

# HEALTH CARE COST & UTILIZATION IN 2020

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# HEALTH CARE COST AND UTILIZATION REPORT IN 2020

## President's Introduction

November 2021

I'm pleased to share MN Community Measurement's report on health care costs and utilization for Minnesotans with commercial (private) insurance in 2020. MNCM has published this report annually since 2014, but during the COVID-19 pandemic it has never been more important to have timely, trusted information about trends and variation in Minnesota health care.

Because of the importance and the high interest in understanding how 2020 was different from past years, this year's report includes expanded analysis of trends in total costs, including trends by type of health care service and region within Minnesota. It also includes all the detailed analysis of variation in costs, utilization, and prices across Minnesota medical groups that we include in the report each year.

There are still many unknowns about the long-term impacts of the COVID-19 pandemic, such as how medical care that was delayed or forgone in 2020 will ultimately affect the health of Minnesota's citizens, and how this will influence the cost and utilization of health care services in the future. Similarly, there are many lessons to be learned about the long-term impacts of innovations like delivering care via telehealth on health outcomes and costs.

Combining data from multiple sources into a trusted analysis that is publicly available to shed light on important trends in the cost and utilization of health care is one of the ways that MNCM delivers on its mission of empowering stakeholders with meaningful data to drive improvement. MNCM gratefully acknowledges the partnership of the four private health insurance plans that contribute the data that make this report possible: Blue Cross and Blue Shield of Minnesota, HealthPartners, Medica Health Plans, and PreferredOne.

Sincerely,



Julie J. Sonjer, MPA

President and CEO, MN Community Measurement

This report is possible because of the engagement of several stakeholders who are committed to driving improvement and recognize the important roles that collaboration and measurement play in helping our community establish priorities and improve together.

MNCM extends particular thanks to the following health plans for their collaboration in providing the data for this report:

- Blue Cross and Blue Shield of Minnesota
- HealthPartners
- Medica Health Plans
- PreferredOne

## Report Authors and Contributors

Gunnar Nelson

Health Economist

[Nelson@mncm.org](mailto:Nelson@mncm.org)

Lexie Adams, MPH

Project Coordinator

[Adams@mncm.org](mailto:Adams@mncm.org)

# 2020 HEALTH CARE COST AND UTILIZATION REPORT

## Key Findings

- Total costs per attributed patient decreased by 2.5 percent in 2020. This is the first time in the history of this report that costs have decreased.
  - On average, this represents a decrease of \$216 per patient per year.
  - Costs for outpatient hospital services fell the most, by 8.4 percent.
  - However, pharmacy costs increased by 11.1 percent, the fastest increase since MNMCM began publishing this analysis in 2014.
- All regions of the state showed a decrease in total cost of care, but the amount varied by region.
  - The largest decline was for patients living in the Mankato area. For this group, the total cost of care fell by range was from 7.4 percent, or \$51 per patient per month (\$612 per year)
  - The smallest decline was for patients living in the Brainerd area, where costs fell by only 0.2 percent decrease, or \$1 per patient per month (\$12 per year).
- There were decreases in most types of utilization. Outpatient surgery had the largest decrease at 18.7 percent. Also notable was the 14.0 percent decrease in emergency room visits.
- Paradoxically, there was a slight, but statistically significant, increase in the percentage of commercial health plan members who used any health care services in 2020 compared to 2019. For all ages, the percentage of people with any claim increased from 87.5 to 88.2 percent; however, health care claims declined by 2.2 percentage points for children ages 1 to 17.

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# HEALTH CARE COST & UTILIZATION IN 2020

## Introduction

As an independent nonprofit dedicated to empowering health care decision makers with meaningful data, MN Community Measurement (MNCM) is a statewide resource for timely, comparable information on health care costs and quality. MNCM has one of the most robust public transparency efforts in the nation related to health care costs, which provides perspective on total cost of care, resource use and price as drivers of total cost, and prices for individual services. This report, which MNCM publishes annually, includes data from our analysis of 2020 health care costs for Minnesotans who have private health insurance.

As shown in the diagram below, total cost is a function of resource use times price. This report includes information on all three components. It also provides a deeper look at health care utilization and prices for individual services.

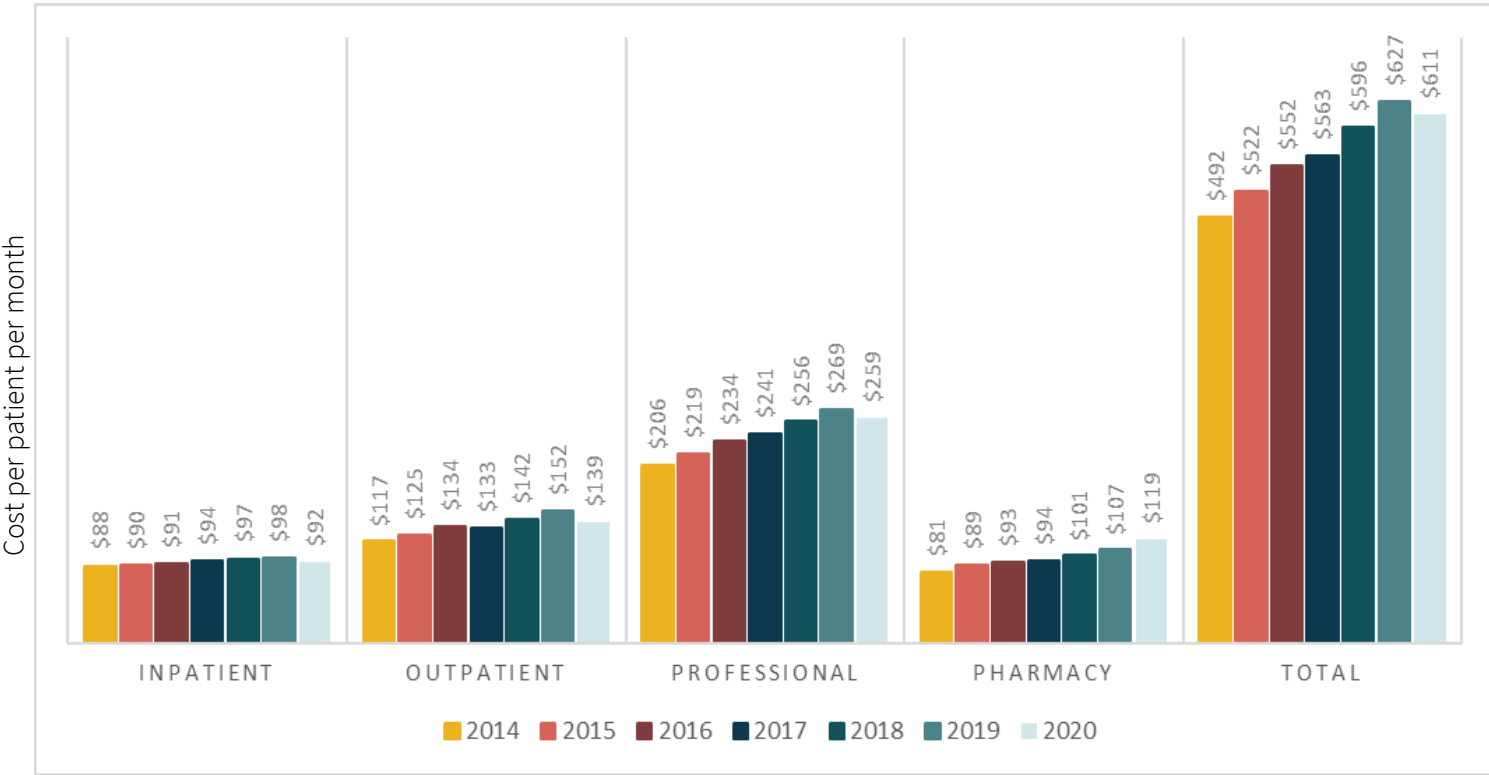


For more details on the methodology and definitions of terms used in this report, please see page 16.

## Section One: Total Cost Of Care

# COST TREND BY TYPE OF SERVICE, PER PATIENT PER MONTH

Commercially Insured Patients 2014 to 2020



In 2020 the average total cost of care (TCOC) for commercially insured patients cared for by Minnesota primary care providers was \$611 per month, a decrease of \$16 compared to 2019.

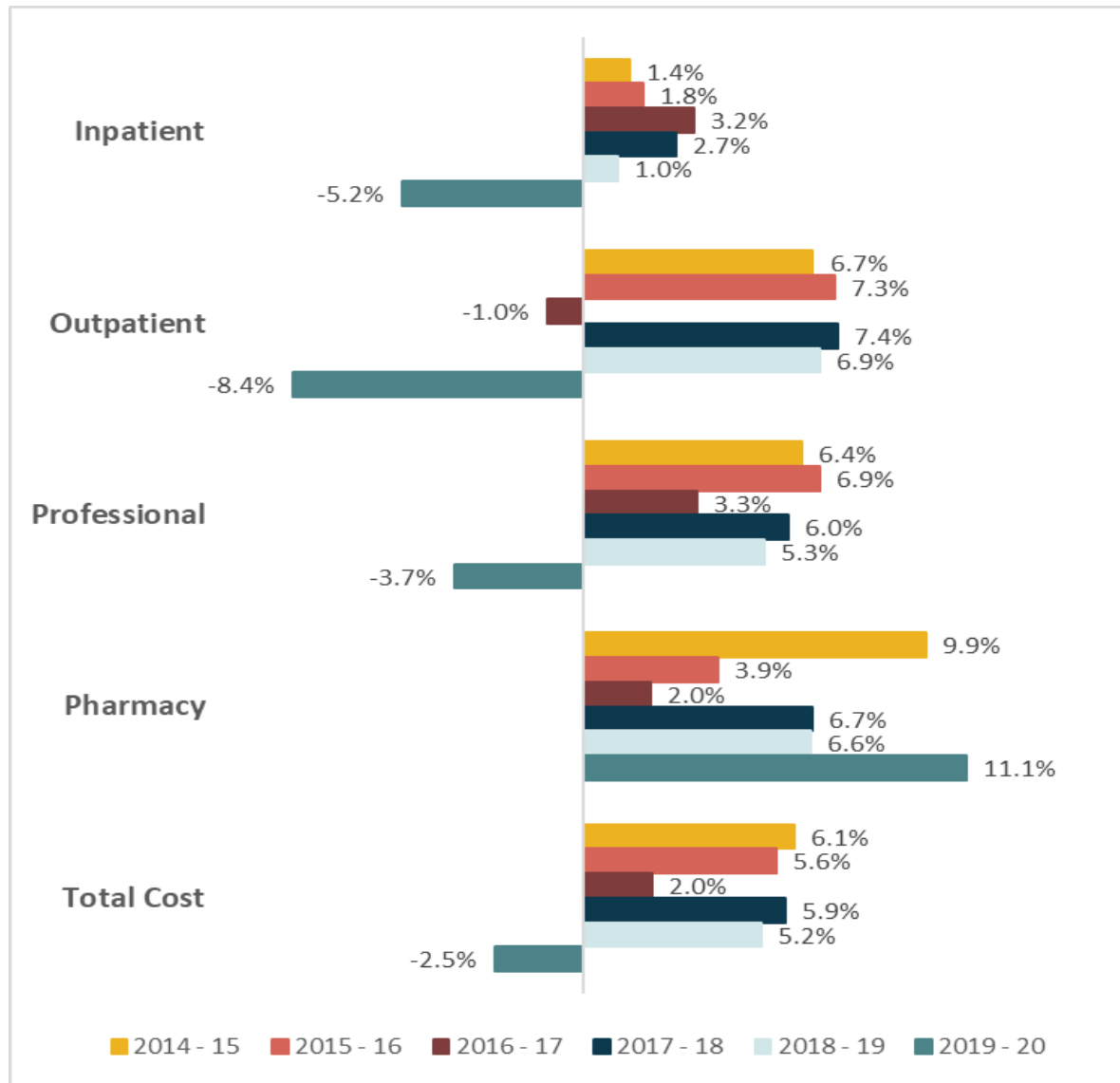
In this report, cost is defined as the actual amount paid to the health care provider by the health plan and/or the patient. This chart includes all costs for patients who are attributed to a primary care provider, without adjustments for high-cost outliers.

This analysis includes 1,316,000 patients and \$9.1 billion in claims.

Includes all costs for patients who are attributed to a primary care provider, without adjustments for high-cost outliers.

# SIX YEAR TREND IN COST GROWTH

## Commercially Insured Patients, Cost Per Patient



For people with private health insurance who were attributed to a primary care provider, the total cost of care decreased by 2.5 percent per person in 2020.

Costs for outpatient hospital services fell the most, by 8.4 percent. Pharmacy costs increased by 11.1 percent, the fastest increase since MNCM began publishing this analysis.

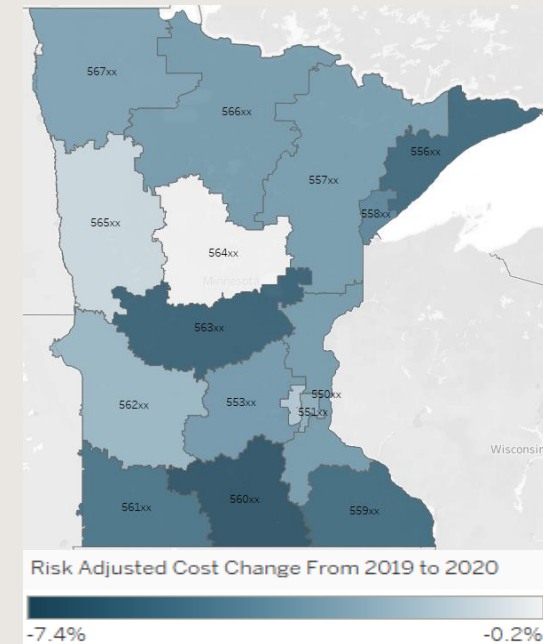
This chart includes all costs for patients who are attributed to a primary care provider, without adjustments for high-cost outliers.

# MINNESOTA REGIONAL COMPARISON 2018 - 2020

## Commercially Insured Patients' Risk-Adjusted Costs by Region of Residence (3-digit Zip Code)

All regions of the state had a decrease in total cost of care. The range was from 7.4% decrease or \$51 per patient per month in the Mankato area to 0.2% decrease or \$1 in the Brainerd area.

Seven of the 16 regions had average cost per patient drop compared to 2018 as well.



Region Zip Code and Major City	Risk Adjusted Cost			2020 Compared to previous years		Percent Difference From State Average		
	2018	2019	2020	2018 - 2019	2019 - 2020	2018	2019	2020
550xx Stillwater	\$557	\$586	\$565	1.4%	-3.7%	1.6%	-2.9%	2.1%
551xx St Paul	\$517	\$542	\$527	1.9%	-2.8%	-5.6%	-5.4%	-4.7%
553xx Minnetonka	\$521	\$546	\$525	0.7%	-3.8%	-4.9%	-4.8%	-5.0%
554xx Minneapolis	\$519	\$545	\$535	3.2%	-1.8%	-5.3%	-4.9%	-3.2%
556xx Two Harbors	\$638	\$664	\$623	-2.4%	-6.2%	17.6%	15.8%	12.7%
557xx Cloquet	\$641	\$670	\$646	0.8%	-3.6%	17.0%	16.9%	16.9%
558xx Duluth	\$621	\$642	\$612	-1.5%	-4.7%	13.4%	12.0%	10.7%
559xx Rochester	\$797	\$831	\$781	-2.0%	-6.1%	45.5%	45.0%	41.2%
560xx Mankato	\$653	\$684	\$633	-3.0%	-7.4%	19.2%	19.3%	14.6%
561xx Windom	\$602	\$639	\$603	0.2%	-5.6%	9.8%	11.5%	9.1%
562xx Willmar	\$608	\$612	\$597	-1.9%	-2.5%	11.0%	6.7%	7.9%
563xx St Cloud	\$501	\$526	\$491	-2.0%	-6.6%	-8.6%	-8.3%	-11.2%
564xx Brainerd	\$545	\$568	\$567	4.0%	-0.2%	-0.4%	-0.8%	2.6%
565xx Detroit Lakes	\$540	\$567	\$560	3.7%	-1.2%	-1.4%	-1.1%	1.3%
566xx Bemidji	\$642	\$673	\$648	1.0%	-3.7%	17.2%	17.4%	17.3%
567xx Thief River Falls	\$608	\$628	\$607	-0.2%	-3.4%	11.0%	9.5%	9.7%

Risk Adjusted and Outlier  
Removed State Average      \$548      \$573      \$553

Risk Adjustment includes accounting for patient mix using the Johns Hopkins ACG tool and removal of outlier costs, defined as cost over \$125,000 for any patient.

# 2020 MINNESOTA REGIONAL COMPARISON

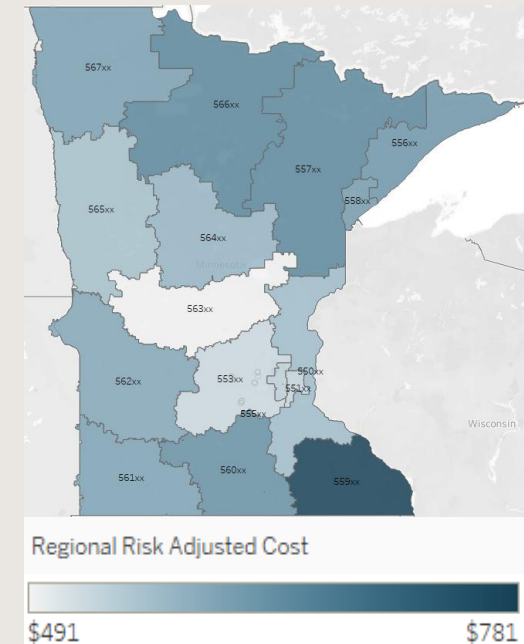
## Commercially Insured Patients' Risk-Adjusted Costs by Region of Residence (3-digit Zip Code)

Region ZIP Code and Major City	Risk Adjusted 2020	Risk Adjusted Relative Cost and Resource Use		
		Total Cost	Relative Use	Price
550xx Stillwater	\$565	2.1%	2.7%	-0.6%
551xx St Paul	\$527	-4.7%	1.2%	-5.8%
553xx Minnetonka	\$525	-5.0%	-0.9%	-4.2%
554xx Minneapolis	\$535	-3.2%	2.3%	-5.4%
556xx Two Harbors	\$623	12.7%	-0.3%	13.0%
557xx Cloquet	\$646	16.9%	4.6%	11.7%
558xx Duluth	\$612	10.7%	1.8%	8.7%
559xx Rochester	\$781	41.2%	3.1%	37.0%
560xx Mankato	\$633	14.6%	-4.3%	19.7%
561xx Windom	\$603	9.1%	3.4%	5.5%
562xx Willmar	\$597	7.9%	-1.7%	9.8%
563xx St Cloud	\$491	-11.2%	-8.1%	-3.3%
564xx Brainerd	\$567	2.6%	-2.8%	5.6%
565xx Detroit Lakes	\$560	1.3%	0.1%	1.2%
566xx Bemidj	\$648	17.3%	5.4%	11.3%
567xx Thief River Falls	\$607	9.7%	6.3%	3.2%

Total cost is driven by both the amount of resources used and the price of each resource. To better understand the reasons for cost variation, MNMCM's analysis separates total cost into these two components.

The metropolitan areas of Minneapolis, St. Paul and Minnetonka have lower costs due to lower prices. The St. Cloud area has lower cost due to lower resource use and lower prices.

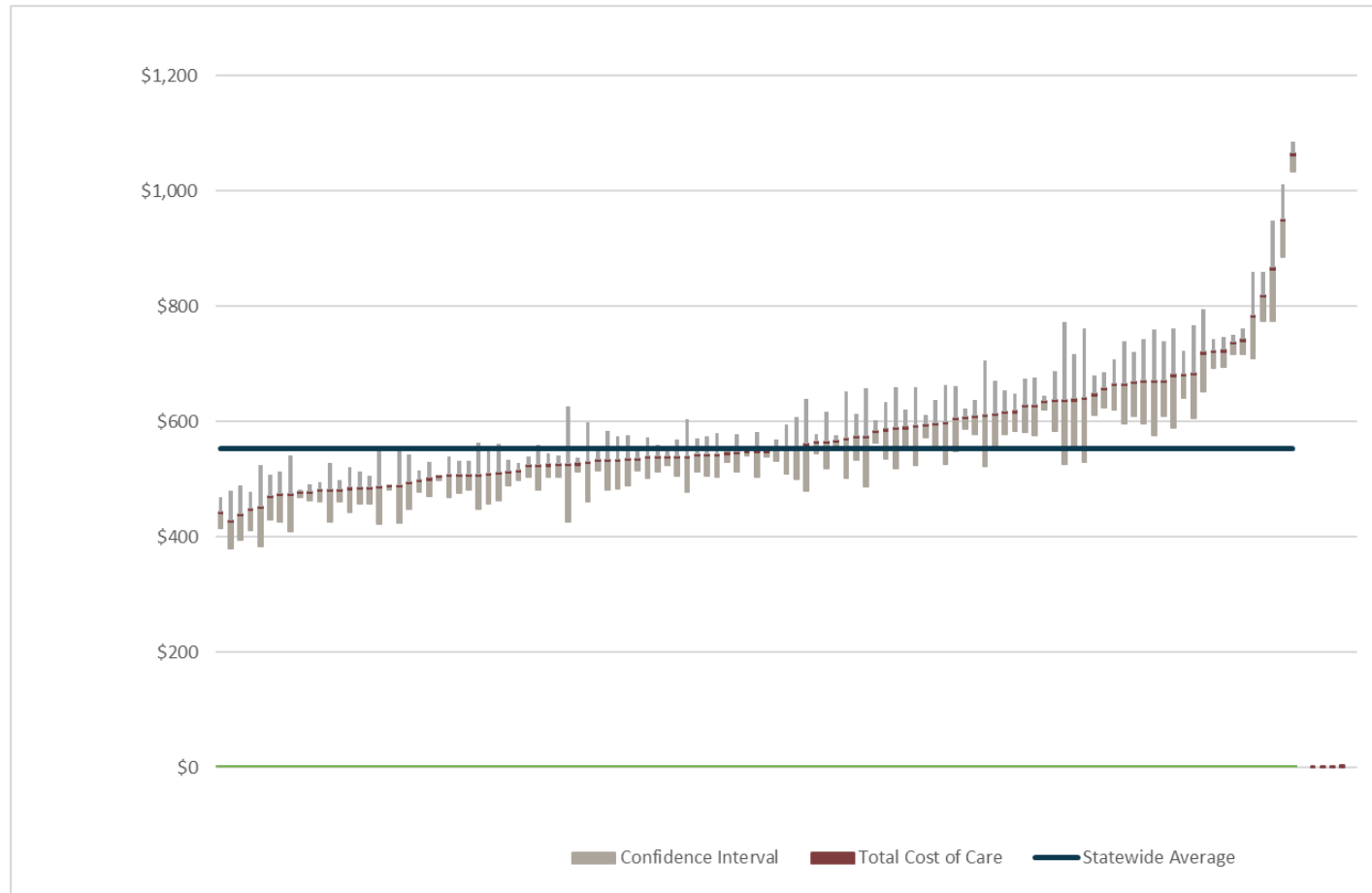
Overall, variation in prices is the primary driver of regional variation in costs.





# 2020 TOTAL COST OF CARE BY MEDICAL GROUP

Commercially Insured Patients' Risk Adjusted Relative Costs (95% confidence interval)

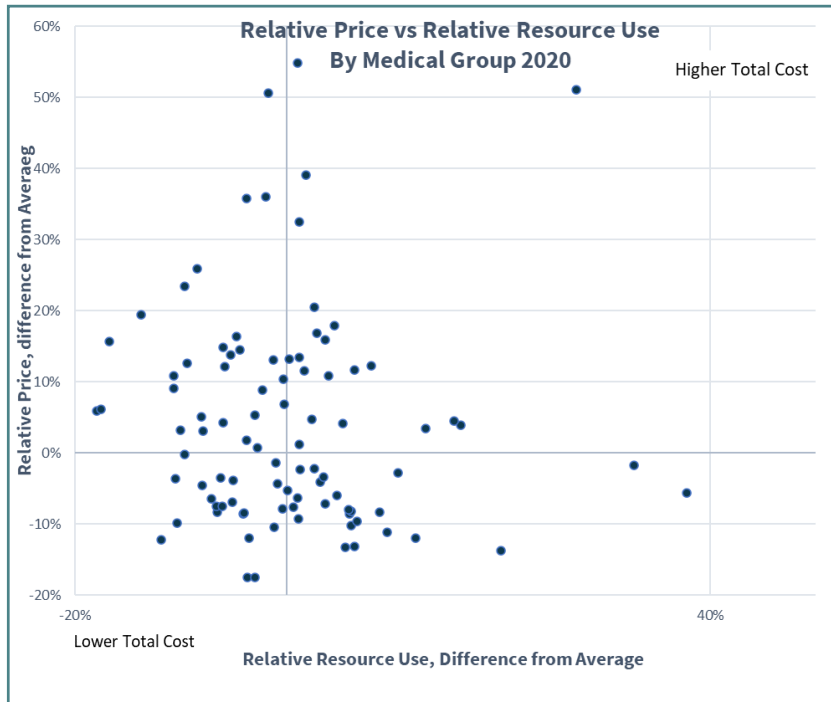


Consistent with previous years, there continues to be substantial variation in costs among medical groups. In general, medical groups remained in same quartiles of relative costs in 2020 as they did in 2019.

Detailed results of the TCOC analysis by medical group are included in the separate [appendix](#) to this report.

# 2020 RELATIVE PRICE VS. RELATIVE RESOURCE USE

## Commercially Insured Patients' Risk-Adjusted Costs by Medical Group



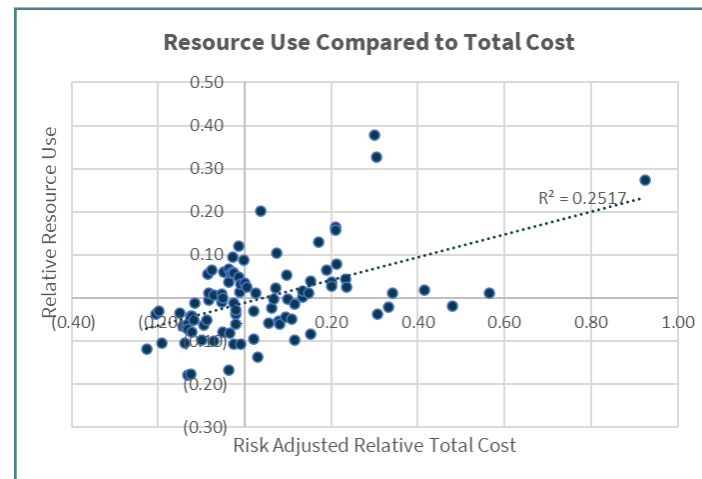
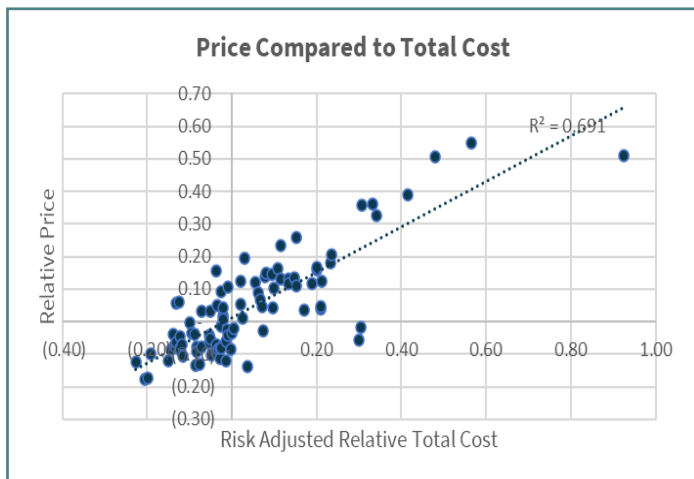
Total Cost is a product of use and price

Total cost is driven by both the amount of resources used and the price of each resource. To better understand the reasons for cost variation, MNCM's analysis separates total cost into these two components.

The top chart shows the relationship between relative price and relative resource use. There is significant variation in both.

The bottom two charts display the relationship between price and total cost then resource use and total cost.

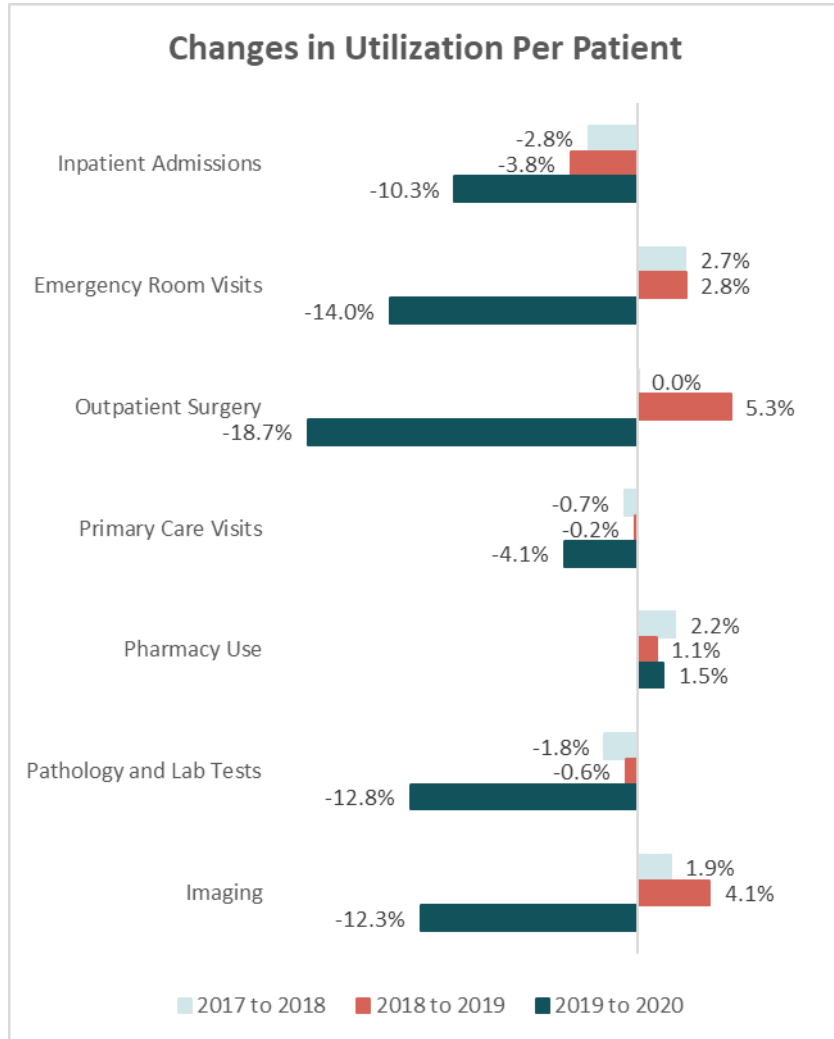
Variation in price continues to be a more significant factor in how total cost of care varies across medical groups than the amount of resources used.



## SECTION TWO: UTILIZATION

### Utilization of Medical Services

#### Commercially Insured Patients

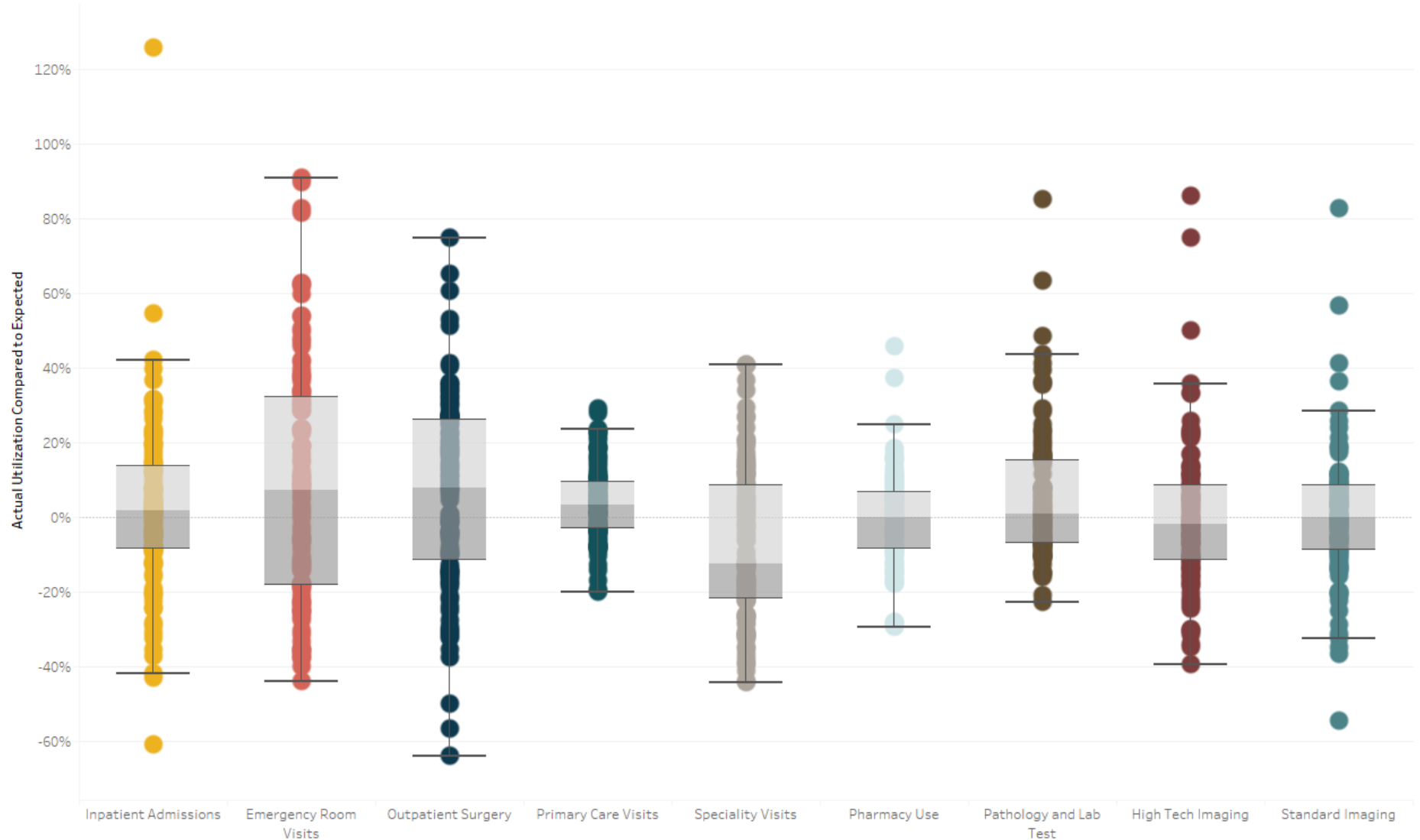


Utilization Metrics per 1,000 patients per year				
	2017	2018	2019	2020
Inpatient Admissions	56	55	53	47
Emergency Room Visits	162	166	171	147
Outpatient Surgery	131	131	138	112
Primary Care Visits	2,641	2,622	2,618	2,510
Pharmacy Use	14,940	15,262	15,433	15,666
Pathology and Lab Tests	6,429	6,311	6,272	5,467
Imaging	926	944	983	862

To further understand variation in resource use, MNCM's analysis also includes variation across medical groups in the utilization of common categories of medical services, such as inpatient hospital admissions or imaging services. In 2020, utilization of all service types except prescription drugs declined, in many cases by more than 10 percent.

# 2020 VARIATION IN UTILIZATION

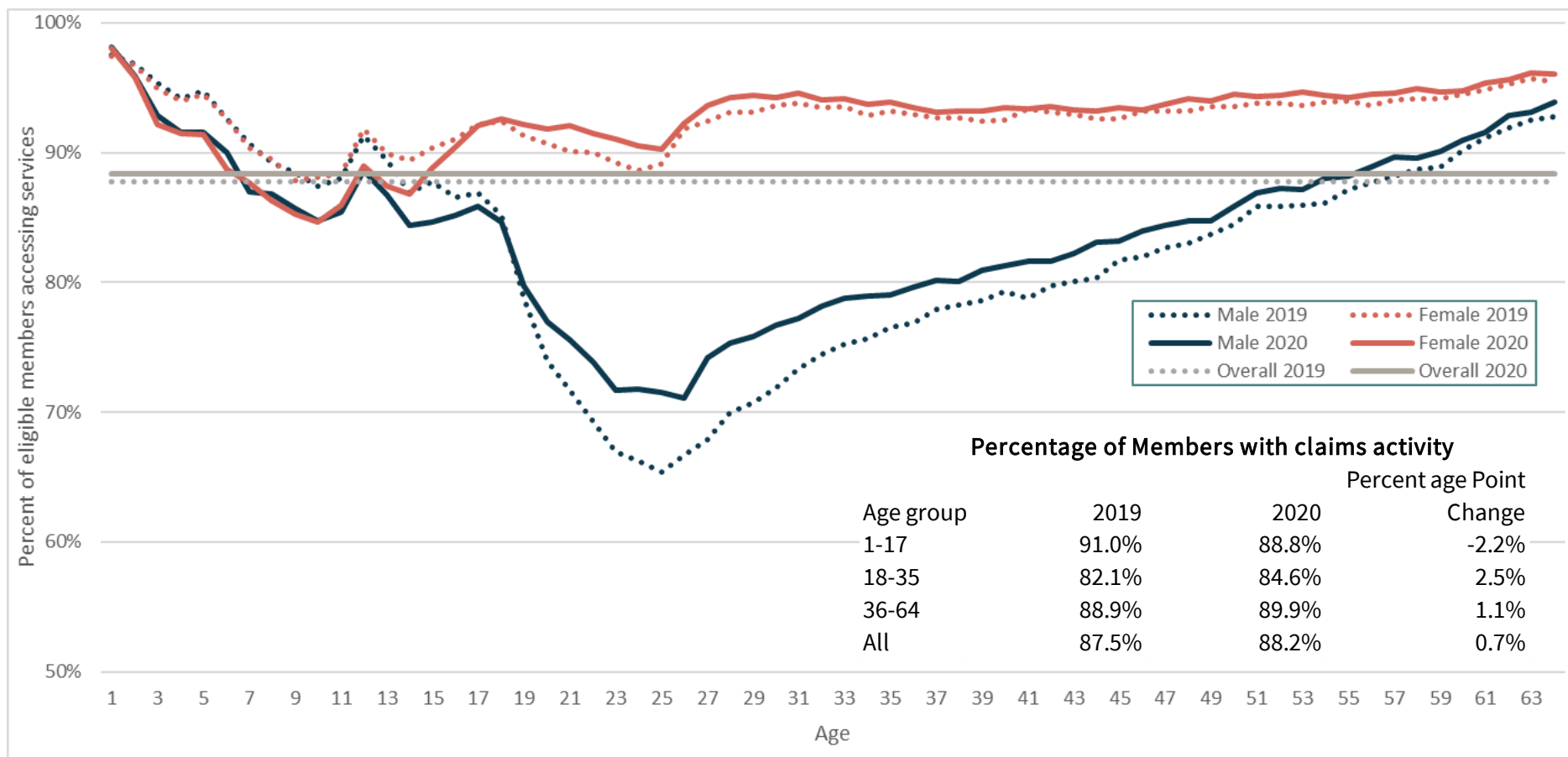
## Actual to Expected Utilization by Medical Group for Commercially Insured Patients



This figure illustrates the variation across medical groups in utilization rates of different services, adjusted for age, gender, and risk. For example, medical group variation in inpatient admissions ranges from 57% below expected for the patient mix to 126% above.

# PERCENTAGE OF HEALTH PLAN MEMBERS UTILIZING SERVICES

Percentage of commercially insured members with any health care utilization by age and sex, 2019 and 2020




*This chart includes all commercially insured patients, regardless of whether they are attributed to a medical group.*

Every year there are health plan members who, even though they have benefits for the full 12 months, do not have any health care claims.

Despite the fact that total spending per person declined in 2020, people with commercial health insurance were actually more likely to have claims than in 2019. The major change appears to be an increase in younger men accessing health care; however, they remain least likely to access care compared with other groups. Health care claims declined by 2.2 percentage points for children ages 1 to 17.

## SECTION THREE: AVERAGE COST PER PROCEDURE

### 2020 COMMERCIAL AVERAGE COST PER PROCEDURE

EXAMPLES	COMMERCIAL RANGE			GOVERNMENT October 2020 when comparable		COMMERCIAL AS A PERCENTAGE OF MEDICARE
	Minimum	Median	Maximum	Medicare	Medicaid	
<b>EYE SERVICES</b>						
Determination of refractive state	\$11	\$38	\$59		\$14	
Eye exam, new patient	\$90	\$215	\$381	\$153	\$110	141% 
Visual acuity screen	\$2	\$7	\$53		\$2	
<b>IMAGING</b>						
Chest X-ray (2 views)	\$41	\$81	\$340	\$33	\$25	245%
Lumbar spine MRI without contrast	\$470	\$965	\$3,816	\$221	\$159	437%
Spine X-ray (2 views)	\$58	\$89	\$378	\$39	\$29	231%
<b>LABORATORY</b>						
Complete Blood Count (CBC)	\$7	\$10	\$74	\$6	\$6	155%
Glycated hemoglobin test	\$11	\$15	\$84	\$10	\$10	154%
Pregnancy test, urine	\$9	\$12	\$73	\$9	\$9	139%
Urinalysis with microscopy	\$4	\$5	\$62	\$3	\$3	158%
<b>MEDICAL SERVICES</b>						
Cardiac Stress test	\$146	\$172	\$203	\$72	\$53	240%
Pure Tone hearing test, air	\$10	\$30	\$68		\$9	
Spirometry test	\$65	\$102	\$111	\$36	\$21	283%
<b>MENTAL HEALTH SERVICES</b>						
Psychiatric diagnostic evaluation	\$125	\$241	\$481	\$143	\$145	168%
<b>OFFICE VISIT</b>						
Office visit, new patient, 20 minutes	\$101	\$191	\$215	\$76	\$53	253%
Office visit, established patient, 15 minutes	\$101	\$177	\$203	\$75	\$66	237%
<b>PHYSICAL THERAPY AND CHIROPRACTIC TREATMENT</b>						
Physical therapy evaluation - low complexity	\$85	\$151	\$259	\$87	\$73	173%
<b>SURGERY</b>						
Earwax removal	\$102	\$132	\$143	\$47	\$34	279%
Vasectomy	\$792	\$1,059	\$1,883	\$366	\$267	289%

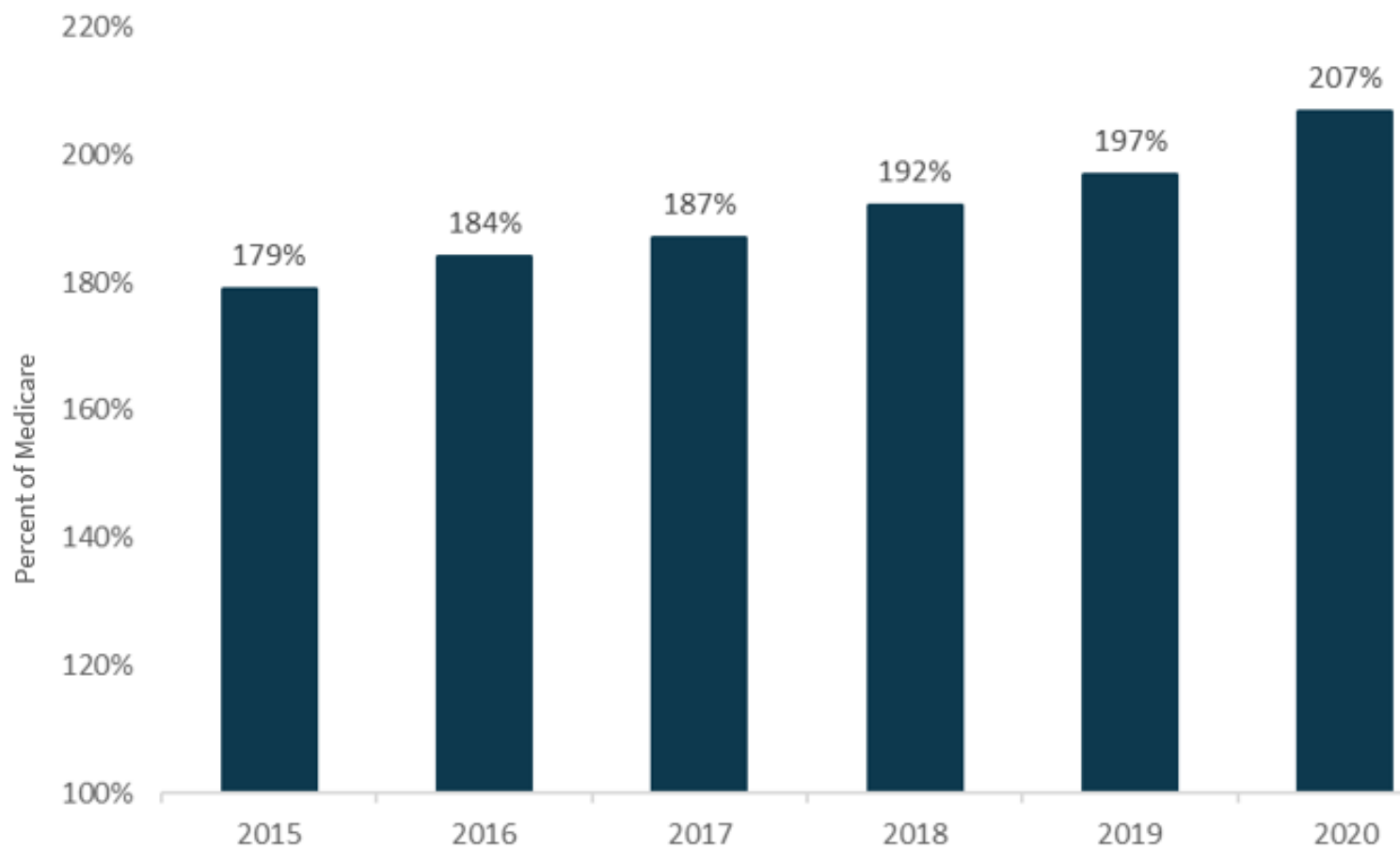
Average Cost per Procedure (ACP) is a measure of the average amount paid to each medical group by commercial health plans for specific common ambulatory care procedures and services. The measures represent actual amounts paid for services (i.e., not list prices) and include amounts paid by insurance and patient out-of-pocket costs.

This table provides examples of pricing variation for procedures that a patient could shop for. The complete list is available [here](#).

As shown here, prices for individual services vary substantially across providers — for example, from \$41 to \$340 for a chest X-ray.

# COMPARISON OF COMMERCIAL PRICES TO MEDICARE FEE SCHEDULE

2015 to 2020



MNCM has published this pricing data yearly since 2014. For the services that have been included in the last six years and have a directly comparable Medicare fee, the average price paid by private insurance for this group of services combined increased from 179 percent of Medicare in 2015 to 207 percent of Medicare in 2020, as shown above.

## METHODOLOGY & DEFINITIONS

- **COST:** For the purpose of this report, cost is defined as allowable charges which is the total paid by the health plan and patient. Billed charges are not used to define costs.
- **DATA SOURCE:** Administrative claims from Blue Cross Blue Shield of Minnesota, HealthPartners, Medica Health Plans and PreferredOne.
- **DATES OF SERVICE:** January 1, 2020, through December 31, 2020. This analysis includes claims processed as of April 30, 2021.
- **PATIENT ATTRIBUTION (ASSIGNMENT):**
  - TCOC: All costs are assigned to the medical group with the patient's majority of primary care activity, including in-person and telehealth visits.
  - Average Cost Per Procedure: Attribution is based on billing provider and includes all commercial patients from participating health plans.
- **POPULATION:**
  - Commercial patients for individual plan and group plans, including self insured employer groups.
  - TCOC: Patients age 1-64 who were on same health plan for at least nine months during the 2020 dates of service.
  - Average Cost Per Procedure: All commercial patients enrolled in the four health plans during the 2020 dates of service.
- **RISK ADJUSTMENT:**
  - TCOC: Costs are adjusted for known risk factors that are reported in administrative claims, using version 11.0 of the Johns Hopkins Adjusted Clinical Groups (ACG) grouper. Costs above \$125,000 per patient are removed when comparing medical groups but included when calculating statewide trends.
  - Utilization: Utilization is adjusted for known risk factors that are reported in administrative claims, using version 120 of Johns Hopkins ACG grouper plus gender and age. No outlier adjustments.
  - Average Cost Per Procedure: Not risk adjusted as this is a measure of cost per unit not rate or appropriateness of care.
- **SAMPLE SIZE REQUIREMENTS FOR PUBLIC REPORTING**
  - TCOC: Minimum of 600 attributed patients per medical group.
  - Average Cost Per Procedure: Minimum of 50 services per procedure per medical group with data from at least three of the health plans.

All data collected and calculated in a unique collaborative process between Blue Cross Blue Shield of Minnesota, HealthPartners, Medica Health Plans, PreferredOne and MN Community Measurement.

Total Cost of Care (TCOC), TCI (Total Cost Index) and TCRRV (relative resource use) measures were developed and are maintained by HealthPartners and are endorsed by the National Quality Forum.

### Calculating the confidence interval for total cost of care

The confidence interval for the Total Cost of Care measure is calculated by “bootstrapping with replacement” which is a process where many samples are pulled from the full data set, each time calculating the outcome. MNCM calculated the 95 percent confidence interval for the TCOC for each medical group by repeating the process 600 times from unique randomly selected subsets of the data.

The confidence interval is calculated as the 2.5<sup>th</sup> percentile and 97.5<sup>th</sup> percentile of the 600 repeated calculations.



## Appendix Tables

Detailed tables by medical group can be found [here](#)

- 1 **APPENDIX TABLE 1:** 2020 Total Cost of Care, Relative Resource Use and Relative Pricing by Medical Group
- 2 **APPENDIX TABLE 2A:** Utilization: Facility Based Services
- 3 **APPENDIX TABLE 2B:** Utilization: Office Visits and Pharmacy Use
- 4 **APPENDIX TABLE 2C:** Utilization: Diagnostic Services
- 5 **APPENDIX TABLE 3:** Average Cost Per Procedure



### Related Publications

The pandemic not only has had an impact of the cost and utilization of health care but has also had significant impacts on measures of health care quality. For more on this topic, see MN Community Measurement's August 2021 [Spotlight Report](#) on quality measures for 2020.