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# Minnesota Health Care Spending: 2020 Estimates and Ten-Year Projections

ANNUAL FINDINGS

February 2023

## **Minnesota Health Care Spending: 2020 Estimates and Ten-Year Projections**

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As requested by Minnesota Statute 3.197: This report cost approximately \$158,607 to prepare, including staff time, printing, and mailing expenses.

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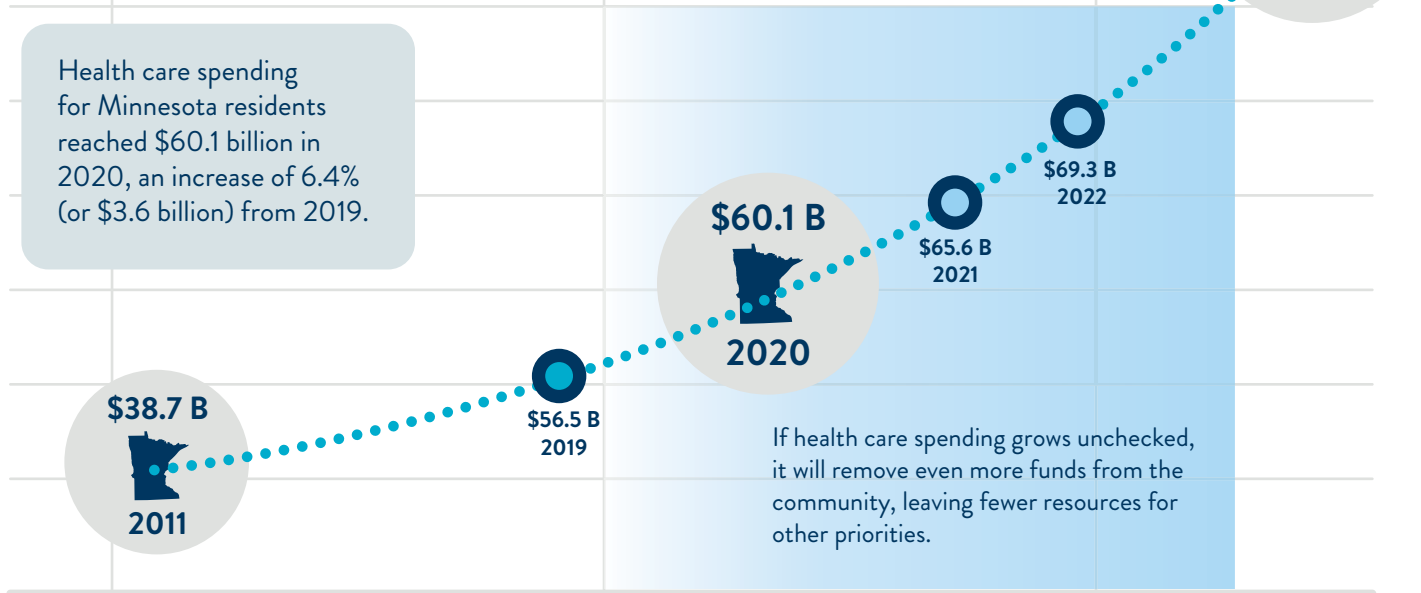
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2020 Health Spending Estimates and Ten-Year Projections

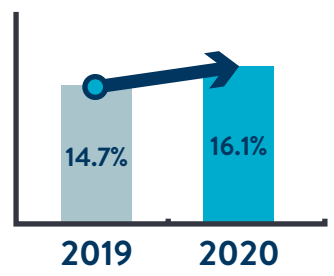
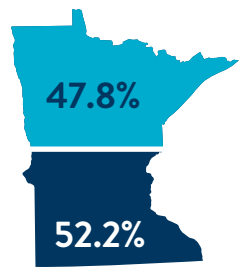
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# Key findings from 2020 health care spending



## COVID-19 pandemic support spending changed previous trends

For the first time, private payer spending represented less than half of total health care spending in the state.



Due to the economic downturn in 2020, health care spending as a proportion of the state's economy increased to 16.1%.

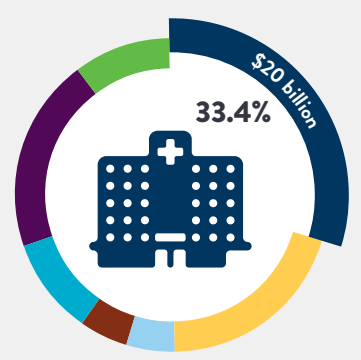
For additional information and the complete report, please visit the [Minnesota Department of Health, Health Economics website \(www.health.mn.gov/data/economics\)](http://www.health.mn.gov/data/economics).

## 2020

The infusion of one-time COVID-19 financial supports, to assist health care and public health systems respond to the pandemic, was the primary driver of growth.



Health care spending by hospital entities – in inpatient and outpatient settings – remained the largest spending category at over \$20 billion, accounting for 33.4% of total spending. It contributed 27.7% to total spending growth.



## Executive Summary

The Minnesota Department of Health (MDH) has estimated total health care spending for Minnesota residents since 1993. This latest report summarizes health care spending trends in 2020—with a special focus on how the COVID-19 pandemic impacted 2020 health care spending and utilization, and its subsequent impact on health care spending projections for years 2021 through 2030.

### Total Minnesota Health Care Spending and the COVID-19 Pandemic

The COVID-19 pandemic presented a unique circumstance in terms of health care utilization and spending. Based on previous times of economic disruption, minimal spending growth would be expected. In addition to affecting every-day life, the pandemic impacted health care utilization and access to health care services. Despite this, Minnesota's health care spending grew 6.4% to reach \$60.1 billion in 2020, marking the fourth consecutive year of spending growth above 5.0%.

The increase was principally due to an infusion of one-time COVID-19 pandemic support spending—most of which was not directly linked to covering costs of health care services. Federal, state, and local government sources allocated COVID-19 pandemic support spending to assist the health care and public health systems with things such as COVID-19 testing, hospital surge capacity, laboratory enhancements, additional infection control [including personal protective equipment (PPE)], and to support providers and workers through supplemental revenue and paycheck disruption coverage.

### Health Care Spending by Payers

Private health care spending (which includes private health insurance spending, consumer out-of-pocket expenses, and other private spending—including workers' compensation and medical care covered by auto insurance) decreased 2.3% (or -\$676.5 million) in 2020, to \$28.7 billion; it helped to dampen total health care spending growth, particularly for commercial payers. This was primarily caused by lower utilization due to the pandemic. Overall enrollment in private insurance remained unchanged from 2019.<sup>1</sup> For the first time since the inception of tracking Minnesota health care spending, private payer spending represented *less than half* of all health care spending (47.8%).

In contrast, spending growth by public payers (Medical Assistance, Minnesota's Medicaid program, Medicare, and other public spending—including MinnesotaCare, Veterans Affairs, Indian Health Service, certain public health expenditures, and school-based health care spending) rose 15.9% in 2020 (an increase of \$4.3 billion). The increase was nearly all due to COVID-19 pandemic support spending, which is reported in the other public spending category. MDH estimates that total COVID-19 pandemic support spending accounted for over 88% of Minnesota's 2020 spending increase.

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<sup>1</sup> Previously released MDH, Health Economics Program publications indicated a decline in private enrollment. These methods differ from those in terms of determining primary source of enrollment, and for estimates of enrollment and uninsurance.

## Health Care Spending by Categories of Service

The distribution of health care spending across categories of service in 2020 changed from prior years, driven by effects from the COVID-19 pandemic on enrollment, health care use, and spending. Hospital spending, encompassing both inpatient and outpatient care delivered by hospitals, continued to be the largest category of health care spending in Minnesota (33.4%) and grew at a faster pace (5.3%). With the exception of physician and dental spending (which saw declines) similar trends were seen across other spending categories. Prescription drug spending was less impacted by utilization declines; it experienced growth of 5.6%.

## Projections of Future Health Care Spending

From 2021 through 2030, health care spending growth in Minnesota is projected to continue—increasing to nearly \$106.2 billion by 2030, an increase of over \$46.0 billion beyond 2020. Spending growth is projected to increase an average of 5.5% per year, compared to 5.0% per year from 2011 through 2020. The COVID-19 pandemic support spending from the federal government is projected to continue (at substantially lower levels) through 2026.

During the period covered by the projections (2021 through 2030), public payer spending is estimated to grow more rapidly than private payer spending (on average 6.0% per year, compared to 4.9% per year), primarily due to higher per person spending. As a result, public payer spending is projected to account for the majority of spending over the next decade, reaching an estimated 54.0% of total spending by 2030.

## Additional Information

Additional information, data visualizations, and chartbooks on health care spending for Minnesota residents are contained on the [Health Economics Program website \(https://www.health.state.mn.us/data/economics/\)](https://www.health.state.mn.us/data/economics/), summarized below.

**Figure 1: Health Economics Publications Related to Spending**

Minnesota Health Care Markets Chartbook, Section 1	Minnesota Health Care Markets Chartbook, Sections 2-5	Interactive Spending Dashboard	Research Studies (for example)
<ul style="list-style-type: none"> <li>•Summary of spending</li> <li>•Comparison of MN and US spending</li> <li>•Drivers of spending</li> </ul>	<ul style="list-style-type: none"> <li>•Health insurance coverage</li> <li>•Employment-based insurance</li> <li>•Individual and Small group insurance</li> <li>•Public health insurance and uninsurance</li> <li>•Health plan companies</li> </ul>	<ul style="list-style-type: none"> <li>•Forthcoming</li> </ul>	<ul style="list-style-type: none"> <li>•Chronic Diseases</li> <li>•Low-Value Service</li> <li>•Hospital-based Procedures</li> <li>•Spending, Prices and Use</li> </ul>

## Health Care Spending in 2020

If there is one consistent lesson from nearly 30 years of monitoring health care spending in Minnesota, it is that year-over-year spending always grows—most of the time at rates above other economic indicators. Significant health care policy changes that result in modifying access to health insurance coverage (for example, the introduction of Medicare Part D and the Affordable Care Act) and changes in economic conditions (for example, the Great Recession and slow recovery) cause spending fluctuations—yet regardless of these changes, spending continued to grow. Most recently, the global COVID-19 pandemic altered health care utilization, spending, and the economy, but health care spending continued to grow.<sup>2</sup>

Over the past 10 years (as shown in Figure 2) health care spending growth across all payers in Minnesota has been high—experiencing at least 5.0% year-over-year growth in half of these years. The result is that Minnesota health care spending has grown by over 55% since 2011, when spending was \$38.7 billion. Between 2011 and 2015, growth rates were generally moderate, and spending reached \$46.7 billion in 2015; since then, Minnesota has experienced consistently high growth rates of over 5.0%—reaching \$60.1 billion in 2020, a 6.4% increase from 2019. Despite increased spending, there has been little evidence of significant improvements in health outcomes for Minnesotans.<sup>3</sup>

The increase in spending in 2020 was principally due to an influx of one-time COVID-19 pandemic support spending, most of which was not directly linked to covering costs of health care services directly. Federal, state, and local government sources allocated COVID-19 pandemic support spending to assist the health care and public health systems with things such as COVID-19 testing, hospital surge capacity, laboratory enhancements, additional infection control [including personal protective equipment (PPE)], as well as, to support providers and workers through supplemental revenue and paycheck disruption coverage. Decreases in health care utilization and the influx of pandemic support spending contributed to nearly 90.0% of the 6.4% increase in spending experienced in 2020 (Figure 2). Effects from these are discussed in greater detail throughout this report.

### Key Findings:

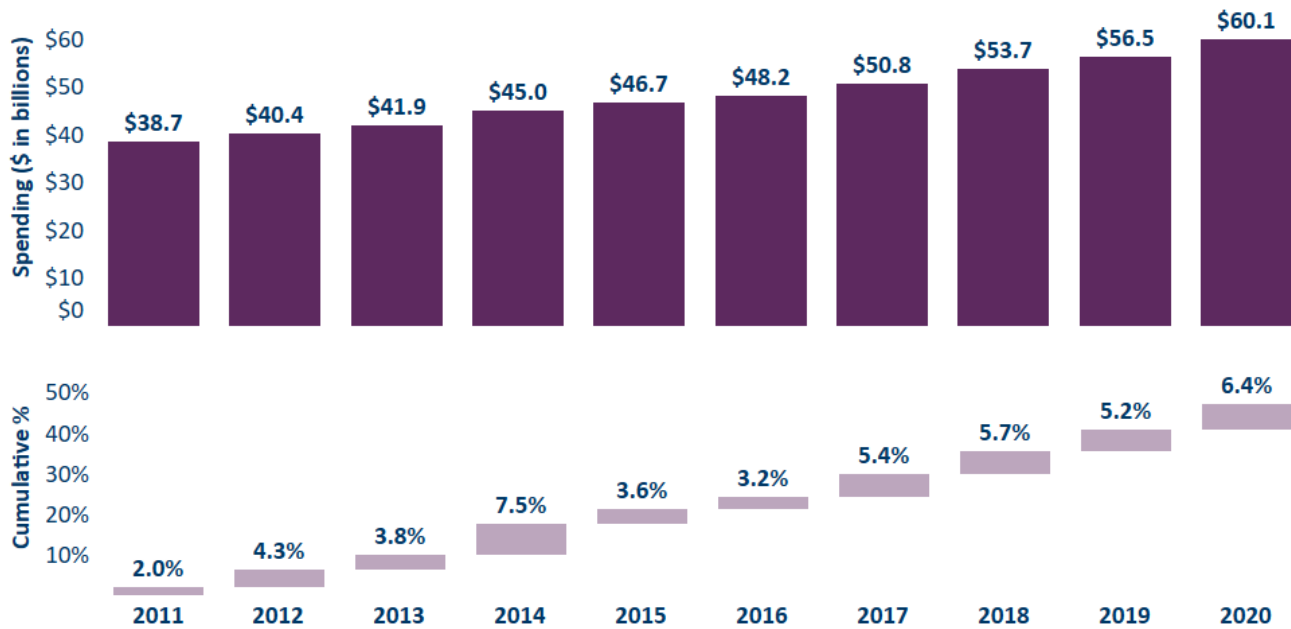
- Minnesota health care spending grew 6.4% in 2020 to reach \$60.1 billion.
- Decreases in health care utilization and an influx of financial COVID-19 supports to provide testing and treatment for COVID-19 and to stabilize the health care market accounted for nearly 90.0% of the increase.
- 2020 marks the fourth consecutive year of spending growth above 5.0%.
- Health spending represented 16.1% of Minnesota’s economy, an increase driven in part by the brief recession in the spring of 2020.

<sup>2</sup> MDH defines “low” growth as spending growth at or under 3.0%, “modest” growth as spending growth between 3.0% to 5.0%, and “high” growth as spending growth above 5.0%.

<sup>3</sup> MDH review of Centers for Disease Control and Prevention BRFSS Prevalence and Trends Data – Minnesota Overall Health Status (age-adjusted prevalence) from 2011 to 2021. MDH found that the prevalence of chronic conditions increased between 2009 and 2018. MDH Health Economics Program. Treated Chronic Disease Prevalence and Spending in Minnesota. December 2022.



**Figure 2: Historical Spending and Annual Growth**



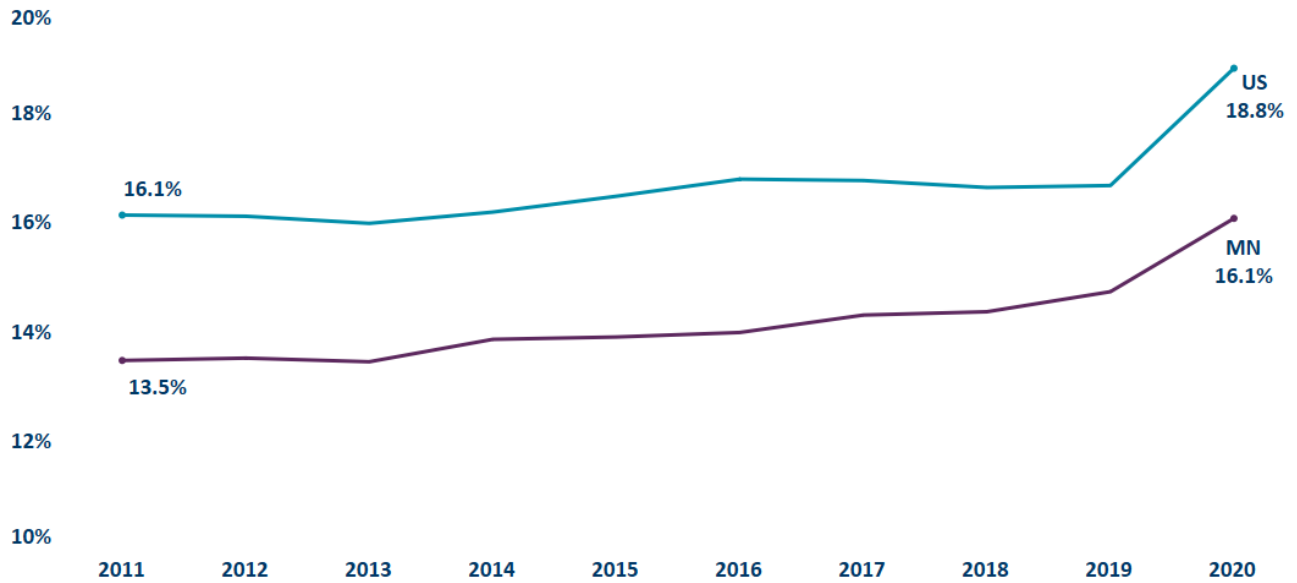
Source: Minnesota Department of Health (MDH), Health Economics Program.

Over the past seven years, Minnesota’s health care spending has been growing faster than Minnesota’s economy, most notably in 2020 when Minnesota’s economic growth declined (-2.4%) due to a slight recession in April and May of 2020. The recession was caused by the COVID-19 pandemic and its broader effects on the economy.<sup>4</sup> As a result of the recession and the high growth in health care spending, the portion of the state’s economy attributable to health care spending increased to 16.1% in 2020 (from 14.7% in 2019; Figure 3).<sup>5</sup> Similar patterns were visible in U.S.-wide trends.

<sup>4</sup> The U.S. was in a recession during April and May 2020. [National Bureau of Economic Research. Business Cycle Dating Committee Announcement. July 19, 2021. https://www.nber.org/news/business-cycle-dating-committee-announcement-july-19-2021](https://www.nber.org/news/business-cycle-dating-committee-announcement-july-19-2021)

<sup>5</sup> The economic impact of the pandemic led to a smaller gross state product in 2020, so combined with the influx of pandemic support spending leading to high spending growth, it increased the percent of the overall economy devoted to health care spending. Compared to the U.S., Minnesota devoted a smaller share of its economy to health care spending.

**Figure 3: Health Care Spending as a Share of the Economy**



Source: MDH, Health Economics Program. MDH analysis of the Centers for Medicare & Medicaid Services: 2020 National Health Expenditure Accounts, NHE tables (Health Consumption Expenditures). Health care spending includes medical, prescription drug and long-term care spending covered by medical insurance or consumer out-of-pocket payments.

The net growth in 2020 health care spending also translated to higher spending per Minnesotan (5.2% growth). In 2020, health care spending reached \$10,530 per Minnesotan, representing almost one-fifth of annual income.<sup>6</sup>

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<sup>6</sup> For illustrative purposes only; estimates include consumer out-of-pocket and estimates of uninsured Minnesotan spending. The average 2020 per capita personal income was about \$61,400. U.S. Bureau of Economic Analysis, SAING1 Personal Income Summary: Personal Income, Population, Per Capita Personal Income. Last updated March 23, 2022. Accessed March 2022.

## Who Pays for Health Care in Minnesota?

Health care use in the U.S. is characterized by complex transactions between multiple parties representing patients, providers, payers, and intermediary organizations (including pharmacy benefit managers and brokers); the COVID-19 pandemic further complicated this due to support spending from the government that provided additional funds to cover certain services or provide supplemental funding to support the health care system.

With this report, MDH attempts to capture the total amount spent on health care by Minnesota residents no matter how the dollars ultimately flow into the system—through premiums, taxes, and direct payments (including those from the COVID-19 pandemic). MDH then attributes spending to the ultimate sponsor of health care coverage and refers to them as payers.

Looking at spending by payers can show the impact of health policy changes—taking into consideration differences among payers in size and regulatory framework (for example, state and federal governments vs. private self-insured payers).<sup>7</sup> In MDH’s framework, driven by the availability of underlying data, MDH specifically divides payers into the following groups:<sup>8</sup>

- Consumer out-of-pocket spending
- Private Health Insurance (for example, employers and Minnesotans who buy commercial coverage)
- Other Private (for example, auto medical, private workers’ compensation)
- Medicare
- Medical Assistance (Medicaid)
- Other Public (for example, MinnesotaCare, Veteran’s Affairs and Department of Defense, public health spending, public workers’ compensation)

MDH also monitors how private and public payers’ health care spending changes over time. As shown in Figure 4, although private payer spending has consistently accounted for the majority of Minnesota health care spending, this changed in 2020 due to decreases in health care utilization along with increased public spending

### Key Findings:

- Total private spending declined 2.3% in 2020, while public spending grew 15.9%.
- Spending trends were partially the result of changes in health care use and public COVID-19 pandemic support spending which provided health care services and supported providers during the pandemic.
- For the first time, private spending accounted for less than half of all health care spending, 47.8%, reversing past trends.

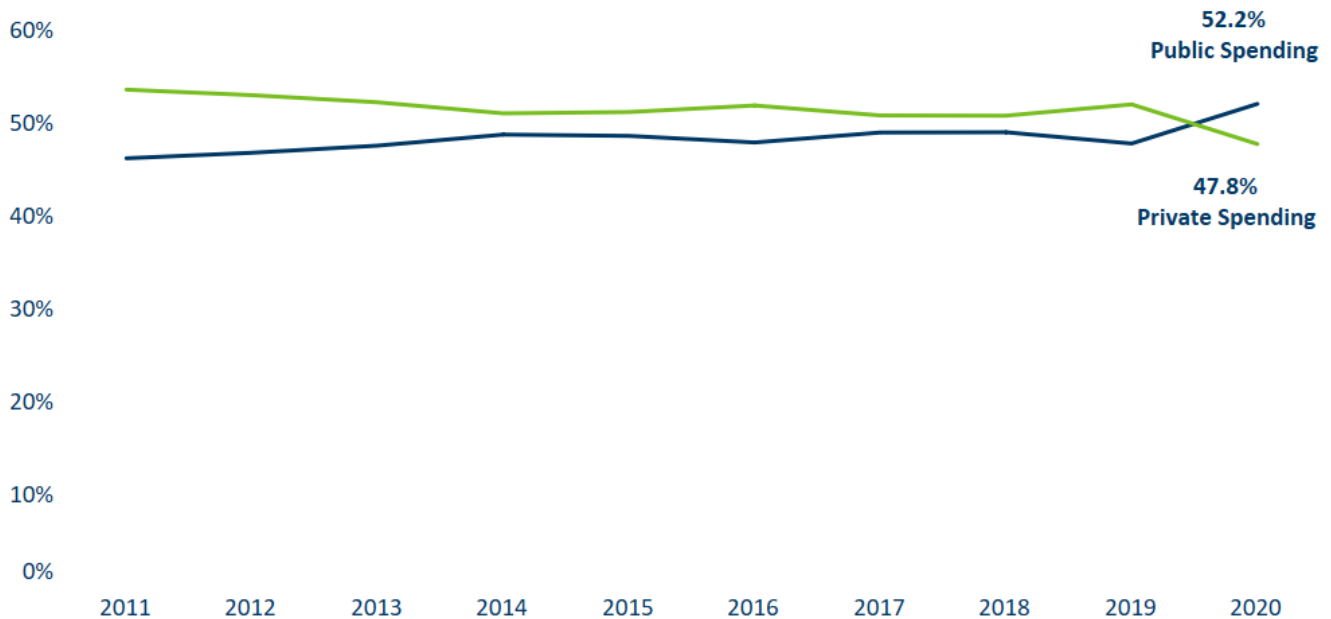
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<sup>7</sup> Researchers and analysts often use different methods to distinguish private and public payers; for example, they may look at specific types of financiers and determine policy changes that influence spending trends (for example, MedPAC has reviewed how the 340B Drug Pricing Program determines eligibility and incentives). Refer to [MDH, Health Economics Program. Minnesota Health Care Spending: 2017 Estimates and Ten-Year Projections. September 2020. \[PDF\] www.health.state.mn.us/data/economics/docs/2017spendingrpt.pdf](https://www.health.state.mn.us/data/economics/docs/2017spendingrpt.pdf) “A Closer Look: Classification by Payer of Health Insurance” Pages 15-16.

<sup>8</sup> See Appendix Figure C 1: Data Movement to MDH for an illustration of how data is collected, defined, received, and assigned and distributed.

to support care delivery and medical systems during the COVID-19 pandemic. These dynamics impacted private payer spending patterns more acutely than those of public payers, discussed further in the next section.

**Figure 4: Share of Private and Public Spending**



Source: MDH, Health Economics Program.

The variation in growth between private and public payers is generally influenced by factors such as demographics (including enrollment), inflation, health care prices, utilization, and policy changes.<sup>9</sup> In 2020, public spending grew rapidly (15.9%), while private spending declined (-2.3%)—leading to a net increase of \$3.6 billion relative to 2019. This was directly attributable to changes in utilization, the influx of COVID-19 pandemic support spending, and higher enrollment in Minnesota’s Health Care Programs (MHCP), consisting of Medical Assistance and MinnesotaCare.

Although MDH cannot provide an exact estimate of the COVID-19 pandemic impact on private and public spending, it is clear that where actual spending trends differed from projections,<sup>10</sup> they were strongly affected by *observable* changes in the health care market. For example, the combination of many providers temporarily closing for business, hospitals canceling elective surgeries and changing patient rooming and staffing models, and individuals avoiding health care services during a highly infectious respiratory illness affected utilization and,

<sup>9</sup> Public payers, such as Medicare and Medicaid, generally cover individuals who may have higher health care needs because of age or health conditions. In 2020, federal, state, and local government sources supplied COVID-19 pandemic support spending to assist with public health things (for example, COVID-19 testing, hospital surge capacity, laboratory enhancements, and supplemental revenue and paycheck disruption coverages to support providers and workers). Furthermore, some spending was in the form of increased Federal Medical Assistance Percentage (FMAP) spending for Medical Assistance (which is not broken-out separately).

<sup>10</sup> Refer to [MDH, Health Economics Program. Minnesota Health Care Spending: 2017 Estimates and Ten-Year Projections. September 2020. \[PDF\] www.health.state.mn.us/data/economics/docs/2017spendingrpt.pdf.](http://www.health.state.mn.us/data/economics/docs/2017spendingrpt.pdf)

in parallel, health care spending. Research on the private health insurance market (a subset of total private spending) specifically documents decline in utilization and spending in 2020 (7.1% and 4.2%, respectively).<sup>11</sup> Likewise—though pointing in the opposite direction—was the additional pandemic support spending to provide testing, treatment and other COVID-19-related costs and the pause on public program disenrollment to stabilize the health care market. Though this additional spending is categorized as public, the benefit was felt across the market, helping providers maintain staffing and purchase infection control supplies, providing testing and treatment regardless of insurance coverage, and creating and maintaining additional infrastructure related to testing and treatment.

### Private Payer Spending

Private payers have historically been a significant funder of health care services in Minnesota, primarily because they provide health insurance coverage to most Minnesota residents [59.2% or 3.38 million people in 2020 (Figure 5)]. Compared to prior periods of economic uncertainty—such as during the Great Recession (2007-2009)—the number of Minnesotans with private insurance remained largely unchanged in 2020, increasing just 0.5% (approximately 17,000).<sup>12</sup>

However, for the first time, spending by private payers in Minnesota (which includes private health insurance spending, consumer out-of-pocket expenses, and other private spending—including workers' compensation and medical care covered by auto insurance) represented less than half of all spending, 47.8% (Figure 5). Overall, private spending decreased by 2.3% (or -\$676.5 million) in 2020, to \$28.7 billion. As alluded to earlier, this decrease was significantly due to impacts from the COVID-19 pandemic which altered, among other things:

- Health care utilization disruption/limitation
- Health care reimbursement and funding – particularly for hospitals<sup>13</sup>
- How consumers used health care, including delaying or forgoing health care
- Health care outcomes
- Access to health care

The effects from these impacts are being evaluated both nationally and within Minnesota, with some results from within Minnesota highlighted above.

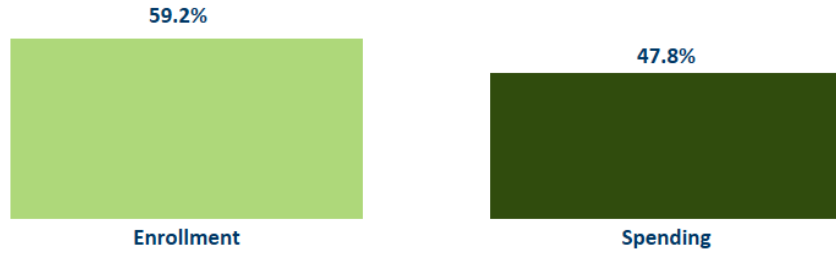
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<sup>11</sup> [MDH, Health Economics Program. Issue Brief: Health Care Spending, Prices and Use in Minnesota, 2016 to 2020. November 2022. \[PDF\] www.health.state.mn.us/data/economics/docs/hcspendingbrief.pdf.](https://www.health.state.mn.us/data/economics/docs/hcspendingbrief.pdf)

<sup>12</sup> Previously released MDH Health Economics Program publications indicated a decline in private enrollment. These methods differ from those in terms of determining primary source of enrollment, and for estimates of enrollment and uninsurance

<sup>13</sup> [Heist T, Schwartz K, Butler S. Kaiser Family Foundation \(KFF\) Trends in Overall and Non-COVID-19 Hospital Admissions. February 18, 2021. www.kff.org/report-section/trends-in-overall-and-non-covid-19-hospital-admissions-issue-brief](https://www.kff.org/report-section/trends-in-overall-and-non-covid-19-hospital-admissions-issue-brief)

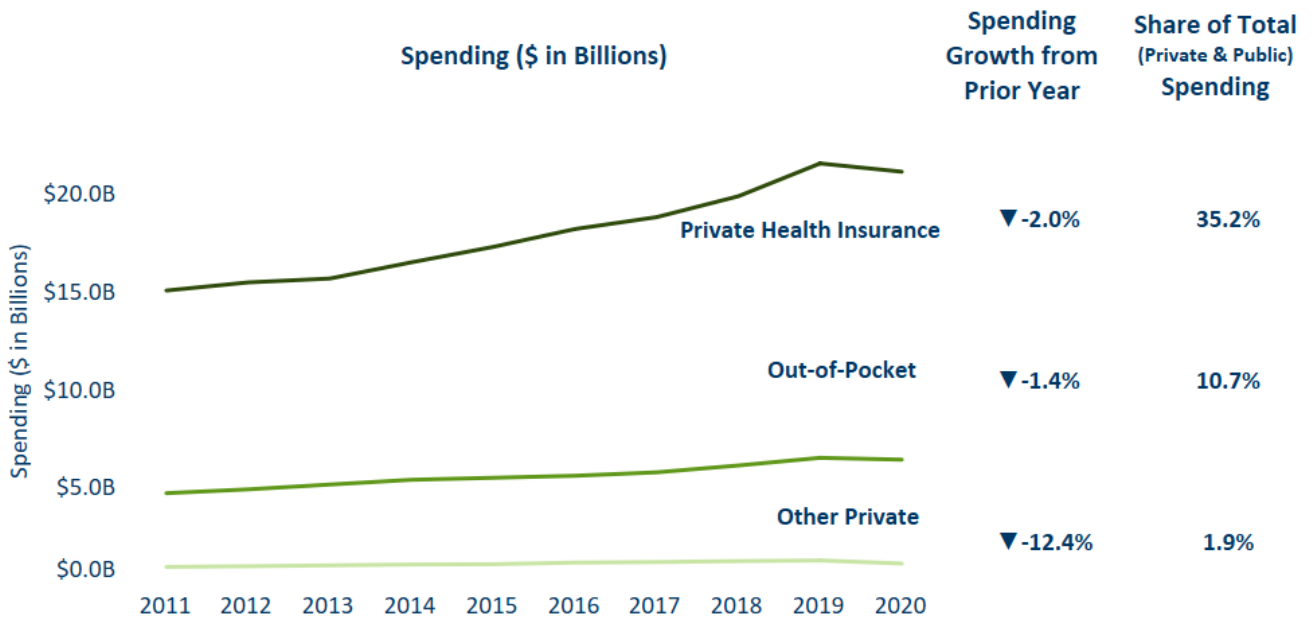
**Figure 5: Private Insurance Enrollment and Spending, 2020**



Sources: MDH, Health Economics Program; Minnesota State Demographic Center, Census 2020 Redistricting Data. Accessed December 2021. Enrollment is based on primary source of insurance coverage.

Private health insurance across all its components (commercial insurance—through the individual market, small group market, and large group employer plans—and private Medicare plans) represented the single largest private payer category in 2020 (\$21.2 billion); it accounted for 35.2% of total (private and public) spending, and nearly 74% of the \$28.7 billion of private payer spending. Consumer out-of-pocket spending and other private spending represented the remaining 12.6% of total (private and public) spending in 2020, totaling nearly \$7.6 billion (Figure 6).

**Figure 6: Trends in Private Spending and Share of Total Spending (\$ in Billions)**



Source: MDH, Health Economics Program.

Private health insurance is insurance offered by employers or purchased directly by individuals, include Medicare supplement plans. Other major private payers include private workers' compensation and auto medical insurance.

## 2020 Health Spending Estimates and Ten-Year Projections

Private health insurance spending declined by 2.0% to \$21.2 billion, or, approximately, \$5,750 per privately insured enrollee. The 2020 decrease experienced in private health insurance spending was mostly driven by a decline in utilization and spending; in contrast, prices continued to increase during the first year of the COVID-19 pandemic.<sup>14</sup>

Minnesota residents' out-of-pocket spending—all payments for health care services made directly by individuals to providers or suppliers to pay for health care goods and services, including copays and co-insurance for office visits and prescription drugs (excluding premiums)—decreased 1.4% (or -\$92.9 million), totaling over \$6.4 billion. The last time consumer out-of-pocket spending decreased was following the Great Recession (2007 to 2009), when spending growth was low. Two factors likely explain this trend: (1) a reduction in utilization, which reduces point-of-care cost sharing; and (2) a shift of coverage to public programs that typically have lower cost-sharing.

### A Closer Look: Out-of-Pocket Spending

Like private health insurance, consumer's out-of-pocket spending in 2020 was likely influenced by changes in health care utilization (i.e., delayed and forgone care) and increased enrollment in Minnesota Health Care Programs (i.e., Medical Assistance and MinnesotaCare) throughout 2020. Even into 2021, individuals reported delaying care or having visits cancelled due to COVID-19 in the past year.<sup>15</sup> Since approximately 21.1% of Minnesotans are enrolled in Medical Assistance and MinnesotaCare (which have limited or no cost sharing obligations), and others are enrolled in Medicare plans (18.3% of Minnesotans), some with limited cost-sharing, population-wide analyses of consumer out-of-pocket spending mask the true challenge many privately insured individuals experience.

National survey results indicated significant concerns about high out-of-pocket costs for those with private insurance associated with financial burden and forgone care.<sup>16</sup> This is due to stagnant real incomes and lack of available savings for many to cover cost-sharing amounts found in typical private health insurance plans.<sup>17</sup> Further, national health spending estimates predict that consumer out-of-pocket costs will continue to increase by an average of 4.6% from 2021 through 2030, further eroding many individuals' financial health.<sup>18</sup> Similarly, MN data indicate that income is expected to increase at a slower rate than consumer out-of-pocket costs.<sup>19</sup>

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<sup>14</sup> MDH, Health Economics Program. [Issue Brief: Health Care Spending, Prices and Use in Minnesota, 2016 to 2020. November 2022. \[PDF\] www.health.state.mn.us/data/economics/docs/hcspendingbrief.pdf.](https://www.health.state.mn.us/data/economics/docs/hcspendingbrief.pdf)

<sup>15</sup> MDH, Health Economics Program and University of Minnesota School of Public Health, Minnesota Health Access Survey, 2021.

<sup>16</sup> Kearney A. et al. [Kaiser Family Foundation. Americans' Challenges with Health Care Costs. December 14, 2021 www.kff.org/health-costs/issue-brief/americans-challenges-with-health-care-costs](https://www.kff.org/health-costs/issue-brief/americans-challenges-with-health-care-costs)

<sup>17</sup> Young G, et. al. Many Households do not have Enough Money to Pay Cost-Sharing in Typical Private Health Plans. Peterson-KFF Health System Tracker. March 10, 2022. E.g., the 2021 MNHA Survey found 14.1% of people with employer-sponsored health insurance coverage and 24.3% of people with individual health insurance coverage – in total almost half a million Minnesotans – were not confident they could pay all their deductible in a medical emergency.

<sup>18</sup> Poisal JA. et. al. National Health Expenditure Projections: 2021-30: Growth to Moderate as COVID-19 Impacts Wane. March 28, 2022.

<sup>19</sup> Unpublished MDH, Health Economics Program analysis of the February 2022 forecast data MDH from Minnesota Management and Budget.

## 2020 Health Spending Estimates and Ten-Year Projections

Health care spending related to workers' compensation insurance and auto medical insurance (which MDH categorizes as "other private spending") decreased 12.4% (or -\$160.7 million), accounting for approximately 1.9% of total (private and public) spending (\$1.1 billion). This was a slight decrease from 2019, when it accounted for 2.3% of total spending. Again, the decline is likely due to change in utilization and economic dynamics, including, perhaps, miles driven by the public.<sup>20</sup>

### Public Payer Spending

Spending by public payers in the report encompasses spending for Medical Assistance (Minnesota's Medicaid program), Medicare, and other public payers (including MinnesotaCare, Veterans Affairs, Indian Health Service, certain public health expenditures, and school-based health care spending).<sup>21</sup> To be clear, the other public spending category also includes the substantial COVID-19 pandemic support spending made by federal, state, and local governments during the pandemic.

Compared to spending by private payers, public payer spending rose substantially in 2020 by 15.9% (an increase of \$4.3 billion) to reach over \$31.3 billion. As previously noted, the COVID-19 pandemic induced atypical patterns of health spending in 2020 by private and public payers—for the first time since MDH tracked health spending in 1993—this led public spending to account for more than half of total health spending (52.2%; Figure 7). In addition to the substantial pandemic-related support spending by governments, public payers generally cover individuals who, on average, have higher health care needs because of age or health conditions (Figure 7), and thus may have had a harder time avoiding health care.<sup>22</sup>

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<sup>20</sup> [U.S. Department of Transportation, Federal Highway Administration, December 2020 Traffic Volume Trends. December 8, 2020. www.fhwa.dot.gov/policyinformation/travel\\_monitoring/20dectvt/](https://www.fhwa.dot.gov/policyinformation/travel_monitoring/20dectvt/)

<sup>21</sup> Other public spending includes the historical GAMC program which ended in 2010.

<sup>22</sup> Medicare is focused on covering people aged 65 and older, as well as people with disabilities and end-stage renal disease (kidney disease). Medicaid also covers older people and people with disabilities, including a substantial proportion of long-term-care spending in the state, much of which is for home-based services that keep people in their homes and out of facilities. Since Medicare and Medical Assistance provide coverage to Minnesotans with higher health care needs, its per enrollee spending is high (above \$10,000 per person per year). In contrast, MinnesotaCare, which provides insurance coverage to Minnesotans meeting certain income requirement generally covers those with less complex health care needs; its spending is similar to that of private coverage (above \$5,000 per person per year). Refer to [MDH, Health Economics. Minnesota Health Care Markets Chartbook, Section 5: Public Health Insurance Programs www.health.state.mn.us/data/economics/chartbook/index.html](http://www.health.state.mn.us/data/economics/chartbook/index.html).



**Figure 7: Public Insurance Enrollment and Spending, 2020**



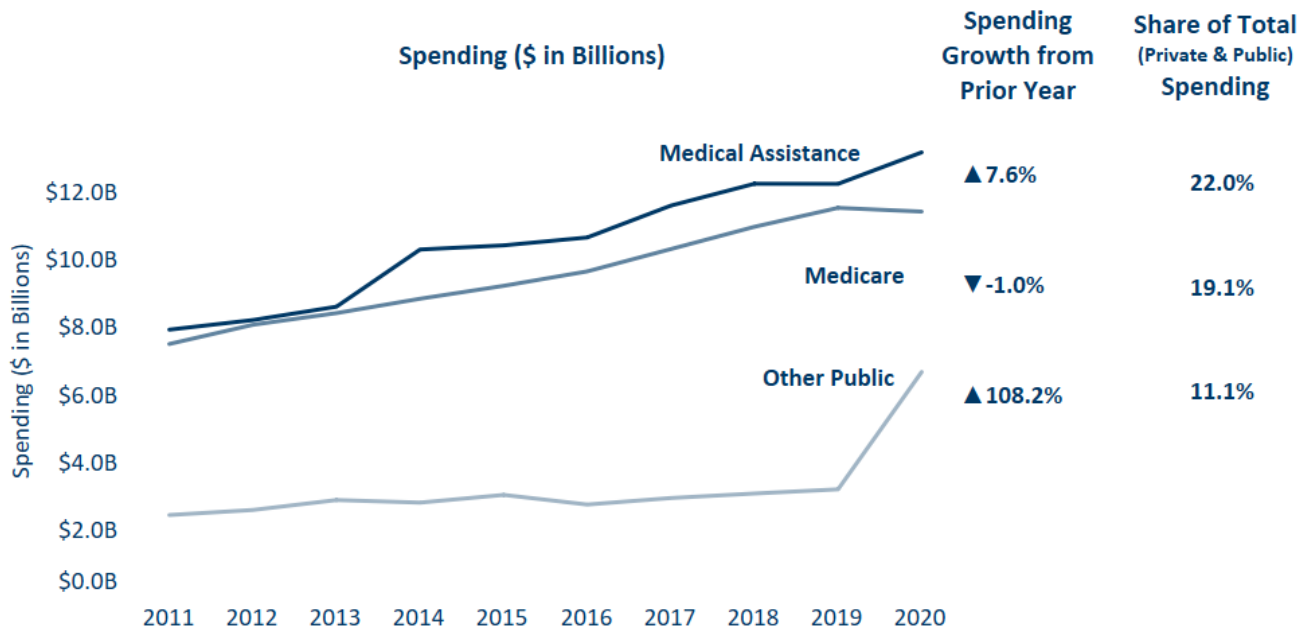
Sources: MDH, Health Economics Program; Minnesota State Demographic Center, Census 2020 Redistricting Data. Accessed December 2021. Enrollment is based on primary source of insurance coverage.

Approximately \$3.2 billion of the \$4.3 billion in public spending growth was due to COVID-19 pandemic support spending that was captured in other public spending. This spending reflects resources that were allotted to health care providers who serve patients from multiple payers (both private and public); all the COVID-19 pandemic support spending is included in the other public spending payer type because the *source* of the funds was public (government).

The remaining \$1.1 billion portion of the increase in public spending was attributable to high growth in Medical Assistance (7.6%) and other categories within other public spending (108.2%), including MinnesotaCare (21.1%) and Veterans Affairs and TRICARE (10.9%); these programs, including Medical Assistance, paid for health care services for 18.1% of all Minnesotans in 2020.

This high growth experienced in public spending was slightly offset by a -1.0% decrease in Medicare spending, which amounted to a spending reduction of more than one hundred million dollars (\$-110.6 million). This Medicare spending decline is also a “first” since the inception of this report (Figure 8); Medicare provided coverage to 18.3% of Minnesotans. Public spending growth was also offset by a decline in government workers’ compensation programs (-8.3%), though the total dollar amount was small (\$6.2 million).

**Figure 8: Trends in Public Spending and Share of Total Spending (\$ in Billions)**



Source: MDH, Health Economics Program.

Note: MDH spending estimates for Medical Assistance and MinnesotaCare rely on payments made by the Department of Human Services (DHS) for services provided during a calendar year, including managed care capitation payments. As such, the estimates differ from DHS’ program forecast (data based on payment timing consistent with the state budget). Other public spending includes MinnesotaCare, GAMC, government workers’ compensation, Veterans Affairs, and public health spending.

Medical Assistance spending experienced an increase of 7.6% (or \$934 million) from 2019, reaching \$13.2 billion (Figure 8). This follows one year of stagnant growth in 2019, preceded by annual growth above 5.0% (5.6% in 2018 and 8.8% in 2017). Although Medical Assistance spending per enrollee grew modestly (3.3%), in 2020, there was a larger increase (4.2%) in Medical Assistance enrollment—predominantly in families and adults without children—due to the Public Health Emergency (PHE) and the First Coronavirus Response Act (FFCRA), discussed in “A Closer Look” below.

The category of service that drove most of the increase in Medical Assistance spending was for long-term care waivers—notably waivers that assist persons with disabilities and development disabilities. Medicaid waivers provide Medicaid coverage for services not normally covered by Medicaid as an alternative to institutional care (for example: nursing facilities).

### A Closer Look: The Public Health Emergency (PHE) & the First Coronavirus Response Act

The Federal First Coronavirus Response Act (FFCRA) passed in March 2020 and offered an optional increase in the federal share of the Federal Medical Assistance Percentage (FMAP) of 6.2 percentage points. This meant that states would pay a smaller percentage of the cost of health care for Medical Assistance enrollees. States like Minnesota electing to obtain this additional federal funding were required to *not* disenroll individuals from Medicaid during the Public Health Emergency (PHE)—termed “continuous coverage”—which, unsurprisingly,

increased enrollment. The policy allowed people who would have fallen off coverage to remain eligible. The Consolidated Appropriations Act of 2023 removed the link between the PHE, continuous enrollment, and temporary FMAP increase. Continuous enrollment will end on March 31, 2023, and the temporary FMAP increase will be phased out beginning April 1, 2023 and ending December 31, 2023.<sup>23</sup>

The other public spending category (which includes MinnesotaCare, Veterans Affairs and TRICARE, Indian Health Service, certain public health expenditures, COVID-19 pandemic support spending, and school-based health care spending) represented 11.1% of total spending in Minnesota (nearly \$7.0 billion, Figure 8) and grew by 108.2%. In past years, this volume of spending has been closer to approximately 6% of total Minnesota spending, highlighting the impact of the COVID-19 pandemic support spending on this payer category.

As mentioned previously, three of the major payers in the other public spending category—MinnesotaCare, Veterans Affairs and TRICARE, and other spending—experienced double-digit increases from 2019 (21.1%, 10.9%, and 350.0%, respectively). MinnesotaCare spending increased due to a 7.9% increase in gross enrollment and a 12.2% increase in per enrollee spending; Veterans' Affairs and TRICARE spending growth represented a continuation of recent trends. The fourth category, government workers' compensation programs, experienced an 8.3% decrease in spending.

In 2020, Minnesota's public Medicare program spending (including Medicare Part D), decreased 1.0%, totaling \$11.4 billion (Figure 8). This follows three years of growth above 5.0%. The decrease was driven by a reduction in expenses for inpatient hospital services and, to a lesser extent, physician services. Again, these trends were likely driven by decreased health care use associated with the COVID-19 pandemic; during 2020, enrollment continued to increase (by 2.4%) slightly below the rate of aging among the population.<sup>24</sup>

### A Closer Look: The COVID-19 Pandemic and its Effects on Spending

The COVID-19 pandemic had an unprecedented impact on businesses, the economy, people's lives, and the health care system. In health care, it interrupted typical patterns of health care spending and use, altered Medicaid and typical covered benefits across all insurance payers, and temporarily modified governmental financial involvement in health care systems.<sup>25</sup>

To capture all health care spending on behalf of Minnesota residents, MDH worked to understand the impacts from the pandemic on spending and how to account for it. There were several main "interrupters" or "modifiers" that occurred, as outlined in Table 1 below. Each had its own effect on health care enrollment, use,

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<sup>23</sup> MN Department of Human Services. February 2022 Forecast: Executive Summary and Trend Data. February 28, 2022. Manatt Health. Medicaid Enrollment Trends During the COVID-19 Pandemic. March 2022. Corallo B, et. al. Medicaid Enrollment Churn and Implications for Continuous Coverage Policies. Kaiser Family Foundation. December 14, 2021. Medicaid.gov. Unwinding and Returning to Regular Operations after COVID-19. Accessed January 9, 2023. The process of returning to regular operations will take place over 15 months beginning April 1, 2023.

<sup>24</sup> Population growth for Minnesotans aged 65 or older is expected to remain above 3% through 2023, 2.6% between 2024 through 2028, and slowing thereafter. This rate of growth is expected to be higher than overall population growth. Generally, older Minnesotans and those with multiple chronic conditions drive growth within Medicare.

<sup>25</sup> Another recent comparison to other governmental financial involvement would be during the Great Recession when the government attempted to prevent financial collapses in several business sectors and for the general population.

and/or spending—either through an increase (▲) or decrease (▼)—and influenced complex outcomes across the health care spectrum.

**Table 1: Effects from COVID-19 Pandemic on Enrollment, Use, and Spending**

Example of Interruption or Modification	Enrollment <sup>26</sup>	Use	Spending
<b>Care restrictions</b> ; e.g., providers temporarily closed offices, systems enacted elective surgery delays during periods of high COVID-19 cases. <sup>27</sup>	n/a	▼	▼
<b>Patients' delayed or avoided care</b> to limit potential exposure to COVID-19.	n/a	▼	▼
<b>Extended public program enrollment</b> for example, Minnesotans were offered continuous enrollment in Medical Assistance and MinnesotaCare programs.	▲	▼	▲
<p><b>COVID-19 pandemic support spending by local, state, and federal governments which provided health care services and supported providers during the pandemic.</b></p> <ul style="list-style-type: none"> <li>▪ Expanded benefit coverage for COVID-19 testing, diagnosis, and treatment for insured and uninsured individuals (including private insurance).</li> <li>▪ Public health activities such as grants to health care providers, public testing sites, and other health system capacity funding.</li> <li>▪ Small business loans, grants, and other funding mechanisms to support providers and workers through supplemental revenue and paycheck disruption coverage</li> </ul>	n/a	▲	▲

MDH assumed that pandemic support spending (which provided health care services and supported providers during the pandemic) was not included in health insurance claims, while patient care covered by insurance, including expanded COVID-19 benefits, was already included. MDH included this funding in other public spending, allocating to specific categories of services when possible. Although this funding is included in the

<sup>26</sup> Total private enrollment had a slight uptick (0.5% increase) in 2020 and is not illustrated in the table above.

<sup>27</sup> For example: State of Minnesota Emergency Executive Order 20-09.

## 2020 Health Spending Estimates and Ten-Year Projections

public spending category, COVID-19's effects on health care spending, and government supplements to it, impacted the *entire* health system – in terms of both public and private payer spending.

In total, MDH estimated that there was nearly \$3.2 billion in direct additional health care spending related to the COVID-19 pandemic, and it contributed to over 88% of Minnesota's 2020 spending increase. This estimate does not consider any COVID-19 funding that would otherwise been part of a health insurance claim, as mentioned above. Most of this funding, nearly \$3.0 billion, or 93.8%, was provided by the federal government. The remaining 6.2% of this spending was supplied by state and local government sources.

### **Limitations**

Though these data represent new information on the impact of COVID-19 pandemic related financing, these estimates do not serve as a full accounting of COVID-19 related spending for two reasons:

1. By using available aggregated data to determine Minnesota health care spending, MDH was not able to identify and separate spending directly related to testing and health care services received for COVID-19 that was paid directly by health plan companies (insurers).
2. MDH was not able to separately break-out the enhanced COVID-19-related financing for Medical Assistance or MinnesotaCare from increased Federal Medical Assistance Percentage (FMAP); generally, MDH does not distinguish between federal and state sources for Medical Assistance and MinnesotaCare.

## What Do Minnesota Health Care Dollars Pay For?

In this report, MDH also shows what type of health care services (for example, visit with a doctor, a surgery) or goods (for example, prescription drugs, pacemaker) lead to health care spending, often by identifying *where* the care took place or *who* provided the care. MDH reports on eight broad categories of service types (Figure 9).

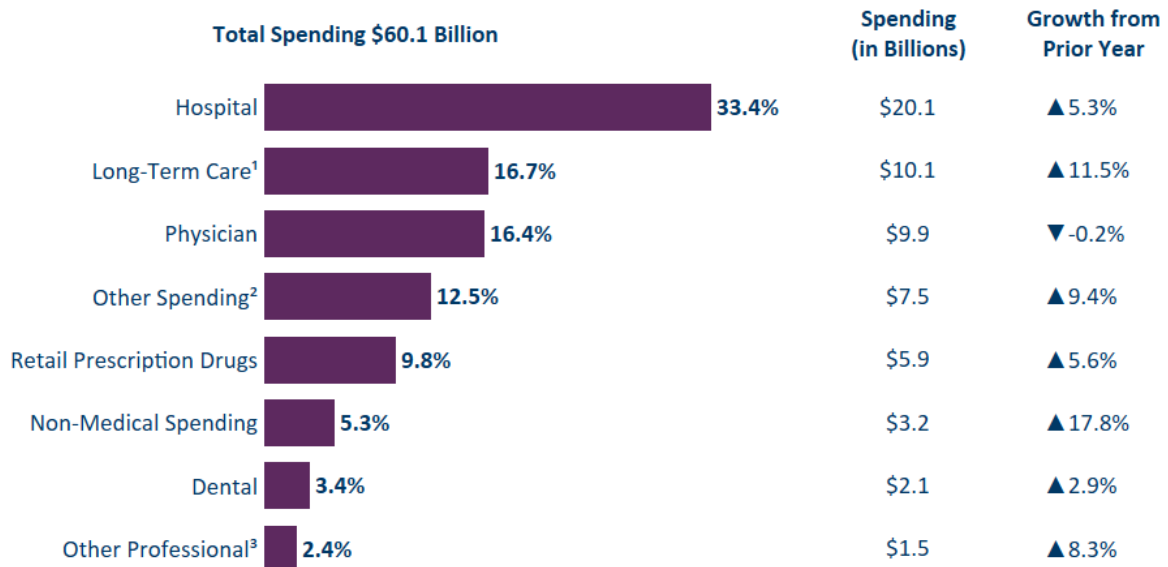
Analyzing health care spending across categories of service allows us to understand which types of health care services drive health care spending and observe potential shifts between service types across provider settings and over time.

The COVID-19 pandemic impacted the distribution of health care spending in 2020—most notably in the categories of physician services, long-term care services, and other spending—due to changes in utilization. This is a change from prior years, in which the distribution of health care spending remained relatively stable over time.

### Key Findings:

- Hospital spending and retail prescription drug spending continued its high pace of growth (5.3% and 5.6%, respectively).
- An influx of COVID-19 pandemic support spending (not directly tied to patient care) led to a large increase in other spending (12.5%).
- Spending on physician services declined 0.2%; it was the only category of service that declined, impacted by patient utilization.

**Figure 9: Distribution of Health Care Spending by Categories of Service in MN (2020)**



Source: MDH, Health Economics Program.

<sup>1</sup>Includes home health care services.

<sup>2</sup>Includes chemical dependency/mental health, durable medical equipment, public health spending, correctional facility health spending, Indian Health Services, not itemized spending, and uncategorized spending.

<sup>3</sup>Includes services provided by health practitioners who are not physicians or dentists.

Hospital spending—encompassing both inpatient services and outpatient care delivered by hospitals—continued to be the largest category of health care spending in Minnesota; it reached nearly \$20.1 billion in 2020 and represented approximately one-third of total spending over the past ten years. While not the fastest growing category of spending, hospital spending grew at a faster pace (5.3%) than physician and dental spending. Without the COVID-19 pandemic support spending (about \$1.0 billion), it is likely that hospital services spending would have declined in 2020.

### A Closer Look: Hospital Utilization and Trends

Hospital spending in 2020 was dampened by dynamics brought on by the COVID-19 pandemic—including limits on elective procedures, individuals' decisions to forgo non-emergency health care services, the limited availability of capacity due to treating infectious COVID-19 patients, and challenges related to staffing. At the same time, the considerable number of COVID-19 hospitalizations helped to partially offset even lower hospital use.<sup>28</sup> In 2020, there were approximately 22,000 Minnesotans admitted to hospitals who had a COVID-19 diagnosis.

Yet, overall, utilization for both inpatient and outpatient services declined in 2020. There were nearly double-digit decreases in acute care admissions, inpatient days, and outpatient visits—the largest decrease in these categories over the last ten years (Figure 10). The only hospital use measure that increased in 2020 was the average length of stay, which has been steadily increasing over the past several years (not shown). This year's increase in the average length of stay was likely because patients who were hospitalized (for any reason) during the pandemic were generally higher acuity patients who required more complex care; in addition, many COVID-19 patients had long lengths of hospital stays as patients recovered from illness. In a typical year, the average length of stay is between 4.5 and 5.0 days.<sup>29</sup> In contrast, national COVID-19 patients were in the hospital for an average of 9 days, and COVID-19 patients, who required intubation or ventilators to help them breathe, had lengths of stay that averaged 22 days.<sup>30</sup>

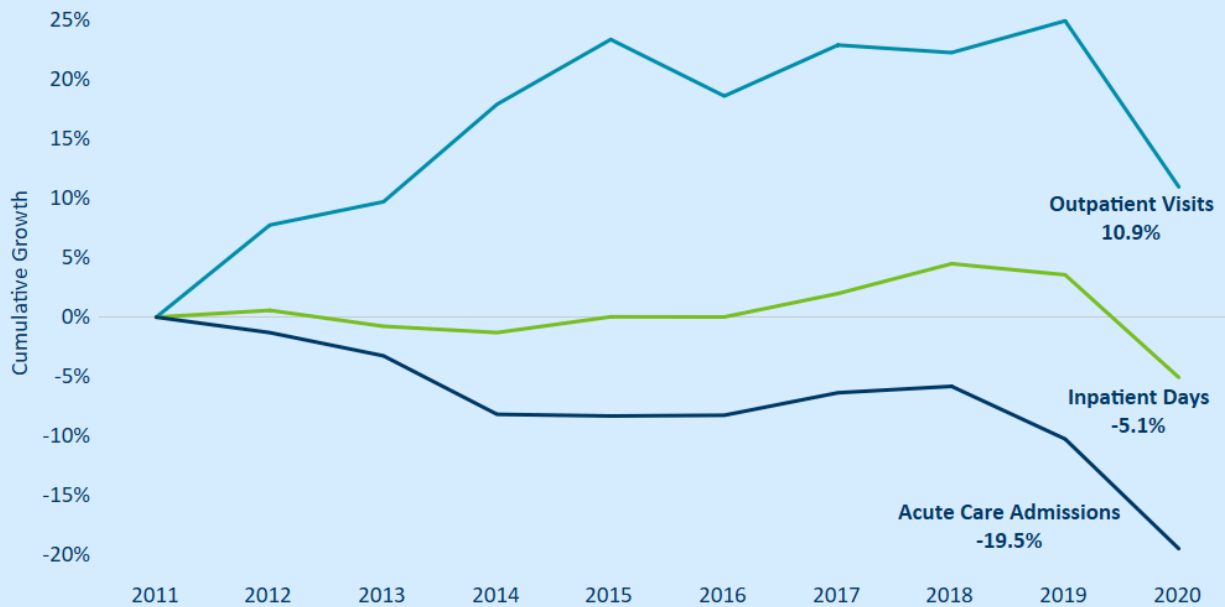
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<sup>28</sup> MDH, [Health Economics. Minnesota Community Hospital Trends, 2017 – 2020: A Data Short Take. \[PDF\]](https://www.health.state.mn.us/data/economics/docs/shorttakehosptrends.pdf)  
[www.health.state.mn.us/data/economics/docs/shorttakehosptrends.pdf](https://www.health.state.mn.us/data/economics/docs/shorttakehosptrends.pdf)

<sup>29</sup> MDH, [Health Economics. Minnesota Community Hospital Trends, 2017 – 2020: A Data Short Take. \[PDF\]](https://www.health.state.mn.us/data/economics/docs/shorttakehosptrends.pdf)  
[www.health.state.mn.us/data/economics/docs/shorttakehosptrends.pdf](https://www.health.state.mn.us/data/economics/docs/shorttakehosptrends.pdf)

<sup>30</sup> National estimates from [National Center for Health Statistics, In-hospital Mortality Among Hospital Confirmed COVID-19 Encounters by Week From Selected Hospitals. Accessed November 21, 2022. www.cdc.gov/nchs/covid19/nhcs/hospital-mortality-by-week.html](https://www.cdc.gov/nchs/covid19/nhcs/hospital-mortality-by-week.html)

**Figure 10: Cumulative Change in Inpatient Admissions and Days, and Outpatient Visits**



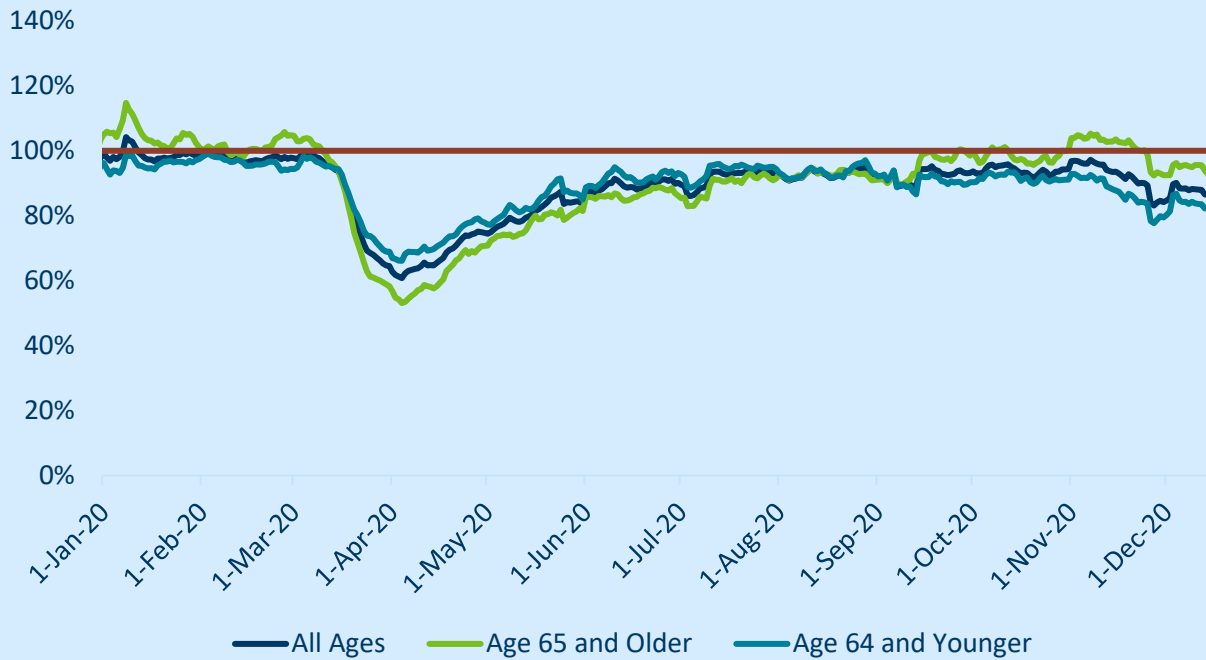
Source: MDH, Health Economics Program analysis of Hospital Annual Report data.

The trend of lower observed hospital admissions in 2020, relative to predicted admissions (monthly patterns from previous years), was evident for nearly all age groups following the emergence of the SARS-COV-2 virus responsible for the COVID-19 pandemic (Figure 11).<sup>31</sup> This decline was not consistent throughout the year, however. Hospital admissions fell most dramatically at the start of the pandemic (March through May 2020). While admissions increased afterwards, overall admissions remained lower throughout the end of 2020. This pattern was more noticeable for Minnesotans aged 64 and younger—even into October 2020 when average admissions as a percent of predicted admissions began to increase above predicted admission levels for Minnesotans aged 65 and older; this also coincided with a surge in COVID-19 cases that occurred during the winter of 2020.

<sup>31</sup> National results were similar. [Heist T, Schwartz K, Butler S. KFF Trends in Overall and Non-COVID-19 Hospital Admissions. February 18, 2021. www.kff.org/report-section/trends-in-overall-and-non-covid-19-hospital-admissions-issue-brief/](https://www.kff.org/report-section/trends-in-overall-and-non-covid-19-hospital-admissions-issue-brief/)



**Figure 11: Seven-Day Average Admissions as a Percent of Predicted Admissions; January 1, 2020 – December 15, 2020**



Source: unpublished MDH, Health Economics Program analysis from the Minnesota Hospital Association Discharge Dataset. Data excludes all inpatient claims that are not bill type 111 (admit through discharge) to avoid duplication and normal newborns (MS-DRG 795) to avoid double counting admissions for delivery. Time series models were fit using autoregressive integrated moving average and Holt Winter's multiplicative.

As noted elsewhere, despite the dramatic disruption of hospital-based (or affiliated) health care use, the availability of COVID-19 pandemic support spending helped hospitals maintain their margins.<sup>32,33</sup>

Historically, the second largest category of service has been physician services spending. Due to changes in utilization throughout 2020, physician services spending remained stagnant at nearly \$9.9 billion, even though it's estimated that this category included at least \$374.8 million from COVID-19 pandemic support funding. Physician services represented only 16.4% of total spending—compared to 17.5% of total spending in 2019.<sup>34</sup> Several analyses have attempted to determine the level of reduced utilization in physician services due to the COVID-19 pandemic. Though data is still sparse, several analyses have found that although some preventive

<sup>32</sup> MDH, Health Economics Program. Three Key Trends for Minnesota Community Hospitals in 2020. March 2022. The median operating margin for 2020 was the same as 2019 (3.5%) after accounting for funding disseminated as part of the COVID-19 relief funds. This analysis looked at total number of admissions, not the reason for the decline. Furthermore, this analysis found the number of full-time equivalent staff (FTEs) employed in hospitals decreased 3.1% from 2019, to levels not seen since 2016.

<sup>33</sup> Within hospital spending, just over half of the COVID-19 growth was related to increased inpatient hospital spending. Fees paid by patient utilization is how the majority of hospitals pay for expenditures.

<sup>34</sup> MDH is not able to ascertain primary care investments (or physician-level) spending by county as our data is aggregated.

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services were beginning to increase towards the end of 2020, many remained below 2019 service levels.<sup>35</sup> Based on unpublished Minnesota data generated from the Minnesota All Payer Claims Database (MN APCD)—the largest aggregation of health care transaction data in the state—there was a nearly 17% decrease in clinic/office visits in 2020.

In contrast, long-term care spending experienced high growth (11.5%), reaching over \$10.0 billion. In 2020, it represented 16.7% of total spending, compared with just 16.0% in 2019; long-term care was responsible for nearly 30% of all 2020 spending growth. This was due largely to the effects of COVID-19 pandemic support spending (increasing spending by \$698.1 million) and an increase in Medical Assistance waiver spending.

Other spending, including uncategorized spending, also demonstrated elevated growth (9.4%), reaching \$7.5 billion. Growth in this category of spending was led by chemical dependency and mental health services and uncategorized spending, which included some COVID-19 pandemic support spending that could not be otherwise allocated.<sup>36</sup>

Retail prescription drug spending—totaling \$5.9 billion and representing 9.8% of total spending—also displayed high growth (5.6%), but to a lesser extent than other fast-rising categories. Compared to other categories, growth in prescription drug spending was less impacted by utilization declines than other categories; although there were new drugs on the market, generic prescribing continued to grow and fewer physician visits may have led to fewer new brand prescription drugs being written.<sup>37</sup> Since the retail prescription data is aggregated in this report, it's not possible to directly analyze why retail prescription drug spending increased.

The other three categories of service—non-medical spending, other professional services, and dental—had varying levels of growth based on the effects from the COVID-19 pandemic. Non-medical spending [which includes the net cost of insurance and administrative expenses, and other professional services spending (which includes services provided by health practitioners who are not physicians or dentists)] experienced higher growth (17.8% and 8.3%, respectively), reaching \$3.2 billion and \$1.5 billion each. In contrast, dental spending, likely affected by the pandemic and related office closures, saw low growth (2.9%), reaching over \$2.0 billion.

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<sup>35</sup> Martin K, et al. Health Care Cost Institute (HCCI). The Impact of COVID-19 on the Use of Preventive Health Care. April 16, 2021. Cox C, Amin K, Kamal R. How Have Health Spending and Utilization Changed During the Coronavirus Pandemic? Peterson-KFF Health Systems Tracker. March 22, 2021.

<sup>36</sup> For COVID-19 related spending it is possible some spending may have gone to health care providers, but it was not possible to attribute this spending to distinct categories of service.

<sup>37</sup> Hartman M, et al. National Health Care Spending In 2020: Growth Driven By Federal Spending In Response To The COVID-19 Pandemic. Health Affairs. December 15, 2021.

## Health Care Projections

To assist in understanding the predicted trajectory of future health care spending, MDH produces ten-year health care spending projections. In this year's report, MDH projects spending from 2021 through 2030.

The typical approach to projecting health care spending involves building off historical trends and relationships between key variables driving health care spending. However, when structural disruptions in the economy (or in health care) affect these key variables in new ways—such as with health insurance coverage, prices, utilization, and state and federal policy changes during the COVID-19 pandemic—standard projection models perform poorly. For this report MDH performed additional modeling that considered not only historical factors, but also real-time patterns (2021 and 2022) of health care utilization and spending.<sup>38</sup>

### Future Health Care Spending

From 2021 through 2030, health care spending in Minnesota is projected to continue increasing, nearly reaching \$106.2 billion by 2030 (over \$46.0 billion more than 2020 spending). This acceleration equates to an average annual increase of 5.5%, compared to 5.0% per year from 2011 through 2020. The anticipated higher level of spending growth will contribute an additional \$44.6 billion in health care spending beyond what would have occurred had growth remained at the lower average rate (5.0%) over the next 10 years (Figure 12).

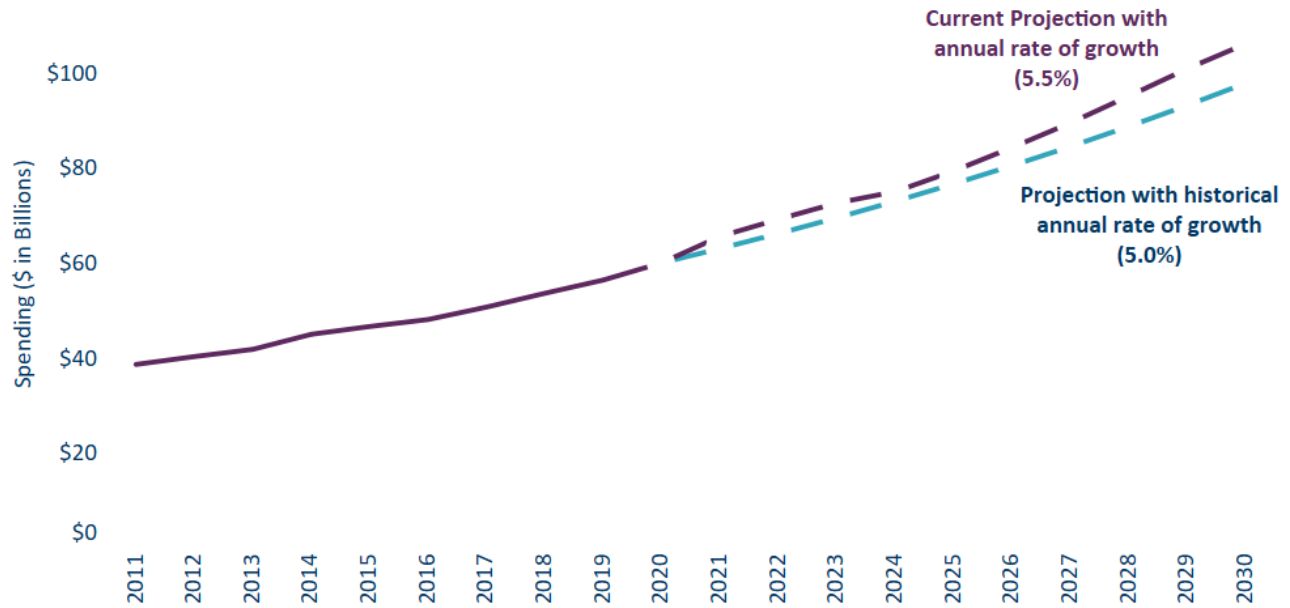
#### Key Findings:

- MDH projects 2021 spending to return to levels at, or above, pre-COVID-19 spending for most payer types.
- Spending is expected to increase at an average annual rate of 5.5% per year from 2021 through 2030, one-half percentage point above the average annual rate experienced from 2011 to 2020.
- By 2030, annual spending is projected to reach nearly \$106.2 billion, or \$17,530 per Minnesotan, up from \$10,530 in 2020.
- The share of spending by private payers is projected to decrease over the next ten years to 46.0% of spending.

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<sup>38</sup> A more detailed description of the approach is included in Appendix C: Health Care Spending Estimate and Projection Methodology.

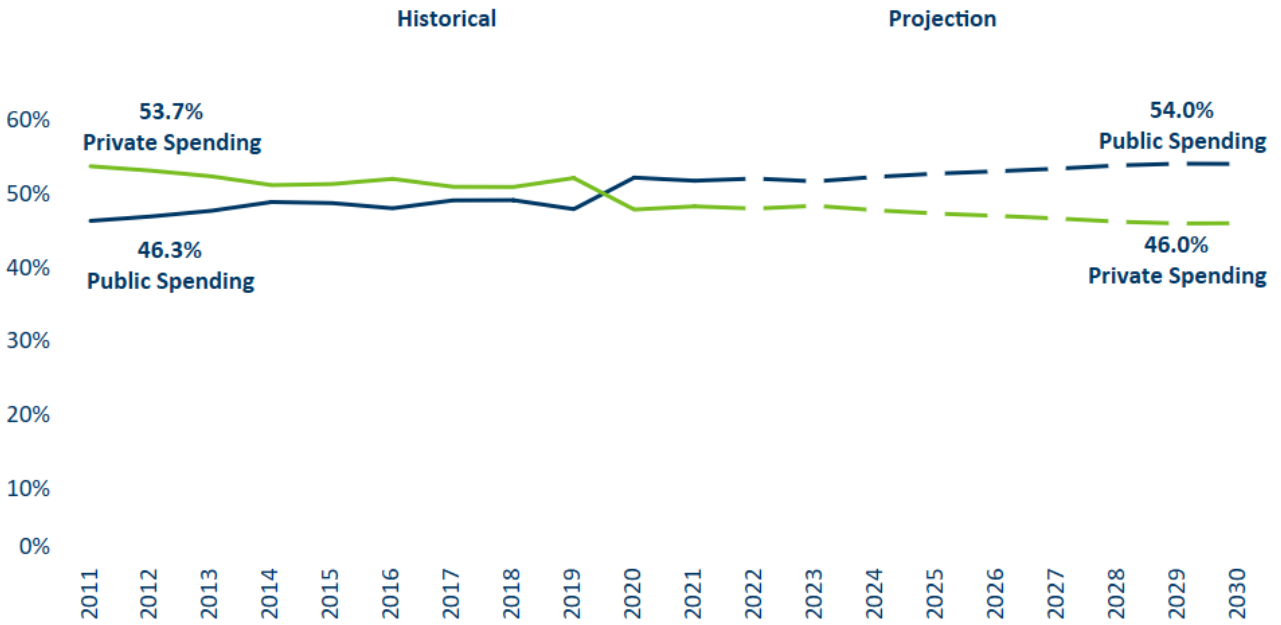
**Figure 12: Minnesota Health Care Spending – Historical and Projected**



Source: Historical spending estimates from MDH, Health Economics Program; projections from Oliver Wyman. Health care spending includes medical and prescription drug spending.

This projected growth spans both private and public payers, though public payer spending is anticipated to grow more rapidly than private payer spending (on average 6.0% per year, compared to 4.9% per year), primarily due to higher per person spending. As a result, public payer spending (which exceeded private payer spending for the first time in 2020), partly due to slower private spending and government support payments, is expected to continue to account for the majority of spending over the next decade. By 2030, it is projected to represent 54.0% of all health care spending in the state (Figure 13).

**Figure 13: Public and Private Health Care Spending (Share of Spending)**



Source: Historical spending estimates from MDH, Health Economics Program; projections from Oliver Wyman. Health care spending includes medical and prescription drug spending.

Certain COVID-19 federal pandemic support spending is expected to continue, at a reduced rate, through 2026, adding over \$3.6 billion in aggregate increased spending. This represents a minor contribution to the increase in public spending, which is primarily driven by rapid growth of Medicare (7.7%) and Medical Assistance (6.2%).

From 2021 through 2030, all categories of service are expected to increase, in patterns largely consistent with past trends. Outpatient hospital, long-term care, and other spending have the fastest rates in MDH’s 10-year projections. Despite ongoing discussions among stakeholders, the public, and policymakers about the sustainability of health care spending increases, this continued forecasted increase in spending suggests that more impactful work is needed within Minnesota to constrain health care spending.

## Summary & Discussion

Health care spending for Minnesota residents continued to exhibit high growth in 2020, despite the effects from the COVID-19 pandemic on utilization and in part because of government infusion of resources in response to it. Over the next ten years spending is predicted to continue along a high rate of growth—averaging 5.5% per year—and reaching nearly \$106.2 billion by 2030. This spending will be \$46.0 billion higher than 2020, when spending first topped \$60 billion.

MDH’s analysis highlights the following key findings:

- **Spending:** In 2020, health care spending increased 6.4% from 2019; this was the fourth consecutive year of spending growth above 5.0%. Annual spending reached \$10,530 per Minnesotan (an increase of 5.2% from 2019).
- **COVID-19 impact:** Nearly \$3.2 billion of the 2020 spending increase was due to COVID-19 pandemic support spending, nearly all (88%) of the increase in spending from 2019. It compensated for the decline in private spending that would not have occurred in the absence of the pandemic and added to otherwise modest public spending growth.
- **Economy:** Health care spending grew faster than the economy; this led to health care spending as a proportion of the state’s overall economy to increase 1.4 percentage points in 2020 to 16.1%.
- **Spending drivers:** COVID-19 pandemic support spending—which provided health care services and supported providers during the pandemic—was the primary driver of growth. Because it was directed at segments of the industry accounting for a large share of spending (such as hospitals), it mirrored past patterns of spending growth.
- **Private payer spending:** For the first time, private payer spending represented less than half of total health care spending in Minnesota; this was directly attributable to COVID-19 pandemic support spending from the government, changes to public program eligibility criteria, and the pandemic-related decline in health care use.
- **Hospital spending:** Health care spending by hospital entities—in inpatient and outpatient settings—remained the single largest spending category at over \$20.0 billion, accounting for 33.4% of total spending. It contributed 27.7% to total spending growth.
- **Prescription drugs:** Retail prescription drug spending accounted for 9.8% of total spending, or \$5.9 billion, and grew slightly faster than hospital spending in 2020, at 5.6%. Use of prescription drugs was not impacted by the COVID-19 pandemic in the same way as other health care services.
- **Spending projections:** Health care spending is projected to increase an average of 5.5% per year from 2021 through 2030; by 2030, annual spending is projected to reach nearly \$106.2 billion—over \$46.0 billion higher than 2020 spending. An additional \$3.6 billion in mostly federal COVID-19 pandemic support spending is projected between 2021 and 2026.

Although this report covers a period of time with substantial economic uncertainty, and the first year of the COVID-19 pandemic, the take-aways are similar to past reports. MDH remains concerned that, despite continued high levels of health spending growth, there is scant evidence of corresponding gain in health outcomes. While defining the “right” amount of health care spending or growth is difficult, it is worth considering the impact that increasing health care spending has on the availability of funds for other uses. Ultimately, society decides what is acceptable or bearable.

In past reports, MDH mentioned promising developments taking place nationally and in other states that Minnesota can watch and learn from. They include:

## 2020 Health Spending Estimates and Ten-Year Projections

- Adoption and evaluation of health spending targets or global budgets.<sup>39</sup>
- Increased transparency in prescription drug, hospital, and health plan pricing.
- Reimagining how health care can contribute to whole person care (rather than functioning on “just” acute care) using public health investments and primary care models.

This report underscores, again, that high health spending and unrestrained growth will negatively affect more and more Minnesotans and limit investments in other policy areas. This is true for Minnesota households, businesses, and state government. MDH sees opportunities in learning from initiatives and experimentation elsewhere to design policies that could help constrain unsustainable spending or otherwise create a more rational, intentional system of spending growth based on better understanding the drivers.

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<sup>39</sup> [MDH, Health Economics Program. A Policy Short-take: State Policies that Establish Health Care Spending Targets \[PDF\] www.health.state.mn.us/data/economics/docs/shorttakespendingtargets.pdf](https://www.health.state.mn.us/data/economics/docs/shorttakespendingtargets.pdf), describes the policy levers other states are using to moderate health care spending growth, and identifies levers Minnesota historically employed to control spending growth. Since this policy-short take was written, there are additional states that have established benchmark programs (for example, Nevada, New Jersey, and Washington); states with updated results and other states without any yet available (for example, Connecticut and Oregon), and states without future established benchmarks beyond 2023 or 2024 (for example, Massachusetts, Delaware, and Rhode Island). Manatt. State Benchmarking Models: Promising Practices to Understand & Address Health Care Cost Growth. June 17, 2021.

## Appendix A: Actuarial Certification



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### ACTUARIAL CERTIFICATION

<b>TO:</b>	Mr. Stefan Gildemeister Director, Health Economics Program Minnesota Department of Health 85 East Seventh Place, Suite 220 Saint Paul, MN 55101
<b>DATE:</b>	June 3, 2022
<b>FROM:</b>	Peter Kaczmarek, FSA, MAAA
<b>SUBJECT:</b>	Actuarial Certification of Minnesota's Health Spending Estimates for 2020

I, Peter Kaczmarek, am a Fellow in the Society of Actuaries, and a member of the American Academy of Actuaries, and am qualified to provide the following certification.

This actuarial certification applies to the Minnesota Department of Health (MDH) final estimate of statewide health spending expenditures in Minnesota for calendar year 2020.

#### Reliance

In performing the review of the MDH's final estimate of statewide health spending expenditures for calendar year 2020 and arriving at my opinion, I used and relied on information provided by the MDH staff, including tables of the underlying data supporting the estimates, methodology documentation and follow up clarification.

I used and relied on this information without independent investigation or audit. If this information is inaccurate, incomplete, or out of date, final estimates of statewide health spending expenditures for calendar year 2020 and prior years and any resulting conclusions may need to be revised. While I have relied on the data provided without independent investigation or audit, I have reviewed the data for consistency and reasonableness. Where I found the data inconsistent or unreasonable, I requested clarification.

#### Actuarial Certification

In my opinion, the data sources and methodologies MDH has utilized are valid and reasonable. I certify that MDH's estimate of Minnesota's total statewide health spending expenditures for calendar year 2020 of \$60.09 billion, Minnesota's statewide health spending expenditures less Medicare and long-term care for calendar year 2020 of \$39.76 billion, and Minnesota's statewide health spending expenditures less COVID-19 related spending provided by local, state and federal governments for calendar year 2020 of \$56.90 billion are reasonable. Tables 1 and 2 on page three summarize these estimates.

This certification conforms to the applicable Actuarial Standards of Practice promulgated by the Actuarial Standards Board.



## 2020 Health Spending Estimates and Ten-Year Projections

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Peter Kaczmarek, FSA, MAAA

6/3/2022

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Date

## 2020 Health Spending Estimates and Ten-Year Projections

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**Table 1**  
**Where Minnesota Health Care Spending Came From in 2020**

Source of Funding	Total Spending		Total Spending Less Medicare & LTC		Total Spending Less COVID-19 Related Spending (Millions) <sup>3</sup>	
	(Millions)	%	(Millions)	%	(Millions)	%
Medicare	\$ 11,447	19.1%			\$ 11,447	20.1%
Medical Assistance	\$ 13,202	22.0%	\$ 7,144	18.0%	\$ 13,202	23.2%
MNCare & Other Public <sup>1</sup>	\$ 6,694	11.1%	\$ 5,855	14.7%	\$ 3,506	6.2%
Private Health Insurance	\$ 21,159	35.2%	\$ 20,862	52.5%	\$ 21,159	37.2%
Other Private <sup>2</sup>	\$ 1,138	1.9%	\$ 1,138	2.9%	\$ 1,138	2.0%
Out-of-Pocket	\$ 6,448	10.7%	\$ 4,757	12.0%	\$ 6,448	11.3%
<b>All Sources of Funding</b>	<b>\$ 60,087</b>	<b>100.0%</b>	<b>\$ 39,755</b>	<b>100.0%</b>	<b>\$ 56,899</b>	<b>100.0%</b>

<sup>1</sup>Major sources of "Other Public" includes public workers' compensation, public health spending, and Veterans Affairs.

<sup>2</sup>"Other Private" includes private workers' compensation and auto medical insurance.

<sup>3</sup>Total Spending Less COVID-19 Related Spending<sup>3</sup> excludes one-time spending provided by local, state, and federal governments not covered through insurance and generally not directly linked to patient care (e.g., Provider Relief Fund, Paycheck Protection Program, etc.). It includes COVID-related care covered by health insurance (testing, medical care, prescription drugs).

**Table 2**  
**Where Minnesota Health Care Dollars Were Spent in 2020**

Category of Service	Total Spending		Total Spending Less Medicare & LTC		Total Spending Less COVID-19 Related Spending (Millions) <sup>1</sup>	
	(Millions)	%	(Millions)	%	(Millions)	%
Hospital	\$ 20,052	33.4%	\$ 14,806	37.2%	\$ 18,683	32.8%
Physician Services	\$ 9,867	16.4%	\$ 7,594	19.1%	\$ 9,492	16.7%
Long-Term Care (Inc. Home Care)	\$ 10,058	16.7%			\$ 9,360	16.4%
Retail Prescription Drugs	\$ 5,916	9.8%	\$ 4,700	11.8%	\$ 5,915	10.4%
Dental	\$ 2,058	3.4%	\$ 2,035	5.1%	\$ 1,878	3.3%
Other Professional Services <sup>2</sup>	\$ 1,469	2.4%	\$ 1,331	3.3%	\$ 1,349	2.4%
Chemical Dependency/Mental Health	\$ 1,984	3.3%	\$ 1,984	5.0%	\$ 1,815	3.2%
Other Medical Spending <sup>3</sup>	\$ 5,519	9.2%	\$ 4,557	11.5%	\$ 5,244	9.2%
Other Non-Medical Spending <sup>4</sup>	\$ 3,164	5.3%	\$ 2,749	6.9%	\$ 3,164	5.6%
<b>Total Spending</b>	<b>\$ 60,087</b>	<b>100.0%</b>	<b>\$ 39,755</b>	<b>100.0%</b>	<b>\$ 56,899</b>	<b>100.0%</b>

<sup>1</sup>Total Spending Less COVID-19 Related Spending<sup>1</sup> excludes one-time spending provided by local, state, and federal governments not covered through insurance and generally not directly linked to patient care (e.g., Provider Relief Fund, Paycheck Protection Program, etc.). It includes COVID-related care covered by health insurance (testing, medical care, prescription drugs).

<sup>2</sup>"Other Professional Services" includes spending for services by private-duty nurses, chiropractors, podiatrists, and other health practitioners who are not physicians or dentists.

<sup>3</sup>"Other Medical Spending" includes not itemized, durable medical equipment, and uncategorized spending, for spending such as public health spending, correctional facility health spending, Indian Health Services, and school based spending.

<sup>4</sup>"Other Non-Medical Spending" includes health plan administrative expenses and revenues in excess of expenses.

## Appendix B:

This appendix includes additional figures and tables that represent health care spending results found in the broader Minnesota Health Care Spending: 2020 Estimates and Ten-Year Projections report.

### Overview of Enrollment by Primary Source of Insurance Coverage

Minnesotans' enrollment in private insurance coverage in 2020 was stable (0.5% growth, lower than total population growth) from 2019; in 2020, 59.2% of Minnesotans were enrolled in a form of private coverage. This compared to an increase (3.3%) in the number Minnesotans enrolled in public program coverage; in 2020, 36.4% of Minnesotans were enrolled in public coverage (i.e., Medicare, Medical Assistance, MinnesotaCare, and TRICARE). The number of Minnesotans who were uninsured decreased (decrease of 6.0%) in 2020, with approximately 4.3% of Minnesotans without health insurance in 2020.

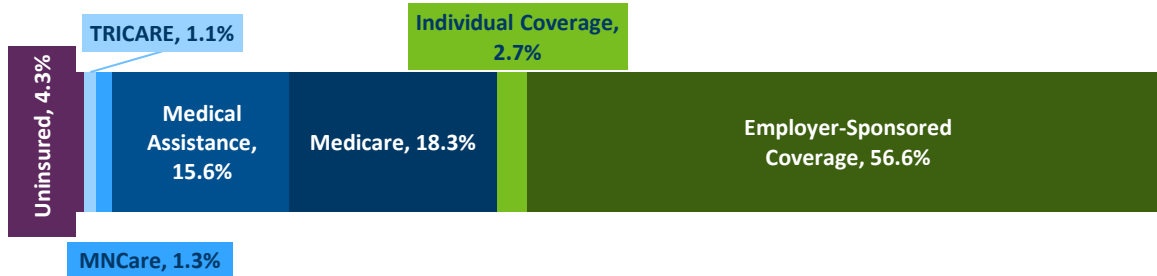
Previously released MDH Health Economics Program publications indicated a decline in private enrollment. The methods that generated these estimates, which were focused on estimates of uninsurance rates during the pandemic, used different data for enrollment estimates and primary source of insurance calculations to match those used in the Minnesota Health Access Survey. The data for enrollment estimates and methods for estimating primary source of enrollment for the spending estimates differ; as such, estimates of enrollment differ as well.

Based on prior analyses, it is important to understand that insurance coverage (and health care spending) varies based on multiple factors, such as level of education, employment characteristics, geography of residence, economic development region, race and ethnicity, age, country of origin, citizenship, and income—for example, based on Minnesota Health Access Survey results, the uninsurance rate is historically higher for people of color and American Indians than the statewide average.<sup>40</sup>

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<sup>40</sup> MDH Health Economics Program and University of Minnesota School of Public Health (SHADAC). Minnesota Health Access Survey: 2021 Key Findings. April 2022; MDH Health Economics Program Chartbook 6, April 2022. [Ortaliza J, et. al. How do Health Expenditures Vary Across the Population. Peterson-KFF Health System Tracker. November 12, 2021. www.healthsystemtracker.org/chart-collection/health-expenditures-vary-across-population.](https://www.healthsystemtracker.org/chart-collection/health-expenditures-vary-across-population)

**Figure B1: Minnesotans Primary Source of Insurance Coverage<sup>41</sup>**



Sources: MDH Health Economics Program; Minnesota State Demographic Center, Census 2020 Redistricting Data. Accessed December 2021. Previously released MDH Health Economics Program publications indicated a decline in private enrollment. The methods that generated these estimates, which were focused on estimates of uninsurance rates during the pandemic, used different data for enrollment estimates and primary source of insurance calculations to match those used in the Minnesota Health Access Survey. The data for enrollment estimates, as well as methods for estimating primary source of enrollment for the spending estimates differ; as such, estimates of enrollment differ as well. Estimates are based off of average enrollment throughout the year.

**Table B1: Annual Health Care Spending Growth, Per Capita Health Care Spending, Minnesota and the U.S., and Annual Per Capita Health Care Spending**

	2016	2017	2018	2019	2020
<b>Annual Health Care Spending Growth (from the prior year):</b>					
Minnesota	3.2%	5.4%	5.7%	5.2%	6.4%
U.S.	4.6%	4.0%	4.6%	4.3%	10.3%
<b>Per Capita Health Care Spending:</b>					
Minnesota	\$8,720	\$9,121	\$9,575	\$10,012	\$10,530
U.S.	\$9,722	\$10,051	\$10,456	\$10,859	\$11,861
<b>Annual Per Capita Health Care Spending Growth (from the prior year):</b>					
Minnesota	2.4%	4.6%	5.0%	4.6%	5.2%
U.S.	3.9%	3.4%	4.0%	3.8%	9.2%

Source: Minnesota Department of Health, Health Economics Program. MDH analysis of the Centers for Medicare & Medicaid Services: 2020 National Health Expenditure Accounts, NHE tables (Health Consumption Expenditures). U.S. Department of Commerce, Bureau of

<sup>41</sup> Enrollment percentages are based on primary source of insurance coverage, meaning MDH is only counting individuals with insurance coverage in one payer’s insurance coverage. For example, some Minnesotans may have dual-coverage throughout a calendar year (i.e., a Minnesotan may have both private insurance and Medicare coverage within one calendar year; in this instance Medicare coverage would be considered primary. MDH does include respective costs by payers).

## 2020 Health Spending Estimates and Ten-Year Projections

Economic Analysis: Gross Domestic Product (nominal), updated through March 2022. Health care spending includes medical and prescription drug spending.

Appendix Table B1 shows annual health care spending growth (from the prior year), per capita spending, and annual per capita health care spending growth (from the prior year) for Minnesota and the United States. Annual health care spending has grown each year in Minnesota and the United States. In 2020, health care spending grew 6.4% in Minnesota and 10.3% in the United States. Over the same period (in 2020), per capita spending reached over \$10,500 in Minnesota and over \$11,800 nationally.

### Table B2: Health Care Spending and Distribution by Categories of Service

Millions of Dollars	2016	2017	2018	2019	2020	Change from Prior Year
Inpatient Hospital	\$8,690	\$9,202	\$9,519	\$9,822	\$10,281	4.7%
Outpatient Hospital	\$7,323	\$7,895	\$8,416	\$9,227	\$9,771	5.9%
Physician Services	\$8,885	\$9,104	\$9,605	\$9,887	\$9,867	-0.2%
Long-Term Care <sup>1</sup>	\$7,490	\$7,932	\$8,571	\$9,024	\$10,058	11.5%
Retail Prescription Drugs	\$5,224	\$5,199	\$5,287	\$5,605	\$5,916	5.6%
Dental	\$1,602	\$1,813	\$1,930	\$1,999	\$2,058	2.9%
Other Professional Services <sup>2</sup>	\$1,172	\$1,216	\$1,295	\$1,357	\$1,469	8.3%
Other Spending <sup>3</sup>	\$7,772	\$8,408	\$9,055	\$9,540	\$10,666	11.8%
<b>Total</b>	<b>\$48,158</b>	<b>\$50,770</b>	<b>\$53,678</b>	<b>\$56,461</b>	<b>\$60,087</b>	<b>6.4%</b>

Distribution of Spending	2016	2017	2018	2019	2020
Inpatient Hospital	18.0%	18.1%	17.7%	17.4%	17.1%
Outpatient Hospital	15.2%	15.6%	15.7%	16.3%	16.3%
Physician Services	18.4%	17.9%	17.9%	17.5%	16.4%
Long-Term Care <sup>1</sup>	15.6%	15.6%	16.0%	16.0%	16.7%
Retail Prescription Drugs	10.8%	10.2%	9.8%	9.9%	9.8%
Dental	3.3%	3.6%	3.6%	3.5%	3.4%
Other Professional Services <sup>2</sup>	2.4%	2.4%	2.4%	2.4%	2.4%
Other Spending <sup>3</sup>	16.1%	16.6%	16.9%	16.9%	17.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: MDH, Health Economics Program.

<sup>1</sup> Includes home health care services.

<sup>2</sup> Includes services provided by health practitioners who are not physicians or dentists.

<sup>3</sup> Includes chemical dependency and mental health, other medical spending (includes not itemized and durable medical equipment), health plan administrative expenses and revenues in excess of expenses, and uncategorized spending (for spending such as public health spending, correctional facility health spending, Indian Health Services, school-based spending, and some COVID-19 pandemic support spending that was not able to be allocated).

## 2020 Health Spending Estimates and Ten-Year Projections

Appendix Table B2 shows the change in dollars and the share of spending by categories of service between 2016 and 2020. While all categories of service increased in terms of total dollars spent in most years, the proportion of total dollars (or shares of spending) declined and increased from 2016 and 2020 for some categories of service.

**Table B3: Health Care Spending and Distribution by Payer**

Millions of Dollars	2016	2017	2018	2019	2020	Change from Prior Year
<b>Public Spending, Total</b>	<b>\$23,119</b>	<b>\$24,918</b>	<b>\$26,360</b>	<b>\$27,040</b>	<b>\$31,343</b>	<b>15.9%</b>
Medicare	\$9,675	\$10,336	\$10,996	\$11,557	\$11,447	-1.0%
Medical Assistance	\$10,680	\$11,624	\$12,272	\$12,268	\$13,202	7.6%
Other Public Spending <sup>1</sup>	\$2,765	\$2,958	\$3,092	\$3,216	\$6,694	108.1%
<b>Private Spending, Total</b>	<b>\$25,038</b>	<b>\$25,852</b>	<b>\$27,318</b>	<b>\$29,421</b>	<b>\$28,744</b>	<b>-2.3%</b>
Private Health Insurance	\$18,229	\$18,838	\$19,904	\$21,582	\$21,159	-2.0%
Out-of-Pocket	\$5,623	\$5,799	\$6,150	\$6,540	\$6,448	-1.4%
Other Private <sup>2</sup>	\$1,186	\$1,215	\$1,264	\$1,298	\$1,138	-12.3%
<b>Total</b>	<b>\$48,158</b>	<b>\$50,770</b>	<b>\$53,678</b>	<b>\$56,461</b>	<b>\$60,087</b>	<b>6.4%</b>

Distribution of Spending	2016	2017	2018	2019	2020
<b>Public Spending, Total</b>	<b>48.0%</b>	<b>49.1%</b>	<b>49.1%</b>	<b>47.9%</b>	<b>52.2%</b>
Medicare	20.1%	20.4%	20.5%	20.5%	19.1%
Medical Assistance	22.2%	22.9%	22.9%	21.7%	22.0%
Other Public Spending <sup>1</sup>	5.7%	5.8%	5.8%	5.7%	11.1%
<b>Private Spending, Total</b>	<b>52.0%</b>	<b>50.9%</b>	<b>50.9%</b>	<b>52.1%</b>	<b>47.8%</b>
Private Health Insurance	37.9%	37.1%	37.1%	38.2%	35.2%
Out-of-Pocket	11.7%	11.4%	11.5%	11.6%	10.7%
Other Private <sup>2</sup>	2.5%	2.4%	2.4%	2.3%	1.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: MDH, Health Economics Program.

<sup>1</sup> Other public spending includes government workers' compensation, Veterans Affairs, and public health spending.

<sup>2</sup> Other major private payers include private workers' compensation and auto medical insurance.

Appendix Table B3 shows the change in dollars and the share of spending by payer between 2016 and 2020. While all payers increased in terms of total dollars spent, the proportion of total dollars (or shares of spending) changed in 2020 due to the COVID-19 pandemic and now public payers represent 52.2% of total spending.

**Table B4: Minnesota Private and Public Health Care Spending, Actual and Projected**

	Year	Private	Public	Total
<b>Actual Spending</b>	2011	\$20.8	\$17.9	\$38.7
	2012	\$21.4	\$18.9	\$40.4
	2013	\$21.9	\$20.0	\$41.9
	2014	\$23.0	\$22.0	\$45.0
	2015	\$23.9	\$22.7	\$46.7
	2016	\$25.0	\$23.1	\$48.2
	2017	\$25.9	\$24.9	\$50.8
	2018	\$27.3	\$26.4	\$53.7
	2019	\$29.4	\$27.0	\$56.5
	2020	\$28.7	\$31.3	\$60.1
<b>Projected Spending</b>	2021	\$31.7	\$34.0	\$65.6
	2022	\$33.2	\$36.0	\$69.3
	2023	\$35.1	\$37.5	\$72.7
	2024	\$35.8	\$39.2	\$75.1
	2025	\$37.6	\$41.8	\$79.4
	2026	\$39.6	\$44.7	\$84.3
	2027	\$41.7	\$47.8	\$89.5
	2028	\$44.0	\$51.2	\$95.2
	2029	\$46.4	\$54.5	\$100.9
	2030	\$48.8	\$57.3	\$106.2

Source: Historical spending estimates from MDH, Health Economics Program; projections from Oliver Wyman. Health care spending includes medical and prescription drug spending.

Appendix Table B4 shows the historical and projected spending for private and public payers from 2011 to 2030. By 2030, total spending is expected to reach nearly \$106.2 billion.

# Appendix C: Health Care Spending Estimate and Projection Methodology

## Overview

The Minnesota Department of Health’s (MDH), Health Economics Program (HEP) has been generating annual estimates of total health care spending for state residents for over 25 years, with estimates going back to 1993. MDH estimates health care spending not only in aggregate, but also by payers and categories of service. Generally, the data sources used for the development of Minnesota’s health care spending estimates are provided in aggregated form; thus, no patient-level information on volume, or utilization and location of health care services is available.

The data originate with payers of health care expenditures, such as health plans, government agencies, and consumers. Minnesota’s approach to developing spending estimates is a bottom-up approach—in that all health care spending for consumers is tracked by the source of payment. This is an important distinction from the top-down approach used by the Centers for Medicare & Medicaid Services (CMS); CMS uses a data flow from providers or equivalent estimates to construct national spending estimates. While MDH works to align with the CMS framework—using similar payer and categories of service—the data sources used by CMS are not available with the geographic specificity necessary to directly reproduce these estimates. As such, MDH utilizes the CMS framework by following its categorization by payers and by categories of service, but by using different data sources that are available on a state-specific basis. This process is further defined in Figure C 1.

In addition to estimates of historic spending, MDH contracts with an outside consultant to develop projections of future health care spending. Similar to the spending estimates, projection models are refreshed and computed annually to incorporate new estimates, move the projection window forward, and maintain alignment with methods and data updates employed by CMS.

This document outlines the methodological approach used to generate the historical spending estimates and projections. It identifies data sources and key assumptions made when working to isolate annual trends in

### What is “Health Care Spending”?

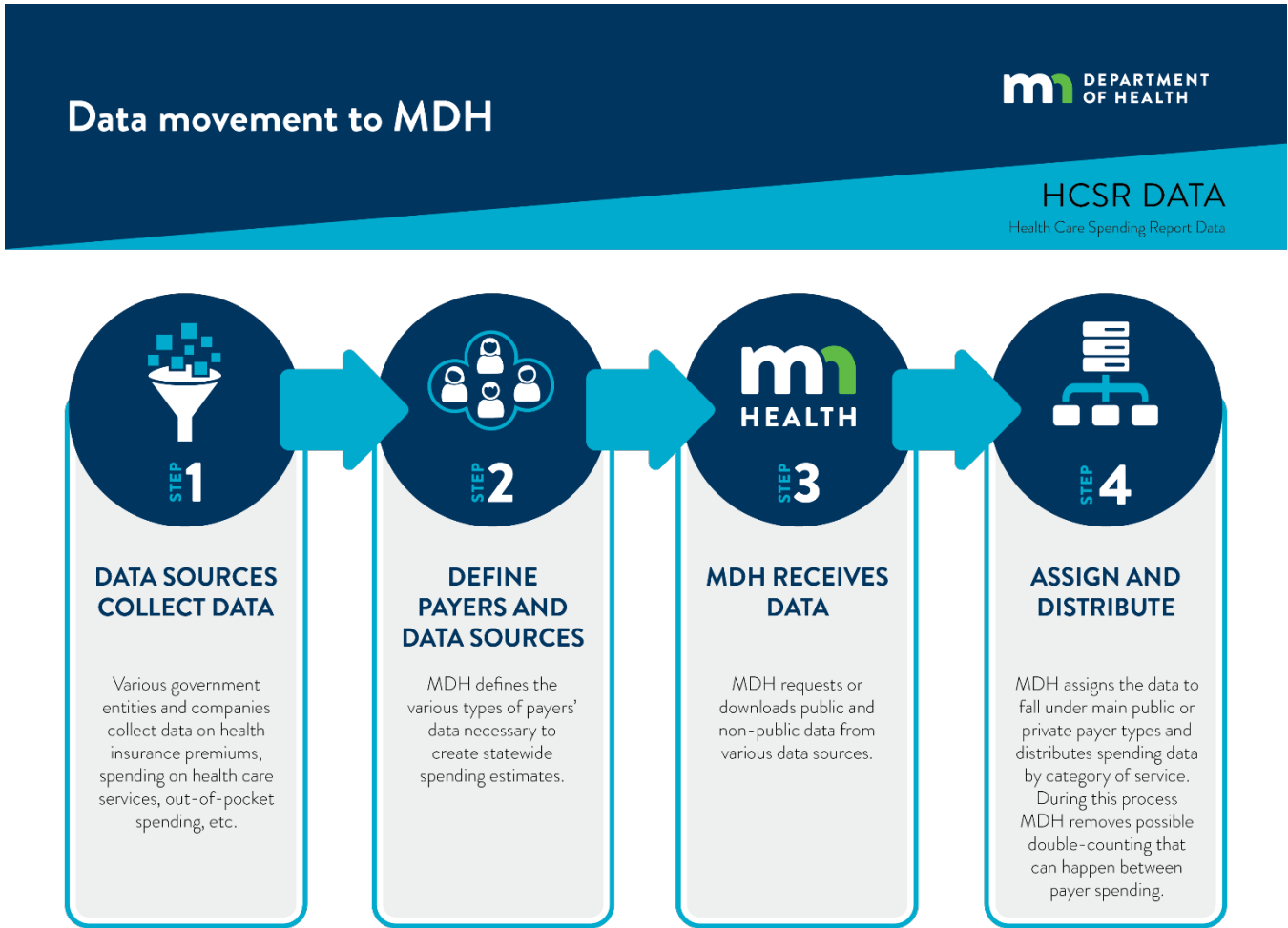
- The amount spent each calendar year (January 1 to December 31) for Minnesota residents on:
  - Medical care and prescription drug costs
  - Public health and administrative costs (to the government—federal, state, and local)
  - Program administrative costs and health plan company profits (i.e., net cost of insurance)
  - Health care spending related to the COVID-19 pandemic support spending
- Estimates do not explicitly include:
  - Private philanthropic care and investments (i.e., non-commercial research, structures, and equipment) in MDH’s spending estimates
  - Charity care from hospitals or other providers, unless the costs are part of a “transactional” cost of care, meaning the item is part of a medical claim or is funded by public program payments
- Capital expenditures by hospitals, clinics, and other providers—except in the sense that these costs are included in the prices paid for medical care from these providers



## 2020 Health Spending Estimates and Ten-Year Projections

expenses resulting from the use of health care services (“health care consumption”) by Minnesota residents. Estimated and projected spending are divided by payers and categories of service.

Figure C 1: Data Movement to MDH



## Estimating Historical Health Care Expenditures

Data on health care spending are available in aggregated form, generally submitted to MDH by payers of health care services. This means expenditure data that would allow for *detailed* decomposition of expenditure trends into drivers of health care growth—including changes in mix of services (for example, technology) health care demand due to aging or other population factors, or unit prices of various products and services—are not readily available.

## Changes to Historical Methodology

MDH utilizes the most up-to-date available data sources when creating health care spending estimates, including both public and not public sources. As a result, MDH’s historical health care spending estimates are *not* static, meaning that estimates from previous years are revised on an annual basis (for example, the 2020 spending report includes the most recent year of estimates and includes updated data for prior years.). This is

## 2020 Health Spending Estimates and Ten-Year Projections

similar to many of MDH’s data producers who update data on an ongoing basis—like the federal government for Medicare spending or the CMS National Health Expenditure Data (NHE).

On an annual basis, details are routinely reviewed and considered,<sup>42</sup> such as:

- There has been a change in the data collection process by a data provider
- The data source used for analysis continues to be available
- The definitions for categories of service have stayed consistent
- New source data become available
- Methodology can be improved
- National spending estimates produced by CMS changed source data or methodology<sup>43</sup>

If a new source of data is used, then historical spending is updated using the new source for at least five years, unless it is not available historically. In cases where there is a new source of data—or the methodology for a particular data source changed—data is blended to eliminate large fluctuations, particularly for categories of service spending, over time.

### Data Sources

The sources of funding are grouped by payer using similar categories to the NHE, a nationwide spending estimate conducted by CMS. The broad categories include private health insurance, consumer out-of-pocket spending, spending by other private payers, and spending by public payers—including Medicare, Minnesota Health Care Programs (MHCP)—and other public sources. In addition to health care spending, data on types of health insurance coverage and the state population are used to estimate per capita and per-enrollee spending, and the size of the overall Minnesota market. As shown in Table C1, we use several primary data sources to create health care spending estimates. The first three data sources—covering private spending, spending for state public program enrollees, and Medicare fee-for-service program spending—consistently capture the majority of total health care spending in the state.

**Table C1: Major Data Sources Used in Minnesota Health Care Spending Estimates**

Data Source Name	Types of Data	Sources of Data	Data Use
Health Plan Financial and Statistical Report (HPFSR)	Aggregated expenditure data, enrollment, revenue	Group purchasers (health plan companies)	Fully-insured and self-insured private health plans, Medicare Advantage, Medicare Supplement, and

<sup>42</sup> This is not an exhaustive list, rather it is an example of the types of questions considered as MDH generates and revises historical health care spending estimates.

<sup>43</sup> In 2020, CMS altered both historical estimate and projection methodology to account for the COVID-19 pandemic, as well as other modifications. Refer to [CMS NHE methodologies: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData).

## 2020 Health Spending Estimates and Ten-Year Projections

Data Source Name	Types of Data	Sources of Data	Data Use
			Medicare Prescription Drug Plan spending
Reports and Forecasts Division, Minnesota Department of Human Services (DHS)	Aggregated expenditure data, enrollment	Minnesota DHS	Minnesota Health Care Programs (MHCP) spending
Medicare Fee-for-Service (FFS) Spending Estimate	Aggregated expenditure	Centers for Medicare & Medicaid Services (CMS)	Medicare spending
Medicare Part D	Expenditure data, enrollment	Group purchasers (health plan companies), CMS	Estimating Medicare Part D and Medicare Advantage-PDP spending
Medical Expenditure Panel Survey (MEPS)	Out-of-pocket cost estimates	Agency for Healthcare Research and Quality (AHRQ)	Estimating out-of-pocket costs
National Health Expenditure Accounts	Out-of-pocket cost estimates	CMS	Estimating out-of-pocket costs, distribution of other public spending
Various administrative reports and data	Aggregate expenditures, enrollment	Federal and state agencies	Other public and private spending

The remainder of this section discusses approaches to estimating spending by primary payers in two broad categories: private and public sources of spending.

### Private Expenditures

Private payer spending includes all health care expenses incurred by non-public contributors to health care financing. This includes claims paid by private insurers, costs paid by consumers out-of-pocket, and expenses paid by other entities such as automobile insurance carriers, third-party administrators, and others.

### Private Insurance

For the fully-insured market, estimates of private health insurance spending are computed using data reported to MDH by health plan companies licensed to provide health insurance coverage in Minnesota. The vehicle of data collection is the annual Health Plan Financial and Statistical Report (HPFSR). Health plan companies report the data by 13 categories of service and by type of insurance product—which means the data system includes information beyond private insurance spending, like spending for people with Medicare Supplement coverage.

## 2020 Health Spending Estimates and Ten-Year Projections

Spending under Medicare Supplement policies is calculated consistently with commercial spending. MDH commercial market health care spending estimates include individuals who have fully-insured health insurance coverage through an employer, or purchased it individually (i.e., coverage purchased on the individual market directly from a health plan company, through MNSure, or through a broker).

A significant share of privately insured Minnesotans (approximately 69%) receive coverage through self-insured employers. Total self-insured spending is estimated by creating a product of a calculated per capita ratio of fully-insured to self-insured spending and an estimate of the number of self-insured Minnesotans. The estimate of the number of self-insured residents in Minnesota is derived as a population residual using information on the distribution of health insurance coverage for Minnesota residents.

Beginning with the 2017 spending report, MDH specifically designated several Affordable Care Act (ACA) and state-based premium security plans as private health insurance. This is due to the way MDH defines payer categories—which is different from that of CMS who has two different ways of allocating health care spending, by payer and by financer of health care services. Historical spending estimates were updated based on this designation; however, for 2016 and prior spending reports, MDH did not include the ACA and state-based premium security plan as private health insurance. Information on where these programs are accounted for within MDH spending estimates is below:

- ACA Cost-sharing reductions (CSR): CSR is included within private health insurance spending.
- ACA Advance Premium Tax Credit (APTC): APTC is included within revenue calculations, affecting the Net Cost of Insurance calculations.
- State-based Minnesota Premium Security Plan: This program affects health care spending.<sup>44</sup>

### High-Risk Pools (Ended in 2014)

Spending for Minnesotans who were covered in two high-risk pool programs—the Minnesota Comprehensive Health Association (MCHA) and the federal Pre-existing Condition Insurance Plan (PCIP)—was calculated separately for each program. MCHA spending was derived from aggregated claims data obtained from the plan administrator in Minnesota. PCIP private spending was calculated based on reported average monthly premiums per enrollee. The portion of PCIP spending that was funded by the federal government for the small number of Minnesota enrollees is included in the analysis as public spending (under other public spending). In 2014, both MCHA and PCIP programs terminated due to the onset of additional ACA provisions. MCHA ended December 31, 2014, and PCIP ended April 30, 2014.

### Medicare Advantage Private Expenses

Health plan companies offering Medicare Advantage policies report those expenditures via the HPFSR to MDH. The expenditures are divided between public and private payer categories by subtracting CMS capitation

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<sup>44</sup> In January 2017, Minnesota established a state-run reinsurance program to help stabilize premiums in the individual insurance market. [MN Commerce Section 1332 State Innovation Waiver](https://mn.gov/commerce/insurance/industry/reinsurance/)  
<https://mn.gov/commerce/insurance/industry/reinsurance/>

payments from total expenditures to provide an estimate of the additional premiums paid by enrollees to cover costs, exclusive of cost sharing.

### Out-of-Pocket Costs

MDH estimates consumer out-of-pocket spending from a ratio of national estimates of consumer out-of-pocket spending to covered-spending (the share of spending paid by a health plan company). This analysis is conducted at the expenditure category level and is based on aggregated health expenditure data drawn from the household component of Medical Expenditure Panel Survey (MEPS) (Midwest) and the NHE. MDH weights this ratio to the distribution of coverage in Minnesota, to account for the difference in coverage distribution between Minnesota and the Midwest region overall. The results are multiplied by an estimate of Minnesota-covered spending.

Due to delays in data availability, the most recent year of out-of-pocket spending is generally estimated based on average ratios of consumer out-of-pocket spending to total spending for the preceding three years of data. However, 2020 was a unique year in which spending decreased due to utilization changes resulting from the COVID-19 pandemic. As a result, for 2020, MDH utilized a one-year annual ratio and excluded the COVID-19 pandemic support spending, which is not believed to have influenced 2020 out-of-pocket spending.

### Other Private Spending

Other private spending includes spending estimates for several smaller-volume payers—including workers' compensation spending for non-government workers and automobile insurance medical spending. Health care spending for the private portion of the workers' compensation program is calculated as the product of total spending and a ratio of private-to-public employment. The estimate of health care spending paid by automobile insurance (the other component of this spending category) is based on a ratio of medical paid losses to total paid losses. This ratio—which is derived from "Best's Averages & Aggregates," a publication for the property and casualty industry—is applied to an estimate of total Minnesota paid losses, estimated from historical data on medical paid losses.

### Public Expenditures

Public expenditures include public spending for government-sponsored health insurance programs—such as Medicare, Medical Assistance (Medicaid) and MinnesotaCare—and spending for other programs—including Veterans Health Administration (for Veterans Affairs), Department of Defense (for TRICARE), workers' compensation, state and federal correctional systems, public health, and spending related to the COVID-19 pandemic.

### Medicare

Medicare expenses include costs for beneficiaries enrolled in fee-for-service (FFS) Medicare and payments made to health plans as part of the Medicare Advantage and Prescription Drug programs—again, the private portion of these payments is included in private spending. FFS spending is based on a series of data tables prepared by CMS for Minnesota (residence-based) Medicare Parts A and B spending. An estimate of managed care payments (capitation) paid by CMS to Medicare Advantage plans is added to this value for public Medicare spending. The

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amount Medicare Advantage plans report on the HPFSR as revenue from CMS is used to represent public Medicare capitation payments.

Prescription drug spending for beneficiaries enrolled in standalone Medicare Part D and the prescription benefit included in some Medicare Advantage plans is based on reporting from CMS, adjusted for pharmacy rebates and member spending (already accounted for within out-of-pocket spending estimates). Due to delays in data availability, estimates for the most recent year of prescription drug spending are based on trending the prior year's prescription drug per member spending against current year enrollment. All data are benchmarked against CMS monthly enrollment reports, when possible, and updated when new data are available.

Minnesota seniors eligible for both Medicare and Medicaid may enroll in Minnesota Senior Health Options (MSHO), a program that blends Medicare and Medicaid benefits into one managed care product. CMS and the Minnesota Department of Human Services (DHS) make capitated payments directly to the managed care organizations (HMOs).<sup>45</sup> These HMOs report revenue and expenditures as part of its annual financial reporting on the Minnesota Supplement Report #1. To avoid double counting of expenses and ensure accurate allocation of payer-type data, DHS administrative records are used to subtract Medicaid contributions to MSHO, leaving the Medicare capitations. The distribution of these payments across service categories is calculated based on the distribution observed for Medicare Advantage enrollees. The remaining payment stream (the DHS capitation amounts) is captured in Medical Assistance managed care spending within Minnesota Health Care Programs.

### Minnesota Health Care Programs

Spending estimates for Medical Assistance (MA), Minnesota's Medicaid program, are computed separately for the managed care and FFS portions of the program. DHS reports MA FFS data directly. The managed care component of health care spending for MA are distributed across categories of service using historical estimates provided by DHS. Spending in 2013 and 2014 included estimates on the additional federal funding related to the temporary (2013 and 2014) ACA provision that increased payments for primary care services to be equal to Medicare Part B payments. To avoid double counting of expenses, payments for Individualized Educational Program (IEP) and medical transportation services spending captured in estimates for school-based health care spending are removed.

Aggregated MinnesotaCare spending by calendar year is obtained from the DHS Reports and Forecasts division. DHS also provided historical expenditure distributions that MDH used to allocate spending across categories of service. Historically, the methodology for deriving spending estimates for enrollees in MinnesotaCare and GAMC was nearly identical. However, GAMC underwent significant program changes in fiscal year 2010. For 2010 and 2011, spending estimates are based on program reports for each component. They explicitly include budgetary expenses that the DHS Forecast no longer carries. This reconfigured program ended in 2011, and remaining enrollees moved to Medical Assistance.

For both Medical Assistance and MinnesotaCare spending estimates, managed care performance payments and gross adjustments are assigned to the calendar year they are associated with, rather than the year these

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<sup>45</sup> Health Maintenance Organizations (HMOs) are defined and regulated under Minnesota Statutes Chapter 62D; the Minnesota Department of Human Services is only allowed to contract with licensed Minnesota HMOs to provide services to enrollees in Minnesota Health Care Programs.

## 2020 Health Spending Estimates and Ten-Year Projections

amounts were paid (for example, managed care performance payments for calendar year 2016 are paid in July 2017; in MDH’s spending estimates, these amounts are included as health care spending in 2016).

In MDH’s reporting, Medical Assistance is its own category, while MinnesotaCare is included in the Other Public spending category.

### Other Public Spending

In addition to Medicare and Minnesota Health Care Programs, the estimate of public health care spending includes spending by the Veterans Health Administration, Department of Defense (for TRICARE), government workers’ compensation, public health programs, the Indian Health Service (IHS), school-based health care spending, the state and federal correctional systems, and one-time spending related to the COVID-19 pandemic (“COVID-19 pandemic support spending”) from federal, state, and local governments—most of which was not directly linked to covering costs of health care services.<sup>46</sup>

Veterans Health Administration health care spending for Minnesota beneficiaries (medical care and general operating expenses) is obtained directly from the U.S. Department of Veterans Affairs website. Federal fiscal year data are converted to calendar years and allocated across expenditure categories based on historical information from the U.S. Office of Management and Budget (for years prior to 1997) and from the CMS NHE (for years 1997 forward). In limited circumstances when the most recent fiscal year is not available, a five-year annual growth rate trend is applied. Future spending reports are updated with complete data once data are available. The Department of Defense (DOD) reports TRICARE spending.<sup>47</sup> They report data by expenditure category, which are aligned to those in the Minnesota estimation model.

Estimates of workers’ compensation spending for state and local employees rely on data from the Minnesota Department of Labor and Industry (DOLI). Total Minnesota non-federal workers’ compensation claims are multiplied by the share of the workforce employed by state and local government units. Estimates of workers’ compensation spending for federal employees who are Minnesota residents are based on total federal workers’ compensation expenses in the state from the U.S. Department of Labor.

The estimate of public health spending for the state of Minnesota draws on data from a range of sources to estimate spending at the federal, state, and local public health level. The federal public health care spending estimate relies on data from USASpending.gov (the U.S. Department of Health & Human Services Health Resources and Services Administration data warehouse) and the Substance Abuse and Mental Health Services Administration website—which reports information on block grants and other major federal grant programs. State public health data are obtained from the DHS forecast and from a division of MDH that awards public health grants to local public health departments. Those data are converted from federal and state fiscal year to

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<sup>46</sup> Federal, state, and local government sources allocated COVID-19 pandemic support spending to assist the health care and public health systems with things such as COVID-19 testing, hospital surge capacity, laboratory enhancements, additional infection control including personal protective equipment (PPE), as well as supplemental revenue and paycheck disruption coverages to support providers and workers.

<sup>47</sup> TRICARE is health insurance coverage for members of the United States Military and their families.



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calendar year. In years in which data is not available, MDH applies a three- or five-year annual growth rate trend. Future spending reports are updated with complete data once data are available.

The estimate of federal health care spending by the Indian Health Service (IHS) is obtained from the IHS Bemidji area office and converted to a calendar year estimate. In years in which data are not available, MDH applies a five-year annual growth rate trend. Future spending reports are updated with complete data once data are available. Beginning with the 2020 spending report, MDH allocated spending across expenditure categories based on historical information from the CMS NHE (all years).

MDH's estimation approach includes spending estimates for the medical care of individuals incarcerated in federal prisons located within the state and in-state correctional facilities. The federal data are obtained directly from the Federal Bureau of Prisons. Data on medical spending at state correctional facilities are obtained directly from the Minnesota Department of Corrections. To calculate state spending, MDH multiplies per diem costs for "health services" and "behavioral health" by the average annual population utilizing health services in state correctional facilities.

The estimate of school-based health care spending draws on a range of sources, and specifically estimates spending for public schools, non-public schools, Individualized Educational Program (IEP)/medical transportation, and school-based health clinics. Spending estimates begin in calendar year 2001, as prior year data were not available. Public school-based spending is estimated by multiplying full-time equivalent (FTE) job classification school nurse data from the Minnesota Department of Education by an estimate of school nurse salaries based on the Registered School Nurse salary estimates from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics. Non-public school-based spending uses data from the Minnesota Department of Education converted to a calendar year estimate. IEP planning and medical transportation services spending uses data from the Minnesota DHS. School-based clinics spending is based on completed data requests from Minnesota school-based clinics; for clinics without available data, the spending estimates are extrapolated and averaged from completed data requests.

### COVID-19 Funding

The COVID-19 pandemic presented a unique situation in terms of health care utilization and spending; it interrupted typical patterns we would have expected during any period of economic change (including during a recession)

Most spending related to COVID-19 in 2020, 2021, and 2022 was one-time spending and was not directly linked to patient care. Federal, state, and local governments supplied one-time spending allocations to assist with public health things such as COVID-19 testing, hospital surge capacity, laboratory enhancements, and supplemental revenue and paycheck disruption coverages to support providers and workers. Furthermore, some spending was in the form of increased Federal Medical Assistance Percentage (FMAP) spending for Medical Assistance (which is not broken out separately in these estimates).

MDH followed methodology from the CMS NHE methodology, with the addition of local funding from public health-related funding and state funding from the Short Term Emergency Grants from the Public Health Response Contingency Account and Health Care Response Funds. MDH worked to remove any funding and grants that already appeared within state or federal funding (i.e., through the CARES Act).

For federal funding, MDH reviewed over five different pieces of federal legislation providing federal funding to support individuals, business, and state and local governments. Any duplication in these federal funds from state and local COVID-19 funding (noted earlier) was removed, as well as those that were already included in

MDH’s review of federal funding via the Center for Disease Control (CDC), Health Resources and Services Administration (HRSA), and Substance Abuse and Mental Health Services Administration (SAMHSA). The main portions included were:

- **Paycheck Protection Loans:** MDH utilized point-in-time reporting from Small Business Administration Files to filter on MN businesses and NAICS codes (industry codes, mostly 62 which is health care services). Loans that were fully forgiven were included. Loans that were not yet forgiven were estimated to have a certain percentage forgiven, and those remaining amounts were included.
- **Provider Relief Funds:** MDH utilized state-level reporting from the HHS’ Tracking Accountability in Government Grants System (TAGGS) website. Funding (by category) was researched to determine applicable year(s) of funding, categories of service receiving funds, and if additional information was required to determine if the funding should be included.
- **Public Health:** MDH utilized state-level reporting from the HHS’ Tracking Accountability in Government Grants System (TAGGS) website for the PHSS Fund, CDC, HRSA, and SAMHSA funding. Funding (by category) was researched to determine applicable year(s) of funding, categories of service receiving funds, and if any additional information was required to determine if the funding should be included.

Data from each of these sources was then aggregated and added to other public spending (either by category of service or as an uncategorized spending category) for 2020.

## Differences between MDH and CMS Estimation Approaches

As mentioned earlier, Minnesota has developed health care expenditure estimates since the mid-1990s, relying on data explicitly collected from payers for this effort and advancing the methodological approach and data sources used over time. While data used for Minnesota’s estimates differ from those at the national level—Minnesota uses data from payers, while the NHE from CMS largely relies on data from providers—by design, both estimates use similar categories for payers and categories of service. Minnesota compares its results relative to a subset of CMS expenditure data, the health consumption category (which includes spending for personal health care, government administration, the net cost of private health insurance, and government public health activities). Both estimates exclude resources spent on investments and research that are not explicitly built into prices by providers and paid for by payers. This category of national spending offers the best comparison with the Minnesota estimates, and provides context for spending, both at a per capita level, and as a percent of the economy.<sup>48</sup>

In 2009, CMS restructured the NHE and moved away from having a separation between private and public payers—likely due to the line between private and public “payers” becoming increasingly difficult to ascertain. MDH continues to see value in reporting spending by private and public payers; therefore, has kept this distinction in MDH’s health care spending estimates and projections. CMS publishes two-types of health care spending estimates, one by who finances the health care and one who pays for health care services.

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<sup>48</sup> Although MDH does attempt to follow CMS’ categories of service data aggregation methods, it is not always possible due to the nature of the data MDH is able to access. For example, data MDH utilizes for chemical dependency and mental health are often reported as a separate category of service. As a result, MDH is not able to proportion chemical dependency and mental health services to other categories of service, where these services were ultimately received (for example, residential, inpatient, outpatient). In comparison, NHE methodology does attempt to proportion data further. Information pertaining to the health care services spending crosswalk to NHE spending is found within the [CMS NHE Methodology Paper <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html)

Systemic differences do exist between Minnesota’s state spending analysis and CMS’ effort to estimate the state portion of the national health expenditure account initiative. CMS historically had developed the State Health Expenditure Account (SHEA), in which CMS attempted to translate expenditures at the point of service into a point-of-residency perspective to estimate state-level health spending for personal health expenditures. The estimates involved a two-step process of first generating estimates based on provider location, and then (using Medicare claims data) estimating the extent to which residents crossed state lines for care.<sup>49</sup> A historical independent analysis by an MDH contractor of the CMS SHEA approach did not reveal any factors that suggest CMS’ approach is characterized by methodological strengths relative to Minnesota’s approach, or vice versa. Rather, the CMS approach appears to be a tool that uses statistical methods to compensate for a lack of available data that are comparable for all (or most) states by apportioning a pre-defined spending amount across the nation.

For COVID-19 spending, MDH included both local and state-specific funding. Due to the level of reporting received by NHE, national estimates only include federal-based COVID-19 pandemic support funding. MDH was not able to include some federal funding that could not be disaggregated to the state level—for example, funding for vaccine research, and funding for strategically moving and obtaining supplies.

### Health Care Expenditure Projections

Minnesota develops projections for the primary purposes of projecting future health care spending, as required by Minnesota Statutes, section 62U.10. MDH contracts with outside consultants to assist with developing the macroeconomic model(s) used to project health care spending. The method to develop health care spending projections is based on the methodology used by CMS to produce national health care spending projections, and, where appropriate, is customized to Minnesota’s health care and data environment, based on the current policy landscape.<sup>50</sup> In 2022, attempts were made to closely align the MN projections to account for the effects from COVID-19 and current economic situation. In future years, MDH will continue to re-align MDH’s methodology with CMS projections’ methodology as needed. For more information on the COVID-19 Impact on Projections, please see the section below.

### COVID-19 Funding Impact on Projections

As a tool to forecast future trends, projections rely on historical data and stable relationships between key variables. Because the COVID-19 pandemic interrupted these dynamics most notably from 2020 through 2022, the standard projection models MDH usually considers would have failed to account for this impact. Therefore,

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<sup>49</sup> Further information on the methodology used by CMS to generate state-level spending estimates through 2014 can be found on the [CMS State Health Expenditure web site](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsStateHealthAccountsResidence.html) <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsStateHealthAccountsResidence.html>

<sup>50</sup> [CMS projection methodology is available at the CMS projection methodology website: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html). MDH attempts to align its projections with the CMS methodology framework; however, is limited in its ability to match all variables and calculations. For example, MDH is limited in the use of lagged values of variables due to the short historical timeframe of Minnesota’s data (beginning in 1993), compared with CMS’ data which began in 1960.

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in addition to running the standard projection models, spending and enrollment were separately modeled to account for the impact COVID-19 had in 2021 and 2022. There were several key steps pursued:

- **Enrollment:** Future enrollment estimates for 2021 and 2022 were created. MDH estimated Medical Assistance and MinnesotaCare enrollment for 2021 and 2022 based off DHS forecasts, and the 2021 uninsurance rate based on the 2021 Minnesota Health Access Survey. For other payers, payer enrollments were based on historical trends and external resources.
- **Spending per member per month:** Three main steps were taken to estimate spending per member per month.
  - Calculation of 2020 spending per member per month by payer and category of service. For Medical Assistance and MinnesotaCare, MDH separately estimated 2021 and 2022 spending per member per month; these programs have separate fiscal year projection estimates.
  - Calculation of COVID-19 spending estimates for 2021 and 2022. MDH estimated 2021 COVID-19 spending based on the same methodology utilized for 2020 estimates. As this data did not exist for 2022, it was assumed that federal public health activities would decrease at similar national rates in Minnesota for 2022.
  - Adjustment of projected spending per member per month for each payer and category of service, based on external data sources (for example, CMS national estimates, statutory financials of major health plans, Bureau of Economic Analysis) and subsequent effects from the COVID-19 pandemic.
- **Total Spending:** 2021 and 2022 estimated enrollment and the projected spending per member per month were used to calculate total spending by payer and categories of service.

For years 2023 through 2026, the estimated change in federal Public Health Activities from CMS NHE were applied to other public spending to account for any remaining COVID-19 spending; based on CMS NHE estimates, they assumed federal spending gradually declined to \$0 by 2027. No additional COVID-19 spending was factored from 2027 through 2030 as it was assumed other public spending returned to pre-COVID-19 spending growth levels.

### Macroeconomic Forecast

Like CMS' projection approach, Minnesota's approach aims to project an overall model of health care spending. It does so by modeling payer and service categories and benchmarking results to form a more predictive total spending model.

### Public Spending

Three types of public spending are included in the MDH projections: Medicare, Medical Assistance (Medicaid), and other public spending (which includes MinnesotaCare). Projected values for each are determined separately. Each excluded the effects from 2020 which was largely impacted by the COVID-19 pandemic.

- Medicare spending projections are based on per-enrollee growth rates published by the CMS NHE for Medicare Health Consumption Expenditures and are adjusted to account for historical variations of growth between Minnesota and the NHE estimates. For 2021 and 2022, separate projections based on an analysis of COVID-19 impacts were utilized.<sup>51</sup> For 2023 through 2030, the Minnesota Medicare spending projection

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<sup>51</sup> MDH used a contractor to analyze and prepare estimated 2021 and 2022 health care utilization and health spending in Minnesota due to COVID-19 and the subsequent economic impacts.

was then calculated by taking the projected Medicare CMS National Health Consumption Expenditures' per-enrollee growth rate adjusted by a factor of 1.22 to the Minnesota Medicare per-enrollee growth rate, against the estimated Minnesota Medicare population. Applying this factor was prudent given that the average historical Minnesota Medicare growth rates were higher than the NHE national growth rates (by a 1.22 ratio).

- MHCP projections [which include Medical Assistance, MinnesotaCare, and (prior to 2011) GAMC] are derived from the Minnesota Department of Human Services (DHS). DHS provided data from its forecast based on program type and demographic categories, which were further summarized by MDH. The current and anticipated effects from COVID-19 were already included in this year's forecast, as were the original estimated data of the Public Health Emergency (PHE); the end of the PHE has evolved and MDH was not able to account for the official end-date within this analysis. DHS' forecast only projected spending through state fiscal year 2025, so projections for calendar year 2025 and forward were based on a five-year national average per-enrollee growth rate from 2025 through 2030.<sup>52</sup> Medical Assistance and MinnesotaCare spending projections were then calculated by taking the respective, projected Medical Assistance and MinnesotaCare populations and the newly estimated Medical Assistance and MinnesotaCare per-enrollee spending figure. Medical Assistance and MinnesotaCare are projected separately, as MinnesotaCare is ultimately included in the other public spending category. The MHCP projections are one area where projecting spending in absence of the 2008 Minnesota reforms or ACA was no longer feasible. Projections for public spending in the absence of the changes from the 2008 reforms or the ACA were no longer available; nor were continuations of previous projections possible.
- Other public spending—which includes spending for the Veterans Health Administration, Department of Defense (for TRICARE), public workers' compensation, and other public spending independently calculated spending projections within each broad payer (VA and DOD, workers' compensation, and other public). Each of these payers utilized separate projections for years 2023 through 2030:
  - For workers' compensation, a ten-year average growth rate, with any necessary adjustments to account for Minnesota and NHE estimates was applied.
  - For VA and DOD, the NHE's health consumption expenditures VA and DOD annual growth rate was applied, adjusting it by a factor of 1.35, to account for historical variations of growth between the Minnesota and NHE estimate.
  - For other public spending:
    - Non-COVID-19 spending: a ten-year average growth rate was applied.
    - COVID-19 spending: for years 2023 through 2026, the estimated change in federal Public Health Activities from CMS NHE were applied; federal spending gradually declined to \$0 by 2027. No additional COVID-19 spending was factored from 2027 through 2030 as it was assumed other public spending returned to pre-COVID-19 spending growth levels.

### Private Spending

Private spending projection results for years 2021 and 2022 were based on the COVID-19 projection estimates mentioned above. Private spending projections for years 2023 through 2030 were projected by estimating a series of Autoregressive Integrated Moving Average (ARIMA) models using historic spending estimates and macroeconomic data for the years 1993 through 2019, with adjustments to the real private personal health care

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<sup>52</sup> For MNCare, an additional 1.0% was added to project MNCare spending between 2025 and 2030. This additional percentage was prudent given that the average historical Minnesota Medicaid growth rates were historically in line with those of the NHE national growth rates

## 2020 Health Spending Estimates and Ten-Year Projections

per capita dependent variable<sup>53</sup> These ARIMA models allow for flexibility and ease of model interpretation, and allow us to use time series data and address concerns that may be present in statistical models, such as lack of variability and statistical errors being related to each other. In addition, due to the effects from COVID-19, there was a manual adjustment to the projected change of real per capita growth rates from 2025 to 2030; the goal of this adjustment was to keep the share of the nominal private spending expenditures as a share of Minnesota's predicted GDP to be at more reasonable levels.

The method utilized by MDH and its contractor is designed and updated to align with CMS methods as much as is appropriate. Again, this process determines the historic relationship between macroeconomic variables and health care spending, aiming to hold this pattern constant. After fitting the historic data, future spending is estimated using projected macroeconomic factors as explanatory variables. Spending is projected in total, by private payer type (for example, private health insurance, out-of-pocket, and other private), and by categories of service (except for uncategorized spending which is projected as part of other public spending).

Each individual model includes a subset of the following as explanatory variables:

- **Relative Medical Price Inflation (lagged basis for years one to three):** Estimates of national personal health care (PHC) deflator divided by the national Gross Domestic Product (GDP) deflator. Only explanatory variables were created on a lagged basis for years one to three. The current period variable was ignored to avoid influencing variables and outcomes in the model.
- **Minnesota Personal Health Care to GDP Growth Rate (lagged):** This variable is calculated as the annual growth rate of nominal private and public health care spending (from historical estimates and projections) divided by the annual state GDP. Only explanatory variables were created on a lagged basis for years one to three. The current period variable was ignored to avoid influencing variables and outcomes in the model.
- **Minnesota Real Per Capita Disposable Personal Income Growth Rate:** Estimates and projections are obtained from forecasts by Minnesota Management and Budget (MMB). When certain projection year data were not available from MMB, estimates were projected using prior year growth trends. In line with CMS methodology, public health care spending is subtracted to better approximate income of the population that accounts for private health care spending. This value is divided by population estimates for per capita values. Additional explanatory variables were created on a lagged basis for years one to three.
- **Minnesota Real Per Capita Public Personal Health Care Spending Growth Rate:** This variable is calculated as public spending from MDH estimates divided by the total state population and the aggregate personal health care deflator. Additional explanatory variables were created on a lagged basis for years one to three.
- **Recession Indicator:** This variable is based on years 2007-2010 to account for the one-time effect of the Great Recession (2007-2009) on private health care spending, as well as to the implicit impact of the Great Recession already accounted for in the Minnesota Real Per Capita Disposable Personal Income Growth Rate.
- **Additional explanatory variables used in the payer and categories of service growth models:** To create models for specific payers and categories of service, additional explanatory variables were created, including:
  - Relative Out-of-Pocket Spending Price Index (lagged) for out-of-pocket projections.
  - Relative Medical Price Inflation by service categories (lagged) for inpatient, physician and outpatient, dental, professional services, long-term care, and other services.
  - Shortened Recession Indicator, used in the dental model only.
  - Medicare Part D Expansion Indicator, used in the Retail Prescription Drug model only.

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<sup>53</sup> The year of 2020 was excluded due to the unprecedented effects the COVID-19 pandemic had on health care utilization and spending, which are not felt to be reflective of future trends.



- Share of 65, 75, and 85-Year-Old Population, used in the Long-Term Care model only.

Using these variables, separate and distinctive models are run in aggregate and by payer type and categories of service. Payer type and categories of service models are then constrained so that the sums of estimates from the individual models are equal to the projected aggregate spending.

### Limitations of Projection Model

Users of these health care spending estimates should recognize that projections involve estimates of future events and are subject to economic and statistical variations from expected values (for example, they do not predict future recessions or pandemics), nor do they account for future policy changes that may impact health care spending. The results are subject to considerable uncertainties due to the range of necessary assumptions about future trends.

Even with accurately predicted explanatory variables, the accuracy of projections can be affected by external factors—such as changes in federal policy or economic shocks like the Great Recession or the COVID-19 pandemic—that are not built into the historic relationship between explanatory variables and health care spending. Like limitations with national projections developed by CMS, MDH’s approach aims to update model specifications to capture those trends when they have happened historically; however, given that the model is macroeconomic in nature and the shifts might not carry through into the specific explanatory variables, the adjustment is only a best approximation. In addition, the soundness of the historical data, both about how much of the “signal” of underlying trends they carry and the length of the timeline from which to extract relationships between spending and explanatory factors, can be an important limitation. Minnesota’s historical data (1993 through 2020)—while strong because of its consistency and the method by which it is aggregated—still represents a relatively short time series. National historical data are based on a much longer time series (1960 through 2020).