health operations' direct and indirect economic impact for the Fiscal Year 2022 (FY22, March 1, 2021, through February 28, 2022). These impacts fall within the following categories:

- Business volume impacts (capital expenditures, operational expenditures, and payroll).
- Direct, indirect, and induced employment impacts.
- State and local tax impacts.
- Impact of employee spending (retail/merchandise, hospitality, etc.).
- Impact of visitor spending on the economy (wage premiums, job creation, etc.).
- The impact that employees have on the community through donations and volunteer work.
- The impact of health improvement programs and services.

The direct and indirect employment impact generated from the operations of Harris Health includes individuals who work directly and indirectly for the Health System. Indirect employment represents additional jobs created because of system operations. Local companies that provide goods and services to Harris Health hire extra individuals to support system purchasing and purchasing of employees and visitors. The state and local tax impact of Harris Health includes taxes generated by the Health System and taxes paid by vendors and employees because of their business with the Health System.

Since nearly all physicians and residents who provide care to patients at Harris Health hospitals and clinics are employed by either Baylor College of Medicine (BCM) or McGovern Medical School at UTHealth Houston (UTHealth Houston), the impact of 2,340 faculty physicians and 2,600 residents and fellows is not included in Harris Health's economic employment or tax revenue calculations.

¹ Tripp Umbach is the nation's most experienced provider of economic impact studies for academic health organizations, having completed similar studies over the past 30 years for more than 100 medical schools and more than 800 hospitals.

ECONOMIC IMPACT METHODOLOGY

Tripp Umbach analyzed the economic impact of Harris Health using the IMPLAN input-output model.² Primary data utilized to conduct the analysis were collected from the Health System and included capital expenditures, operational expenditures, number of employees, payroll and benefits, and taxes paid to local and state governments. Tripp Umbach also utilized the FY2022 Harris Health annual report, its website, and other documents supplied by the Health System. Tripp Umbach used secondary data and the firm's benchmarking databases, developed over 30 years from experience with hundreds of similar health system economic impact studies, to estimate visitor spending for conferences and meetings, service location visits, research, and the value of donations and volunteerism by employees.

The economic impact values presented in this report are generated by direct, indirect, and induced operational spending; capital spending; payroll; and visitor spending throughout Harris County and Texas. While this study is limited to the economic and social impact of Harris Health on Harris County and the state, system spending and generation of economic impact from its operations and employment provide benefits throughout the United States.



The economic impact of Harris Health also provides economic benefits to partner medical schools and other hospitals within the Texas Medical Center. These additional benefits are not captured in this report.

COMMUNITY BENEFITS ANALYSIS

Community benefits in this report outline two forms of impact – monetary donations made by employees to local non-profits and volunteer hours assigned to a monetary calculation. Tripp Umbach has conducted survey research to estimate the amount of monetary donations employees will spend in a year. The Independent Sector has quantified the value of a volunteer hour to be approximately \$30 per hour. Tripp Umbach utilized this value with the understanding (also from survey research) of the average number of hours employees engage in volunteer activities. Harris Health's overall impact on the state goes beyond the economic outcomes analysis, which is this report's primary focus. It is important to remember that community benefits are limited to Harris Health employees and don't include volunteer service provided by physicians and residents from partner medical schools.

For more information on the methodology or definition of terms, technical data, and FAQs, see pages 22-27.

² Minnesota IMPLAN Group Inc. (MIG) is the corporation that is responsible for the production of IMPLAN (Impact analysis for PLANning) data and software. IMPLAN is a micro-computer-based, input-output modeling system. With IMPLAN, one can estimate Input-Output models of up to 528 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model.

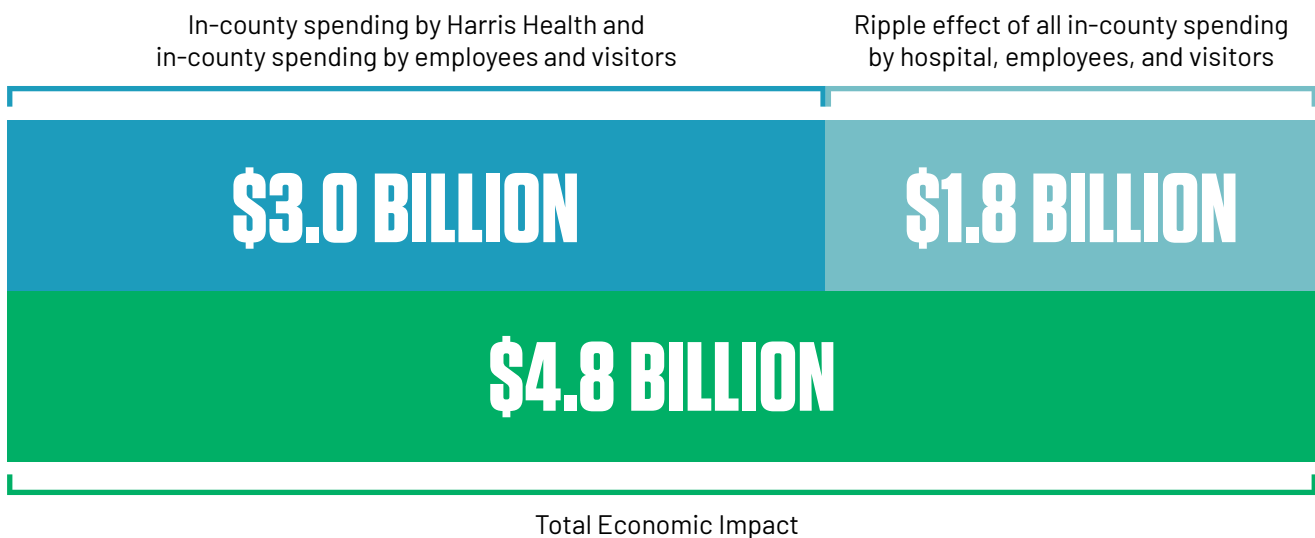


ECONOMIC IMPACT ON HARRIS COUNTY

ECONOMIC IMPACT ON HARRIS COUNTY

Harris Health contributes to Harris County's economic success, directly or indirectly impacting residents daily through clinical care services/activities, employment, and operational spending. As a result, the total economic impact of Harris Health in FY22 on Harris County equaled **\$4.8 billion**. This impact includes a direct operational impact of **\$1.8 billion** and the indirect impact of **\$3.0 billion**.

Figure 1. Economic Impact of Harris Health System on Harris County, FY22



Harris Health's spending and that of its employees and visitors are important to the Harris County economy. Many industry sectors throughout the county rely on local spending attributed to the Health System. The spending generated by Harris Health helps suppliers and vendors in business operations and helps the state residents by creating jobs in Harris County and throughout Texas.

EMPLOYMENT IMPACT ON HARRIS COUNTY

In FY22, Harris Health supported **29,237 jobs** in Harris County. This accounts for the 9,498 direct jobs³ in the county and an additional 19,739 jobs supported because of the Health System's operations throughout Harris County. With a county workforce of 2.1 million, one in every 70 jobs held by persons in Harris County is directly or indirectly related to Harris Health, making the Health System a vital contributor to the county's workforce.

TAX IMPACT ON HARRIS COUNTY

In FY22, Harris Health's operations generated more than **\$132.9 million** in local tax revenue, including the direct taxes paid to local economies and the additional indirect tax payments. Spending within the county by Harris Health generated tax revenue through sales tax and other taxes paid by the companies receiving revenue from the Health System.

RETURN ON INVESTMENT

In FY22, Harris Health received **\$814.8 million** in ad valorem tax net payments from Harris County residents. This amount represents an annual cost of \$172 for Harris County per property owner. For every dollar received from county taxes, **\$5.89** is returned through the expansion of the county's economy.



³ This number represents the number of Harris Health employees who reside in Harris County. The number is lower than the 11,175 number of employees who reside in Texas.

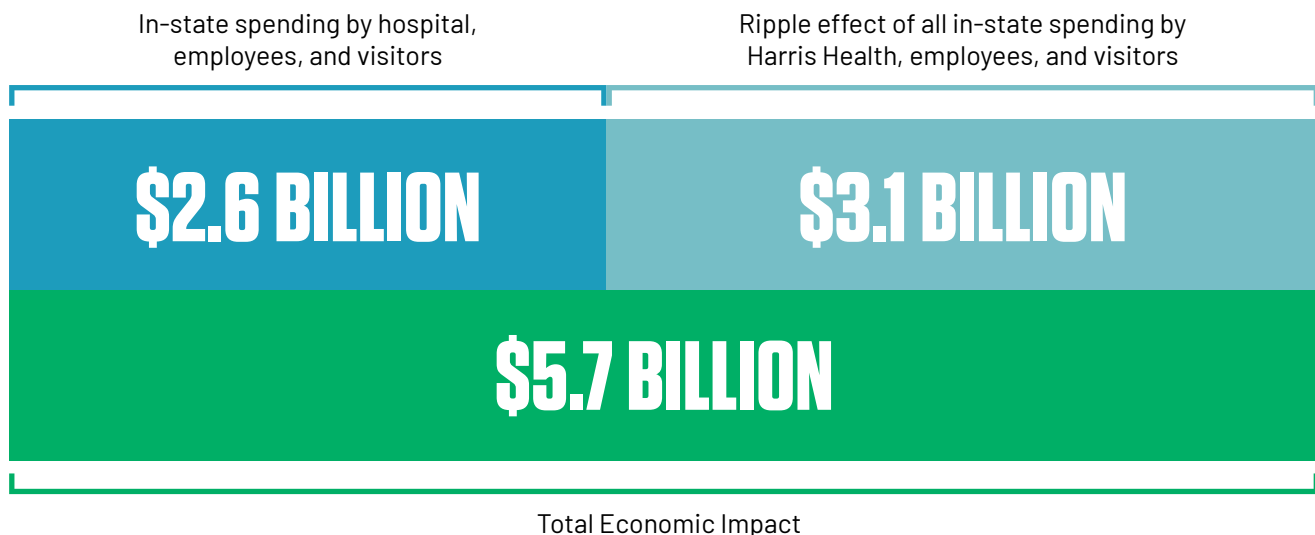


IMPACT ON THE STATE OF TEXAS

ECONOMIC IMPACT ON THE STATE OF TEXAS

The total economic impact of Harris Health in FY 2022 on Texas equaled **\$5.7 billion**. This impact includes a direct operational impact of \$2.1 billion and the indirect impact of \$3.6 billion.

Figure 2. Economic Impact of Harris Health System on Texas, FY22



Harris Health’s spending and that of its employees and visitors are also important to the Texas economy. Many industry sectors throughout the state rely on local spending attributed to the Health System. The spending generated by Harris Health helps suppliers and vendors in business operations and helps state residents by creating jobs throughout Texas. Industries in which these jobs are created include healthcare, real estate, insurance carriers, construction, retail, food and beverage establishments, and legal services.

EMPLOYMENT IMPACT ON THE STATE OF TEXAS

In FY 2022, Harris Health supported **34,396 jobs** in Texas. This accounts for the 11,175 direct jobs⁴ in Texas and an additional 23,221 jobs supported because of the Health System's operations throughout Texas. In the state, more than two additional jobs are created for every job supported by the hospital. The impact of Harris Health on Texas supports jobs in multiple sectors across the state.

TAX IMPACT ON THE STATE OF TEXAS

In FY22, Harris Health's operations generated more than **\$156.3 million** in state tax revenue. Spending within the state by Harris Health generated tax revenue through sales tax and other taxes paid by the companies receiving revenue from the Health System.



⁴ This number represents the number of Harris Health employees who reside in Texas. The number is higher than the 9,498 number of employees who reside in Harris County.



ECONOMIC IMPACT OF COMMUNITY OUTREACH

A strong relationship exists between healthcare quality and economic vitality. Using the Blue Cross Blue Shield Health Index,⁵ Tripp Umbach confirmed a strong correlation between better-than-expected health status and economic performance in Harris County compared with the national averages. Tripp Umbach estimates that the work of Harris Health to reduce health disparities is partly responsible for Houston having a \$10,000 higher per capita GNP than the national average. Tripp Umbach believes the work of Harris Health to keep residents healthy is responsible for an annual boost of **\$460 million** to the Harris County economy, or nearly 1 percent of the county's total economy. This impact is in addition to the **\$4.8 billion** economic impact from Harris Health's operations and employment.

⁵ <https://www.bcbs.com/the-health-of-america/health-index/national-health-index>

ECONOMIC IMPACT OF QUALITY CARE

A study presented by the International Monetary Fund⁶ indicates that the quality of care provided by health systems can improve the post-hospitalization earning power of patients by up to 4 percent. Modeling these results for Harris Health, a 4 percent increase in earnings for the 36,000 inpatients at Harris Health facilities adds approximately **\$45.5 million** in direct spending and a total ripple effect of **\$81.9 million** in the Harris County economy. This impact attributable to Harris Health's inpatient quality is in addition to the **\$4.8 billion** economic impact from Harris Health's operations and employment.



⁶ Mr. Nicola Pierri & Anne-Line Koch Helsø & Adelina Yanyue Wang, 2019. "The Economic Impact of Healthcare Quality," IMF Working Papers 2019/173, International Monetary Fund.



ECONOMIC IMPACT OF CHARITY CARE

Harris Health's total impact on the county goes far beyond the **\$4.8 billion** economic impact on the Harris County economy presented above. Harris Health is responsible for billions in healthcare cost savings from its high-quality primary care network and preventative care to county residents who cannot pay. In FY2022, Harris Health provided **\$795 million** in charity care, representing nearly 3 percent of the combined \$28 billion of charity care provided nationally by more than 6,000 hospitals. Harris Health is one of the nation's largest charity healthcare systems and provides 170 times more charity care than the average U.S. hospital.⁷

Suppose Harris Health did not provide charity care to more than 85,000 patients. In that case, Tripp Umbach estimates the total future downstream cost to be absorbed by Harris County taxpayers would equal more than **\$5.6 billion**. This would represent approximately \$1,200 in additional healthcare costs to be borne by each property owner, or approximately seven times more than the current ad valorem tax. Without a system to provide high-quality early-state care to vulnerable populations, Harris County taxpayers would bear these additional costs in higher health insurance premiums.

⁷ Tripp Umbach calculation based on total charity care provided in 2022 and the total number of U.S. acute care hospitals.

HEALTHCARE COST SAVINGS

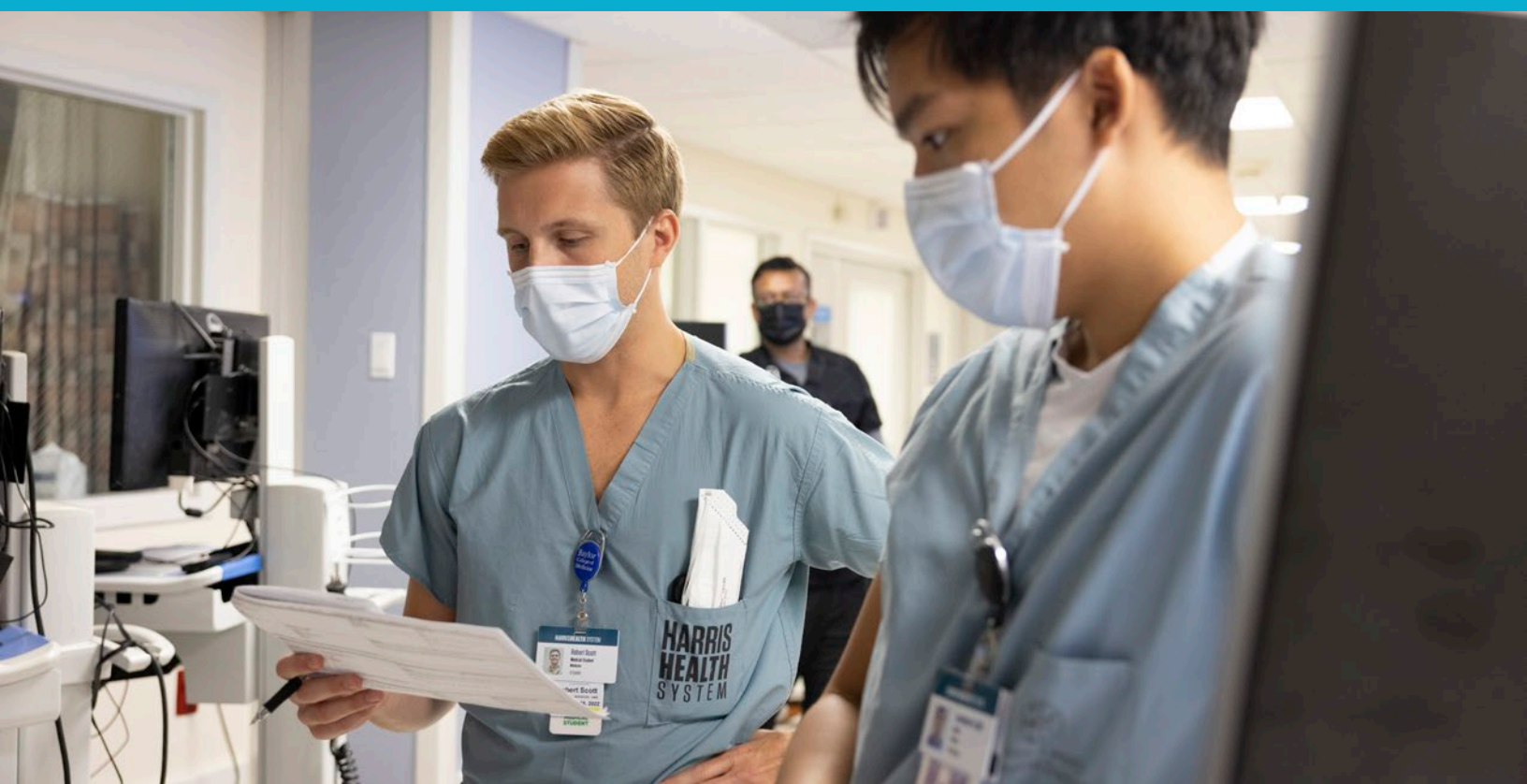
Healthier populations contribute to a more robust local economy, and a stronger local economy contributes to a healthier population. The most visible connection between health and the economy is sustaining a healthier workforce. Healthier workers are more likely to show up for work, be more productive when at work, are in better physical and mental health, and are more likely to engage in education and skills training. Health is linked with positive economic outcomes, affecting per-capita income, unemployment, and poverty.

Harris Health reduces healthcare costs through its extensive and highly integrated primary care system, which lowers annual healthcare costs for Harris County taxpayers. National studies on uninsured/underinsured patients indicate that every dollar spent providing primary care to uninsured and underinsured patients reduces downstream healthcare costs by \$13.00.⁸ Therefore, each of the 800,000 primary care visits in FY2022 provided by Harris Health, at an average cost of \$175, would cost \$2,250 in future healthcare costs to taxpayers if the Health System wasn't in place to provide primary care. In total, Harris Health in FY2022 saved more than \$1.8 billion in healthcare costs, resulting in \$2.30 in healthcare cost savings to Harris County taxpayers for every \$1 in county taxes collected.

These data underscore how Harris Health is at the forefront nationally in the shift from volume to value, implementing the principles of the patient-centered medical home-health clinics that place patients at the center and coordinating patient care in collaboration with other health professionals, such as nurses, specialists, and pharmacists.



⁸ American Academy of Family Physicians.



ECONOMIC IMPACT OF RESIDENCY TRAINING AND PHYSICIAN WORKFORCE EXPANSION

As a significant teaching site for the Baylor College of Medicine and UTHealth Houston, Harris Health plays an integral role in training the next generation of physicians and other healthcare providers who provide care to Harris County residents. Besides partnering with two Houston-based medical schools, the system welcomes physicians in training from dozens of medical schools throughout the United States and the world.

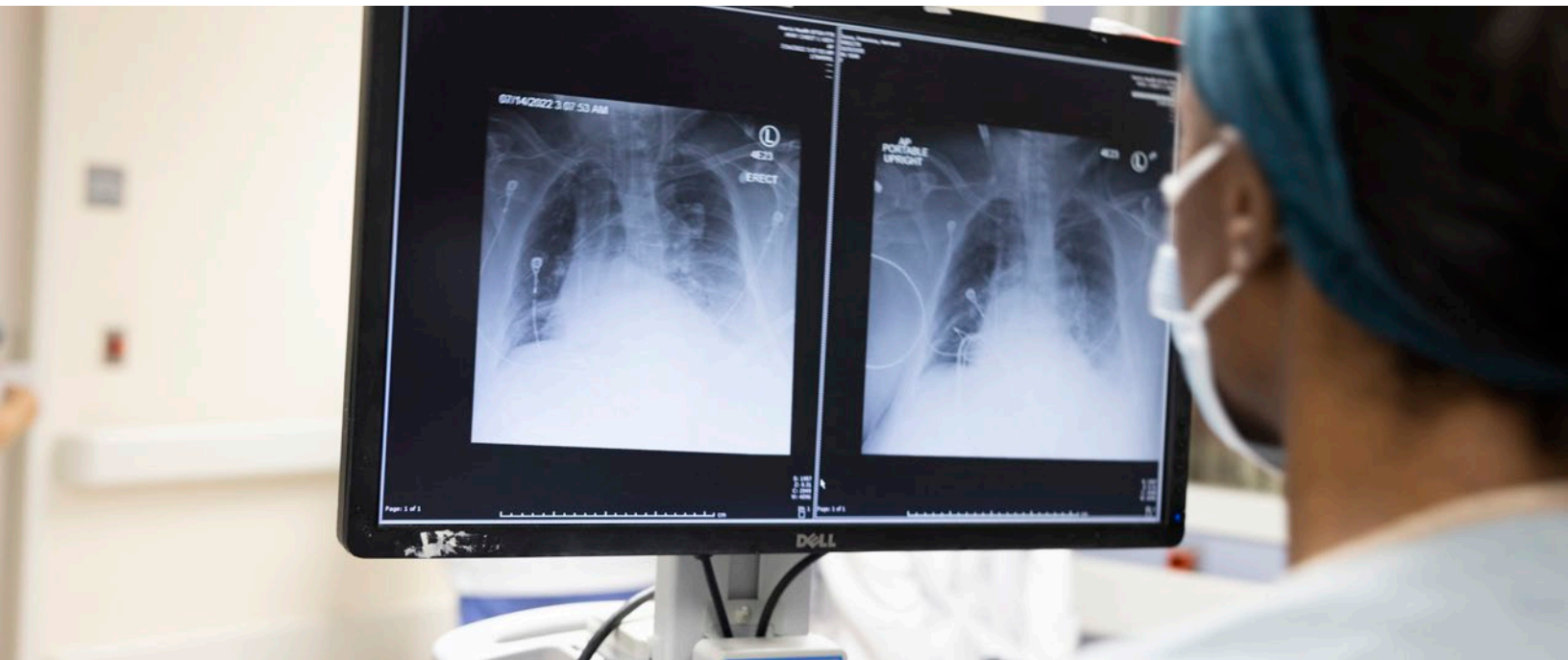
Over its more than 50-year history, Harris Health has served as the training ground for thousands of physicians and other healthcare professionals who remained to practice in Harris County. Harris Health sponsors residency programs in multiple areas, impacting the system's primary care mission. These include internal medicine, pediatrics, family medicine, advanced practice nursing, pharmacy, and physical therapy programs. In addition, physician assistant students receive training in surgery, emergency medicine, inpatient pediatrics, and other specialties and subspecialties. Students in the nurse anesthesia program participate in all aspects of anesthesia care, including care for trauma patients in the emergency department, operating rooms, and obstetrics. Harris Health also has its own School of Diagnostic Imaging, which graduates imaging technicians in four different imaging modalities.

Ben Taub Hospital serves as a teaching hospital for all specialties and their subspecialties for Baylor College of Medicine. The hospital's chief of staff and every medical and surgical service chief are Baylor College of Medicine faculty members, as are all of the individual medical staff members providing patient care at Ben Taub. Residents care for patients in Ben Taub's busy Level I trauma center, which serves patients from throughout Harris County needing emergency care with ailments and injuries involving the specialties and subspecialties of surgery, medicine, obstetrics and gynecology, pediatrics, and psychiatry.

Lyndon B. Johnson Hospital (LBJ) is a full-service teaching hospital staffed by UTHealth Houston since 1990. It is owned and operated by Harris Health and provides patient care for the county's northern half, serving a largely underserved population of more than 300,000. LBJ operates the busiest Level III Trauma Center in the State of Texas. LBJ Hospital supports the expansion of educational, research, and clinical programs of UTHealth Houston through a close partnership with Harris Health. Residency programs in Internal Medicine and Pediatrics, as well as a number of surgical and other specialties, operate at LBJ Hospital in partnership with UTHealth Houston. University of Texas MD Anderson Cancer Center and UTHealth Houston physicians partner to provide oncology care at LBJ.

Using data supplied by Harris Health, Tripp Umbach estimates that approximately 450 of the 650 physicians who trained at Harris Health in FY2022 entered practice in Harris County.⁹ Tripp Umbach estimates that every physician who remains in Harris County to practice has a \$2.2 million economic impact on the Harris County economy. Therefore, in FY2022, \$900 million in economic impact was added to the Harris County economy resulting from physicians trained at Harris Health entering the workforce. Further, these physicians support approximately 6,000 jobs (directly and indirectly) and generate \$27 million in state and local taxes. These economic, employment, and tax impacts are in addition to the annual \$4.8 billion economic impact of Harris Health.

Besides economic, employment, and tax impacts from physicians in the Harris County workforce, each physician who practices in underserved areas in Harris County is responsible for \$3.4 million annually in healthcare cost savings.¹⁰ Assuming that one-third of all physician graduates from Harris Health residency training programs remain in Harris County to practice in underserved neighborhoods, these 150 new physicians are responsible for approximately \$500 million in annual healthcare cost savings. These healthcare cost savings are in addition to the \$1.8 billion in cost savings attributed to Harris Health.



⁹ According to the AAMC, 84 percent of doctors who completed residency training in Texas hospitals remain in Texas to practice. Tripp Umbach estimates that approximately 80 percent of physicians trained at Harris Health who remain in Texas will ultimately practice in Harris County.

¹⁰ Tripp Umbach calculation from internal research since 1995.

LYNDON B. JOHNSON HOSPITAL EXPANSION

Opened in 1989, Lyndon B. Johnson Hospital serves as a destination of care and compassion in an area where residents have little access to quality healthcare. As LBJ Hospital approaches the end of its useful life, Harris Health has begun planning to replace the hospital on the same campus. In March 2022, the Harris Health Board of Trustees took initial steps to transform the LBJ Hospital campus in alignment with its new strategic plan. As highlighted in Harris Health's strategic plan, many issues make this hospital-replacement project imperative for the Health System to support northeast Harris County residents fully.

This project will provide the following benefits:

- Capability to expand to a Level I trauma center.
- Add cardiac catheterization and neurosurgery services.
- Increase bed capacity from 215 to more than 350 licensed beds.
- Increase space for emergency and trauma cases that serves all Harris County residents.
- Expand cancer care.
- Increase access to mental health care programs.

The new LBJ Hospital will positively impact healthcare services for all Harris County taxpayers, as services such as trauma are provided to a broader spectrum of taxpayers than outpatient services. Adding another Level 1 trauma center to Houston is a high priority for Harris Health. Houston currently has only two Level 1 adult trauma centers serving a region with nearly 5 million people. Pittsburgh, with a population of only 300,000, has three Level 1 trauma centers. Phoenix, a city similarly sized to Houston, has five Level 1 trauma centers. Tripp Umbach estimates that the cost of providing trauma services at LBJ Hospital will be partially supported by additional future tax revenue generated by economic growth associated with spin-off activities adjacent to the development project.

The newly developed campus will offer expanded healthcare programs and services, which will expand the economic and social impact of Harris Health. These mission-critical initiatives will require a significant investment of resources by the county and the taxpayers. In developing a financial plan to support this strategic plan, Harris Health will be challenged to identify additional revenue streams, including philanthropic contributions. This economic impact study represents an important vehicle to educate the entire community about how Harris Health is vital to all Harris County residents in providing emergency and trauma services and training the next generation of healthcare professionals.

Tripp Umbach projects that the new LBJ Hospital will have a more substantial economic impact when the project is completed in 2028, in the following areas: 1) Construction impacts over five years, 2) expanded operational spending and employment once the hospital is operational, and 3) significant economic development spillover in the community, which will add even more jobs and economic opportunities for Harris County residents.

CONSTRUCTION IMPACT

Harris Health is poised to increase its economic and social impact over the next five years with the redevelopment of the Lyndon B. Johnson Hospital campus. The announced plans for a **\$1.6 billion** construction project will generate an additional economic impact of **\$3.3 billion**, support **18,871 jobs**, and produce **\$48.2 million** in state and local tax impact over the next 20 years. These future impacts are in addition to the current \$4.8 billion impact of Harris Health on Harris County.

OPERATIONAL IMPACT

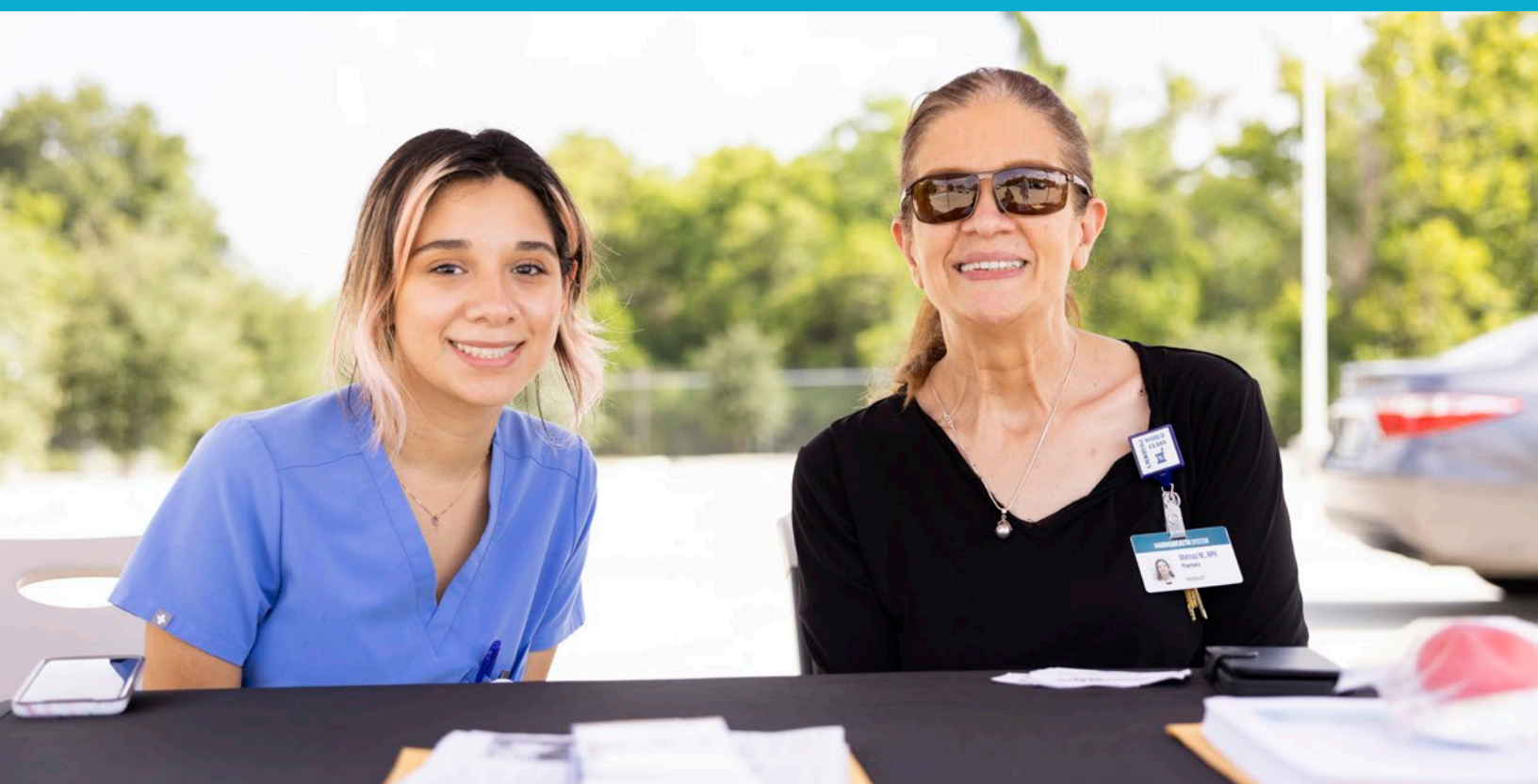
Tripp Umbach estimates that the total economic impact of Harris Health operations and employment in Harris County will grow by approximately **\$705 million** when the new LBJ Hospital is fully operational. The new hospital also will create and sustain approximately **4,700 jobs** in Harris County and generate **\$19.5 million** in additional state and local taxes. These future impacts are in addition to the current \$4.8 billion impact of Harris Health on Harris County.

A significant economic development spillover in the surrounding community will add even more jobs and economic opportunities for Harris County residents living near LBJ Hospital. These impact numbers are in addition to the total economic impact of Harris Health and represent only the impact of the redevelopment of the LBJ campus on the Harris County economy. Inputs in the economic impact model include direct spending on construction with Harris County vendors and suppliers and indirect spending circulated through the economy.

ECONOMIC DEVELOPMENT

Economic development opportunities in communities adjacent to the planned \$1.6 billion LBJ Hospital expansion include:

- **Healthier Workforce:** Economic activity and job growth resulting from the new LBJ Hospital will lead to a healthier and more productive workforce in adjacent neighborhoods. Through continued growth, investment, and innovation, Harris Health will create and sustain new direct and indirect jobs across the county. New job growth will significantly impact community health and well-being by intentionally targeting underserved communities, creating a more productive and engaged workforce. Commitment to economic and workforce development in underserved communities has the added benefit of addressing social determinants of health by driving investments in housing, transportation, healthy food options, and a vibrant environment.
- **Diversity:** Harris Health's 2022 MWBE policy to ensure minority and women-owned business participation in spillover development will expand the local economy. National studies show that minorities and women-owned businesses have higher job multipliers than the average business.
- **Community Investment:** Jobs in local communities generated by programs to address social determinants of health, such as loans to Community Development Financial Institutions (CDFI) in underserved neighborhoods, will add to more economic development. Research conducted by Tripp Umbach indicates that for every job related to housing and community development, five additional jobs are created and supported in a community. Specifically, Harris Health is committed to encouraging new job growth to increase upward mobility in wages in communities near LBJ Hospital that have historically struggled to have the assets needed for full participation in the economy.



ECONOMIC VALUE OF CHARITABLE CONTRIBUTIONS

Employees at Harris Health are dedicated to serving the community and helping better the lives of others. Harris Health’s total impact on Harris County and Texas communities goes beyond the multibillion-dollar impact presented in this report.

Community benefits in this report outline two forms of impact – monetary donations made by employees to local non-profits and volunteer hours assigned to a monetary calculation. Tripp Umbach has conducted survey research to estimate the total monetary donations employees will spend in a year. The Independent Sector has quantified the value of a volunteer hour to be approximately \$30 per hour. Tripp Umbach utilized this value with the understanding (also from survey research) of the average number of hours employees engage in volunteer activities.

Tripp Umbach estimates that in 2022 Harris Health employees generated more than **\$20.9 million** in charitable donations and volunteer services across Harris County. These benefits are in addition to the \$4.8 billion annual impact Harris Health generates in the Harris County economy.

The **\$20.9 million** in total Charitable Giving and Volunteerism includes:

- **\$4.2 million** donated to other charitable organizations by Harris Health employees.
- **\$16.7 million** in value of volunteer time provided to area communities by Harris Health employees. This does not include physicians and residents from partner medical schools.

Each Harris Health employee has a broad and substantial focus on assisting the communities where they live and work. The contributions of Harris Health providers are essential to the economic vitality of Harris County and throughout Texas. Harris Health trains and advances its workforce, adding economic and social value to the Harris County companies that benefit from the Health System’s impact.

APPENDIX A: DEFINITION OF TERMS

Study Year	The Fiscal Year 2021-2022 (March 1, 2021-February 28, 2022)
Total Economic Impact	The multiplier effect is the additional economic impact created as a result of the organization's direct economic impact. Local companies that provide goods and services to an organization increase their purchasing by creating a multiplier.
Direct Economic Impact	The direct impact includes institutional, employee, and visitor spending on the institution.
Indirect Economic Impact	Indirect impact, also known as the multiplier effect, includes the re-spending of dollars within the local economy by vendors/suppliers and households.
Multiplier Effect	The multiplier effect is the additional economic impact created by the institution's direct economic impact. Local companies that provide goods and services to an institution increase their purchasing by creating a multiplier.
Direct Tax Payments	An institution makes direct tax payments to a unit of government.
Indirect Tax Payments	Governmental units collect government revenue in addition to those paid directly by an institution, including taxes paid directly by employees of the institution, visitors to the institution, and vendors who sell products to the institution.
Direct Employment	The total number of employees at the institution is based on total jobs.
Indirect Employment	Indirect employment is the additional jobs created because of the institution's economic impact. Local companies that provide goods and services to an institution increase their employees as purchasing increases, thus creating an employment multiplier.

APPENDIX B: METHODOLOGY

IMPLAN METHODOLOGY

The economic impact of Harris Health System was estimated using IMPLAN (IMPact Analysis for PLANning), an econometric modeling system developed by applied economists at the University of Minnesota and the U.S. Forest Service. The IMPLAN modeling system has been in use since 1979 and is used by more than 500 private consulting firms, university research centers, and government agencies. The IMPLAN modeling system combines the U.S. Bureau of Economic Analysis' Input-Output Benchmarks with other data to construct quantitative models of trade flow relationships between businesses and between businesses and final consumers. From this data, one can examine the effects of a change in one or several economic activities to predict its effect on a specific state, regional, or local economy (impact analysis). The IMPLAN input-output accounts capture all monetary market transactions for consumption in a given period. The IMPLAN input-output accounts are based on industry survey data collected periodically by the U.S. Bureau of Economic Analysis (U.S. BEA) and follow a balanced account format recommended by the United Nations.

IMPLAN's Regional Economic Accounts and the Social Accounting Matrices were used to construct state- and regional-level multipliers, which describe the economy's response to a change in demand or production because of the activities and expenditures of the system. Each industry that produces goods or services generates demand for other goods and services. This demand is multiplied through a particular economy until it dissipates through "leakage" to economies outside the specified area. IMPLAN models discern and calculate leakage from local, regional, and state economic areas based on workforce configuration, the inputs required by specific types of businesses, and the availability of both inputs in the economic area. Consequently, economic impacts that accrue to other regions or states because of a change in demand are not counted as impacts within the economic area.

The model accounts for substitution and displacement effects by deflating industry-specific multipliers to levels well below those recommended by the BEA. In addition, multipliers are applied only to personal disposable income to obtain a more realistic estimate of the multiplier effects of increased demand. Importantly, IMPLAN's Regional Economic Accounts exclude imports to an economic area, so the calculation of economic impacts identifies only those impacts specific to the economic impact area. IMPLAN calculates this distinction by applying Regional Purchase Coefficients (RPC) to predict regional purchases based on an economic area's particular characteristics. The RPC represents the proportion of goods and services purchased regionally under normal circumstances based on the area's economic characteristics described in terms of actual trade flows.



EMPLOYMENT DEFINITIONS

IMPLAN analysis measures jobs/positions (part-time or full-time), not full-time equivalents (FTEs). Full-time and part-time employees impact the economy and support additional indirect and induced employment throughout Texas. Employment data for the system was provided as an output of all individuals who receive a paycheck from the institution, including all full-time and part-time employees.

STATE AND LOCAL TAX IMPACT DEFINITION

Spending within the state and county by Harris Health generated tax revenue through sales tax and other taxes paid by the companies receiving revenue from the Health System. Any federal taxes paid by the Health System were not included in the state and local tax impacts (i.e., FICA payments).

VISITOR DEFINITIONS

Impact analysis looks to quantify the impact of attracting “fresh” dollars to a region. Therefore, when including visitor spending in the impact analysis of a health system, the analysis will include only those visitors coming to a region from outside the said region. Visitors to events who also live in the region would have spent their dollars in that region otherwise; therefore, this dollar was not attracted to the region because of the organization being analyzed. For this study, the impact analysis looked at impacts on two geographies: Harris County and the state of Texas.



APPENDIX C: FAQs REGARDING ECONOMIC IMPACT ASSESSMENT

WHAT IS THE ECONOMIC IMPACT?

Economic impact studies measure the direct economic impact of an organization's spending plus additional indirect spending resulting from direct spending. The economic impact has nothing to do with dollars collected by institutions, their profitability, or their sustainability since all operating organizations have a positive economic impact when they spend money and attract spending from outside sources.

Direct economic impact measures the dollars generated within a geographic region because of an institution's presence. This includes spending on goods and services with vendors within the region and the spending of its employees and visitors, and the economic impact generated by businesses within the region that benefit from the institution's spending. It is important to remember that not all dollars spent by an institution stay in the geographic region of study. Dollars spent outside the region in the form of purchases from out-of-area vendors are not included in an institution's economic impact on the region.

The total economic impact includes the "multiplier" of spending from companies that do business with an institution. Support businesses may include lodging establishments, restaurants, construction firms, vendors, and temporary agencies. Spending multipliers attempt to estimate the ripple effect in the economy where the spending occurs. For example, spending by an institution with local vendors provides these vendors with additional dollars that they re-spend in the local economy, causing a "multiplier effect."

WHAT IS THE MULTIPLIER EFFECT?

Multipliers are a numeric way of describing the secondary impacts stemming from an organization's operations. For example, an employment multiplier of 1.8 would suggest that for every 10 employees hired in the given industry, eight additional jobs would be created in other industries, such that 18 total jobs would be added to the given economic region. The multipliers used in this study range from 1.8 to 2.0.

The Multiplier Model is derived mathematically using the input-output model and Social Accounting formats. The Social Accounting System provides the framework for the predictive Multiplier Model used in economic impact studies. Purchases for final use drive the model. Industries that produce goods and services for consumer consumption must purchase products, raw materials, and services from other companies to create their product. These vendors must also procure goods and services. This cycle continues until all the money is leaked from the region's economy. Three effects are measured with a multiplier: the direct, the indirect, and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied. The indirect effect is the business-to-business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects.

WHAT METHODOLOGY WAS USED IN THIS STUDY?

IMPLAN (IMpact analysis for PLANning) data and software. Using classic input-output analysis in combination with regional-specific Social Accounting Matrices and Multiplier Models, IMPLAN provides a highly accurate and adaptable model for its users. The IMPLAN database contains county, state, ZIP code, and federal economic statistics specialized by region and not estimated from national averages. It can measure a regional or local economy's effect on a change or event in its activity.

WHAT IS EMPLOYMENT IMPACT?

Employment impact measures the direct employment (employees, staff, faculty, administration) plus additional employment created in the economy because of an institution's operations.

Indirect and induced employment impact refers to other regional employees who exist because of an institution's economic impact. In other words, jobs related to the population – city services (police, fire, EMS), employees at hotels and restaurants, clerks at retail establishments, and residents employed by vendors used by the institution.

WHAT IS THE DIFFERENCE BETWEEN DIRECT AND INDIRECT TAXES?

Direct tax dollars include sales taxes paid directly by the institution to the state. In contrast, indirect taxes include taxes paid to the state by vendors that do business with an institution and individuals.

IS THIS A ONE-TIME IMPACT, OR DOES THE IMPACT REPEAT EACH YEAR?

The results presented in this economic impact study are generated annually.

APPENDIX D: ABOUT HARRIS HEALTH

ABOUT HARRIS HEALTH SYSTEM

Harris Health System (Harris Health) is among the nation's largest and most integrated public hospital districts committed to ensuring the patient care it provides is equitable and equal in value to the care provided by non-safety net providers throughout Harris County. Harris Health operates two acute care hospitals (Ben Taub Hospital and Lyndon B. Johnson Hospital) and ambulatory care clinics across Harris County. In addition, Harris Health operates community health centers, same-day clinics, three multi-specialty clinic locations, a dental center and dialysis center, and multiple mobile health units.

Harris Health's Magnet®-designated hospitals and NCQA-recognized ambulatory care clinics have garnered multiple awards and distinctions for the quality of care provided. Harris Health provides care in partnership with its affiliated academic partners, Baylor College of Medicine and McGovern Medical School at UTHealth Houston and the University of Texas MD Anderson Cancer Center. Recently, Harris Health has restructured its relationship with both medical schools to support its continued efforts to operate more cohesively as one healthcare system to reduce variation in how care is provided across the system.

Harris Health is the driver in achieving health equity in Harris County by ensuring that those who often are under-resourced, which may include not having access to healthcare insurance, have a place where they can get holistic, high-quality care. The Health System continues its focus on addressing the underlying causes of poor health, including the social determinants of health, to improve the health of the indigent in Harris County and reduce health disparities.





APPENDIX E: ABOUT TRIPP UMBACH

Founded in Pittsburgh in 1990, Tripp Umbach has completed hundreds of economic impact studies for leading health systems, academic medical centers, universities, and governmental entities at the regional, state, and national levels. Tripp Umbach is credited as the pioneer in community health assessment, economic impact analysis, and academic medicine expansion. Tripp Umbach inspires more than 1,000 clients worldwide to turn ideas into action and impact to change the world for good.

More information can be found at <https://trippumbach.com/>.



HARRIS HEALTH SYSTEM

harrishealth.org

