



Chronic Conditions Warehouse Virtual Research Data Center

CMS Assessment Maturity — Information and Guidance for CCW Data Users

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Chronic Conditions Warehouse

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1.0 Background

The Centers for Medicare & Medicaid Services (CMS) collects and maintains large-scale administrative data primarily to support the operation and oversight of its programs. These data are generated through routine transactions such as claims submissions and enrollment updates. Because these data are operational in nature, they are subject to inherent timing and completeness constraints. Records are submitted over time and may be adjusted or resubmitted before reaching a relatively stable, final state. Data maturity refers to the extent to which a dataset reflects its final values at a given point in time. Understanding how CMS data mature is essential for researchers seeking to use these data appropriately. This paper describes data maturity for CMS assessment data, specifically the:

- Minimum Data Set (MDS) submitted by skilled nursing facilities (SNF), nursing facilities, and swing bed (SB) facilities.
- Inpatient Rehabilitation Facilities-Patient Assessment Instrument (IRF-PAI) submitted by IRFs.
- Outcome and Assessment Information Set (OASIS) submitted by Home Health Agencies (HHA).
- Long Term Care Hospital (LTCH) Continuity Assessment Record and Evaluation (CARE) Data Set (LCDS) submitted by LTCHs.

1.1 Assessment Dates and Periodicity

The assessment instruments include an assessment target date (TRGT_DT) indicating the date when the assessment is due.¹ There is a grace period for the facility to complete and submit the assessment.² After completing the patient assessments (SNF, SB, nursing facilities, HHA, IRF, and LTCH), providers submit the records to the CMS Internet Quality Improvement and Evaluation System (iQIES) for processing.³ The iQIES processing takes approximately one to two days after the assessment is submitted. Then, on a monthly basis, the contractor shares a copy of the assessments with the CCW. For IRF-PAI, OASIS, and LCDS, the CCW obtains assessments submitted to iQIES two months prior. For MDS and SB, CCW obtains assessments submitted one and two months prior. For example, in January 2024, the CCW obtained IRF-PAI, OASIS, and LCDS assessment records submitted in November 2023; and MDS and SB assessment records submitted in November and December 2023. Thus, at a given point in time, MDS and SB will have one additional month of maturity than IRF-PAI, OASIS, and LCDS. CCW applies beneficiary matching logic and assigns a BENE_ID to assessment records for all known Medicare or Medicaid persons.

Once an assessment is submitted to iQIES, facilities may submit corrections for up to two years after the assessment target date.⁴ The CCW continues to load and replace the assessment files (monthly) for 365 days following the assessment target date. After which, the CCW considers the assessment data files final and no longer updates them. Assessment changes can happen many times and even months after the original service date. The current monthly files that CCW loads into the database overwrite the files from the previous month. This means that earlier versions of the assessments are not available once an assessment change has been received.

¹ For HHA assessments target date is not available and the assessment effective date (ASMT_EFF_DT) is used.

² For MDS assessments, these must be submitted by the facility within 14 days of completion. MDS assessments may be updated/corrected until one year after the assessment date. [\(42 CFR 483.20 \(b\)\(2\)\(i\)\)](#) (Accessed 02/17/2026)

³ HHAs submit OASIS assessments through the CMS Home Assessment Validation Entry (HAVEN or jHAVEN) system and the assessment data are collected into the iQIES repository.

⁴ CMS Resident Assessment Instrument (RAI) Version 3.0 MDS Manual. <https://www.cms.gov/files/document/final-mds-3-0-rai-manual-v1-20-1-october-2025.pdf> (Accessed 02/17/2026)

1.2 Objectives

This document explains the completeness of assessment data at various time intervals following the assessment (target) date.

This information was developed to help researchers weigh the trade-offs between data timeliness and completeness when selecting datasets for analysis.

2.0 Examining Maturity of Assessment Data

The CCW team used assessment data tables within the CCW database to address key questions related to the assessments:

- As months elapse and the assessment files mature, do the patients who are receiving care by these facilities (i.e., the residents or patients for a given month) change? For example, is there fluctuation in whether an assessment is included in the facility's population (or HHA caseload?) in a given month, looking at the assessment data month over month?

2.1 Sample

The CCW database is the source of all data used in this study. Within the database, assessments for all settings are available; however as stated earlier, the CCW retains only the most current copy of each assessment. The CCW team used a one-month sample for all analyses, using assessments targeted for July 2023 (as a proxy for a July 2023 service date). We selected a month mid-way through the calendar year (i.e., July 2023), rather than January 2023, to illustrate that assessments with mid to late-year assessment (target) dates are immature in December 2023, thereby depicting the value of additional months of maturity.

2.2 Analyses

The CCW team reviewed all assessments with a target date of July 2023, using TRGT_DT for MDS/SB/LCDS, DSCHRG_DT for IRF-PAI, and ASMT_EFF_DT for OASIS. The team identified the CCW database load date for each assessment by the CCW_LD_DESC field. The CCW team finalizes research files 365 days after the assessment [target] date. Therefore, we consider the July 2023 assessments complete as of July 2024, with no data updates accepted after that date.

In this document, the CCW team examined assessment maturity for five assessment types: 1) MDS, 2) SB, 3) IRF-PAI, 4) OASIS, and 5) LCDS.

2.2.1 Time to Final Version of the Assessment

The CCW team measured the time between the assessment target date month (month zero, July 2023) and when the final version of the assessment became available, through the final 365-day update period.

3.0 Results

When using the information from this paper to make projections about the likely maturity of more recent assessment records, keep in mind that while this analysis only provides a snapshot of services, the pattern of maturity is very similar over time.

3.1 Time to Final Assessment Record

The creation of CCW's annual assessment dataset is triggered by the receipt of assessment records that facilities submitted to iQIES in January of the reference year. The annual assessment dataset is then updated monthly until the final version is created when assessment records submitted in December of the year following the reference year are received. CCW only loads assessments that providers submit to iQIES within 365 days of the assessment (target) date. For example, assessments with a July 2023 target date should have submissions on or before July 2024.

[Table 1](#) through [Table 4](#) depict the time between the assessment (target) month (July 2023; month number zero) and the month CCW loaded the final version of the assessment to the CCW database for all assessment types. The percentage of assessments considered mature at any time interval differs by assessment type. For example, in November 2023 (four months after the July 2023 target month), 98.42% of the final MDS assessments for July 2023 were available.

Table 1. MDS (nursing homes — SNF/NF) assessment distribution of months between the assessment (target) date (July 2023) and the date on which the final version of the assessment was loaded to the CCW database

Availability date*	Months of lag	N	Percent	N cumulative	Percent cumulative	N total
July 2023	0	342	0.03%	342	0.03%	1,275,549
	1	825,908	64.75%	826,250	64.78%	1,275,549
	2	401,397	31.47%	1,227,647	96.24%	1,275,549
	3	18,953	1.49%	1,246,600	97.73%	1,275,549
	4	8,791	0.69%	1,255,391	98.42%	1,275,549
December 2023	5	7,125	0.56%	1,262,516	98.98%	1,275,549
January 2024	6	4,423	0.35%	1,266,939	99.32%	1,275,549
	7	2,262	0.18%	1,269,201	99.50%	1,275,549
	8	2,097	0.16%	1,271,298	99.67%	1,275,549
	9	1,350	0.11%	1,272,648	99.77%	1,275,549
	10	1,104	0.09%	1,273,752	99.86%	1,275,549
	11	950	0.07%	1,274,702	99.93%	1,275,549
July 2024	12	649	0.05%	1,275,351	99.98%	1,275,549
	13	0	0.00%	1,275,351	99.98%	1,275,549
	14	198	0.02%	1,275,549	100.00%	1,275,549
	15	0	0.00%	1,275,549	100.00%	1,275,549
November 2024	16	0	0.00%	1,275,549	100.00%	1,275,549

* Availability date is the date the assessments were loaded to the CCW database.

Table 2. SB assessment distribution of months between the assessment target date (July 2023) and the date on which the final version of the assessment was loaded to the CCW database

Availability date*	Months of lag	N	Percent	N cumulative	Percent cumulative	N total
July 2023	0	4	0.22%	4	0.22%	1,850
	1	1,201	64.92%	1,205	65.14%	1,850
	2	491	26.54%	1,696	91.68%	1,850
	3	55	2.97%	1,751	94.65%	1,850
	4	42	2.27%	1,793	96.92%	1,850
December 2023	5	33	1.78%	1,826	98.70%	1,850
January 2024	6	10	0.54%	1,836	99.24%	1,850
	7	10	0.54%	1,846	99.78%	1,850
	8	2	0.11%	1,848	99.89%	1,850
	9	2	0.11%	1,850	100.00%	1,850
	10	0	0.00%	1,850	100.00%	1,850
	11	0	0.00%	1,850	100.00%	1,850
July 2024	12	0	0.00%	1,850	100.00%	1,850
	13	0	0.00%	1,850	100.00%	1,850
	14	0	0.00%	1,850	100.00%	1,850
	15	0	0.00%	1,850	100.00%	1,850
November 2024	16	0	0.00%	1,850	100.00%	1,850

* Availability date is the date the assessments were loaded to the CCW database.

Table 3. IRF-PAI assessment distribution of months between the assessment (target) date (July 2023) and the date on which the final version of the assessment was loaded to the CCW database

Availability date*	Months of lag	N	Percent	N cumulative	Percent cumulative	N total
July 2023	0	0	0.00%	0	0.00%	40,715
	1	30,793	75.63%	30,793	75.63%	40,715
	2	9,121	22.40%	39,914	98.03%	40,715
	3	351	0.86%	40,265	98.89%	40,715
	4	142	0.35%	40,407	99.24%	40,715
December 2023	5	111	0.27%	40,518	99.52%	40,715
January 2024	6	81	0.20%	40,599	99.72%	40,715
	7	31	0.08%	40,630	99.79%	40,715
	8	39	0.10%	40,669	99.89%	40,715
	9	6	0.01%	40,675	99.90%	40,715
	10	18	0.04%	40,693	99.95%	40,715
	11	13	0.03%	40,706	99.98%	40,715
July 2024	12	6	0.01%	40,712	99.99%	40,715
	13	0	0.00%	40,712	99.99%	40,715
	14	0	0.00%	40,712	99.99%	40,715
	15	3	0.01%	40,715	100.00%	40,715
November 2024	16	0	0.00%	40,715	100.00%	40,715

* Availability date is the date the assessments were loaded to the CCW database.

Table 4. OASIS assessment distribution of months between the assessment (effective) date (July 2023) and the date on which the final version of the assessment was loaded to the CCW database

Availability date*	Months of lag	N	Percent	N cumulative	Percent cumulative	N total
July 2023	0	0	0.00%	0	0.00%	1,179,270
	1	630,447	53.46%	630,447	53.46%	1,179,270
	2	0	0.00%	630,447	53.46%	1,179,270
	3	523,347	44.38%	1,153,794	97.84%	1,179,270
	4	11,200	0.95%	1,164,994	98.79%	1,179,270
December 2023	5	4,579	0.39%	1,169,573	99.18%	1,179,270
January 2024	6	2,781	0.24%	1,172,354	99.41%	1,179,270
	7	2,283	0.19%	1,174,637	99.61%	1,179,270
	8	1,530	0.13%	1,176,167	99.74%	1,179,270
	9	1,136	0.10%	1,177,303	99.83%	1,179,270
	10	0	0.00%	1,177,303	99.83%	1,179,270
	11	1,418	0.12%	1,178,721	99.95%	1,179,270
July 2024	12	376	0.03%	1,179,097	99.99%	1,179,270
	13	0	0.00%	1,179,097	99.99%	1,179,270
	14	0	0.00%	1,179,097	99.99%	1,179,270
	15	173	0.01%	1,179,270	100.00%	1,179,270
November 2024	16	0	0.00%	1,179,270	100.00%	1,179,270

* Availability date is the date the assessments were loaded to the CCW database.

Generally, CCW loads assessments about two months following the submission date (when iQIES receives the assessment).

The assessments with a July 2023 target date should have submissions on/before July 2024.

- For MDS, 98.4% of final assessments were available four months post-assessment date (reference [Table 1](#))
- For SB, 98.7% of final assessments were available five months post-assessment date (reference [Table 2](#))
- For IRF-PAI, 98% of final assessments were available two months post-assessment date (reference [Table 3](#))
- For OASIS, 97.8% of final assessments were available three months post-assessment date (reference [Table 4](#))

In July 2025, CCW started loading LCDS assessments. 100% of LCDS assessments with a July 2023 target month were a part of CCW's initial bulk load of historic assessments and became available in the CCW database in July 2025. For this reason, the CCW team did not include LCDS analysis in this paper.

LCDS assessments submitted in July 2025 and later follow the regular monthly loading schedule. Upon the availability of the final version of LCDS assessments with a July 2024 target month (submitted on or before July 2025), CCW will update this paper to include time-to-final assessment statistics for LCDS.