



Methodology Report
U.S. News & World Report
2020-21 Best Nursing Homes
Ratings

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October 20, 2020



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Introduction

COVID-19 has highlighted a long-standing fact: Which nursing home a person receives care in can dramatically influence their odds of staying healthy. The pandemic's toll on nursing home residents, patients and staff has been horrific -- and unevenly distributed. Some recent research¹ suggests COVID-19's variable impact on nursing homes has been driven largely by community-level factors such as racial disparities, urban location and local prevalence of the disease, rather than facility-level quality and safety. Nevertheless, nursing facilities also vary in quality and safety, and this source of variation mattered to residents and patients before the pandemic, matters to them during the pandemic, and will continue to matter to them after the pandemic recedes.

U.S. News & World Report's Nursing Home Finder is a decision-support tool created to help consumers who are seeking a nursing facility for themselves or a family member in need of either short-term rehabilitation or long-term nursing care. The Best Nursing Homes Ratings reflect U.S. News' analysis of data collected and published by the federal government using a methodology defined by U.S. News; nursing facilities' U.S. News ratings and federal ratings will differ because the U.S. News methodology and federal methodology differ. U.S. News updates ratings on an annual basis. Current ratings were generated based on data publicly available as of July 2020. The Nursing Home Finder is not a substitute for medical advice, and consumers should consult their medical professional when looking for short-term rehabilitation or long-term nursing care. And while some COVID-19 data is provided on U.S. News nursing home profile pages, Nursing Home Finder is not intended to capture the rapidly evolving risk of acquiring COVID-19 in any given nursing facility.

As a decision-support tool, the Nursing Home Finder has wide potential relevance. On any given day, over 15,000 nursing facilities in the U.S. care for over 1.3 million people², most of them elderly. One of every ten Americans over the age of 85 is a nursing-home resident, and nearly one-third of older Americans spend time in a nursing home in their final months of life³.

Generally, services offered at nursing facilities fall into two categories: 1. post-acute care, often involving physical rehabilitation therapy, following a hospitalization for surgery, heart attack, stroke, injury or other conditions; and 2. long-term care for residents who are no longer able to live independently and need medical supervision. The Short-Term Rehabilitation rating evaluates nursing homes on the quality of care they provide to patients requiring rehabilitation care during short-term

¹ Abrams, H.R., Loomer, L., Gandhi, A., Grabowski, D.C. 2020. Characteristics of U.S. Nursing Homes with COVID-19 Cases. *Journal of the American Geriatrics Society*. Aug;68(8):1653-1656.

² Calculated from the July 2020 CMS Provider Info file.

³ Aragon, K., Covinsky, K., Miao, Y., et al. 2012. *JAMA Internal Medicine*. Use of the Medicare Posthospitalization Skilled Nursing Benefit in the Last 6 Months of Life. 172(20):1573-1579.

post-acute stays. Introduced in 2019, the Long-Term Care rating was developed to evaluate a nursing home's performance in providing services to residents in need of daily assistance with medical and nonmedical needs. The Overall rating reflects a nursing home's care of all residents, both short- and long-term.

Selecting a nursing home for one's self or a loved one should involve an in-depth site visit, preferably more than one at different times and on different days. While ratings cannot substitute for this, there are many homes to choose from, especially in metropolitan areas, and credible ratings can help consumers winnow down the options to a more manageable starting point. As with other industries, multiple organizations rate nursing homes using different criteria and weighting to assess quality, so consumers may want to consult multiple sources when making a nursing care decision.

Background on U.S. News Ratings

U.S. News began publishing online ratings of nursing homes in 2009. Initially, the tool reflected a snapshot of the star ratings posted on Nursing Home Compare (<https://www.medicare.gov/nursinghomecompare>), the consumer website administered by the federal Centers for Medicare & Medicaid Services, or CMS. CMS assigns an Overall rating of one to five stars to nursing homes according to their performance in three areas or domains: state-conducted health inspections, nurse staffing, and medical quality measures. Homes also receive a CMS star rating in each domain.

In the 2018-19 ratings, U.S. News introduced the Short-Term Rehabilitation rating, the first composite quality score designed for use by post-acute care patients in need of skilled nursing care.

In the 2019-20 ratings, U.S. News introduced the Long-Term Care rating, evaluating a nursing home's ability to care for residents who need ongoing, daily assistance with both health-related care and non-skilled personal care, such as dressing, eating, and using the bathroom.

The current U.S. News methodology no longer incorporates any CMS-issued, domain-specific ratings, or the Overall rating from the CMS five-star quality rating system. Measures of structure, quality, and outcomes that make up the U.S. News Best Nursing Homes ratings are primarily derived from the CMS Nursing Home Compare data, which is the most comprehensive compilation of nursing home data publicly available. U.S. News' methodology deviated from the CMS star rating system in 2019 to build its new Overall rating based on its Short- and Long-Term ratings, using CMS' Nursing Home Compare raw data sets, rather than CMS-generated ratings, as the foundation. Furthermore, some measures used in the U.S. News analysis for both Short-Term Rehabilitation and Long-Term Care ratings are not used in the CMS approach. As such, facilities with five stars in the CMS short- or long-term quality domains did not necessarily receive a High Performing rating in the corresponding U.S. News rating.

2020-21 Changes

For the 2020-21 U.S. News Best Nursing Homes ratings, several changes were made to improve our ability to provide consumer decision support:

- The Long-Term Care scoring methodology now uses *registered nurse staffing ratio* in place of *consistent nurse staffing level*. This new measure captures the percent of total nurse staffing hours (which includes registered nurses, licensed practical nurses, and nurse aides) performed by registered nurses, the highest-credentialed nursing degree. This change was made because statistical modeling demonstrated it improved our ability to discriminate outlier cases in long-term care quality. The *consistent nurse staffing level* measure remains in use in the Short-Term Rehabilitation scoring methodology.
- The Patient Safety Summary is a new informational panel on each nursing home profile page found on usnews.com. It contains data intended to aid families in assessing a home's efforts around patient safety. This is not a rating but rather serves to highlight the home's performance relative to the local and national averages in vaccination rates, provide frequently updated information regarding COVID-19 cases each facility has reported to CMS, and communicate measures on preventable patient falls, whether or not there have been infection violations in the most recent inspection cycle and if a home is a Special Focus Facility or Candidate.

Eligibility Requirements

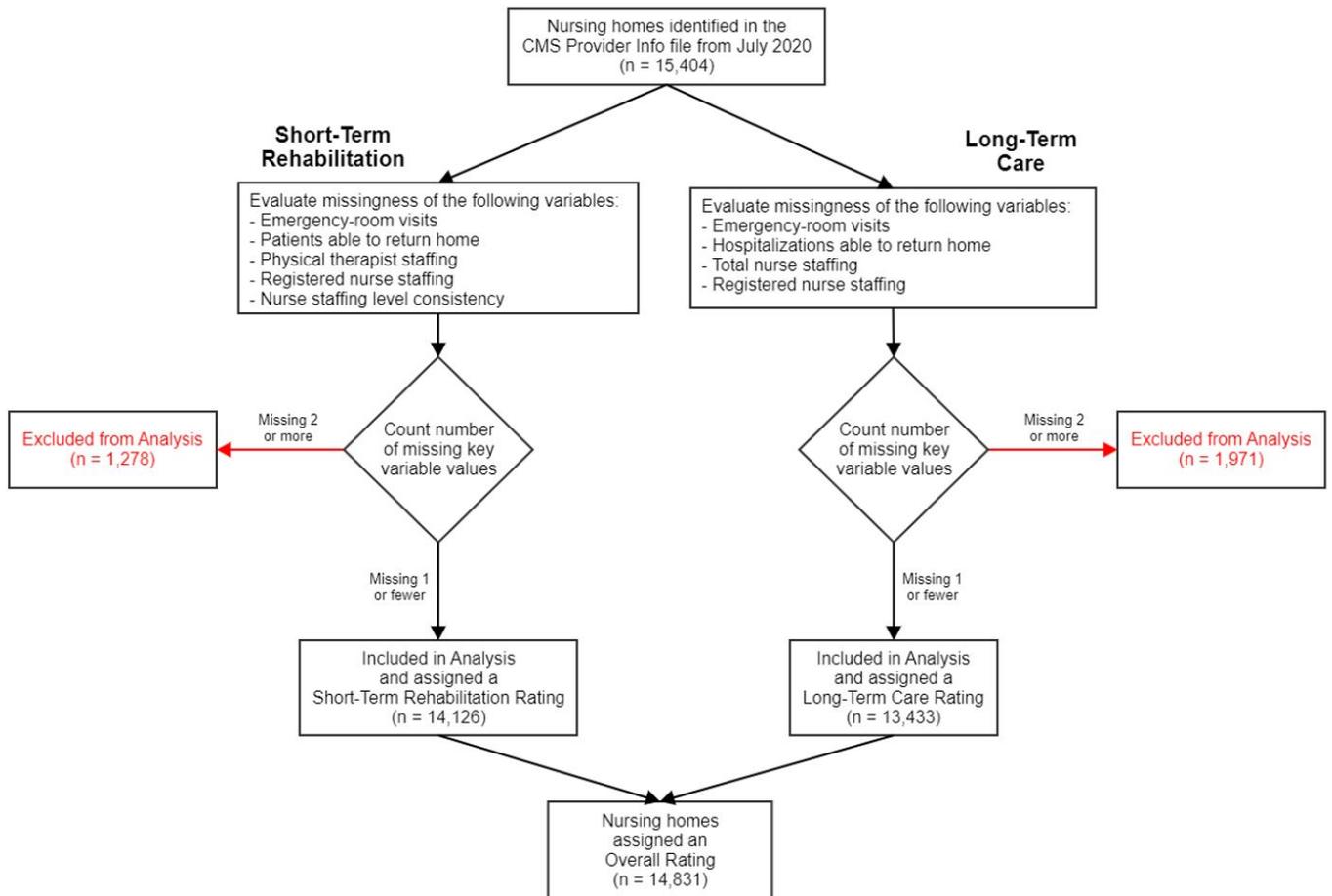
Eligible nursing homes were first identified from the [July 2020 CMS Provider Info](#) file, which became publicly available in July 2020. Facilities with data for at least four of the five short-term claims-based outcome and journal-based staffing measures received a Short-Term Rehabilitation rating in 1 of 3 performance bands. Facilities with at least three of the four long-term claims-based outcome and journal-based staffing measures received a Long-Term Care rating in 1 of 3 performance bands. Nursing homes that received either a Short-Term Rehabilitation rating or a Long-Term Care rating were eligible for a U.S. News Overall rating in 1 of 5 performance bands.

Figure 1 outlines the eligibility criteria for each rating.

All rated homes accept residents covered by Medicare, Medicaid or both. CMS-certified facilities excluded from the analysis are still displayed with descriptive information about the location and basic characteristics in the Nursing Home Finder (www.usnews.com/nursinghomes), but without ratings (see Appendix B for more details). Nursing homes absent from the July 2020 CMS Provider Info file are not displayed on Nursing Home Finder, even if their CMS data were included in a prior or subsequent month.

In all, 14,126 nursing homes received a Short-Term rating, 13,433 homes received a Long-Term rating, and 14,831 homes received an Overall rating for the 2020-21 Best Nursing Homes Ratings. Among the 15,404 nursing homes evaluated, 12,728 homes (nearly 83% of evaluated homes) received both a Short-Term and a Long-Term rating.

Figure 1. Eligibility for U.S. News Ratings



Methods

Data Sources

Data for both the Short- and Long-Term ratings were primarily obtained from Nursing Home Compare, the CMS public reporting site⁴. This included information on outcome and quality measures, health inspections, nurse staffing hours, and other structural measures for each nursing home. Additional staffing measures were constructed using data from the Payroll-Based Journal (PBJ). The 2017 Post-Acute Care and Hospice Provider Public Use File (PUF) was used to obtain information on utilization of services provided to Medicare beneficiaries in nursing homes for the short-term rating. Additional outcome and quality measures for the short-term rating were also obtained from the Skilled Nursing Facility Quality Reporting Program (QRP).

Data from Brown University's LTCfocus provided information on whether facilities have an Alzheimer's disease Specialty Care Unit, which is currently displayed on the Best Nursing Homes website but not a component of either the Short-Term rehabilitation rating or Long-Term Care rating⁵. Similarly, data from [CMS' COVID-19 Nursing Homes Data](#) is provided on U.S. News nursing home profile pages and updated regularly to display the number of reported COVID-19 cases to date and the number of reported COVID-19 cases in the most recent cycle; neither data point is a component of the U.S. News' Nursing Homes ratings.

Theoretical Framework

Quality of care has no ready definition or definitive metric, and there is no consensus on the best way to measure it, particularly in the nursing home setting. Some aspects of healthcare quality are readily quantified, while others are more challenging to measure. The Short-Term Rehabilitation rating and the Long-Term Care rating, like the Best Hospitals: Procedures & Conditions ratings⁶, uses the Donabedian paradigm, which reflects a relationship between structure, process and outcomes, to determine a composite measure of quality of care. Avedis Donabedian described⁷ this now-widely accepted paradigm in 1966, which has been applied to healthcare as follows:

- *Structure* refers to resources connected with patient care, such as the number of nurses or ownership status of the facility.
- *Process* refers to the way in which diagnoses, treatments, practices to avoid harm to

⁴ Archived data provided by CMS at <https://data.medicare.gov/data/archives/nursing-home-compare>

⁵ Create Custom Reports on Long-Term Care. Retrieved from: <http://lctfocus.org/>

⁶ Binger, T., et al. 2020. Methodology: U.S. News & World Report 2020-21 Best Hospitals Procedures & Conditions Ratings. https://health.usnews.com/media/best-hospitals/BHPC_Methodology_2020-21

⁷ Donabedian, A. 1966. Milbank Memorial Fund Quarterly. Evaluating the Quality of Medical Care. 44(3), Part 2, 166-206. doi: 10.2307/3348969. <https://www.jstor.org/stable/3348969?seq=1>

patients and other care are rendered, for example, whether steps known to be effective in preventing infections and medical errors or improving patient health are built into nursing home routine.

- *Outcomes* refers to the results of care, such as whether a patient experiences a hospitalization or an emergency room visit, and whether a patient ultimately returns home following the nursing home stay.

An important goal of this methodology is to give patients a clear bottom line. Notwithstanding the complexity and nuance of measurement and the usefulness of particular types of information, patients deserve an overall conclusion: How well does a nursing home perform compared to other nursing homes in short-term rehabilitation or long-term care? The ratings aggregate the measures into an overall assessment in each type of care by placing homes into one of three composite bands: High Performing, Average, or Below Average.

Structural Measures

Considerable evidence has shown nurse staffing levels in nursing homes are associated with successful resident outcomes, and therefore one of the most important structural measures for evaluating nursing home care⁸. Well-staffed homes help to provide safe environments with necessary nutrition, appropriate administration of medication, support for various activities of daily living, and a low frequency of accidents or injuries.

Staffing measures used in both Short- and Long-Term rating calculations are based on data collected through the PBJ. The advantage of the PBJ is that it is auditable, increasing the accuracy of the available staffing numbers at each home (notwithstanding rare reported implementation problems⁹) and reflects average staffing over an entire quarter. Data on the average number of registered nurses, licensed practical nurses, licensed vocational nurses and certified nurse assistants are available through this system. The daily resident population for each nursing home is calculated by CMS using the Minimum Data Set 3.0 (MDS), an assessment reported by all short-term and long-term facilities in the U.S. with beds certified by the federal government. CMS compared the total staffing hours to the average number of residents during the same period to determine the daily minutes of nursing time per resident. These measures are case-mix adjusted based on the distribution of residents by Resource Utilization Group.

⁸ Clarke SP, Donaldson NE. Nurse Staffing and Patient Care Quality and Safety. In: Hughes RG, editor. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 Apr. Chapter 25. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK2676/>

⁹ Clyne, J.W., and Sloan, K.S. 2018. LeadingAge New York. Letter to Seema Verma RE: Nursing Home Staffing Ratings. Accessed: 2020-09-05.

The following structural measures, all related to staffing, were used in the ratings. For more information on the data source and time periods for each measure, see Appendix A:

- **Nurse staffing.** This is a measure of the availability of all nursing staff (including registered nurses, licensed practical nurses, and nurse aides), expressed as the average minutes per resident per day. Many long-term residents need a variety of services that extend beyond medical care, and nursing staff provide them with assistance in completing basic daily activities such as bathing and getting dressed. By including different types of nurses, this measure accounts for much of the nursing activity that is important to long-term residents.
- **Registered nurse staffing.** This is a measure of the availability of registered nurses, (RNs) expressed as the average minutes per resident per day. RNs typically have the highest level of training and education among nurses in a nursing home setting. RNs have many specific responsibilities, which can range from administering medication to overseeing treatment plans.
- **Registered nurse staffing ratio.** This is a measure of the percent of nursing staff hours performed by registered nurses, the highest-credentialed nursing degree. This staffing measure is used in the Long-Term rating model.
- **Physical therapist staffing.** Used only in short-term rehabilitation, this is a measure of the availability of physical therapists, expressed as the average minutes per resident per day. Patients who receive appropriate physical therapy are more likely to recover successfully.
- **Consistent nurse staffing level.** This measure accounts for the percentage of days within a one-year period where the federal standards for registered nursing hours were met. Federal law requires nursing homes to have a registered nurse on duty at least 8 hours a day¹⁰. This staffing measure is used in both short-term and long-term models¹¹. See Appendix C for additional details on measure exclusion criteria.

Process Measures

The following process measures were used in the ratings. For more information on the data source and time periods for each measure, see Appendix A:

- **Rate of substantiated complaints.** This measure indicates whether a facility had a low or reasonable level of substantiated complaints. A low rate of substantiated

¹⁰ Mueller, C., Bowers, B., Burger, S. G., & Cortes, T. A. (2016). Policy brief: Registered nurse staffing requirements in nursing homes. *Nursing Outlook*, 64(5), 507–509. doi: 10.1016/j.outlook.2016.07.001

¹¹ Geng, F., Stevenson, D. G., & Grabowski, D. C. (2019). Daily Nursing Home Staffing Levels Highly Variable, Often Below CMS Expectations. *Health Affairs*, 38(7), 1095–1100. doi: 10.1377/hlthaff.2018.05322

complaints - as defined by fewer than at least 25% of homes - is associated with better safety and satisfaction.

- **Patient-centered rehabilitation therapy.** This measure reports the percent of patients who received more than the minimum amount of therapy indicated for their condition. A higher percentage suggests that more patients are receiving an amount of therapy tailored to their individual needs¹².
- **Flu vaccination.** This measure reports the percent of short-term patients who were appropriately given the influenza vaccination during the most recent influenza season.
- **Pneumonia vaccination.** This measure reports the percent of long-term residents who were assessed and appropriately given the pneumococcal vaccine.
- **Use of antipsychotic drugs.** This measure reports the percent of short-term patients who newly received an antipsychotic medication during their nursing home stay. High incidence may reflect the use of these medications to control patients' behavior, rather than treat psychiatric or medical conditions.
- **Use of antianxiety or hypnotic drugs.** This measure reports the percentage of long-term residents receiving antianxiety or hypnotic medication. Similar to the use of antipsychotic drugs among short-term patients, high prevalence may reflect inappropriate use of these medications.
- **Prevention of falls.** This measure reports the percentage of short-term patients who did not experience any falls with major injury.
- **Ability to self care.** This measure reports the percentage of long-term residents whose need for help with late-loss activities of daily living did not increase over time. This measure is assessed over time, and specifically assess bed mobility, transfer, eating, and toileting.
- **Prevention of pressure ulcers.** This measure reports the percentage of long-term, high-risk residents with pressure ulcers. Residents are considered high risk if they suffer from malnutrition, are comatose, or experience impaired bed mobility or transfer.

Outcome Measures

Outcome measures were derived by CMS from administrative claims data. Two risk-adjusted short-term and two risk-adjusted long-term outcome measures are used in the analysis.

¹² Harder, B., and Comarow, A. 2016. U.S. News & World Report. Tying our nursing home ratings to overuse of rehabilitation. March 18.
<http://health.usnews.com/health-news/blogs/second-opinion/articles/2016-03-18/tying-our-nursing-home-ratings-to-overuse-of-rehabilitation>

- **Patients able to return home.** This measure reports the percent of patients who were successfully discharged from the nursing home to their own home or residence, and did not experience an unplanned hospital readmission or death within 31 days following discharge. This measure is only used in the short-term analysis. Many short-term patients are recovering from acute injuries or conditions, and returning home is the desired objective.
- **Hospitalizations.** This measure reports the rate of unplanned inpatient admissions or outpatient observation stays among long-term residents in a nursing home. It is expressed as the number of hospitalizations per 1,000 resident days.
- **Emergency-room visits.** In short-term rehabilitation, this measure reports the percentage of patients who experienced an emergency department visit during their stay. In long-term care, this measure reports the number of emergency room visits per 1,000 resident days.

Construction of Composite Ratings

There are a few challenges in constructing a composite rating of quality of nursing home care: Selecting valid and reliable indicators, determining how much weight each indicator should receive, and accounting for measurement error. Some approaches, such as averaging scores across a set of equally weighted indicators, do not address measurement error. More sophisticated statistical procedures can determine empirically how much weight each indicator should be assigned. They can also account for the degree of measurement error due to incomplete risk adjustment, random variation due to low sample size, or other factors.

Once all potential indicators were identified from the various data sources, a subset were initially selected based on their validity and reliability, as determined by literature reviews, extensive feedback from researchers in the field, and prior ratings analyses. Exploratory factor analysis was used to understand how these measures are related and how many underlying constructs they define. Our a priori hypothesis was that these variables would estimate one underlying factor: quality of nursing home care. Results of the exploratory factor analysis were used to narrow the initial list down to a subset of indicators that were positively correlated with the underlying factor, and therefore related to quality of nursing home care.

The U.S. News Best Nursing Homes Ratings rely on a statistical method known as confirmatory factor analysis (CFA), which assigns weights empirically to the indicators. This approach has been previously used to evaluate provider quality of care, including in the Best Hospitals: Procedures and Conditions methodology¹³. CFA is based on the statistical principle that

¹³ Binger, T., et al. 2020. Methodology: U.S. News & World Report 2020-21 Best Hospitals Procedures & Conditions Ratings. https://health.usnews.com/media/best-hospitals/BHPC_Methodology_2020-21

variables sharing a common cause will be correlated. For nursing homes, the goal is to find a set of data that represents different aspects of quality of care for patients. Thus, for each indicator the model can estimate the extent to which the values are the result of a relationship with quality of care. The degree to which an indicator is correlated with other indicators helps to determine its weight in the equation for the composite scores.

A CFA model was developed separately for each of the two composite ratings by evaluating model statistics for all possible combinations of indicators that included at least one indicator from each of the three domains of quality (structure, process and outcomes). From the resulting list of candidate models exhibiting acceptable fit statistics (evaluating how well the expected values compare with the observed values), we selected a final model offering an optimal combination of number of indicators (models with more indicators produce more accurate factor scores), number of outcomes, model fit, and consistency with models we determined to be acceptable for the other rating.

We evaluated how well our confirmatory factor analysis models fit the data using three goodness of fit statistics: the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root-mean-square error of approximation (RMSEA). These each measure, in different ways, the discrepancy between the variances of the model and the variances of the observed data. If the variances of the model closely align with the observed variances, the model is considered to have good fit¹⁴. The literature provides a variety of standards for acceptable model fit using these statistics¹⁵. We sought final models with a CFI and TLI of .9 or greater, and RMSEA of .1 or lower, while also considering our theoretical understanding of the factors that are relevant for quality of care. Most models displayed fit characteristics better than the cutoff value.

We estimated fit statistics with the weighted least squares multivariate (WLSMV) estimator after using multiple imputation to account for missing data. We did not calculate quality scores for nursing homes based on imputed data. Instead, we fit final models separately using full information maximum likelihood (FIML) with empirical Bayes estimation for nursing home factor scores and standard errors. We found the models, including factor loadings, fit statistics, and factor scores, to be consistent across a variety of estimators and software packages.

Based on the best model, each rated nursing home received a rating of below average, average, or high performing in short-term rehabilitation and long-term care. Inference that a nursing home was below average or high performing was made at a p-value threshold of 0.25 or less. The

¹⁴ Santor, D. A., Haggerty, J. L., Lévesque, J. F., Burge, F., Beaulieu, M. D., Gass, D., & Pineault, R. (2011). An overview of confirmatory factor analysis and item response analysis applied to instruments to evaluate primary healthcare. *Healthcare policy = Politiques de sante*, 7(Spec Issue), 79–92.

¹⁵ Kline, Rex B. *Principles and practice of structural equation modeling* (3rd ed.). “Methodology in the social sciences.” ISBN 978-1-60623-876-9

final models' fit statistics are shown in **Table 1** and the indicators and factor loadings are shown in **Tables 2 and 3** below.

Table 1. *CFA Fit Statistics by Stay Type*

| | CFI | TLI | RMSEA |
|---------------------------|-------|-------|-------|
| Long-term care | 0.952 | 0.934 | 0.055 |
| Short-term rehabilitation | 0.930 | 0.910 | 0.074 |

Indicators and Correlations With Scores

The following tables list the indicators that were included in each composite model. The quality score correlation, or standardized factor loading, indicates the relative strength of the relationship between a given indicator and nursing homes' quality scores. The quality score correlation is determined by the statistical model; it is not a weight and is not applied as a factor of a summative formula. The greater the value of the correlation, the stronger the relationship to the quality score. In modeling, all indicators were oriented so that higher values reflected better quality of care. It may be noted that some outcome measures are relatively weakly correlated with quality scores. That is to be expected if the outcomes are rare, or if there is little variation in the measure from one nursing home to another.

Table 2. *Indicator Correlations, Short-term rehabilitation*

| | Quality Correlation |
|---|---------------------|
| Consistent nurse staffing | 0.244 |
| Emergency-room visits | 0.137 |
| Flu vaccination | 0.311 |
| Patient-centered rehabilitation therapy | 0.235 |
| Patients able to return home | 0.643 |
| Physical therapist staffing | 0.580 |
| Prevention of falls | 0.199 |
| Rate of substantiated complaints | 0.229 |
| Registered nurse staffing | 0.562 |
| Use of antipsychotic drugs | 0.303 |

Table 3. *Indicator Correlations, Long-term care*

| | Quality Correlation |
|---------------------------------------|---------------------|
| Ability to self-care | 0.285 |
| Emergency-room visits | 0.317 |
| Hospitalizations | 0.294 |
| Nurse staffing | 0.389 |
| Pneumonia vaccination | 0.273 |
| Prevention of pressure ulcers | 0.302 |
| Rate of substantiated complaints | 0.370 |
| Registered nurse staffing ratio | 0.441 |
| Use of antianxiety and hypnotic drugs | 0.284 |

Overall Composite Rating

Each nursing home that was rated in Short-Term Rehabilitation, Long-Term Care, or both, received a U.S. News Overall rating. Each home’s Overall rating was based on the average of the home’s Long-Term and Short-Term ratings, where High Performing receives a value of 5, Average receives a value of 3, and Below Average receives a value of 1. If a home was only eligible for one of the two component ratings, the overall score reflected that rating.

Example Overall rating calculations:

- If a home is rated “High Performing” in short-term rehabilitation and “High Performing” in long-term care, it is rated 5 out of 5 overall.
- If a home is rated “Average” in short-term rehabilitation and does not have a long-term care rating, it is rated 3 out of 5 overall.
- If a home is rated “Average” in short-term rehabilitation and “Below Average” in long-term care, it is rated 2 out of 5 overall.

Rating Concordance

The U.S. News Best Nursing Homes Ratings are derived from a different methodology than the CMS Five-Star Quality Rating System; therefore the ratings assigned may differ. The U.S. News Best Nursing Homes Ratings and the CMS Five-Star Quality Ratings draw from some of the same data, but the methodology used to generate each set of ratings is completely separate. The following table shows the rating concordance between the U.S. News 2020-21 Overall rating and the CMS Five-Star Quality Rating that homes were assigned in the July 2020 CMS Provider Info file. Only

nursing homes that were assigned both a rating from CMS in the July 2020 CMS Provider Info file and a rating from U.S. News in 2020-21 appear in **Table 4** below. While 31% of facilities received the same rating from CMS and U.S. News, 39% received a higher rating from CMS and 30% received a higher rating from U.S. News.

Table 4: U.S. News - CMS Rating Concordance, Overall Rating

| CMS July 2020 Rating | U.S. News 2020-21 Overall Rating | | | | | Total |
|----------------------|----------------------------------|------------|------------|------------|------------|--------|
| | 1 out of 5 | 2 out of 5 | 3 out of 5 | 4 out of 5 | 5 out of 5 | |
| 1 star | 571 | 746 | 940 | 19 | 11 | 2,287 |
| 2 stars | 207 | 674 | 1,801 | 151 | 74 | 2,907 |
| 3 stars | 116 | 471 | 1,772 | 228 | 93 | 2,680 |
| 4 stars | 36 | 329 | 2,070 | 434 | 318 | 3,187 |
| 5 stars | 20 | 145 | 1,613 | 743 | 1,168 | 3,689 |
| Total | 950 | 2,365 | 8,196 | 1,575 | 1,664 | 14,750 |

Recognition of U.S. News Best Nursing Homes

To be recognized as one of the 2020-21 U.S. News Best Nursing Homes, a facility must have been “High Performing” in Short-Term Rehabilitation, Long-Term Care, or both. Only 3,277 (21%) met those criteria out of the 15,404 nursing homes evaluated by U.S. News. Of the 3,277 Best Nursing Homes, 2,362 facilities are labelled as “Best Nursing Homes: Short-Term Rehabilitation 2020-21” and 1,623 facilities are labelled as “Best Nursing Homes: Long-Term Care 2020-21.” These include 708 nursing homes that received both distinctions.

The concordance between the two different nursing home stay type ratings appears in **Table 5** below. The cells shaded green highlight facilities which received recognition as a Best Nursing Home, which are those rated High Performing in either Short-Term Rehabilitation or Long-Term Care or both.

Table 5: Short-Term Rehabilitation - Long-Term Care Rating Concordance

| U.S. News 2020-21 Long-Term Care Rating | U.S. News 2020-21 Short-Term Rehabilitation Rating | | | | Total |
|---|--|---------|-----------------|-----------|--------|
| | Below Average | Average | High Performing | Not Rated | |
| Below Average | 837 | 681 | 8 | 50 | 1,576 |
| Average | 1,706 | 7,183 | 900 | 445 | 10,234 |
| High Performing | 30 | 675 | 708 | 210 | 1,623 |
| Not Rated | 90 | 562 | 746 | 573 | 1,971 |
| Total | 2,663 | 9,101 | 2,362 | 1,278 | 15,404 |

Acknowledgments

We thank Dr. Alpesh Amin, Fangli Geng, Dr. David C. Grabowski, Dr. Laura A. Hatfield, Dr. Yue Li, Dr. Vincent Mor, Dr. Dana B. Mukamel, and Dr. Helena Temkin-Greener for helpful discussions on nursing home quality and measurement. None of these individuals have endorsed the U.S. News methodology.

Appendix A: Source, time period and description for measures used in the ratings

Short-Term Rehabilitation Measures

| Indicator | Source File | Time Period | Description |
|---|-------------------------------|---------------------------------------|---|
| Registered nurse staffing | Provider Info | January 1, 2019 to December 31, 2019 | Availability of registered nursing staff per resident per day. Registered nurses have the highest training level among nursing staff. Nursing levels are most associated with successful rehabilitation. |
| Physical therapist staffing | Provider Info | January 1, 2019 to December 31, 2019 | Availability of physical rehabilitation therapists per resident per day. Patients who receive appropriate PT are more likely to go home on time and be able to avoid injury. |
| Emergency-room visits | Quality Measures (Claims) | January 1, 2019 to December 31, 2019 | Percentage of patients who needed to go to an ER (ED) during their stay. Indicative of higher quality of care and attention to patient safety. |
| Use of antipsychotic drugs | Quality Measures (MDS) | January 1, 2019 to December 31, 2019 | Percentage of patients who were newly given antipsychotic drugs. High levels of use of these drugs can indicate inappropriate use for behavior control rather than for medical treatment. |
| Flu vaccination | Quality Measures (MDS) | January 1, 2019 to December 31, 2019 | Percentage of short-term rehab patients who were appropriately given a timely flu vaccination. Vaccinations are an important disease-prevention tool, especially when people are living in close proximity. |
| Patients able to return home | SNF Quality Reporting Program | October 1, 2016 to September 30, 2018 | Percentage of patients who were discharged from the nursing home to their own home or residence, an indication of successful rehabilitation. |
| Prevention of falls | SNF Quality Reporting Program | October 1, 2018 to September 30, 2019 | Percentage of short-term rehab patients who did not experience any falls resulting in a major injury, such as bone fracture or dislocation |
| Patient-centered rehabilitation therapy | SNF PUF Therapy Minutes | January 1, 2017 to December 31, 2017 | Percentage of patients who received more than the minimum amount of therapy indicated for their condition. This suggests that patients are receiving appropriate care. |
| Consistent nurse staffing | Payroll-Based Journal | January 1, 2019 to December 31, 2019 | Percentage of days where federal standards for registered nurse staffing hours were met. Adequate staffing is associated with better safety and outcomes. |
| Rate of substantiated complaints | Provider Info | Varies by facility. Earliest/latest: | Indicates that a home had a low or reasonable level of substantiated complaints. A low rate of complaints is associated |

| | | | |
|--|--|-----------------------------------|--------------------------------------|
| | | October 31, 2014 to March 3, 2020 | with better safety and satisfaction. |
|--|--|-----------------------------------|--------------------------------------|

Long-Term Care Measures

| Indicator | Source File | Time Period | Description |
|---------------------------------------|---------------------------|--|---|
| Nurse staffing | Provider Info | January 1, 2019 to December 31, 2019 | Availability of nursing staff (registered nurses, licenced practical nurses and nursing aides) per resident per day. Nursing levels are closely associated with quality. |
| Emergency-room visits | Quality Measures (Claims) | January 1, 2019 to December 31, 2019 | Number of ER (ED) visits per thousand resident days. Fewer hospitalizations is indicative of higher quality of care and attention to patient safety. |
| Hospitalizations | Quality Measures (Claims) | January 1, 2019 to December 31, 2019 | Number of hospitalizations per thousand resident days. Fewer hospitalizations is indicative of higher quality of care and attention to patient safety. |
| Prevention of pressure ulcers | Quality Measures (MDS) | January 1, 2019 to December 31, 2019 | Percentage of high-risk residents without pressure ulcers. Residents with bed sores are at risk of infection and is a sign of staff inattentiveness. |
| Ability to self-care | Quality Measures (MDS) | January 1, 2019 to December 31, 2019 | Percentage of residents who maintained ability to move, eat, use the bathroom and do other common activities without help |
| Use of antianxiety and hypnotic drugs | Quality Measures (MDS) | January 1, 2019 to December 31, 2019 | Percentage of residents who were given antianxiety or hypnotic drugs. High levels of use of these drugs can indicate inappropriate use for behavior control rather than for medical treatment. |
| Pneumonia vaccination | Quality Measures (MDS) | January 1, 2019 to December 31, 2019 | Percentage of long-term care residents who were appropriately given a pneumonia vaccination. Vaccinations are an important disease-prevention tool, especially when people are living in close proximity. |
| Registered nurse staffing ratio | Provider Info | January 1, 2019 to December 31, 2019 | Percent of nursing staff hours performed by registered nurses, the highest-credentialed nursing degree. |
| Rate of substantiated complaints | Provider Info | Varies by facility. Earliest/latest: October 31, 2014 to March 3, 2020 | Indicates that a home had a low or reasonable level of substantiated complaints. A low rate of complaints is associated with better safety and satisfaction. |

Appendix B: Supplemental data displayed on usnews.com

Provider information:

- Contact information (including phone number, street address, city, state, and zip code)
- Medicare certification
- Medicaid certification
- Ownership type
- Presence of resident council
- Presence of family council
- Continuing Care Retirement Community integration
- Location inside a hospital
- Special Focus Facility (SFF) & Special Focus Candidate Facility (SFF candidate) status
- Presence of an Alzheimer's disease specialty care unit (as ascertained by LTCfocus)

Inspection-based penalty and deficiency measures:

- Number of CMS-issued penalties
- Number of health deficiencies found by state inspectors on the two most recent inspection cycles
- Number of fire code deficiencies found by state inspectors on the two most recent inspection cycles

Patient Safety Summary:

- Number of COVID-19 infection cases among a home's residents and staff reported by CMS to date, updated regularly
- Number of COVID-19 infection cases among a home's residents and staff reported by CMS in most recent cycle
- Percentage of short-term rehab patients who were appropriately given a timely flu vaccination, using data from 01/01/2019-12/31/2019
- Percentage of long-term care residents who were appropriately given a pneumonia vaccination, using data from 01/01/2019-12/31/2019
- Percentage of short-term rehab patients who did not experience any falls resulting in a major injury, such as bone fracture or dislocation, using data from 10/01/2018-09/30/2019
- Whether the home has a record of health deficiencies or violations in the most recent inspection as of July 2020.
- Whether the home has had a documented history of serious quality issues and is being closely monitored by Medicare.gov as a Special Focus Facility or Candidate. This entry will only appear on homes' U.S. News Patient Safety Summary if they meet this criterion of being a Special Focus Facility or Candidate.

Appendix C: Exclusion criteria for payroll-based journal

The consistent nurse staffing measure uses data from the following four PBJ calendar year quarterly files: Q1 CY2019, Q2 CY2019, Q3 CY2019 and Q4 CY2019. Each row in the data set represents one day at one home (so a quarter with 92 days will have 92 rows for each of more than 15,000 homes).

Any days (per home) where the recorded resident census was 0 were excluded from measure calculation.

Consistent with CMS analytic policy for excluding aberrant staffing data, any quarters (per home) that were considered extreme outliers were excluded from measure calculation if they met any of the following conditions¹⁶, though a home with one or more excluded quarters may still have reliable data in others:

- The quarter reflected more than 5.25 recorded average nurse aide (job categories 10-12) hours per resident day
- The quarter reflected more than 12 recorded average total nursing (job categories 5-12) hours per resident day
- The quarter reflected fewer than 1.5 recorded average total nursing (job categories 5-12) hours per resident day

¹⁶ Exclusion criteria derived from CMS Payroll-Based Journal Public Use Files: Technical Specifications, April 2019, section 3b, provided at <https://data.cms.gov/Special-Programs-Initiatives-Long-Term-Care-Facili/PBJ-Public-Use-Files-Data-Documentation/vgny-gzks>