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Technical Challenges with Private Health Insurance Price Transparency Data

June 13, 2025

Congressional Research Service
https://crsreports.congress.gov
R48570

CRS REPORT
Prepared for Members and
Committees of Congress

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SUMMARY

R48570

June 13, 2025

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Technical Challenges with Private Health Insurance Price Transparency Data

According to the 2024 U.S. Census Current Population Survey Annual and Social Economic Supplement, over 216 million people in the United States had private health insurance in 2023. That year, private insurers spent about $1.3 trillion on medical goods and services for enrollees, nearly 5% of the U.S. gross domestic product. Despite this high level of spending, the prices insurers paid to in-network providers, known as *negotiated rates*, historically were considered proprietary and were undisclosed to the public, leaving the drivers of health care costs unclear.

Negotiated rates can vary considerably, influenced by factors such as regional market dynamics, provider and insurer market share, contractual terms, and administrative practices. Prices for the same service can differ, even among insurers at the same hospital or among hospitals for the same insurer. For example, for a major knee or hip replacement with complications in Dallas, TX, an insurer has negotiated rates ranging from $19,599 to $102,369 across different hospitals. Within a single hospital, prices also can vary: negotiated rates for the same procedure in one hospital ranged from $14,306 to $56,695 depending on the insurer, a fourfold difference.

Without standardized and transparent information, consumers and researchers face challenges in comparing prices. Negotiated rates determine what insurers pay providers–yet they also can affect enrollee costs, which can vary by provider and often are unknown to enrollees in advance. For example, with coinsurance, defined as a cost-sharing arrangement based on a percentage of the service price, a higher negotiated rate can result in a higher out-of-pocket cost for the enrollee.

In 2020, the Departments of Health and Human Services, the Treasury, and Labor issued the Transparency in Coverage (TiC) final rule to promote informed decisionmaking, competition, and cost transparency in health care. The rule requires most private health plans to (1) offer a consumer-facing tool to help enrollees estimate out-of-pocket costs by provider and service and (2) publicly post machine-readable files (MRFs) with detailed pricing and cost-sharing data. Although the comparison tool is intended for consumers, the MRFs are designed to support researchers, businesses, and regulators by offering data that can be compiled and used to assess price variation and market trends, or used to present information to consumers.

Despite the promise of the MRFs, stakeholders and CRS have faced significant challenges using TiC data. These challenges relate to

- data access, including decentralized data repositories, errors in downloading files, expiring URLs, application programming interfaces, and data retrieval limitations;
- data size and format, including large file sizes, large numbers of files, variations in file structure, and inconsistent data formatting; and
- data integrity, including inconsistent naming conventions and errors, inconsistent negotiated rate data, ghost or zombie rates, incomplete alternative payment model data reporting, and limited provider details.

To address some of these challenges, the 118th Congress considered the Lower Costs, More Transparency Act (H.R. 5378), which passed the House. The bill would have codified many TiC requirements and added provisions aimed at improving usability, such as limiting files to "an appropriate size," mandating attestations of accuracy, and providing user guidance and summary statistics in downloadable spreadsheet form. It would also have required plans to make available the MRF information through technologies deemed appropriate by the departments, such as APIs, which could improve data access and comparability. Whether these provisions, if enacted, would result in improvements would depend on their implementation. Separately, Executive Order 14221, issued in February 2025, directs federal agencies to strengthen enforcement of price transparency rules, ensure data accuracy and standardization, and explore updating current requirements; the order reinforces the TiC rule's goals and acknowledges barriers to meaningful data use.

Although early implementation revealed major technical and logistical hurdles, the TiC initiative is a step toward price transparency. To expand utility, Congress may consider further reforms addressing data access, data usability, and data integrity and standardization. Ultimately, transparency policies aim to help consumers make informed decisions, foster competition, and support oversight; addressing access and integrity issues can help meet these goals.

Contents

Figures

Tables

Contacts

Introduction

According to the Centers for Medicare and Medicaid Services, in 2023, private health insurers paid roughly $1.3 trillion to health care facilities, providers, and retail establishments for enrollee medical goods and services, representing almost 5% of the U.S. gross domestic product.[1] Despite this high level of spending, the prices insurers paid to providers such as physicians, clinics, and hospitals within their networks, known as *negotiated rates*, historically were considered proprietary and were undisclosed to the public, leaving the drivers of health care costs largely unclear. Insurers typically negotiate and establish separate contracts with hospitals, physicians, physician organizations (e.g., group practices, physician management firms), and other types of providers for the care that would be provided to enrollees.[2]

In-Network Negotiated Rate

An *in-network negotiated rate* is the price a health insurer has agreed to pay a provider—such as a hospital, doctor, or clinic—that is part of the insurer's contracted provider network. These rates are established through contracts and are typically lower than the provider's list price. Enrollees usually pay less out of pocket for services received from in-network providers (as compared to payments for out-of-network providers for the same service) because cost sharing is typically lower for in-network providers and these providers have agreed to accept the insurer's payment terms.

In addition to determining how much an insurer will pay a provider for an in-network service, these negotiated rates can affect how much enrollees pay for health coverage and medical care. Higher negotiated rates can result in higher costs for insurers; to balance this higher cost, insurers may raise premiums or have higher cost sharing for enrollees. For instance, if an enrollee has to pay coinsurance, or a percentage of the cost for a covered service, a higher negotiated rate may result in higher expenses for the enrollee.

Negotiated rates can vary widely, influenced by factors such as regional market dynamics, provider and insurer market share, contractual terms, and administrative practices.[3] For example, regional market dynamics reflect local supply and demand for health care services, which can affect how much bargaining power providers have. Another factor is market share, as larger providers or insurers may be able to negotiate more favorable rates due to their size and influence. Contractual terms, such as volume discounts, bundled payment arrangements, or performance incentives, can further shape pricing. Finally, administrative practices, including billing systems and coding methods, may impact how rates are calculated and applied.

These factors are not mutually exclusive, meaning that a combination of these factors can result in different negotiated rates, even among different insurers for the same hospital and among different hospitals with the same insurer. For example, **Table 1** shows significant interhospital variation in negotiated prices for the same procedure across different facilities located in the same city. For the same preferred provider organization (PPO) plan, Insurer 1 has negotiated rates of $19,599 at Hospital 1; $23,545 at Hospital 2; and $102,369 at Hospital 3. At the same time, there is also intrahospital variation, where a single hospital negotiated different prices with different

[1] Centers for Medicare & Medicaid Services (CMS), "National Health Expenditure Accounts—National Health Expenditures by Type of Expenditure and Program," December 2024.

[2] In some instances, an insurer may negotiate jointly with multiple entities. For example, an insurer may negotiate one contract with a large health system that combines physicians and hospitals.

[3] Christopher M. Whaley et al., *Prices Paid to Hospitals by Private Health Plans: Findings from Round 4 of the RAND Hospital Price Transparency Study*, RAND Corporation, Research Report No. RRA1144-1, May 17, 2022, https://www.rand.org/pubs/research_reports/RRA1144-1.html.

insurers. At Hospital 1, prices ranged from $2,537 to $61,515, with the lowest price standing out as a possible outlier. This unusually low amount may reflect a data entry error or an atypical contractual arrangement, although there is no way to verify this based on the available data. At Hospital 2, prices ranged from $14,306 to $56,695 across different insurers, representing a fourfold difference. These examples highlight how payment rates for the same service can vary significantly, not only across hospitals but also depending on the insurer at a given hospital. This variation suggests differences in negotiating leverage, market position, and/or administrative practices and underscores the challenges consumers and researchers face in understanding or comparing prices without standardized, transparent information.

Table 1. Examples of Price Variation of Hip/Knee Replacement at Hospitals in Dallas, TX

Hospital	Insurer #1	Insurer #2	Insurer #3
Hospital #1	$19,599	$2,537	$61,515
Hospital #2	$23,545	$56,695	$14,306
Hospital #3	$102,369	$88,559	$98,995

Source: CRS analysis of Payerset Transparency in Coverage data for November 2024.

Notes: Prices are for diagnosis-related group (DRG) 469—major hip and knee joint replacement or reattachment of lower extremity with major complications or comorbidities or total ankle replacement. Payerset is a company that ingests raw Transparency in Coverage files, organizes the data, and links them to provider identifiers.

From an economic perspective, a lack of price transparency can contribute to differences in pricing. For instance, providers may be unaware they are being reimbursed at lower rates than their competitors, and insurers may not realize they are paying more than others for the same service. Greater transparency can help reduce this information asymmetry by enabling providers and insurers to negotiate more effectively. It also may empower consumers to compare prices across providers and insurers, promoting more informed choices and potentially increasing competition. At the same time, greater transparency could have unintended effects, such as facilitating tacit collusion, where providers align prices rather than compete.

Historically, these negotiated prices were considered propriety information and were largely unavailable to the public and researchers. Furthermore, contracts between insurers and providers often contained provisions that limited the disclosure of such rates.

In 2020, the Departments of Health and Human Services (HHS), the Treasury, and Labor (hereinafter, *the Departments*) addressed the lack of price transparency by issuing a "Transparency in Coverage" final rule that, among other things, required most private health insurance plans to publicly disclose the prices negotiated between the plan and in-network providers for all covered services (except prescription drugs under a fee-for-service arrangement) starting in 2022.[4] This rule has provided various stakeholders with the ability to access and analyze negotiated rate data on a large scale, and it has allowed researchers to better understand the nature of and variation in the prices that private health insurers pay in-network providers for items and services. Although evidence on the long-term impact of the Transparency in Coverage rule remains limited, improved access to pricing data may support future policy evaluation,

[4] Internal Revenue Service, Department of the Treasury; Employee Benefits Security Administration, Department of Labor (DOL); CMS, Department of Health and Human Services (HHS), "Transparency in Coverage," 85 *Federal Register* 72158, November 12, 2020. Hereinafter, Transparency in Coverage Rule.

regulatory oversight, and market monitoring. To date, challenges associated with these data have limited the ability of stakeholders, including researchers, to conduct such analyses.

This report examines recent developments in price transparency policy and current challenges related to the data. It begins with an overview of the Transparency in Coverage requirements for public disclosure and the process for accessing in-network negotiated rate data. It then describes challenges identified by the Congressional Research Service (CRS) in accessing in-network negotiated rate data. The report concludes with a discussion of recent related congressional actions, Executive Order 14221, and potential policy considerations for Congress.

Overview of Transparency in Coverage Machine-Readable File Requirements

In 2020, the Departments issued the Transparency in Coverage final rule, requiring the public disclosure of cost-sharing and price-transparency information for most private health insurance plans.[5]

This rule was in response to Executive Order (E.O.) 13877 and to more fully implement two transparency-focused statutory provisions that collectively apply to most private health insurance plans.[6] E.O. 13877 was issued in June 2019 and directed the Departments to "[solicit] comment on a proposal to require healthcare providers, health insurance issuers, and self-insured group health plans to provide or facilitate access to information about expected out-of-pocket costs for items or services to patients before they receive care."[7] The statutory provisions were included in the Patient Protection and Affordable Care Act (P.L. 111-148, as amended) and require insurers to satisfy certain transparency-focused requirements, including, but not limited to, making the following publicly available: claims payment policies and practices, information on payments with respect to any out-of-network coverage, and "other information as determined appropriate by the Secretary [of HHS]."[8]

The Transparency in Coverage rule mandates that insurers publish three machine-readable files (MRFs) on a publicly accessible website for each offered plan, make the files available free of charge and without conditions, and update them monthly.[9]

[5] 42 U.S.C. §300gg-15a and 45 C.F.R. §147.212. In addition to the machine-readable file (MRF) requirements, the Transparency in Coverage final rule contained other provisions, such as the requirement for insurers to disclose certain price comparison information to enrollees through a self-service tool. More information on this requirement can be found in "Price Comparison Tool" in CRS Report R45146, *Federal Requirements on Private Health Insurance Plans*.

[6] More specifically, Public Health Service Act (PHSA) Section 2715A and Patient Protection and Affordable Care Act (ACA; P.L. 111-148, as amended) Section 1311(e)(3).

[7] Executive Order (E.O.) 13877 of June 24, 2019, "Improving Price and Quality Transparency in American Healthcare to Put Patients First," 84 *Federal Register* 30849, June 27, 2019, at https://www.federalregister.gov/documents/2019/06/27/2019-13945/improving-price-and-quality-transparency-in-american-healthcare-to-put-patients-first.

[8] ACA §1311(e)(3)(A). In this report, references to insurers include applicable group health plans unless otherwise noted.

[9] Underlying statute requires that this information be provided in plain language that the intended audience can readily understand and use, with additional guidance on best practices of plain language writing provided by the Secretaries of HHS and Labor. ACA §1311(e)(3)(B).

The three MRFs include the following:[10]

- ***In-network negotiated rates*** with providers for all covered services and items (excluding prescription drugs under a fee-for-service arrangement),
- ***Out-of-network allowed amounts and billed charges*** for covered services and items during a specific time period, and
- ***Negotiated rates and historical net prices*** for covered prescription drugs.[11]

File Contents and Structure

Regulations and sub-regulatory guidance specify the contents of the in-network negotiated rate file and the out-of-network allowed amount file, as well as how the data for these files are to be structured.[12] As part of these requirements, insurers have some discretion around file content and structure.

File Content

The in-network negotiated rate file includes all applicable rates for all covered services and items provided by in-network providers, including those under bundled payment or capitation arrangements.[13] Rates include negotiated amounts, derived amounts, fee schedules, percentage-based rates, and per diem rates (except for prescription drugs that are subject to a fee-for-service reimbursement arrangement) for each in-network provider.[14]

Out-of-network rates are not negotiated and reflect costs of services from providers that have not contracted with a given insurer.[15] The out-of-network allowed amount file includes all allowed amounts and billed charges for covered services provided by out-of-network providers during the 90-day time period that began 180 days prior to the publication of the file. For example, a file published on September 1 would include out-of-network services provided from March 5 through June 2. Out-of-network allowed amounts and billed charges data for a particular provider and a

[10] For ease of reading, these files will be referred to in this report as the *in-network negotiated rate file*, the *out-of-network allowed amount file*, and the *prescription drug file*, respectively.

[11] HHS, DOL, and Department of the Treasury (hereinafter, the Departments) initially deferred enforcement of the prescription drug MRF component of this requirement and have since indicated that the Departments intend to develop technical requirements and an implementation timeline in the future. As of the date of this report, the Departments had not taken such actions. As such, the prescription drug MRF requirement is not discussed in this report. Departments of Labor, HHS, and the Treasury, *FAQS About Affordable Care Act Implementation Part 61*, September 27, 2023, https://www.cms.gov/files/document/faqs-about-affordable-care-act-implementation-part-61.pdf.

[12] See 45 C.F.R. §147.212 and CMS, "Transparency in Coverage," March 1, 2022, https://github.com/CMSgov/price-transparency-guide.

[13] A *bundled payment arrangement* refers to a payment structure in which different providers are paid an overall sum for taking care of an enrollee's condition rather than being paid for each individual treatment. A *capitation arrangement* may refer to a payment structure in which providers are paid a set amount per enrollee for a predefined amount of time, regardless of whether the enrollee uses the providers' services. HHS, "Healthcare.gov Glossary - Payment Bundling," https://www.healthcare.gov/glossary/payment-bundling/, and Transparency in Coverage Rule, 72195.

[14] The term *derived amount* refers to the price that an insurer assigns to an item or service for internal accounting, reconciliation with providers, or for specified data submitting purposes. See 45 C.F.R. §147.210(a)(2)(ix)

[15] For more information on out-of-network billing, see "Private Health Insurance Billing Overview" in CRS Report R46856, *Surprise Billing in Private Health Insurance: Overview of Federal Consumer Protections and Payment for Out-of-Network Services*.

particular service or item in instances where there are fewer than 20 different claims for payment under a single plan are excluded from the file.[16]

Centers for Medicare and Medicaid Services (CMS) schemas define the structure, format, and required elements of the contents of the in-network negotiated rate file and the out-of-network allowed amount file, including descriptions of all variables and an indication of whether the variable is required to be included in the file.[17]

File Format and Structure

MRFs must be in a nonproprietary, open standards format such as JavaScript Object Notation (JSON) or Extensible Markup Language (XML). Portable Document Format (PDF) and Microsoft Excel (XLS, XLSX) file types are not allowed due to their proprietary nature. The files must be publicly accessible on an internet website and cannot have restrictions that would limit reuse of the information.[18]

MRFs will exist for each plan, but insurers may combine multiple plans into a single file if they share the same negotiated rates to prevent duplication. In such cases, an index file must be created to reference the relevant MRFs. To take this approach, the plan would have to generate an additional table of contents file (or index file) that would contain specified information such as plan names and Uniform Resource Locators (URLs) for the location of the corresponding plan's MRFs. This index file functions as a directory, pointing users to specific locations of multiple plans' MRFs.

To reduce file size and make the downloading of index and MRF files more manageable, the data in these files are highly nested, requiring multiple processing steps to unwind and extract specific rate information.

Stated Aims of the Machine-Readable File Requirements

The Departments identified multiple stakeholders that could benefit from price transparency disclosures, including consumers, employers, researchers, and regulators.[19] The Departments' view was that consumers would be the ultimate beneficiary of these disclosures;[20] however, given the complexity associated with medical billing and health care data, the Departments acknowledged that the MRF disclosures likely would be difficult for the average consumer to use. Instead, the Departments acknowledged that software developers and other third parties could compile, consolidate, and present the information in these MRFs in a way that is more accessible to consumers. These actions, in turn, could "increase health insurance literacy, consumerism, and competition, resulting in more reasonable costs for health care items and services."[21]

[16] See 45 C.F.R. §147.212(b)(2). Also see CMS, "Technical Clarifications," September 10, 2024, https://www.cms.gov/healthplan-price-transparency/resources/technical-clarification.

[17] CMS, "In-Network File," https://github.com/CMSgov/price-transparency-guide/tree/master/schemas/in-network-rates, and CMS, "Out-Of-Network Allowed Amount File," https://github.com/CMSgov/price-transparency-guide/tree/master/schemas/allowed-amounts.

[18] See 45 C.F.R. §147.212(b)(2). Also see CMS, "Technical Clarification Questions and Answers," https://www.cms.gov/healthplan-price-transparency/resources/technical-clarification.

[19] Transparency in Coverage Rule, 72209-72212.

[20] Transparency in Coverage Rule, 72209-72212.

[21] Transparency in Coverage Rule, 72210.

Process to Access Transparency in Coverage Machine-Readable Files

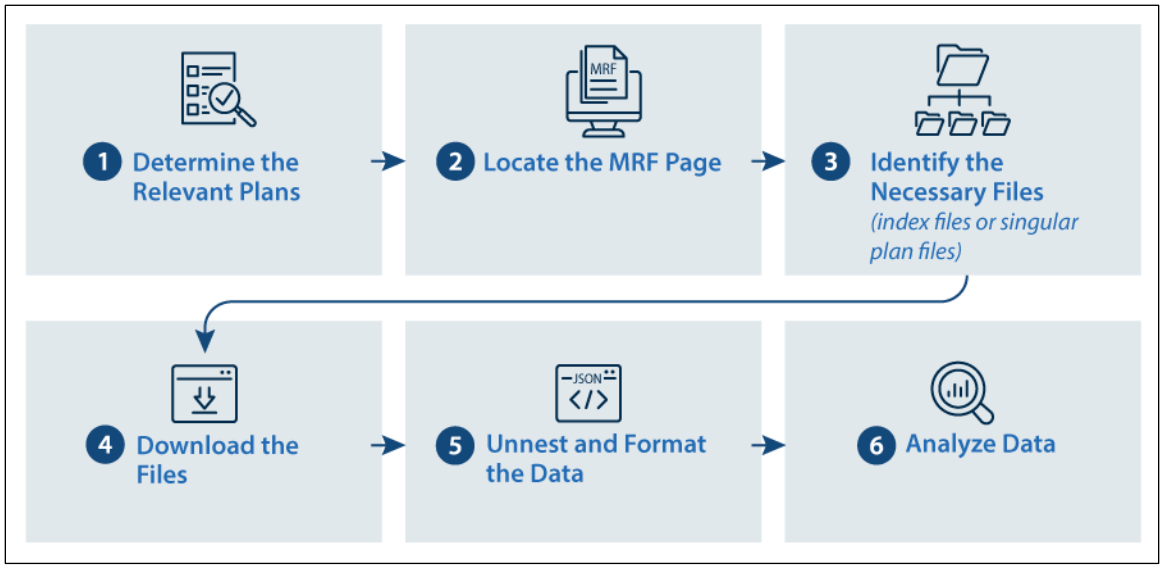
As described above, the MRF data generally require processing and interpretation by researchers, data scientists, or third-party vendors to generate actionable insights for consumers and other stakeholders. Although Members of Congress and their staff may not directly interact with the raw MRF data, the information presented here may support congressional understanding of the current transparency landscape and inform potential legislative or oversight actions.

Accessing Transparency in Coverage MRFs involves a structured workflow to retrieve and analyze negotiated rate data. This process requires users to identify relevant insurers and plans, locate and download the appropriate files, and transform the data into a format suitable for analysis. This section (and **Figure 1**) describes the workflow to access negotiated rate data.

- **Determine the Relevant Plans.** Users must first determine which insurers and plans are of interest for analysis.
- **Locate the MRF Page.** As there are no centralized repositories for the data, users must visit each insurer's site directly. Each insurer hosts its MRFs on its own website. Employers with self-insured group health plans may provide access through their own websites or may contract with another entity, such as a third-party administrator, to publish the file on their behalf.[22] Users must navigate to the appropriate insurer or employer-specific webpages to find these files.
- **Identify the Necessary Files (Singular Plan Files or Index Files).** Insurers and employers have some discretion in how they organize and store MRFs on their respective websites. Some insurers offer direct access to a plan's individual MRF file, others group multiple plans with the same negotiated rates (or allowed amounts) together into a single file, and some offer both options. In instances where multiple plans are grouped into a single file, the insurer must provide an index file, which functions as a directory that users must search through to identify the specific plan's MRF URLs. In addition, some plans may have multiple MRF negotiated rate files associated with that particular plan.
- **Download the Files.** Once the relevant index and/or plan files have been identified, users must download them. These files are often compressed in ZIP or GZIP formats and require extraction before use.
- **Unnest and Format the Data.** MRFs typically are stored in JSON format, which must be processed to convert the data into a tabular structure suitable for analysis. In some instances, a separate provider-specific file also may need to be downloaded and combined with the rest of the MRF data.
- **Analyze Data.** Once the data have been fully processed, users can apply statistical software to assess price transparency trends and conduct further analysis.

[22] Instead of purchasing group plans from insurers, plan sponsors may set aside funds and pay for health benefits directly; that is, they may self-insure. For more information on self-insuring, see CRS Report R47507, *Private Health Insurance: A Primer*.

Figure 1. Process to Access Machine-Readable Files (MRFs)



Source: Congressional Research Service.

CRS-Identified Challenges in Accessing In-Network Negotiated Rate Data

Between February 2024 and September 2024, CRS attempted to access more than 20 index files and negotiated rate files. This section and **Table 2** outline the key challenges CRS encountered while retrieving Transparency in Coverage data, as well as challenges identified by other researchers and companies working with this transparency data.[23] Some private vendors have emerged to clean, standardize, and analyze Transparency in Coverage data; Payerset and Turquoise Health are two examples. These firms ingest raw files, organize the data, and link them to provider identifiers. Payerset, in particular, confirmed that several technical barriers encountered by CRS persist when using the data, including challenges related to data retrieval and data integrity.[24]

Although these firms play a role in making the data more accessible, growing reliance on third-party vendors to read, process, and help independent users overcome certain challenges with the data may introduce a potential unintended consequence: proprietary data cleaning and restructuring methods may reduce transparency in public data. The privatization of access and interpretation could limit reproducibility, obscure methodological choices, and create new barriers for independent users.

[23] For example, see Gary Claxton et al., *Challenges with Effective Price Transparency Analyses*, Peterson-KFF Health System Tracker, February 25, 2025, https://www.healthsystemtracker.org/brief/challenges-with-effective-price-transparency-analyses/; Evelyn Li et al., *Five Recommendations for Policymakers to Improve Health Plan Price Transparency*, Mathematica, July 21, 2023, https://www.mathematica.org/blogs/five-recommendations-for-policymakers-to-improve-health-plan-price-transparency; and Dr. Michael Chernew et al., *Transparency in Coverage: Recommendations* for Improving Access to and Usability of Health Plan Price Data*, https://georgetown.app.box.com/s/1ezsggz1c7smsaexkr8rght15sokgusl.

[24] Congressional Research Service email communication with Payerset.

This summary—though not an exhaustive account of all obstacles—highlights some barriers to data access and usability, which could limit the files' effectiveness in accomplishing intended policy goals.[25] It is important to note that the challenges discussed here are based on experiences with in-network negotiated rate files only. There may be other technical challenges inherent to other MRFs, such as out-of-network allowed amounts and billed charges, that are not considered in this report.

Table 2. Summary of Congressional Research Service-Identified Technical Challenges Pertaining to In-Network Negotiated Rate Data

Type of Technical Challenge	Challenge	Brief Description
Data Access	Decentralized data repositories	Negotiated rate data are dispersed across insurer and employer websites, requiring users to manually locate and retrieve files with no centralized index available.
	Errors in downloading files	Errors in downloading index and negotiated rate files, including broken Uniform Resource Locators (URLs), server failures, and permission issues, can prevent access to complete data and undermine the usability and effectiveness of transparency initiatives.
	Expiring URLs	URLs can expire after each monthly update, and insurers are not required to maintain prior versions.
	Application programming interfaces (APIs) and data retrieval limitations	Some insurers restrict download access through APIs with rate limits, significantly delaying file downloads.
Data Size and Format	Large file sizes	File sizes exceed most local storage and processing capabilities, requiring expensive cloud resources.
	Number of files	Each insurer may have hundreds of separate files for each plan, making aggregation and analysis highly resource intensive.
	Variation in file structure	Structural inconsistencies across files complicate automated processing and data merging. Some insurers embed provider info, whereas others use separate reference files, requiring additional merging.
	Inconsistent data formatting	Poor formatting prevents partial file streaming and can render files unusable without correction tools.

[25] See "Stated Aims of the Machine-Readable File Requirements" in this report for examples of the Departments' policy goals as discussed in the Transparency in Coverage rule.

Type of Technical Challenge	Challenge	Brief Description
Data Integrity	Inconsistent naming conventions and typographical errors	Variability in field names and typos break automated scripts and require manual standardization.
	Inconsistent negotiated rate data	Depending on reporting method, rates may be listed as percentages without the billed charge amount, limiting comparability.
	Ghost or *zombie* rates	Rates are listed for procedures irrelevant to the provider, which can skew summary statistics calculations.
	Reliability and accuracy in alternative payment models	Incomplete reporting for alternative payment models limits transparency into total provider payments.
	Provider identification	Limited provider details restrict geographic and specialty-level analyses without linking external data.

Source: Congressional Research Service (CRS).

Notes: Challenges stem from CRS experience while retrieving Transparency in Coverage data from February 2024 to September 2024, as well as challenges identified by other researchers and companies working with this transparency data. For example, see Gary Claxton et al., *Challenges with Effective Price Transparency Analyses*, Peterson-KFF Health System Tracker, February 25, 2025, https://www.healthsystemtracker.org/brief/challenges-with-effective-price-transparency-analyses/; Evelyn Li et al., "Five Recommendations for Policymakers to Improve Health Plan Price Transparency," *Mathematica*, July 21, 2023, https://www.mathematica.org/blogs/five-recommendations-for-policymakers-to-improve-health-plan-price-transparency; and Dr. Michael Chernew et al., *Transparency in Coverage: Recommendations* for Improving Access to and Usability of Health Plan Price Data*, https://georgetown.app.box.com/s/1ezsggz1c7smsaexkr8rght15sokgusl.

Challenges Related to Website and Data Access

CRS identified challenges with how MRFs are published that complicated users' ability to access data. These accessibility issues are further compounded by the time-sensitive nature of the data. Insurers refresh their posted data monthly but are not required to retain prior versions. If a webpage remains inaccessible for an entire month, the updated data for that period may be lost permanently, with no way to track historical changes.

Decentralized Data Repositories

Negotiated rate data are dispersed across individual insurer websites, requiring users to manually locate and access index files for each plan of interest. Self-insured employers also may choose to publish files on their own websites, further increasing the number of websites and entities the data can be dispersed across.[26]

Additionally, some insurers provide index files, some post individual MRFs, and some post both to their websites. This variation further complicates data retrieval, making it nearly impossible to verify whether all relevant data have been obtained.

[26] Self-insured employers also may work with another entity (e.g., a third-party administrator) to publish their files.

Without specialized web scraping tools, accessing numerous MRFs is time-consuming and labor-intensive, particularly given the large number of insurers, many of which post hundreds of URLs. This decentralized structure makes it difficult to ensure comprehensive data collection, as there is no centralized source to confirm whether a user has accessed the full universe of plans.

Errors in Downloading Files

Errors in downloading index and negotiated rate files create barriers to accessing transparency data. In some instances, URLs failed to retrieve files, instead returning errors related to server issues, improper file permissions, or other website malfunctions. Common errors include "404: Not Found," indicating the file is missing; "403: Forbidden," restricting access due to permission settings; and "500: Server Error," signaling an unexpected server failure. For negotiated rate files, there are some schemas in which the provider reference information is stored in separate files that must be downloaded from their own URLs; these URLs also are subject to the website errors above, which can result in the failure to retrieve complete negotiated rate data.

These errors may prevent users from obtaining the data needed for analysis, undermining the effectiveness of transparency initiatives.

Expiring URLs

Insurers are required to update MRF data on a monthly basis. In some instances, the URLs to access the data will be specific to the month to which the data apply. For example, URLs for data from February 2025 can have a URL that contains a variant of "02-01-2025." Once that month has expired, the data can no longer be found at that specific URL, and users may have to reidentify the most up-to-date URL at the insurer's website, which can result in more time-intensive processes to access and analyze MRF data on a consistent basis.

Application Programming Interfaces and Data Retrieval Limitations

Some insurers use APIs to manage data downloads instead of providing direct access to files. For example, one insurer's MRFs are stored in an Azure-based cloud storage system. Previously, these files were directly accessible on the insurer's website, allowing for efficient bulk downloads. Access is managed through an API, which imposes rate limits on downloads. As a result, retrieving all available files sequentially could take weeks, significantly delaying data access. In another example, an insurer imposes a download cap, allowing no more than three MRFs to be retrieved at a time.

While APIs can facilitate structured data retrieval, they also can impose restrictions on the volume of data that can be downloaded at once. These limitations can significantly extend the time required to access large datasets, creating barriers for users who rely on timely access to transparency data.

Challenges Related to Data Size, Structure and Format

Large File Sizes

Certain file properties, such as size, can create barriers to access. Some insurers include warnings on their websites indicating that each MRF can be as large as a terabyte in size. A common storage capacity for standard computers is approximately 500 gigabytes, equivalent to half a terabyte. At these specifications, most personal computers lack the storage capacity and

processing power needed to download, store, or analyze even a single large file. This limitation becomes more pronounced when attempting to combine or compare multiple files.

Accessing and processing such vast datasets requires specialized tools, such as big data analytics software and cloud computing resources, which may limit the populations that can access and analyze these files. Such solutions can be prohibitively expensive, as cloud computing costs scale with file size. Additionally, big data software requires specialized expertise, further limiting access for researchers and other public users.

Number of Files

Insurers and employers offering health insurance need to publish MRFs at the plan level,[27] meaning there will be at least one MRF for each plan (some plans may have more than one MRF associated with them). This results in a sizeable number of MRFs. As an example, CRS identified one insurer with an index file that included MRF URLs for over 1,800 of the insurer's different plans in one state, many of which were reported on behalf of different employers.[28] One of the plans in the index file had more than 300 distinct negotiated rate MRFs.

Without user knowledge of programming or automated data processing, accessing these thousands of files can pose challenges for users, even in cases when file sizes are relatively small. This fragmentation across numerous files introduces significant technical challenges in aggregating and analyzing data, potentially leading to inefficiencies and increased resource demands for comprehensive data synthesis and policy evaluation.

Variations in File Structure

Ensuring data accessibility requires consistency in file structure. CMS provides technical guidelines, including schemas, that outline how data should be organized,[29] but insurers have some discretion in how they structure MRFs. For example, negotiated rate MRFs can vary in how they reference provider data. Some use a separate file that contains provider data (i.e., a reference file) and must be linked to the negotiated rate MRF, whereas others embed provider details directly within the negotiated rate MRF.

Although the ability to create a separate file allows insurers to define a provider network once and cross-reference it across multiple files, the lack of standardization increases processing time and complexity for users.

Inconsistent Data Formatting

Inconsistent file structures across insurers create barriers to accessing and processing negotiated rate data. Some insurers format all data on a single line rather than separating distinct data objects, making it impossible to efficiently stream large files in smaller segments. Moreover, structural variations can make files corrupt or unreadable, requiring specialized tools to correct, which is impractical given the vast number of files.

[27] CMS "File Naming Convention and Examples Concerning Plan Name," March-April 2021, https://github.com/CMSgov/price-transparency-guide/discussions/35.

[28] There was some duplication between the MRF URLs. To the extent that multiple plans share the same negotiated rates, multiple plans' URLs can point to the same location.

[29] CMS, "Transparency in Coverage," March 1, 2022, https://github.com/CMSgov/price-transparency-guide.

Without processing techniques such as streaming, systems with limited memory struggle to process these files, decreasing accessibility for users.[30] This variance also adds complexity in analyzing files at scale.

Challenges Related to Data Integrity

Inconsistent Naming Conventions and Typographical Errors

Inconsistent naming conventions and typographical errors in Transparency in Coverage data hinder automated processing and analysis. CRS identified widespread variations in spelling, abbreviations, capitalization, and typographical errors across insurers, complicating standardization and analysis. For example, CRS identified that for the "plan_name" field, insurers reported data under "PLN_NME," "plan_nm," "Plan_name," and other variations, none of which would be read in by a program expecting "plan_name." In another example, plans have reported invalid plan names such as "q," "EIN," or "HIOS," making it difficult to link reported data to meaningful plan identifiers.

Given the large size and quantity of these files, inconsistent naming conventions and typographical errors significantly hinder automated processing and analysis of Transparency in Coverage data. Furthermore, manual correction is impractical, requiring complex programming solutions to account for naming variations and errors. These issues increase the technical burden on researchers and policymakers using the data for oversight and policy evaluation.

Inconsistent Negotiated Rate Data

Depending on how an insurer contracts reimbursements with a provider, the negotiated rate data can be reported either as a dollar amount or as a percentage.[31] More specifically, insurers are allowed to report percentages if payment rates are calculated based on a percentage of the provider's billed charges. In these arrangements, the exact dollar amount that will be paid to the provider will not be known prospectively. In other words, the insurer will not know the payment amount until the claim with the billed charge amount has been submitted to the plan. When reporting percentages, insurers are not required to include the total billed charge amounts used to determine the total amount paid to that provider.

Without knowing the totals that the percentages are based on, it is impossible to calculate the actual amounts paid to providers. It is also difficult to make comparisons among providers that are reimbursed based on percentages and to make comparisons between providers reimbursed

[30] For example, see GitHub Price Transparency Guide Discussion #737, "Maximum JSON File Size - Limitations," https://github.com/CMSgov/price-transparency-guide/discussions/737.

[31] Regulations indicate that in-network rates are to be "reflected as dollar amounts," but the Departments indicated that "an exercise of enforcement discretion might be warranted in circumstances where it was extremely difficult or impossible for a plan or issuer to determine and report an applicable rate for specific items or services provided under 'percentage-of-billed-charges' contracts if an exact dollar amount cannot be determined for an item or service prospectively." As such, insurers with these types of arrangements are to follow, in applicable instances, the GitHub schema that indicates that negotiated rate values can be a percentage if payment rates are calculated based on a percentage of billed charges. See 45 C.F.R. 147.212(b)(1)(i)(C)(1), "negotiated_rate" at CMS, "In-Network File," https://github.com/CMSgov/price-transparency-guide/tree/master/schemas/in-network-rates; DOL, HHS, and Department of the Treasury, "FAQs About Affordable Care Act Implementation Part 53," April 19, 2022, https://www.cms.gov/files/document/faqs-part-53.pdf; and DOL, HHS, and Department of the Treasury, "FAQs About Affordable Care Act Implementation Part 61," September 23, 2023, https://www.cms.gov/files/document/faqs-about-affordable-care-act-implementation-part-61.pdf.

based on a percentage of billed charges versus a negotiated rate. This difficulty limits researchers' ability to holistically evaluate the entire universe of a plan's negotiated rates.

Ghost or *Zombie* Rates

The in-network negotiated rate file includes all applicable rates for covered services, even when a provider would never bill for a particular service. These non-applicable rates, colloquially referred to as *ghost* or *zombie* rates, can stem from insurer practices wherein they establish rates with in-network providers "by offering most providers the same fee schedule for all covered services, and then it is up to the provider to negotiate increased rates for the services that [the provider] is most likely to bill."[32]

These ghost rates are widespread and distort statistical analyses by skewing average and median negotiated rates, either inflating or deflating them depending on the distribution of rates included.[33] For example, a reported negotiated rate of $0 for a knee replacement attributed to a dental provider likely reflects a ghost rate, because a dentist would not be expected to perform a knee replacement procedure. Including such amounts in analyses would lower the average and median negotiated rate paid by the plan for such service relative to a distribution of rates that did not include similar ghost rates.[34] Estimates suggest a majority of rates in the file are clinically implausible, making it difficult to use the data for meaningful comparisons.[35]

Reliability and Accuracy in Alternative Payment Models

The Departments require insurers to disclose in-network rates suitable for their respective payment models, which means that plans using alternative payment models also must disclose their in-network rates.[36] However, the technical guidance for reporting negotiated rate data may not fully account for these reimbursement models, especially in cases where rates are not negotiated per service. For instance, managed care organizations or groups of providers may operate under a capitated per member, per month payment model, in which an insurer pays fixed rates to the organization, regardless of the number of services provided, on a per patient, per month basis. Although insurers are able to report whether an amount is capitated, bundled, or fee for service, it is unclear whether the capitated amounts reported reflect the total amount paid to these groups or the amount paid to each provider in the group. Addressing the intricacies of alternative payment models would further improve the accuracy and completeness of the in-network rate file, aiding in better cost transparency and oversight.

[32] See question and answer 14 in DOL, HHS, and Department of the Treasury, "FAQs About Affordable Care Act and Consolidated Appropriations Act, 2021 Implementation Part 55," August 19, 2022, https://www.dol.gov/sites/dolgov/files/EBSA/about-ebsa/our-activities/resource-center/faqs/aca-part-55.pdf.

[33] This issue was the subject of litigation regarding the determination of median in-network rates in surprise billing situations. For more information, see CRS Legal Sidebar LSB11036, *Overview of Selected No Surprises Act Litigation*.

[34] See question and answer 13 in DOL, HHS, and Department of the Treasury, "FAQs About Affordable Care Act and Consolidated Appropriations Act, 2021 Implementation Part 55," August 19, 2022, https://www.dol.gov/sites/dolgov/files/EBSA/about-ebsa/our-activities/resource-center/faqs/aca-part-55.pdf.

[35] Maya Najarian, "Clinically Implausible Rates Are Getting the Boot," August 30, 2023, https://blog.turquoise.health/clinically-implausible-rates-are-getting-the-boot/; Daniel Cullen et al., "Using Publicly Available Health Plan Pricing Data for Research and App Development," *Health Affairs Forefront*, May 19, 2023, https://www.healthaffairs.org/content/forefront/using-publicly-available-health-plan-pricing-data-research-and-app-development.

[36] Alternative reimbursement payment models include capitation arrangements and bundled payment arrangements. Transparency in Coverage Rule, 72226.

Provider Identification

MRFs often include only minimal provider information, typically limited to the National Provider Identifier (NPI) and the Tax Identification Number (TIN), which complicates the ability to use this analysis by provider type or location. This lack of detailed provider information necessitates the use of external databases to match identifiers with provider names and locations. Additionally, the missing address data in negotiated rate files poses challenges for geographic analysis of health care pricing, requiring users to rely on potentially outdated data from the National Plan and Provider Enumeration System (NPPES), or other data sources (e.g., claims data), to fill gaps. As a result, to conduct geographic and/or provider-type specific analyses, users must link negotiated rate MRFs with additional data sets, which require additional resources to access.

Recent Congressional Action and Executive Order

In the 118th Congress, Congress considered several bills that would have addressed private health insurer price transparency. One bill, the Lower Cost, More Transparency Act (H.R. 5378), passed the House and is summarized below.

Lower Cost, More Transparency Act (H.R. 5378)

Section 105(a) of the Lower Cost, More Transparency Act would have largely codified the Transparency in Coverage MRF requirements but would have made certain modifications to the current rules.[37]

Generally consistent with current transparency rules, the Lower Cost, More Transparency Act would have required insurers to publicly post on a website and update monthly three MRFs that separately include the following:

- In-network rates with providers for all covered services and items (except drugs),
- Out-of-network allowed amounts and billed charges for covered services and items during a specific time period,[38] and
- Negotiated rates and average historical net prices for covered prescription drugs.

Unlike current rules, the Lower Cost, More Transparency Act would not have required omission of out-of-network allowed amounts and billed charges data for a particular provider in connection with fewer than 20 different claims for payment. This change could increase the completeness of the data available to the public by including information from low-volume providers that is currently omitted, thereby potentially enhancing visibility into the full range of prices billed and allowed across the market.

Provisions Seeking to Enhance Data Management, Accessibility, and Clarity

The Lower Cost, More Transparency Act also included provisions that differ from current requirements and appear intended to improve the management and accessibility of data. If the bill

[37] This bill also contains requirements on the federal government to issue reports pertaining to the MRF information, the Transparency in Coverage self-service tool requirement, and other provisions that do not pertain to the private health insurance MRF component of the Transparency in Coverage rules. Such provisions are not described in this section.

[38] The specified time period is the 90-day period that begins 180 days prior to the publication of the MRF.

had passed, whether these provisions could have made such improvements may have depended on how the Departments implemented the provisions.

The Lower Cost, More Transparency Act would have required insurers—in addition to posting the aforementioned files—to make available the information through successor technologies, such as APIs, as determined appropriate by the Departments. This provision reflects a recognition of the limitations of the current MRF approach, particularly in terms of data size and user accessibility. When establishing the Transparency in Coverage requirements in 2020, the Departments considered requiring insurers to make transparency data available via an API. The Departments indicated that the average annual costs associated with an API for insurers would "significantly exceed" the annual costs of implementing the MRFs, while acknowledging their view that an API "would be a natural next technological step" that may be more beneficial to the public in the long term.[39] The Departments also indicated that they were considering future rulemaking to expand access to Transparency in Coverage information through APIs, which had not occurred by this report's publication.[40] By statutorily authorizing the Departments to be able to require APIs, the act potentially could accelerate the technological shift to APIs, although with significantly higher implementation costs for insurers. The effectiveness of this shift would depend on how API parameters are defined, such as whether query rate limits are permitted and how frequently data must be refreshed. If implemented effectively, API-based access could mitigate some existing challenges related to MRF data size and accessibility by facilitating structured data retrieval.

Similar to current requirements, the Lower Cost, More Transparency Act would have required insurers to satisfy sub-regulatory guidance issued by the Departments regarding the files and the information within them. However, the act would have required the sub-regulatory guidance to ensure files were limited to "an appropriate size" and were made available in a format that allows for information to be compared across multiple plans. Depending on how the Departments implemented this guidance, these requirements could have addressed certain current challenges associated with file size and data quality. It also may be possible that in restricting files to "an appropriate size," information may need to be spread across more files, creating additional data access considerations.[41]

Current regulations include special rules to prevent certain unnecessary duplication. Specifically, the regulations allow group health plans to satisfy MRF requirements if the health insurance issuer, third-party administrator, or health care claims clearinghouse publishes the data. A health insurance issuer also may have a third-party administrator or health care claims clearinghouse publish the data on its behalf. In addition, current sub-regulatory guidance includes features designed to address duplication, such as the index file feature and the ability to use provider reference files.[42] The Lower Cost, More Transparency Act would have required the sub-regulatory guidance to ensure files do not include unnecessary duplicative information contained in other files. Depending on how the sub-regulatory guidance addressed "unnecessary duplication," this

[39] Transparency in Coverage Rule, 72273.

[40] Transparency in Coverage Rule, 72274.

[41] For example, see the GitHub discussion of provider references and GitHub discussion of maximum MRF file size: GitHub Price Transparency Guide Discussion #651, "Cigna Provider References Pointing to URLs," https://github.com/CMSgov/price-transparency-guide/discussions/651; and GitHub Price Transparency Guide Discussion #737, "Maximum JSON File Size - Limitations," https://github.com/CMSgov/price-transparency-guide/discussions/737, respectively.

[42] CMS, Q&A #21 and #26, *Technical Clarifications*, September 10, 2024, https://www.cms.gov/healthplan-price-transparency/resources/technical-clarification.

could have affirmed existing requirements, addressed data usability challenges, or both. It is possible that changes addressing data duplicity could create additional data usability issues.

Current regulations indicate that negotiated rates must be "reflected as dollar amounts," but the Departments and sub-regulatory guidance allow for rates in an in-network negotiated rate file to be listed as dollars or percentages.[43] The Departments previously have acknowledged that in certain circumstances it may be "extremely difficult or impossible for an [insurer] to determine and report an applicable rate for specific items or services provided under "percentage-of-billed-charges" contracts if an exact dollar amount cannot be determined for an item or service prospectively."[44] The Lower Cost, More Transparency Act would have specified that negotiated rate amounts be "expressed as a dollar amount," regardless of whether the rates are calculated off of a fee schedule or formula, derived from another amount, or arrived at by other method. It is unclear whether the Departments would have implemented this provision differently than current regulations and sub-regulatory guidance, particularly for negotiated rates that are a percentage of billed charges, but if all negotiated rates were expressed as dollar amounts, this uniformity could improve data utility.

The Lower Cost, More Transparency Act would have required insurers to publicly publish three additional items that are not currently required:

- An attestation that the published information is complete and accurate;
- A set of instructions explaining how individuals can search for information within the files; and
- A spreadsheet file that has summary statistics and trends of the information in the three MRFs, among other items. The spreadsheet file would be required to be updated annually, easily downloadable, and readable by standard spreadsheet software that meets requirements established by the Departments.

These additions could enhance transparency and lower barriers to accessing, understanding, and using the data, especially for users without specialized technical expertise.

Finally, the bill also emphasized the need for clarity and accessibility. It would have required that the price transparency data be presented in easily understood language and that interpretation, translation, and assistive services be provided to individuals with limited English proficiency and individuals with disabilities.

Table 3. Comparative Analysis of Selected Differences Between Current Regulations and the Lower Cost, More Transparency Act (118th Congress, H.R. 5378)

Feature	Current Regulation	Proposed Changes in H.R. 5378	Potential Impact on Data Challenges
Data Files Required	In-network negotiated rates for all covered services and items (excluding prescription drugs under a fee-for-service arrangement), out-of-network allowed amounts and billed charges for covered	The same three file types would have been required monthly, under generally the same requirements. Also would have required an annual spreadsheet file with summary statistics and trends of the	Could enhance data usability by providing summarized trends.

[43] See footnote 31.

[44] DOL, HHS, and Department of the Treasury, "FAQs About Affordable Care Act Implementation Part 61," September 23, 2023, https://www.cms.gov/files/document/faqs-about-affordable-care-act-implementation-part-61.pdf.

Feature	Current Regulation	Proposed Changes in H.R. 5378	Potential Impact on Data Challenges
	services and items during a specific time period, and negotiated rates and historical net prices for covered prescription drugs. These files would be published monthly.	information in the three machine-readable files (MRFs), among other items.	
Data Format	Data published in three separate MRFs.	Data published in three separate MRFs and any successor technologies, such as application program interfaces (APIs), determined appropriate by the Departments. Data would have needed to be in a format that allows for information to be compared across multiple plans.	Depending on which successor technologies are determined appropriate and how such technologies are implemented, could facilitate easier access to data and/or address (or maintain) current API data retrieval limitations. Depending on the extent of the updates to the data format, could facilitate easier comparisons between plans.
Data Elements	Negotiated rates need to be listed as dollars or percentages.[a]	Negotiated rates would have been expressed as dollars.	Depending on how the Departments implement this provision, may improve data utility. However, the Departments have acknowledged that in certain circumstances it may be "extremely difficult or impossible for an [insurer] to determine and report an applicable rate for specific items or services provided under "percentage-of-billed-charges" contracts if an exact dollar amount cannot be determined for an item or service prospectively."[a]
Data Duplication	Special rules prevent certain unnecessary duplication.	Would have prohibited data from including unnecessary duplicative information contained in other files.	Depending on how "unnecessary duplication" is interpreted, could address data usability and processing by reducing duplicative data, affirm existing requirements, and/or both. Changes addressing data duplicity could create additional data usability issues.

Feature	Current Regulation	Proposed Changes in H.R. 5378	Potential Impact on Data Challenges
File Size Limitations	No specific limits.	Would have limited files to "an appropriate size".	Depending on how "appropriate size" is interpreted and implemented, could reduce file sizes and address data access and processing challenges but may result in negotiated rate data being split across more files that create additional data access and processing challenges.
Additional Documentation	None required.	Attestation of data accuracy, search instructions for users.	Depending on implementation, could improve data integrity and ease of use.
Accessibility	Not specifically addressed.	Would have required easily understood language and assistive services for individuals with limited English proficiency and individuals with disabilities.	Depending on implementation, could make data more accessible to a broader audience.

Source: Congressional Research Service analysis of 45 C.F.R. §147.212, Section 105(a) of H.R. 5378, and CMS, "In-Network File," https://github.com/CMSgov/price-transparency-guide/tree/master/schemas/in-network-rates

Notes: Table does not summarize all requirements or features of current regulations or of the Lower Cost, More Transparency Act. "The Departments" = Departments of Health and Human Services (HSS), the Treasury, and Labor (DOL).

a. Regulations indicate that in-network rates are to be "reflected as dollar amounts," but the Departments indicated that "an exercise of enforcement discretion might be warranted in circumstances where it was extremely difficult or impossible for a plan or issuer to determine and report an applicable rate for specific items or services provided under 'percentage-of-billed-charges' contracts if an exact dollar amount cannot be determined for an item or service prospectively." As such, insurers with these types of arrangements are to follow, in applicable instances, the GitHub schema that indicates that negotiated rate values can be a percentage if payment rates are calculated based on a percentage of billed charges. See 45 C.F.R. 147.212(b)(1)(i)(C)(1) and "negotiated_rate" at Centers for Medicare & Medicaid Services, "In-Network File," https://github.com/CMSgov/price-transparency-guide/tree/master/schemas/in-network-rates; DOL, HHS, and Department of the Treasury, " FAQs About Affordable Care Act Implementation Part 53," April 19, 2022, https://www.cms.gov/files/document/faqs-part-53.pdf; and DOL, HHS, and Department of the Treasury, "FAQs About Affordable Care Act Implementation Part 61," September 23, 2023, https://www.cms.gov/files/document/faqs-about-affordable-care-act-implementation-part-61.pdf.

Executive Order 14221

On February 25, 2025, President Trump issued E.O. 14221, titled "Making America Healthy Again by Empowering Patients with Clear, Accurate, and Actionable Healthcare Pricing Information." E.O. 14221 focuses on health plan transparency requirements (i.e., the Transparency in Coverage requirements discussed in this report) and hospital transparency requirements.[45] It generally aims to "continue to promote universal access to clear and accurate

[45] For more information on hospital price transparency requirements, see 45 C.F.R §180.50.

healthcare prices and ... take all necessary steps to improve existing price transparency requirements; increase enforcement of price transparency requirements; and identify opportunities to further empower patients with meaningful price information, potentially including through the expansion of existing price transparency requirements."[46]

E.O. 14221 directs the Departments to "take all necessary and appropriate action to rapidly implement and enforce the healthcare price transparency regulations," which includes Transparency in Coverage regulations. In addition, it directs the Departments to do the following three things within 90 days of February 25, 2025:

> (a) require the disclosure of the actual prices of items and services, not estimates,
>
> (b) issue updated guidance or proposed regulatory action ensuring pricing information is standardized and easily comparable across hospitals and health plans; and
>
> (c) issue guidance or proposed regulatory action updating enforcement policies designed to ensure compliance with the transparent reporting of complete, accurate, and meaningful data.

Given that the E.O. addresses both hospital transparency regulations and Transparency in Coverage requirements, some of these directives may address hospital requirements, others may address Transparency in Coverage requirements, and some may address both. Specific to the Transparency in Coverage requirements, the E.O. highlights the lack of full enforcement of the Transparency in Coverage prescription drug MRF for negotiated rates and historical net prices.[47]

Future Policy Considerations

The stated goals of the Transparency in Coverage requirements are to help individuals "understand price transparency data in a manner that will increase competition, potentially reduce disparities in health care prices, and potentially lower health care costs" and to help other stakeholders make coverage decisions, regulate plans, and analyze such data.[48] The challenges identified above, and by other researchers, limit the data's ability to accomplish these goals.

To the extent that Congress desires to legislate on these requirements—whether to address current challenges, to better accomplish the stated goals, and/or to accomplish new goals—Congress may want to consider the following:

- **Data Access:** Currently, the data are hosted on insurers' and some businesses' own websites. Congress may want to consider whether that approach should be modified, given difficulties in identifying the full universe of data when files are dispersed across many different sources. One option could be to create a central data repository housed by the federal government. This repository could provide users with easier access to the data but would result in additional costs to the federal government. Alternatively, Congress could mandate the creation of a directory of links for all plans to be housed on a government website, or, more consistent with the current structure, Congress could require insurers to make

[46] E.O. 14221 of February 25, "Making America Healthy Again by Empowering Patients with Clear, Accurate, and Actionable Healthcare Pricing Information," 90 *Federal Register* 11005, February 28, 2025, https://www.federalregister.gov/documents/2025/02/28/2025-03440/making-america-healthy-again-by-empowering-patients-with-clear-accurate-and-actionable-healthcare.

[47] See footnote 11.

[48] Transparency in Coverage Rule, 72210.

available data via a public API and specify certain parameters for that API that facilitate ease of access to data.

- **Data Usability:** Given the complexity of the data and how the data are currently structured, software developers, other third parties, and (to a lesser extent) researchers have been the primary users of this data. The Lower Cost, More Transparency Act could have expanded access by requiring instructions for users and summary statistics, as well as by ensuring files were limited to "an appropriate size." To facilitate data access by a wider audience, Congress may want to consider ways to make the data more manageable by addressing data usability challenges, such as ghost rates and duplicative information.
- **Data Integrity and Standardization:** Improving data integrity through the adoption of stricter standards that facilitate data analysis and robust error correction protocols is essential to enhance data quality and reliability. Such measures would address key issues identified in this report, such as inconsistencies in data formatting and typographical errors that currently complicate data processing and analysis. By increasing the standardization of how data are reported and more effectively rectifying errors, policymakers could ensure the data not only reflect accurate and useful information but also support more effective data access, which could contribute to greater policy evaluation and informed decisionmaking.

The Transparency in Coverage initiative represents a significant shift toward greater accountability in health care pricing. According to the Departments, one of the aims of the MRFs was to "increase health insurance literacy, consumerism, and competition, resulting in more reasonable costs for health care items and services."[49] While current implementation challenges—including data fragmentation, access barriers, and inconsistencies in formatting and reporting—have limited the data's ability to fully accomplish these goals, continued policy attention could enhance its effectiveness.

Addressing the identified challenges by strengthening data integrity, improving usability, and expanding accessibility could improve the practical utility of transparency in health coverage regulations. These improvements could help ensure the data not only meet regulatory standards but also serve the practical needs of all stakeholders involved in the health care system, as identified by the Transparency in Coverage rule. For example, enhanced data usability may enable software developers and other third parties to more effectively compile, consolidate, and present the information to consumers. Similarly, improved standardization and access may support policymakers, regulators, and researchers in analyzing medical care pricing and disparities, with the potential for downstream benefits for consumers.

[49] Transparency in Coverage Rule, 72210.

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