The Importance of the Health Care Sector to the Kansas Economy

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Any conclusions or opinions expressed in this study remain those of the authors and do not necessarily reflect the views of the Kansas Hospital Association. Please feel free to contact the following researchers if you have questions or comments:

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Executive Summary

The health care sector plays a central role in Kansas's economy. In 2024, health care industries employed roughly 221,000 Kansans, representing about 11.0 percent of the state's workforce. These industries also paid approximately $17.2 billion in direct payroll, or 12.2 percent of all payroll statewide.

Health care's economic footprint extends beyond the jobs and earnings generated within the sector itself. Through purchases from suppliers and the spending of employee wages on household goods and services, health care activity supports additional employment and labor income across a wide range of Kansas industries. These spillover effects, commonly referred to as "multiplier effects," help explain the gap between direct measures and the sector's total contribution to the Kansas economy. Including both direct and multiplier effects, **the Kansas health care sector supports approximately 338,000 jobs and nearly 23.9 billion in labor income.** Said another way, **every 100 health care jobs support an additional 53 jobs elsewhere in the Kansas economy.** Similarly, **each $1000 in health care wages sustains an estimated $389 in wages for workers in other industries.** When this labor income is spent, it generates **nearly $727 million in sales tax revenue.** The table below summarizes the contributions of health care industries to the Kansas economy.

Hospitals are the largest component of the health care sector, directly employing over 76,000 Kansans and generating close to 6.8 billion in direct labor income. Hospitals also produce substantial multiplier effects. On average, **every 100 hospital jobs support an additional 74 jobs in non–health care sectors.** Likewise, each **$1,000 in hospital wages and salaries supports an additional $475 in labor income** for employees in industries such as grocery stores, restaurants, utilities and other businesses that supply hospitals and serve hospital workers and their families. As discussed later in this report, multiplier effects are even larger when examining the economic impacts of changes in hospital activity, rather than the contribution of current activity levels.

Beyond its measurable economic contribution, a strong health care system supports community well-being and strengthens economic opportunity. **Health-related sectors are some of the fastest growing in the economy.** Given demographic trends, this growth is likely to continue. Furthermore, evidence shows that **quality health care improves business productivity, aids in the recruitment and retention of businesses, and attracts and retains retirees.**

Contributions of the Health Care Sector to the Kansas Economy, 2024

Sector	Direct Employment	Employment Multiplier excl. Health Care Feedbacks	Total Employment	Employment Multiplier incl. Health Care Feedbacks
Hospitals	76,056	1.7373	132,136	1.9229
Offices of Physicians	27,959	1.6819	47,024	1.8885
Nursing and Residential Care	33,937	1.3710	46,526	1.4410
Offices of Other Health Practitioners	12,261	1.3207	16,194	1.4031
Offices of Dentists	10,254	1.3477	13,819	1.4469
Health and Personal Care Stores	13,907	1.2893	17,930	1.3575
Medical and Diagnostic Laboratories	5,424	1.4559	7,898	1.5752
Outpatient Care Centers	11,017	1.6438	18,109	1.7907
Home Health Care Services	9,208	1.2436	11,451	1.3155
Residential Treatment Facilities	5,498	1.3211	7,263	1.3919
Veterinary Services	5,673	1.2362	7,013	1.3058
Other Ambulatory Health Care Services	2,472	1.4678	3,628	1.5958
Fitness and Recreational Sports Centers	7,190	1.2238	8,799	1.2580
Total	220,856	1.5295	337,790	

Introduction

While its primary role is preventing illness and improving quality of life, health care also helps to anchor local economies across the state of Kansas. Hospitals, clinics, nursing facilities, pharmacies and related health services support thousands of jobs, generate billions of dollars in wages and help sustain the tax base that funds schools, infrastructure and other public services. This report documents the economic contributions of the health care sector in Kansas. Building on previous analyses, we examine the size and composition of the state's health care industries, their role as employers and income generators and the ways in which health-related spending circulates through other sectors of the economy. Using IMPLAN input–output modeling and recent data, we estimate both the direct effects of health care employment and payroll and the broader "multiplier" effects that arise as providers purchase goods and services and as workers spend their earnings in local communities.

Before outlining our findings, we first place our analysis in the context of long-term trends in health care spending and employment, both nationally and within Kansas.

Growth of the Health Care Sector

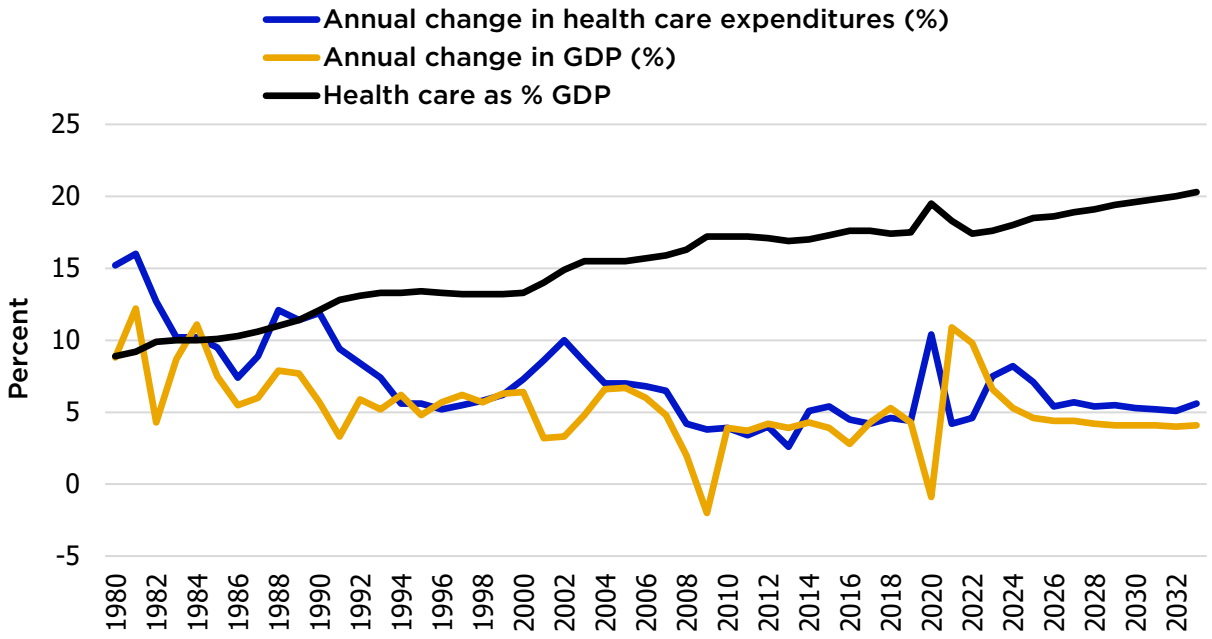
In recent decades, health care has become an increasingly important part of the economy, both nationwide and in Kansas. To document this growth, we draw on data from the U.S. Centers for Medicare & Medicaid Services (CMS) and the U.S. Bureau of Economic Analysis (BEA). Figure 1 and Table 1 present annual data on health care spending relative to gross domestic product (GDP). For much of the period since 1980, the growth rate of health care spending has exceeded the growth rate of GDP. As a result, health care's share of GDP climbed rapidly between 1980 and 2010. From 2010-2020 that share stabilized, until 2020, the first year of the COVID-19 pandemic, when GDP declined sharply as health spending rose. Post-pandemic, national health care expenditures as a share of GDP has continued to rise and the upward trend is expected to continue; CMS anticipates that health care spending will account for **more than one-fifth of GDP by 2033**.

Comprehensive health spending data are available only at the national level, but a narrower measure, personal health care expenditures, is reported for both the U.S. and individual states. This series covers spending on direct

patient care and excludes categories such as research. As shown in Table 1, the trajectory of Kansas personal health care expenditures closely follows the national pattern, with health care making up a growing share of GDP from 1980 through 2010.

Employment patterns tell a similar story about the sector's growing importance. Table 2 reports health care employment for the U.S. and for Kansas. In 1990, about 9 percent of all U.S. wage-and-salary jobs and about 10 percent of Kansas jobs were in health care industries. By 2010, this share had risen to roughly 12 percent in both cases, and over the last decade it has remained near that level even as total employment has grown. Between 1990 and 2024, U.S. health care employment nearly doubled, from about 9.8 million to 19.4 million jobs, while Kansas health care employment grew from about 108,000 to more than 180,000 jobs. The COVID-19 pandemic disrupted this long-run pattern in 2020, when health care employment dipped as workers exited the sector. Overall employment in Kansas and the nation fell even more

Figure 1. National Health Care Expenditures: Growth Trends and % GDP, Actual 1980-2023, Projected 2024-2032



Sources: Centers for Medicare & Medicaid Services and US Bureau of Economic Analysis.[1] Note: GDP is a broad measure of a country's or state's income.

sharply that year, so health care's share of total jobs actually increased despite the decline in headcount. By 2023, health care employment in both the U.S. and Kansas had fully recovered to exceed its 2019 level, and by 2024 the sector accounted for about 12.5 percent of all U.S. jobs and 12.6 percent of all Kansas jobs.

Table 1. Health Care Expenditures, Growth, and % GDP: Historical (1980-2023) and Projected

Year	Total US Health Ex-pend. ($bil.)	Annual Change Total Expend. (%)	US GDP ($bil.)	Annual Change GDP (%)	Total US Health Expend. as % GDP	Personal Health Care Expend. as % GDP (US)	Personal Health Care Expend. as % GDP (KS)
1980	253	15.2	2,857	8.8	8.9	7.5	8
1990	719	11.9	5,963	5.7	12.1	10.3	10.9
2000	1,366	7.3	10,251	6.4	13.3	11.3	12.7
2010	2,590	3.9	15,049	3.9	17.2	14.5	15
2011	2,677	3.4	15,600	3.7	17.2	14.4	14.8
2012	2,783	4	16,254	4.2	17.1	14.4	15
2013	2,856	2.6	16,881	3.9	16.9	14.2	14.5
2014	3,002	5.1	17,608	4.3	17	14.3	14.3
2015	3,166	5.4	18,295	3.9	17.3	14.6	14.4
2016	3,308	4.5	18,805	2.8	17.6	14.9	14.3
2017	3,446	4.2	19,612	4.3	17.6	14.8	14.3
2018	3,604	4.6	20,657	5.3	17.4	14.6	14.2
2019	3,762	4.4	21,540	4.3	17.5	14.7	14.4
2020	4,154	10.4	21,354	-0.9	19.5	15.8	15.8
2021	4,328	4.2	23,681	10.9	18.3	15.1	
2022	4,526	4.6	26,007	9.8	17.4	14.4	
2023	4,867	7.5	27,721	6.6	17.6	14.8	
2028	6,622	5.4	34,670	4.2	19.1		
2033	8,585	5.6	42,283	4.1	20.3		

Sources: Centers for Medicare & Medicaid Services and US Bureau of Economic Analysis.[2] Calculations by the authors. See Appendix B for discussion of data methods.
Note: In current dollars, not adjusted for inflation.

Table 2. US and Kansas Health Care Employment Trends

Year	US Health Care Employment (thousands)	% Total US Employment	KS Health Care Employment (thousands)	% Total KS Employment
1990	9,779.0	9.0	107.9	10.1
2000	12,261.1	9.4	133.0	10.1
2010	15,361.6	12.0	157.2	12.1
2011	15,606.5	12.1	160.4	12.3
2012	15,854.5	12.0	162.4	12.3
2013	16,068.4	12.0	161.0	12.0
2014	16,263.7	11.9	161.8	11.9
2015	16,607.1	11.9	162.8	11.9
2016	17,003.4	12.0	162.7	11.9
2017	17,322.0	12.0	166.5	12.1
2018	17,618.7	12.1	169.6	12.3
2019	17,935.3	12.1	172.1	12.4
2020	17,464.8	12.6	168.7	12.7
2021	17,661.6	12.3	167.9	12.4
2022	17,918.8	11.9	170.1	12.2
2023	18,653.5	12.2	174.8	12.3
2024	19,398.8	12.5	180.4	12.6

Note: Includes public and private sector wage and salary employment. Does not include self-employed.
Source: Quarterly Census of Employment and Wages.[3]

Health Care Plays a Vital Role in Consumer Spending in the United States

Health care remains one of the largest and fastest-growing components of the U.S. economy. In 2023, national health expenditures reached an estimated $4.9 trillion — about $14,570 per person — and accounted for 17.6 percent of gross domestic product (GDP).[4] According to the latest National Health Expenditure projections from the Centers for Medicare & Medicaid Services, health spending is expected to grow about 5.8 percent per year between 2024 and 2033, outpacing projected GDP growth and raising health care's share of the economy to roughly 20 percent of GDP by 2033.[5]

International comparisons underscore how central health care is to U.S. consumer and government spending. Analyses by the Commonwealth Fund and others consistently show that the United States spends roughly twice as much per person on health care as other high-income countries, yet often performs worse on key outcomes such as life expectancy, avoidable mortality and maternal and infant health.[6] The gap in spending is driven less by unusually high utilization and more by higher prices for services, pharmaceuticals and administrative activities within the U.S. system.[7] Recent work suggests that administrative complexities alone account for a sizable share of "excess" U.S. health spending, with financial-transaction activities such as claims processing and prior authorization representing tens of billions of dollars that add little direct clinical value but influence premiums and out-of-pocket costs borne by consumers.[8]

While health care represents a significant and growing claim on household, employer and public budgets, it is also a major driver of economic activity and employment. As this report will show, health care organizations create jobs in the local economy, generate local and state tax revenues and sustain related industries through their purchases of goods and services. These effects are especially important in rural communities, where hospitals and clinics often rank among the largest employers and serve as economic anchors as well as centers of care. Studies of rural hospital closures find that losing a hospital leads to sharp negative effects on local employment levels, with job losses that extend to health care workers in adjacent health care industries co-located in the community.[9] For Kansas communities, this evidence underscores that maintaining access to hospital and physician services is not only a public health priority but also a key strategy for sustaining jobs, consumer spending and long-term economic vitality.

Significant Economic Contributions of the Health Care Sector in Kansas

The economic impacts of the health care sector permeate the entire Kansas economy through job and income creation, tax generation and quality of life enhancements. Specific channels of influence include:

- **Creating direct jobs and income within the health care sector when health care establishments hire staff;**
- **Creating secondary jobs and income when suppliers to health care industries hire their own employees and when employees purchase goods and services such as groceries in the community;**
- **Creating direct tax revenue when health care establishments pay income taxes on profits and property taxes on buildings and land;**
- **Creating secondary taxes when employees pay income taxes, pay sales taxes on their purchases and pay property taxes on residences and vehicles;**
- **Improving employee productivity, making it easier for Kansas firms to compete in national and international marketplaces;**
- **Making businesses more likely to choose Kansas as a location for investment;**
- **Improving the attractiveness of Kansas as a retirement location for current and new residents.**

This report focuses on the first four financial roles of the health care sector. Appendix A reviews the literature on additional roles of health care in improving the business climate and the quality of life in the state.

Share of the Kansas Economy Comprising Health Care Industries

This report uses a definition of health care that is more inclusive than most definitions used in national studies. The definition was developed by Dr. John Leatherman in consultation with the Kansas Hospital Association. Table 3 shows the key industries included within the broad definition of the health care sector in Kansas. The industries include establishments that are owned and operated by government entities, such as a Veteran's Administration hospital or a municipally-owned sports center.

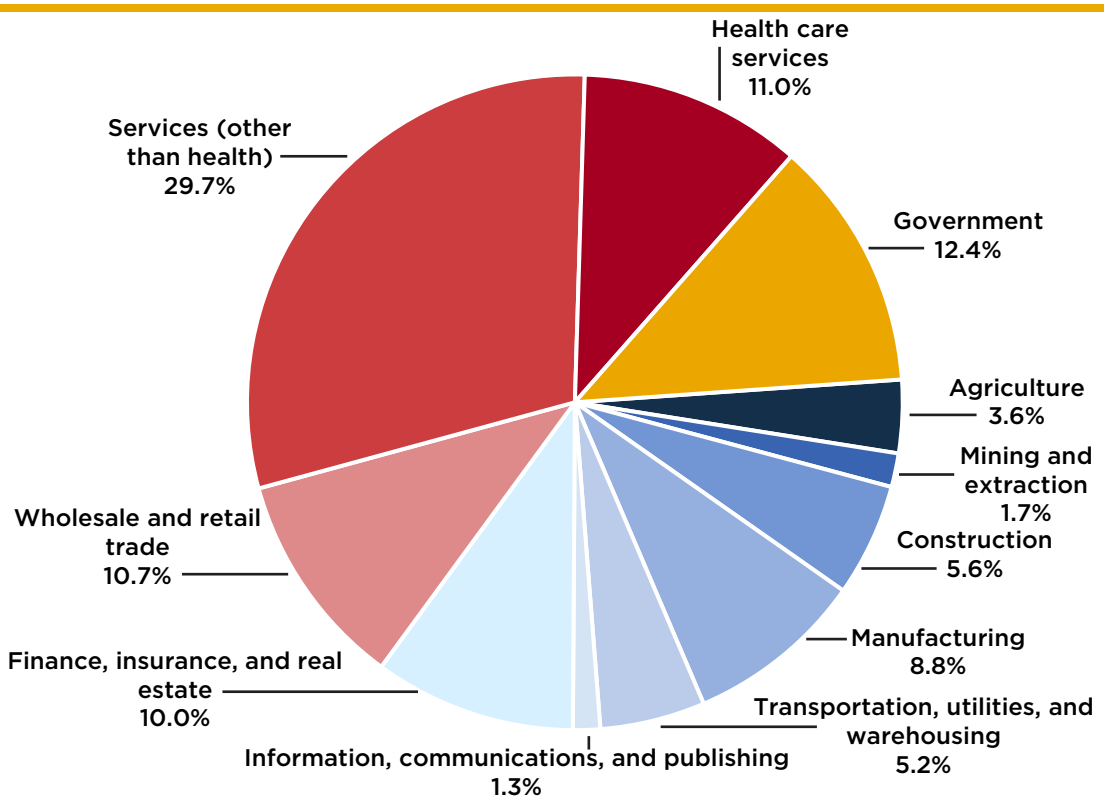
Table 3. Key Health Care Industry Definitions

Health Care Industry	Businesses and Establishments Included
Hospitals	Medical and surgical hospitals, psychiatric hospitals, and other specialty hospitals. Includes hospitals owned and operated by government entities.
Offices of Physicians	Offices of health practitioners with M.D. or D.O. degrees, primarily engaged in the independent practice of general or specialized medicine.
Nursing and Residential Care	Skilled nursing facilities, assisted living facilities, hospices, continuing care communities and similar residential facilities. Includes facilities owned and operated by government entities.
Offices of Other Health Practitioners	Optometrists, mental health professionals, audiologists, chiropractors and other practitioners without M.D. or D.O. degrees.
Offices of Dentists	Family dentists, dental surgeons, periodontists, orthodontists and other dental practitioners with doctorate level degrees.
Health and Personal Care Stores	Pharmacies, optical goods stores, medical goods and equipment stores, vitamin and nutritional supplement stores, wheelchair and other mobility equipment stores and similar establishments.
Medical and Diagnostic Laboratories	Testing laboratories, breast and other diagnostic imaging centers, ultrasound imaging centers, radiological laboratory services and similar establishments.
Outpatient Care Centers	Fertility clinics, family planning centers, non-residential drug addiction and substance abuse treatment centers, non-residential mental health treatment centers, free-standing emergency medicine and urgent care centers and similar facilities.
Home Health Care Services	In-home hospice services, visiting nurses, home care of elderly and home health care agencies.
Residential Treatment Facilities	Residential facilities providing intellectual disability, mental health, substance abuse or other support services.
Veterinary Services	Veterinary hospitals, small animal veterinary services, livestock veterinary services and veterinary testing services.
Other Ambulatory Health Care Services	Blood banks, organ banks, air and ground ambulance services, employee drug testing services and smoking cessation programs.
Fitness and Recreational Sports Centers	Gyms and other physical fitness facilities, skating rinks, swimming pools, tennis courts, recreational sports facilities and youth athletic facilities.

Health care remains one of the largest components of the Kansas economy (Figure 2 and Table 4). More than one in ten Kansas workers is employed in the health care sector, a larger share than in manufacturing and in wholesale and retail trade. Health care workers also receive just over 12 percent of statewide labor income. This labor-income share exceeds the sector's employment share because many health care jobs pay above the state average.

Economic importance can also be described using output and total income. Output (total sector sales) counts not only the value of what a sector produces, but also the intermediate goods and services used along the way. For instance, manufacturing output reflects the value of crude petroleum used to make gasoline and the steel used to produce automobiles. Because intermediate inputs are included, output involves some double-counting, which helps explain why certain sectors show higher output per employee than health care. Total income goes beyond labor income to include returns to capital, such as profits and depreciation. In health care, where many organizations are public or not-for-profit (including hospitals), total income tends to track closely with labor income. In contrast, capital income—

Figure 2. Health Care Employment as a Share of the Kansas Economy, 2024



particularly for large corporations—often flows out of state to shareholders elsewhere. Total income is a useful proxy for the sector's contribution to Kansas GDP, while labor income more directly reflects income accruing to Kansas households.

Table 4. Structure of the Kansas Economy, 2024

Sector	Total Employment	Total Output ($mil.)	Labor Income ($mil.)	Income, All Sources ($mil.)
Agriculture	72,416	27,462.7	4,225.9	7,498.5
Mining and extraction	33,418	12,159.2	1,559.3	1,230.9
Construction	111,993	21,552.0	8,577.5	10,974.9
Manufacturing	177,275	122,047.0	16,260.3	34,832.6
Transportation, utilities, and warehousing	104,079	23,341.2	7,487.2	13,275.6
Information, communications, and publishing	26,950	15,825.0	6,699.9	5,679.4
Finance, insurance, and real estate	199,899	63,433.0	9,839.6	35,305.5
Wholesale and retail trade	214,955	42,129.9	12,416.6	26,103.6
Services (other than health)	596,449	86,877.3	37,473.5	53,419.0
Health care services	220,856	35,057.4	17,188.1	21,356.9
Government	249,015	24,306.8	18,880.6	24,331.5
Total	**2,007,306**	**474,191.4**	**140,608.4**	**234,008.4**
Healthcare as Share of Kansas Economy	11.0%	7.4%	12.2%	9.1%

Sources (Figure 2 and Table 4): Census of Employment and Wages.[10] Calculations by IPSR. See Appendix B for discussion of data methods.

Individual Health Care Industries

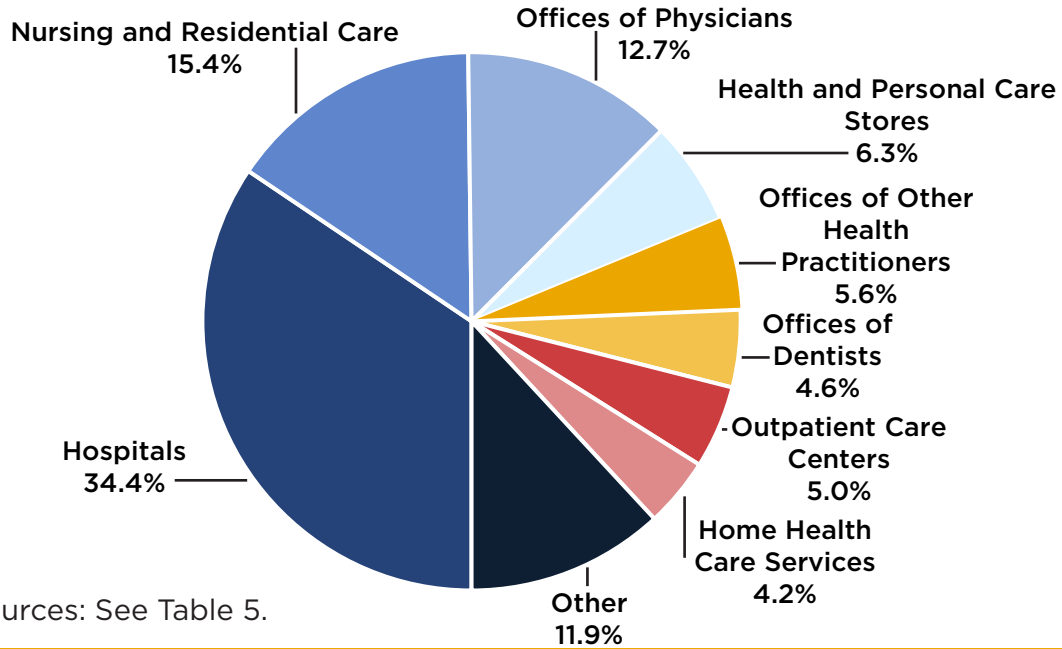
This report focuses on employment and labor income, the measures most directly tied to economic well-being for most Kansans. Hospitals, nursing facilities and physicians' offices account for the largest shares of health care employment and labor income (Table 5 and Figure 3). Hospitals alone employ more than 76,000 Kansans and distribute nearly $6.8 billion in wages and benefits. Hospitals make up approximately 34.4 percent of health care employment, followed by nursing facilities (15.4 percent) and offices of physicians (12.7 percent). In total, health care industries employ about 221,000 people and generate $17.2 billion in labor income (21.4 billion in total income).

Table 5. Contributions of Kansas Health Care Industries to Employment, Output and Income, 2024

Industry	Employment	Total Output ($mil.)	Labor Income ($mil.)	Income, All Sources ($mil.)	Labor Income per Employee
Hospitals	76,056	16,120.2	6,792.2	8,499.8	89,305
Offices of Physicians	27,959	5,537.5	3,742.7	3,729.8	133,864
Nursing and Residential Care	33,937	3,102.9	1,639.9	1,803.1	48,322
Offices of Other Health Practitioners	12,261	1,544.8	763.0	1,172.1	62,230
Offices of Dentists	10,254	1,511.4	779.9	1,173.2	76,062
Health and Personal Care Stores	13,907	1,814.9	711.1	1,471.7	51,130
Medical and Diagnostic Laboratories	5,424	981.2	473.3	704.2	87,256
Outpatient Care Centers	11,017	1,750.7	812.7	1,015.0	73,772
Home Health Care Services	9,208	746.0	518.0	570.6	56,250
Residential Treatment Facilities	5,498	542.8	285.7	372.2	51,963
Veterinary Services	5,673	678.6	296.8	465.6	52,323
Other Ambulatory Health Care Services	2,472	329.3	221.3	191.2	89,551
Fitness and Recreational Sports Centers	7,190	397.1	151.4	188.3	21,059
Total or Average	**220,856**	**35,057.4**	**17,188.1**	**21,356.9**	**77,825**

Sources: IMPLAN model data; US Bureau of Labor Statistics, Quarterly Census of Employment and Wages.[11] Calculations by IPSR. See Appendix B for discussion of data methods.

Figure 3. Composition of the Kansas Health Care Sector, Employment Shares, 2024



Sources: See Table 5.

Labor income per employee (including benefits) differs substantially across health care industries, ranging from almost $134,000 in offices of physicians to roughly $21,000 in fitness and sports centers. Hospitals are not only the state's largest health care industry by employment, they are also among the highest-paying, with average wages and benefits approaching $90,000.

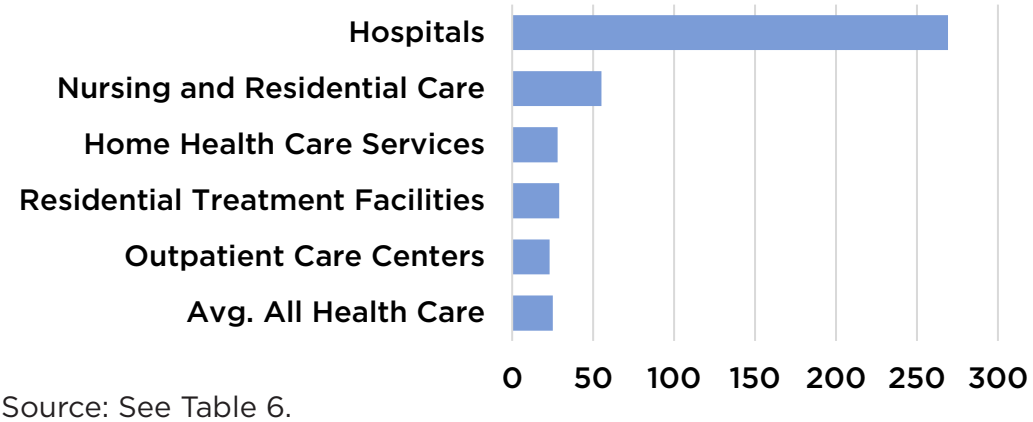
Health care establishments also vary substantially in size (Table 6 and Figure 4). Data from the U.S. Bureau of Labor Statistics report establishment counts and total employment for employers required to remit unemployment insurance taxes; self-employed workers are excluded from these data, even though they are included elsewhere in this report's tables. Establishments are defined by physical location, meaning an organization operating two facilities in Kansas is counted as two establishments. In 2024, Kansas had nearly 8,000 health care establishments in operation (again, excluding the self-employed). Hospitals averaged 269 employees per establishment, making them a major source of jobs in the communities where they operate. Hospitals are generally larger in urban than rural areas, but even so, a rural hospital closure would eliminate a substantial number of well-paying positions. Nursing facilities, which average about 55 employees, can likewise represent a major employer in rural communities.

Table 6. Number of Establishments and Establishment Size, 2024

Industry	Number of Establishments	Employees per Establishment
Hospitals	282	269
Offices of Physicians	1424	12
Nursing and Residential Care	591	55
Offices of Other Health Practitioners	1801	6
Offices of Dentists	924	10
Health and Personal Care Stores	814	10
Medical and Diagnostic Laboratories	256	18
Outpatient Care Centers	423	23
Home Health Care Services	299	28
Residential Treatment Facilities	184	29
Veterinary Services	448	11
Other Ambulatory Health Care Services	168	12
Fitness and Recreational Sports Centers	338	21
Total/Average	7952	25

Source: US Bureau of Labor Statistics, Quarterly Census of Employment and Wages.[12]
Note that this dataset sometimes classes physicians practices associated with hospitals as separate hospital estlablishments, thus inflating the number of hospitals. Does not include self employed.

Figure 4. Number of Employees per Health Care Establishment, 2024



Source: See Table 6.

Repercussions of the Health Care Sector on Other Industries in the State of Kansas

Up to this point, we have analyzed the "direct" effects of the health care sector on the state's economy. In other words, we estimated the employment and income generated within the health care sector. But the sector also triggers additional effects of two types:

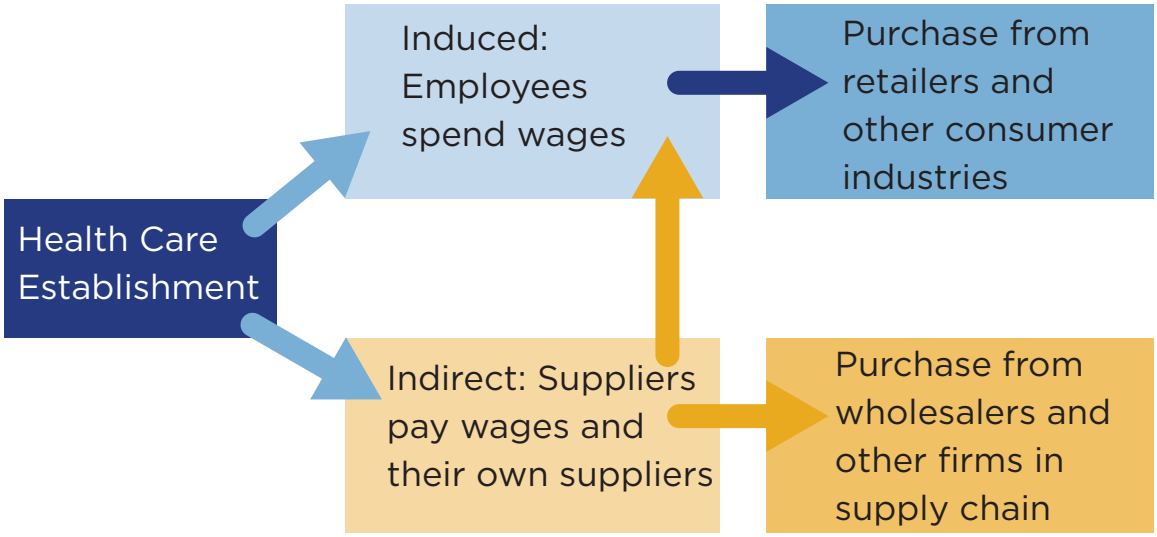
- **Indirect effects work through the supply chain channel. Suppose, for example, that a dental office contracts with a Kansas software developer to organize and maintain its appointment records. The software firm uses the receipts from the dental office to pay its own employees. Hence the health care sector supports part of the employment in the software industry.**

- **Induced effects work through the employer payroll channel. For example, when the dental office pays its office administrator, the income of that administrator will be used in many ways: for instance, to purchase food, pay rent, attend entertainment events and to pay electric bills. All of these downstream industries benefit from interactions with health care employees.**

Taken together, indirect and induced effects make up the "secondary" effects of the health care sector. Figure 5 illustrates the first round of these secondary feedbacks associated with health care activity. After employees spend money at retailers, those retailers then pay their workers and purchase additional inputs. Likewise, suppliers affected in the first round go on to pay wages and buy their own supplies. In this way, the sector's direct activity sets off repeated rounds of income generation and spending as firms, industries, households and governments interact. The combined result of these feedback loops is referred to as the multiplier effect. For example, an employment multiplier of 1.5 indicates that each direct health care job supports an additional 0.5 jobs elsewhere in the economy, on average.

Multipliers differ across industries and depend on the size and industrial mix of the region being analyzed. Larger, more diversified economies typically have higher multipliers.

Figure 5. Connections among the Health Care Sector, Consumer Industries, and Suppliers



This report uses two types of multipliers, depending on the effects being measured (Tables 7 and 8). In the literature, these are commonly labeled contribution analysis and impact analysis. As Henderson and Evans explain[13] contribution analysis gauges the relative importance of a set of industries within an existing economy, whereas impact analysis estimates how changes in an industry affect that economy.

In this report, discussions of the overall economic role of the health care sector use contribution analysis. The multipliers used for contribution analysis exclude feedbacks between a specific health care industry and other health care industries within the state, because those interactions are already reflected in the direct totals reported for those other industries. For example, if hospital employees spend their wages on veterinary services and veterinarians then pay their own employees, those veterinary jobs and earnings are already counted in the direct employment and income columns. Counting them again as secondary effects would therefore constitute double-counting. Figure 6 illustrates the potential feedback pathways considered under contribution analysis.

As noted above, when the focus is on the effects of a change within a single industry—or even a single establishment within an industry—impact analysis is typically used. In that setting, the multipliers do include feedbacks within

Figure 6. Interactions Included in Contribution Analysis

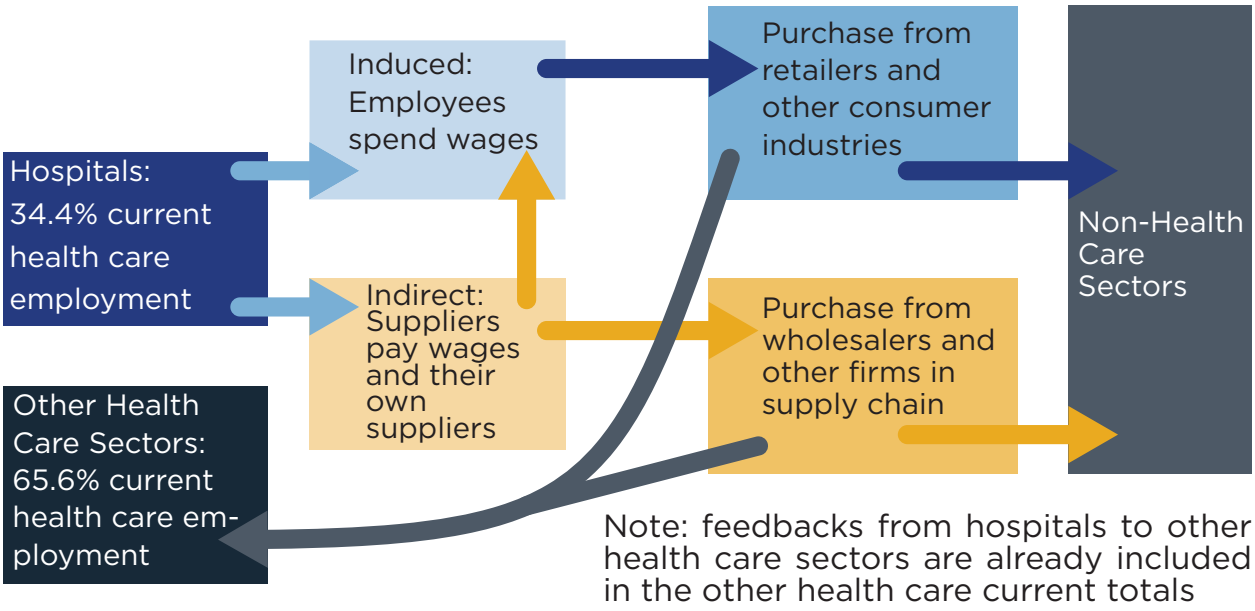
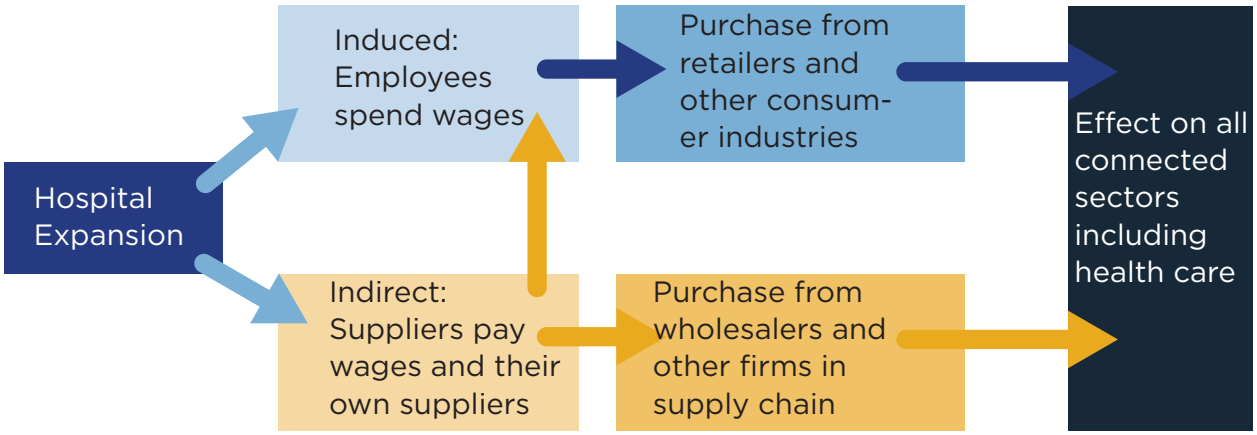


Figure 7. Interactions Included in Impact Analysis



the health care sector. Because of the double-counting issue described above, results based on single-sector multipliers should not be added across industries. The key distinction between the two multiplier types is whether feedbacks among health care industries are excluded (contribution analysis) or included (impact analysis).

Multiplier estimates for both individual industries and multi-industry sectors are produced using specialized economic modeling software. One of the most widely used tools is IMPLAN.[14] In addition to estimating multipliers, IMPLAN provides estimates of employment, output and income by industry, including

for small and mid-sized counties. Public data for these counties are often suppressed to protect confidential firm-level information. Rather than leaving industry detail missing, IMPLAN draws on multiple data sources to develop estimates. While the IMPLAN dataset is not without limitations, it is often the most complete option available. Appendix B provides additional detail on data sources, our use of IMPLAN and the differences between contribution and impact analysis.

Tables 7 and 8 show direct effects, multipliers and total effects (direct plus secondary) for Kansas health care industries. Using contribution analysis, we estimate that the 221,000 direct health care jobs in Kansas support roughly 117,000 additional jobs and around $6.7 billion in additional income. The

Table 7. Contributions of Kansas Health Care Industries to Employment, 2024

Industry	Direct Employment	Employment Multiplier excl. Health Care Feedbacks	Total Employment	Employment Multiplier inc Health Care Feedbacks
Hospitals	76,056	1.7373	132,136	1.9229
Offices of Physicians	27,959	1.6819	47,024	1.8885
Nursing and Residential Care	33,937	1.3710	46,526	1.4410
Offices of Other Health Practitioners	12,261	1.3207	16,194	1.4031
Offices of Dentists	10,254	1.3477	13,819	1.4469
Health and Personal Care Stores	13,907	1.2893	17,930	1.3575
Medical and Diagnostic Laboratories	5,424	1.4559	7,898	1.5752
"Outpatient Care Centers"	11,017	1.6438	18,109	1.7907
Home Health Care Services	9,208	1.2436	11,451	1.3155
Residential Treatment Facilities	5,498	1.3211	7,263	1.3919
Veterinary Services	5,673	1.2362	7,013	1.3058
Other Ambulatory Health Care Services	2,472	1.4678	3,628	1.5958
Fitness and Recreational Sports Centers	7,190	1.2238	8,799	1.2580
Total	220,856	1.5295	337,790	

Sources: IMPLAN model data; US Bureau of Labor Statistics, Quarterly Census of Employment and Wages.[15] Calculations by the authors.

additional jobs and income arise in industries such as business services, retail trade, wholesaling, restaurants and rentals that are connected to health care through supply chain and consumer expenditure linkages. The 76,000 current hospital jobs in Kansas sustain approximately 56,000 additional jobs outside of health care (employment multiplier = 1.74). The approximately $6.8 billion dollars in hospital wages, salaries and benefits currently support about $3.2 billion in additional earnings across the state outside health care industries (income multiplier = 1.47).

If a single health care industry were to expand—for example, if a hospital were to add 100 jobs—we can use economic impact analysis to estimate job creation both inside and outside of health care. Continuing the example, the 100 added hospital jobs would add an additional 92 jobs in other businesses (health care and non-heath care). Similarly, the addition of $1000 in hospital wages would create $624 in other industries (health care and non-health care).

Table 8. Contribution of Kansas Health Care Industries to Labor Income, 2024

Industry	Direct Labor Income ($mil.)	Labor Income Multiplier excl. Health Care Feedbacks	Total Labor Income ($mil.)	Labor Income Multiplier incl. Health Care Feedbacks
Hospitals	6,792.2	1.4747	10,016.2	1.6244
Offices of Physicians	3,742.7	1.3014	4,870.9	1.4132
Nursing and Residential Care	1,639.9	1.4161	2,322.2	1.5197
Offices of Other Health Practitioners	763.0	1.2862	981.4	1.3807
Offices of Dentists	779.9	1.2689	989.7	1.3622
Health and Personal Care Stores	711.1	1.3074	929.7	1.4028
Medical and Diagnostic Laboratories	473.3	1.3294	629.2	1.4271
Outpatient Care Centers	812.7	1.4744	1,198.3	1.6203
Home Health Care Services	518.0	1.2431	643.9	1.3344
Residential Treatment Facilities	285.7	1.3363	381.8	1.4336
Veterinary Services	296.8	1.2664	375.9	1.3616
Other Ambulatory Health Care Services	221.3	1.3273	293.8	1.4299
Fitness and Recreational Sports Centers	151.4	1.5765	238.7	1.6925
Total	17,188.1	1.3888	23,871.6	

Sources: IMPLAN model data; US Bureau of Labor Statistics, Quarterly Census of Employment and Wages.[16] Calculations by the authors.

Estimated Effects of the Health Care Sector on Tax Revenue

In addition to supporting employment and labor income in Kansas, the health care sector also helps fund public services by generating tax revenue at the federal, state and local levels. This section estimates the effect of health care–related income on Kansas sales and use tax collections using current information from the Kansas Department of Revenue (KDOR) (Table 9).

The report also draws on results from the IMPLAN model to estimate broader effects on federal, state and local tax revenues. These estimates should be interpreted cautiously. The tax datasets embedded in IMPLAN are often several years out of date, may not provide detailed tax relationships by industry and do not fully incorporate exemptions that may apply to not-for-profit health care providers. As a result, tax estimates beyond sales and use taxes should be viewed as approximate ("ballpark") values (Table 10).

Estimation of Sales and Use Taxes. Kansas has long relied on sales and use taxes as a major source of public revenue. The state sales tax on retail purchases was first adopted in 1937, and the use tax (applied to eligible goods purchased out of state and brought into Kansas) began in 1945.[17] Today, sales and use taxes are assessed by the state, most counties and more than 300 Kansas cities.[18] Over time, both the tax base and tax rates have shifted. Historically, groceries were subject to tax, but the state began phasing out the tax on food in 2023. The state-level tax on food was 2 percent in 2024, the base year of this report. The tax was reduced to zero in 2025. Local tax on groceries remains in effect.

Using KDOR data, we estimated the Kansas sales and use tax base and calculated a weighted average state tax rate by combining information on taxable food and non-food sales. We also estimated the ratio of the taxable sales base to Kansas personal income. This ratio is 36.52 percent (Table 9). Our central assumption is that taxable sales move closely with income, meaning that an average increase of $1,000 in income is associated with

Table 9. Contributions of the Health Care Sector to State and Local Sales Taxes

Ratio of Taxable Sales to Income:	36.52%
State Sales/Use Tax Rate, Non-food	6.50%
State Sales/Use Tax Rate, Food	2.00%
Average State Sales and Use Tax	5.98%
Average Local Sales/Use Tax Rate	2.36%

Sources: Kansas Department of Revenue and US Bureau of Economic Analysis.[19] Calculations by IPSR.

roughly $365 in taxable purchases.

To estimate the sales and use tax revenue supported by different health care industries, we applied the taxable sales ratio to labor income by industry and used the following steps:

1) Taxable Sales Ratio x Total Labor Income = Estimated Taxable Sales

2) Estimated Taxable Sales x Rate = Sales or Use Tax Revenue

Using this approach, we estimate that labor income generated by the health care sector supports approximately $521 million in state sales and use tax revenue and an additional $206 million in local sales and use taxes for counties, cities and special districts.

Table 10. Contributions of Health Care Sector Income to State and Local Sales Taxes

Industry	Total Labor Income ($mil.)	Estimated Taxable Sales ($mil.)	Total Sales/ Use Tax ($mil.)	State Sales/Use Tax ($mil.)	Local Sales/Use Tax ($mil.)
Hospitals	10,016.2	3,657.6	304.9	218.6	86.3
Offices of Physicians	4,870.9	1,778.7	148.3	106.3	42.0
Nursing and Residential Care	2,322.2	848.0	70.7	50.7	20.0
Offices of Other Health Practitioners	981.4	358.4	29.9	21.4	8.5
Offices of Dentists	989.7	361.4	30.1	21.6	8.5
Health and Personal Care Stores	929.7	339.5	28.3	20.3	8.0
Medical and Diagnostic Laboratories	629.2	229.8	19.2	13.7	5.4
Outpatient Care Centers	1,198.3	437.6	36.5	26.2	10.3
Home Health Care Services	643.9	235.1	19.6	14.1	5.5
Residential Treatment Facilities	381.8	139.4	11.6	8.3	3.3
Veterinary Services	375.9	137.3	11.4	8.2	3.2
Other Ambulatory Health Care Services	293.8	107.3	8.9	6.4	2.5
Fitness and Recreational Sports Centers	238.7	87.2	7.3	5.2	2.1
Total	23,871.6	8,717.1	726.6	521.0	205.7

Source: IMPLAN model, Kansas Department of Revenue, and US Bureau of Economic Analysis.[20] Calculations by IPSR.

Estimation of Other Federal, State and Local Taxes. Estimates from the IMPLAN model indicate that the health care sector in Kansas generates about $5.2 billion in federal tax revenue and $2.1 billion in state and local tax revenue (Table 11). To put this in perspective, The Kansas Legislative Research Department estimates that Kansas collected a total of about $20.8 billion in combined state and local revenue in fiscal year 2024.[21] Thus, we estimate that the health care sector contributes about 9.9 percent of tax revenue in Kansas—directly through the businesses and organizations that comprise the sector and secondarily through supply chain links and rounds of consumer spending.

Table 11. Overall Contributions of the Health Care Sector to Tax Revenue, 2024

	Paid to...	
Tax Type	Federal Govt. ($ mil.)	State and Local Govt. ($ mil.)
Social Insurance Tax	2,914.6	0.0
Income Tax-Corporate	378.1	142.6
Income Tax-Personal	1,814.9	484.3
Licenses and Fees	0.0	47.3
Property Tax	0.0	639.6
Sales Tax	0.0	726.6
Other Business Taxes	66.6	37.5
Total	5,174.2	2,077.8

Sources: Estimates from IMPLAN model. Sales tax revenue from calculations in Table 9.[22]

Summary and Conclusions

This report assesses the role of the health care sector in the Kansas economy and finds that its contributions are significant. **Health care directly supports about 221,000 jobs and generates roughly $17.2 billion in labor income.** Its influence extends well beyond these direct effects. Through supply-chain purchasing and the spending of employee earnings, the sector **supports an additional 117,000 jobs and about $6.7 billion in income.** Health care activity also contributes to public finances, supporting approximately 9.9 percent of state and local tax revenue.

Beyond its economic footprint, a strong health care system supports community well-being and helps expand economic opportunity. Health-related industries have grown over time and, **consistent with national projections, are expected to continue growing.** A broader body of evidence also indicates that access to high-quality health care can **increase business productivity, strengthen the ability of employers and communities to attract and retain firms and help attract and retain retirees.**

At the community level, health care brings both opportunities and challenges. Hospitals and nursing facilities are often among the largest employers, with hospitals averaging nearly 300 employees and nursing facilities averaging over 50. Maintaining even a smaller-than-average hospital or nursing facility in a rural community can **generate economic ripple effects that reach beyond health care by supporting local grocery stores, restaurants and other retailers.** Further, these facilities help **sustain tax revenues used for public infrastructure such as schools and parks.** Conversely, the loss of such a facility can trigger cascading negative effects. A key challenge is ensuring an adequate and stable revenue base to maintain these facilities in rural Kansas.

Appendix A: Additional Effects of Health Care on Economic Development

The preceding report focuses on estimating the employment and income effects of expenditures by the health care sector using the IMPLAN model. However, research suggests that the health care sector confers additional benefits for economic development and labor force sustainability that are beyond the scope of a traditional economic impact analysis or contribution analysis. Here, we review recent research on the links between a robust health care sector and economic prosperity and some of the mechanisms by which better health translates into positive economic outcomes.

Links Between Population Health and Economic Growth. First, it's worth noting that healthcare infrastructure supports a healthy population, and a growing body of research documents how population health and investments in health care translate to broader economic performance. A 2024 literature review by Fumagalli, Pinna Pintor and Suhrcke,[23] for instance, synthesizes evidence on the causal impact of health on growth in GDP per capita. The authors find "a positive effect of population health on economic growth," and advocate policy approaches that integrate health considerations into economic development efforts. Similarly, Raghupathi and Raghupathi[24] find that total per capita health care spending — in particular, hospital and physician expenditures — is positively associated with labor productivity and per capita GDP. They conclude that, overall, higher health care expenditures are linked to stronger economic performance and that investments in health care have the potential to boost income, GDP and productivity.

Reducing Health-Related Productivity Losses. Recent research suggests the contribution of the health care sector to maintaining a productive labor force by helping prevent and manage illness. As the United States population ages, the adult population with chronic diseases is expected to increase dramatically. In Ansah et al., the authors project that the number of those aged 50+ with at least one chronic condition will nearly double between 2020 and 2050,[25] and there are substantial productivity costs associated with chronic illness. Rojanasarot et al.'s 2023 systematic review of US employer data found that workers with chronic conditions such as cancer, cardiometabolic disease, chronic pain and depression typically lose up to roughly 80 additional work hours per year, with total work impairment (absenteeism plus presenteeism; or low productivity in the workplace due to health-related stressors) ranging from about 10% to 70% depending on the

condition. The corresponding indirect costs to employers run from about $100 to more than $10,000 per affected worker per year.[26] Yet another report from McKinsey Global Institute[27] estimates that poor health costs the global economy roughly 15 percent of real GDP each year through premature deaths and lost productive potential, while feasible improvements in health could add about $12 trillion to global GDP by 2040, an 8 percent boost.

Related research by Rice, Roberts and Sechel looks at how changes in people's mental health affect how much work they actually get done. Using UK survey data collected during COVID-19, they track people's own ratings of their mental health and their weekly productivity. They find that when someone's mental health gets worse, their productivity drops in a real, measurable way; on average, people with declining mental health lose about an hour of productive work per week.[28] These relationships between well-being and productivity suggest that health care infrastructure contributes meaningfully to the economy by helping workers manage chronic illness and mental health conditions.

Preventing Premature Exits from the Labor Market. The health services sector may also help prevent premature exit from the labor force by improving worker health and reducing caregiver burden. Sewdas et al.[29] examined what drives voluntary early retirement among older workers and found that poorer self-rated health and more depressive symptoms were associated with an increased likelihood of voluntary early retirement. The authors suggest that improved population health may also delay illness-related early retirement and keep experienced workers in the labor force longer.

Related research by Maestas, Mullen and Truskinovsky shows that the onset of family caregiving is associated with immediate drops in employment and earnings. They find that male caregivers often experience persistent employment losses, while female caregivers tend to return to work with reduced hours. Related research by Das et al.[30] involved a systematic review of absenteeism and presenteeism among informal caregivers for those with chronic illness. Their study found consistent evidence of substantial productivity loss for caregivers, not just patients. This research suggests that preventing or delaying serious illness and disability may reduce the need for intensive family caregiving that pulls working-age adults out of the labor force or into reduced employment.

Attracting and Retaining Workers and Businesses. In addition to the labor

market impacts of improved population health, there is evidence that local hospitals contribute to a community's ability to attract and retain residents, employers and high-skilled workers. A 2023 policy brief from the National Rural Health Association notes that the health care sector is "a significant economic contributor and a sought-out amenity for businesses and individuals looking to move into a community."[31] Indeed, recent research by Weinstein, Hicks and Wornell finds that "quality of life" factors, including health care access, matter more for population and employment growth than traditional "business climate" metrics in micropolitan Midwestern communities.[32] Likewise, Arntz et al. offered research participants a hypothetical job choice between two cities and found that respondents are willing to accept lower wages for better place-based amenities and services.[33] These findings suggest that investments in health care and community health enhance local economies by making communities more attractive to both businesses and workers.

Attracting and Retaining Older Adults in the Community. There is additional evidence that the accessibility of health care services is particularly salient for older adults weighing a decision to relocate or remain in their communities. Research by Dorfman and Mandich,[34] for example, asks whether access to health care plays a meaningful role in older adults' decisions to move to a new county. Using national county-level data, they confirm that counties with higher hospital spending, more hospital beds and more doctors per person tend to attract more older migrants, even after accounting for climate and other local characteristics. Conversely, communities with robust primary care, hospital access and home- and community-based services may make it easier for older adults to "age in place," helping limit the out-migration of seniors who might otherwise feel compelled to leave their home communities to secure needed care. These studies suggest that communities with robust hospital and physician capacity are more attractive destinations for older Americans who count on accessible medical care as they age.

Conclusions. A substantial body of recent research reinforces the idea that a strong health care sector is a core component of a state's economic infrastructure. By preventing and managing chronic disease and mental health conditions, health systems help sustain labor force participation and productivity, reduce caregiver-related productivity losses and delay premature exits from the labor market. At the same time, hospitals and health care services function as valued community amenities that influence where businesses, workers and older adults choose to locate, supporting both in-

migration and aging in place. These broader, hard-to-quantify benefits sit alongside the more traditional employment and income effects captured by IMPLAN, underscoring that investments in health care are also investments in long-run economic vitality and development for Kansas.

Appendix B: Data and Methods

The estimates presented in this report draw on multiple datasets and require several steps to align and integrate information across sources. This appendix summarizes the primary data used in the analysis and describes the modeling approach.

Data Sources

Historical health care expenditure trends. To describe long-run growth in the health care sector, we use data from the Centers for Medicare & Medicaid Services (CMS), as referenced in the main report. CMS reports national health care expenditures, which include spending by or on behalf of individual patients, administrative costs for health insurance, public health activity, health research and investment in buildings and equipment. These national expenditures are not published with a state-level breakdown. However, CMS also provides a narrower series, personal health care expenditures, that is available by state of residence (health care recipient) and by state where care is delivered (health care provider). The personal health care series is used to compare trends across states and to compare Kansas with the national average.

Core economic data sources. The primary economic estimates in this report are based on two main data sources: the Quarterly Census of Employment and Wages (QCEW) and IMPLAN.

Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics (BLS). QCEW is based on administrative records from employers that remit unemployment insurance (UI) taxes. Most firms are covered by the UI system, though some types of workers and establishments are excluded. Common exclusions include ministerial employees of religious organizations, members of the military and self-employed individuals.

QCEW data are subject to disclosure protection rules that suppress information when an industry in a geographic area is composed of only a small number of firms or when a single firm accounts for a very large share of reported employment. At the Kansas statewide level, however, suppression is not a major limitation for health care industries.

QCEW also classifies establishments by ownership type, including private sector, federal government, state government and local government. Many federal employment summaries focus on private employment and group other categories into a single "government" classification. In this report, we include health care establishments across ownership types, such as publicly owned hospitals. At the time of analysis, public sector employment in Kansas is fully disclosed in QCEW.

IMPLAN model data. The IMPLAN modeling system includes estimates of industry output, employment, labor income, other forms of income and government activity for states and counties. IMPLAN data are available through subscription. Key characteristics relevant to this report include:

a. Employment coverage: IMPLAN employment estimates include both private wage-and-salary workers and the self-employed.

b. Government detail: Government employment is not always disaggregated in IMPLAN to the same level as private industry. Where appropriate, we use QCEW to refine estimates for publicly owned establishments by industry.

c. Compensation measurement: IMPLAN wage and salary estimates include benefits.

d. Coverage of small areas: IMPLAN produces estimates for all states and counties, including small and mid-sized counties. In many public datasets, industry detail for small areas is suppressed to protect confidentiality. IMPLAN uses multiple federal sources to generate estimates for these suppressed values.[35]

e. Accuracy by region size: As with most modeling datasets, IMPLAN tends to be more reliable for larger regions than for small geographic areas. For example, estimates for Kansas as a whole are more robust than estimates for an individual county such as Wabaunsee County.

Modeling Approach. IMPLAN is an input-output model designed to quantify linkages between industries and institutions within a region. The model allows users to trace how activity in one industry connects to supplier industries and how labor income generated by that activity circulates through household spending. These relationships generate ripple effects through both business-to-business purchasing and consumer spending.

IMPLAN distinguishes four categories of effects:

1. **Direct effects**: Employment, output and income generated within the industry or set of industries being analyzed.

2. **Indirect effects**: Effects generated through supply-chain purchases (business-to-business linkages).

3. **Induced effects**: Effects generated through employee spending (household spending linkages).

4. **Total effects**: The combined sum of direct, indirect and induced effects.

A multiplier is defined as the ratio of total effects to direct effects. For example, an employment multiplier of 2.0 indicates that each direct job supports one additional job through indirect and induced channels.

Contribution analysis versus impact analysis. As described in the main report, this analysis relies on two related but distinct multiplier frameworks depending on the question under consideration. The two approaches are commonly referred to as **contribution analysis** and **impact analysis.** As explained by Henderson and Evans,[36] contribution analysis estimates the relative importance of a group of industries within the current economy, while impact analysis estimates the effect of a change in an industry on the economy.

Contribution analysis is used when describing the economic role of a multi-industry sector (such as health care) within the existing Kansas economy. This approach is designed to avoid double counting by excluding feedbacks among industries within the sector that are already included in the direct totals. For example, when estimating hospitals' contribution within the health care sector, contribution analysis excludes feedbacks between hospitals and physicians' offices because physicians' offices are already captured in the direct employment and income totals for that industry.

Impact analysis is used when evaluating the economic implications of a change in activity for a single industry or establishment (such as the expansion of a hospital). In this context, feedbacks between hospitals and other health care industries are included, because the analysis reflects a future scenario in which related industries—such as physicians' offices—could expand alongside the hospital. As a result, multipliers used for impact analysis are typically larger than those used for contribution analysis.

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