Methodology Report
U.S. News & World Report 2019-20 Best Nursing Homes Ratings

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Introduction

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 August 2019. 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.

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 people[1], 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 life[2].

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 post-acute stays. This year, a new Long-Term Care rating has been 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.

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[1] Calculated from the July 2019 CMS Provider Info file.
[2] 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.

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.

2019-20 methodology changes

For the 2019-20 U.S. News Best Nursing Homes ratings, several changes were made to improve our ability to provide consumer decision support:

- Most notably, a new rating specific to long-term care was introduced. This rating evaluates 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. Long-term residents are defined as residents who are in a nursing home for more than 100 days. A measurement model known as confirmatory factor analysis was used to determine a composite score for the quality of care delivered by each nursing home to long-term residents. See Appendix A for a list of measures included in this rating.

- The Short-Term Rehabilitation methodology was updated to include several aspects of quality not previously incorporated, including the consistency of registered nurse staffing, antipsychotic medication usage, and success in preventing falls. See Appendix A for a list of measures included in this rating.

- A new approach for the Overall rating now uses the U.S. News Short-Term Rehabilitation rating and Long-Term Care rating from each nursing home in order to generate an Overall rating. Because several substantive changes were made for the 2019-20 U.S. News Best Nursing Homes Overall rating, a home's Overall rating should not be compared against previous years'. For facilities that are eligible to receive both Short-Term and Long-Term ratings, each home's Overall rating was based on the average of the homes Short-Term and Long-Term ratings, where High Performing receives a value of 5, Average receives a value of 3, and Below Average receives a value of 1. Facilities that are only eligible in one category received an Overall rating based entirely on that score. The U.S. News Overall rating was

previously based on three CMS-issued domain-specific star ratings: staffing, inspections and quality.

● The current U.S. News methodology no longer incorporates any of the CMS-issued domain-specific ratings or the overall rating from the CMS five-star quality rating system. Furthermore, some measures used in the 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.

Eligibility Requirements

Eligible nursing homes were first identified from the [July 2019 CMS Provider Info](#) file, which became publicly available in August 2019. 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 Rehabilitation 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 2019 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, 13,683 nursing homes received a Short-Term rating, 13,685 homes received a Long-Term rating, and 14,853 homes received an Overall rating for the 2019-20 Best Nursing Homes Ratings.

Figure 1. Eligibility for U.S. News Ratings
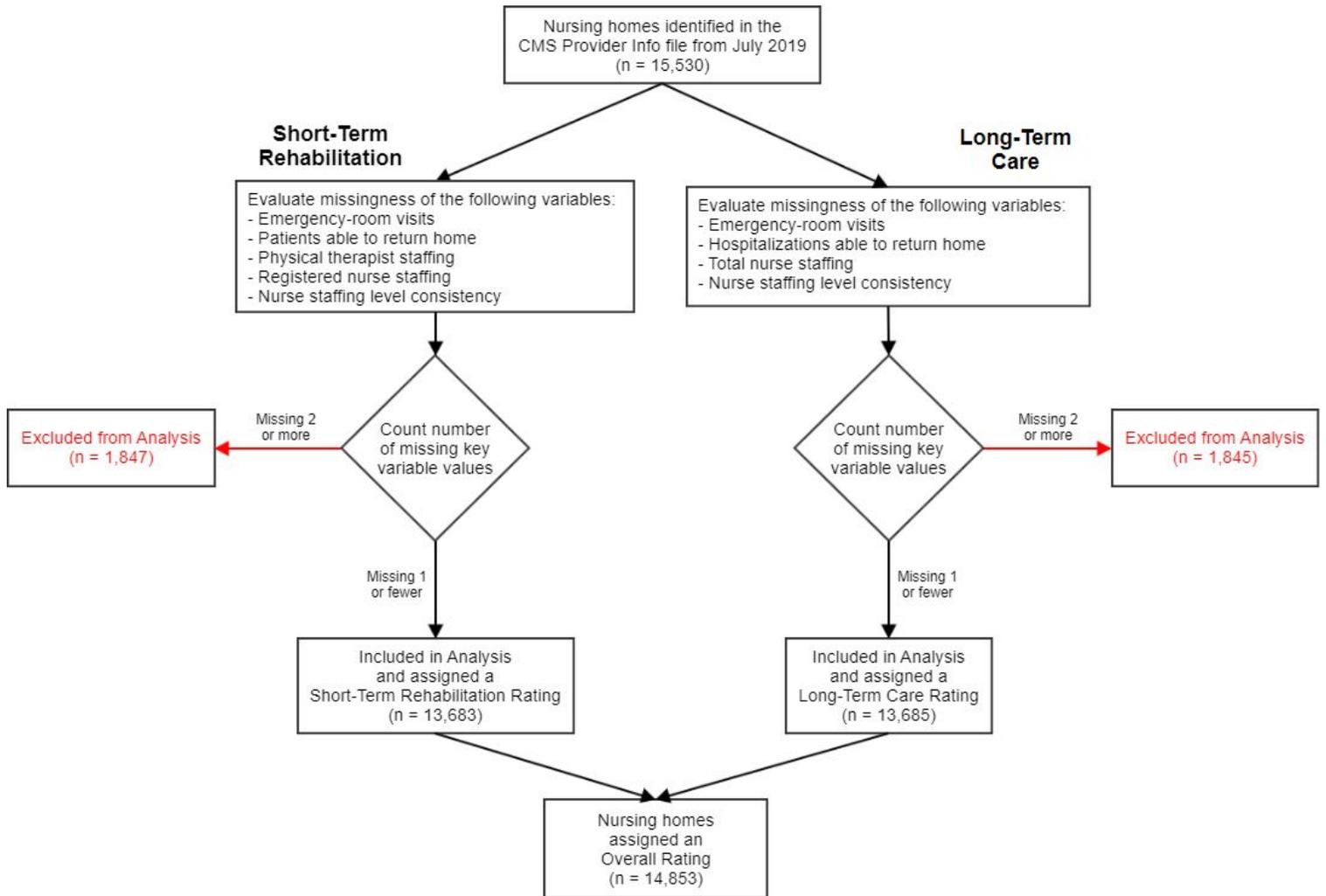
Methods

Data sources

Data for both the short- and long-term ratings were primarily obtained from Nursing Home Compare, the CMS public reporting site[3]. 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 2016 Skilled Nursing Facility Therapy Minutes 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 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 rating[4].

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 ratings[5], uses the Donabedian paradigm, which reflects a relationship between structure, process and outcomes, to determine a composite measure of quality of care. Avedis Donabedian described 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 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

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[3] Archived data provided by CMS at https://data.medicare.gov/data/archives/nursing-home-compare
[4] Create Custom Reports on Long-Term Care. Retrieved from: http://ltcfocus.org/
[5] Martin, G., Majumder, A., Adams, Z., et al. 2019. Methodology: U.S. News & World Report 2019-20 Best Hospitals Procedures & Conditions Ratings.
https://health.usnews.com/media/best_hospitals/Best_Hospitals_Procedures_Conditions_Methodology_2019-20

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 care[6]. 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 problems[7]) 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.

The following structural measures, all related to staffing, were used in the ratings:

- **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

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[6] 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/

[7] Clyne, J.W., and Sloan, K.S. 2018. LeadingAge New York. Letter to Seema Verma RE: Nursing Home Staffing Ratings. Sept. 5.

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.
- **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 day[8]. This staffing measure is used in both short-term and long-term models[9]. See Appendix C for additional details on measure exclusion criteria.

Process Measures

The following process measures were used in the ratings:

- **Rate of substantiated complaints.** This measure indicates whether a facility had a low or reasonable level of substantiated complaints. A low rate of substantiated 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 needs[10].
- **Flu vaccination.** This measure reports the percent of short-term patients who were appropriately given the influenza vaccination during the most recent influenza season.

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[8] 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
[9] 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
[10] 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

- **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.

- **Patients able to return home.** This measure reports the percent of short-term 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 methodology[11]. CFA is based on the statistical principle that 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.

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[11] Martin, G., Majumder, A., Adams, Z., et al. 2019. Methodology: U.S. News & World Report 2019-20 Best Hospitals Procedures & Conditions Ratings.
https://health.usnews.com/media/best_hospitals/Best_Hospitals_Procedures_Conditions_Methodology_2019-20

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 fit[12]. The literature provides a variety of standards for acceptable model fit using these statistics [13]. 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 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	0.965	0.952	0.048
Short-term rehabilitation	0.924	0.902	0.094

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

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[12] 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.

[13] Kline, Rex B. Principles and practice of structural equation modeling (3rd ed.). "Methodology in the social sciences." ISBN 978-1-60623-876-9

quality score. During 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	0.285
Emergency-room visits	0.164
Flu vaccination	0.336
Patient-centered rehabilitation therapy	0.232
Patients able to return home	0.606
Physical therapist staffing	0.561
Prevention of falls	0.189
Rate of complaints	0.251
Registered nurse staffing	0.629
Use of antipsychotic drugs	0.309

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

	Quality Correlation
Ability to self-care	0.281
Consistent nurse staffing	0.217
Emergency-room visits	0.319
Hospitalizations	0.286
Nurse staffing	0.372
Pneumonia vaccination	0.308
Prevention of pressure ulcers	0.312
Rate of complaints	0.456
Use of antianxiety and hypnotic drugs	0.221

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 methodologies used to generate each set of ratings is completely separate. The following table shows the rating concordance between the U.S. News 2019-20 Overall rating and the CMS Five-Star Quality Rating that homes were assigned in the July 2019 CMS Provider Info file. Only nursing homes that were assigned both a rating from CMS in the July 2019 CMS Provider Info file and a rating from U.S. News in 2019-20 appear in **Table 4** below.

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

CMS July 2019 Rating	U.S. News 2019-20 Overall Rating					Total
	1 out of 5	2 out of 5	3 out of 5	4 out of 5	5 out of 5	Total
1 star	605	841	1,239	24	12	2,721
2 stars	188	608	1,823	157	69	2,845
3 stars	87	406	1,936	217	95	2,741
4 stars	42	276	2,164	488	292	3,262
5 stars	8	90	1,506	703	886	3,193
Total	930	2,221	8,668	1,589	1,354	14,762

Recognition of U.S. News Best Nursing Homes

To be recognized as one of the 2019-20 U.S. News Best Nursing Homes, a facility must have been "High Performing" in Short-Term Rehabilitation, Long-Term Care, or both. Only 2,969 met those criteria out of the 15,530 nursing homes evaluated by U.S. News. Of the 2,969 Best Nursing Homes, 2,250 facilities are labelled as "Best Nursing Homes: Short-Term Rehabilitation 2019-20" and 1,139 facilities are labelled as "Best Nursing Homes: Long-Term Care 2019-2020." These include 420 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 2019-20 Long-Term Care Rating	U.S. News 2019-20 Short-Term Rehabilitation Rating				Total
	Below Average	Average	High Performing	Not Rated	
Below Average	784	536	10	118	1,448
Average	1,707	7,453	1,119	819	11,098
High Performing	14	472	**420**	233	1,139
Not Rated	50	417	701	677	1,845
Total	2,555	8,878	2,250	1,847	15,530

Acknowledgments

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	April 1, 2018 to March 31, 2019	Availability of registered nursing staff per resident per day
Physical therapist staffing	Provider Info	April 1, 2018 to March 31, 2019	Availability of physical rehabilitation therapists per resident per day
Emergency-room visits	Quality Measures (Claims)	January 1, 2018 to December 31, 2018	Percentage of patients who needed to go to an ER (ED) during their stay
Use of antipsychotic drugs	Quality Measures (MDS)	April 1, 2018 to March 31, 2019	Percentage of patients who were newly given antipsychotic drugs
Flu vaccination	Quality Measures (MDS)	April 1, 2018 to March 31, 2019	Percentage of patients who were appropriately given a timely flu vaccination
Patients able to return home	SNF Quality Reporting Program	October 1, 2016 to September 30, 2017	Percentage of patients who were discharged from the nursing home to their own home or residence
Prevention of falls	SNF Quality Reporting Program	October 1, 2017 to September 30, 2018	Percentage of 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, 2016 to December 31, 2016	Percentage of patients who received more than the minimum amount of therapy indicated for their condition
Consistent nurse staffing	Payroll-Based Journal	April 1, 2018 to March 31, 2019	Percentage of days where federal standards for registered nurse staffing hours were met
Rate of substantiated complaints	Provider Info	(varies with earliest/latest of) March 19, 2013 to June 20, 2019	Indicates that a home had fewer substantiated official complaints than at least 25% of homes

Long-Term Care Measures

Indicator	Source File	Time Period	Description
Nurse staffing	Provider Info	April 1, 2018 to March 31, 2019	Availability of nursing staff (registered nurses, licenced practical nurses and nursing aides) per resident per day
Emergency-room visits	Quality Measures (Claims)	January 1, 2018 to December 31, 2018	Number of ER (ED) visits per thousand resident days
Hospitalizations	Quality Measures (Claims)	January 1, 2018 to December 31, 2018	Number of hospitalizations per thousand resident days
Prevention of pressure ulcers	Quality Measures (MDS)	April 1, 2018 to March 31, 2019	Percentage of high-risk residents without pressure ulcers
Ability to self-care	Quality Measures (MDS)	April 1, 2018 to March 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)	April 1, 2018 to March 31, 2019	Percentage of residents who were given antianxiety or hypnotic drugs
Pneumonia vaccination	Quality Measures (MDS)	April 1, 2018 to March 31, 2019	Percentage of residents who were appropriately given a pneumonia vaccination
Consistent nurse staffing	Payroll-Based Journal	April 1, 2018 to March 31, 2019	Percentage of days in which federal standards for registered nurse staffing hours were met
Rate of substantiated complaints	Provider Info	(varies with earliest/latest of) March 19, 2013 to June 20, 2019	Indicates that a home had fewer substantiated official complaints than at least 25% of homes

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)

Penalties and deficiencies
Inspection-based 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

Appendix C: Exclusion criteria for payroll-based journal

The consistent nurse staffing measure uses data from the following four PBJ calendar year quarterly files: Q2 CY2018, Q3 CY2018, Q4 CY2018 and Q1 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 conditions[14], 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

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[14] 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/ygny-gzks