

Interpretation of CMS/CDC Nursing Home COVID-19 Data Quality Assurance Process

This document clarifies the CMS/CDC description of the Data Quality Assurance (QA) process (found in the 'detailed explanation' on [Data.CMS.gov](https://data.cms.gov)). This information is subject to changes by CMS; we are still working with them to figure out which metrics that particular SNFs are failing the QA process.

SNFs that fail QA for the week do **not** receive a citation from CMS. This only informs SNFs that the algorithm designed by CMS indicates that the numbers may not be plausible and aims to reduce inaccuracies in the public reporting of these data. Facilities will have their data values reassigned to 0 in the public NHSN weekly data if flagged for not passing QA (unless otherwise noted) and data may be subject to review by CMS.

7 Ways That Data Quality Can Fail

1. For any of the five below **fields**, having one or both **criteria** more than three times:

Fields

- number of **resident** COVID-19 admissions
- number of COVID-19 confirmed cases (**resident or staff** instances)
- number of COVID-19 suspected cases (**resident or staff** instances)
- number of COVID-19 deaths (**resident or staff** instances)
- total **resident** deaths (from any cause)

Criteria

- a. Entering the same value in daily (or weekly) intervals:

Date	Daily (new) COVID-19 confirmed cases
11/1/2020	7
11/2/2020	7
11/3/2020	7
11/4/2020	7

- b. Summing the values over consecutive days (in this example, each day increases by 6 – values must represent an individual day and not be cumulative):

Date	Total resident deaths
11/1/2020	2
11/2/2020	8
11/3/2020	14
11/4/2020	20

Important Note: Data for facilities that repeat a high value (>10) for two or more consecutive days will fail QA (but will not have values reassigned to 0). If the values are indeed correct for your facilities, please email NH_COVID_Data@cms.hhs.gov to have your Quality Assurance status change to 'Passing'.

Cases Where Data Quality Can Fail Due to Entry of Resident Cases

Note: below provide examples where facilities can **pass** QA, then **fail** if a particular value is too high. Facilities enter in daily data, whereas CMS looks at the totals (cumulative numbers) which is automatically calculated.

Examples #2-4 do **not** apply to facilities that reports fewer than 25 total resident COVID-19 deaths and fewer than 25 total confirmed resident COVID-19 cases.

- Implausible ratio of **total combined** admitted and confirmed COVID-19 resident cases to **total** facility beds, specifically (example below):

- combined total admitted and confirmed COVID-19 resident cases **must not** be 1.5 times greater (or 50% more) than **total** facility beds

Date	Total Admitted and Confirmed COVID-19 Residents*	Facility beds	Ratio	QA Status
11/1/2020	42	30	1.40	Pass
11/2/2020	44	30	1.47	Pass
11/3/2020	45	30	1.50	Fail
11/4/2020	48	30	1.60	Fail

- Implausible ratio of **total** COVID-19 resident deaths to **total combined** admitted and confirmed COVID-19 resident cases, specifically (example below):

- COVID-19 **total** resident deaths **must not** be 1.5 times greater (or 50% more) than **total combined** admitted and confirmed COVID-19 resident cases

Date	Total COVID-19 Resident deaths*	Total Admitted and Confirmed COVID-19 residents*	Ratio	QA Status
11/1/2020	53	37	1.43	Pass
11/2/2020	56	38	1.47	Pass
11/3/2020	60	40	1.50	Fail
11/4/2020	63	41	1.54	Fail

4. Implausible ratio of **total** COVID-19 resident deaths to **total** facility beds, specifically:
- COVID-19 deaths **must not** be 1.15 times greater (or 15% more) than facility beds

Date	Total COVID-19 Resident deaths*	Facility beds	Ratio	QA Status
11/1/2020	55	50	1.10	Pass
11/2/2020	57	50	1.14	Pass
11/3/2020	58	50	1.16	Fail
11/4/2020	60	50	1.20	Fail

*In these hypothetical examples, the first total value is from previous (unshown) dates. These increase by the new amounts entered daily.

Cases Where Data Quality Can Fail Due to Entry of **Staff** Cases

5. Implausible ratio of **total** COVID-19 staff deaths to **total** COVID-19 confirmed staff cases, specifically:
- COVID-19 staff deaths **must not** be 1.5 times greater than (or 50% more) COVID-19 staff confirmed cases
 - EXCEPT if there are fewer than 10 reported staff deaths

Date	Total COVID-19 Staff deaths*	Total Confirmed Staff cases*	Ratio	QA Status
11/1/2020	57	39	1.46	Pass
11/2/2020	59	40	1.48	Pass
11/3/2020	60	40	1.50	Fail
11/4/2020	64	42	1.52	Fail

6. Implausible ratio of **total** COVID-19 staff deaths to facility beds, specifically:
- COVID-19 staff deaths **must not** be 1.5 times greater than (or 50% more) facility beds

Date	Total COVID-19 Staff deaths*	Facility beds	Ratio	QA Status
11/1/2020	28	20	1.40	Pass
11/2/2020	29	20	1.45	Pass
11/3/2020	31	20	1.55	Fail
11/4/2020	32	20	1.60	Fail

7. **Total** COVID-19 staff confirmed cases is greater than or equal to facility beds (ratio of 1.0)

Date	Total COVID-19 Staff deaths*	Facility beds	Ratio	QA Status
11/1/2020	76	80	0.95	Pass
11/2/2020	79	80	0.99	Pass
11/3/2020	80	80	1.00	Fail
11/4/2020	83	80	1.04	Fail

*In these hypothetical examples, the first total value is from previous (unshown) dates. These increase by the new amounts entered daily.

Note: If any of these conditions (#'s 2-7) are met, the 'Passed Quality Assurance Check' column will be set to 'N' and data will not (per CMS) be included in the public release. If any of these implausible values truly apply to your SNF, please contact NH_COVID_Data@cms.hhs.gov.

To provide feedback about the clarity of this document, please email research@ahca.org.