

**Q What is this report about?**

**A** This report presents the results of a Minnesota Department of Health (MDH) analysis of inpatient admissions for four common surgical procedures: major bowel surgeries (removal or resection of the large/small intestine or rectum), appendectomy (removal of the appendix), removal of uterine fibroids (often by hysterectomy), and spinal fusion surgery. This report is the second in a series of studies on health care prices.

As with the previous report, the current report examines variation in hospital prices (the actual payments made by patients and insurers to health care providers) from three perspectives:

1. Statewide average prices;
2. Price differences between different hospitals; and
3. Price differences within the same hospital.

These data and the analysis<sup>1</sup> show that prices vary significantly across all three of these dimensions. It may seem somewhat surprising, too, that a significant portion of (statewide) price variation is *within*-hospital variation; that is, there are different prices for different patients having the same surgery at the same hospital.

**Q How is this report different from the previous report published by MDH in January 2018?**

**A** Building on the January 2018 report on obstetric and orthopedic admissions,<sup>2</sup> this report analyzes four different services. In addition to facility fees, this new analysis also includes in the calculation the fees for physician services (professional fees) delivered during the admission to present a more complete account of the cost of the admission.

During an inpatient admission, patients incur bills from the hospital (facility) for services like room and board, medical supplies, anesthesia, and some medical services like operating room services. Individual physicians also sometimes charge separately for their services (professional fees) for specific surgical procedures, delivery of anesthesia, and pre/post-operation consultations. As noted above, including professional fees presents a more complete picture of the admission. Differences in billing practices across hospitals and insurers mean that accounting for facility and professional fees also improves comparability across hospitals.

In this report, MDH performed an additional analysis, drawing on national research on price variation<sup>3</sup>, to begin to investigate factors that might explain the variation in hospital prices. We found that while price differences *between* hospitals can be large, about 36 percent of the statewide variation in prices for these four services is explained by *within hospital variation*. This within-hospital variation is unexplained by known patient characteristics (age,

<sup>1</sup> Minnesota Department of Health, Health Economics Program, "Commercial Case Price Variation among High-Volume Inpatient Treatments in Minnesota Hospitals (Part 2), Issue Brief, August 2018

<sup>2</sup> Minnesota Department of Health, Health Economics Program, "Commercial Case Price Variation among High-Volume Inpatient Treatments in Minnesota Hospitals (Part 1), Issue Brief, January 2018

<sup>3</sup> Cooper, Z., Craig, S. V., Gaynor, M., & Van Reenen, J. "The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured" National Bureau of Economic Research Working Paper Series, (No. w21815).

gender), severity of illness, length of stay, and insurance characteristics. The amount of *unexplained within-hospital variation* in this study of Minnesota prices is generally consistent with recent national estimates of within-hospital price variation.

## **Q** How is the information in this report useful?

**A** This report demonstrates the price and cost information held in the Minnesota All Payer Claims Database (MN APCD) and how it can be used to improve transparency and information availability for Minnesota's health care system.<sup>4</sup>

Insurers and employers can use information about price variation from the MN APCD, which has previously not been available to them across all payers, to help prioritize negotiation efforts, revise benefit designs, conceive of focused reforms, and support other health care management strategies. Finding comparisons for service prices can be difficult in inpatient settings and information about price distributions and variability can help employers to work with insurers and providers to secure pricing that is more consistent with statewide trends and averages.

The role of consumers in driving changes in health care continues to be widely debated. A growing body of evidence suggests that even with very actionable information on prices and quality, only a small fraction of consumers appear to actively consider metrics on hospital or physician performance. A recent study about patient's use of information when scheduling MRI scans found that only 1% of patients used price transparency tools to choose a provider.<sup>5</sup> These findings cast some doubt on the effect of price transparency to guide patient decision-making on even the most "shoppable" services where patients likely have the time to compare prices and quality across range of providers.

Nevertheless, information on prices, even if it is unable to identify specific providers as in this report, could still be of use to consumers to start discussions with providers and payers about options in health care use. Providing patients with information about price distributions will help motivated consumers to evaluate their options and may encourage providers to have conversations with patients about service prices and affordability.

The bottom line is that unwarranted price variation wastes employers' health care spending, can impact financial risk for patients through cost sharing, and makes budgeting more difficult. Knowing which high cost treatments are most fraught with pricing irregularities is the first step to taking action. Minnesotans (consumers, employees, patients) stand to benefit if purchasers act to reduce unwarranted price variation through increased market discipline, enhanced competition, and more rational health care pricing.

## **Q** What is the main reason behind the wide variation in prices?

**A** This is an important health policy and research question. This report by itself does not tell us the underlying causes of the wide variation in prices. However, we do know that, in general, some hospitals face higher costs due to differences in labor markets, operating costs, and patient complexity. Hospital characteristics such as the number of high tech services available, whether they provide teaching services, and the type of ownership can affect both costs and demand, and therefore prices. Physician practice styles at hospitals can also vary and explain some of the variation. In addition, some hospitals may deliver more intensive care that is higher cost and therefore may result in higher prices, or prices may derive from contractual agreements spanning a number of years.

This report does not look at variation in the quality of care or outcomes associated with

<sup>4</sup> Additional information about the MN APCD is available online: [www.health.state.mn.us/healthreform/allpayer/index.html](http://www.health.state.mn.us/healthreform/allpayer/index.html) and [www.health.state.mn.us/healthreform/allpayer/mnapcdoverview.pdf](http://www.health.state.mn.us/healthreform/allpayer/mnapcdoverview.pdf).

<sup>5</sup> Chernew, M., Cooper, Z., Larsen-Hallock, E., & Morton, F. S. "Are Health Care Services Shoppable? Evidence from the Consumption of Lower-Limb MRI Scans" National Bureau of Economic Research, No. w24869, 2018.

these procedures, which theoretically could be responsible for variations in health care prices. The research literature has not found that higher costs are consistently associated with better outcomes or higher quality of care.<sup>6</sup>

In addition to between-hospital variation, the report shows substantial variation in prices *within* the same hospital. Even after accounting for some patient characteristics, insurance characteristics, and length of stay, about 36 percent of the *within* hospital price variation is unexplained. Authors of national studies suggest that this remaining variation is likely due to variation in bargaining power hospitals have with the range of insurers that administer their patients' health coverage.<sup>7</sup>

Other possible sources of within-hospital price variation may include variation in practice styles of different physicians of the same specialty, practicing within the same hospital. Variation in quality may also play a role, but as noted above, the correlation between clinical quality and price is not known to be strong.

Better understanding the sources of price variation is an important next step for MDH and other researchers. It is one explicit goal of the arc of this work as MDH continues studying health care prices.

## Q What does this report NOT tell us about price variation?

A While this report provides descriptive information about different aspects of price variation, it does not tell us specifically what is *causing* these relatively large variations. While there are national studies that provide some detail about factors underlying variations in hospital and provider prices, we lack this detail for Minnesota.

As one strategy to address concerns over the burden of health care spending, better understanding of the determinants of price variation could contribute to more effective competition and more rational pricing in health care. MDH's ongoing work aims to support such improved understanding.

## Q How did MDH choose the four specific procedures for this report?

A MDH's work on variation in hospital prices focuses on high volume procedures. The original analysis, which was released in January 2018, studied prices at Minnesota hospitals for orthopedics and obstetrics (hip/knee replacements, vaginal birth/C-section) procedures. For the current report, we chose an additional set of four, fairly common, procedures that are likely to be either planned (removal of uterine fibroids, spinal fusion surgery) or unplanned (appendectomy, major bowel procedures).

## Q Why are lower and higher prices sometimes the same for different hospitals?

A In our analysis of hospital prices, we show the same high or low price for some hospitals and some conditions. For example, the hospitals with the highest and third-highest price for spinal fusion surgery show a top price of \$80,797. Similarly, we display a low price of \$12,326 for the hospital with the lowest and second-lowest price for a major bowel procedure.

This is the result of constraining extreme values in our data so that they do not inappropriately affect the calculation of average price. Admissions with prices at the extreme end of the distribution (that is, above or below the 97.5th/2.5th percentile) were assigned the prices at these cut points (that is, the price at the 97.5th percentile for the highest price, and the 2.5th percentile for the lowest price).



<sup>6</sup> Hussey P.S., Wertheimer S. And A. Mehrotra, „The Association Between Health Care Quality and Cost: A Systematic Review.“ *Annals of Internal Medicine*, 158(1), January 2013.

<sup>7</sup> Cooper et. al. (2015)

**Q Does this report tell us anything about quality? Are the most expensive hospitals more likely to deliver the best care? (that is, do they have the best outcomes for the surgery?)**

**A** In order to understand performance differences between hospitals, it is generally considered important to assess differences in patient experience, care quality and the cost of care. Payers and the public already have access to a fair amount of information on the first two items through measurement initiatives of the federal government.<sup>8</sup> In contrast, data on differences in health care prices, as noted elsewhere, are generally not available.

As such, this report focused exclusively on analyzing health care prices. Nevertheless, given the existing research on the weak link between health care cost and quality, it does not seem plausible that the wide variation in prices are driven by quality differences.

**Q Why doesn't this report show the names of the hospitals?**

**A** Similar to the first report, the second analysis in the series does not identify specific hospitals. The state law governing data submission and use for the MN APCD<sup>9</sup> prohibits identifying providers and hospitals. Though hospitals cannot be named, the price distributions for low and high priced hospitals are represented in the report to show the degree of variation across facilities, as well as within hospitals, with an average price at the low or high end.

<sup>8</sup> Centers for Medicare & Medicaid Services, Hospital Compare: [www.medicare.gov/hospitalcompare/](http://www.medicare.gov/hospitalcompare/)

<sup>9</sup> Minnesota Statutes, Section 62U.04, subd. 11

For further information about the MN APCD:  
Online: [www.health.state.mn.us/healthreform/allpayer](http://www.health.state.mn.us/healthreform/allpayer)  
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