

Beyond Patient Care:

Economic Impact of Pennsylvania Hospitals



**A White Paper Analysis of FY 2020 Data
September 2021**



Beyond Patient Care: Economic Impact of Pennsylvania Hospitals

By Ayse Yilmaz, MHA, Obaid Zaman, MPP, Sushma Sharma, PhD



Acknowledgements

The Hospital and Healthsystem Association of Pennsylvania (HAP) would like to thank the Pennsylvania Department of Labor and Industry's Center for Workforce Information and Analysis for generously providing data critical to this effort. The authors appreciate guidance from HAP's CEO, Andy Carter, and contributions from the HAP staff.

September 2021

Beyond Patient Care: Economic Impact of Pennsylvania Hospitals

A White Paper Analysis of FY 2020 Data

Table of Contents

| | |
|--|----|
| Introduction | 1 |
| Economic Impact of Pennsylvania Hospitals..... | 2 |
| Definitions..... | 2 |
| Methodology | 2 |
| Pennsylvania Hospitals’ Statewide Economic Impact | 3 |
| Pennsylvania Hospitals’ Regional Economic Impact | 7 |
| Hospitals Are Top Employers Within Their Counties | 9 |
| Federal Health Care Research Funds | 9 |
| Economic Impact of Pennsylvania Hospitals: Uncaptured Components | 11 |
| Growing Role of Hospitals in Pennsylvania Economy: Implications from the Data..... | 12 |
| Looking to the Future..... | 13 |
| Conclusion..... | 14 |
| Appendix A..... | 15 |

Introduction

Pennsylvania's hospitals provide access to a broad scope of health care services, including 24-7 emergency care, highly specialized medical services, procedures, and medical education to train the next generation of clinicians. Members of The Hospital and Healthsystem Association of Pennsylvania (HAP) also contribute to cutting-edge research and medical innovations while pledging to care for all people regardless of patients' ability to pay.

Hospitals directly impact their communities' economies in many ways—by maintaining and constructing new buildings, providing jobs, as well as purchasing medical supplies, pharmaceuticals, and medical equipment. Hospitals also indirectly impact the economy through business interactions with organizations from other industries, such as employment and cleaning services. Finally, hospitals induce economic activity outside of the hospital—in such industries as real estate, financial services, and hospitality. They also attract federal research dollars to enable Pennsylvania to develop innovations that improve care for all Americans.

Since the onset of the pandemic during 2020, COVID-19 has greatly impacted the health and economy of the commonwealth. Pennsylvania has seen more than one million (1,122,399) COVID-19 confirmed cases and 28,568 COVID-19 related deaths.¹ The financial toll of the pandemic for Pennsylvania's hospitals through March 2021 has been estimated to be nearly \$6.5 billion due to lost revenue associated with decreased utilization and increased costs.² Absent a public hospital system, Pennsylvania's hospitals and health systems provide critical infrastructure that supports public health. They address community health needs and serve as safety net health care providers. They also coordinate emergency preparation, management, and response.

This analysis examines how, even during the COVID-19 pandemic, the hospital community continued its vital economic role regionally and across the state. It assesses the effects of hospital spending and employment, documenting that hospitals remain among the largest employers across the commonwealth. It also recognizes the role hospitals play in attracting federal research dollars and the broader benefits hospitals provide by training tomorrow's clinicians and offering charity and unreimbursed care.

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, hospital funding, promoting health equity, prior authorization reform, telemedicine service reimbursement, credentialing process streamlining, adequate Quality Care Assessment support, and bolstering Pennsylvania's health care workforce.

An infographic titled "Pennsylvania Hospitals:" is set against a background image of medical professionals in white coats. The text is presented in a clean, blue, sans-serif font. The infographic lists three key statistics: contribution to state and local economies, job support, and wage generation.

- **Contribute \$155 billion to state and local economies, an 8 percent increase compared to the previous year**
- **Support more than 615,000 jobs for Pennsylvanians**
- **Generate more than \$38 billion in wages, salaries, and benefits**

Economic Impact of Pennsylvania Hospitals

Definitions

Hospitals' economic contributions consist of the **direct impact, indirect impact, and induced impact** of hospital spending.³ 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 spending 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 out, 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 spending generated by all workers whose earnings are affected by a hospital's direct and indirect impacts.⁴ 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 spending on data received from the U.S. Department of Health & Human Services (HHS) fiscal year (FY) 2020 [Hospital Cost Report Information System](#) (HCRIS), and other published sources. To analyze the statewide and regional impact of employment and salaries, HAP obtained 2020 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 2018 [RIMS](#) multipliers, which were calculated by the BEA during June 2020.

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 (1996–2020).

Analyses of top employers were based on 2020 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 [Federal RePORTER](#), which includes reported funding from the National Institutes of Health (NIH), the Agency for Healthcare Research and Quality, and other HHS operating divisions.

Pennsylvania Hospitals’ Statewide Economic Impact

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 2020 totaled \$780 billion (in current dollars).⁵ When considering the direct plus ripple impact of the hospital community on Pennsylvania’s economy, hospitals account for 20 percent of the commonwealth’s 2020 GDP.⁶

The total statewide economic impact of hospital spending

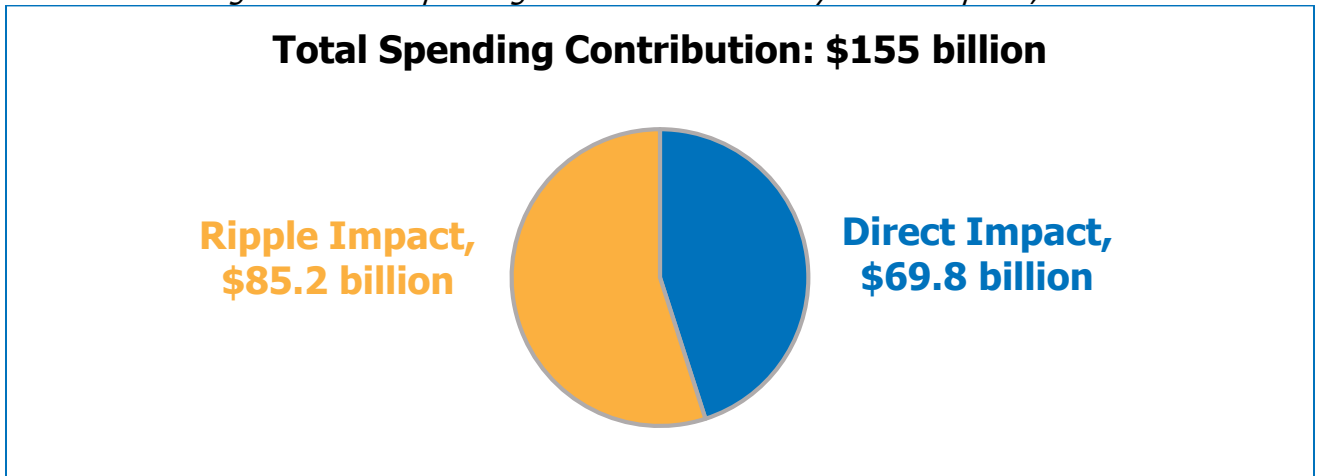
As depicted in Figure 1, Pennsylvania hospitals and health systems contribute \$155 billion to the commonwealth’s economy through:

- \$69.8 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
- \$85.2 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 spending has been increasing steadily—by 63 percent during the last ten years (see Figure 2).

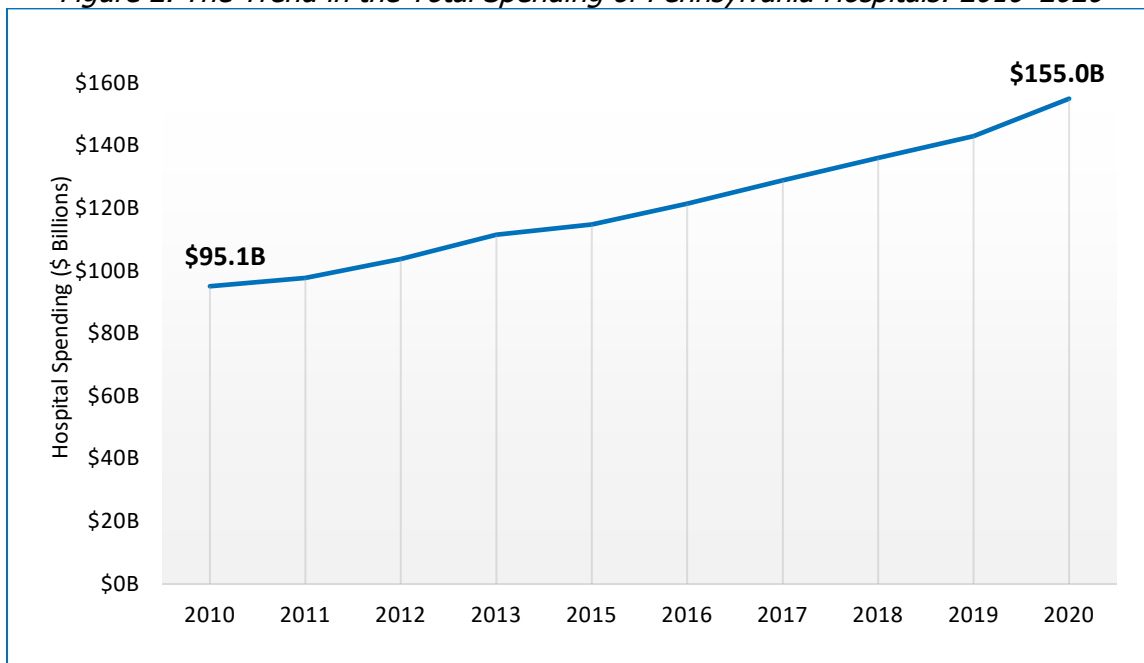
The hospital community’s direct and ripple impact on Pennsylvania’s 2020 economy represents 20 percent of the commonwealth’s 2020 gross domestic product.

Figure 1: Total Spending Contribution of Pennsylvania Hospitals, 2020



Source: HAP's 2021 analysis of HHS HCRIS FY 2020 data, coupled with data provided directly to HAP by Pennsylvania health systems

Figure 2. The Trend in the Total Spending of Pennsylvania Hospitals: 2010–2020

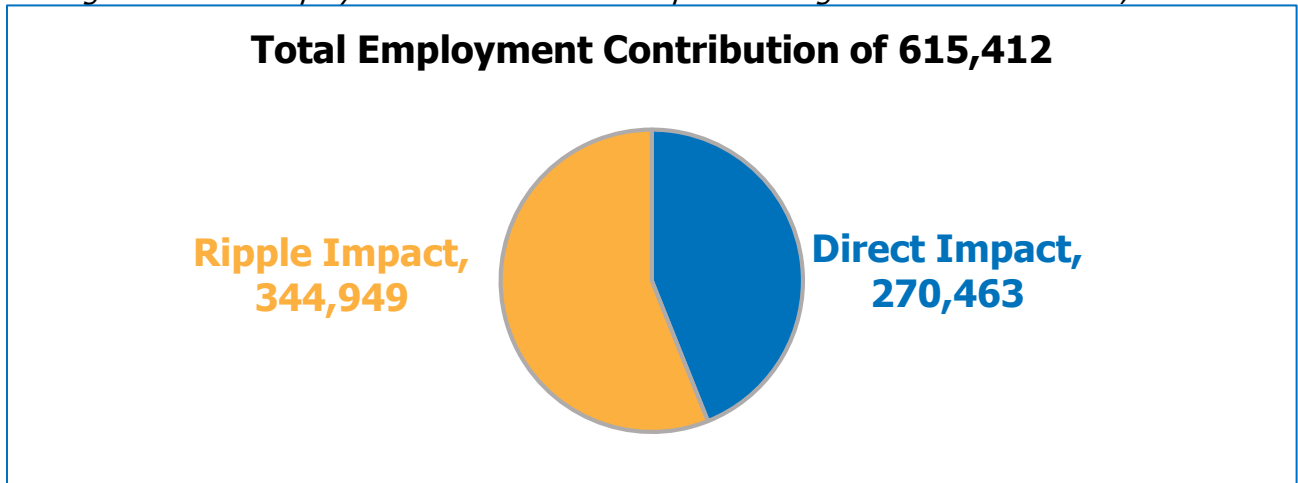


Source: HAP's annual analyses of HHS HCRIS data (2010 through 2020), coupled with data provided directly to HAP by Pennsylvania health systems (2010 through 2020)

Total statewide economic impact on employment

Pennsylvania hospitals directly employed more than 270,000 workers during 2020. Employment generated by the industry's indirect and induced economic effects resulted in the employment of more than 344,000 Pennsylvanians. The total number of hospital-supported jobs, therefore, is more than 615,000—or one of every nine jobs in the state (i.e., 11.6% of Pennsylvania's entire workforce).⁷ (See Figure 3.)

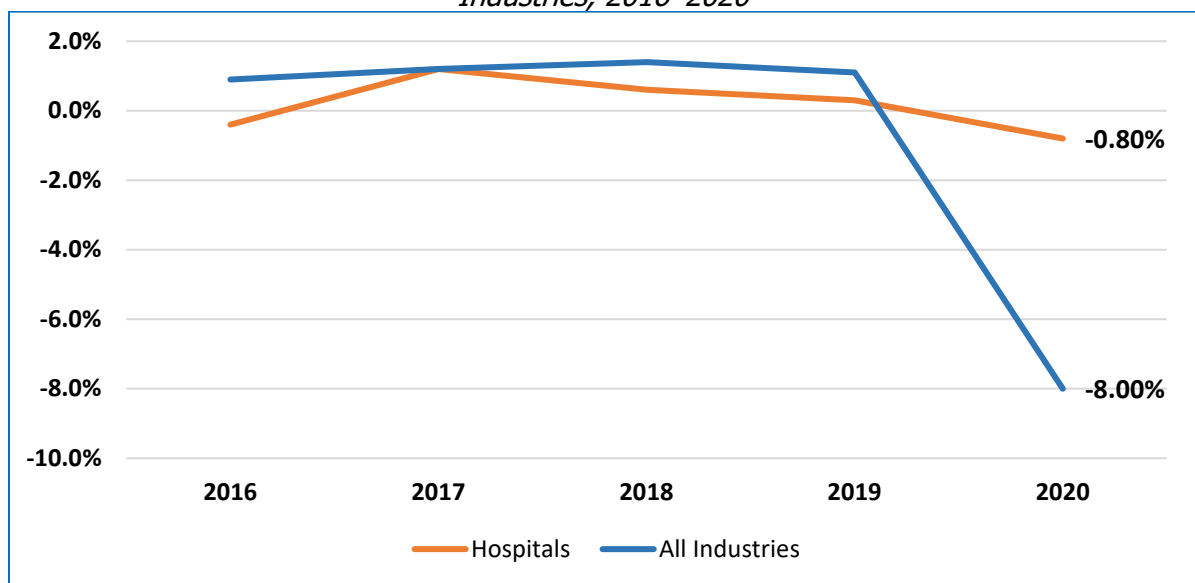
Figure 3. Total Employment Attributable to Hospitals during 2020: More Than 615,000 Jobs



Source: HAP's 2021 analysis of Pennsylvania Department of Labor & Industry, 2020 Q4 Employment, and Wages Data

Figure 4 illustrates the year-to-year change in the total number of hospital employees compared to the change in the total number of employees in all industries across the state from 2016 to 2020. The data shows that while the total number of employees at all Pennsylvania industries fell 8 percent between 2019 and 2020, the number of employees at hospitals dropped by less than 1 percent. This figure demonstrates the resiliency of the hospital industry and its workers during the pandemic.⁸

Figure 4. Year-to-Year Percent Change in Total Number of Hospital Employees and Employees in All Industries, 2016–2020

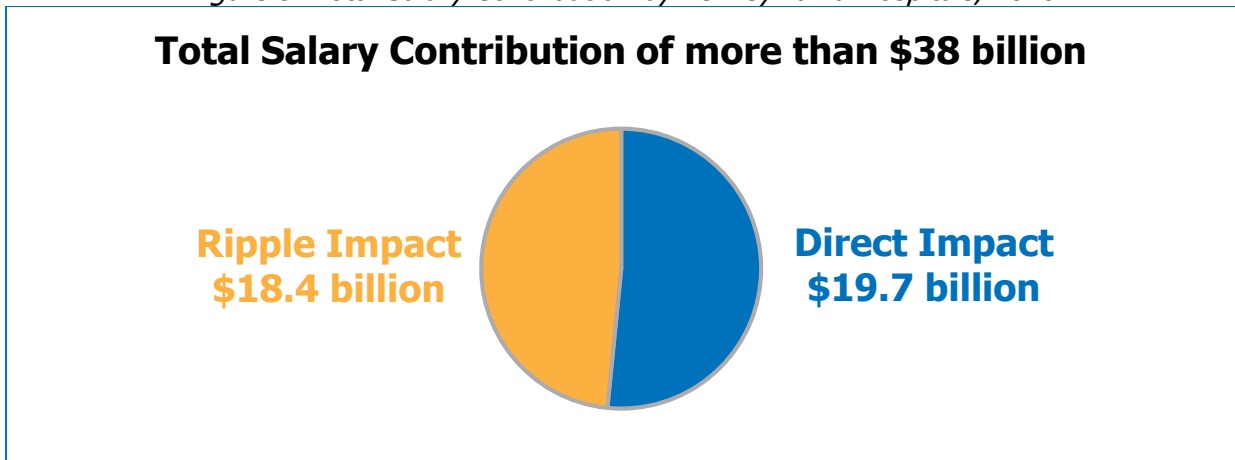


Source: Quarterly Census of Employment and Wages (QCEW) reports from the U.S. Bureau of Labor and Statistics, 1996–2020.

Total statewide economic impact on wages

Pennsylvania hospitals generated more than \$38 billion in direct and ripple wages during 2020, including nearly \$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 5).

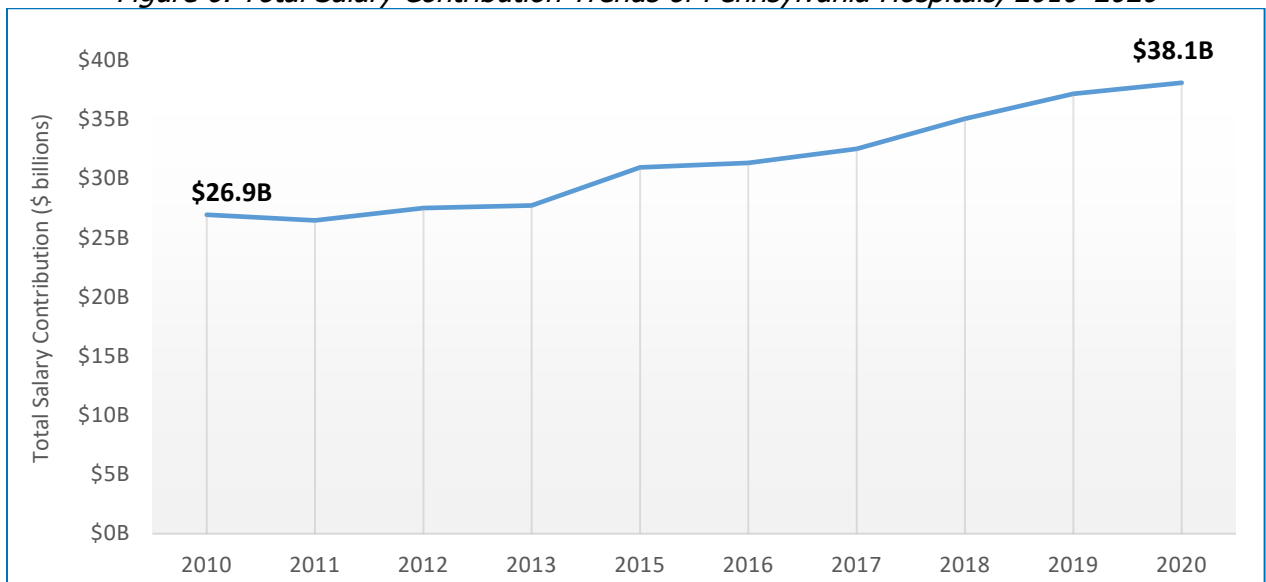
Figure 5. Total Salary Contribution by Pennsylvania Hospitals, 2020



Source: HAP's 2021 analysis of Pennsylvania Department of Labor & Industry, 2020 Q4 Hospital Employment and Wages

A longitudinal view illustrates that salaries provided and supported by Pennsylvania hospitals also have been increasing. Total hospital salary contributions in the commonwealth increased 41 percent from 2010 to 2020.

Figure 6. Total Salary Contribution Trends of Pennsylvania Hospitals, 2010–2020

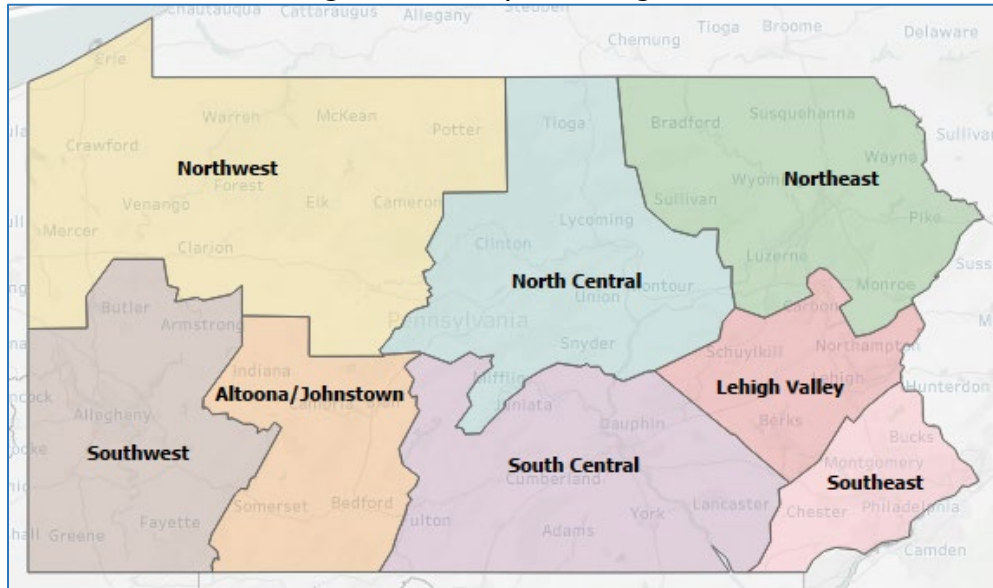


Source: HAP's annual economic impact analyses, 2010–2020

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.⁹ HAP combined the two Philadelphia area regions into one ("Southeast"), as shown in Figure 7. The list of counties comprising each region is in [Appendix A](#).

Figure 7. Pennsylvania Regions



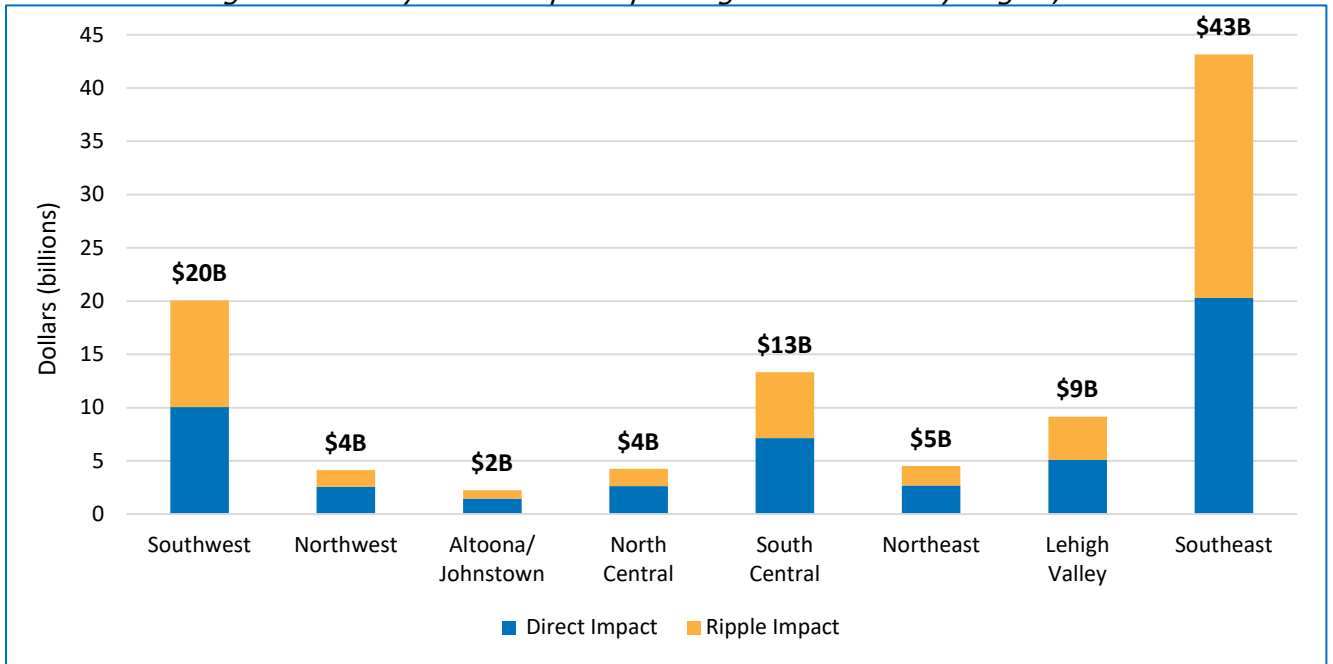
Source: PHC4

The regional economic impact of spending

Examining spending by region illustrates the significant effect of the hospital community on local economies across Pennsylvania, ranging from \$2 billion total spending in the smallest region (Altoona/Johnstown) to \$43 billion in the largest region (Southeast). To calculate the hospital community's regional economic impact, HAP purchased and applied regional multipliers from the BEA.¹⁰

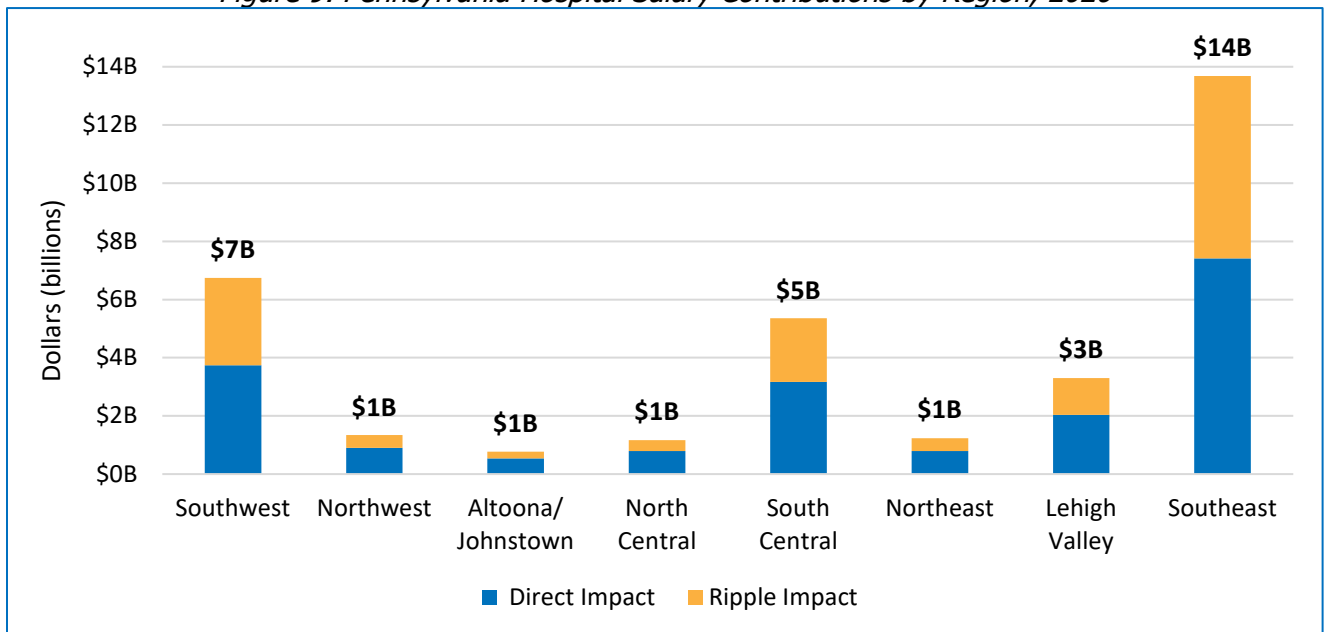
Figures 8 through 10 represent regional contributions in total (direct plus ripple) spending, total salaries, and total employment.

Figure 8. Pennsylvania Hospital Spending Contributions by Region, 2020



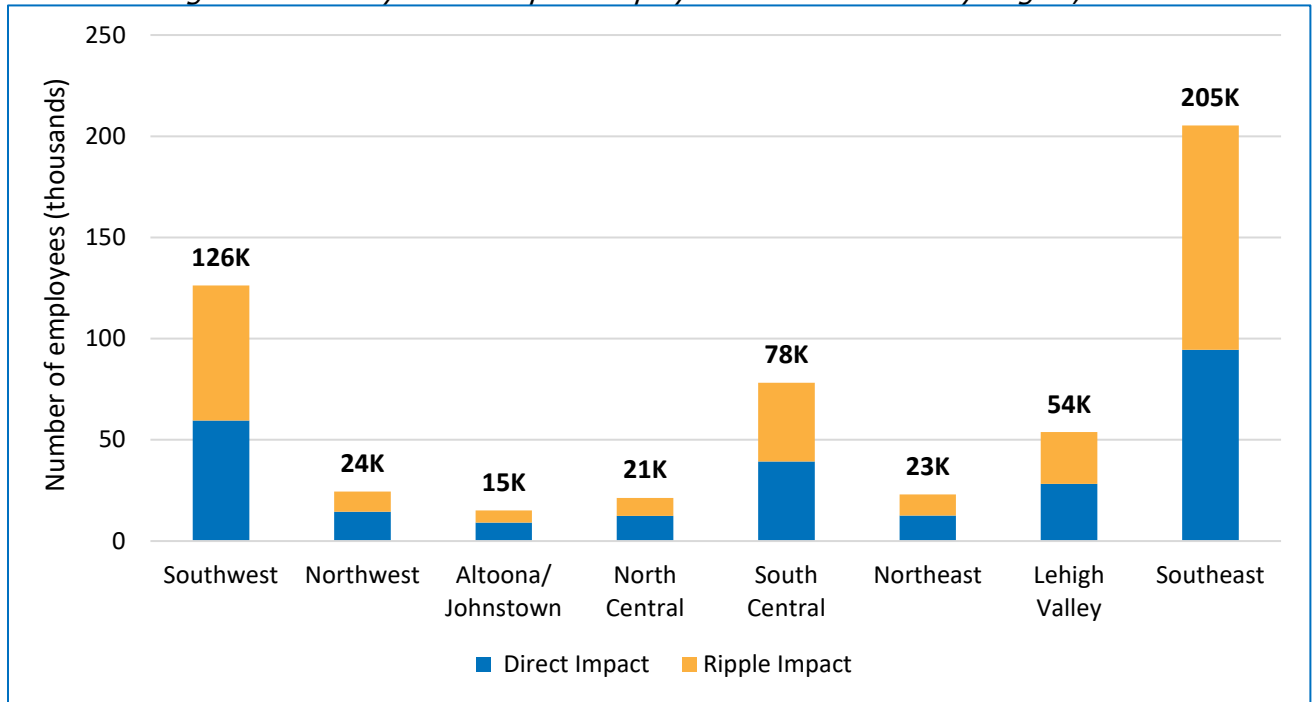
Source: HAP's 2021 analysis of HHS HCRIS FY 2020 data, coupled with data provided directly to HAP by Pennsylvania health systems

Figure 9. Pennsylvania Hospital Salary Contributions by Region, 2020



Source: HAP's 2021 analysis of Pennsylvania Department of Labor & Industry, 2020 Q4 Hospital Employment and Wages, by Region

Figure 10. Pennsylvania Hospital Employment Contributions by Region, 2020



Source: HAP's 2021 analysis of HHS HCRIS FY 2020 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:

- 90 percent of Pennsylvania's 67 counties (i.e., 60 counties) have at least one hospital among their top ten largest employers
- 83 percent of Pennsylvania's 48 rural counties have at least one hospital among their top ten largest employers
- 99 percent of Pennsylvania's 67 counties (i.e., 66 counties) include a hospital or a hospital- or system-affiliated facility among their top 50 largest employers
- In 19 counties, a hospital is the largest employer¹¹

Federal Health Care Research Funds¹²

Pennsylvania hospitals and universities with hospital-affiliated medical schools have been remarkably successful at securing competitive federal health research dollars. During FY 2020, the NIH nationally awarded funds to only 21 percent of its applicants.¹³ However, hospitals and universities with hospital-affiliated medical schools brought to Pennsylvania close to \$2 billion in research awards from federal agencies (i.e., operating divisions within HHS). This constitutes more than 80 percent of the \$2.35 billion in federal research funding awarded during FY 2020 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 2020, Pennsylvania ranked fourth among states with 4,181 funded projects and ranked sixth in funding with nearly \$2 billion received from federal agencies.¹⁴

Figure 11: Health Research-related Federal HHS Funds received by Pennsylvania Organizations, FY 2020

| Agency | FY 2020 Total Funding to all PA-based organizations | FY 2020 Funding to PA Hospitals and Universities with Medical Schools |
|---|---|---|
| Agency for Healthcare Research and Quality | \$7,182,000 | \$6,792,000 |
| Centers for Disease and Prevention | \$13,377,000 | \$10,877,000 |
| Food and Drug Administration | \$18,132,000 | \$4,139,000 |
| National Institutes of Health | \$2,314,237,000 | \$1,935,176,000 |
| Total | \$2,352,929,000 | \$1,956,983,000 |

Figure 12 provides the breakdown of research funding to Pennsylvania’s hospitals and hospital-affiliated medical schools.

Figure 12: HHS Funds Awarded to Pennsylvania’s Hospitals and Universities with Hospital-Affiliated Medical Schools, FY 2020

| Agency | Number of Projects | FY 2020 Total Funding |
|--|--------------------|------------------------|
| Children Hospital of Philadelphia | 362 | \$236,507,000 |
| Drexel University | 137 | \$56,731,000 |
| Pennsylvania State University | 378 | \$152,409,000 |
| Temple University | 244 | \$93,275,000 |
| The University of Pittsburgh | 1,343 | \$657,637,000 |
| Thomas Jefferson University | 218 | \$87,207,000 |
| University of Pennsylvania | 1,285 | \$673,217,000 |
| Total | 4,181 | \$1,956,983,000 |

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, 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 139,000 by 2033.¹⁵ Pennsylvania hospitals train thousands of doctors and other clinicians each year through their partnerships with the commonwealth’s 1,745 health care professional training programs. This includes 401 nursing programs and nine medical schools associated with Pennsylvania hospitals and health systems.¹⁶

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 \$809 million in foregone revenue stemming from their uncompensated care contributions during FY 2020, which represents a slight increase in the statewide percentage of uncompensated care to net patient revenue during FY 2020 comparing to FY 2019.¹⁷

Pennsylvania general acute care hospitals reported \$809 million in foregone revenue stemming from their uncompensated care contributions during FY 2020.

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.¹⁸ 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

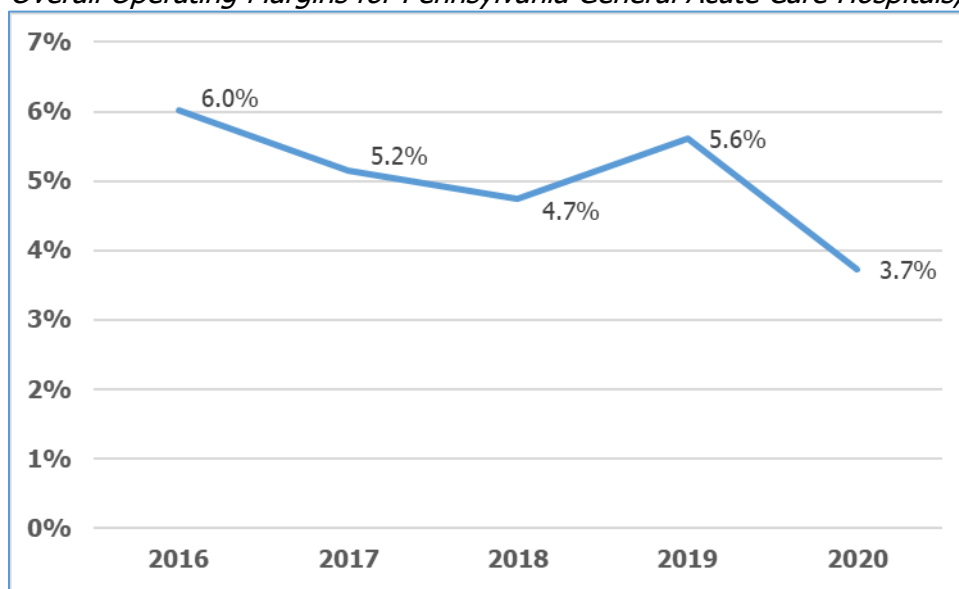
Demographics show growth of elderly population: Demand for clinicians is rising as baby boomers age and live longer. According to U.S. Census 2019 estimates, Pennsylvania’s population of those aged 65 and older (18.7%) exceeded the national average (16.5%), while Pennsylvanians living with disabilities (9.8%) also exceeded the national average (8.6%).¹⁹ 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.²⁰ 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.²¹ Despite the projected shortage of physicians, the Pennsylvania Department of Labor & Industry also projects the health care and social assistance industry to be the fastest growing industry with a 13.3 percent growth by 2028.²² Pennsylvania Department of Labor & Industry also projects that health care support occupations and health care practitioners/technical occupations are two of the top three fastest-growing occupations with projected growth of 16.2 percent and 11.3 percent, respectively, by 2028.²³

Looking to the Future

Even before the onset of COVID-19, Pennsylvania hospitals and health systems faced financial stress. The pandemic has made the situation increasingly dire. According to published reports by PHC4, FY 2020 saw operating margins for general acute care hospitals decrease for the fourth time in five years, with FY 2020 being the most significant drop during this period (see Figure 13).²⁴ Furthermore, the statewide percentage of uncompensated care (bad debt plus charity care) to net patient revenue for Pennsylvania general acute hospitals increased during both FY 2019 and FY 2020 after five consecutive years of falling uncompensated care rates.²⁵

Figure 13: Overall Operating Margins for Pennsylvania General Acute Care Hospitals, 2016–2020



Source: PHC4

A pandemic the magnitude of COVID-19 has sent shockwaves throughout the world, the country, and Pennsylvania. Thousands of Pennsylvanians have lost their lives or will endure lasting health consequences as a result of COVID-19. The state’s unemployment rate jumped from 4.7 percent during February 2020, to 16.1 percent during April 2020 and has remained high (6.6 percent during July 2021).²⁶ According to the U.S. Bureau of Labor and Statistics, more than 900,000 Pennsylvanians lost their jobs and their employer-sponsored health insurance coverage as a result of the pandemic.²⁷

The COVID-19 pandemic also will leave lasting scars on Pennsylvania’s hospitals and health systems. According to PHC4, hospitals and health systems statewide reported COVID-19 related expenses and incurred revenue losses totaling \$6.5 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.²⁸ Despite these financial hardships, hospitals continued to provide vital health care services. The resulting economic activity and spending proved to be an important factor in keeping local and state economies afloat.

Though the leadership and employees of the state’s hospitals and health systems have performed heroically in the face of the pandemic, continued federal and state support will be imperative to ensure they can perform as the economic and health care flagships of their communities.

Hospitals need sustainable payments for the care they provide, and to innovate and utilize the emerging mechanisms for delivering care in the post-COVID-19 world. These payments include:

- Payment for telehealth
- Sustained state budget support for OB/NICU, burn and trauma centers, and critical access hospitals
- Sufficient payment from Medicare, Medicaid, and private insurance

Hospitals also will need lawmaker support to continue reducing administrative red tape, so they can focus on caring for patients. These measures include streamlining processes for things like credentialing and prior authorization, as well as maintenance of the waivers put in place during the pandemic to ease the regulatory burden on hospitals.

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 \$155 billion during 2020 in spending, including \$70 billion in direct and \$85 billion in ripple impacts.

The total economic value includes \$38.1 billion in salaries, which support thousands of Pennsylvania families. Indeed, Pennsylvania hospitals and health systems contribute to 615,412 jobs, or 11.6 percent of the commonwealth's entire workforce—that means hospitals support one out of nine jobs across the state.²⁹ 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 2020 alone, Pennsylvania's hospitals and universities with hospital-affiliated medical schools attracted almost \$2 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. The findings of this analysis also show that while many industries struggled through the pandemic, Pennsylvania's hospital community continued to be a financial pillar for the commonwealth and provided continuing support to the state's economy.

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 Pennsylvania Department of Health. [COVID-19 Dashboard](#). Retrieved from: <https://www.health.pa.gov/topics/disease/coronavirus/Pages/Cases.aspx>. Last accessed: 9/13/2021.
- ²² Pennsylvania Health Care Cost Containment Council (PHC4). [COVID-19 Disaster Emergency Report](#). July 2021. Retrieved from: <https://www.phc4.org/reports/finreport/071521/docs/finreport071521.pdf>. Last accessed: 09/01/2021. The report also points out that only ninety-one percent of hospitals and health systems responded for the first three-quarters of 2020, ninety-four percent responded to fourth quarter 2020 and seventy-one percent responded to first quarter 2021. As a result, the expenses and revenue loss figures are likely substantially understated.
- ³ 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.
- ⁴ Ibid.
- ⁵ 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, 2020. 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: 07/27/2021.
- ⁶ HAP calculated the hospital community's contribution to the GDP by dividing the 2020 Pennsylvania GDP (\$780 billion) by the community's total—direct plus ripple—economic impact (\$155 billion).
- ⁷ HAP's analysis of annual 2020 All Industries Employment data received from Pennsylvania Labor and Industry Department (5,311,161 average employment) and the results of HAP's 2021 Economic Impact Analysis (615,412 total jobs supported by Pennsylvania hospitals).
- ⁸ 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. Retrieved from: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables. Last accessed 8/13/2021.
- ⁹ 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).
- ¹⁰ 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.
- ¹¹ Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis. [Pennsylvania Top 50 Employers & Industries](#). 4th Quarter, 2020. Retrieved from <https://www.workstats.dli.pa.gov/Products/Top50/Pages/default.aspx>. Last accessed: 05/26/2021.
- ¹² 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 access: 6/23/2021.
- ¹³ 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: 6/23/2021.
- ¹⁴ National Institutes of Health. NIH RePORTER. Search criteria: FY 2020. Select Chart and Summary By: State. Retrieved from: <https://reporter.nih.gov/search/CKn4-nYfJkSyTHyzLsAM2w/projects/charts>. Last accessed: 09/01/2021.
- ¹⁵ "[The Complexities of Physician Supply and Demand: Projections from 2018 to 2033](#)." Published by Association of American Medical Colleges, June 2020. Page 1. Retrieved from: <https://www.aamc.org/system/files/2020-06/stratcomm-aamc-physician-workforce-projections-june-2020.pdf>. Last accessed: 08/19/2020.

-
- ¹⁶ National Center for Education Statistics, Integrated Postsecondary Education Data System. Number of Healthcare-Related Training Programs in PA. 2018-2019. Data obtained from Pennsylvania Department of Labor & Industry on 07/29/2021.
- ¹⁷ See PHC4's [Financial Analysis 2020, Volume 1](#); June 2021; p. 1 and [Financial Analysis, Fiscal Year 2020](#) for uncompensated care data for general acute care hospitals. FY 2020 data for non-GAC hospitals was not available at time of publication. Retrieved from: <http://www.phc4.org/reports/fin/20/>. Last accessed: 07/28/2021.
- ¹⁸ [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: 07/28/2021.
- ¹⁹ [Quick Facts: Pennsylvania and United States](#). U.S. Census Bureau. Retrieved from: <https://www.census.gov/quickfacts/PA>. Last accessed: 07/28/2021.
- ²⁰ [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: 12/15/2020.
- ²¹ 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://aese.psu.edu/research/centers/cecd/publications/market-trends/pennsylvania-bust-to-boom-great-recession-to-recovery-beyond-2008-2018>. Last accessed: 12/15/2020.
- ²² 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: 07/28/2021.
- ²³ Pennsylvania Department of Labor & Industry, Center for Workforce Information & Analysis. [Long-term Occupational Employment Projections for Pennsylvania](#). Retrieved from: <https://www.workstats.dli.pa.gov/Products/employment-projections/Pages/LTOPStatewideData.aspx>. Last accessed: 07/28/2021.
- ²⁴ Pennsylvania Health Care Cost Containment Council. [Financial Analysis, PA General Acute Care Hospitals – News Releases](#). 2017-2020. Retrieved from: <https://www.phc4.org/reports/fin/>. Last accessed: 09/13/2021.
- ²⁵ Pennsylvania Health Care Cost Containment Council. [Financial Analysis 2019, PA General Acute Care Hospitals – News Release](#). April 15, 2020. Retrieved from: <http://www.phc4.org/reports/fin/19/nr041520.htm>. Last accessed: 07/28/2021 and Pennsylvania Health Care Cost Containment Council. [Financial Analysis 2020, PA General Acute Care Hospitals – News Release](#). June 3, 2021. Retrieved from: <https://www.phc4.org/reports/fin/20/nr060321.htm>. Last accessed: 07/28/2021
- ²⁶ Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis. [Local Area Unemployment Statistics \(LAUS\)](#). Retrieved from: <https://paworkstats.geosolinc.com/vosnet/analyzer/resultsNew.aspx?session=labforce&pu=1&plang=E>. Last accessed: 09/13/2021.
- ²⁷ U.S. Bureau of Labor and Statistics, [Economy at a Glance: Pennsylvania](#). See back data for Civilian Labor Force. Retrieved from: <https://www.bls.gov/eag/eag.pa.htm>. Last accessed 8/12/2021.
- ²⁸ Pennsylvania Health Care Cost Containment Council (PHC4). [COVID-19 Disaster Emergency Report](#). July 2021. Retrieved from: <https://www.phc4.org/reports/finreport/071521/docs/finreport071521.pdf>. Last accessed: 09/01/2021. The report also points out that only ninety-one percent of hospitals and health systems responded for the first three-quarters of 2020, ninety-four percent responded to fourth quarter 2020 and seventy-one percent responded to first quarter 2021. As a result, the expenses and revenue loss figures are likely substantially understated.
- ²⁹ HAP's analysis of annual 2020 All Industries Employment data received from Pennsylvania Labor and Industry Department (5,311,161 average employment) and the results of HAP's 2021 Economic Impact Analysis (615,412 total jobs supported by Pennsylvania hospitals).

