

CENTER FOR  HOUSTON'S FUTURE



HOUSTON'S ECONOMIC FUTURE: HEALTH CARE 2022

How Equity, Workforce & Innovation Affect Our Region

Report Release Breakfast
December 9, 2022

Topics

1. About Center for Houston's Future
2. Houston's Health Care System as a Driver of Our Health
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4. Economic Modeling of Houston's Health Care Industry in 2036
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About the Center for Houston's Future

We bring business, government, and community stakeholders together to engage in fact-based strategic planning, collaboration and action on issues of great importance to the Houston region.



Our Areas of Focus:



**Strategic
Initiatives**



**Community
Engagement**



Leadership



Center for Houston's Future Strategic Initiatives

Energy and Climate: Work with the Greater Houston Partnership to ensure Houston remains a global leader in the energy transition with a focus on a blueprint and action plan for H2Houston Hub, our global clean hydrogen hub.

Health Care and Health Equity: Build on collaborations with health care, business, and government leaders to identify and address issues of health equity and opportunities in health care.

Immigration: Guide business and community leaders a greater understanding of immigration's integral role in the region's economy in partnership with Rice's Baker Institute, the George W. Bush Institute, the Rational Middle of Immigration, and others.



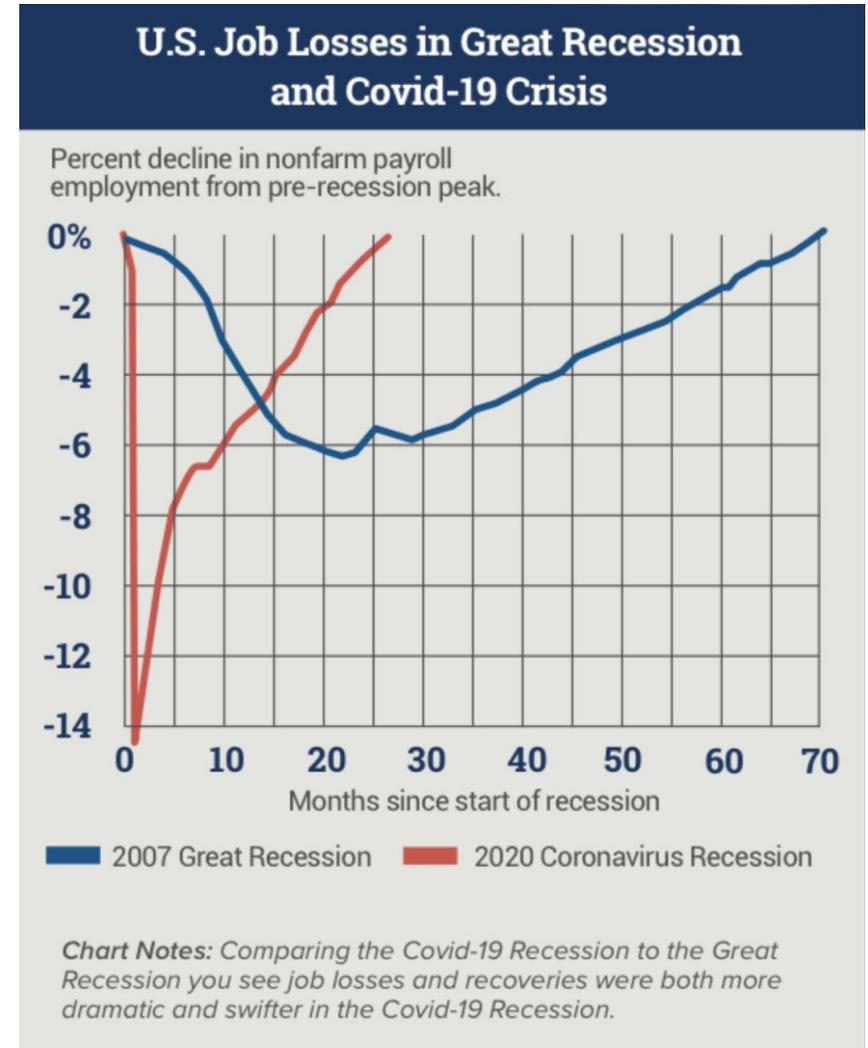
Why Health Care and Health Equity?

Health Care is the #1 Employer in the greater Houston area supplying 349,000 jobs and 5.2% of the GDP

- Health care can be a weight on broader economic growth...
- ...but when it results in improved health technologies and improved health outcomes it drives prosperity

A strong economy depends on a healthy workforce

- The COVID-19 pandemic highlighted this fact
- As the World Bank says: *“The impact of health on GDP is substantial—an extra year of life expectancy is estimated to raise a country’s per capita GDP by about 4 percent.”*



Source: Bureau of Labor Statistics



Report Overview

- COVID-19 highlights challenges and strengths of greater Houston's health care sector, which remains key to our economic prosperity.
- Our region is not fully benefiting from Houston's wealth of health resources due to **health disparities** driven by social determinants of health.
- The pandemic highlighted Houston's capabilities as a leader in **medical care innovation** and as an **emerging leader in life sciences**, as it exacerbated a range of issues from **mental health** to **workforce shortages**.
- Economic modeling reveals that **1 in 6 jobs added in our region from 2021 to 2036 will be in health care**, and that in a baseline case, the health care sector will drive an increase of \$63.5 billion in our local economy.



Houston's Health Care System as a Driver of Our Health



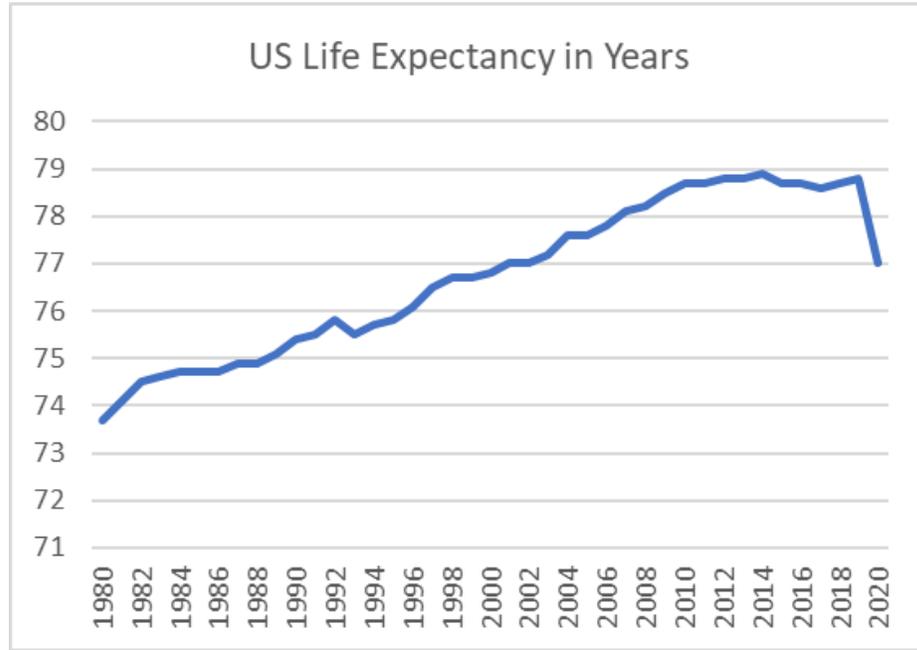
- The Institute of Healthcare Improvement's (IHI) Triple Aim framework was developed by the Institute for Healthcare Improvement in Cambridge, Massachusetts (www.ihp.org) and is widely accepted as a useful tool for health system improvement.
- The **quintuple aim** is an extension of the IHI's Triple Aim: **Patient Experience, Per Capita Cost, Population Health**
 - Published in the Journal of the American Medical Association in 2022
 - Adds **Clinician Burnout** and **Health Equity**





Houston's Health Care System as a Driver of Our Health

Patient Experience / Medical Outcomes



- The age-adjusted mortality rate in Harris County **increased by 21.9 percent in 2020** over the prior year.
- Mortality numbers were elevated even when the 16,500 Covid-19 deaths are not considered.
- **Chronic diseases** remain a major cause of death in Houston, with heart disease and cancers **accounting for 41.9 percent of all deaths**

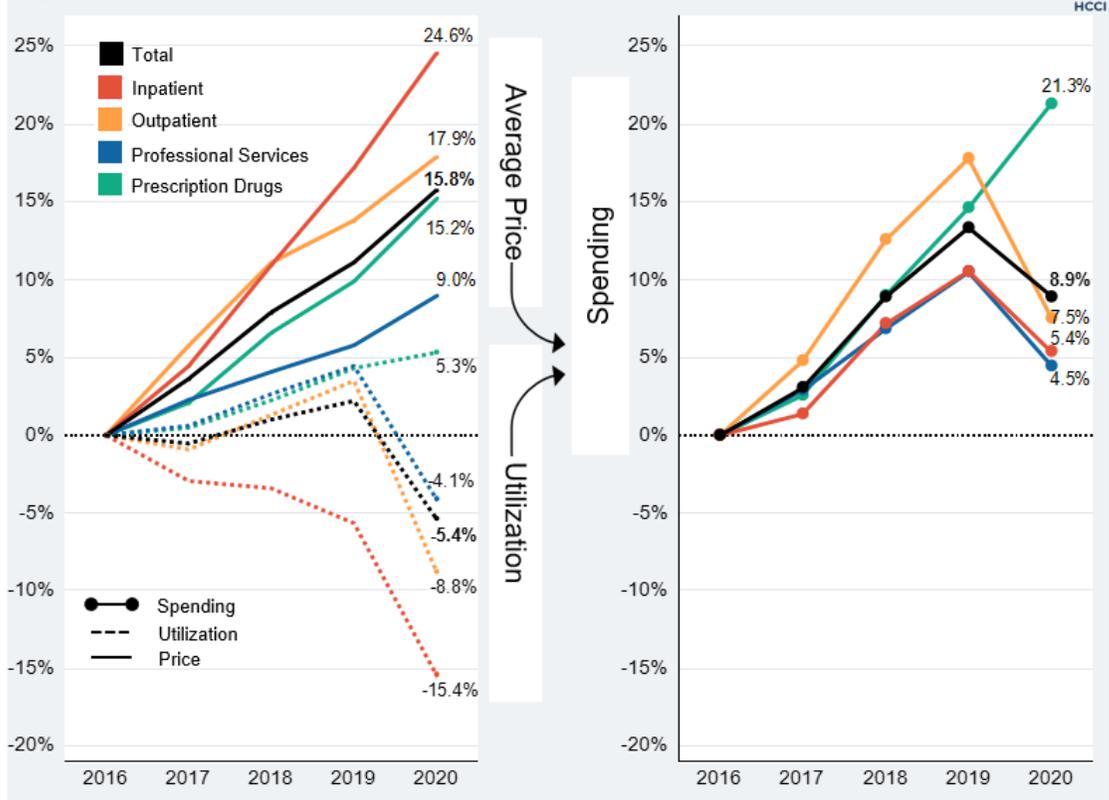




Houston's Health Care System as a Driver of Our Health

Per Capita Cost

Figure 4: Cumulative Change in Spending per Person, Utilization, and Average Price by Service



Spending on Health Care

- Houston MSA **spent 4% more** than the national median on **health care**

Insured, Underinsured, Uninsured

- The average **uninsured rate** is a staggering **22% of adults** and **13% of children**.
- The average cost to provide **employer-sponsored health insurance** for a family is now over \$22,000, a **\$7,000 increase from 2011**.
- The **average deductible** increased by **71%** in the same period.
- 58% of workers** are underinsured, deductibles above \$1,000.

Medical Debt

- Texas has the **seventh-highest percentage** of residents with **medical debt (29 percent)**.





Houston's Health Care System as a Driver of Our Health

Population Health

- We spend **\$4.3 trillion** nationally on medical services that drive 10% of health outcomes
- Social determinants of health (SDoH) and health behaviors can account for up to **90 percent of health outcomes.**
- Houston's poverty rate is 20.6%, US is 13%
- Texas ranks 30th for life expectancy
- The pandemic has underscored the importance of these non-medical factors in improving health.

POPULATION HEALTH

Population health includes health outcomes, patterns of health determinants, and the policies and interventions that link these two. Attention to social and environmental, as well as medical determinants of health is essential. Here we focus on the social determinants of health driving medical outcomes. These are the conditions in which people are born, grow, live, work and age that shape health. The Kaiser Family Foundation divides this into six subsections: economic stability, neighborhood and physical environment, education, food, community and social context, and health care system. These factors work together and shape health outcomes such as mortality, morbidity, and life expectancy. Adverse social determinants of health conditions are often concentrated in racial and ethnic minority populations. As a result, minorities generally have worse health outcomes. In fact, research has shown that as much as 80-90 percent of health outcomes are shaped by social, behavioral, and economic factors.³⁷ Nevertheless, the United States spends a much higher percentage of its GDP on medical care. The pandemic has underscored the importance of these non-medical factors and increased focus on addressing SDoH as a part of health care.

SOCIAL DETERMINANTS OF HEALTH

ECONOMIC STABILITY

Houston MSA has the largest income gap in Texas and **11th worst** in the nation. (2019)³⁸
Income gap is the difference in income between the top 10th and bottom 10th percentile of earners.

FOOD DESERTS AND INSECURITY

The food insecurity rate in Harris County is 16.4%, about 4 percentage points above the national average. That represents **724,750 food-insecure individuals.** (2019)⁴¹

NEIGHBORHOOD AND PHYSICAL ENVIRONMENT

1 in 5 Harris County households report **severe housing problems** including overcrowding, lack of a kitchen, and overdue payments.³⁹

COMMUNITY, SAFETY, AND SOCIAL CONTEXT

The **poverty rate** in the City of Houston is **20.6%** compared to 13% across the U.S. (2020)^{42, 43}

EDUCATION

20.8% of adults in the City of Houston do not have a high school diploma. (2022)⁴⁴

HEALTH CARE SYSTEMS (HEALTH INSURANCE)

Nearly a **third of adults** in Harris County (28%) and 15% of children have **no health insurance**, which is more than double the uninsured rate for the nation. (2019)⁴⁴

*Worse social determinants of health lead to **worse health outcomes** throughout an individual's lifetime.*

Preterm births in Harris County was **15% higher** than the national rate and 7% above the Texas Rate. (2020)⁴⁰

The **percentage of adults with diabetes** in Texas, **12%** is consistently higher than the national rate, **9.1%**. (2018)⁴⁵

The **suicide rate** in Houston is **23% higher** than the state average at 16% per 100,000 age-adjusted. (2020)⁴⁶

The **childhood mortality rate** across Houston MSA ranges from **63 per 100,000** in Liberty County to **41** in Chambers and Brazoria Counties. (2022)⁴⁷

Texas ranks **30th** compared to other states with a **life expectancy of 76.5**.⁴⁸ Life expectancy varies across Houston MSA by as much as 23.4 years depending on where individuals live.⁴⁸





Houston's Health Care System as a Driver of Our Health

Health Equity

- Population health varies greatly based on **race, income, and zip code**.
- **Life expectancy** varies across Houston MSA by as much as **23.4 years** depending on where individuals live.
- **Texas ranked 46th in health equity and racial disparities** in the 2022 Commonwealth Fund State Health Scorecard

	WHITE	BLACK	HISPANIC
% LOW BIRTH WEIGHT <small>HOUSTON MSA (2014-2020)</small>	7.3%	12.4%	7.5%
INFANT MORTALITY (PER 1000 LIVE BIRTHS) <small>HOUSTON MSA (2014-2020)</small>	4.8	8.3	4.8
CHILDHOOD MORTALITY (PER 100,000 UNDER THE AGE OF 18) <small>HOUSTON MSA (2017-2020)</small>	40.7	75.5	41.1
TEEN BIRTH RATE (PER 1000 WOMEN AGED 15-19) <small>HOUSTON MSA (2014-2020)</small>	18.5	23.8	31.6
CANCER MORTALITY (PER 100,000 POPULATION) <small>HARRIS COUNTY (2015-2019)</small>	152.1	182.4	104.2
PREMATURE AGE-ADJUSTED MORTALITY (PER 100,000 POPULATION) <small>HOUSTON MSA (2018-2020)</small>	378.0	514.3	276.4
LIFE EXPECTANCY <small>HOUSTON MSA (2018-2020)</small>	77.8	75	82.5





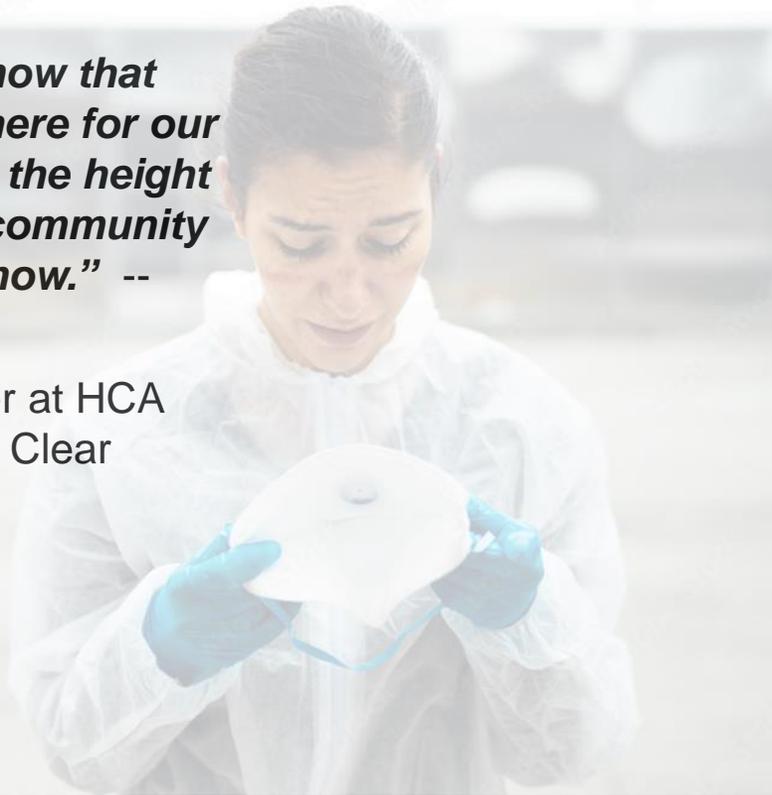
Houston's Health Care System as a Driver of Our Health

Workforce Burnout

“Nurses need to know that just as they were here for our community during the height of Covid, we as a community are here for them now.” --

Sherry Camacho,

Chief Nursing Officer at HCA
Houston Healthcare Clear
Lake/Mainland



- **65 percent of nurses reported moderate to severe burnout** (the result of chronic stress)
- Nurses also shared feelings of **compassion fatigue**, a lost ability to empathize due to physical and mental exhaustion from caring for sick or traumatized people for an extended time.
- **Frontline workers** exposed directly to Covid-19 patients and **younger health care workers** experienced the greatest effects.
- Unaddressed burnout can cause **depression** and other mental and physical health problems.



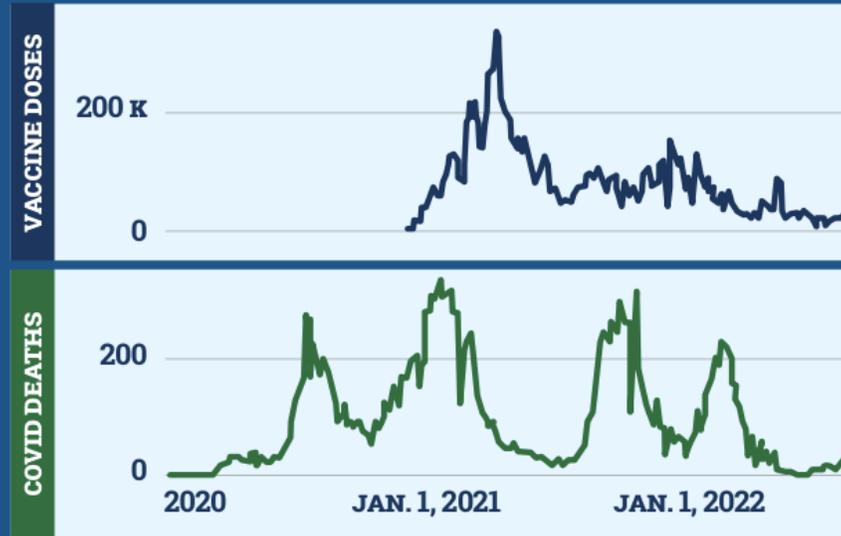
Impact of Covid-19

Covid-19 Infection and Death by Houston MSA, State, and Nation (As of October 7, 2022)

USA	TEXAS	HOUSTON MSA
96,443,565 CONFIRMED CASES	7,880,387 CONFIRMED CASES	1,700,076 CONFIRMED CASES
1,056,702 DEATHS	89,268 DEATHS	16,437 DEATHS
624,198,981 DOSES ADMINISTERED	48,051,440 DOSES ADMINISTERED	11,721,789 DOSES ADMINISTERED
225,870,613 PEOPLE FULLY VACCINATED	18,071,414 PEOPLE FULLY VACCINATED	4,516,073 PEOPLE FULLY VACCINATED
 68%	 62%	 63%

Source: CDC, Texas DSHS, Texas Covid Vaccine Tracker Data Updated on Oct 7th 2022, Retrieved Oct 11th, 2022

Texas Covid-19 Deaths & Vaccination Rates



Source: Texas Department of State Health Services

- 58. University of Wisconsin Population Health Institute. County Health Rankings & Roadmaps 2022. www.countyhealthrankings.org.
- 59. CDC. (2020, March 28). *COVID Data Tracker*. Centers for Disease Control and Prevention.
- 60. Texas Department of State Health Services. (2022, August 24). *COVID-19—Cases*. Texas Health and Human Services.

Covid-19 Timeline

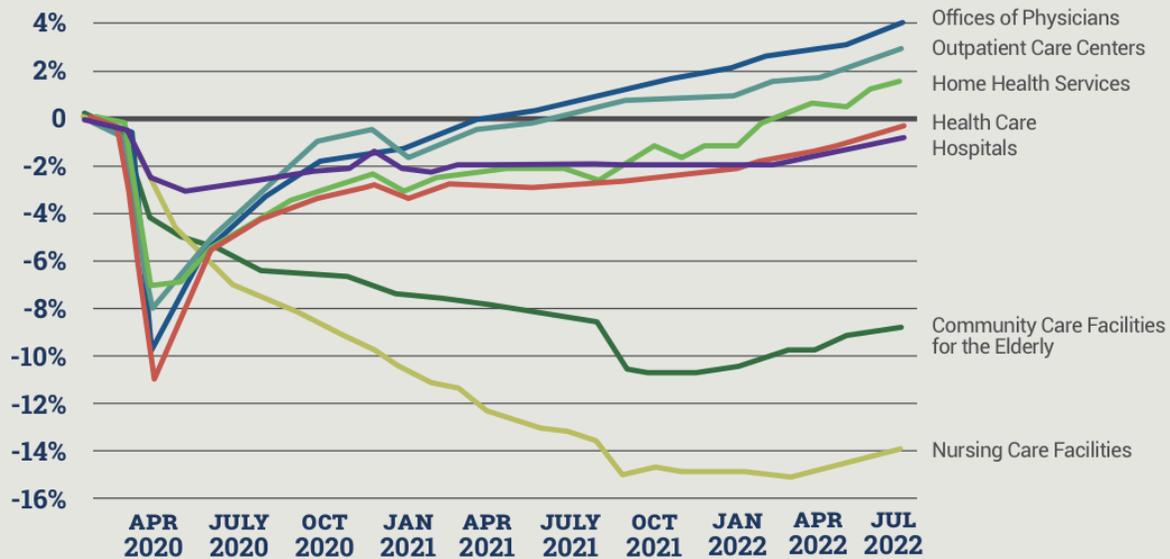
2020	MARCH 2020	<ul style="list-style-type: none"> 4 First patient tests positive in Texas. 19 National emergency declaration, Texas restricts social gatherings.
	JULY 2020	Peak of first wave in Texas with 360 hospitalizations per day at TMC.
	NOVEMBER 2020	Texas reports more than 1 million cases.
	DECEMBER 2020	First Covid-19 vaccination in Houston administered at Memorial Hermann Hospital. Houston MSA hits 300,000 positive Covid cases.
2021	FEBRUARY 2021	Houston is named one of five U.S. cities chosen to have a FEMA "Super" Vaccination Site at NRG Park.
	MARCH 2021	Houston MSA reports 8,000 deaths from Covid. Harris County announces more than 1 million doses of vaccine administered.
	MAY 2021	Over 1 million Houstonians fully vaccinated.

Source: Center for Houston's Future



Houston's Health Care System as a Driver of Our Economy

U.S. Cumulative % Change in Health Sector Employment, February 2020-July 2022, Seasonally Adjusted



Source: Bureau of Labor Statistics Current Employment Survey (CES)

Employment

- Greatest losses:
 - medical professionals not on the frontlines
 - elderly and nursing care facilities
- Fewest losses: life sciences industry
- Job growth rates from 2012 – 2021
 - 12% all industries
 - 25% health care services
 - 77% life sciences growth

Economy

- GDP fell from \$509.3 billion to \$488.2 billion between 2019 and 2020.
- Preliminary data indicates the regional GDP fully recovered in 2021.
- GDP increase from 2014 – 2020.
 - 10.5% all industries
 - 22% health care



Houston's Health Care System as a Driver of Our Economy

Life Sciences Ecosystem at a tipping point



- **Infrastructure:** TMC's Helix Park, BioPort, Levit Green, Generation Park, and the ION.
- **Capital:** public funding from the Texas Enterprise Fund and Cancer Prevention and Research Institute of Texas (CPRIT); private funds from venture capital tripled in 2021 to \$2.02 billion
- **Talent:** Researchers, leadership, and line workers (Generation Park and BioPort)
- **Patients:** A density and diversity for research & trials
- **Quality of Life:** Houston ranks No. 1 in the nation for life sciences wages relative to the cost of living by CBRE



Houston's Health Care System as a Driver of Our Economy

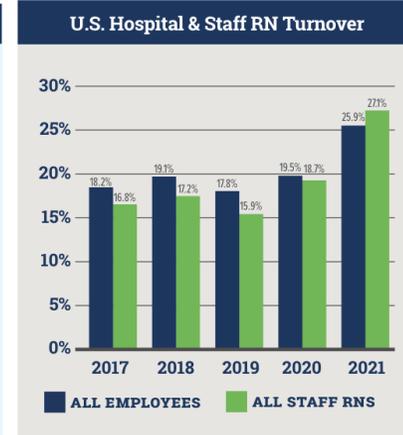
Workforce Shortages

Workforce shortages in nurses, mental health professionals, primary care physicians, and more were exacerbated because of the COVID-19 pandemic.

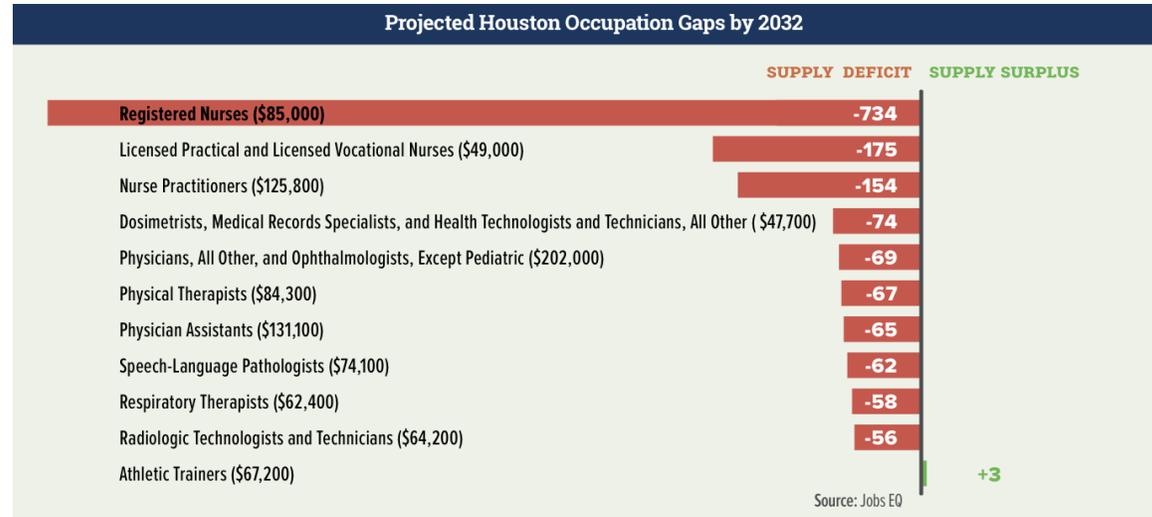
- The U.S. Department of Health and Human Services projects a **shortage of more than 3.2 million** essential, low-wage health workers in the next five years and a **shortage of 140,000 physicians by 2033**.
- Currently, Texas has **15,900 fewer nurses than it needs**, a number expected to **increase to 57,000 registered nurses by 2032**.
- A key issue for nurses is **workplace violence** from patients and patient families.



Source: Texas2036.org



Source: NSI Nursing solutions Healthcare Retention and RN Staffing Report



Houston's Health Care System as a Driver of Our Economy

Addressing the Workforce Shortage

We offer the following suggestions for graduating and retaining nurses, based on current research and our discussions with experts.

Producing More Nurses

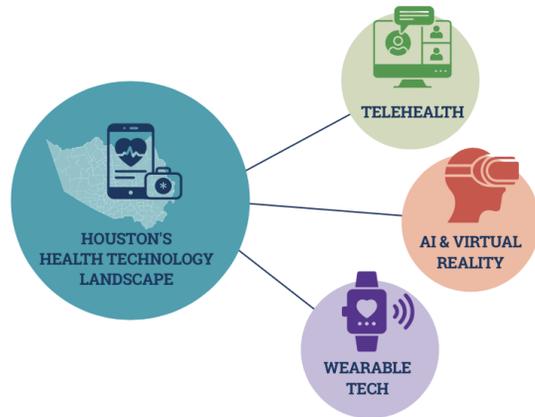
1. Work with younger students to build a pipeline to nursing school.
2. Increase clinical spots for nursing students.
3. Invest in nursing schools by adding staff and classrooms.
4. Find legislative solutions to bring in nurses from abroad.

Improving Nurse Retention

1. Implement regulatory and hospital-level changes to improve workplace safety and security.
2. Allow for more flexible work hours.
3. Create hospital-level mental health and wellness programs.
4. Teach and foster a culture of self-care in all levels of nursing education.



Houston's Health Care System as a Driver of Our Economy



Technology Adoption

- Telehealth usage increased during the pandemic but has since fallen.
- Although telehealth provides increased access to health care for rural communities that may lack care, training should be implemented for health care professionals to provide the same standard of care using virtual methods.
- Other forms of technology have been implemented by organizations like HCA's NATE that utilize AI to aggregate clinical data to provide a real-time view of a hospital and its units and patients.

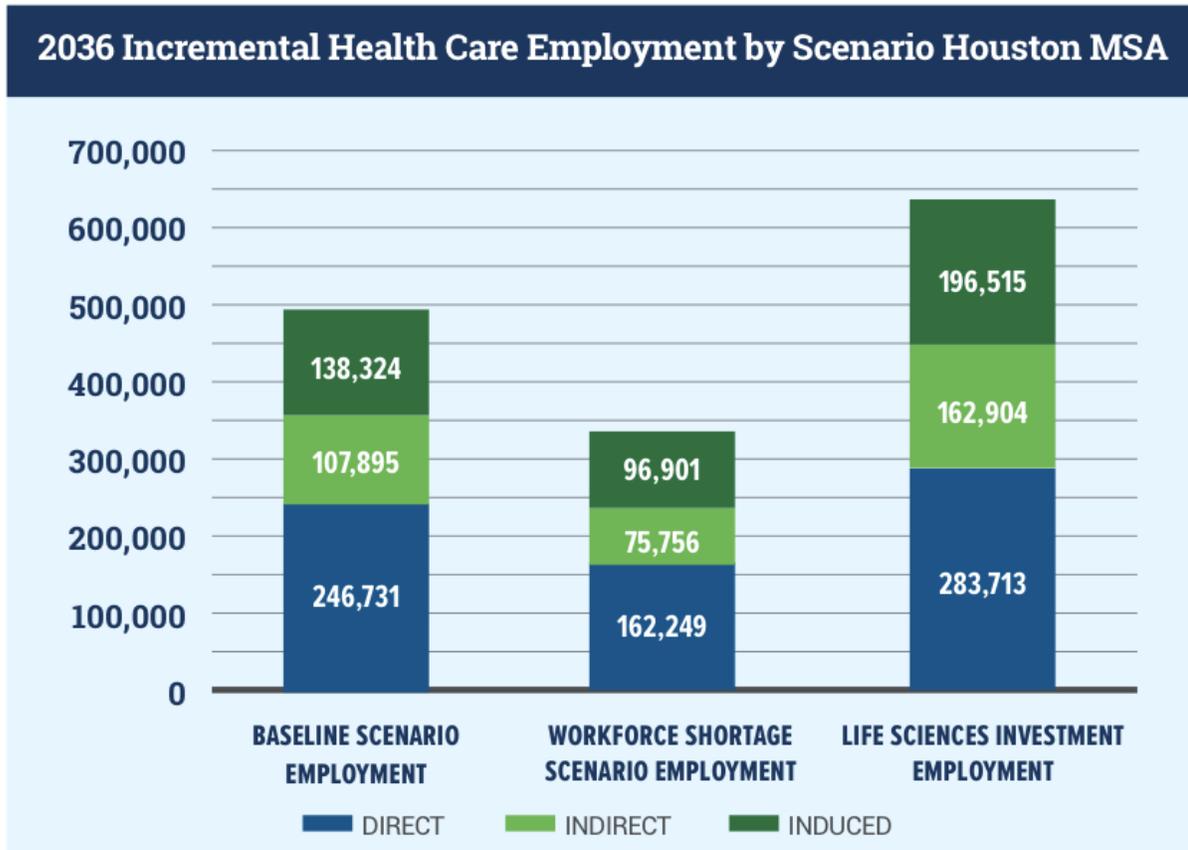
U.S. Telehealth Claims Volumes, Compared to Pre-Covid 19 Levels (February 2020 - 2021)



Includes cardiology, dental/oral, dermatology, endocrinology, ENT medicine, gastroenterology, general medicine, general surgery, gynecology, hematology, infectious diseases, neonatal, nephrology, neurological medicine, neurosurgery, oncology, ophthalmology, orthopedic surgery, poisoning/drug tox./com. of TX, emergency department, hospital inpatient, and psychiatry inpatient claims; excludes certain low-volume specialties. Source: Compiled database; McKinsey analysis.



Model: The Health Care Sector of 2036



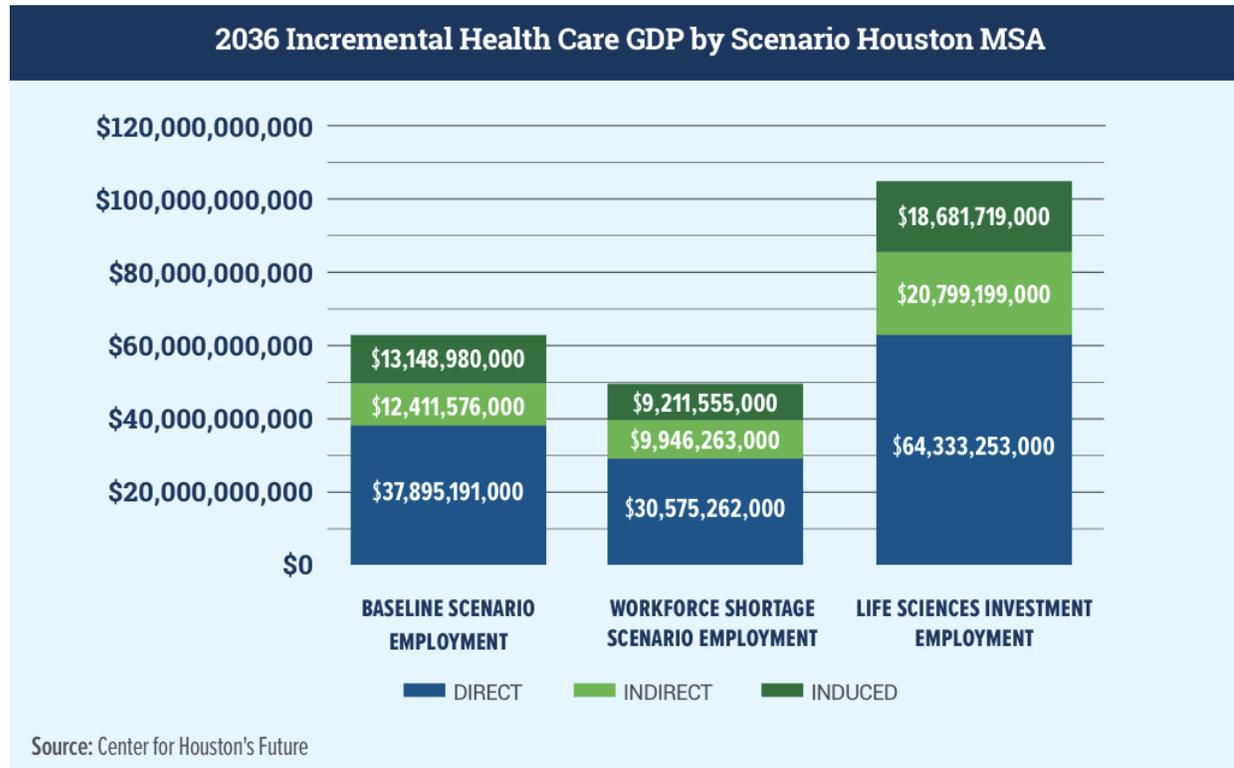
Source: Center for Houston's Future

Health care continues to be the uncontested leader in fueling employment growth for the region.

- At the current rate of growth, we expect to see a **68% increase in jobs (493,000) in 2036** assuming we have workers to fill these jobs.
- **Failing to invest in health service workers will reduce Houston's employment by 158,000 jobs** when indirect and induced jobs are included.
- **Continued investment in the Life Sciences sector could add an additional 150,000 jobs**



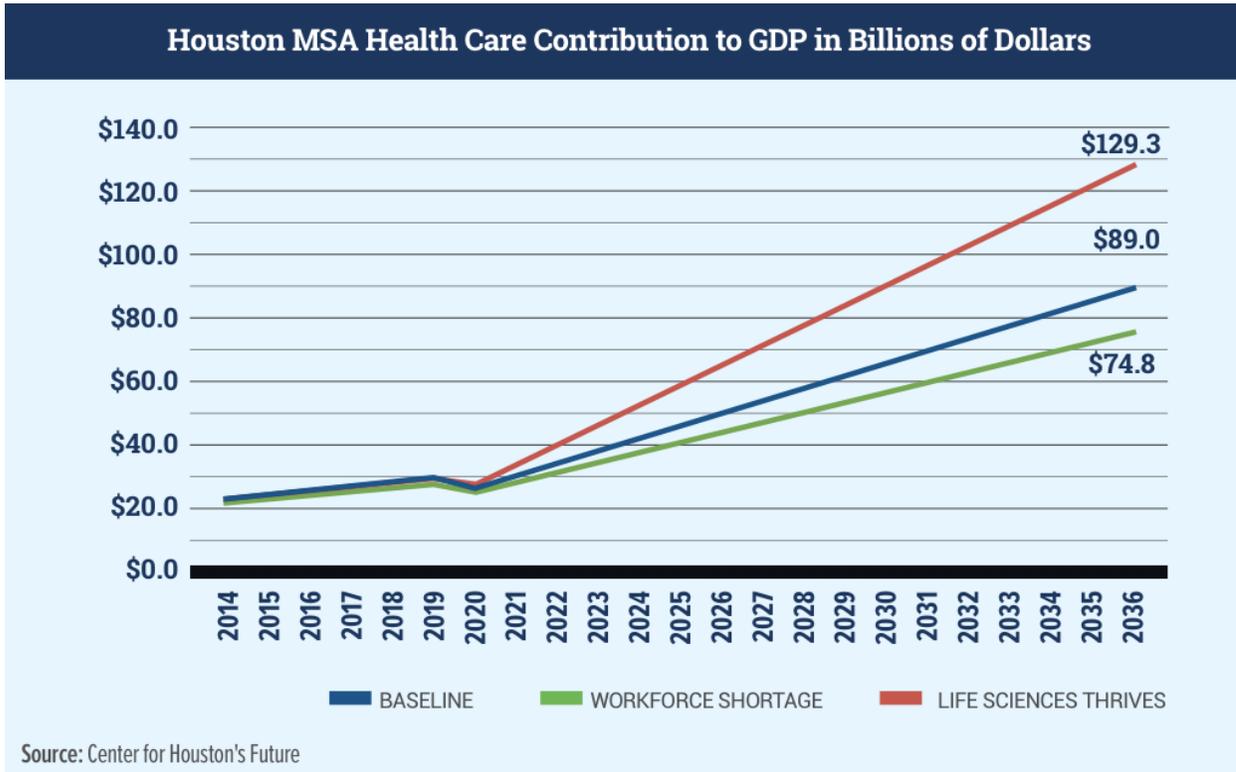
Model: The Health Care Sector of 2036



- The health care industry is forecasted to **add \$63 Billion** (\$36 Billion direct) to the economy more than doubling the contribution from direct jobs in 2036 all things equal.
- **Addressing** the health care **workforce shortage** would **protect \$14 billion** in GDP in 2036.
- **Investing in Life Sciences** industry would **increase GDP** by an additional **\$40 Billion**.



Model: The Health Care Sector of 2036



- This chart shows the impact today's choices could have on the economy in 2036.
- Failing to invest in the health care workforce is critical to maintaining our economy.
- The region can transform the health care sector into an engine of economic growth by cultivating so-called "high-multiplier" life sciences jobs.



Conclusion and Recommendations

We have an opportunity to leverage the lessons from the past two years to improve our health care system. We encourage the region's business, civic, and health care stakeholders to build on collaborations of the past two years to address the following:



Conclusion and Recommendations

Improve health and health equity

- Develop **Public-private sustainable funding streams** for programs that address social determinants of health and support policies to fund health care including behavioral health.
- Support policies to increase **price transparency** and adopt care models that **align incentives with outcomes**.

Address health care workforce burnout and shortage

- **Retain talent** – Address **workplace violence** in medical facilities, creating a **culture of self-care** including protected lunch hours and break times, spaces to disconnect and decompress, self-care activities for staff, promoting activities **to reduce stigma around mental health** care, and increase use of employee assistance program benefits.
- **Develop the pipeline** - Support increased public and/or private **funding for faculty positions** in nursing colleges and **financial support for nursing students**, and legislation to allow open health care positions to be filled by talent from abroad. Hospitals can increase participation in **clinical rotations** and provide more **preceptors** for nursing students.



Conclusion and Recommendations

Advance health technology

- Health care organizations can continue to **adopt technology** that **improves care**.
- Entrepreneurs can **analyze and leverage a wealth of health data** from the state's new All-Payer Claims Database, as well as Greater Houston Health Connect, **to create solutions for health care problems**.

Grow our life sciences ecosystem

- The business community can continue to **support programs to provide hands-on training** for all levels of life sciences employees, from CEOs to lab techs, in order to translate vast research capabilities into life-enhancing and life-saving solutions for patients.
- The business community can facilitate **collaboration between early-stage venture capital firms and investors** to expand the pipeline of startup companies in Houston.
- Civic leaders can **support incentive programs** and **share our strengths** as a life sciences powerhouse to the world.



Conclusion and Recommendations

We recommend the creation a coalition of business, community and health care leader work on the issues raised in this report. Possible models include:

The Dallas Medical Resources organization, connects businesses, community, and health care leaders to inform and educate members about the region's health care infrastructure and services.

Chicago's West Side United organization, brings together businesses, health care institutions, residents, government agencies, and faith-based institutions to actively work to make their neighborhoods "stronger, healthier and more vibrant places to live."



Thank you!



Panelists



DR. KELLI NATIONS



BARBIE ROBINSON



**DR. ATUL
VARADHACHARY**



DR. JAN LINDSAY

