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The Economic Impact of Arizona's Health Care Sector

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About the Authors



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About Common Sense Institute

Common Sense Institute is a non-partisan research organization dedicated to the protection and promotion of Arizona's economy. CSI is at the forefront of important discussions concerning the future of free enterprise and aims to have an impact on the issues that matter most to Arizonans. CSI's mission is to examine the fiscal impacts of policies, initiatives, and proposed laws so that Arizonans are educated and informed on issues impacting their lives. CSI employs rigorous research techniques and dynamic modeling to evaluate the potential impact of these measures on the Arizona economy and individual opportunity

Teams & Fellows Statement

CSI is committed to independent, in-depth research that examines the impacts of policies, initiatives, and proposed laws so that Arizonans are educated and informed on issues impacting their lives. CSI's commitment to institutional independence is rooted in the individual independence of our researchers, economists, and fellows. At the core of CSI's mission is a belief in the power of the free enterprise system. Our work explores ideas that protect and promote jobs and the economy, and the CSI team and fellows take part in this pursuit with academic freedom. Our team's work is informed by data-driven research and evidence. The views and opinions of fellows do not reflect the institutional views of CSI. CSI operates independently of any political party and does not take positions.

Table of Contents

About the Authors	1
About Common Sense Institute	1
Teams & Fellows Statement	2
Introduction	4
Key Findings	5
Background	6
Arizona Demographics	6
The Changing Health Care Economy	6
Licensed Health Care Workforce	7
The Health Care Industry	9
The Economic Impacts of Arizona's Health Care Sector	10
Prospects for Growth	11
The Bottom Line	12

Introduction

While some parts of the Arizona economy have gotten all the attention recently – manufacturing thanks to the ongoing renaissance that has seen this sector have some of its fastest growth in decades, and sports and tourism thanks to major events like the Superbowl coming back after the pandemic lull – it's worth recalling that Health Care Services have been a traditional lynchpin of the state's economy and labor markets. At over 410,000 employees, nearly 10% of the state's workforce, hospitals, clinics, and providers offices are the state's largest employers – dwarfing even state, local, and federal government in size.

The Health Care Service sector is further supported by other large components of the Arizona economy – the insurance and financial services industries, for example, are another cornerstone of the state. According to Crunchbase, there are 594 insurance companies in Arizonaⁱ, and Tempe is home to one of State Farm's three regional headquartersⁱⁱ. Private insurance providers cover 62% of Arizona's health care consumersⁱⁱⁱ, and the largest private provider – Blue Cross Blue Shield of Arizona – has been active in the state since 1938 provides insurance coverage to more than 2 million people^{iv}.

The size and interconnection of the states health care, insurance, and other service- and goods-providing industries (hospital complexes have traditionally been some of the state's largest construction projects, for example) mean that policies and trends impacting this quieter side of the Arizona economy can have massive consequences for the state. This paper further explores the specific contributions of the state's health care sector to the Arizona economy, generally.

Health Care By the Numbers



\$31 Billion

in GDP



8.3%

of Arizona's GDP



410,621

Jobs



\$69 Billion

in Personal Income

Key Findings

This report finds that:

- Health care is Arizona's largest sector, directly employing over 400,000 Arizonans - including 240,000 new jobs created just since 2000 (+130%).
- The Arizona Board of Regents estimates that by 2030, the health care sector will have a **shortage of 23,300** health care professionals or about 2,300 net every year.
- Including all direct, indirect, and other dynamic effects, CSI estimates that the health care sector contributes \$78 billion in Gross Domestic Product (GDP), and supports 959,952 jobs and \$69 billion in personal income.
- CSI modeling shows the state would lose over 40% of its construction jobs, but for demand created by its health care sector.
- Arizona's health care market is changing - the population covered by public insurance options (Medicaid and Medicare) has increased 110% since 2000 while private health insurance market has grown only 36%. Population growth over the same period was 41%, and the uninsured population decreased by 8%.

Given the states demographic profile (19% of Arizonans are over age 65, versus 17% of the US population as a whole) and ongoing changes to the health care market particularly since 2020, Arizona's health care sector will likely remain central to its economy in the future.

Background

The historical rapid growth in the state's health care sector has faced new headwinds in the last decade. The workforce issues that today impact many of Arizona's service industries may be more pronounced in the health care sector. Ongoing demographic change are driving increasing demand for health services generally, and changing the nature of that demand more specifically; for example, the rising demand for and cost of pharmaceuticals. Rising administrative and paperwork burdens are driving smaller offices to consolidate in pursuit of efficiencies, but this may contribute to rising costs and/or reduced service quality. And the long growing share of public payers in the system has accelerated rapidly over the past three years, while the uninsured population is shrinking - both of which have ramifications for how and where health care is delivered. While our work does not cover or contemplate all of these risks, we explore some issues here and in later research.

The Changing Health Care Economy

While health care was a large sector before the 2020 public health emergency, it expanded rapidly in the last three years. Health care coverage was heavily affected by the combined effects of the pandemic and federal policy changes, and the current unwinding of those policy changes in 2023. While private insurance is still how the majority of Arizonans are covered, the population of those covered by public health insurance has increased 110% since 2000 – including 34% growth in Medicaid coverage just since 2020. Private health insurance (which insures 62% of the state's population) is typically more expensive and provides higher payments to providers, compared to public insurance^{vi}. This changes the economics for health care providers and the states health care sector.

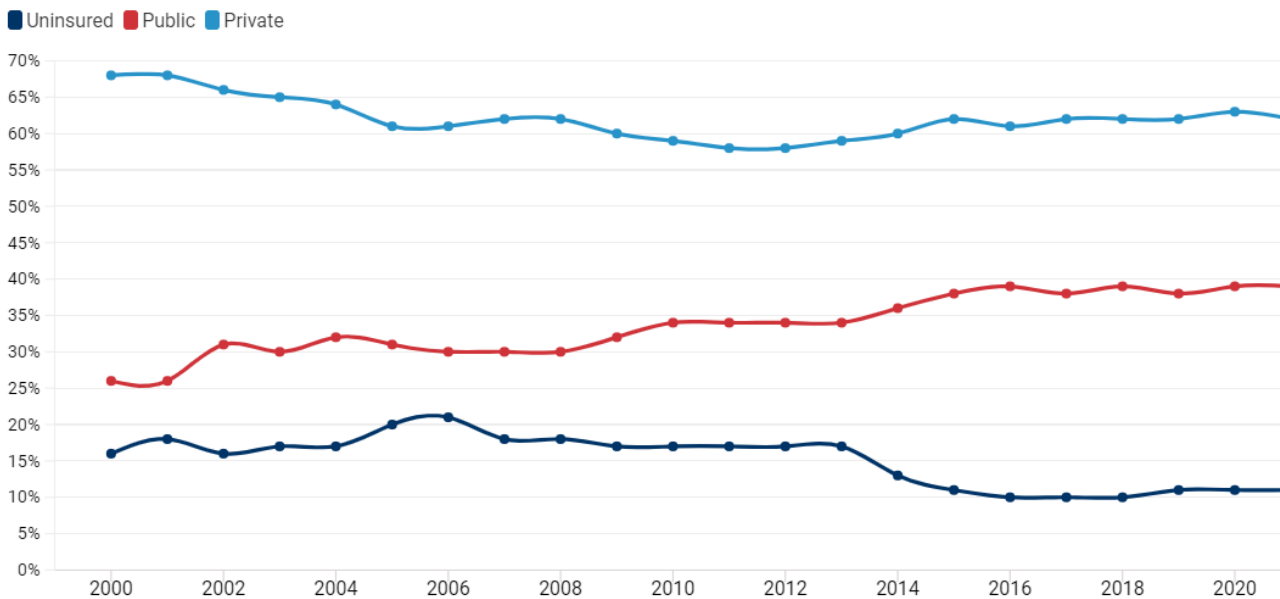
On average, annual out-of-pocket costs for those with Medicaid (\$45) are over 90% lower than annual out-of-pocket costs for those with private insurance (\$569)^{vii}. Further, reimbursement rates are typically higher for private coverage - Medicaid pays on average about 60% of what private insurance pays for similar treatments and services, according to one source^{viii}. As a result, providers must respond by adjusting their service model.

While Medicaid enrollment is currently at a historically high level, it is not unusual for Medicaid to experience increased and sustained enrollment growth during economic downturns and recessions. For example, each recession in the last 20 years has been punctuated by a policy change increasing the Medicaid eligible population and by extension increasing the share of Arizona's population that is on Medicaid. In 2000, Arizona's Medicaid program enrolled about 10% of the state's total population. As of mid-2023 2.3 million people or 31% of Arizona's population are on Medicaid.

As a larger share of the health care consuming population comes to rely on coverage with lower reimbursement rates to service providers, Arizona's health care sector will likely need to innovate and adapt in order to continue growing.

Health Insurance Coverage by Type

Since 2000, the share of people covered by public health insurance has increased by 12 percentage points while the uninsured portion decreased by 9 percentage points.



Source: U.S. Census

Licensed Health Care Workforce

Like the nation as a whole, Arizona is facing a growing health care worker shortage. This shortage constrains the growth of the sector and contributes to the rising costs of care. While Arizona’s disproportionately large shortage is likely attributed to its growing and aging population, specifically, there are also pipeline issues that make it difficult for willing health care workers to become licensed and able to practice in Arizona. For perspective, according to a report by the American Association of Colleges of Nursing, U.S. nursing schools turned away 91,938 qualified applications from baccalaureate and graduate nursing programs in 2021 due to an insufficient number of faculty, clinical sites, classroom space, clinical preceptors, and general budget constraints^{ix}. It is not possible to become a licensed nurse in Arizona without completing one of these accredited schooling programs.

Arizona’s would-be physicians face a similar constraint: while the state may have willing applicants, the slots available for residencies and further training are in short supply. According to the American Association of Medical Colleges in 2019-2020, there were 2,366 students enrolled in medical school and 2,071 residents in Arizona^x. Of those, less than half are retained in Arizona post-graduation and post-residency as state providers.

Currently, Arizona has a shortage of 1,380 health professionals according to the Bureau of Health Workforce. As of June 30, 2023, Arizona would need 228 mental health care practitioners, 485 dental health practitioners, and 667 primary care practitioners to remove the health professional shortage area designation^{xi}. This is the number of practitioners needed to achieve a population to primary care physician ratio of 3,500 to 1. The Arizona Board of Regents estimates that 23,300 more health care professionals will be needed by 2030 to fill the shortages across 6 major health care occupations^{xii} - or about 2,300 net every year.

Of note, all of the occupations experiencing shortages or pipeline constraints require state licensure, and licensing requirements add significantly to the time and cost of becoming licensed – particularly to already-educated and -experienced foreign immigrants. According to the American Immigration Council, 26% of immigrants with medical degrees worked on occupations in the health care industry that did not require a medical degree^{xiii}.

So, while there are willing and educated individuals capable of decreasing the health professional shortage in Arizona, the lack of openings in residency and training programs create a blockage in the pipeline to becoming a licensed health professional. The state has been taking measures to address the shortage in the health care sector in the last few years. For example, in 2022 the Arizona State Legislature passed H.B. 2691 which established health care workforce grant programs that require Arizona universities and health care institutions to increase the level of graduating nurses and practitioners and expand capacity in training programs for students and licensed professionals^{xiv}. In order to decrease this shortage policymakers must address both the pipeline issues in the education and licensing of health care professionals and the overall workforce issues in Arizona's economy that contribute to statewide shortage.

Arizona Demographics

The elderly population has a higher rate of health care services utilization than the younger population. According to a 2005 study by the Institute of Medicine (US) Committee on the Future Health Care Workforce for Older Americans, adults ages 65 and older account for approximately 26% of all physician office visits, although they represented about 12% of the US population at the time. The Institute also says that older adults visit physicians' offices twice as often as do people under 65 on average^v. This has a large impact on Arizona because of its traditionally disproportionate over 65 population. Since 2000, Arizona has had a larger share of adults over 65 than the United States as a whole, and that share of Arizona's population has only grown in the last 20 years from 13% in 2000 to now 19% in 2022 while the over 65 population has gone from 12% of the total US population to 17% in 2022. Further, the elderly population will likely grow as a portion of Arizona's population as the under 5 population has declined 23% from its 2009 peak and the under 18 population makes up a smaller portion of the state than it did in 2000. As the elderly population has grown in the last 20 years, so has the health care sector in order to keep up with the population that makes the greatest use of its services. Ongoing demographic change and an aging population is likely to continue driving the sector in the future.

Becoming a Licensed MD



8-10 years

of College Education



3-7 years

of Residency



\$438,000

in Tuition



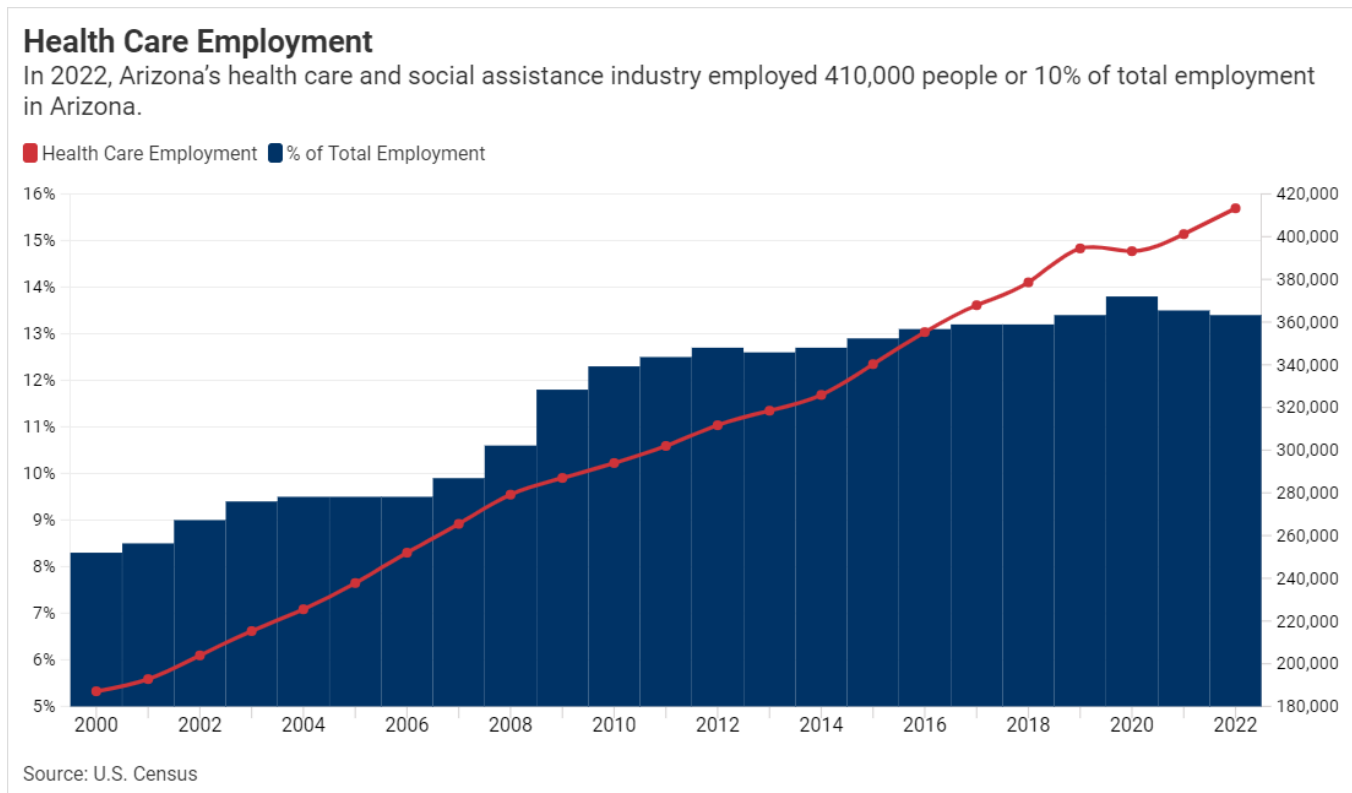
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Standardizing Licensing Exams

The Health Care Industry

The North American Industry Classification System defines the health care and social assistance industry to include ambulatory care, hospitals, nursing and residential care, and social assistance (vocational and rehabilitation services) sectors. Federal statisticians include establishments such as offices of medical professionals, medical and diagnostic laboratories, hospitals, retirement and assisted living facilities, and family and community service centers in their definition of “health care and social assistance”.^{xv} In order to only capture economic activity specifically attributable to the health care sector, CSI defines the health care sector as the entirety of ambulatory care, hospitals, nursing and residential care, but only 6% of the social assistance sub-sector. This excludes service providers that in our estimation more strictly provide general social services, while attempting to include those (rehabilitation services, specifically) that plausibly fit within the universe of health care.

Adding 240,000 employees since 2000 (+130%), health care has grown rapidly and is today Arizona’s largest sector by employment. Banner Health, for example, is the largest single employer in Maricopa County and 3rd largest statewide with 30,420 employees^{xvi}. In 2022, Arizona’s health care and social assistance sector employed 410,000 people and produced \$130 billion in goods and services. The health care and social assistance sector makes up 10% of the state’s labor market and directly adds \$31 billion in GDP (or about 8.3% of the state’s total economic output). Not only is it a growing sector, but it is also resilient to economic circumstances – while other industries and sectors (particularly service-providing) rise and fall with the overall economy, the health care sector is less volatile and tends to exhibit more consistent growth. For example, while the health care and social assistance industry lost 31,500 (-7.8) jobs in April 2020 during the Covid recession, it was much more resilient than the statewide average (-10.8%); health care surpassed its pre-pandemic peak just 18 months later and is today only 3,200 jobs below its pre-pandemic trend.



Health care services also touch many secondary industries.

Billing, for example, is a complex administrative task – touching the administrative and professional supports sectors, as well as the insurance and financial services sectors. Estimates of administrative overhead associated with health care service provision in the United States are in the range of 30% of total expenditures^{xvii}. Health care campuses are increasingly large undertakings, and hospitals and providers rely on expensive machinery and equipment – touching the construction and manufacturing sectors, respectively.

Health care services are highly regulated at both the state and federal levels, and government payers today make nearly half of all payments for health services – touching the government sector.

Finally, Arizona's large domestic hospital and health services sector creates a natural market for health care research and biologic manufacturing. According to a study commissioned by the Flinn Foundation, Arizona's non-hospital biosciences sector employs 34,000 people and has grown roughly four times faster than that of the United States as a whole over the past two decades^{xviii}.

The Economic Impacts of Arizona's Health Care Sector

To estimate the economic impact of the state's health care sector, CSI used the Regional Economic Models, Inc. (REMI) Tax-PI model. This is a dynamic program that estimates the impact of changes in regional economies using a representative sample of national and state-level macroeconomic data in an input-output model. The North American Industry Classification System defines "health care and social assistance" as a sector that "comprises establishments providing health care and social assistance for individuals". The sector has its own category pre-defined within the REMI software and is composed of dozens of industries, ranging from "ambulatory health care services" to "individual and family services"^{xix}.

To model the economic impact of the state's health care sector, we exclude 100% of the NAICS health care industry and 6% of the state's social assistance industry from total output, and measure the resulting change in GDP, employment, income, and other measures of economic activity. This approach allows us to separately consider the direct, indirect, induced, and dynamic effects of the health care sector on the overall economy.

Direct impacts are initial changes that occur specifically because of the definition of health care and social assistance activities used – for example, the employment, wages, and salaries associated with all Arizona hospitals within the "hospitals" NAICS category. Indirect impacts reflect changes that occur in the supply chain for the directly impacted industries – for example, the suppliers that sell linens, pharmaceuticals, and other medical supplies to the directly impacted hospitals. Induced impacts reflect changes that occur throughout the economy due to the loss (or gain) of wages and salaries in the directly and indirectly impacted industries – for example, retail spending by Arizona health care workers. And finally, dynamic effects are the geographic and compositional changes in the economy in response to the policy shock – like the movement of workers elsewhere when a large local employer closes. As a baseline, the REMI model assumes the Arizona economy employs 4.2 million people and has an annual (real, inflation-adjusted) Gross Domestic Product of \$379.1 billion (in 2022).

Contributions to Output & Employment by the Health Care Sector (2022)

Category	Output (Billions of \$)	Employment
Direct	\$50.60	410,621
Indirect	\$13.77	87,679
Induced	\$30.42	228,999
Dynamic	\$35.39	232,653
Total	\$130.19	959,952

Source: REMI Tax-PI

As defined by CSI, we estimate that the health care sector of the economy directly employs 410,621 Arizonans and contributes \$50.6 billion in final industry sales. For context, state and local government employed 376,487 and had \$48.1 billion in annual output last year.

However, because the health care sector adds jobs and income for Arizonans generally, other industries benefit from this activity indirectly. As a result of the products and services demanded by companies in the health care sector, another \$13.7 billion in output and 83,000 jobs are supported by this sector from the sale of raw materials, electricity and other utility services, data processing and hosting services, and other intermediate goods and services. As employees of the health care sector receive wages and spend money on goods and services outside of their own companies, health care further induces \$30.4 billion in output and 229,000 jobs in other industries. For example, CSI estimates the state would lose 40% of its construction jobs but for demand created by its health care sector.

Including all direct, indirect, and other dynamic effects, the health care sector contributes \$78 billion in Gross Domestic Product (GDP) to the Arizona economy (20% of all economic activity). Additionally, 959,952 jobs and \$69 billion in personal income are supported by this sector.

Prospects for Growth

A key result of our demographic analysis: Arizona is changing. Global declines in the birth rate extend to Arizona; there are fewer children aged 0-4 in Arizona today than ever before, according to Census data. On the other hand, the population over 65 continues to grow (driven by an ongoing demographic shift) even as the growth and diversification of the state's economy continues to make it an attractive destination for young professionals and families (driven by in-migration).

These trends have implications for the growth prospects of the state's health care sector, given these two populations (the very young, and the older) both require more per capita health service on average. We have declining demand among the former, offset by increasing demand by the latter group.

This also has implications for the types of services Arizonans will demand in the future. At the same time, the increasing dependence of the sector on public payers has implications for the nature and structure of how these services are delivered. Since 2020, the Covid pandemic, and the federal declaration of a three-year “Public Health Emergency” Medicaid enrollment in Arizona has grown from 1.8 to 2.3 million people (or nearly a third of the state’s population).

On average, Medicaid reimburses 60% of amounts paid by traditional private insurance, but in part because of low out-of-pocket costs for patients Medicaid consumers often utilize more services (particularly in hospital and emergency services settings)^{xx xxi}. Providers will need to adapt their service models to accommodate these trends if they persist.

Given all of these different effects pulling the sector in different direction, it is difficult to divine the overall growth prospects of this already-mature sector over the next decade. However, utilizing the REMI software and our best assumptions, CSI provides a baseline estimate of how the health care sector could grow in the next 10 years because of this market change, continued new investment, and given historical data.

Health Care Sector Growth Over 10 Years		
Category	Health Care Sector Growth	Arizona State Growth
Output	24%	21%
Employment	9%	7%
GDP	41%	25%

Source: REMI Tax-PI

CSI estimates that by 2033, if health care continues its current growth trend, the health care sector’s output will grow 24% while employment and contribution to GDP from health care will grow 9% and 41% respectively. Our data and assumptions suggest that Arizona’s health care sector will continue growing faster than the economy as a whole (3.0% effective average annual growth rate, vs. 2.2% for Arizona overall). Considering historic growth in the population of those covered by public health care, and the historic over 65 population, the health care sector has broad opportunities for growth and innovation as these companies and services become increasingly important.

The Bottom Line

With a growing elderly population and a changing health care economy, Arizona’s health care sector will continue to outpace Arizona’s growth in the next 10 years. CSI expects the health care economy alone to grow to \$44 billion (+41%) by 2033, likely remaining Arizona’s largest sector.

THE BOTTOM LINE

With a growing elderly population and a changing health care economy, Arizona's health care sector will continue to outpace Arizona's growth in the next 10 years. CSI expects the health care economy alone to grow to \$44 billion (+41%) by 2033, likely remaining Arizona's largest sector.

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