

2020

Healthy Hospitals. Healthy Communities.

Quality Care: Helping Wisconsin's Patients
and Wisconsin's Economy



Extension
UNIVERSITY OF WISCONSIN-MADISON



High-quality health care is one of Wisconsin's greatest assets. Wisconsin hospitals and health systems provide affordable, accessible, quality care to their neighbors, friends and communities 24 hours a day, seven days a week.



Access to quality care helps patients, of course. It also helps economies, both local and statewide. Hospitals and health care systems rank as one of the state's largest employers and strongest economic drivers. Wisconsin can attract people and businesses to our state because the health care sector provides family-supporting jobs across a wide spectrum of worker educations – from high school to an advanced degree.

Wisconsin leads the nation in health care quality and innovation. Our hospitals and health systems enhance where we live, work and play and are part of the fabric of Wisconsin. Wisconsin's health care sector plays a crucial, vibrant role in our economy.

This report, "Healthy Hospitals. Healthy Communities," provides insight into the effect Wisconsin's health care industry has on our state. WHA appreciates the ongoing collaboration with the University of Wisconsin-Madison Extension and Professor Steven C. Deller to collect and disseminate the latest facts and data related to Wisconsin's hospitals and our top-quality health care systems.

Eric Borgerding, WHA President/CEO

The University of Wisconsin-Madison Extension's Department of Agricultural and Applied Economics and Wisconsin Hospital Association produced the data for this report in October 2019 to highlight the important economic contributions made by Wisconsin hospitals and health systems. The study used 2017 data to calculate economic impacts. This is the most current year available. The UW Extension's study is available at <https://cced.ces.uwex.edu/files/2019/10/Hospitals-OCT-2019.pdf>.

This feasibility analysis relies on data from private sources, secondary sources and from public data sets. The University of Wisconsin-Extension and the Wisconsin Hospital Association cannot be held responsible for the accuracy of this data or for decisions made resulting from the use of the data in this report. The conclusions and recommendations in this report are made solely by the authors and do not necessarily reflect the opinions of the University of Wisconsin Extension, the Department of Agricultural and Applied Economics or the Wisconsin Hospital Association. Support for this work was provided in part by the Wisconsin Hospital Association, the Wisconsin Agricultural Experiment Station and the University of Wisconsin-Extension.

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Executive Summary

Hospitals and health systems:

WHA's 2015 economic impact report focused solely on hospitals. This report examines hospitals and additional health care industries. As health care becomes more integrated, so should our analysis to include health care systems, with hospitals at the core. This broader sector includes physician offices, outpatient care centers, nursing and community care facilities and other care providers – which are often components of Wisconsin's local and regional health systems.

The economic impact:

Hospitals and health systems are among the largest economic drivers of the state's economy. Wisconsin hospitals alone contribute more than \$47 billion annually to the state's economy in labor income, total income and industrial sales and revenue. Add in other health care sectors and the total economic impact of health care in Wisconsin equals more than \$119 billion.

Jobs:

Hospitals in the state directly employed more than 108,000 people in 2016, while the overall health care sector supported about 327,000 jobs. Perhaps most important is the quality and wide range of community opportunities these health care jobs bring to any one community. After accounting for the multiplier effect, the health care sector contributes about 571,900 jobs – more than 15% of all Wisconsin employment.

Out-of-state patients:

Patients coming from out of state seeking care in Wisconsin spent \$2.3 billion on hospital services in 2017. Hospital services for these patients supported 29,300 jobs in the state – for every \$1 million in spending from out-of-state patients a total of 13 new jobs (total impact) are created. This “exporting” care segment could be a prime element in any Wisconsin strategy to inject money into the state's economy.

Taxes, revenue to state and local governments:

Hospital-related activity generated \$1.06 billion in total state and local tax revenues, with about \$360 million in property taxes going to local government, supporting public schools. Most of the remainder goes to state government. Health care other than hospitals is responsible for \$1.99 billion in state and local tax revenues, bringing the total for the state's health care sector to more than \$3 billion in taxes.

Community impact:

Hospitals and health systems have a major positive impact on the areas they serve, with nearly \$5 million coming from Wisconsin hospitals every day for community benefits and charity care for patients and communities.

Hospitals in the state directly employed more than 108,000 people in 2016, while the overall health care sector supported about 327,000 jobs.

Hospitals and Health Systems

The previous economic impact report from WHA focused solely on the impact of hospitals. This year's report uses the latest available economic numbers to provide a broader look at the impact of both hospitals and health systems.

The latter category includes care providers such as physicians and other health practitioners, as well as outpatient care centers, nursing and community care facilities, medical and

diagnostic laboratories, home health care services, other ambulatory health services, and mental health and substance abuse facilities – all major components of Wisconsin's local and regional health systems.

For more on the breakdown of jobs supported by each of these categories, see the section on jobs, employment and wages (page 4).

Economic Impact of Wisconsin's Health Care Sector

Wisconsin's health care sector contributes to the state's economy in many ways – through employment, wages and salaries, and general operation expenses, as well as improved labor productivity, which improves the profitability of businesses. Hospitals and health systems also positively impact overall quality of life for residents of the state.

Health care remains a strong source of employment growth in Wisconsin, while adding an element of stability to the economy.

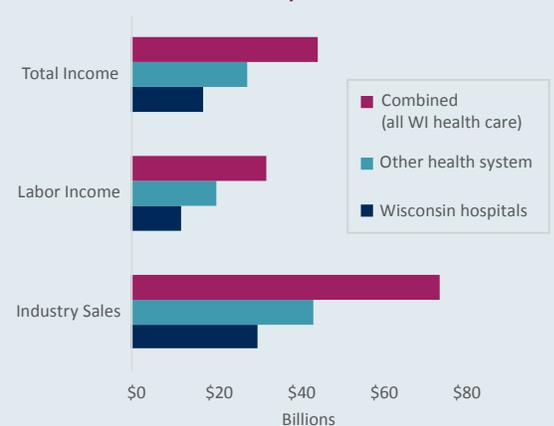
Much like any other industry, the health care sector employs workers who spend wages and salaries in the local economy. The hospitals and health systems also spend money on goods and services, including utilities, office supplies, landscaping and other areas. All of that generates economic activity both directly and indirectly.

This sector has been one of the fastest growing industries in terms of employment and income in Wisconsin, and across the country more broadly. For many residents of the state, hospitals play a crucial role in their community's

infrastructure. Nearby hospital access is an important factor for individuals selecting a new home, or for companies looking to expand with a new location.

Hospitals in the state contributed more than \$47 billion annually to the state's economy in 2016 with about \$12.1 billion in labor income, \$17.3 billion in total income (labor income is part of total income) and \$30.6 billion in industry sales in revenue.

Figure 1: Overall Health Care Impact on Wisconsin's Economy



Source: UW-Madison Extension Report (Oct. 2019)

Meanwhile, health systems contributed about \$71 billion, with \$20.5 billion in labor income, \$27.9 billion in total income, and \$43.8 billion in sales and revenue.

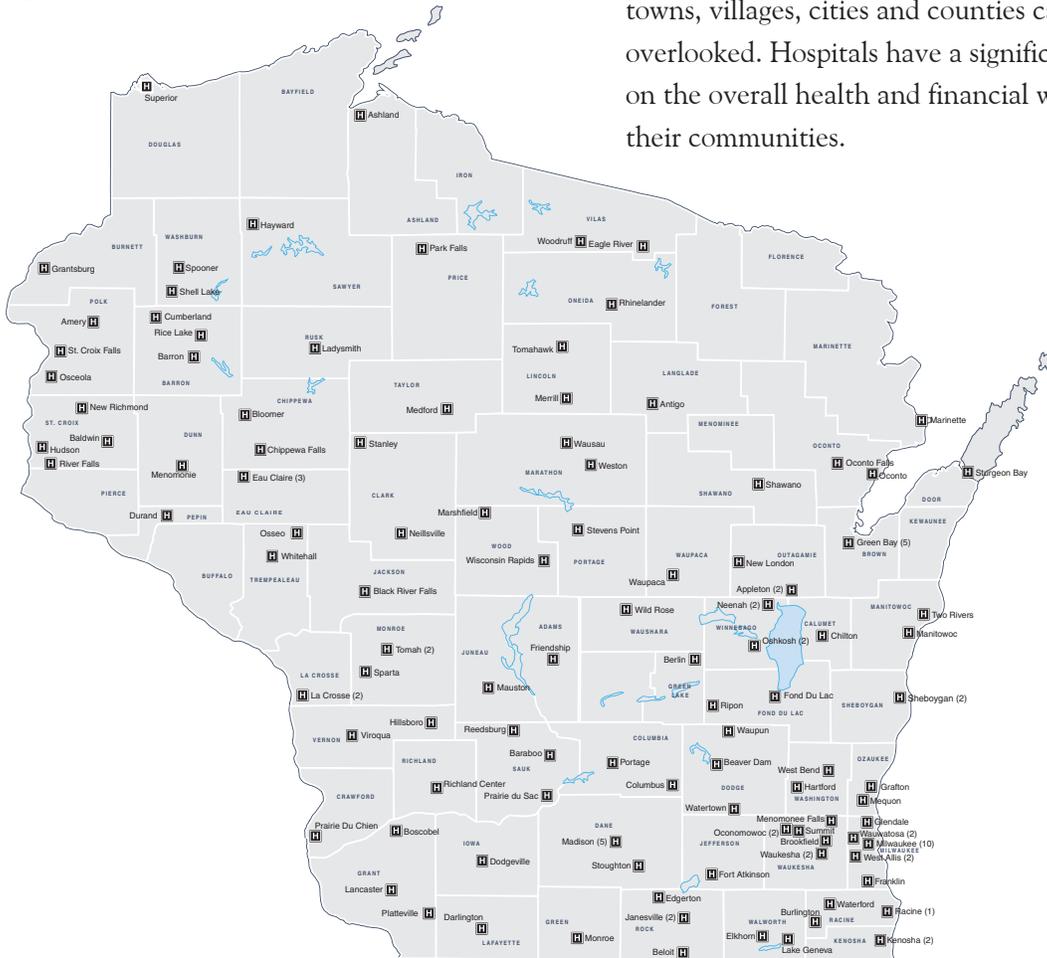
When you combine the impact of hospitals and health systems, it shows the state's overall health care sector has an economic impact of more than \$119 billion. That includes \$32.7 billion in labor income, \$45.2 billion in total income and \$74.4 billion in industry sales and revenue. The sector's labor income makes up 17.1% of the state total, while total income makes up 14.4%, and industry sales and revenue make up 11.9%. (See Figure 1)

Ripple effects from hospitals:

For every \$1,000 of additional labor income created in hospitals an additional \$600 of labor income is created elsewhere in Wisconsin. And for every \$1,000 in additional revenue generated by hospitals an additional \$860 in industrial sales/revenues is generated. (See description of this multiplier effect on page 13.)

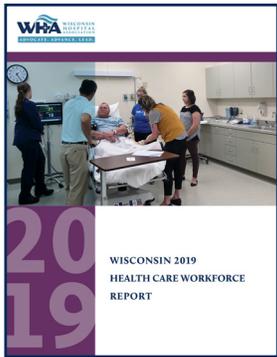
Our hospitals are long-recognized for delivering person-centered high-quality health care. The federal Agency for Healthcare Research and Quality (AHRQ) most recently ranked Wisconsin first in the Midwest and among the best in the nation for its health care quality. The economic stimulus provided in their towns, villages, cities and counties cannot be overlooked. Hospitals have a significant impact on the overall health and financial well-being of their communities.

Figure 2: Wisconsin Hospitals



The broad distribution of Wisconsin's hospitals helps every area of the state — not only in accessing high-quality health care, but also as an important local economic resource.

Wisconsin Health Care 2019 Workforce Report



WHA's Wisconsin 2019 Health Care Workforce Report has more information on workforce challenges and potential solutions. Read more: www.wha.org/Reports

Jobs, Employment and Wages

Health care workers live, work and play in all 72 counties across the state, helping to make up the economic fabric of Wisconsin. Hospitals and health systems provide family-supporting jobs, while accessible health care attracts people, businesses and health care professionals to the state – and keeps them here.

Employers make business decisions about where to locate based on a state's infrastructure, and Wisconsin's reputation for affordable, high-quality care helps draw companies from across the country. For every 10 jobs created in Wisconsin hospitals, another nine jobs are created elsewhere in the state.

In addition, partnerships with employers help keep their workers healthy and productive and get them back on their feet faster. Quality health care directly affects the success of Wisconsin businesses.

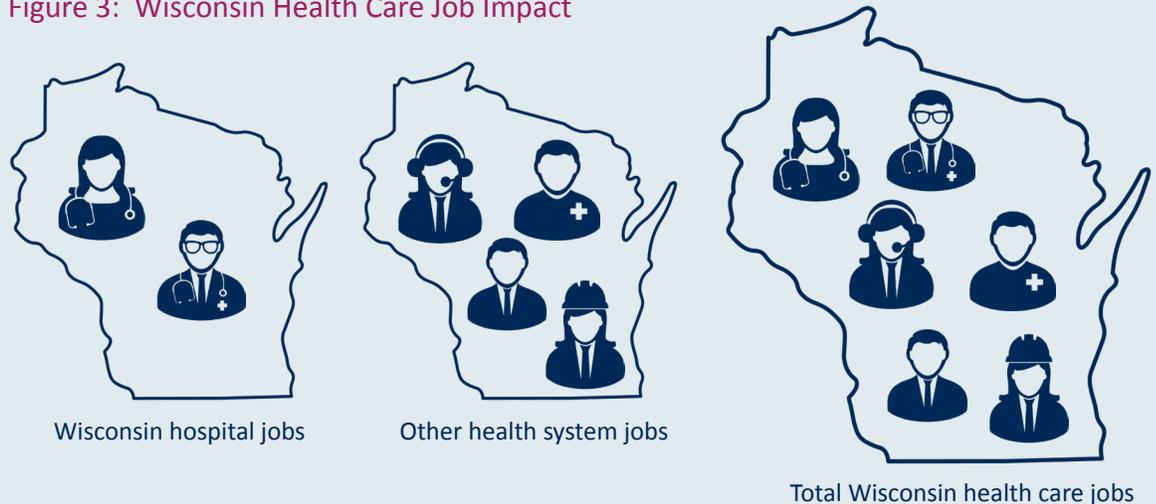
Hospitals in the state accounted for about 209,400 workers in 2016, with about 108,000 direct jobs and nearly 101,000 indirect and induced jobs. The overall health care sector supported about 571,900 jobs. (See Figure 3)

The number of jobs in the health care sector in Wisconsin grew by nearly 30% from 1998 to 2017, while total employment increased by about 12%. Over the same time frame, employment in hospitals grew by 24%.

High-quality care comes from high-quality jobs:

Wisconsin's hospitals and health systems are important employers, providing good jobs and growth opportunities to support people and families. As some of the largest employers in the state, hospitals are also a strong economic anchor in their communities. They provide economic growth and stability – impacting Wisconsin's financial well-being and success.

Figure 3: Wisconsin Health Care Job Impact



Each figure = approx. 100,000 jobs

Source: UW-Madison Extension Report (Oct. 2019)

The typical hospital job paid just more than \$57,000 in 2017, while the typical job in the broader health care sector paid about \$53,000. That's compared to about \$39,000 for other wage and salary jobs in the state. (See Figure 4)

In the Wisconsin economy overall, wages and salaries grew by 82% between 1998 and 2017. Over the same period, wages and salaries in hospitals grew 142%, while those in the broader health care sector increased 136%.

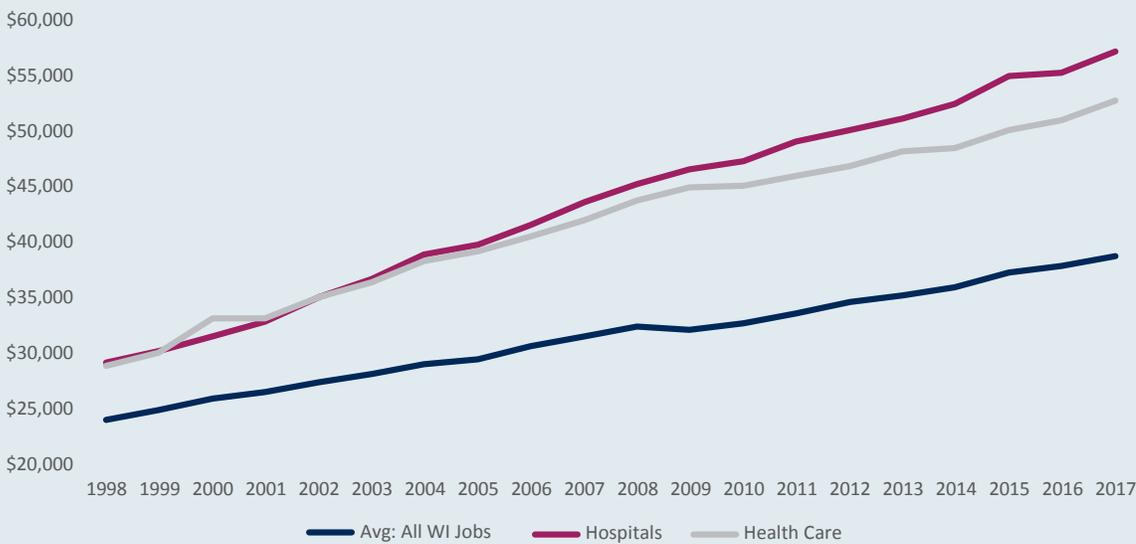
Although employment in the state's overall health care sector grew more quickly than hospital employment, growth in wages and salaries at hospitals kept pace with the rest of health care.

According to the UW-Madison Extension's report: "One of the most important elements of having a strong health care presence within the community, in addition to access to quality health care, is the nature of the pay these jobs provide to the residents of Wisconsin."

"One of the most important elements of having a strong health care presence within the community, in addition to access to quality health care, is the nature of the pay these jobs provide to the residents of Wisconsin."

- Prof. Steve Deller, UW-Madison Extension

Figure 4: Wisconsin Wage and Salary Income per Job



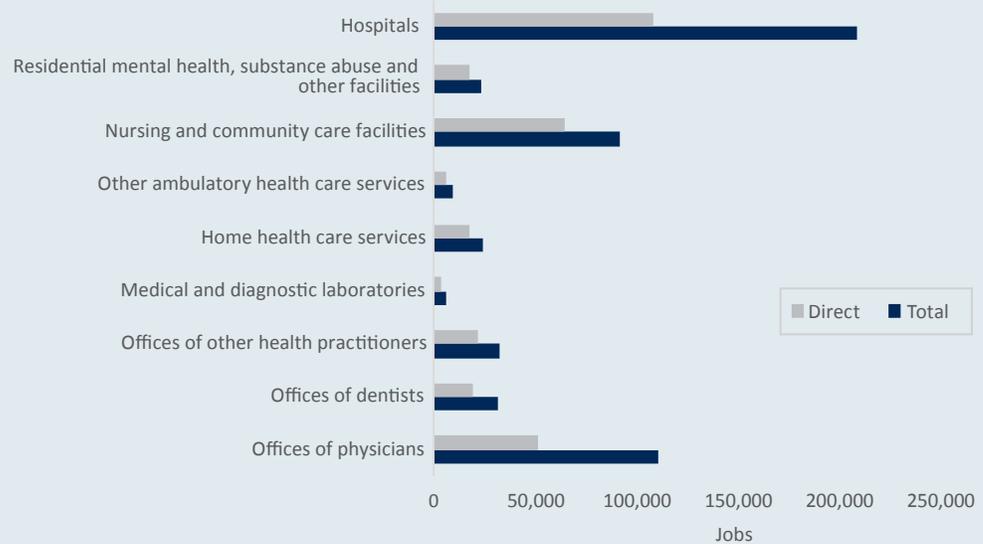
Source: UW-Madison Extension Report (Oct. 2019)

Jobs supported by health care entities:

Across the state, health care entities employ hundreds of thousands of workers outside of the traditional hospital setting. From nurses and physicians making a difference in their local communities to mental health and substance abuse specialists providing necessary help during difficult times, health systems support a diverse array of jobs. Businesses like these – many of which are components of local and regional Wisconsin health systems – support 362,600 workers in Wisconsin.

Of the health care subsectors covered by health systems, the offices of physicians support the most jobs with 110,607. Nursing and community care facilities support 92,128 workers, while outpatient care center offices of other practitioners such as chiropractors and dentists each support about 32,000 jobs. Home health services support 24,000 jobs, and residential outpatient, mental health, substance abuse and other similar care facilities support about 23,000 jobs. (See Figure 5)

Figure 5: Contribution to Employment - Wisconsin Jobs



Source: UW-Madison Extension Report (Oct. 2019)

Education and training:

The diversity in occupations in health care and hospitals specifically is reflected in the various types of educational and training needs.

Of the top 10 occupations in the health care industry, only nurses require a bachelor’s degree and five others require only a high school diploma or equivalent. The remaining four require some additional training after high school. A similar pattern is seen in hospitals with a higher share of the top 10 jobs requiring formal training past high school.

This variation in formal job requirements is reflected in wages and salaries, with occupations that require more education and training paying higher wages. For example, the average hourly wage for a registered nurse – which requires a bachelor’s degree – is \$33.27/hr., while the average hourly wage for nursing assistants is \$13.86/hr. Nursing assistant jobs require some training after high school but do not require a degree.

Still, the wide range of occupations within health care services and hospitals translates into a diversity of employment opportunities across the education spectrum. And certain entry-level health care jobs create opportunities for advancement within the health care field – meaning entry-level workers starting a career can advance through further training, experience and education to more complex, higher-paying jobs. Crucially, the higher wages and salaries in health care and hospitals aren’t just being driven by a few highly paid doctors – rather, typical jobs at hospitals and health systems tend to pay more than the statewide average for Wisconsin.

Breakdown of jobs:

Physicians, dentists and pharmacists tend to be paid more and require higher levels of training, yet they account for less than 5% of total employment in the ambulatory health care – clinics, urgent care facilities, etc. – and hospital sectors.

Registered nurses are the dominant occupation for both sectors, accounting for 31.8% of all jobs in hospitals. The next largest category is nursing or medical aides and assistants, which is then followed by clerical workers. In fact, while occupations working directly with patients account for most jobs in some areas, a large share of health care and hospital workers are engaged with other important tasks behind the scenes. (See Figure 6)

Figure 6: Occupational Structure of Wisconsin Hospitals

Occupational Title	Share of Occupations	Mean Hourly Wage/Salary	Mean Annual Wage/Salary
Registered nurses	31.8%	\$33.27	\$69,200
Nursing assistants	7.1%	\$13.86	\$28,830
Medical secretaries	2.7%	\$17.42	36,230
Medical and health services managers	2.2%	\$48.76	\$101,430
Radiologic technologists	2.2%	\$27.89	\$58,010
Licensed practical and licensed vocational nurses	2.0%	\$21.21	\$44,120
Maids and housekeeping cleaners	2.0%	\$10.71	\$22,270
Respiratory therapists	1.9%	\$29.26	\$60,860
Physicians and surgeons, all other	1.9%	\$119.95	\$249,490
Medical assistants	1.7%	\$17.40	\$36,180
Office clerks, general	1.4%	\$16.59	\$34,520
Pharmacists	1.4%	\$62.82	\$130,670
Interviewers, except eligibility and loan	1.4%	\$16.29	\$33,890
Surgical technologists	1.4%	\$25.52	\$53,080
Medical records and health information technicians	1.3%	\$20.57	\$42,780
Janitors and cleaners, except maids and housekeeping cleaners	1.2%	\$13.06	\$27,160
Secretaries and administrative assistants, except legal, medical and executive	1.2%	\$17.54	\$36,490
Pharmacy technicians	1.2%	\$15.34	\$31,900
Physical therapists	1.1%	\$38.74	\$80,570
Customer service representatives	1.0%	\$17.73	\$36,890
Health care social workers	1.0%	\$24.62	\$51,210

Source: UW-Madison Extension Report (Oct. 2019)

This means that hospitals and health systems are not only often the key to the health of community citizens, but also to the community's economic health as well. From the UW-Madison Extension's report (emphasis supplied):

“This diversity of occupations within health care services and hospitals means, from the local community's perspective, that there are a wide range of employment opportunities across the educational spectrum. In other words, **a hospital within the community means that there is a wide variety of employment opportunities.**

“Because so many of these occupations offer strong wages and salaries it explains why the ‘typical’ or ‘average’ job in health care and hospitals is higher than the Wisconsin statewide average. **It is not [the] case that higher wages and salaries in health care and hospitals is driven by a handful of highly paid medical doctors.**”

A hospital within the community allows for a wide variety of employment opportunities.

Patients Coming to Wisconsin for Care

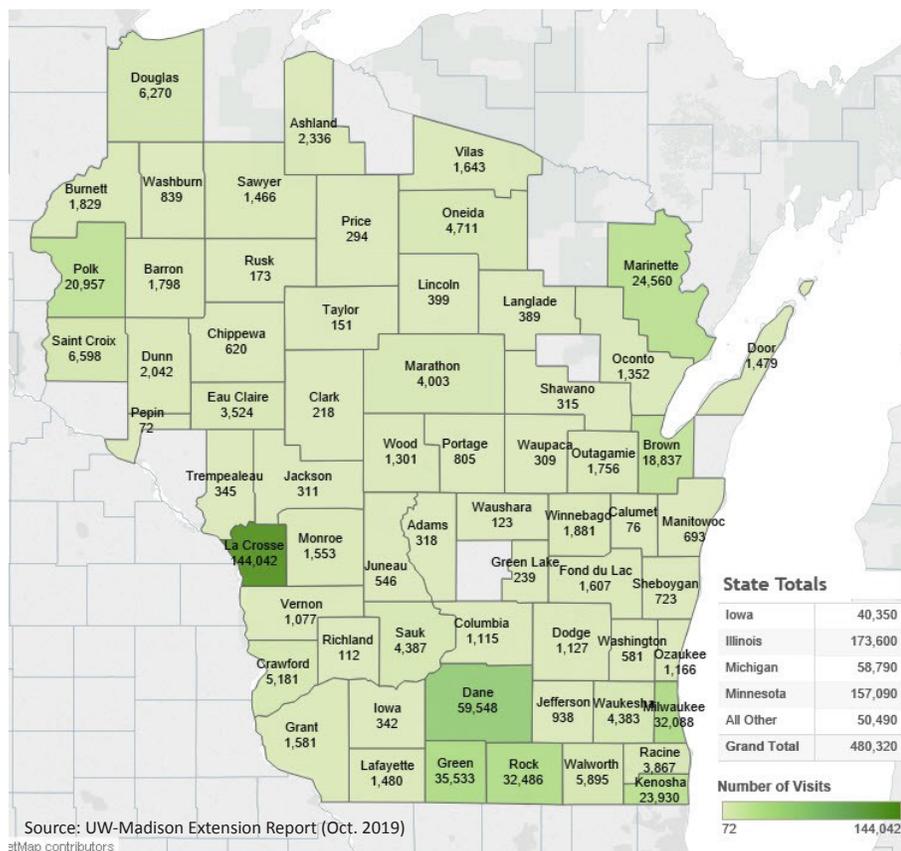
As noted in previous economic impact reports produced by WHA, the effect of out-of-state patients can be overlooked but constitutes a significant economic benefit to the state. From out-of-state patients seeking high-quality, specialized services in the state, to others living just over the border in Midwest states coming to Wisconsin for care, these patients trust the hospitals and health systems the state has to offer.

Based on numbers from 2017, out-of-state patients spent about \$2.3 billion on hospital services in the state – supporting 29,300 jobs in Wisconsin. The dollars spent by these visitors generates \$1.7 billion in labor income, \$2.4 billion in total income and \$4.3 billion in industrial sales and revenue. Importantly, these

impacts are wrapped into the total economic impact figures discussed above. As with other health care spending in the state, the spending done by out-of-state patients has a ripple effect throughout Wisconsin’s economy. In 2017 there were more than 480,000 visits to Wisconsin hospitals from out-of-state patients (see Figure 7). For every \$1 million in spending from those visiting Wisconsin for care, a total of 13 new jobs are created, with \$737,700 in labor income, \$1.1 million in total income, and \$1.9 million in total industrial sales and revenue.

As leaders in Wisconsin seek new strategies for expanding the economy through leveraging one of Wisconsin’s greatest strengths, looking to hospitals as a potential “export sector” is one possible approach.

Figure 7: Number of Visits for Out-of-State Patients by Hospital County - 2017



Source: UW-Madison Extension Report (Oct. 2019)

Map contributors

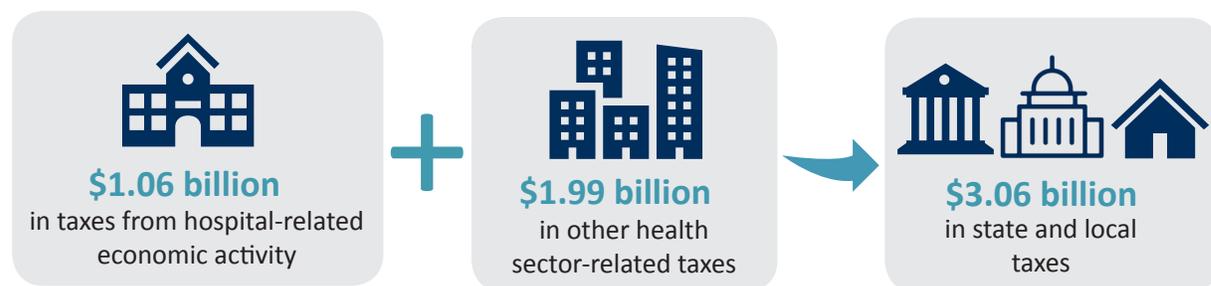
Taxes and Revenues to State and Local Governments

Hospitals and health systems in the state have a direct impact on the local community and the greater region through the people they hire, the wages they pay and the expenses they incur. They play a critical role in driving the state economy by purchasing goods and services from other businesses.

Health care workers spend their wages and salaries at local grocery stores, restaurants and movie theaters. This revenue goes to local companies and is then reintroduced through further spending. Hospitals and other health providers pay utility bills, buy office equipment and supplies, and pay taxes – among other expenses.

All that economic activity supported by hospitals and the health care industry generates tax revenues that flow to state and local governments. Hospital-related activity generated \$1.06 billion in total state and local tax revenues, with about \$360 million in property taxes going to local government, mainly public schools.

By comparison, the rest of the health care sector generated just under \$2 billion in state and local taxes with a similar distribution pattern to that of hospitals described above. That means hospitals and health systems together generate more than \$3 billion in state and local tax revenues.



Community Impact

Hospitals and health systems support healthy communities:

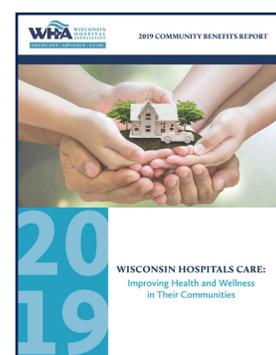
Wisconsin hospitals and health systems help address the critical, unmet health care needs of their neighbors, friends and communities – which ultimately leads to a healthier state overall. They fund neighborhood health centers, ensure citizens have access to free meals and can purchase their medication, help find transportation and housing, bring dental services into our schools, and much more.

Hospitals and health systems are mission-driven organizations that devote millions of dollars to support community initiatives such as health

fairs, free screenings, as well as free medical and dental clinics. Without hospitals' and health systems' commitment and support, many critical services would not exist locally.

To deliver quality care across the state, hospitals and health systems rely on educated health care professionals. That's why it's no surprise these providers offer financial and clinical support for training occupations such as therapists, nurses, doctors and others in the local community. These efforts help attract and keep health care workers in the areas in which they trained.

WHA 2019 Community Benefits Report



WHA's member hospitals and health systems are vibrant members of their local communities. Their efforts total more than \$1.9 billion in community benefits and charity care in 2018.

Read more:

www.wha.org/reports

Attracting people to Wisconsin

High-quality, affordable and accessible health care is why people come to live and work in Wisconsin:

The AHRQ state health care rankings cited earlier (page 3) show one reason people choose Wisconsin to live and work. Sustaining this quality excellence is no easy feat considering AHRQ uses more than 120 statistical measures to evaluate health care performance across care settings, including access to care and patient safety. In fact, Wisconsin has ranked in the top four states in the nation in 11 of the last 12 years of rankings.

Person-centered health care spans a lifetime of interactions with the health care system and requires delivery of care that is increasingly innovative and diverse. Wisconsin’s world-

renowned hospitals and health care specialists help bring patients from other states and across the globe to Wisconsin for their health care needs.

This is important for overall quality of life in the state and helps attract and retain workers across all industries – not just health care.

As the UW-Madison Extension report states, “The interplay between access to quality care, worker health, worker productivity and firm profitability is clear and as such should be viewed as an integral part of economic growth and development policies.”

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- Prof. Steve Deller
UW-Madison
Extension



Wisconsin’s National Ranking: AHRQ Snapshots

Year	Rank
2006	1
2007	2
2008	1
2009	2
2010	7
2011	2
2012	No Report
2013	4
2014	3
2015	2
2016	3
2017	1
2018	4

Summary

Wisconsin's health care industry is an important economic driver, supporting and enhancing quality of life for state residents and visitors. Our hospitals and health systems have a direct impact on their regional economies, through the people they hire, the wages they pay and the purchases made in the community.

Health care offers a broad spectrum of employment opportunities, ranging from entry-level positions to others requiring advanced degrees. Health care jobs often provide tremendous opportunity for career growth. Wages and salaries in hospitals and health systems are growing more quickly than for other jobs in the state. And health care has been one of the fastest growing employment sectors in the state, with nearly 30 percent growth in the number of jobs between 1998 and 2017 – ensuring employment stability for employees and families.

- Wisconsin hospitals contribute more than \$47 billion annually to the state's economy and contribute almost 209,400 jobs, directly employing more than 108,000 individuals.
- When looking at the overall health care sector, that number grows to almost \$120 billion and nearly 571,900 jobs when applying the multiplier effect.

While Wisconsin hospitals and health systems support financial security for families, they also support local and state government with a total of more than \$3 billion in total state and local tax revenues.

Health systems and hospitals play an anchoring role in the communities they serve, supporting economic growth and stability – with both a direct and indirect impact on the financial well-being and success of the state. Top-rated, accessible health care attracts talented workers and growing businesses to our state and helps keep them here.

Health systems and hospitals play an anchoring role in the communities they serve, supporting economic growth and stability.

Contributors

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The Department of Agricultural and Applied Economics, University of Wisconsin Extension, creates, applies and transfers multidisciplinary knowledge to help people understand community change and identify opportunities.

Wisconsin Hospital Association

The Wisconsin Hospital Association advocates for the ability of its members to lead in the provision of high-quality, affordable, and accessible health care services, resulting in healthier Wisconsin communities.

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Understanding Multipliers within IMPLAN

The economic ripples arising from production or activity in one industry can be viewed as a multiplier. Multipliers are central to input-output (I-O) analysis and estimate how the production requirement of industries respond to additional demand for their products ("Industry Sales"). In terms of this study, multipliers estimate how production levels in various industries must change in response to spending from hospitals and their employees. IMPLAN (www.IMPLAN.com) is a computer software program that allows for the construction of detailed state and local economic I-O models.

The multipliers constructed in this analysis are comprised of three different effects:

1. **Direct effect** – Direct effects are attributed to the industry or sector that initially causes a change in the economy. In terms of hospitals, direct effects are the levels of expenditures, employment, or payroll that are generated directly by the hospitals. That is, direct effects do not incorporate how expenditures or incomes ripple throughout the economy.
2. **Indirect effects** – As suggested earlier, hospitals purchase a variety of goods and services from private sector businesses. These hospital-to-business transactions create additional demand within a variety of industry sectors. As an example, consider a construction contractor doing work for the hospital. The contractor uses revenues from the hospital to pay for operating expenses, purchase new equipment, pay its employees, and make other types of investments. Consequently, the direct expenditures from the hospital have an indirect impact on the construction contractor. Indirect effects capture the impacts from these hospital-to-business purchases ("Industry Sales").
3. **Induced effects** – Personnel at hospitals are paid wages and salaries. Induced effects estimate the impact of employees using these earnings to purchase goods and services in various sectors of the economy (i.e. food, furniture, gas, housing, medical, utilities, etc.).

Despite their importance in input-output modeling, multipliers are frequently misunderstood and misused. In the context of this study, readers should recognize several characteristics of multipliers. First, multipliers are not interchangeable or standardized. For instance, multipliers constructed for a hospital in one state should not be applied to a hospital in Wisconsin. Second, input-output multipliers should not be viewed as the number of times dollars or purchases recirculate in the local economy. Instead, I-O multipliers are the net economic result of inter-industry purchases and increases in income. Third, multipliers do not predict when an economic impact will occur in a community. Instead, the impacts arising from demand or an industry change in a given year will occur at some non-specific time in the future (Shaffer, Deller, and Marcoullier, 2004).



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