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Hospital Pricing Information Consistent Between Transparency-In-Coverage Data And Other Commercial Data Sources

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Editor's Note

This article is the latest in the Health Affairs Forefront series, Provider Prices in the Commercial Sector, featuring analysis and discussion of physician, hospital, and other health care provider prices in the private-sector markets and their contribution to overall spending therein. Additional articles will be published throughout 2023. Readers are encouraged to review the Call for Submissions for this series. We are grateful to Arnold Ventures <https://www.arnoldventures.org/> for their support of this work.

The Transparency in Coverage (TiC) Final Rule <https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/CMS-Transparency-in-Coverage-9915F.pdf> , implemented on July 1, 2022, requires the public

regulation addresses price transparency from the insurers' aspect and complements the hospital price transparency rule <https://www.cms.gov/hospital-price-transparency/hospitals#key-provisions> . Collectively, these two regulations aim to contain the growth of health care spending in the US by promoting price transparency and competition in the health care market.

Multiple *Health Affairs Forefront* articles have discussed the pricing information that insurers have disclosed to date in compliance with the TiC regulation. The pricing information is enormous and comprehensive, with granular measures identifying the specific insurers, plans, procedures, providers, and payment mechanisms. The complexity of the current data requires a streamlined query process and multiple improvements on data usability, such as greater clarity and removal of "zombie rates," which refer to prices for services not actually performed by a provider.

Recently, discrepancies have been identified between TiC data and the actual commercial claims for several small self-insured employers. However, it remains unclear whether prices disclosed in TiC data sets are comparable to prices disclosed in other national data sets. Considering congressional interest <https://energycommerce.house.gov/LCMT> in codifying price transparency regulation into law, it is important to compare the TiC pricing information to existing sources of such information and ask whether the TiC data appear valid.

In this article, we compare the commercial in-network facility prices for five common shoppable hospital procedures disclosed under the TiC rule with commercial prices from two data sources that have been widely used in prior hospital pricing research: disclosure from hospitals in compliance with the hospital price transparency rule <https://www.cms.gov/hospital-price-transparency/hospitals#key-provisions> and the Marketscan Claim Database <https://www.merative.com/documents/brief/marketscan-explainer-general> .

Our Analysis

We measured nationwide commercial hospital prices using three data sources: TiC data disclosed by insurers as of June 2023, and compiled by Turquoise Health; hospital disclosed price transparency data as of July 3, 2023, and compiled by Turquoise Health; and the 2021 Merative Marketscan research database, a large, national sample of health care claims data for commercially insured patients in the US, that has been used in numerous studies <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2779290> on health care pricing. Marketscan is proprietary and voluntary, with de-identified insurer and hospital information.

example, since the hospital price transparency data only include hospital facility prices, we focused on the facility fees of five common and shoppable hospital services with the highest disclosure rates in the hospital data, including:

- hip and knee replacement (Diagnosis-Related Group [DRG] 470),
- colonoscopy (Current Procedural Terminology [CPT] 45378),
- CT scan, head or brain, (CPT 70450),
- metabolic panel (CPT 80053), and
- emergency department visit level 3 (CPT 99283).

Due to the large size of the TiC database and complexity of querying prices for all insurers, we focused on prices disclosed by five major national insurers: CVS Health (formerly Aetna), Elevance Health (formerly Anthem), Cigna, Healthcare Service Corporation, and United Healthcare, accounting for 54 percent <https://www.ama-assn.org/system/files/competition-health-insurance-us-markets.pdf> of the US commercial market enrollment in 2021.

For TiC and hospital disclosed data, we measured prices as the median value across all plans for each unique combination of hospital and procedure, an approach used in a previous study. Since the Marketscan claims database does not identify specific hospitals or insurers, we measured procedure-specific hospital facility prices by aggregating the negotiated prices across all facility claim lines for each unique hospital inpatient admission or outpatient visit for that procedure. We further adjusted the 2021 price into 2023 dollars using medical Consumer Price Index <https://www.bls.gov/cpi/factsheets/medical-care.htm> .

Before comparing prices among these three data sources, we first merged the TiC and hospital disclosed price data at the hospital-procedure level, and summarized the characteristics of this merged hospital sample (for example, ownership, bed size, and so forth) to assess its representativeness, using information from the American Hospital Association's Annual Survey <https://www.ahadata.com/aha-annual-survey-database> of 2021.

We then summarized the median price and interquartile range (IQR) for each procedure from TiC, hospital disclosed data, and Marketscan claims. To further compare the price differential between TiC data and hospital disclosed data within each merged hospital, we calculated the TiC to hospital price transparency price ratio for each unique combination of hospital and procedure. We plotted the distribution (median and IQR) of this ratio for each procedure. A median closer to 1 with a narrower IQR indicates a smaller price differential between the two data sources. Since hospitals are de-identified in Marketscan claims, we did not include Marketscan data for this part of calculation.

Commercial Hospital Prices

The merged hospital sample included a total of 2,153 (50 percent) general acute care hospitals across 49 states (except Maryland, which has a unique all-payer system) and the District of Columbia. Compared to other hospitals, this merged hospital sample is more likely to be nonprofit (68 percent), have larger bed sizes (226 on average), be located in urban areas (77 percent), train medical residents (41 percent), and be affiliated under hospital systems (81 percent), but less likely to be critical access hospitals (13 percent) (exhibit 1).

Exhibit 1: Characteristics of merged hospital sample from TiC and hospital-disclosed data compared to all other US hospitals

	Hospitals* in the sample (N = 2,153)	All Other US hospitals* (N = 2,170)
# of nonprofit hospitals	1,463 (68%)	1,282 (59%)
# of for-profit hospitals	414 (19%)	195 (9%)
# of government hospitals	276 (13%)	693 (32%)
# of urban hospitals	1,648 (77%)	872 (40%)
# of critical access hospitals	280 (13%)	1,074 (49%)
# of teaching hospitals	873 (41%)	548 (25%)
# of system-affiliated hospitals	1,737 (81%)	1,169 (54%)
# of beds (average)	226	109
% Medicaid patients (average)	19.3%	18.6%

*Source: Authors' analysis of data released under the Transparency in Coverage rule, the Hospital Price Transparency regulation, and the American Hospital Association's Annual Survey. *Hospitals are general acute care hospitals in the US.*

Exhibits 2 and 3 show price comparison across the three data sources for each procedure. While there was substantial price variation for each procedure, values from TiC data were relatively comparable to the other two data sources. Specifically, the TiC facility prices for CT scan for head or brain (median $561) and hip and knee replacement (median $28,051) were very close to hospital disclosed data (median $763 and $25,708, respectively) and Marketscan claims (median $581 and $32,132, respectively). TiC data disclosed slightly higher facility prices for colonoscopy (median $2,528) and emergency department (ED) visit level 3 (median $1,080), and slightly lower prices for metabolic panel (median $17), relative to the other two data sources.

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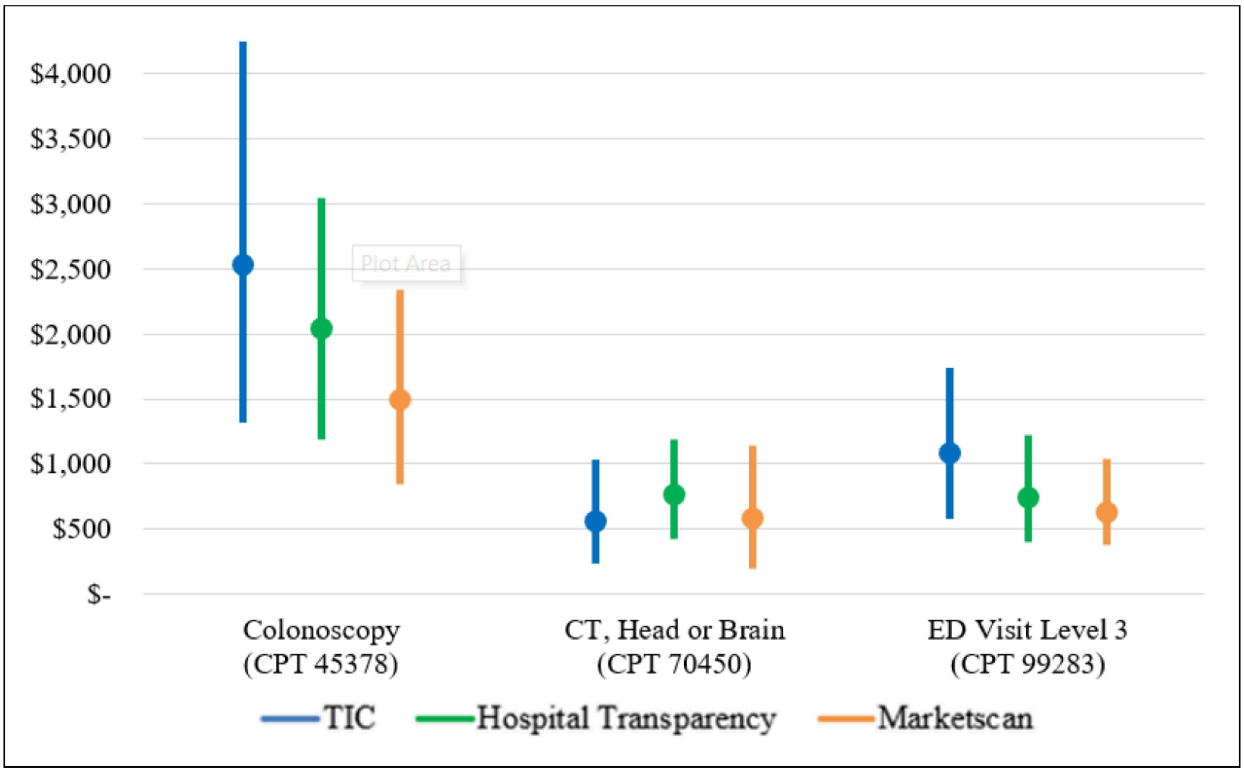
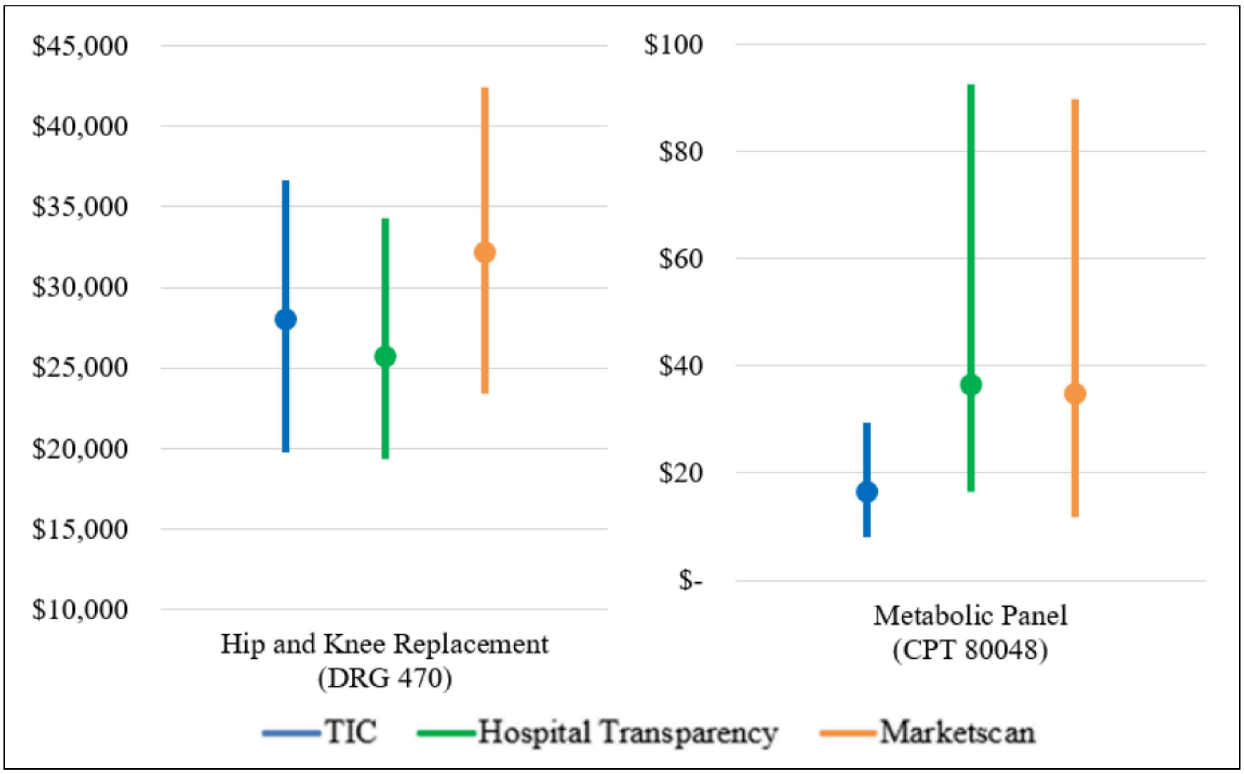
colonoscopy, head or brain CT, and emergency department visit, by data sources



Source: Authors' analysis of data released under the Transparency in Coverage rule, the Hospital Price Transparency regulation, Merative Marketscan database, and the American Hospital Association's Annual Survey. Notes: Interquartile ranges marked as error bars. TiC is Transparency in Coverage. CT is computed tomography. ED is emergency department.

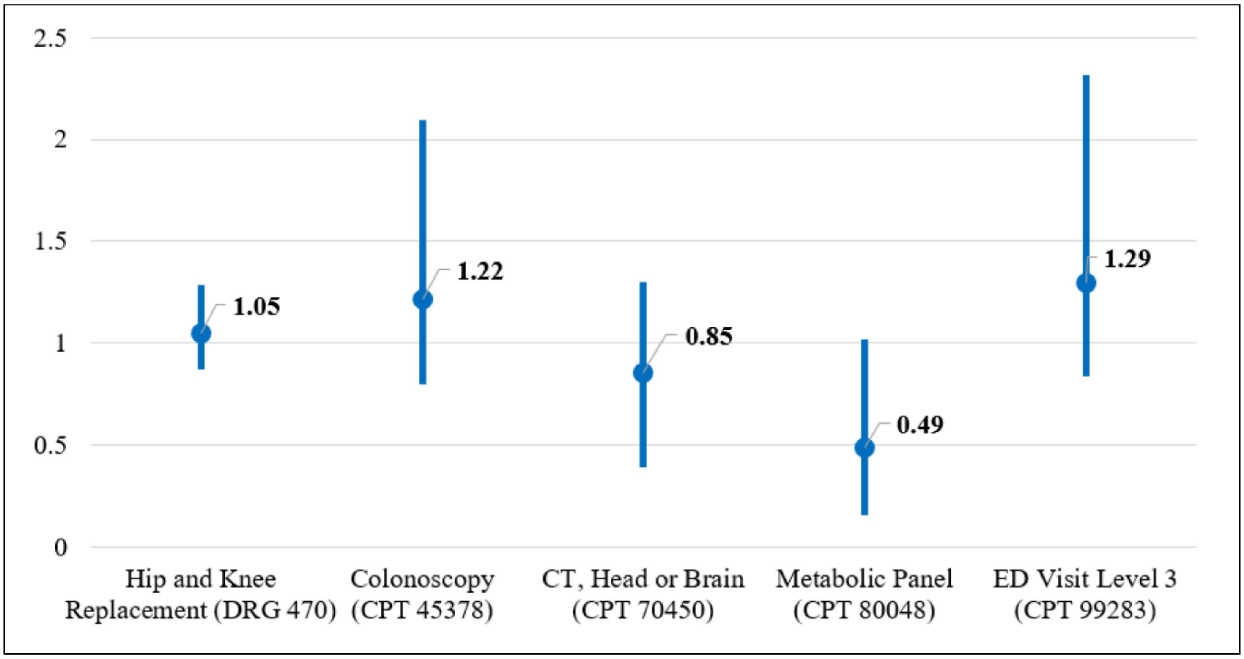
and knee replacement and metabolic panel, by data sources



Source: Authors' analysis of data released under the Transparency in Coverage rule, the Hospital Price Transparency regulation, Merative Marketscan database, and the American Hospital Association's Annual Survey. Notes: Interquartile ranges marked as error bars. TiC is Transparency in Coverage.

Exhibit 4 further shows the distribution of TiC price to hospital disclosed price ratios for the same hospitals, where the median ratios were all close to 1, except metabolic panel (median ratio = 0.49). The IQRs of these ratios all covered the value of 1 for, suggesting that the cases where TiC and hospital disclosed data had identical prices were as common as among the 25th to 75th percentile prices for all five procedures.

procedure



Source: Authors' analysis of data released under the Transparency in Coverage rule, the Hospital Price Transparency regulation, and the American Hospital Association's Annual Survey. Notes: Interquartile ranges marked as error bars. TiC is Transparency in Coverage. CT is computed tomography. ED is emergency department.

It is important to note that our analysis is descriptive and limited to five common hospital services from five major insurers among the 2,153 merged hospitals. Therefore, the results might not be generalized to all procedures, insurers, and hospitals.

Policy Implications

In light of the growing interest in using the TiC data for comparison shopping and health service research, this analysis found that, for five common hospital services, the commerical prices disclosed in the TiC data are mostly comparable to those disclosed by hosptials in compliance with the hospital price transparency rule and to Marketscan claims data.

Our finding—that the TiC pricing data are at least as reliable as the hospital-disclosed and Marketscan data for producing nationwide pricing patterns—is important for stakeholders interested in using TiC data for general inferences. However, it is possible that even within our sample, for some insurers, hospitals, and procedures, the TiC price might not correspond to the hospital's disclosed price, or the actual price as shown on the claim, or both. Indeed, discrepancies have been identified between TiC data and the actual commercial claims for some self-insured employers. A recent study <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2809589> also

from what hospitals inform patients over the phone.

To ensure data accuracy, the Lower Costs, More Transparency Act <https://energycommerce.house.gov/LCMT> , currently under consideration in the House of Representatives, requires attestation that all information made public by insurers and hospitals is complete and accurate. Additionally, the Consolidated Appropriations Act of 2021 <https://www.cms.gov/marketplace/about/oversight/other-insurance-protections/consolidated-appropriations-act-2021-caa> requires insurers and third-party administrators to share claims information with plan sponsors, thus offering them an avenue to confirm the accuracy of the TiC and hospital transparency data relevant to them. To the extent that the price transparency law is enacted, the combination of the attestation requirement and the availability of the claims data for plan sponsors is expected to enhance data accuracy over time.

Hospital price transparency enables plan sponsors to meaningfully assess their negotiated price level for hospital services; insurer price transparency under the TiC rule allows plan sponsors to identify affordable providers in a given market; and the Consolidated Appropriations Act of 2021 <https://www.cms.gov/marketplace/about/oversight/other-insurance-protections/consolidated-appropriations-act-2021-caa> makes it possible for plan sponsors to verify the accuracy of the pricing data disclosed by insurers and hospitals. This three-pronged approach has the potential to facilitate comparison shopping and promote competition, leading to cost-containing outcomes in the commercial health care market in the long run. It remains to be seen how pricing data are being used in practice. Price transparency is only an initial step to stimulate competition. Policy efforts enabling patients, the ultimate consumers of health care, to financially benefit from comparison shopping are necessary to unlock the cost-containing potential of price transparency rules.

Authors' Note

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