**TOPIC**
**Billing Provider NPI - IP**

**TOPIC AREA**
**Provider Information**

## Summary

**The billing provider represents the entity that submits a claim and is reimbursed by the Medicaid or CHIP agency. There are two identifiers available on IP header records for the billing provider: the National Provider Identifier (NPI) and the state-assigned unique identifier used in the state's claims processing system. This analysis examines the extent to which the billing provider's NPI is available on claims and encounter records in the IP file.**

***Related topics include:***

- Billing Provider NPI - LT
- Billing Provider NPI - OT
- Billing Provider NPI - RX
- Servicing Provider NPI - OT
- Prescribing Provider NPI - RX
- Dispensing Provider NPI - RX

## Background

Users of the T-MSIS Analytic Files (TAF) may want to identify the providers or categories of providers that deliver services to Medicaid and Children's Health Insurance Program (CHIP) beneficiaries. A claim in the TAF could include information for up to six providers, depending on the file type. [1] A provider could be a facility, a group of individual practitioners, or an individual practitioner. The provider types most commonly used for claims-based analyses including the billing provider, the servicing provider, the prescribing provider, and the dispensing provider.

The billing provider represents the entity that submits the claim and is reimbursed by the Medicaid or CHIP agency. Information about billing provider is available in all TAF claims files: inpatient (IP), long-term care (LT), other services (OT), and pharmacy (RX). The servicing provider, in contrast, represents the individual practitioner who was responsible for or provided direct care to the beneficiary. Information about servicing provider is available in the IP, LT, and OT files. In some cases, the servicing provider is the same as the billing provider. In other cases, the servicing and billing provider differ, such as when a hospital or large group practice bills for services rendered by individual physicians it employs. Because institutional claims in the IP and LT file represent facility costs and are often submitted by the hospitals and skilled nursing facilities where the care occurred, analyses using these claims would typically be interested in only the billing provider. On prescription drug claims, the prescribing provider is the individual practitioner who prescribed a prescription drug to a beneficiary, while the dispensing provider could represent a large pharmacy chain or an individual pharmacy that filled the prescription. Prescribing provider and dispensing provider NPIs are available only in the RX file.

For each provider type, up to two identifiers are available on the claims record: (1) the National Provider Identifier (NPI), which is the unique, 10-digit identification number that the National Plan and Provider Enumeration System (NPPES) assigns to each HIPAA-covered health care provider, and (2) the state-assigned unique identifier used in the state's Medicaid Management Information System. [2] These identifiers can be used to obtain additional information about the provider, such as the provider's name and address, but only if states completely and accurately report the provider identifiers on the T-MSIS claims records that are used to construct the TAF. Data users may be particularly interested in the availability of NPI on claims records, because every NPI can be linked to information about the provider's characteristics in the publicly available NPPES NPI registry.

This data quality assessment examines the extent to which four key NPIs—the Billing Provider NPI, the Servicing Provider NPI, the Prescribing Provider NPI, and the Dispensing Provider NPI—are available on fee-for-service (FFS) claims and managed care encounters in the TAF. Provider NPIs should be available on most claims and encounters, with the exception of certain records in the OT file that represent claims submitted by "atypical" providers. [3]

## Methods

Using the 2016 TAF, [4] we examined the extent to which billing, servicing, prescribing, and dispensing provider NPIs are available in the IP, LT, OT, and RX claims files (Table 1). We examined this set of

provider NPIs because they are the most relevant to the analyses we expect TAF users to conduct. Billing Provider NPI is available in all claims files and is relevant to studies for all types of care. Therefore, we assessed this provider NPI separately for each claims file. Although Servicing Provider NPIs are available in the IP and LT files, most researchers analyzing IP and LT claims will be interested primarily in the Billing Provider NPI, which identifies the facility that provided care to the beneficiary (for example, the hospital or nursing facility). In contrast, the OT file contains certain claims (for example, professional claims and facility claims from federally qualified health centers and rural health clinics) for which there may be a compelling reason to identify the servicing providers on the claim lines as well as the billing provider on the claim header. For this reason, in this brief we examine the rate of missing Servicing Provider NPIs in the OT file but not in the IP or LT files. The prescribing provider and the dispensing provider NPI are only available in the RX file.

**Table 1. Provider NPIs examined in this brief**

| Provider identifier | Claims file | TAF field name |
|---|---|---|
| **Billing Provider NPI** | IP, LT, OT, and RX header | BLG_PRVDR_NPI_NUM |
| **Servicing Provider NPI** | OT line | SRVCNG_PRVDR_NPI_NUM |
| **Prescribing Provider NPI** | RX header | SRVCNG_PRVDR_NPI_NUM |
| **Dispensing Provider NPI** | RX header | DSPNSNG_PD_PRVDR_NPI_NUM |

We included both Medicaid and CHIP FFS claims and managed care encounter records in our analysis. [5] For Illinois, we restricted our analysis to the original version of the claim, and we excluded all subsequent adjustment records in the state's TAF data. [6]

For each state, we calculated the percentage of records that were missing each NPI. We considered any field with a null value to be missing. We also classified as missing those cases in which the entire length of the field was completely filled with repeated "0," "8," or "9" values. Otherwise, we did not assess the validity of the NPI information by confirming the NPI value existed in the NPPES NPI registry.

We grouped states into categories of low concern, medium concern, and high concern about the usability of their data, depending on the percentage of records that were missing each NPI in each claims file (Table 2).

**Table 2. Criteria for DQ assessment of Provider NPI**

| Percentage of claims missing Provider NPI | DQ assessment |
|---|---|
| x ≤ 10 percent | Low concern |
| 10 percent < x ≤ 20 percent | Medium concern |
| 20 percent < x ≤ 50 percent | High concern |
| x > 50 percent | Unusable |

1. The inpatient file includes information about billing, referring, servicing, admitting, and operating providers. The long-term care file includes information about billing, referring, servicing, and admitting providers. The other services file includes information about billing, referring, servicing, health home, directing, and supervising providers. The pharmacy claims file includes information about billing, dispensing, and prescribing providers.
2. Centers for Medicare & Medicaid Services (CMS). "CMS Guidance: Reporting Provider Identifiers in T-MSIS." Baltimore, MD: CMS, January 2019. Available at https://www.medicaid.gov/tmsis/dataguide/t-msis-coding-blog/cms-guidance-reporting-provider-identifiers-in-t-msis/ . Accessed September 8, 2025.
3. Atypical providers do not provide "health care," as the term is defined in HIPAA 45 C.F.R. 160.103. Among atypical providers that are reimbursed by Medicaid programs are those that offer taxi services, home and vehicle modifications, and respite services (CMS 2006). An atypical provider is not eligible to receive an NPI; therefore, we did not expect the provider NPI field to be populated on claims for these services.
4. This analysis used the TAF data that were released as TAF Research Identifiable Files (RIF). During the transformation into RIF, some TAF data elements were suppressed, changed, or renamed. Additional details are available on the DQ Atlas Resources page , and a crosswalk of variable names can be found in the guide "Production of the TAF Research Identifiable Files."
5. We implemented all claims exclusions by using the claim type code (CLM_TYPE_CD). We excluded capitation payments, supplemental payments, and service tracking payments. We also excluded records with a claim type of "other," which are records that the state did not classify as Medicaid or CHIP; these records may capture services that do not qualify for federal matching funds under Titles XIX or XXI.
6. Because of limitations in its claims processing system, Illinois captures adjustments to original claims as incremental credits or debits rather than voiding the original claim and submitting a replacement record with the new payment amount. As a result, the version of a record with the latest adjudication date may not represent the final action claim as it does in all other states. To ensure the TAF correctly captures all expenditures reported by Illinois into T-MSIS, all service use records are included in the IP, OT, LT, and RX files. This means that in some cases, the TAF will include multiple versions of a single claim for Illinois, so including all records in an analysis will overcount service utilization. To ensure that utilization counts are correct, we restricted our analysis to the original claim from each claim family by selecting only records where ADJSTMT_IND = 0 and ADJSTMT_CLM_NUM = null. For more information, see the guide, "How to Use Illinois Claims Data", on ResDAC.org.