

Beyond Patient Care:

Economic Impact of Pennsylvania Hospitals



**A White Paper Analysis of FY 2021 Data
October 2022**

Beyond Patient Care: Economic Impact of Pennsylvania Hospitals

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Introduction

Hospitals are vital to Pennsylvania communities.

They provide around-the-clock care for all people, regardless of ability to pay. During 2020, that included:¹

- 1.4 million inpatient discharges
- 4.9 million emergency department visits
- 37.9 million outpatient visits
- 40,650 staffed beds
- 123,376 births

But hospitals' critical role extends beyond patient care. Pennsylvania hospitals support their communities by:

- Employing staff, building infrastructure, and purchasing equipment and supplies
- Supporting other industries such as facilities, grounds, and fleet maintenance
- Generating additional economic activity in sectors such as construction, financial services, and hospitality
- Educating and training the next generation of clinicians to care for Pennsylvanians
- Attracting billions in federal research funding for health care innovation
- Providing charity care to Pennsylvanians when they need it most
- Addressing community health needs and, absent a public hospital system, providing critical public health infrastructure to address emergencies such as the COVID-19 pandemic



Pennsylvania Hospitals:

- **Contribute \$168 billion to state and local economies, an 8 percent increase compared to the previous year**
- **Support more than 590,000 jobs for Pennsylvanians**
- **Generate more than \$38 billion in wages, salaries, and benefits**

This analysis examines how, even during the continued strain of the pandemic, ballooning expenses, and other pressures that threaten hospitals' long-term financial sustainability, the hospital community continued its vital economic role regionally and across the state. It demonstrates that the viability of hospitals is critical to the health and economies of the commonwealth and its communities.

Findings from this paper should be used to inform policy discussions surrounding topics that affect long-term hospital sustainability. This includes, but is not limited to, fair payments for hospitals, adequate Medicare and Medicaid reimbursement, support to bolster Pennsylvania's health care workforce, behavioral health access, health equity, streamlining prior authorization, telemedicine payment, credentialing process improvements, and medical liability reforms..

Economic Impact of Pennsylvania Hospitals

Definitions

Hospitals' economic contributions consist of the **direct impact, indirect impact, and induced impact** of hospital economic activity.² To clarify, the following definitions appear throughout this white paper:

Direct impact: This is what hospitals spend for operations, including wages they pay to employees, and everything they purchase—from supplies, equipment, and technology, to services provided through contracts with third parties (like contracts for laundry services or parking operations).

Indirect impact: This is the economic activity generated by third-party suppliers as a result of their contracts and financial arrangements with hospitals. For example, indirect impact includes the wages that pay the parking attendant who works for the local business to which the hospital outsources parking services.

Induced impact: This relates to what a physician, nurse, lab technician, or even the contracted parking attendant spends in the hospital's neighborhood for coffee, lunch, groceries, dry cleaning, etc. In other words, it is the change in economic activity resulting from the changes in spending by workers whose earnings are affected by a final demand change. Sometimes called the "household spending effect," it is the economic activity generated by all workers whose earnings are affected by a hospital's direct and indirect impacts.³ Induced impact includes spending by hospital employees, as well as employees of third-party suppliers that serve hospitals.

Ripple impact: This is the sum of the hospital's indirect and induced impacts. Multipliers are used to calculate economic ripple impacts—HAP uses separate regional and state Regional Input-Output Modeling System (RIMS) multipliers, obtained from the U.S. Department of Commerce's Bureau of Economic Analysis (BEA).

Total economic impact: This is the combined economic impact attributable to hospitals' direct impact plus their ripple impact as those dollars circulate across the commonwealth.

Methodology

The HAP Center for Health Policy Research based its economic impact analysis of statewide and regional hospital economic activity on data received from the U.S. Department of Health & Human Services (HHS) fiscal year (FY) 2021 [Hospital Cost Report Information System](#) (HCRIS), and other published sources. To analyze the statewide and regional impact of employment and salaries, HAP obtained 2021 hospital employment and wages by region from the Pennsylvania Department of Labor and Industry's Center for Workforce Information and Analysis.

To calculate ripple impacts, HAP applied statewide and regional 2020 [RIMS](#) multipliers, which were calculated by the BEA during March 2022.

HAP used state and hospital employee data based on Quarterly Census of Employment and Wages (QCEW) reports from the U.S. Bureau of Labor and Statistics (2018–2021).

Analyses of top employers were based on 2021 fourth-quarter county profiles from the Pennsylvania Department of Labor and Industry’s Center for Workforce Information and Analysis.

HAP’s source for HHS research funding was [NIH RePORTER](#), which includes reported funding from the National Institutes of Health (NIH), the Agency for Healthcare Research and Quality, and other HHS operating divisions.

Hospital utilization data were obtained from the Pennsylvania Department of Health, Division of Health Informatics’ Hospital Questionnaire, 2020, and the Pennsylvania Health Care Cost Containment Council’s Financial Analysis, Fiscal Year 2020 (for General Acute Care and Non-General Acute Care hospitals).

Pennsylvania Hospitals’ Statewide Economic Impact

The total statewide impact of hospital economic activity

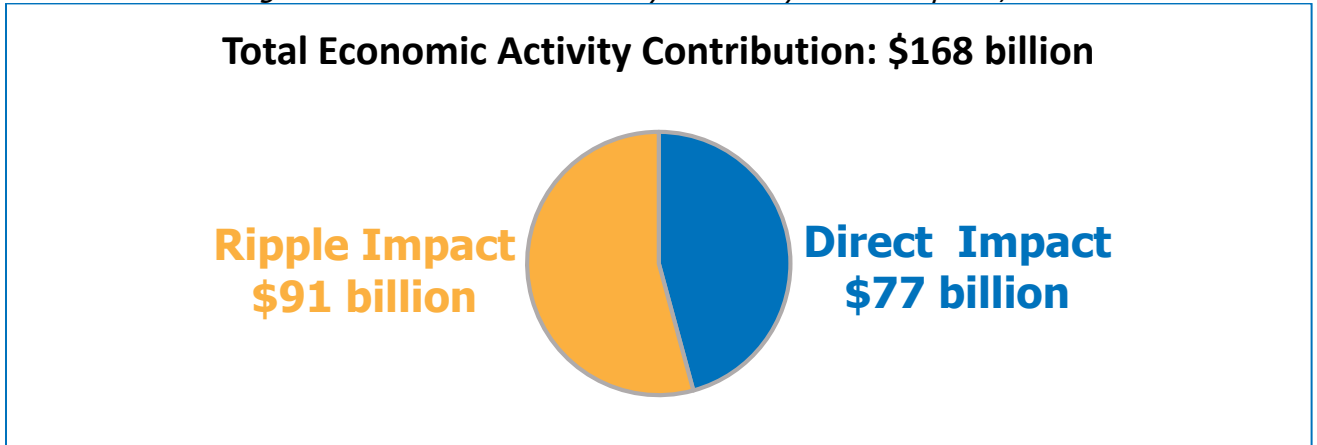
As depicted in Figure 1, Pennsylvania hospitals and health systems contribute \$168 billion to the commonwealth’s economy through:

- \$76.8 billion in direct impact—the dollars hospitals pay out for employee salaries, wages, and benefits and for the many goods and services needed to provide health care services and support hospital and health system operations
- \$91 billion in ripple impact—the additional economic activity that results from the circulation of hospital dollars in local communities and across the state

HAP’s analysis confirms that the industry’s economic activity has increased steadily—by 72 percent during the last 10 years (see Figure 2).

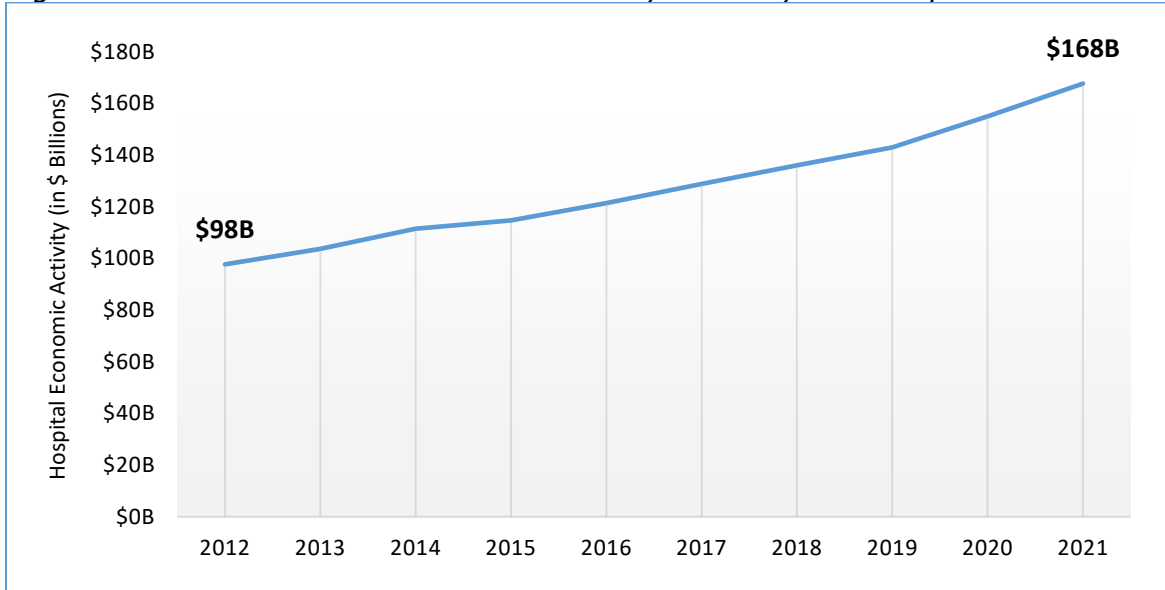
The hospital community’s direct and ripple impact on Pennsylvania’s 2021 economy represents 20 percent of the commonwealth’s 2021 gross domestic product.

Figure 1: Total Economic Activity of Pennsylvania Hospitals, 2021



Source: HAP's 2022 analysis of HHS HCRIS FY 2021 data, coupled with data provided directly to HAP by Pennsylvania health systems

Figure 2. The Trend in the Total Economic Activity of Pennsylvania Hospitals: 2011–2021



Source: HAP's annual analyses of HHS HCRIS data (2011 through 2021), coupled with data provided directly to HAP by Pennsylvania health systems (2011 through 2021)

Hospital community's contributions to Pennsylvania's Gross Domestic Product

The hospital industry has been and will continue to be a leading contributor to the economy. Data from the BEA indicate that Pennsylvania's gross domestic product (GDP) during 2021 totaled \$839 billion (in current dollars).⁴ When considering the direct plus ripple impact of the hospital community on Pennsylvania's economy, hospitals account for 20 percent of the commonwealth's 2021 GDP.⁵

According to an analysis of 54 categories of private industries taken from national data of the U.S. Bureau of Economic Analysis (BEA), hospitals are ranked ninth in terms of their direct economic contribution to the Pennsylvania state GDP (Figure 3).⁶ Beyond this direct impact, Pennsylvania's

hospital community creates additional economic activity in many industries such as construction; real estate; and professional, scientific, and technical services.⁷

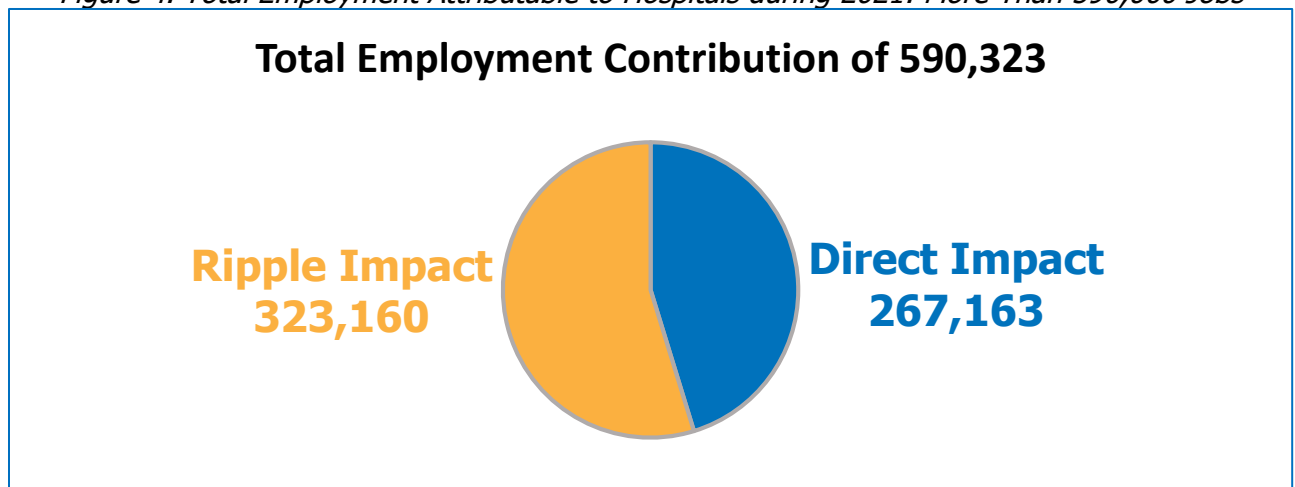
*Figure 3. Annual Gross Domestic Product by Industry in Pennsylvania, 2020.**

Industry Category	Contribution to State GDP (Rank)
Real estate and rental and leasing	1
Professional, scientific, and technical services	2
Finance and insurance	3
Wholesale trade	4
Retail trade	5
Ambulatory health care services	6
Broadcasting (except Internet) and telecommunications	7
Construction	8
Hospitals	9
Management of companies and enterprises	10
Chemical manufacturing	11
Administrative and support and waste management and remediation services	12

Total statewide economic impact on employment

Pennsylvania hospitals directly employed more than 267,000 workers during 2021. Employment generated by the industry’s indirect and induced economic effects resulted in the employment of more than 323,000 Pennsylvanians. The total number of hospital-supported jobs, therefore, is more than 590,000—or one of every ten jobs in the state (i.e., 10.4% of Pennsylvania’s entire workforce).⁸ (See Figure 4.)

Figure 4. Total Employment Attributable to Hospitals during 2021: More Than 590,000 Jobs



Source: Annual Census of Employment and Wages (QCEW) reports from the U.S. Bureau of Labor and Statistics, 2021.

* This ranking compares all industries at each NAICS Industry level so industries listed here may belong to different hierarchical levels.

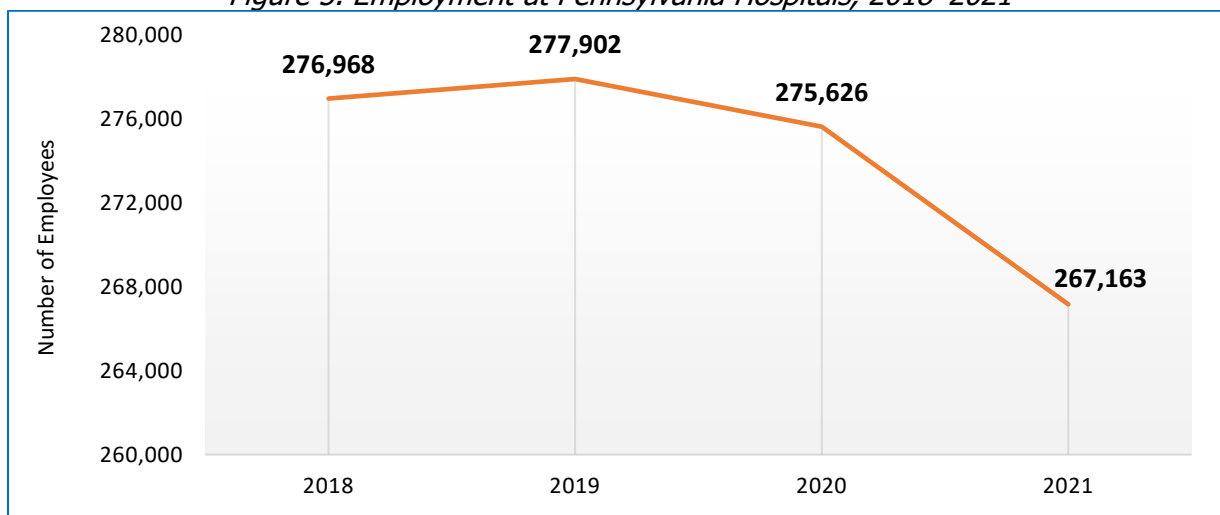
Figure 5 illustrates the year-to-year change in employment at Pennsylvania hospitals from 2018 to 2021.⁹

As HAP reported earlier this year, a national health care staffing crisis has compounded the strain that Pennsylvania hospital teams are experiencing as they treat an influx of patients due to a surge in COVID-19 cases, the flu and other seasonal illnesses, and an influx of patients requiring more intensive care due to care being delayed earlier in the pandemic.¹⁰ This strain compounded shortages of health care professionals that were already a challenge before the pandemic, resulting in a nationwide shortage of clinicians. Through a December 2021 survey conducted by HAP, Pennsylvania hospitals reported significant vacancy rates in key clinical positions and cited lack of qualified candidates as a primary challenge in filling open positions.¹¹

Despite these challenges, hospitals remain among the top job-creating sectors in the commonwealth, as discussed in more detail later in this section.

Staffing challenges experienced by Pennsylvania hospitals have been recognized by stakeholder throughout the commonwealth including by lawmakers. Act 2 of 2022, which was signed during January 2022, authorized \$225 million in state relief to support health care professionals and strengthen the health care workforce through recruitment and retention initiatives, and \$50 million in funding has been directed to student loan forgiveness for nurses, including \$15 million appropriated through Act 2 and \$35 million appropriated through the 2022-2023 state budget.^{12 13}

Figure 5. Employment at Pennsylvania Hospitals, 2018–2021

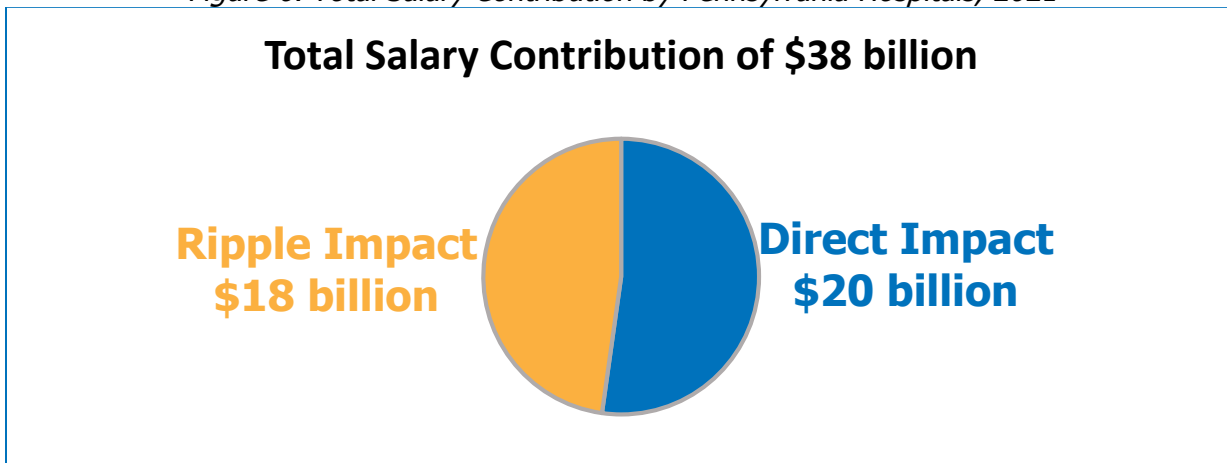


Source: Annual Census of Employment and Wages (QCEW) reports from the U.S. Bureau of Labor and Statistics, 2018–2021.

Total statewide economic impact on wages

Pennsylvania hospitals generated more than \$38 billion in direct and ripple wages during 2021, including \$20 billion in direct wages and more than \$18 billion in ripple wages (i.e., indirect plus induced—see the “Definitions” section for details) across hospital-supported industries (see Figure 6).

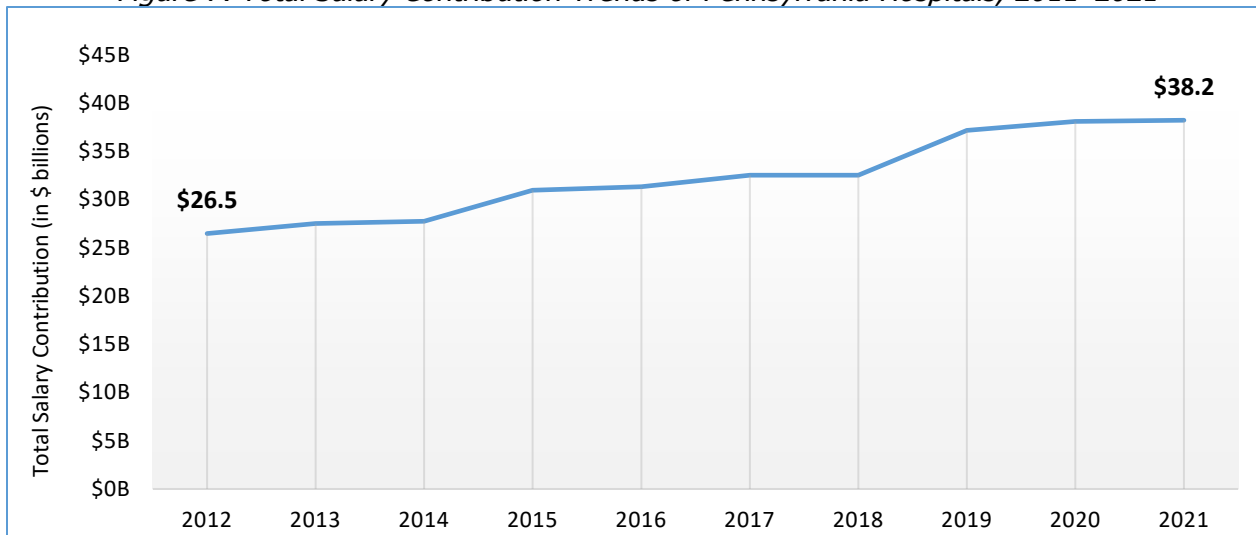
Figure 6. Total Salary Contribution by Pennsylvania Hospitals, 2021



Source: HAP's annual economic impact analysis, 2021

A longitudinal view illustrates that salaries provided and supported by Pennsylvania hospitals also have been increasing. Total hospital salary contributions in the commonwealth increased 44 percent from 2011 to 2021 (See Figure 7).

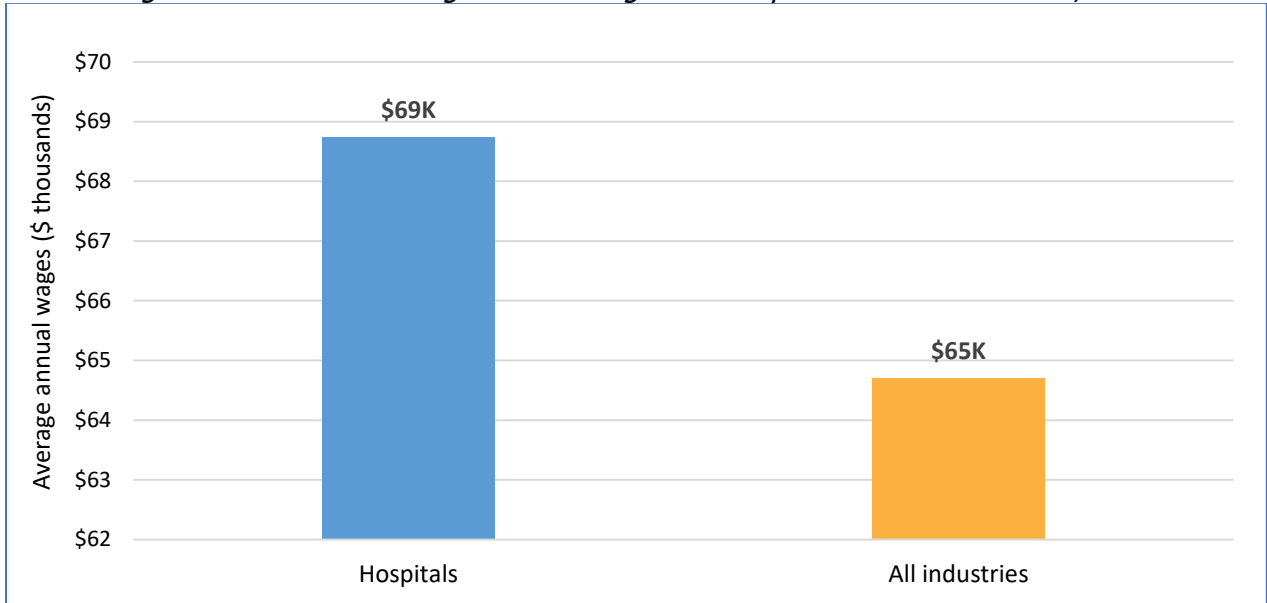
Figure 7. Total Salary Contribution Trends of Pennsylvania Hospitals, 2011–2021



Source: HAP's annual economic impact analyses, 2011–2021

Hospitals also provide higher average annual wages for their employees (\$68,743) compared to all industries throughout Pennsylvania (\$64,704) (See Figure 8).¹⁴

Figure 8. Satewide Average Annual Wages for Hospitals and All Industries, 2021



Source: Pennsylvania Department of Labor & Industry, Center for Workforce Information & Analysis

Based on a number of financial indicators, hospitals are among the top-employing industries in Pennsylvania. A state analysis of 84 industries in Pennsylvania show that hospitals rank fifth in the number of people they employ and fourth in the total wages that are paid annually (See Figure 9).¹⁵

Figure 9. Pennsylvania Industry Ranks in Average Annual Employment and Total Annual Wages, 2021

Selected Industry Title	Average Annual Employment (Rank)	Total Annual Wages (Rank)
Professional and technical services	1	1
Food services and drinking places	2	12
Ambulatory health care services	3	2
Administrative and support services	4	5
Hospitals	5	4
Social assistance	6	13
Nursing and residential care facilities	7	14
Educational services	8	7
Specialty trade contractors	9	8
Management of companies and enterprises	10	3

Pennsylvania Hospitals’ Regional Economic Impact

Pennsylvania is divided into nine regions by the Pennsylvania Health Care Cost Containment Council (PHC4), an independent state agency formed during 1986 by Pennsylvania statute.¹⁶ HAP combined the two Philadelphia area regions into one (“Southeast”), as shown in Figure 10. The list of counties comprising each region is in [Appendix A](#).

Figure 10. Pennsylvania Regions



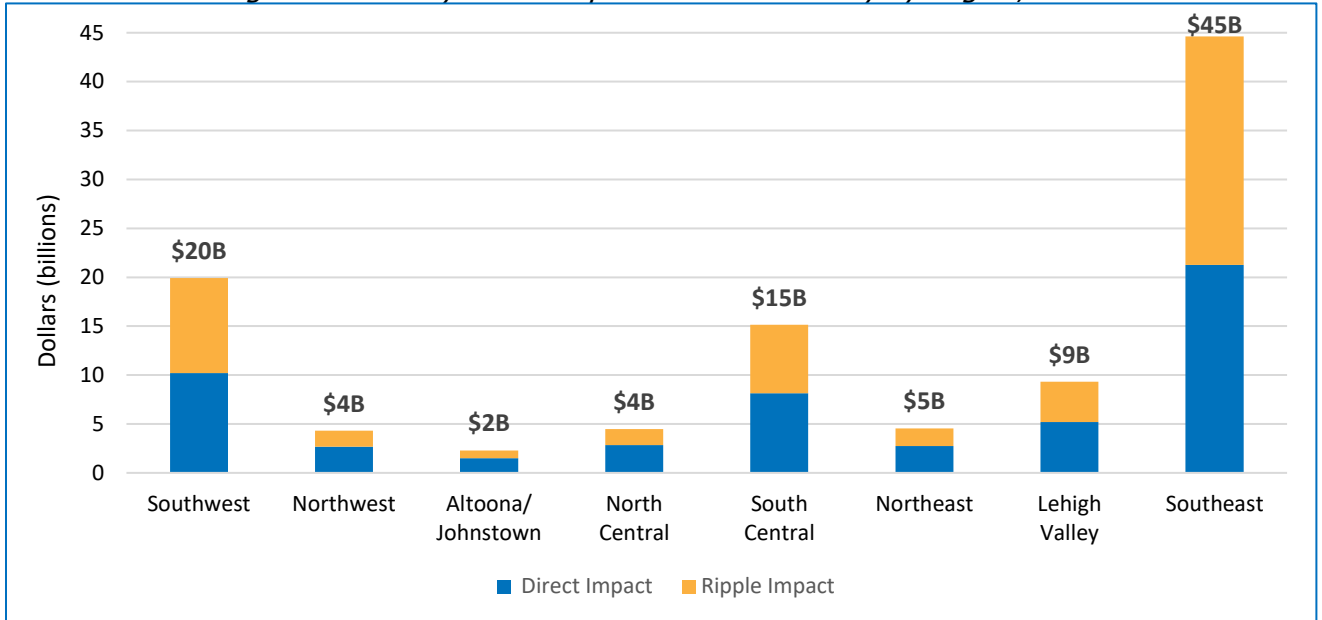
Source: PHC4

The regional impact of hospital economic activity

Examining hospital economic activity by region illustrates the significant effect of the hospital community on local economies across Pennsylvania, ranging from \$2 billion total economic activity in the smallest region (Altoona/Johnstown) to \$45 billion in the largest region (Southeast). To calculate the hospital community’s regional economic impact, HAP purchased and applied regional multipliers from the BEA.¹⁷

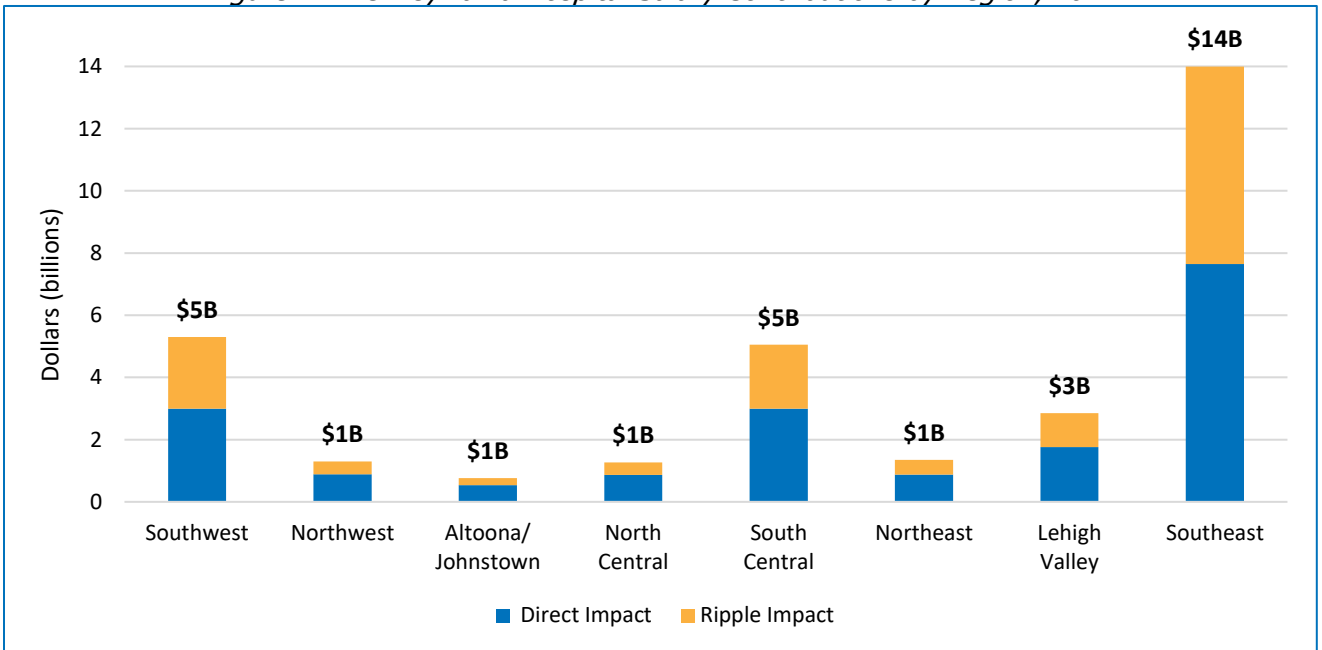
Figures 11 through 13 represent regional contributions in total (direct plus ripple) hospital economic activity, total salaries, and total employment.

Figure 11. Pennsylvania Hospital Economic Activity by Region, 2021



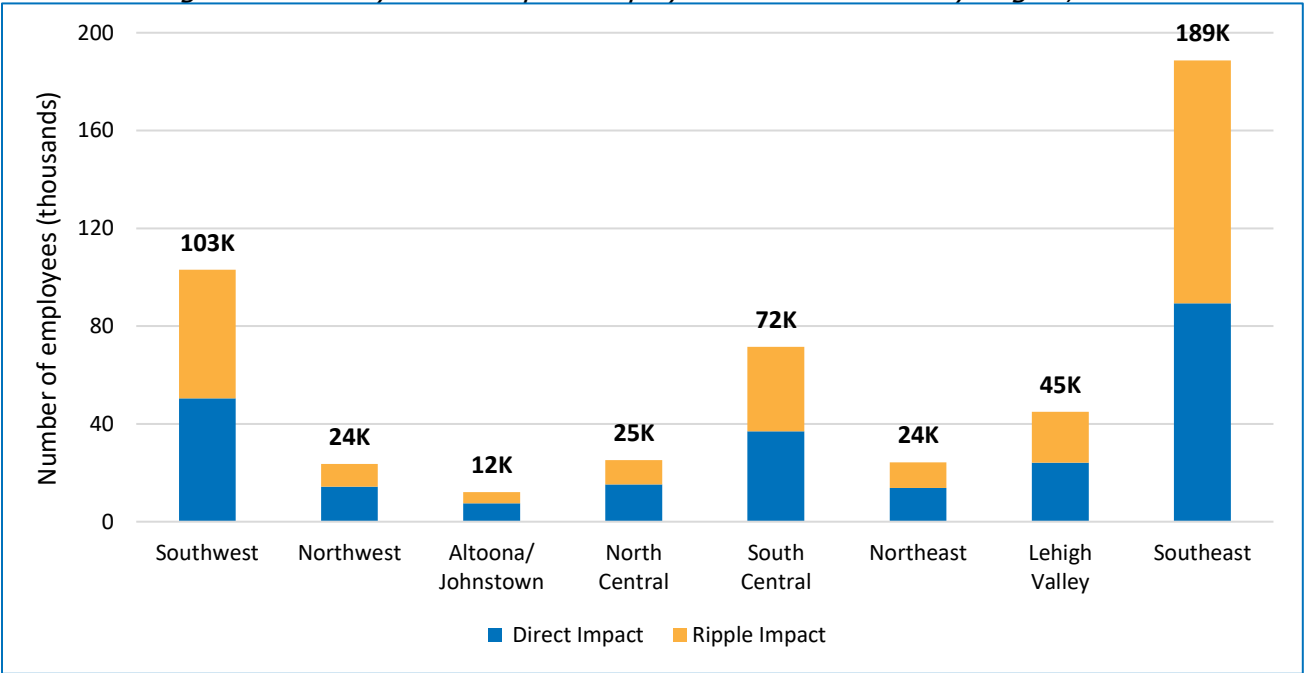
Source: HAP's 2022 analysis of HHS HCRIS FY 2021 data, coupled with data provided directly to HAP by Pennsylvania health systems

Figure 12. Pennsylvania Hospital Salary Contributions by Region, 2021



Source: HAP's 2022 analysis of Pennsylvania Department of Labor & Industry, 2021 Q4 Hospital Employment and Wages, by Region

Figure 13. Pennsylvania Hospital Employment Contributions by Region, 2021



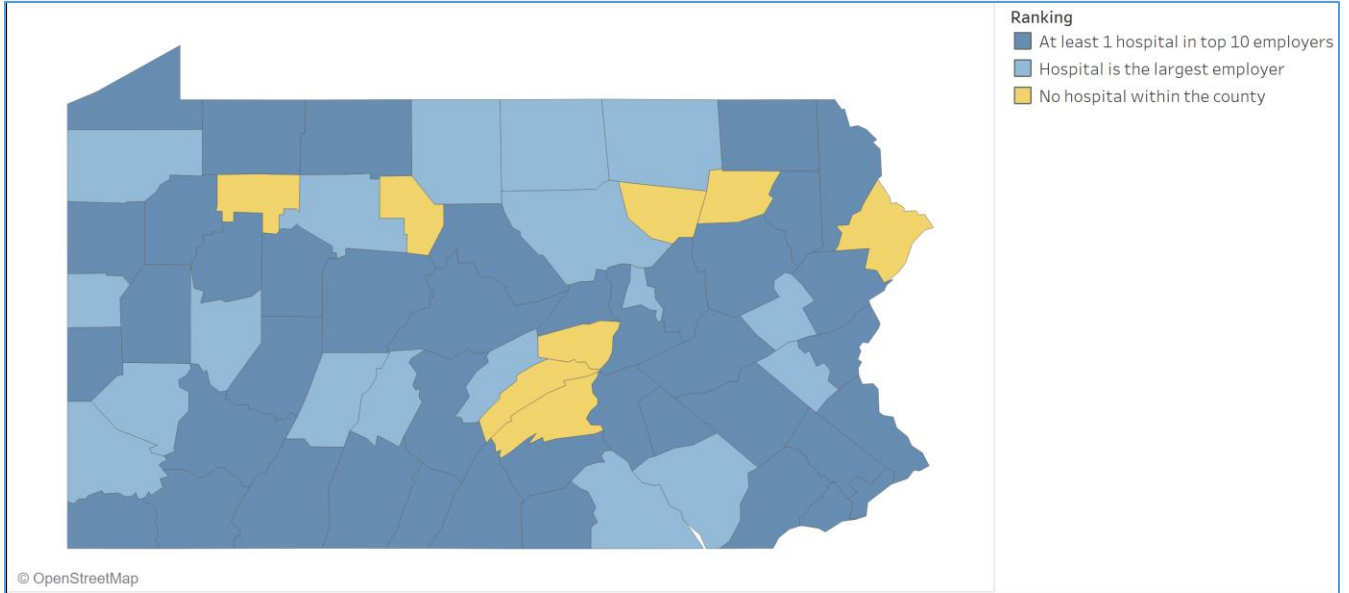
Source: HAP's 2022 analysis of HHS HCRIS FY 2021 data, coupled with data provided directly to HAP by Pennsylvania health systems

Hospitals Are Top Employers Within Their Counties

HAP's analysis of each county's top 50 employers and industries reveals that:

- In the 59 counties of which there is a hospital—88 percent of Pennsylvania's 67 counties, hospitals are among the top ten largest employers (Figures 14-16)
- In the 40 rural counties that have a hospital—83 percent of Pennsylvania's 48 rural counties, at least one hospital is among the top ten largest employers
- In 18 counties, a hospital is the largest employer (Figures 14 and 15)¹⁸

Figure 14. Pennsylvania Counties and Hospitals' Rank within Top 10 County Employers



Source: Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis

Figure 15. List of Counties with Hospitals as Top Employer

Top Employer (18 Counties)		
Allegheny	Crawford	Mifflin
Armstrong	Elk	Montour
Blair	Lancaster	Potter
Bradford	Lawrence	Tioga
Cambria	Lehigh	Washington
Carbon	Lycoming	York

Figure 16. List of Counties with at Least One Hospital within their Top 10 Employers

Top 10 Employer (59 Counties)				
Adams	Centre	Fayette	Luzerne	Schuylkill
Allegheny	Chester	Franklin	Lycoming	Somerset
Armstrong	Clarion	Fulton	McKean	Susquehanna
Beaver	Clearfield	Greene	Mercer	Tioga
Bedford	Clinton	Huntingdon	Mifflin	Union
Berks	Columbia	Indiana	Monroe	Venango
Blair	Crawford	Jefferson	Montgomery	Warren
Bradford	Cumberland	Lackawanna	Montour	Washington
Bucks	Dauphin	Lancaster	Northampton	Wayne
Butler	Delaware	Lawrence	Northumberland	Westmoreland
Cambria	Elk	Lebanon	Philadelphia	York
Carbon	Erie	Lehigh	Potter	

Federal Health Care Research Funds¹⁹

Pennsylvania hospitals and universities with hospital-affiliated medical schools have been remarkably successful at securing competitive federal health research dollars. During FY 2021, the NIH awarded funds to only 19 percent of its applicants.²⁰ However, Pennsylvania hospitals and universities with hospital-affiliated medical schools brought nearly \$1.8 billion in research awards from federal agencies (i.e., operating divisions within HHS) to Pennsylvania. This constitutes 84 percent of the \$2.1 billion in federal research funding awarded during FY 2021 to all Pennsylvania organizations (including research institutes, pharmaceutical companies, and non-hospital-affiliated universities).

Hospitals play a key role in making Pennsylvania a national leader in medical research. During FY 2021, Pennsylvania ranked fourth among states with 4,337 funded projects and ranked sixth in funding with \$2.1 billion received from federal agencies (Figure 17).²¹

*Figure 17: Health Research-related Federal HHS Funds received by Pennsylvania Organizations, FY 2021**

Agency	FY 2021 Total Funding to all Pennsylvania-based organizations	FY 2021 Funding to Pennsylvania Hospitals and Universities with Medical Schools
Agency for Healthcare Research and Quality	\$8,159,000	\$7,774,000
Food and Drug Administration	\$13,372,000	\$2,165,000
National Institutes of Health	\$2,082,999,000	\$1,759,437,000
Total	\$2,104,529,000	\$1,769,377,000

Figure 18 provides the breakdown of research funding to Pennsylvania’s hospitals and hospital-affiliated medical schools.

* Numbers rounded to closest thousand.

Figure 18: HHS Funds Awarded to Pennsylvania’s Hospitals and Universities with Hospital-Affiliated Medical Schools, FY 2021

Agency	Number of Projects	FY 2020 Total Funding
Children’s Hospital of Philadelphia	345	\$139,845,000
Drexel University	148	\$48,739,000
Geisinger Clinic	14	\$9,733,000
Pennsylvania State University	408	\$155,575,000
Temple University	221	\$84,098,000
The University of Pittsburgh	1,418	\$604,726,000
Thomas Jefferson University	219	\$81,187,000
University of Pennsylvania	1,604	\$645,474,000
Total	4,377	\$1,769,377,000

Economic Impact of Pennsylvania Hospitals: Uncaptured Components

While the illustrated economic impact results in this report reveal the significance of Pennsylvania hospitals to the economic well-being of their communities, the exact value brought by a hospital to its surroundings is not limited to these findings. Other significant elements of the hospital community’s impact on the state and regional economies that are not quantified in this analysis include the economic benefits associated with training health care professionals, the contributions of charity and unreimbursed care, community benefit activities, and the overall increased productivity to Pennsylvania’s workforce.

Training tomorrow’s health care workforce: According to the Association of American Medical Colleges, the nation will experience a shortage of physicians approaching 124,000 by 2034.²² Pennsylvania hospitals train thousands of doctors and other clinicians each year through their partnerships with the commonwealth’s 1,773 health care professional training programs. This includes

401 nursing programs and nine medical schools associated with Pennsylvania hospitals and health systems.²³

Charity and unreimbursed care: Pennsylvania hospitals provide extensive charity care (i.e., care that the facility provides without charge) to their communities. Charity care plus bad debt (i.e., those charges hospitals initially anticipated would be paid but later determined were uncollectible) together comprise the hospital’s total uncompensated care costs—all of which help ensure the public health of all Pennsylvanians. According to data from PHC4’s financial reports, Pennsylvania general acute hospitals reported a loss of \$866 million in foregone revenue stemming from their uncompensated care contributions during FY 2021, which represents a 4.1 percent increase in the statewide percentage of uncompensated care to net patient revenue during FY 2021 compared to FY 2020.²⁴

Pennsylvania general acute care hospitals reported \$866 million in foregone revenue stemming from their uncompensated care contributions during FY 2021.

Community benefit activities: Providing charity and unreimbursed care are only part of the community benefit hospitals provide. Hospitals also provide assistance to the community, for example, through programs that provide financial assistance to pay for care, promote community building activities, or address public health issues. Tax-exempt hospitals report these types of activities annually to the Internal Revenue Service (IRS) on Form 990 Schedule H. An analysis using this tax data is done annually by the American Hospital Association (AHA) with the assistance of Ernst & Young, LLP. This analysis estimates that, during 2019, 15 percent of hospital expenses in Pennsylvania went towards providing community benefits, which represents approximately \$6.4 billion dollars.²⁵

Increased productivity for Pennsylvania’s workforce: The U.S. Centers for Disease Control and Prevention reports that employee absenteeism associated with five common diseases or risk factors (i.e., hypertension, diabetes, smoking, physical inactivity, and obesity) cost businesses more than \$36.4 billion annually.²⁶ By providing services designed to improve the health of the commonwealth’s workforce, Pennsylvania hospitals help to reduce the cost of this lost productivity.

Growing Role of Hospitals in Pennsylvania Economy: Implications from the Data

Demographics show growth of elderly population: Demand for clinicians is rising as baby boomers age and live longer. According to U.S. Census 2021 estimates, Pennsylvania’s population of those aged 65 and older (19%) exceeded the national average (16.8%), while Pennsylvanians living with disabilities (9.8%) also exceeded the national average (8.7%).²⁷ These numbers are expected to grow. Projections by the Center for Rural Pennsylvania, a legislative agency of the Pennsylvania General Assembly estimate that, between 2010 and 2040, Pennsylvania’s 65-and-older population will increase 66.4 percent.²⁸ Demand for health care for the elderly—often the most frequent users of hospital services—is anticipated to continue its upward trajectory.

Growth of health care jobs: Occupations related to health care also are growing steadily in Pennsylvania. A report by Penn State’s Center for Economic and Community Development found an

18.3 percent increase in health care and social assistance sector jobs between 2008 and 2019, topping the list of the 11 growing industries across the commonwealth during that timeframe.²⁹ Despite the projected shortage of physicians, the Pennsylvania Department of Labor & Industry also projects the health care and social assistance industry will continue to be the biggest industry in Pennsylvania until 2030, with average estimated gains of 13,000 jobs each year.³⁰ Pennsylvania Department of Labor & Industry also projects that many health care support and health care practitioners/technical occupations such as massage therapists, physical therapist assistants, physician assistants, and occupational therapy assistants will be among the top occupations with more than 30 percent growth by 2030.³¹

Looking to the Future

As they continue to provide vital health care services and serve as economic engines, Pennsylvania hospitals face significant challenges that threaten their long-term sustainability.

- **The strain of COVID-19:** Pennsylvania’s hospitals continue to feel the financial strain of the pandemic. Hospitals and health systems statewide reported COVID-19 related expenses and incurred revenue losses totaling nearly \$7.2 billion due to the suspension of scheduled/non-emergent services, decreases in non-scheduled/emergent services not related to COVID-19, and COVID-19-related costs such as staffing, testing, supplies, and equipment, etc.³²
- **Workforce shortages:** The entire health care sector continues to face a historic workforce crisis that has led to surging staffing costs and severe challenges maintaining the clinical and support staff needed to care for patients.
 - A December 2021 HAP survey of Pennsylvania hospitals found average statewide vacancy rates of 45 percent for nursing support staff, 32 percent for clinical nurse specialists, and 27 percent for direct-care registered nurses.³³
 - The same survey found hospitals are relying significantly more on temporary staffing agencies to fill clinical positions, while rates paid skyrocketed from 2019–2021. Average hourly rates increased 444 percent for nursing support staff, 108 percent for registered nurses providing patient care in medical/surgical and other units, and 82 percent for registered nurses providing patient care in specialty units.³⁴
 - Hospitals throughout the commonwealth incurred a combined \$202.3 million in additional staffing costs attributable to COVID-19 during the first quarter of 2022 alone.³⁵
- **Behavioral health:** The pandemic has exacerbated a behavioral health care crisis throughout Pennsylvania and the nation, putting significant operational and financial strain on hospital emergency departments.

Continued federal and state support is imperative to ensure that hospitals can continue to be the economic and health care flagships of their communities. As hospitals look to recover from the pandemic and rebuild Pennsylvania’s health care infrastructure, hospitals need sustainable payments for the care they provide, flexibility to focus on patient care and innovation, and policies that strengthen their long-term viability. This includes:

- Sufficient payment from Medicare, Medicaid, and private insurance

- Sustained state budget support for OB/NICU, burn and trauma centers, and critical access hospitals
- Policies that grow the health care workforce by helping hospitals retain valued staff and expanding Pennsylvania’s ability to recruit, educate, and train the next generation of health care professionals
- Support to increase behavioral health services throughout all care settings
- Payment for behavioral health services that better reflects the cost of care and enables behavioral health care organizations to recruit and retain needed staff and providers
- Appropriate payment for telehealth
- Streamlined processes for credentialing and prior authorization Flexibility that extends the reach of health care providers by reducing red tape and allowing greater focus on patient care

Conclusion

While hospitals are economic anchors in the communities they serve as documented in this paper, they also provide extensive direct and ripple economic impacts throughout Pennsylvania. These hospitals provided the commonwealth a total economic value of \$168 billion during 2021 in economic activity, including \$77 billion in direct and \$91 billion in ripple impacts.

The total economic value includes \$38.2 billion in salaries, which support thousands of Pennsylvania families. Indeed, Pennsylvania hospitals and health systems contribute to 590,323 jobs, or 10.4 percent of the commonwealth’s entire workforce—that means hospitals support one out of ten jobs across the state.³⁶ HAP’s analysis shows a steady trend of increase in all these values through the last ten years.

Helping to pave the way for new evidence-based technology and cutting-edge care delivery, during 2021 alone, Pennsylvania’s hospitals and universities with hospital-affiliated medical schools attracted nearly \$1.8 billion in federal research funds. These investments improve health and health care delivery not just for Pennsylvanians, but for patients across the country and around the world.

In addition, commonwealth hospitals serve their communities through educating tomorrow’s health care professionals, by providing both charity care and unreimbursed care, and through increasing the productivity of Pennsylvania’s workforce.

The COVID-19 pandemic has reinforced the need for patients’ access to care and a strong health care delivery system. During this extraordinary time, Pennsylvania’s hospitals provided exceptional care for Pennsylvanians and played a central role in supporting the public health mission. The findings of this analysis also show that while many industries struggled through the pandemic, Pennsylvania’s hospital community shouldered losses and increased expenses while continuing to serve as a financial pillar for the commonwealth and its communities, providing continuing contributions to the state’s and local economies and generating family-supporting jobs for Pennsylvanians.

Appendix A

Counties Comprising Each Region

PHC4 Region Name	Counties
Southwest	Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Washington, and Westmoreland
Northwest	Cameron, Clarion, Clearfield, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Potter, Venango, and Warren
Altoona/Johnstown	Bedford, Blair, Cambria, Indiana, and Somerset
North Central	Centre, Clinton, Columbia, Lycoming, Mifflin, Montour, Northumberland, Snyder, Tioga, and Union
South Central	Adams, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Perry, and York
Northeast	Bradford, Lackawanna, Luzerne, Monroe, Pike, Sullivan, Susquehanna, Wayne, and Wyoming
Lehigh Valley	Berks, Carbon, Lehigh, Northampton, and Schuylkill
Southeast	Bucks, Chester, Delaware, Montgomery, and Philadelphia

Endnotes

¹ Data is from HAP's internal Research Department Data Warehouse which combines data from the Pennsylvania Department of Health (PADOH), the Pennsylvania Health Care Cost Containment Council (PHC4) and other CMS data files.

² Bureau of Economic Analysis, U.S. Department of Commerce. [Regional Input-Output Modeling System \(RIMS II\): An Essential Tool for Regional Developers and Planners](#). See Glossary, p. 67. December 2013. Retrieved from: https://apps.bea.gov/regional/pdf/rims/RIMSII_User_Guide.pdf. Last accessed: 12/15/2020.

³ Ibid.

⁴ Bureau of Economic Analysis, U.S. Department of Commerce. [GDP and Personal Income](#). See Annual Gross Domestic Product (GDP) by State, GDP in current dollars (SAGDP2). Selection criteria: NAICS, Pennsylvania, 2021. Retrieved from: <https://apps.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=1#reqid=70&step=1&isuri=1&acrdn=1>. Last updated: 03/26/2021. Last accessed: 07/29/2022.

⁵ HAP calculated the hospital community's contribution to the GDP by dividing the 2021 Pennsylvania GDP (\$839 billion) by the community's total—direct plus ripple—economic impact (\$168 billion).

⁶ Industry categories are a mix of North American Industry Classification System (NAICS) sector and sub-sector groupings of industries. Sub-sectors were used where applicable, such as to capture data specifically for the Hospital industry. Other industries only have sector level data available and these were included when determining the ranking of industries.

⁷ HAP's 2022 analysis of 2020 annual data downloaded from U.S. Bureau of Economic Analysis. [Annual Gross Domestic Product by State](#). Table SAGDP2N and data year 2020 for Pennsylvania. Retrieved from: <https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1>. Last accessed: 08/25/2022.

⁸ HAP's analysis of annual 2021 All Industries Employment data received from U.S. Bureau of Labor and Statistics (5,649,218 average employment) and the results of HAP's 2021 Economic Impact Analysis (590,323 total jobs supported by Pennsylvania hospitals).

⁹ U.S. Bureau of Labor and Statistics, Quarterly Census of Employment and Wages (QCEW) [Dataviewer](#). See Multi-Year Data option #19 for one area, one industry, annually. Selection criteria: Period: 2018 to 2021; Ownership: Private and State Government; Industry "NAICS 622 Hospitals." Last accessed: 09/09/2022.

¹⁰ The Hospital and Healthsystem Association of Pennsylvania (HAP). [Press Release: HAP Thanks General Assembly and Governor for Supporting Pennsylvania's Health Care Workers](#). January 2022. Retrieved from: <https://www.haponline.org/News/Media/News-Releases/hap-thanks-general-assembly-and-governor-for-supporting-pennsylvanias-health-care-workers>. Last accessed: 08/22/2022.

¹¹ Hospital and Health System Association of Pennsylvania. [Addressing Member Hospital Workforce Needs, Executive Summary](#). 02/17/2022. Retrieved from: <https://www.haponline.org/Resource-Center?resourceid=766>. Last accessed: 09/06/2022.

¹² Pennsylvania General Assembly. Please see [2022 Act 2](#).

¹³ Pennsylvania General Assembly. Please see [2022 General Appropriations Act](#).

¹⁴ HAP's 2022 analysis of 2021 annual data received from Pennsylvania Department of Labor & Industry, Center for Workforce Information & Analysis. Data inquiry: 08/30/2022.

¹⁵ U.S. Bureau of Labor and Statistics, Quarterly Census of Employment and Wages (QCEW) [Dataviewer](#). See NAICS Industries by Geography option #8 for NAICS sub-sectors, one area, annually. Selection criteria: Period: 2021; Ownership: Private; State: Pennsylvania. Last accessed: 8/31/2022.

¹⁶ See [Service and Data Requests – Regional Map](#). Pennsylvania Health Care Cost Containment Council (PHC4). Retrieved from <http://www.phc4.org/services/datarequests/regionalmap.htm>. Last accessed: 12/15/2020. Note: HAP's analysis combined Region 9 (County of Philadelphia) with Region 8 (counties bordering Philadelphia County).

¹⁷ Note: HAP's commonwealth-wide impacts do not equal the sum of the regional economic impacts because, per BEA's guidance, HAP's research department calculated state and regional effects independently using BEA's state and regional multipliers, respectively. Moreover, HAP's statewide analysis also include system-level data that cannot be attributed to a single region.

- ¹⁸ Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis. [Pennsylvania Top 50 Employers & Industries](#). 4th Quarter, 2021. Retrieved from <https://www.workstats.dli.pa.gov/Products/Top50/Pages/default.aspx>. Last accessed: 06/06/2022.
- ¹⁹ National Institutes of Health. [NIH Reporter](#), Quick Search. Retrieved from: <https://reporter.nih.gov/>. Data downloaded on 6/23/2021 with filters: State: PA, FY: 2020. Last accessed: 6/23/2021.
- ²⁰ National Institutes of Health, Research Portfolio Online Reporting Tools. "[Research Project Grants: Competing Applications, Awards, and Success Rates](#)". Retrieved from: <https://report.nih.gov/nihdatabook/report/20>. Last accessed: 07/14/2022.
- ²¹ National Institutes of Health. [NIH RePORTER](#). Search criteria: FY 2020. Select Chart and Summary By: State. Retrieved from: <https://reporter.nih.gov/search/xTtjWQO-f0CRkrQI8RsHow/projects/charts>. Last accessed: 07/14/2022.
- ²² "[The Complexities of Physician Supply and Demand: Projections from 2019 to 2034](#)." Published by Association of American Medical Colleges, June 2021. Retrieved from: <https://www.aamc.org/media/54681/download>. Last accessed: 07/18/2022.
- ²³ National Center for Education Statistics, Integrated Postsecondary Education Data System. Number of Healthcare-Related Training Programs in PA. 2019-2020. Data obtained from Pennsylvania Department of Labor & Industry on 07/15/2022.
- ²⁴ See PHC4's [Financial Analysis 2021, Volume 1](#); June 2022; p. 1. FY 2021 data for non-GAC hospitals was not available at time of publication. Retrieved from: <https://www.phc4.org/reports/fin/21/>. Last accessed: 07/18/2022.
- ²⁵ Based on a HAP analysis of Pennsylvania specific data used in [Results from 2019 Tax-Exempt Hospitals' Schedule H Community Benefit Report](#). American Hospital Association. Data was received directly from the AHA.
- ²⁶ [Workplace Health Promotion](#). National Center for Chronic Disease Prevention and Health Promotion. Retrieved from: <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/workplace-health.htm>. Last accessed: 07/18/2022.
- ²⁷ [Quick Facts: Pennsylvania and United States](#). U.S. Census Bureau. Retrieved from: <https://www.census.gov/quickfacts/PA>. Last accessed: 07/18/2022.
- ²⁸ [Pennsylvania Population Projections 2010-2040](#). March 2014. The Center for Rural Pennsylvania (See pp. 22 to 24.) Retrieved from: https://www.rural.palegislature.us/documents/reports/Population_Projections_Report.pdf. Last accessed: 07/18/2022.
- ²⁹ Alter TR, Fuller TR, Hoy RL, Martino NC, Schmidt CH, and Sontheimer T. [Pennsylvania: Bust to Boom? Great Recession to Recovery and Beyond](#). Center for Economic and Community Development, Department of Agricultural Economics, Sociology, and Education, Penn State University. June 2019. Retrieved from <https://aease.psu.edu/research/centers/cecd/publications/market-trends/pennsylvania-bust-to-boom-great-recession-to-recovery-beyond-2008-2018>. Last accessed: 07/18/2022.
- ³⁰ Pennsylvania Department of Labor & Industry, Center for Workforce Information & Analysis. [Long-term Industry Employment Projections for Pennsylvania](#). Retrieved from: <https://www.workstats.dli.pa.gov/Products/employment-projections/Pages/LTIPStatewideData.aspx>. Last accessed: 07/18/2022.
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- ³² Pennsylvania Health Care Cost Containment Council (PHC4). [COVID-19 Disaster Emergency Report](#). April 2022. Retrieved from: <https://www.phc4.org/reports/finreport/042122/docs/finreport042122.pdf>. Last accessed: 07/19/2022. The report also points out that only 91 percent of hospitals and health systems responded for the first three-quarters of 2020, while only 48 percent reported for the fourth quarter of 2021. As a result, the expenses and revenue loss figures are likely substantially understated.
- ³³ The Hospital and Healthsystem Association of Pennsylvania. [Addressing Member Hospital Workforce Needs, Executive Summary](#). 02/17/2022. Retrieved from: <https://www.haponline.org/Resource-Center?resourceid=766>. Last accessed: 09/06/2022.
- ³⁴ Ibid.

³⁵ Pennsylvania Health Care Cost Containment Council (PHC4). [COVID-19 Disaster Emergency Report](https://www.phc4.org/reports/finreport/042122/docs/finreport042122.pdf). April 2022. Retrieved from: <https://www.phc4.org/reports/finreport/042122/docs/finreport042122.pdf>. Last accessed: 07/19/2022. The report also points out that only 91 percent of hospitals and health systems responded for the first three-quarters of 2020, while only 48 percent reported for the fourth quarter of 2021. As a result, the expenses and revenue loss figures are likely substantially understated.

³⁶ HAP's analysis of annual 2021 All Industries Employment data received from U.S. Bureau of Labor and Statistics (5,649,218 average employment) and the results of HAP's 2021 Economic Impact Analysis (590,323 total jobs supported by Pennsylvania hospitals).

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