

New York State Department of Health

2022 Nursing Home Quality Initiative Methodology

December 2023 updated

The 2022 Nursing Home Quality Initiative (NHQI) is comprised of three components: **[I]** the Quality Component (quality measures), **[II]** the Compliance Component (compliance with reporting), and **[III]** the Efficiency Component (potentially avoidable hospitalizations). The NHQI 2022 score is worth a **maximum 100 points**.

List of NHQI 2022 measures:

I. Quality Component: 75 points

1. Percent of Contract/Agency Staff Used
2. Percent of Current Residents Up to Date with COVID-19 Vaccines with No Medical Contraindications (new measure)
3. Percent of Employees Vaccinated for Influenza (methodology change)
4. Percent of Long Stay High-Risk Residents with Pressure Ulcers (measure brought back)
5. Percent of Long Stay Low-Risk Residents Who Lose Control of Their Bowel or Bladder
6. Percent of Long Stay Residents Experiencing One or More Falls with Major Injury
7. Percent of Long Stay Residents Who Have Depressive Symptoms (measure brought back)
8. Percent of Long Stay Residents Who Lose Too Much Weight (measure brought back)
9. Percent of Long Stay Residents Who Received the Pneumococcal Vaccine
10. Percent of Long Stay Residents Who Received the Seasonal Influenza Vaccine
11. Percent of Long Stay Residents Whose Need for Help with Daily Activities Has Increased
12. Percent of Long Stay Residents with Dementia Who Received an Antipsychotic Medication (PQA)
13. Percent of Long Stay Residents with a Urinary Tract Infection
14. Rate of Staffing Hours per Resident per Day
15. Total Nursing Staff Turnover (new measure)

II. Compliance Component: 15 points

1. NYS Regionally Adjusted Five-Star Quality Rating for Health Inspections
2. Timely Submission of Employee Influenza Immunization Data

III. Efficiency Component: 10 points

1. Potentially Avoidable Hospitalizations

I. Quality Component (75 points)

Quality measures are calculated from MDS 3.0 data, the CMS' Payroll Based Journal (PBJ) Daily Nurse Staffing data, the Care Compare Provider data, the Nursing Home COVID-19 Public File, and the NYS Employee Flu Vaccination data.

- The allotted 75 points for quality are distributed evenly for all quality measures. The NHQI includes 15 quality measures with each measure being worth a maximum of 5 points.
- Quality measures are awarded points based on quintile-based or threshold-based scoring methodology. For the quintile-based measures, a facility will receive points as follows: Quintile 1: 5 points, Quintile 2: 3 points, Quintile 3: 1 point, Quintiles 4 and 5: 0 points. For the threshold-based measures, a facility will receive 5 or 0 points based on the threshold value for each measure.
- The quintiles and results are based on the same measurement year. Therefore, only a certain number of nursing homes are able to achieve these quintiles for each measure. The results are not rounded until after determining the quintile for measures. For measures with very narrow ranges of performance, two facilities may be placed in different quintiles and receive different points, but after rounding, the facilities may have the same rate.
- For quality measures that are awarded points based on their quintile distribution, nursing homes will be rewarded for achieving high performance as well as improvement from previous year's performance. Note that improvement points will not apply to quality measures that are based on threshold values. See the Quality Point Grid for Attainment and Improvement below. Assuming each quality measure is worth 5 points, the distribution of points based on two years of performance is demonstrated in the grid.

Quality Point Grid for Attainment and Improvement

		Year 1 Performance				
		Quintiles	1	2	3	4
Year 2 Performance	1 (best)	5	5	5	5	5
	2	3	3	4	4	4
	3	1	1	1	2	2
	4	0	0	0	0	1
	5	0	0	0	0	0

Year 1 = 2021 (2020 measurement year)

Year 2 = 2022 (2021 measurement year)

For example, if 2021 NHQI performance (Year 1) is in the third quintile, and 2022 NHQI performance (Year 2) is in the second quintile, the facility will receive 4 points for the measure. This is 3 points for attaining the second quintile and 1 point for improvement from the previous year's third quintile.

Table 1a. Quality Component – Measurement Period by Data Sources

Data source	Measurement Period
MDS 3.0	<ul style="list-style-type: none"> October 1, 2020 - June 30, 2021 (Percent of long stay residents who received the seasonal influenza vaccine) Calendar year 2021 (all other MDS based quality measures)
The CMS' Payroll Based Journal Daily Nurse Staffing data	<ul style="list-style-type: none"> 2021 - quarter 1, quarter 2, quarter 3, quarter 4
The CMS' Care Compare data (NH_providerinfo files)	<ul style="list-style-type: none"> Rate of staffing hours per resident per day (2021 - quarter 1, quarter 2, quarter 3 & quarter 4) Total nursing staff turnover (calendar year 2021)
Employee vaccination data submitted to the Bureau of Immunization through HERDS	<ul style="list-style-type: none"> 2021 - 2022 influenza season
Nursing Home COVID-19 Public File	<ul style="list-style-type: none"> Q42022 – weekly report

Table 1b. Quality Component - Measures (75 points)

No.	Quality Measures	Measure Steward	Data Source	Scoring Method	Notes	Eligible for Improvement in 2022 NHQI
1	Percent of contract/agency staff used	NYSDOH	The CMS' quarterly Payroll Based Journal Daily Nurse Staffing files	Threshold	Maximum points are awarded if the rate is less than 10%, and zero points if the rate is 10% or greater.	No (threshold-based measure)
2	Percent of current residents up to date with COVID-19 vaccines with no medical contraindications*	CMS	Nursing Home COVID-19 Public File	Quintile		No (new measure in NHQI2022)
3	Percent of employees vaccinated for influenza*	NYSDOH	Employee vaccination data submitted to the Bureau of Immunization through HERDS for the 2021 - 2022 influenza season	Quintile		No (methodology change from threshold to quintile)
4	Percent of long stay high-risk residents with pressure ulcers	CMS	MDS 3.0	Quintile	Risk adjusted by the NYSDOH	No (measure temporarily removed in NHQI2021 and brought back)
5	Percent of long stay low-risk residents who lose control of their bowel or bladder	CMS	MDS 3.0	Quintile		Yes

* a higher rate is better

Table 1b. Quality Component - Measures (continued)

No.	Quality Measures	Measure Steward	Data Source	Scoring Method	Notes	Eligible for Improvement in 2022 NHQI
6	Percent of long stay residents experiencing one or more falls with major injury	CMS	MDS 3.0	Threshold	Maximum points are awarded if the rate is equal to or less than 5%, and zero points if the rate is greater than 5%.	No (threshold-based measure)
7	Percent of long stay residents who have depressive symptoms	CMS	MDS 3.0	Quintile		No (measure temporarily removed in NHQI2021 and brought back)
8	Percent of long stay residents who lose too much weight	CMS	MDS 3.0	Quintile	Risk adjusted by the NYSDOH	No (measure temporarily removed in NHQI2021 and brought back)
9	Percent of long stay residents who received the pneumococcal vaccine*	CMS	MDS 3.0	Quintile		Yes
10	Percent of long stay residents who received the seasonal influenza vaccine*	CMS	MDS 3.0	Quintile		Yes
11	Percent of long stay residents whose need for help with daily activities has increased	CMS	MDS 3.0	Quintile		Yes
12	Percent of long stay residents with dementia who received an antipsychotic medication	PQA	MDS 3.0	Quintile		Yes
13	Percent of long stay residents with a urinary tract infection	CMS	MDS 3.0	Threshold	Maximum points are awarded if the rate is equal to or less than 5%, and zero points if the rate is greater than 5%.	No (threshold-based measure)
14	Rate of staffing hours per resident per day*	NYSDOH	NH_Providerinfo files are downloaded from the CMS' Care Compare data archive.	Quintile		Yes
15	Total Nursing Staff Turnover	CMS	NH_Providerinfo files are downloaded from the CMS' Care Compare data archive.	Quintile	Regionally adjusted by NYSDOH	No (new measure in NHQI2022)

* a higher rate is better

II. Compliance Component (15 points)

The compliance component consists of two measures: CMS' five-star quality rating for health inspections and timely submission of employee influenza immunization data.

- CMS Five-Star Quality Rating for Health Inspections (regionally adjusted)
 - The **health inspection survey scores** are downloaded from CMS. These scores are used to calculate cut points for each region in the state. Regions include the Metropolitan Area, Western New York, Capital District, and Central New York. Per CMS' methodology, the top 10% of nursing homes will receive five stars, the middle 70% will receive four, three, or two stars, and the bottom 20% will receive one star. Each nursing home will be awarded a Five-Star Quality Rating based on the cut points calculated from the health inspection survey scores within its region. **Ten** points are awarded for obtaining five stars or the top 10 percent (lowest 10 percent in terms of health inspection deficiency score). **Seven** points for obtaining four stars, **four** points for obtaining three stars, **two** points for obtaining two stars, and **zero** points for one star.
- Timely submission measures
 - Submission of employee influenza vaccination data to the NYSDOH Bureau of Immunization for the 2021 - 2022 influenza season by the deadline is worth five points.

Table 2. Compliance Component - Measures

Number	Measure	Measure Steward	Data Source and Measurement Period	Scoring Method
1	CMS Five-Star Quality Rating for Health Inspections (regionally adjusted)	CMS	CMS health inspection survey scores (as of April 2022)	5 stars=10 points 4 stars=7 points 3 stars=4 points 2 stars=2 points 1 star=0 points
2	Timely submission of employee influenza vaccination data	NYSDOH	Employee influenza vaccination data submitted to the Bureau of Immunization through HERDS for the 2021 - 2022 influenza season	Five points for submission by the deadline

III. Efficiency Component (10 points)

- To align with the other CMS quality measures, the Potentially Avoidable Hospitalizations rate will be calculated for each quarter, then averaged to create an annual average.
- The PAH measure is risk-adjusted.
- To offset the impact of St. Peter's Health Partners incomplete 2021 SPARCS (Statewide Planning and Research Cooperative System) data submissions, any nursing home that had 15% or more of their total discharges to a St. Peter's Health Partners hospital in 2019 will be exempted from this measure. The 2019 data was selected as the reference for this measure as it is the most recent year of data that was neither impacted by the pandemic, nor by St. Peter's Health Partners incomplete reporting. Base points will be adjusted for the impacted nursing homes to reflect the suppression of this measure.

Table 3. Efficiency Component - Measure

Number	Measure	Measure Steward	Data Source and Measurement Period	Scoring Method
1	Potentially Avoidable Hospitalizations	NYSDOH	MDS 3.0 and SPARCS, 2021 calendar year	Quintile 1=10 points Quintile 2=8 points Quintile 3=6 points Quintile 4=2 points Quintile 5=0 points

Scoring

The facility’s overall score will be calculated by summing the points for each measure in the NHQI. In the event that a measure cannot be used due to small sample size or unavailable data, the maximum attainable points will be reduced for that facility. For example, if a facility has a small sample size on two of its quality measures (each 5 points), the maximum attainable points will be 90 rather than 100. The sum of its points will be divided by 90 to calculate its total score. The example below provides a mathematical illustration of this method.

Table 4. Calculating the overall score without and with small sample size

	Facility A	Facility B
	no small sample size	small sample size on two quality measures
Sum of points	80	80
Maximum points attainable	100	90
Score ratio (points/maximum)	0.80	0.89
Final score	80	89

Ineligibility for NHQI Ranking

Due to the severity of letter J, K, and L health inspection deficiencies, receipt of a deficiency is incorporated into the NHQI. Nursing homes that receive one or more of these deficiencies are not eligible to be ranked into overall quintiles. J, K, and L deficiencies indicate a Level 4 immediate jeopardy, which is the highest level of severity for deficiencies on a health inspection. Immediate jeopardy indicates that the deficiency resulted in noncompliance and immediate action was necessary, and the event caused or was likely to cause serious injury, harm, impairment, or death to the resident(s).

- Deficiency data shows a J/K/L deficiency between July 1 of the measurement year (2021) and June 30 of the reporting year (2022).
- Deficiencies will be assessed on October 1 of the reporting year to allow a three-month window for potential Informal Dispute Resolutions (IDR) to process.
- Any **new** J/K/L deficiencies between July 1 and September 30 of the reporting year (2022) will **not** be included in the current NHQI; they will be included in the next NHQI cycle.
- If a JKL citation is found to be expunged or lowered based upon an IDR panel review, the Department reserves the right to make the adjustments.

Nursing Home Exclusions from NHQI

The following types of facilities will be excluded from the NHQI and will not contribute to the pool or be eligible for payment:

- Non-Medicaid facilities
- Any facility designated by CMS as a Special Focus Facility at any time during 2021 or 2022, prior to the final calculation of the NHQI
- Specialty facilities
- Specialty units within a nursing home (i.e. AIDS, pediatric specialty, traumatic brain injury, ventilator dependent, behavioral intervention, neurodegenerative units)
- Continuing Care Retirement Communities
- Transitional Care Units

Resources:

- Measure specifications for the CMS Quality Measures used in the NHQI can be found in the MDS 3.0 Quality Measures User's Manual: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIQualityMeasures>
- CMS' Care Compare data archive: <https://data.cms.gov/provider-data/archived-data/nursing-homes>
- CMS' Payroll based Journal Staffing data: <https://data.cms.gov/quality-of-care/payroll-based-journal-daily-nurse-staffing>
- COVID-19 Nursing Home Public file: [COVID-19 Nursing Home Data - Centers for Medicare & Medicaid Services Data \(cms.gov\)](https://www.cms.gov/medicare/quality-of-care/quality-improvement/quality-improvement-data-reports-and-tables/covid-19-nursing-home-data)

For more information about the NHQI methodology, please contact the Office of Quality and Patient Safety at NHQP@health.ny.gov.