



Has health care's contribution to Billings' economy changed since 2014?

Health care is Billings' largest industry, and it is essential to Billings' economic success. In a 2014 report, *The Contribution of Health Care to Billings' Economy*, I described the myriad ways health care boosts Billings' economy. First and foremost, health care produces health, and health is extremely valuable. Health is necessary for people to live and live well. Health is also important for creating and maintaining a productive workforce. Second, given the high value of health and the importance of access to health care for maintaining health, many people will not live someplace that lacks health care. As such, Billings' large, efficient health care sector is integral to making Billings a desirable place to live and work. Third, if people could not access health care in Billings, the billions spent on health care by residents and non-residents would be spent elsewhere. As such, health care brings lots of money into Billings' economy which helps create or support jobs for tens of thousands of people in Billings. Without health care, Billings' economy would be much smaller.

In this document and the accompanying report update, I update my 2014 report. This document describes the key findings and how they compare to the 2014 report. The full report provides a larger framework for thinking about the role of health care in a regional economy.

The health care sector's contribution to Billings' economy remains similar to that described in the 2014 report. Billings' health care sector is large, relatively efficient, and supports a substantial proportion of Billings' economy. The biggest change is that health care supports an even larger share of Billings' economy than five years ago.

1. Total employment and wages

Health care remains Billings' largest industry. Table 1 shows total health care employment and wages relative to Billings' other largest industries. In 2018, health care employed over 14,000 people and paid more than \$819 million in wages. This amounts to 17.2 percent of Billings' total covered employment, and 20.9 percent of total covered wages.

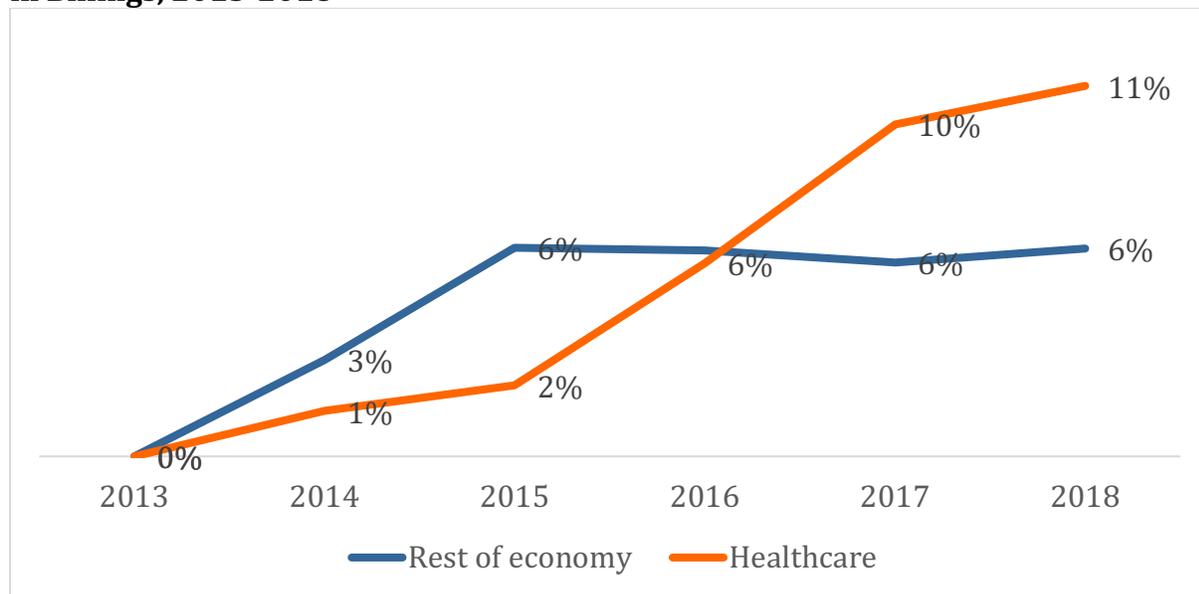
Table 1: Total covered employment and wages in Billings' largest industries

Industry	Total employment	Total wages	% employment	% wages
Total	81,636	\$3,919,140,410		
Health care and social assistance	14,024	\$819,209,652	17.2%	20.9%
Retail trade	10,641	\$342,839,689	13.0%	8.7%
Accommodation and food service	9,181	\$174,253,454	11.2%	4.4%
Construction	5,473	\$337,079,488	6.7%	8.6%
Wholesale trade	5,235	\$324,545,387	6.4%	8.3%
Management of companies and enterprises	4,806	\$308,213,081	5.9%	7.9%

Source: 2018 Quarterly Census of Employment and Wages (QCEW)

Since 2013, Billings' health care sector added over 1,300 jobs and over \$135 million in wages (\$2018). Figure 1 shows the growth in health care employment in Yellowstone County relative to the rest of the economy since 2013. Between 2013 and 2015, the non-health care portion of Billings' economy grew faster than health care. Non-health care employment grew by six percent and non-health care wages grew by 12 percent while health care employment and wages grew by only two percent and seven percent. However, since 2015, the non-health care portion of Billings' economy has stagnated. Total non-health care employment has not grown, and non-health care wages grew by only two percent (adjusted for inflation). In contrast, health care employment and wages exploded in 2016 and 2017, likely due to Medicaid expansion. Since 2015, health care employment grew by eight percent and wages grew by 12 percent.

Figure 1: Cumulative percent growth in health care and non-health care employment in Billings, 2013-2018



Source: ABMJ analysis of QCEW data

As a result of these changes, Billings' health care sector comprises an even larger share of total covered employment and wages. Since 2013, the share of employment in health care increased from 16.3 to 17.2, and the share of wages increased from 19.7 to 20.9 percent.

Billings' health care sector is much larger than usual for a community its size. On average, in a community with 160,000 people, the health care sector employs approximately 8,800 people and pays \$413 million in wages. As such, Billings' health care sector employs roughly 5,200 more people and pays \$400 million more in wages than expected in a community of its size. Billings' is not large because it is inefficient or because Billings' residents are unhealthy. It is large because it serves a hundreds-of-thousands of people from outside of Billings.

Billings is a regional health care center. The Billings' hospital referral region includes approximately 620,000 people from parts of central and eastern Montana and parts of South Dakota and Wyoming. This means that a portion of Billings' health care sector is part of the traded sector. That is, like a factory, it serves customers outside Billings. This brings money into Billings' economy and helps to support jobs and incomes elsewhere in Billings' economy.

Federal spending—particularly on Medicaid expansion—also boosts the traded component of health care. To the extent that federal spending on health care exceeds what Billings' residents pay in taxes to support federal health care spending, money is entering Billings' economy from somewhere else.

Medicaid expansion provides a clear illustration of this. When states decide to expand Medicaid, federal spending enters the economy that would not otherwise be there. According to a recent study, Montana's decision to expand Medicaid adds over \$600 million in outside money to Montana's economy.¹ This new money created thousands of health care jobs in Montana, and Billings benefited disproportionately from this change. Nearly all of the increase in health care employment since 2015 is attributable to Medicaid expansion.

2. Economic contribution

To understand how health care contributes to Billings' economy, we ask, "what would happen if Billings' health care sector disappeared?" Broadly, without health care, some people and businesses would leave Billings, some people would forego some care and be less healthy, some people would travel elsewhere for care, and all of those who currently travel to Billings for care would receive care elsewhere. These forces would remove a substantial amount of money from Billings' economy and lead to a substantial reduction in the size of Billings' economy.

¹ Ward, B. and B. Bridge (2019). The economic impact of Medicaid Expansion in Montana: Updated findings. <https://mthcf.org/resources/bber-medex-economic-impact-update/>

One approach to accounting for what would happen if all Billings' health care jobs disappeared suggests that over 8,400 jobs and nearly \$365 million in labor income in industries outside of health care would disappear (see Table 2). While this estimate is not directly comparable to the 2014 estimate due to changes in modeling software and methodology, the order of magnitude is comparable. Applying the current software and methods to 2013 data suggests that health care's contribution grew by roughly ten percent. This is proportional to the change in total covered health care employment.

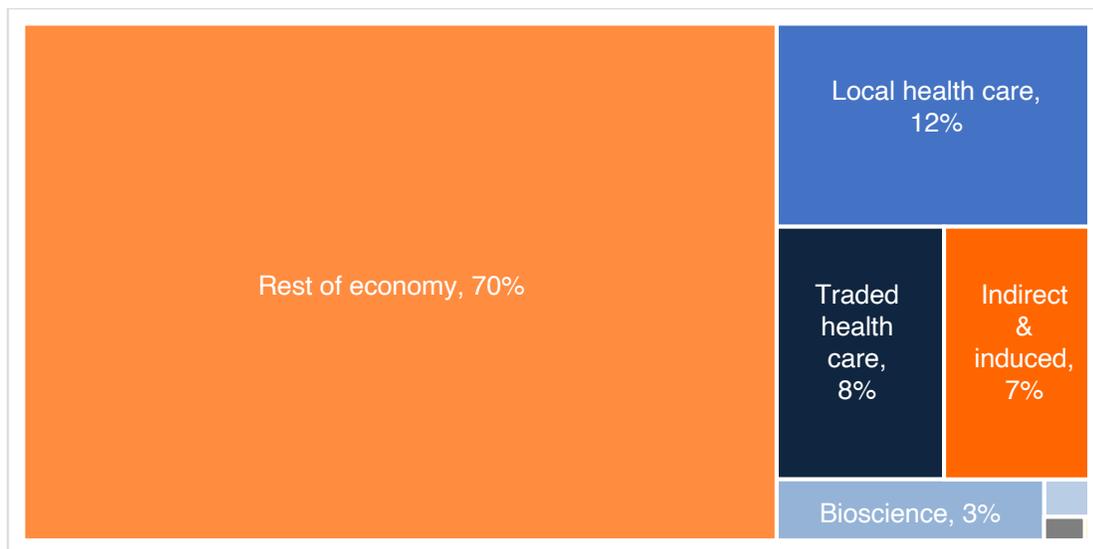
Table 2: Gross economic contribution of health care sector

	2013		2018	
	Employment	Labor Income (\$2020 millions)	Employment	Labor Income (\$2020 millions)
Direct	14,320	\$1,030	14,715	\$1,098
Indirect	3,213	\$139	4,069	\$198
Induced	3,834	\$141	4,341	\$168
Total	21,366	\$1,310	23,124	\$1,464

Source: ABMJ analysis using IMPLAN economic contribution model

The estimates in Table 2 understate the effects of the loss of health care sector. The loss of the health care sector may have spillover effects not captured in the standard model, particularly in places where the health care sector is growing. For instance, investments in building the capacity needed to support the growth the health care sector like building new facilities and creating new workers are not included. Similarly, to the extent that Billings' bioscience sector is tied to its health care sector, bioscience employment may fall. Adding these sectors to the model above suggests health care and related sectors support over 27,000 jobs and over \$1.7 billion in labor income. Combined the direct and ripple effects of these sectors support 30 percent of all employee compensation in Billings (Figure 2).

Figure 2: Employee compensation tied to health care and health care related sectors



The estimates in Table 2 and Figure 3 represents the lower-bound of the health care industry's contribution for several reasons. First, we have not included the loss of money, time, and effort associated with travel for care. If people actually left Billings for care, then the estimated impacts would be larger. Second, if people moved away from Billings because it lacked health care, the impacts on Billings' economy would be much larger.

3. Efficiency

The primary way health care contributes to Billings' economy is not by creating jobs or income. The primary contribution of Billings' health care sector is health. People care about health care because it is a means of achieving health, and health is really valuable. If Billings' residents could be healthy without health care, they would happily spend their health care dollars elsewhere.

In particular, people want access to an efficient health care system. Much of the money that flows into a local health care system comes from local households. As such, people want access to a health care sector that offers good outcomes at a relatively low cost. The 2014 report argued that Billings' health care system is relatively efficient – offering average or above average outcomes at below average cost. This pattern remains true. All of the data examined in this report are similar to 2014.

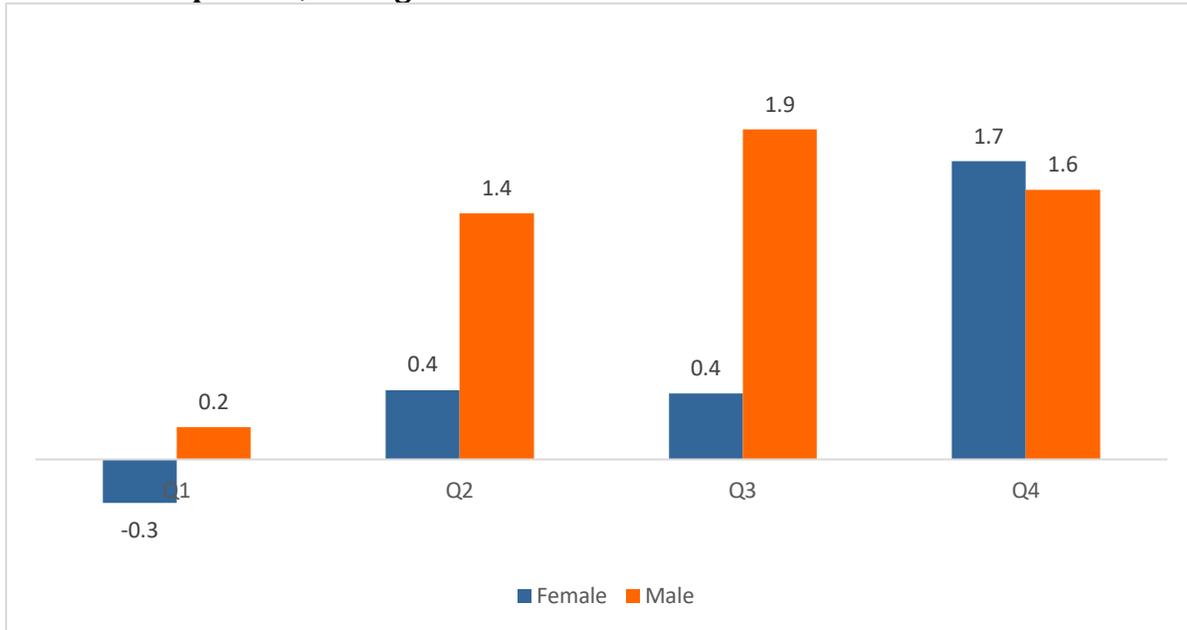
Population health in Billings remains solid. While succinctly summarizing population health is difficult. Billings performs well on several key indicators. Figure 1 shows demographically-adjusted life-expectancy at age 40 in Billings relative to the U.S. by gender and income. With the exception of low-income females, life expectancy at age 40 in Billings' exceeds the US level. Similarly, the share of people in Billings who report that are good to excellent health exceeds the US level, 86 percent versus 82 percent. Overall, using a health outcomes index developed by County Health Rankings, Billings ranks in the top third of all counties.

Turning from health outcomes to health care, the available data on care quality also suggests that Billings' health care sector performs well. Billings ranks in the top 20 percent of counties in the rate of preventable hospitalizations, and Billings' hospitals score well on Medicare.gov's Hospital Compare tool.

Finally, the cost of health care in Billings remains at or below the national average. Medicare spends almost \$1,800 less per beneficiary in Billings than the national average. Data on spending outside Medicare is harder to come by, but the data available suggests that spending in Billings is close to or perhaps below average.

Thus, Billings residents continue to enjoy an efficient health care sector. They enjoy better than average outcomes at average or below average cost.

Figure 2: Difference in demographically-adjusted life expectancy at age 40 by gender and income quartile, Billings minus US



Source: ABMJ analysis of data from <https://healthinequality.org/>

4. Future

Billings' health care sector will likely continue to grow, and grow faster than the rest of the economy. Official employment projections for the next several years indicate that employment in the health care sector is projected to grow by 1.5 to 1.6 per year.² This translates into growth of 16-17 percent over the course of decade. While this is slightly slower than the health care sector has grown in recent decades, projected health care employment growth exceeds every other industry.

Two main forces will shape the growth of Billings' health care sector over the next decade. First, population growth matters. The main determinant of the size of the health care sector is population. To the extent population grows, the health care sector will grow. In Billings' case, the relevant population includes both Billings' population and the population in the surrounding area. Second, federal health policy matters. Federal health policy remains a focus of much political debate. People across the political spectrum have very different visions for America's health care sector. Those differing visions, if implemented, could dramatically change health care in Billings (and elsewhere).

² Montana Department of Labor and Industries Montana Employment and Labor Force Projections (<https://lmi.mt.gov/Portals/193/Publications/LMI-Pubs/Labor%20Market%20Publications/Projections2017-27.pdf>) and Bureau Labor Statistics Employment Projections (<https://www.bls.gov/emp/tables/employment-by-major-industry-sector.htm>)