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WHITE PAPER

Price transparency and provider network identification

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Improving provider network identification could yield improved interpretation of price transparency data and processing burden.

Regulations for hospital price transparency (HPT)[1] and Transparency in Coverage Final Rules (TiC)[2] have changed the U.S. healthcare landscape. This paper is one in a series of papers that describes how price transparency intelligence is relevant to all key stakeholders in the healthcare sector, including payers, providers, regulators, researchers, and consumers.

Although the HPT and TiC files contain information on negotiated rates, it is nearly impossible to interpret this valuable information without the provider network and corresponding payer, product, and line of business identified in the data. While both regulations require the publication of data that supports a network assignment hypothesis, there is not a public source of reliable data for the network associated with a negotiated rate. This paper focuses on how Milliman Transparent currently identifies provider networks in price transparency data and options to improve the network identification.

The flexibility that the current file schemas allow creates variance in how data is published, and therefore in how users interpret the machine-readable file (MRF) data. In the future, the Centers for Medicare and Medicaid Services (CMS) may balance interpretability enhancements to the schemas with the burden on HPT and TiC reporting entities to achieve their transparency goals.

Background

Identifying the provider network in the HPT and TiC data serves two key purposes:

1. Helps provide context and interpretation of the data for analytical end users.
2. Reduces data volumes, processing time, and associated costs, particularly for TiC data.

Addressing current challenges to identify networks in both TiC and HPT datasets could improve usability and reconciliation between the two data sources.

How does HPT structure networks?

Current regulations

HPT rules require all applicable hospitals to post contracted and negotiated rates for all items and services for which payers are legally responsible.

However, because the nomenclature for the third-party payer was not specifically identified in the regulations, a variety of naming conventions have emerged. To help make sense of this variation, Milliman has taken the contract name contained within a single, free-form text field and developed a process to parse out contextual details. See Figure 1 for a sample of how this information is displayed in the raw data (contract name), alongside results from Milliman's enhancement engines that

improve interpretability of the contract such as line of business (LOB). Note that our logic had to decide between health maintenance organization (HMO) and preferred provider organization (PPO) for the final contract in the table.

Figure 1: Network identification and enhanced output

CONTRACT NAME	PAYER	LINE OF BUSINESS	PRODUCT
Aetna W	Aetna	Commercial	Unknown
Anthem PPO Access	Anthem Blue Cross Blue Shield WI	Commercial	PPO
I10106002 HUMANA GOLD PLUS HMOPOS 829	Humana	Medicare	HMO

While Milliman has spent significant effort to improve our HPT network identification algorithms, they rely on hospital postings that are imprecise or incomplete, and so issues remain. There are some forthcoming efforts as part of upcoming regulations to improve HPT schemas.

Future regulations

As part of the hospital Outpatient Prospective Payment System (OPPS) for calendar year (CY) 2024, new regulations were introduced to increase the interpretability of MRFs. While CMS may change the effective dates, most price transparency provisions are expected to be effective on January 1, 2024, with indications that CMS will provide a two-month grace period on enforcement for shifting to the new MRFs. The new templates would be offered in a comma-separated values (CSV) "wide" format and a CSV "tall" format, as well as in a JavaScript Object Notation (JSON) schema. Specific content changes that improve the network/contract interpretation include the following:

- **Hospital name**: The legal business name of the hospital associated with the file.
- **Hospital location**: The unique name of the hospital location with no acronyms.
- **Payer name**: The name of the third-party payer that is, by statute, contract, or agreement, legally responsible for payment of a claim for a healthcare item or service.
- **Plan name**: The name of the payer's specific plan associated with the standard charge.

While line of business and product type may still require derivation, the new data elements will drastically improve the interpretation of the third-party payer and product name. One consideration for improvement is replacing the plan name with a network name, which would represent the name of the third-party payer's network. This would reduce the burden on hospitals posting interpretable information and would improve comparisons to TiC postings.

How does TiC structure networks?

Current regulations

TiC rules do not require a table-of-contents (TOC) file if only a single plan—identified by Health Insurance Oversight System (HIOS) or Employee Identification Number (EIN)—is being reported. Single plans can report TOC plan identification elements in the in-network-rates (INR) file instead. This creates inconsistencies in how files are published. Like HPT, the rules require contracted and negotiated rates for all items and services for which payers are legally and financially responsible.

Organizations typically post content for the TOC attributes as identified in Figure 2. This diagram is an entity-relationship (E-R) diagram provided via our strategic alliance[4] with Turquoise Health. It shows the attributes and relationships among the different objects within the TOC file. The value for element location_data_source_name links the attributes and files to the specific INR file.

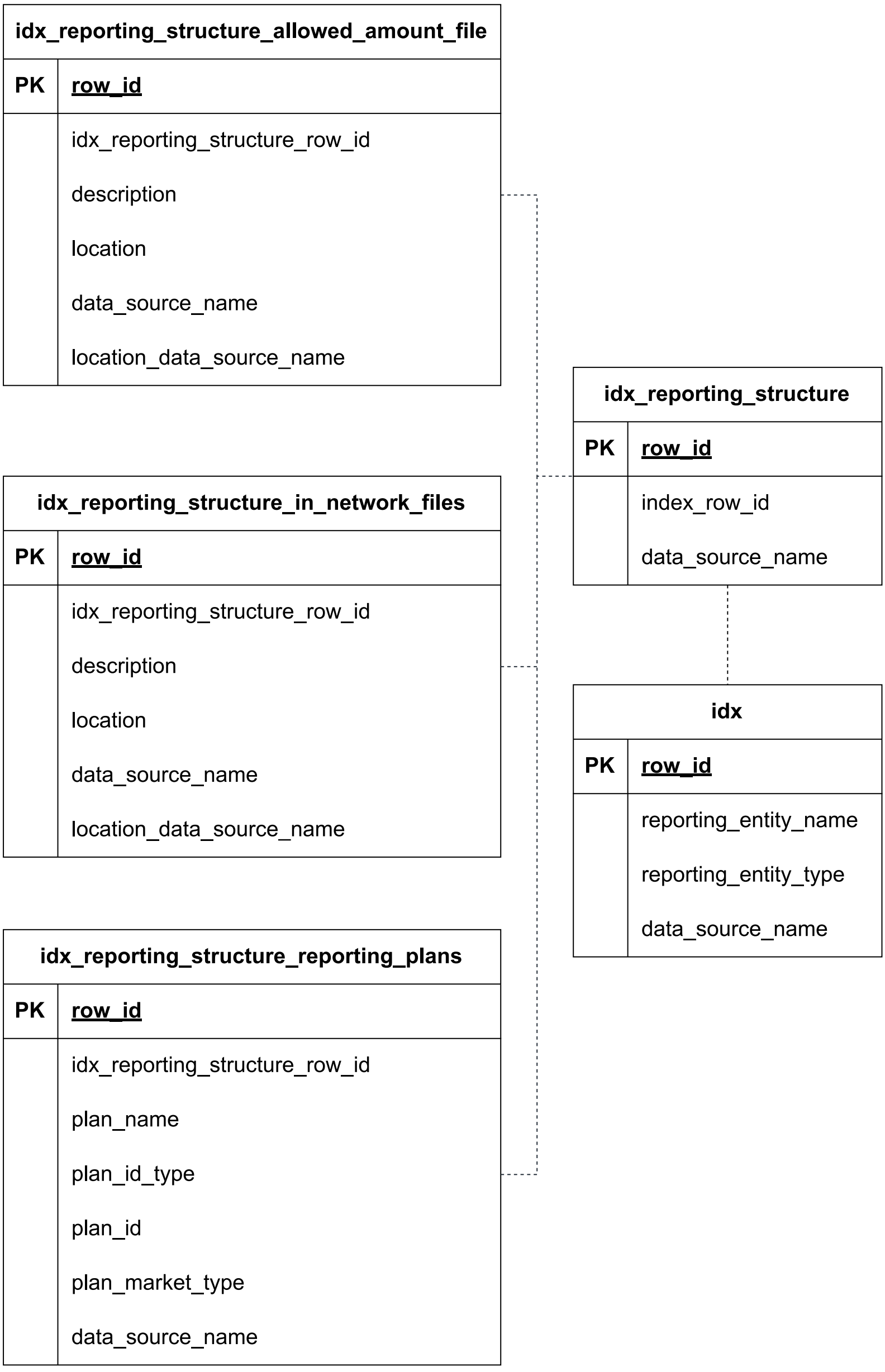
Payers use the TOC file to identify network groups and specific sets of INRs that correspond to each network group though various plan identification metrics, i.e., plan name, HIOS or EIN, individual or group, etc. Milliman developed a set of unique HIOS networks for individual and small group products based on 10-digit and 14-digit HIOS IDs in these TOC and INR files, leveraging supplemental network, product type, and market type information. However, this does not always aid interpretability of the data as some payers combine multiple LOBs and HIOS networks into the same network groups.

Once network groups are established, another set of network selection logic identifies the most likely "base" network, given a payer, geography, line of business, and product. A base network is defined as the broadest or the most popular network of a given product for a payer and line of business. Additional networks identified in the TOC or INR files are incremented to maintain fidelity and traceability to the original postings and rates. Finally, a separate engine that attaches a meaningful business network name is also applied to the network groups where applicable.

We manually review the information in the TOC and INR files to help make network naming and mapping decisions. This includes (but is not limited to) review of the mapping of EINs, HIOS IDs, and plan names to network groups and individual MRFs. We also look at individual MRF size, MRF names, and MRF descriptions.

To assist with these reviews, we leverage publicly available data from CMS plan finder datasets and the Rate and Benefits Information System (RBIS) to identify plan-specific information for each HIOS ID, including the network ID, HIOS product name, HIOS product type (exclusive provider organization [EPO], HMO, preferred provider organization [PPO], POS), and HIOS market type (group, individual). We also review unified rate review template (URRT) enrollment and network public use files (PUFs) to best identify meaningful networks for the small group and individual markets. For administrative services only (ASO) or large market plans without HIOS information, we map the available EINs to IRS Form 5500 data and rely on data sources such as the Uniform Data System (UDS), internal Milliman research, Turquoise research, and feedback from clients to inform our mappings to meaningful network names.

Figure 2: Table-of-contents/index (IDX) E-R diagram



Future regulations

At this point, we are not aware of any forthcoming changes to regulations that would clarify network identification within TiC data. While we continue to monitor and consult a variety of stakeholders in this space, we are putting forward a few potential considerations for improving network identification.

Improvement options

There are a few potential design changes for improving network identification in TiC posted data. We recognize that any changes must consider multiple stakeholders and face trade-offs between engineering and development efforts, accuracy, consumer usability, and flexibility to reflect complex payer-provider contracting arrangements.

Option 1: Explicit enumeration

Our first proposed option is to add two new fields to the TOC file. The TOC would be required for all payers regardless of whether a single plan or multiple plans are being reported. This would eliminate any need to derive a network name from the plan information and create consistent interpretation. An example of the fields to add with a list of enumerated values are highlighted and identified in Figure 3.

Figure 3: Option 1 – Revised reporting object

FIELD	NAME	TYPE	DEFINITION	REQUIRED
plan_name	Plan Name	String	The plan name and name of the plan sponsor and/or insurance company.	Yes
plan_id_type	Plan ID Type	String	Allowed values: "EIN" and "HIOS.”	Yes
plan_id	Plan ID	String	The 10-digit HIOS identifier, or, if the 10-digit HIOS identifier is not available, the five digit HIOS identifier. If no HIOS identifier is available, then the EIN for each plan or coverage offered by a plan or issuer.	Yes
plan_market_type	Market Type	String	Allowed values: "group" and "individual."	Yes
product	Product	String	Allowed values: "PPO," "HMO," "POS," "EPO."	Yes
network_name	Network Name	String	The marketing name of the provider network (e.g., UHC Choice Plus).	Yes

Option 2: Contract-level reporting

Our second proposed option (shown in Figure 4) is to create a reference of provider contracts for each payer along with a cross-walk of contracts to networks. As in Option 1, this would mean that all elements on the TOC are required, and would move away from the INR (e.g., plan_name, plan_market_type). This would also reduce the MRF file size compared to Option 1 and expose additional contracting relationships. A variation of this option is to provide the ability to only report those rates with which a direct contract exists. This would reduce the provider relationships for which a payer must report negotiated rates and would reduce the total number of networks identified in the MRFs. Option 2 would clearly show the relationship between plan attributes, rates, networks, provider groups, and network contracts.

Figure 4: Entity-relationship diagram

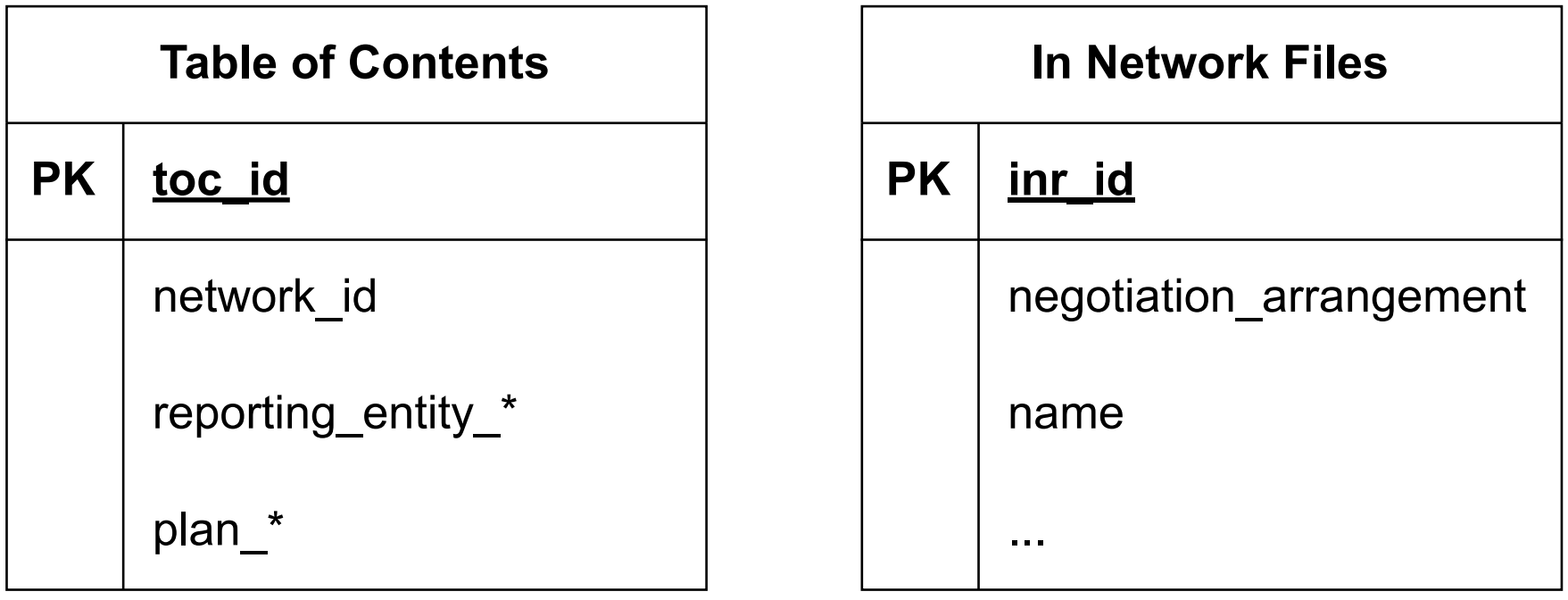


Figure 5 shows a simple example of these values and relationships.

Figure 5: Example of Option 2 table-of-contents

toc_id	1234
network_id	5678
plan_name	Clear Bronze Standard Cost Share
plan_id_type	HIOS
plan_id	21663FL013
NETWORKS	
network_id	5678
plan_market_type	individual
product	EPO
network_name	Ambetter FL Core EPO Network
IN-NETWORK FILES	
inr_id	9012
billing_code_type	HCPCS
billing_code	99212
negotiated_rate	$82.13
provider_groups_id	3456
PROVIDER GROUPS	
provider_groups_id	3456
Type	NPI
Value	1205929049
CONTRACTS	
contract_id	7890
inr_id	9012
provider_groups_id	3456
NETWORK CONTRACTS	
networkcontract_id	9900
contract_id	7890
network_id	5678

Other improvements

TiC currently requires payers to post rates for plans using 10-digit HIOS plan identifiers, if available. In the latest published HIOS tables (2021), 10-digit HIOS IDs can map to more than one network. We believe this could be improved by requiring 10-digit product identifiers to map to a single network in HIOS. Furthermore, making available regularly updated HIOS PUFs, including plan and network attributes, would also help organizations interpret the data more easily. Lastly, to help unify comparisons, ideally the required fields and values would align between TiC and HPT, as noted in Figure 6.

Figure 6: Attribute comparisons

HPT	TiC
Line of Business	plan_market_type
Product	Product
Network Name	network_name

Caveats and limitations

The observations and ideas presented in this paper reflect a point-in-time conclusion based on the current information collected and reviewed. Files and file content may have been updated since retrieval.

The data presented in this paper is to illustrate how transparency data can potentially be used and is not to be relied upon for other purposes.

This paper does not reflect Milliman's contract identification or network identification through the use of MRF names and descriptions found in the TOC. Professional network identification is also outside the scope of this paper.

Throughout this analysis, Milliman relied on data and other information provided by publicly available data sources. Milliman has not audited or verified this data and other information but has reviewed it for reasonableness.

The American Academy of Actuaries requires its members to identify their credentials in their work product. Austin Barrington is a member of the American Academy of Actuaries and meets the qualification standards of the Academy to render the actuarial opinion contained herein.

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[1] Federal Register, Vol. 84, No. 229 (November 27, 2019). Medicare and Medicaid Programs: CY 2020 Hospital Outpatient PPS Policy Changes and Payment Rates and Ambulatory Surgical Center Payment System Policy Changes and Payment Rates. Price Transparency Requirements for Hospitals To Make Standard Charges Public. Final Rule. Retrieved September 22, 2023, from https://www.govinfo.gov/content/pkg/FR-2019-11-27/pdf/2019-24931.pdf.

[2] CMS. Transparency in Coverage: Final Rule. Retrieved October 5, 2023, from https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/CMS-Transparency-in-Coverage-9915F.pdf.

[3] See https://www.milliman.com/en/products/milliman-price-transparency-solutions-for-payers-and-providers.

[4] Carroll, L. (August 2, 2022). Milliman and Turquoise Health Form Strategic Alliance to Extract Actionable Insights From Newly Released Price Transparency Data. Turquoise Health. Retrieved September 22, 2023, from https://blog.turquoise.health/milliman-and-turquoise-health-form-strategic-alliance-to-extract-actionable-insights-from-newly-released-price-transparency-data/.

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