# Some Nursing Homes' Reported Staffing Levels in 2018 Raise Concerns; Consumer Transparency Could Be Increased

## Why This Review Is Important

Nurse staffing is a key contributor to the quality of care provided in nursing homes. This review, initiated before the COVID-19 pandemic emerged, focuses on staffing data from 2018. However, the 2020 pandemic reinforces the importance of adequate staffing for nursing homes, as inadequate staffing can make it more difficult for nursing homes to respond to infectious disease outbreaks like COVID-19.

Consumers need meaningful information about nurse staffing at nursing homes to make informed care decisions. The Centers for Medicare & Medicaid Services (CMS) created the Payroll-Based Journal (PBJ)—a system containing self-reported provider data—to collect nursing homes' daily staffing hours. CMS requires a minimum number of daily hours for different types of nurses, but CMS does not use PBJ data to enforce daily Federal staffing requirements. CMS uses PBJ data to calculate and publicly report Staffing Star Ratings on Nursing Home Compare. Prior public releases of PBJ data indicate that some nursing homes report low nurse staffing, which could impact residents' quality of care. However, CMS does not regularly publish information on day-to-day nurse staffing levels.

## How OIG Did This Review

We analyzed nursing homes' 2018 daily staffing data from the PBJ. We determined how frequently nursing homes reported daily staffing below federally required levels in 2018 and identified quarterly trends. We compared nursing homes' quarterly Staffing Star Ratings to their daily staffing. To discuss residents' experiences, we also surveyed 20 Local Long-Term Care Ombudsmen (Local LTCOs). We obtained their perspectives on the ways daily fluctuations in nurse staffing may affect residents in the nursing homes that the Local LTCOs monitor.

## What OIG Found

Nursing homes must have a registered nurse (RN) on staff at least 8 hours each day and licensed nurse (i.e., RNs and licensed practical/vocational nurses (LPNs/LVNs) on staff around-the-clock to meet Federal staffing requirements. However, 7 percent of nursing homes reported at least 30 total days in 2018 with staffing below one or more of these requirements. Additionally, another 7 percent of nursing homes reported between 16 and 29 days with staffing below required levels in 2018. Most of the days (65 percent) that nursing homes reported staffing below required levels fell on weekends. This raises concerns that some of these nursing homes may not have fully met their residents' needs in 2018.

### Key Takeaway

Nursing homes' reported staffing levels often vary on a day-to-day basis, and 7 percent fell below required Federal staffing levels on at least 30 total days in 2018. CMS's Star Rating System ranks nursing homes on their average staffing levels each quarter; as a result, daily staffing variations are not transparent to consumers.

To further incentivize nursing homes to staff RNs every day, CMS implemented a policy in 2018 to downgrade nursing homes' Staffing Star Ratings to 1 Star for having at least 7 total days within a quarter with no reported RN time. Following CMS's announcement of this policy, 27 percent fewer nursing homes reported at least 7 days without any RN time. At the same time, 7 percent more nursing homes reported days with some RN time, although less than the required 8 hours per day. These trends suggest overall improvements in staffing levels. However, the nursing homes reporting days with greater than zero hours but less than the required eight hours of RN time appear to be falling short of meeting staffing requirements in ways that this penalty does not address.

Finally, CMS's Star Ratings, based on quarterly averages, do not convey the extent to which staffing varies day to day. Some nursing homes' reported staffing levels varied considerably from day to day, while other nursing homes' daily staffing levels were more consistent. Presenting only quarterly staffing averages does not enable consumers to identify and consider daily staffing differences when choosing a nursing home.

## What OIG Recommends

We recommend that CMS: (1) enhance efforts to ensure nursing homes meet daily staffing requirements and (2) explore ways to provide consumers with additional information on nursing homes' daily staffing levels and variability. While CMS did not explicitly state concurrence with the recommendations, CMS outlined the actions it has taken and plans to take to achieve the recommendations' goals.

Final report found at: https://oig.hhs.gov/oei/reports/oei-04-18-00450.asp

# BACKGROUND

The Centers for Medicare & Medicaid Services (CMS) has long identified nurse staffing as a vital component of a nursing home's ability to provide quality care.[1, 2]  For instance, research has found that the presence of a registered nurse (RN) improves residents' quality of care and outcomes.[3]  This review, initiated before the COVID-19 pandemic emerged, focuses on staffing data from 2018.  However, the 2020 pandemic reinforces the importance of sufficient staffing for nursing homes, as inadequate staffing can make it more difficult for nursing homes to respond to infectious disease outbreaks like COVID-19.[4, 5]

Each type of nurse fills important roles at nursing homes.  For example, RNs are responsible for overseeing the delivery of residents' overall care, while licensed practical and vocational nurses (LPNs/LVNs) care for residents under an RN's direction.[6]  Together, licensed nurse staff (i.e., RNs and LPNs/LVNs) ensure each resident's care plan is being followed and that their needs are being met.  Nurse Aides (Aides) work under the direction of licensed nurse staff and provide most of the day-to-day care for residents (e.g., activities of daily living, like eating, bathing, grooming, dressing, transferring, and toileting) 24 hours a day, 7 days a week (around the clock).[7]

## Federal Staffing Requirements

Federal law requires all nursing homes to provide enough staff to safely care for their residents.[8]  More specifically, unless they are waived, CMS regulations require that nursing homes provide on each day
(1) 8 consecutive hours of RN services and (2) around-the-clock licensed nurse services.[9]

## Federal Requirements for Staffing Data

Nursing homes are required to electronically submit their staffing information to the Payroll-Based Journal (PBJ).[10]  Nursing homes must submit direct-care staffing information based on payroll and other verifiable and auditable data in a uniform format as specified by CMS.[11]  This information must include the category of work an employee performs, such as whether the employee is an RN, LPN/LVN, Aide, therapist, or other medical personnel.[12]

## Nursing Home Compare

CMS's website, Nursing Home Compare, allows consumers to review information about nursing homes participating in Medicare and/or Medicaid.  This information includes the quality of care provided, staffing, and inspection results.  Nursing Home Compare has a quality rating system that gives each nursing home an overall rating between 1 and 5 stars (i.e., the Five-Star Quality Rating System).[13]  Nursing homes with 5-star ratings are considered to have above-average quality, and nursing homes with 1-star ratings are considered to have below-average quality.[14]  Each nursing home's overall quality rating is based on star ratings of its performance in three areas, one of which is Staffing.[15, 16]

*Staffing Star Ratings.*  In April 2018, CMS began using the PBJ to calculate Staffing Star Ratings for Nursing Home Compare.[17]  The Staffing Star Rating is based on two separate measures—each with its own Star Rating—that are associated with quality of care: (1) the RN measure and (2) the Total Nurse (TN) measure.[18, 19]  The RN and TN staffing measures reported in the Five-Star Quality Rating System do not assess compliance with Federal staffing requirements.  Instead, the RN measure reports the quarterly average RN staffing hours per resident at each nursing home, adjusted by the residents' health needs.[20]

The TN measure reports the quarterly average staffing hours for RNs, LPNs/LVNs, and aides per resident at each nursing home, adjusted by the residents' health needs.  For additional information on how CMS calculates Nursing Home Compare's RN, TN, and Overall Staffing Star Ratings, see Appendix A.

After analyzing PBJ data and identifying that some nursing homes reported many days with no RN time in 2017, CMS reminded nursing homes of Federal staffing requirements in April 2018.[21]  As a result, also in April 2018, CMS announced that any nursing homes reporting at least 7 total days in a quarter without any RN time would have their Staffing Star Rating automatically downgraded to 1 Star.[22, 23]  The policy change impacted Staffing Star Ratings presented on Nursing Home Compare starting in July 2018.

## State Long-Term Care Ombudsman Programs

In 1972, the Administration on Aging (AoA) began the Long-Term Care Ombudsman Program (LTCOP) as a demonstration program.[24]  Since 1978, the LTCOP has required each State to have a State Long-Term Care Ombudsman (State LTCO).[25]  The program was expanded in 1987 to allow State ombudsmen access to nursing homes' and residents' records and designate local ombudsman programs.[26]  The State LTCO is the contact for all ombudsman activities within the State.  Local Long-Term Care Ombudsmen (Local LTCOs) implement the nursing home LTCOP.  Ombudsman programs fulfill many roles within the nursing home, such as educating and training facility staff and residents; providing technical support for resident and family councils; and conducting a complaint or mediation visit to resolve a complaint.[27]

*Resident Complaint Process.*  To file a complaint, nursing home residents and their family members or designated representatives may directly contact their State LTCOP office or their Local LTCO.  When a resident registers a complaint, the ombudsman whom the resident contacted acts as a resident advocate by assisting and empowering residents or their representatives in resolving complaints.  If the Local LTCO encounters difficulty resolving complaints or concerns, the State LTCO may provide assistance.  The State LTCO assists the Local LTCO when technical information is needed, or with system-wide problems.[28]

# METHODOLOGY

We analyzed staffing data for nursing homes from the PBJ for calendar year 2018.  We also analyzed companion datasets from the Minimum Data Set (MDS), which CMS uses to calculate staffing measures on Nursing Home Compare.

We determined how frequently nursing homes reported daily staffing levels below required Federal levels for RN and licensed nurse staff using PBJ data.  We also determined how frequently nursing homes reported days without any RNs.  However, we make no determination of compliance with Federal RN staffing requirements because PBJ data do not include unpaid hours salaried nurses may work.  Therefore, actual hours that RNs or licensed nurses worked at nursing homes in 2018 may be higher than the PBJ data reflects.  Finally, we determined how frequently nursing homes' daily staffing levels did not match their quarterly Staffing Star Ratings. We surveyed 20 Local LTCOs regarding how nurse staffing levels at their respective nursing homes affected residents' quality of care.  See the Detailed Methodology section for more information.

# RESULTS

**Seven percent of nursing homes reported staffing below required levels for at least 30 total days in 2018**

Seven percent of nursing homes (943 of 12,862) reported at least 30 total days with staffing below 1 or more required levels in 2018 (see Exhibit 1). Additionally, another 7 percent of nursing homes (900 of 12,862) reported between 16 and 29 days with staffing below 1 or more required levels in 2018. Forty percent of nursing homes (5,127 of 12,862) reported 1 to 15 such days. Most of the days (65 percent) that these nursing homes reported staffing below required levels fell on weekends (see Exhibit 2). See Appendices B and C for additional information on nursing homes reporting staffing below required levels.

Some of the Local LTCOs (11 of 20) reported that daily staffing for licensed nurse staff (i.e., RNs and/or LPNs/LVNs) was problematic at the specific nursing homes that they monitored. When RNs or licensed nurse staff are not present, residents may be negatively impacted because their care plans may not be implemented correctly. When RNs and licensed nurse staff are not present to adequately supervise Aides, residents' day-to-day care needs—such as bathing, grooming, and toileting—may not be met, which can contribute to a variety of health problems, such as pressure sores, urinary tract infections, and falls.

**Exhibit 1. Seven percent of nursing homes reported at least 30 total days with staffing below required levels in 2018**



- 30+ Days 7%
- 16-29 Days 7%
- 0 Days 46%
- 1-15 Days 40%
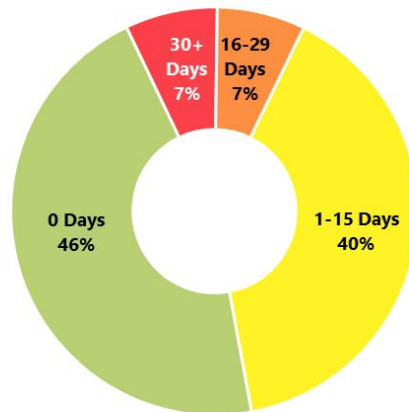
**58 days**

Average number of days this 7 percent of nursing homes did not have an **RN** on staff for at least 8 hours

**15 days**

Average number of days this 7 percent of nursing homes did not have **licensed nurse** services for at least 24 hours

12,862 nursing homes
Source: OIG analysis of 2018 PBJ data, 2019.

## Ombudsman Perspective: Residents' Experiences When Nursing Homes Report Many Days With Staffing Below Required Levels

*A scarcity of hall nurses (i.e., RNs and/or LPNs) led to poor supervision and Aide accountability.  This led to some care issues.*

*- Local LTCO in Arkansas*

*Systemic concerns from family members and residents were call lights not being answered because of lack of Aides and medication errors or medications not being given in a timely manner due to lack of LPNs and RNs.*

*Wound care or bathing was not being provided because of staff shortage or staff calling off often.  Falls or injuries were not reported or documented in the residents' charts.*

*Discharge planning and/or proper discharges were a concern.*

*If a resident asked a staff at the facility for water or pain medication, toileting, etc., the staff would state "you need to wait because we are short of staff."*

*- Local LTCO in Illinois*

*My residents go for a week at a time without being showered.  They complain of not getting their medications on time, which causes pain and agitation. We are already dealing with a population that has behavioral issues; add medications not being given in a timely manner, if at all, it's just not a good mix.*

*- Local LTCO in Texas*

**Exhibit 2.  Most of the days when reported nurse staffing fell below required staffing levels were on the weekend in 2018**



**65% of days** that nursing homes reported staffing below required levels fell on weekends
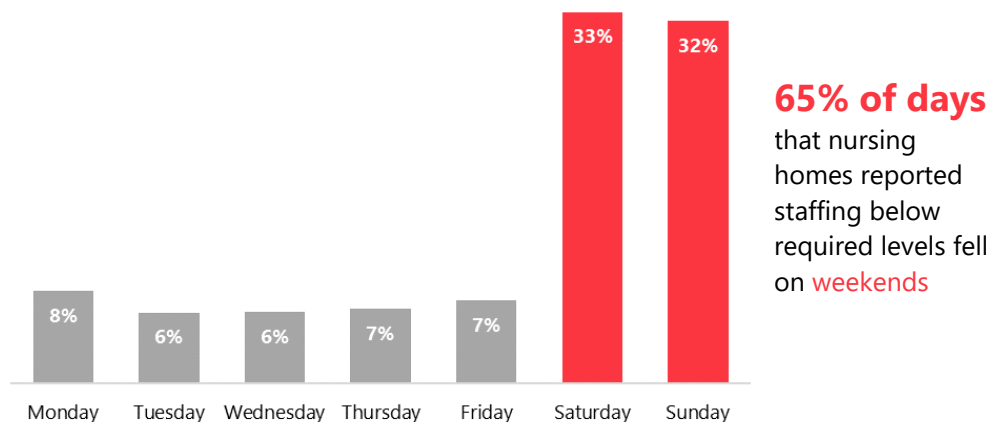
NOTE: We analyzed the total number of days in 2018 at 12,862 nursing homes when reported RN and licensed nurse staffing fell below required levels.
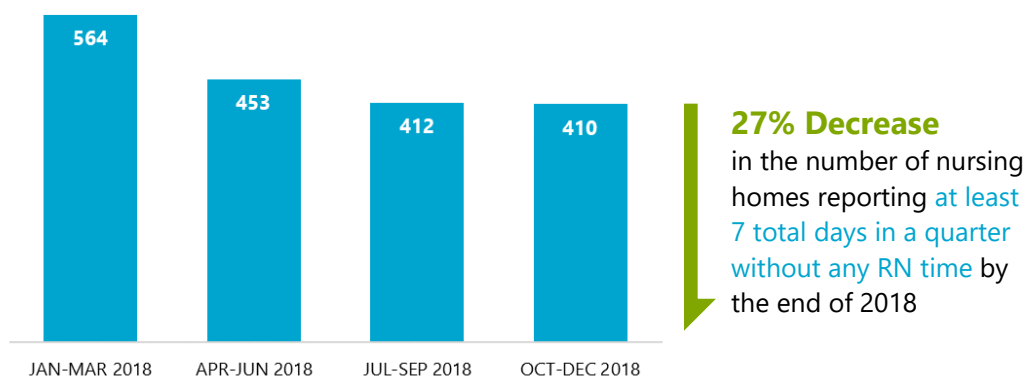Source: OIG analysis of 2018 PBJ data, 2019.

**Fewer nursing homes reported days without any RNs after CMS announced it would begin downgrading Star Ratings on that basis**

CMS announced in April 2018 that it would automatically downgrade nursing homes' Staffing Star Ratings to 1 Star on Nursing Home Compare for reporting at least 7 total days with no reported RN time within a quarter. A lower Staffing Star Rating may discourage consumers from choosing that nursing home.  The policy change impacted the Staffing Star Ratings in July 2018.

Following CMS's announcement, fewer nursing homes reported at least 7 days with no RN time—thus avoiding the Star rating downgrade (see Exhibit 3).

**Exhibit 3.  The number of nursing homes reporting at least 7 total days within a quarter without any RNs decreased 27 percent over 2018**



| JAN-MAR 2018 | APR-JUN 2018 | JUL-SEP 2018 | OCT-DEC 2018 |
|---|---|---|---|
| 564 | 453 | 412 | 410 |

**27% Decrease** in the number of nursing homes reporting at least 7 total days in a quarter without any RN time by the end of 2018

NOTE: Of the 12,862 nursing homes in our analysis, 1,135 nursing homes reported at least 7 total days with no RN time within any quarter of 2018.
Source: OIG analysis of 2018 PBJ data, 2019.

Those nursing homes that did report at least 7 total days with no RN time within a quarter most often reported this staffing level for only one quarter (see Exhibit 4). That is, among the 1,135 unique nursing homes that reported at least 7 total days with no RN time within any quarter, 61 percent (697) did so for only 1 quarter. A small number of nursing homes continued to report at least 7 total days with no RN time within a quarter, despite the automatic downgrade to a 1-Star Staffing rating. In fact, just 71 of 12,862 nursing homes did so for all 4 quarters of 2018, indicating that followup with these specific nursing homes is warranted.

**Exhibit 4. Of the nursing homes that reported at least 7 total days without any RNs, most did so for only one quarter in 2018**



**71 nursing homes** reported at least 7 total days with no RN time for all 4 quarters in 2018
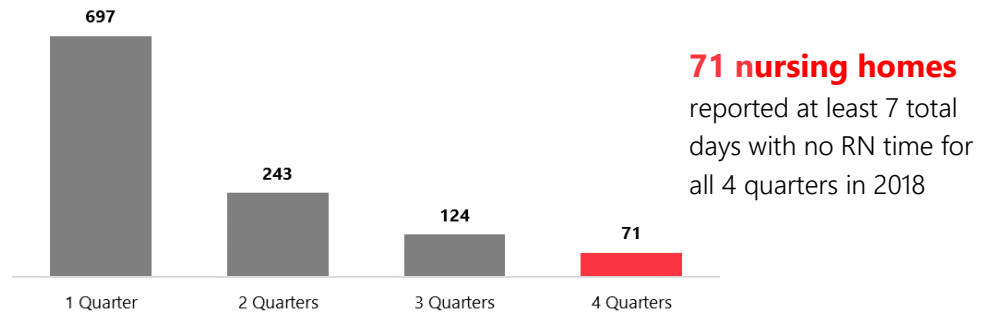
N = 1,135 nursing homes
Source: OIG analysis of 2018 PBJ data, 2019.

As 2018 progressed, 7 percent more nursing homes reported days with some RN time, even though the reported time was less than the required 8 hours per day (see Exhibit 5). Nursing homes reporting days with some RN time, but less than 8 hours, avoid CMS's automatic downgrade to their star ratings but may still be falling short of meeting staffing requirements. See Appendix D for more information on trends in the number of nursing homes reporting days when RN time was below the required Federal levels.

**Exhibit 5. Seven percent more nursing homes reported days with at least some RN time, thus avoiding a Staffing Star downgrade**



**7% Increase** in number of nursing homes reporting days with some RN time but less than 8 hours of RN services by the end of 2018
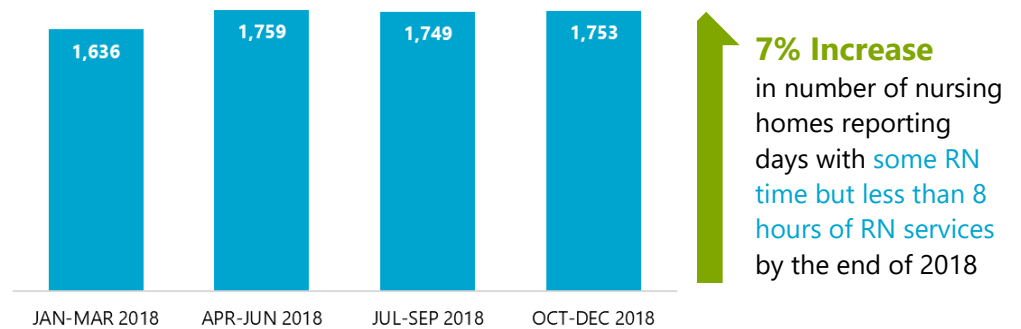
NOTE: Of the 12,862 nursing homes in our analysis, 4,444 reported days with some RN time, but in amounts still below required levels within any quarter of 2018.
Source: OIG analysis of 2018 PBJ data, 2019.

**CMS's Star Ratings are based on quarterly averages, which do not convey the extent to which staffing varies day to day**

Some nursing homes' reported staffing levels varied considerably from day to day, while others' staffing levels were more consistent. CMS averages reported daily staffing to calculate nursing homes' quarterly RN and TN Staffing Star Ratings for Nursing Home Compare. CMS staff explained that the rating system is intended to reflect the general level of quality and care that a facility provides and uses aggregated measures for staffing (and for other quality measures) to do so. However, presenting only the quarterly averages on Nursing Home Compare does not enable consumers to see and consider differences in daily staffing levels when choosing a nursing home.

## How CMS Determines RN and TN Staffing Star Ratings on Nursing Home Compare

To determine each nursing home's RN and TN Staffing Star Ratings, CMS establishes thresholds of nurse time per resident for each star rating. CMS then compares each nursing home's average quarterly RN and TN staffing levels to these staffing level thresholds.[29] Nursing homes with lower Staffing Star Ratings report less staff time than nursing homes with higher Staffing Star Ratings. Exhibit 6 below lists the minutes associated with 1-Star and 5-Star RN and TN staffing thresholds for the fourth quarter (Q4) of 2018.

**Exhibit 6. CMS's Star Rating Thresholds for RN and TN Staffing\***

|  | 1 Star | 5 Stars |
|---|---|---|
| *Average RN Minutes Per Resident Per Day* | *< 19 minutes* | *≥ 63 minutes* |
| *Average TN Minutes Per Resident Per Day* | *< 186 minutes* | *≥ 264 minutes* |

\*CMS began using these star rating thresholds in Q4 2018 and continued to assign Staffing Star Ratings with these thresholds through 2019. CMS used different thresholds during Q1, Q2, and Q3 2018. For more information, see Appendix A.
Source: CMS. Nursing Home Compare Technical Users' Guide: April 2019.

Nursing homes with a 1-Star RN Staffing Rating report an average of less than 19 minutes of RN care per resident per day. In contrast, nursing homes with 5-Star RN Staffing Ratings report over 63 minutes of RN care per resident per day. This means residents at a nursing home with a 5-Star RN Staffing Rating may be receiving an average of 44 additional minutes of RN care than residents at a nursing home with a 1-Star RN Staffing Rating. See Appendix A for additional information on the specific RN and TN staffing thresholds CMS used during 2018.
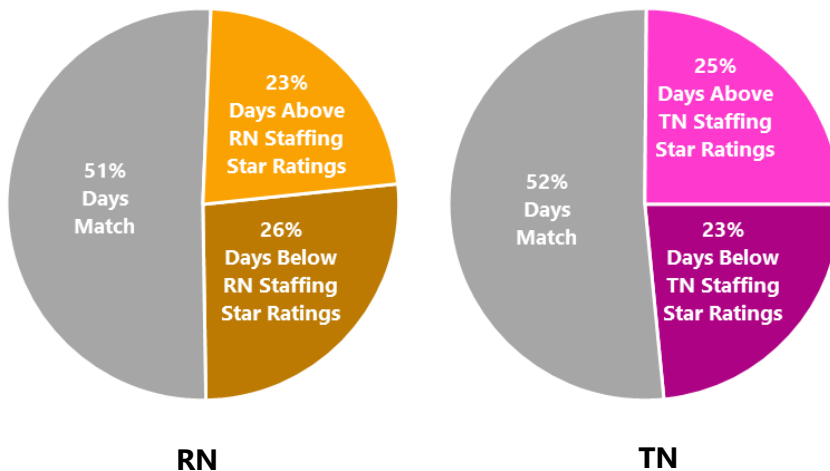
Nursing homes' daily staffing levels did not match their Staffing Star Ratings for about half of the days in 2018 (see Exhibit 7). On average, nursing homes' RN daily staffing levels were below their Staffing Star Ratings slightly more often than they were above, but TN daily staffing levels displayed the opposite pattern. See Appendix E for more information on how often nursing homes' daily staffing levels did not match their RN and TN Staffing Star Ratings on Nursing Home Compare.

**Exhibit 7. Nursing homes' daily staffing levels often did not match their Staffing Star Ratings**



For 49 percent of days in 2018, nursing homes' daily RN staffing levels did not match their RN Staffing Star Rating.
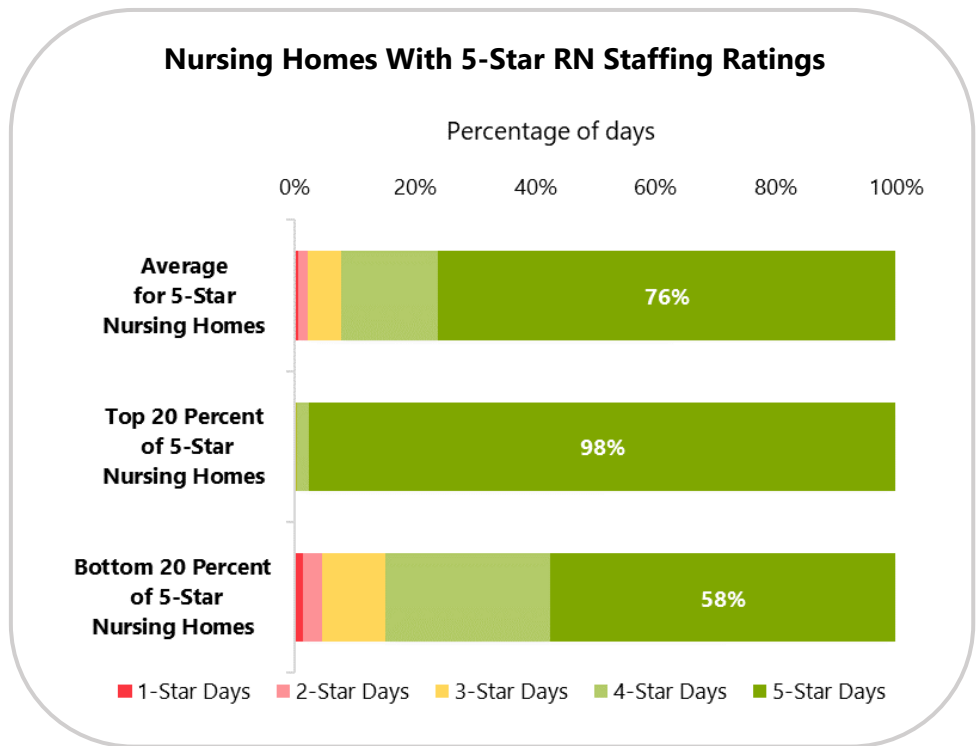
For 48 percent of days in 2018, nursing homes' daily TN staffing levels did not match their TN Staffing Star Rating.

RN pie chart: 51% Days Match; 23% Days Above RN Staffing Star Ratings; 26% Days Below RN Staffing Star Ratings

TN pie chart: 52% Days Match; 25% Days Above TN Staffing Star Ratings; 23% Days Below TN Staffing Star Ratings

**RN**          **TN**

This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.
Source: OIG analysis of 2018 PBJ data, 2019.

Even when they have the same Staffing Star Ratings, nursing homes' daily staffing levels can vary widely from one another. For example, on average in 2018, nursing homes with 5-Star RN Staffing Ratings reported staffing that corresponded to 5-Star staffing levels for 76 percent of days (see Exhibit 8). However, the top 20 percent of these nursing homes reported staffing at 5-Star levels almost every day. In contrast, the bottom 20 percent of these nursing homes reported staffing below 5-Star levels for a little less than half of the days (42 percent), including some days at the 1-Star level. Using Nursing Home Compare, consumers have no way to tell which nursing homes consistently provide staffing levels that match their Staffing Star Ratings and which ones substantially fluctuate from day to day.
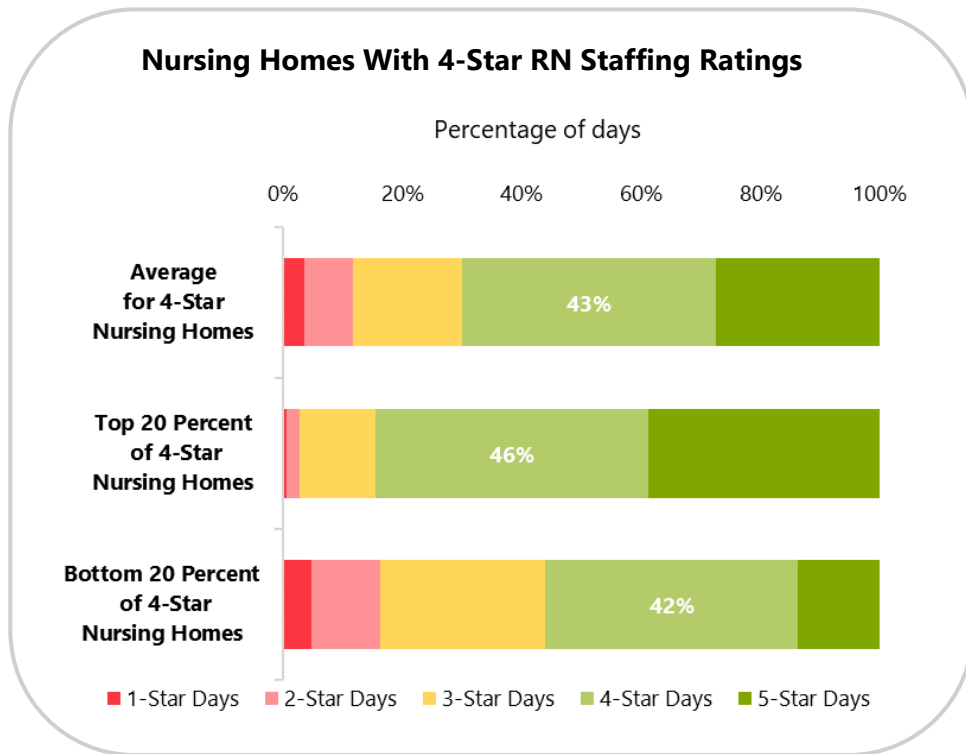
**Exhibit 8.  Nursing homes with 5-Star Staffing Ratings have substantially different patterns of daily staffing**

**Nursing Homes With 5-Star RN Staffing Ratings**

Percentage of days

| | |
|---|---|
| Average for 5-Star Nursing Homes | 76% |
| Top 20 Percent of 5-Star Nursing Homes | 98% |
| Bottom 20 Percent of 5-Star Nursing Homes | 58% |

■ 1-Star Days  ■ 2-Star Days  ■ 3-Star Days  ■ 4-Star Days  ■ 5-Star Days

This analysis is from a subpopulation of the 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018. Source: OIG analysis of 2018 PBJ data, 2019.

Nursing homes with RN Staffing Star Ratings below 5 Stars also had wide daily variability.  For example, see Exhibit 9 below for information about the daily variability among the nursing homes with 4-Star RN Staffing Ratings. Additionally, see Appendix F for day-to-day differences in staffing for each of the RN and TN Staffing Star Ratings.

**Exhibit 9.  Nursing homes with 4-Star Staffing Ratings have substantially different patterns of daily staffing**

### Nursing Homes With 4-Star RN Staffing Ratings

Percentage of days

| | |
|---|---|
| Average for 4-Star Nursing Homes | 43% |
| Top 20 Percent of 4-Star Nursing Homes | 46% |
| Bottom 20 Percent of 4-Star Nursing Homes | 42% |

0%   20%   40%   60%   80%   100%

■ 1-Star Days  ■ 2-Star Days  ■ 3-Star Days  ■ 4-Star Days  ■ 5-Star Days

The analysis is from a subpopulation of the 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018. Source: OIG analysis of 2018 PBJ data, 2019.

# CONCLUSION AND RECOMMENDATIONS

CMS has identified nurse staffing as a vital component of a nursing home's ability to provide quality care. Nursing staff are responsible for delivering care, ensuring residents' care plans are followed, and providing most of the day-to-day care for residents. This review, initiated before the COVID-19 pandemic emerged, focuses on staffing data from 2018. However, the 2020 pandemic reinforces the importance of sufficient staffing for nursing homes, as inadequate staffing can make it more difficult for nursing homes to respond to infectious disease outbreaks like COVID-19. Our analysis raises concerns about the reported daily staffing levels for some nursing homes and about how well the Staffing Star Ratings on the Nursing Home Compare website, which uses quarterly averages only, convey enough information to consumers about nursing home staffing.

Federal requirements state that nursing homes must have an RN on staff for at least 8 consecutive hours each day and a licensed nurse on staff around the clock. However, 7 percent of nursing homes reported 30 or more total days in 2018 with nurse staffing below required Federal levels. An additional 7 percent of nursing homes reported between 16 and 29 days with nurse staffing below required levels. Further, among all nursing homes, 65 percent of the days with reported staffing below required RN or licensed nurse levels occurred on weekends. This raises concerns that some of these nursing homes may not have fully met their residents' needs in 2018.

To incentivize nursing homes to staff RNs every day, CMS announced in April 2018 that it would automatically downgrade a nursing home's Staffing Star Rating to 1 Star if it reported having no RN time for at least 7 total days within a quarter. Following CMS's announcement, 27 percent fewer nursing homes reported days with no RN time. At the same time, 7 percent more nursing homes reported days with some RN time, although less than the required 8 hours per day. These trends suggest overall improvements in staffing levels. However, the nursing homes reporting days with greater than zero hours but less than the required eight hours of RN time appear to be falling short of meeting staffing requirements in ways that this penalty does not address.

Finally, we found that individual nursing homes' reported daily staffing levels did not consistently match their Staffing Star Ratings, which are based on quarterly averages. As CMS staff noted, the current Staffing Star Rating is not intended to reflect daily fluctuations in staffing. However, given that some nursing homes have considerable variation in their daily staffing levels, while other nursing homes' staffing is more consistent from day to day, this additional information could be useful to consumers. Nursing homes reporting day-to-day staffing levels that are substantially different from their current star rating may not be providing consistent care. Providing consumers with information based only on quarterly averages does not enable them to identify and consider the extent of these daily staffing differences when choosing a nursing home.

We recommend that CMS:

**Enhance efforts to ensure nursing homes meet daily staffing requirements**

CMS has taken steps to ensure that more nursing homes meet staffing requirements and should further enhance such efforts. As discussed in our findings, CMS's policy to downgrade Star Ratings for 7 or more days per quarter with no RN time resulted in a reduction in nursing homes reporting days with no RN time. Further, in 2019, CMS began using PBJ data to identify nursing homes that appeared to be understaffed on weekends. CMS provides lists of these nursing homes to State survey agencies for potential followup. The agency should build upon these efforts and further expand its use of PBJ data to ensure that more nursing homes meet staffing requirements on a consistent, day-to-day basis. For example, CMS could analyze PBJ data in ways similar to the Office of Inspector General's (OIG's) analysis for this report to determine which nursing homes appear to be falling short of daily requirements, and then target these nursing homes for further oversight. OIG will provide CMS with the list of the 943 nursing homes that reported staffing levels that did not meet CMS requirements on at least 30 days in 2018 so that CMS can review and follow up as appropriate.

**Explore ways to provide consumers with additional information on nursing homes' daily staffing levels and variability**

Information about daily staffing levels and variability could be useful to consumers when making care decisions, in addition to the information CMS currently provides on average staffing levels. Without this information, consumers have no way to tell that some nursing homes have considerable variation in their daily staffing levels while other nursing homes' staffing is more consistent from day to day. CMS staff has raised concerns about whether adding this type of information might create confusion for consumers. We recognize that avoiding consumer confusion is important. Therefore, we are recommending that CMS explore ways to provide this type of information in clear, consumer-friendly ways. For example, CMS could explore ways to show the frequency with which each nursing home reported staffing below required daily Federal levels during a given quarter or how nursing homes' weekend staffing compares to that of other nursing homes with the same Staffing Star Rating.

# AGENCY COMMENTS AND OIG RESPONSE

CMS did not explicitly agree or disagree with our recommendation to enhance efforts to ensure nursing homes meet daily staffing requirements.  Instead, CMS stated that it is working to ensure nursing homes meet daily staffing requirements.  CMS also stated that it will continue to analyze nursing home staffing and enhance its efforts accordingly.  OIG appreciates the efforts CMS has taken to ensure nursing homes meet daily staffing requirements.  OIG encourages CMS to continue to build upon these efforts and further expand its use of PBJ data to ensure that more nursing homes meet staffing requirements on a consistent, day-to-day basis.  We ask that CMS specify in its Final Management Decision how it is enhancing, or plans to enhance, these efforts.

CMS did not explicitly agree or disagree with our recommendation to explore ways to provide consumers with additional information on nursing homes' daily staffing levels and variability.  Instead, CMS stated that it regularly reviews and analyzes how to present information in clear, consumer-friendly ways on its websites and in publications.  CMS stated that it will continue to explore ways to provide nursing homes' daily staffing levels and variability in clear, consumer-friendly ways.  OIG appreciates the efforts CMS has taken and encourages CMS to provide consumers with information on nursing homes' daily staffing variability in addition to the information CMS currently provides on average staffing levels.  Consumers may benefit from having more information about daily staffing variability when making care decisions, and including this information on Nursing Home Compare may further incentivize nursing homes to provide consistent daily staffing for nursing home residents.  We ask that CMS specify in its Final Management Decision how it is providing or plans to provide consumers with additional information about staffing levels and variability.

For the full text of CMS's comments, see Appendix G.

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# DETAILED METHODOLOGY

We based this study on an analysis of nursing homes' staffing data (the PBJ) from calendar year 2018, as reported to CMS.  PBJ data contains employee-level, daily payroll records of hours that nursing home staff worked, and the data are submitted at the end of each quarter.[30]  See Exhibit 10 for specific information on the start and end dates for each quarter in our review.

**Exhibit 10.  2018 PBJ Data Reporting Periods, Data Submission Due Dates, and Dates PBJ Data Were Posted on Nursing Home Compare**

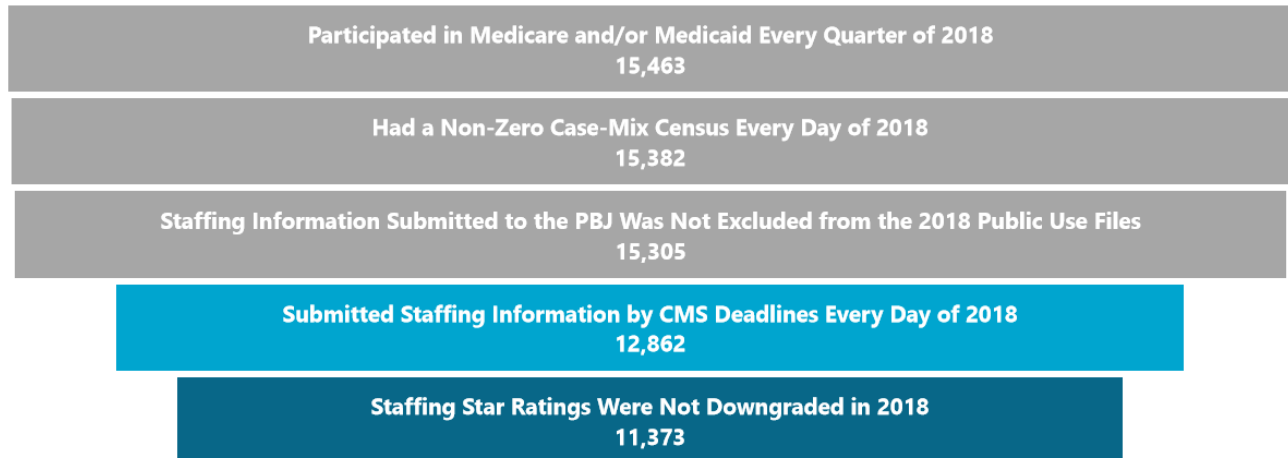| Calendar Quarter | Reporting Period Start Date | Reporting Period End Date | Reporting Period Due Date | Information Posted on Nursing Home Compare |
|---|---|---|---|---|
| Q1 | January 1 | March 31 | May 15 | Q3 2018 |
| Q2 | April 1 | June 30 | August 14 | Q4 2018 |
| Q3 | July 1 | September 30 | November 14 | Q1 2019 |
| Q4 | October 1 | December 31 | February 14, 2019 | Q2 2019 |

Source: OIG analysis of CMS data, 2019.

We also analyzed companion datasets from the Minimum Data Set (MDS) that CMS uses as it calculates staffing measures on Nursing Home Compare.  These datasets include the census information and case-mix census information of daily residents at each nursing home.  The MDS contains federally mandated clinical assessments of the needs of all residents in Medicare-certified and/or Medicaid-certified nursing homes.  Residents with similar needs are grouped into 1 of 66 unique Resource Utilization Groups (RUGs).[31]  The daily resident census is the daily sum of residents who received MDS assessments at each nursing home.[32]  The case-mix census is the daily sum of residents in each RUG.[33]

We also analyzed descriptive information about nursing homes from Certification and Survey Enhanced Provider Reporting (CASPER) data.  CASPER data includes descriptive information about nursing homes, such as Medicare and Medicaid participation and termination dates; ownership status; chain membership; and the number of beds in each home.

**Nursing Homes Included in Our Review**
We included in our review nursing homes that (1) participated in Medicare and/or Medicaid for all four quarters of 2018, (2) had a non-zero case-mix census for each day of 2018, (3) did not have their data excluded from being publicly reported because of potential unreliability, and (4) submitted all staffing information to the PBJ by CMS deadlines for each day of 2018.[34, 35, 36]  We used this subpopulation of nursing homes for our analysis on Federal requirements and trends in RN staffing levels after CMS's policy change.  We then limited this population to only those nursing homes whose Staffing Star Ratings were not downgraded to 1 Star in any quarter to compare nursing homes' daily staffing levels to their quarterly RN and TN Staffing Star Ratings.[37]  See Exhibit 11 for additional information on the number of nursing homes in our analysis.

**Exhibit 11: Number of Nursing Homes Included in Our Review**

Participated in Medicare and/or Medicaid Every Quarter of 2018
15,463

Had a Non-Zero Case-Mix Census Every Day of 2018
15,382

Staffing Information Submitted to the PBJ Was Not Excluded from the 2018 Public Use Files
15,305

Submitted Staffing Information by CMS Deadlines Every Day of 2018
12,862

Staffing Star Ratings Were Not Downgraded in 2018
11,373

Source: OIG analysis of 2018 CASPER, PBJ, and MDS data, 2019.

### Determining Reported Staffing Levels That Fell Below Federal Requirements

We determined how frequently the 12,862 nursing homes in our review reported daily staffing levels below required Federal levels for RN and licensed nurse staff.

Using CMS's methods from the *Nursing Home Compare Technical Users' Guide*, for every nursing home, we identified all RN and licensed nurse hours on each day of 2018. Then, we summed all RN hours and all licensed nurse hours for each nursing home on each day of 2018.[38]

We identified days when nursing homes reported less RN hours than Federal requirements stipulate (8 RN hours each day). We determined whether nursing homes reported at least 7.5 hours of RN services every day (CMS guidance indicates that an 8-hour RN shift should include a 0.5-hour meal break, and that nursing homes should not include the meal break in hours reported to the PBJ). We categorized days when nursing homes staffed at least 7.5 RN hours as meeting this Federal requirement. Additionally, we identified days without any reported hours for RNs.

We also identified days when nursing homes reported less licensed nurse staff than Federal requirements stipulate (around-the-clock licensed nurse staff). Because staffing data are not timestamped, PBJ data cannot indicate whether nursing homes actually provide licensed nurse services around the clock. Therefore, we determined whether nursing homes reported at least 22.5 hours of licensed nurse services every day (CMS guidance indicates that an 8-hour licensed nurse shift should include a 0.5-hour meal break, and that nursing homes should not include the meal break in hours reported to the PBJ). We categorized days when nursing homes staffed at least 22.5 licensed nurse hours as meeting this Federal requirement.

We did not assess the sufficiency of nurse staffing levels to meet residents' needs because CMS does not use the number of reported staff hours per resident (i.e., hours per resident per day, or HPRD) to define the sufficiency of nurse staffing levels. When State survey agencies inspect nursing homes, they determine whether nursing homes have sufficient staff to provide the care and services residents need.[39]

Additionally, we identified the day of the week on which these days fell. For each day of the week, we summed the number of days when nursing homes reported fewer than 8 RN hours and/or fewer than 24 hours for licensed nurse staff. We compared these rates for each day of the week.

Finally, for each nursing home, we determined the number of days that nursing homes reported fewer than 8 RN hours and/or fewer than 24 hours of licensed nurse staff. We identified nursing homes that did so for more than 30 total days in 2018, for between 16 and 29 total days in 2018, and for between 1 and 15 total days in 2018.

*Waivers From Nurse Staffing Requirements.* Nursing homes may request staffing requirement waivers that allow them to (1) have an RN on duty for less than 8 consecutive hours every day and/or (2) provide licensed nurses for less than around the clock. Of the 12,862 nursing homes' PBJ data we analyzed, 2 had RN waivers and 8 had 24-hour waivers. We did not exclude these nursing homes from our analysis of the frequency that nursing homes reported days with staffing below required levels.

## Determining Trends in Registered Nurse Staffing Levels After the Centers for Medicare & Medicaid Services' Policy Change

For each quarter in 2018, we determined how frequently the 12,862 nursing homes in our analysis reported days without any RNs. Our analysis focused on identifying the effects on reported staffing levels in the PBJ of CMS's announcement that it would automatically downgrade nursing homes' Staffing Star Ratings for reporting at least 7 days without any RN time. We identified nursing homes that reported at least 7 total days per quarter without any RN time and the number of quarters that these nursing homes did so.

Finally, to determine whether more nursing homes might shift from reporting days without any RN time to reporting days with some RN time (but still less than the required Federal levels), we identified the number of nursing homes reporting at least 1 day without any RN hours for each quarter and with more than 0 but less than 7.5 RN hours for each quarter. We reported the percentage change from Q1 2018 to Q4 2018.

## Determining When Nursing Homes' Daily Staffing Levels Did Not Match Their Quarterly Staffing Star Ratings

To determine how often nursing homes' daily staffing levels did not match their quarterly Staffing Star Ratings, we analyzed the 11,373 nursing homes (1) that reported staffing information each day of 2018; (2) had RN and TN Staffing Star Ratings; and (3) whose Staffing Star Ratings were not downgraded in any quarter in 2018.[40] Nursing homes might not have a star rating, for example, because a facility is too new to have received two standard surveys from State survey agencies.[41] We removed nursing homes with downgraded RN and/or Overall Staffing Star Ratings from this analysis because their Staffing Star Ratings may not reflect their actual staffing levels.

For each nursing home, we modified CMS's methods for calculating quarterly star ratings so that we could identify a star rating that would correspond to daily staffing levels for each nursing home with an RN or TN Staffing Star Rating. See Appendix A for more information on CMS's methods for calculating quarterly RN and TN star ratings.

We then compared the quarterly Staffing Star Ratings for each nursing home with the measure of its daily staffing for each day in 2018. We determined the number of days that nursing homes' daily RN and TN staffing levels did not match that which was indicated by their quarterly Staffing Star Ratings.[42] Our analysis takes into consideration varying Staffing Star Ratings per quarter.

*Determining When Nursing Homes' Daily Staffing Levels Were Substantially Different From Their Quarterly Staffing Star Ratings.*  To determine the extent to which daily staffing levels at nursing homes with the same RN or TN Staffing Star Ratings varied on a daily basis, we compared quarterly staffing patterns at nursing homes with the same CMS-assigned quarterly RN or TN Staffing Star Ratings.  For nursing homes with ratings of 5 Stars, 4 Stars, 3 Stars, and 2 Stars, we determined the number of days in 2018 that their daily RN and TN staffing levels were lower than that indicated by their respective quarterly Staffing Star Ratings.  For nursing homes with 1-Star quarterly Staffing Star Ratings, we determined the portion of days that daily RN and TN staffing levels corresponded to 1-Star RN and TN levels.  For example, two nursing homes could have a 5-Star RN Staffing Rating for Q1 in 2018, but one of them might staff RNs at a level corresponding to a 5-Star Rating every day in Q1, while the other nursing home does so only 60 percent of the time.  Within each RN and TN Staffing Star Rating, we grouped nursing homes into five groups (i.e., quintiles) based on the percentage of days that were either above or below their quarterly Staffing Star Rating.

## Analysis of Local Long-Term Care Ombudsman Surveys

To discuss residents' experiences, we surveyed 20 purposively selected Local LTCOs in 2019.  We obtained their perspectives on the ways the staffing fluctuations of daily nurses may affect residents in the nursing homes the Local LTCOs are responsible for monitoring.  We selected Local LTCOs responsible for monitoring nursing homes of assorted sizes, with various reported staffing levels, and that were in different parts of the United States.  All 20 Local LTCOs responded to our request.  We reviewed their responses and reported staffing issues that pertained to our analysis in the report.  See Exhibit 12 for the locations of the Local LTCOs we selected for our survey.

**Exhibit 12.  Locations and Numbers of Local LTCOs Surveyed**

| States | Number of Local LTCOs |
|---|---|
| Texas | 7 |
| California | 3 |
| Missouri | 3 |
| Illinois | 2 |
| Louisiana | 2 |
| Arkansas | 1 |
| Indiana | 1 |
| Virginia | 1 |
| Total | 20 |

Source: OIG analysis of 2018 PBJ data, 2019.

## Limitations

This analysis is based on staffing data that nursing homes submitted to the PBJ.  We did not review the adequacy of nursing homes' underlying payroll information to support reported staffing levels.

We also make no determination of compliance with Federal RN staffing requirements because PBJ data do not include unpaid hours salaried nurses may work.  Therefore, actual hours that RNs or licensed nurses actually worked at nursing homes in 2018 may be higher than our analysis reflects.  Additionally, PBJ data are not timestamped; therefore, PBJ data cannot indicate whether nursing homes actually provide licensed nurse services around the clock, as required.

We did not independently verify Local LTCO responses to our survey.

We did not assess the consistency of MDS assessment across nursing homes (i.e., whether nursing homes assessed residents' needs in comparable ways), and we did not assess the adequacy of the values in CMS's Staff Time and Resource Intensity Verification (STRIVE) Project to address residents' needs.[43]

## Standards

We conducted this study in accordance with the *Quality Standards for Inspection and Evaluation* issued by the Council of the Inspectors General on Integrity and Efficiency.

# APPENDIX A: STAFFING STAR RATINGS ON NURSING HOME COMPARE

**Centers for Medicare & Medicaid Services Calculations of the Registered Nurse and Total Nurse Staffing Star Ratings**

For each quarter, CMS awards each nursing home two separate star ratings for staffing: one for RN staffing and another for TN staffing.[44]  These staffing measures depend upon the following data sources submitted each quarter through the PBJ System (CMS's system for collecting PBJ data):

- PBJ data;
- resident census information derived from MDS assessments (the sum of residents that received MDS assessments at each nursing home)[45]; and
- case-mix census information derived from MDS assessments (the sum of residents as grouped within 66 unique RUGs, Version IV (RUG-IV group)).[46]

To determine each nursing home's RN and TN Staffing Star Ratings, CMS takes into account the number of RN and TN staff hours reported; the number of residents; and a measure of the severity of residents' health problems as determined by their RUG classification.[47]  CMS aggregates nurse staffing hours reported through the PBJ and resident census information in the MDS to calculate a ratio of staff hours to the number of patients at the nursing home on an average day.  CMS calls this RN or TN hours per resident day (HPRD).  CMS determines each nursing home's quarterly RN and TN Staffing Star Ratings by using the equation listed below.[48]

$$\left\lfloor \left( \frac{Hours\ Reported}{Hours\ Case\text{-}Mix} \right) \times Hours\ National\ Average \right\rfloor = Hours\ Adjusted$$

- <u>Hours Reported</u>: This is the sum of reported hours throughout the quarter (from the PBJ) divided by the sum of residents throughout the quarter (from the resident census).

- <u>Hours Case-Mix</u>: This is a daily estimate of the nurse staff time that CMS expects each nursing home to provide based on the severity of residents' health care needs divided by the number of residents at each nursing home.[49]  CMS calculates this figure first by using the case-mix census to identify the number of residents at each nursing home within each RUG on each day of the quarter.  Next, CMS multiplies the number of residents in each RUG-IV group by nursing time estimates from the STRIVE study.  CMS then sums all nursing hours across all days and RUG-IV groups and divides that by the number of residents in the case-mix census.  The daily estimates of RN, LPN, and Aide hours come from the STRIVE Project, and are included in Appendix A of CMS's *Nursing Home Compare Technical Users' Guide—April 2019*.

- <u>Hours National Average</u>: This is the average of quarterly RN or TN Case-Mix hours across all nursing homes.  CMS calculates this number and updates it every quarter, making it publicly available at Data.Medicare.gov.

- Hours Adjusted: This is the unit of measure used to calculate Staffing Star Ratings. It is an estimated number of hours that nurses spend with each nursing home resident on each day, adjusted based on the needs of residents so that it can be compared across nursing homes.

## Scoring Rules for Centers for Medicare & Medicaid Services Registered Nurse and Total Nurse Staffing Star Ratings

CMS assigns star ratings for both RN and TN staffing. CMS sets rating thresholds using a percentile-based method it developed that takes account of clinical evidence on the relationship between staffing and quality.[50] Each star rating has a minimum and/or maximum threshold that determines the star assigned to each nursing home, depending on that nursing homes' Hours Adjusted RN or TN HPRD (as calculated in the steps listed above).

In April 2018, CMS updated the thresholds for RN and TN Staffing Star Ratings using the RUG-IV system.[51] This change impacted the RN and TN Staffing Star Ratings for PBJ data submitted for Q1, Q2, and Q3 of 2018. CMS made further adjustments to RN and TN Staffing Star Rating thresholds in April 2019, impacting the PBJ data submitted for Q4 2018. See Exhibits A-1 and A-2 for the HPRD thresholds CMS used to assign star ratings for RN and TN staffing during 2018.

**Exhibit A-1. CMS's National Star Rating Scoring Rules for RN and TN Staffing on Nursing Home Compare for Q1, Q2, and Q3 2018**

|  | 1 Star | 2 Stars | 3 Stars | 4 Stars | 5 Stars |
|---|---|---|---|---|---|
| **RN HPRD** | **< 0.246** | **0.246–0.382** | **0.383–0.586** | **0.587–0.883** | **≥ 0.884** |
| *RN Minutes* | *< 15 minutes* | *15–23 minutes* | *23-35 minutes* | *35-53 minutes* | *≥53 minutes* |
| **TN HPRD** | **< 3.176** | **3.176 – 3.551** | **3.552 – 4.009** | **4.010 – 4.237** | **≥ 4.238** |
| *TN Minutes* | *< 190 minutes* | *190–213 minutes* | *213– 240 minutes* | *240–254 minutes* | *≥ 254 minutes* |

Source: CMS. *Nursing Home Compare Technical Users' Guide—July 2018.*

**Exhibit A-2. CMS's National Star Rating Scoring Rules for RN and TN Staffing on Nursing Home Compare for Q4 2018**

|  | 1 Star | 2 Stars | 3 Stars | 4 Stars | 5 Stars |
|---|---|---|---|---|---|
| **RN HPRD** | **< 0.317** | **0.317–0.507** | **0.508–0.730** | **0.731–1.048** | **≥ 1.049** |
| *RN Minutes* | *< 19 minutes* | *19–30 minutes* | *30-43 minutes* | *44-63 minutes* | *≥ 63 minutes* |
| **TN HPRD** | **< 3.108** | **3.108 – 3.579** | **3.580 – 4.037** | **4.038 – 4.407** | **≥ 4.408** |
| *TN Minutes* | *< 186 minutes* | *186 –215 minutes* | *215 – 242 minutes* | *242 – 264 minutes* | *≥ 264 minutes* |

Source: CMS. *Nursing Home Compare Technical Users' Guide—April 2019.*

## Centers for Medicare & Medicaid Services Calculations of Overall Staffing Star Ratings

To calculate nursing homes' Overall Staffing Star Ratings, CMS averages the RN and TN Staffing Star Ratings. For instance, if a nursing home has a 3-Star RN Staffing Rating and a 5-Star TN Staffing Rating, the overall star rating would average to a 4-Star Overall Staffing Rating. However, when the average of RN and TN Staffing Ratings is between star ratings, the Overall Staffing Rating is weighted toward the RN star rating. For example, if a nursing home earns a 5-Star RN Staffing Rating and a 4-Star TN Staffing Rating,

the average would be 4.5.  This is rounded toward the RN Staffing Star Rating value (i.e., 5 Stars); as a result, the nursing home would receive a 5-Star Overall Staffing Rating.

It is important to note that CMS reports only the Overall Staffing Star Rating and the RN Staffing Star Rating on Nursing Home Compare.[52]  The TN Staffing Star Rating is not reported on Nursing Home Compare, despite being used in Overall Staffing Star Rating calculations.

## Exceptions to Staffing Star Rating Scoring Rules

The following are exceptions to the Staffing Star Rating scoring rules described above:

- Nursing homes that fail to submit any staffing data by the required deadline will receive a 1-Star rating for the Overall and RN Staffing Star Ratings for the quarter.[53]
- CMS assigns 1-Star quarterly Overall and RN Staffing Star Ratings to nursing homes whose PBJ data indicate days within a quarter with no RN time, despite having one or more residents in the nursing home.[54]  From Q1 through Q3 2018, CMS applied this scoring rule when nursing homes reported 7 or more days with no RN time.[55]  For Q4 2018, CMS reduced the number of days to 4 or more days with no RN time.[56, 57]
- Nursing homes will receive a 1-Star rating for Overall staffing and RN staffing for 3 months if they either (1) fail to respond to CMS audits of PBJ data; or (2) have audits of PBJ data that identify significant discrepancies between the staff hours reported and the staff hours verified.[58]  The 3 months begin when the deadline to respond to CMS's audit requests passes or audit discrepancies are identified.

# APPENDIX B: NURSING HOMES REPORTING STAFFING BELOW REQUIRED LEVELS

**Exhibit B-1.  Descriptive Statistics of All Nursing Homes, Nursing Homes Reporting 1 to 29 Days With Staffing Below Required Levels, and Nursing Homes With at Least 30 Days With Staffing Below Required Levels**

| | | **All Nursing Homes** | **Nursing Homes With 1–15 Total Days With Staffing Below Required Levels** | **Nursing Homes With 16–29 Total Days With Staffing Below Required Levels** | **Nursing Homes With at Least 30 Total Days With Staffing Below Required Levels** |
|---|---|---|---|---|---|
| | **Total** | N = 12,862 | N = 5,127 | N = 900 | N = 943 |
| **Nursing Homes Reporting Days Without an RN on Staff for at Least 8 Hours** | Mean | 7 days | 5 days | 19 days | 58 days |
| | Median | 1 day | 3 days | 19 days | 45 days |
| | Range | 357 days | 15 days | 29 days | 357 days |
| **Nursing Homes Reporting Days Without Licensed Nursing Services for at Least 24 Hours** | Mean | 2 days | 1 day | 3 days | 15 days |
| | Median | 0 days | 0 days | 0 days | 1 day |
| | Range | 315 days | 15 days | 29 days | 315 days |

12,862 nursing homes
Source: OIG analysis of 2018 PBJ data, 2019.

**Exhibit B-2.  Number of Nursing Homes Reporting Staffing Below Required Levels by Type Staffing Below Required Levels**

| | Number | Percentage |
|---|---|---|
| **Nursing Homes Reporting At Least 30 Total Days With Staffing Below Required Levels** | **943** | **7%** |
| *Nursing homes with at least 30 total days without an RN on staff for 8 hours* | *817* | *6%* |
| *Nursing homes with at least 30 total days without licensed nurse services for at least 24 hours* | *153* | *1%* |
| *Nursing homes with at least 30 total days where days without an RN on staff for 8 hours and days without licensed nurse services for at least 24 hours occurred on the same day* | *74* | *<1%* |
| **Nursing Homes Reporting Between 16–29 Days With Staffing Below Required Levels** | **900** | **7%** |
| *Nursing homes with 16–29 days without an RN on staff for 8 hours* | *762* | *6%* |
| *Nursing homes with 16–29 days without licensed nurse services for at least 24 hours* | *82* | *1%* |
| *Nursing homes with 16–29 days where days without an RN on staff for 8 hours and days without licensed nurse services for at least 24 hours occurred on the same day* | *10* | *<1%* |
| **Nursing Homes Reporting Between 1–15 Days With Staffing Below Required Levels** | **5,127** | **40%** |
| *Nursing homes with 1–15 days without an RN on staff for 8 hours* | *4,927* | *38%* |
| *Nursing homes with 1–15 days without licensed nurse services for at least 24 hours* | *1,028* | *8%* |
| *Nursing homes with 1–15 days where days without an RN on staff for 8 hours and days without licensed nurse services for at least 24 hours occurred on the same day* | *565* | *4%* |
| **Nursing Homes Reporting Staffing At or Above Required Levels** | **5,892** | **46%** |
| **TOTAL** | **12,862** | **100%** |

12,862 nursing homes
Source: OIG analysis of 2018 PBJ data, 2019.

# APPENDIX C: CHARACTERISTICS OF NURSING HOMES REPORTING STAFFING BELOW REQUIRED LEVELS

| Nursing Home Characteristics | | All Nursing Homes | | Nursing Homes With At Least 1 Day With Staffing Below Required Levels | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1–15 Days With Staffing Below Required Levels | | 16–29 Days With Staffing Below Required Levels | | 30+ Days With Staffing Below Required Levels | |
| | | 12,862 | | 5,127 | | 900 | | 943 | |
| | | (n) | % | (n) | % | (n) | % | (n) | % |
| Size | <50 Beds | 1,599 | 12.43% | 747 | 14.57% | 195 | 21.67% | 248 | 26.30% |
| | 51-100 Beds | 4,932 | 38.35% | 2,264 | 44.16% | 400 | 44.44% | 454 | 48.14% |
| | 101-150 Beds | 4,260 | 33.12% | 1,644 | 32.07% | 247 | 27.44% | 195 | 20.68% |
| | 151-200 Beds | 1,388 | 10.79% | 368 | 7.18% | 51 | 5.67% | 38 | 4.03% |
| | >200 Beds | 683 | 5.31% | 104 | 2.03% | 7 | 0.78% | 8 | 0.85% |
| Urban / Rural Status | Urban | 9,218 | 71.67% | 3,374 | 65.81% | 553 | 61.44% | 559 | 59.28% |
| | Rural | 3,644 | 28.33% | 1,753 | 34.19% | 347 | 38.56% | 384 | 40.72% |
| Family Group Status* | Family Group | 2,713 | 21.09% | 960 | 18.72% | 139 | 15.44% | 139 | 14.74% |
| | No Family Group | 10,149 | 78.91% | 4,167 | 81.28% | 761 | 84.56% | 804 | 85.26% |
| Type | For-Profit | 9,073 | 70.54% | 3,724 | 72.64% | 687 | 76.33% | 720 | 76.35% |
| | Nonprofit | 2,990 | 23.25% | 1,104 | 21.53% | 151 | 16.78% | 127 | 13.47% |
| | Government | 799 | 6.21% | 299 | 5.83% | 62 | 6.89% | 96 | 10.18% |
| Medicare / Medicaid Status | Medicare / Medicaid | 12,153 | 94.49% | 4,845 | 94.50% | 857 | 95.22% | 866 | 91.83% |
| | Medicare-only | 493 | 3.83% | 178 | 3.47% | 23 | 2.56% | 32 | 3.39% |
| | Medicaid-only | 216 | 1.68% | 104 | 2.03% | 20 | 2.22% | 45 | 4.77% |
| Chain Status | Chain | 7,843 | 60.98% | 3,259 | 63.57% | 587 | 65.22% | 546 | 57.90% |
| | Individual | 5,019 | 39.02% | 1,868 | 36.43% | 313 | 34.78% | 397 | 42.10% |
| Free-Standing or Hospital-Based | Free-Standing | 12,408 | 96.47% | 4,964 | 96.82% | 882 | 98.00% | 899 | 95.33% |
| | Hospital-Based | 454 | 3.53% | 163 | 3.18% | 18 | 2.00% | 44 | 4.67% |
| Resident Group Status* | Resident Group | 12,422 | 96.58% | 4,974 | 97.02% | 866 | 96.22% | 918 | 97.35% |
| | No Resident Group | 440 | 3.42% | 153 | 2.98% | 34 | 3.78% | 25 | 2.65% |
| Staffing Waiver Status** | RN Waiver | 2 | 0.02% | 1 | 0.02% | 0 | 0.00% | 1 | 0.11% |
| | No RN Waiver | 12,860 | 99.98% | 5,126 | 99.98% | 900 | 100.00% | 942 | 99.89% |
| | 24-Hour Licensed Nurse Waiver | 8 | 0.06% | 4 | 0.08% | 0 | 0.00% | 0 | 0.00% |
| | No 24-Hour Licensed Nurse Waiver | 12,854 | 99.94% | 5,123 | 99.92% | 900 | 100.00% | 943 | 100.00% |

12,862 nursing homes. Percentages may not equal to 100.00 percent due to rounding.
*NOTE: Family groups and/or resident groups meet to discuss issues and concerns about the nursing home's policies and operations and work to ensure nursing home residents receive good-quality care.[59]
**NOTE: Nursing homes may request waivers from the staffing requirements that allow them to (1) provide less than 24 hours of licensed nursing services and/or (2) have an RN on duty for less than 8 consecutive hours every day.[60, 61]
Source: OIG analysis of 2018 CASPER and PBJ data, 2019.

# APPENDIX D: FREQUENCY OF NURSING HOMES REPORTING REGISTERED NURSE STAFFING BELOW REQUIRED LEVELS AFTER CENTERS FOR MEDICARE & MEDICAID SERVICES' POLICY CHANGE

**Exhibit D-1.** **Nursing homes reporting some RN time—but still less than 8 hours—increased by 7 percent after CMS's announced policy change.  At the same time, nursing homes reporting days** without any RN time **decreased by 15 percent.**
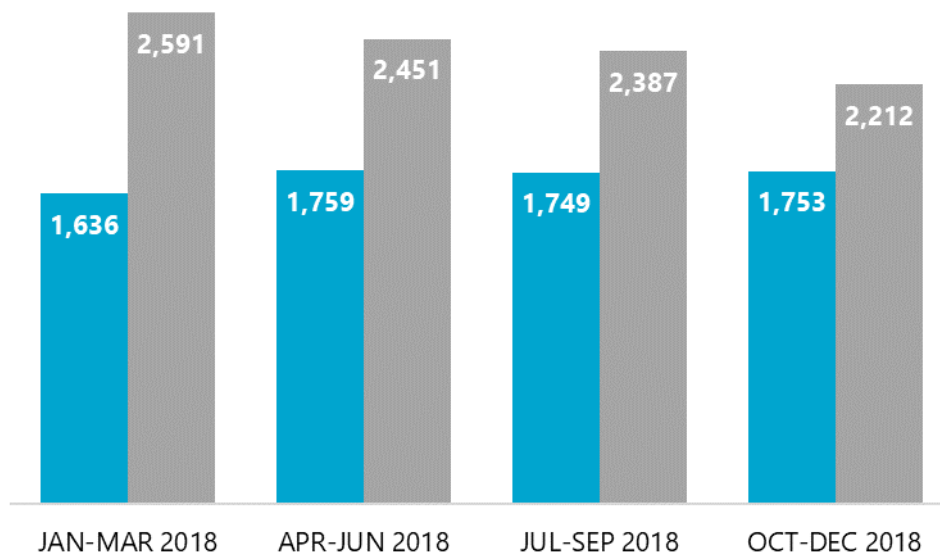


NOTE: Of the 12,862 nursing homes in our analysis, 4,736 reported days with no RN time within any quarter of 2018.  Additionally, 4,444 of the 12,683 nursing homes reported days with some RN time, but in amounts still below required levels within any quarter of 2018.
Source: OIG analysis of 2018 PBJ data, 2019.

# APPENDIX E: QUARTERLY AVERAGE PERCENTAGE OF DAYS WHEN DAILY NURSE STAFFING DID NOT MATCH STAR RATINGS
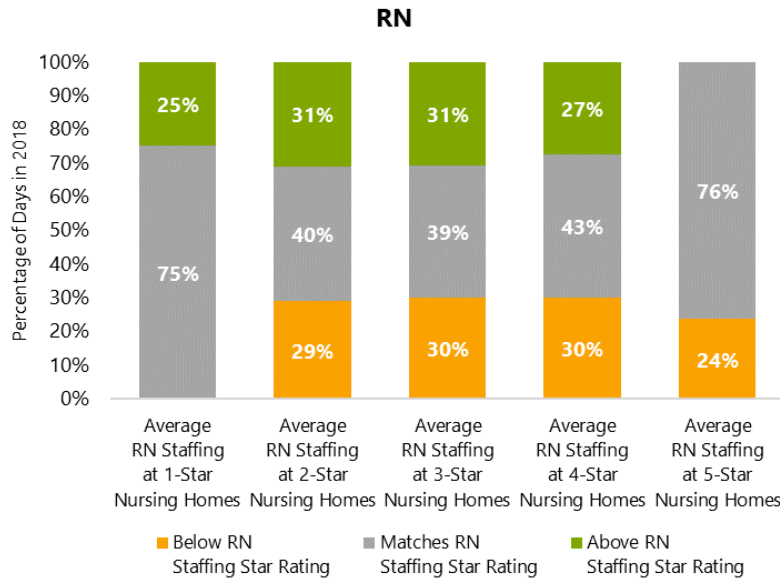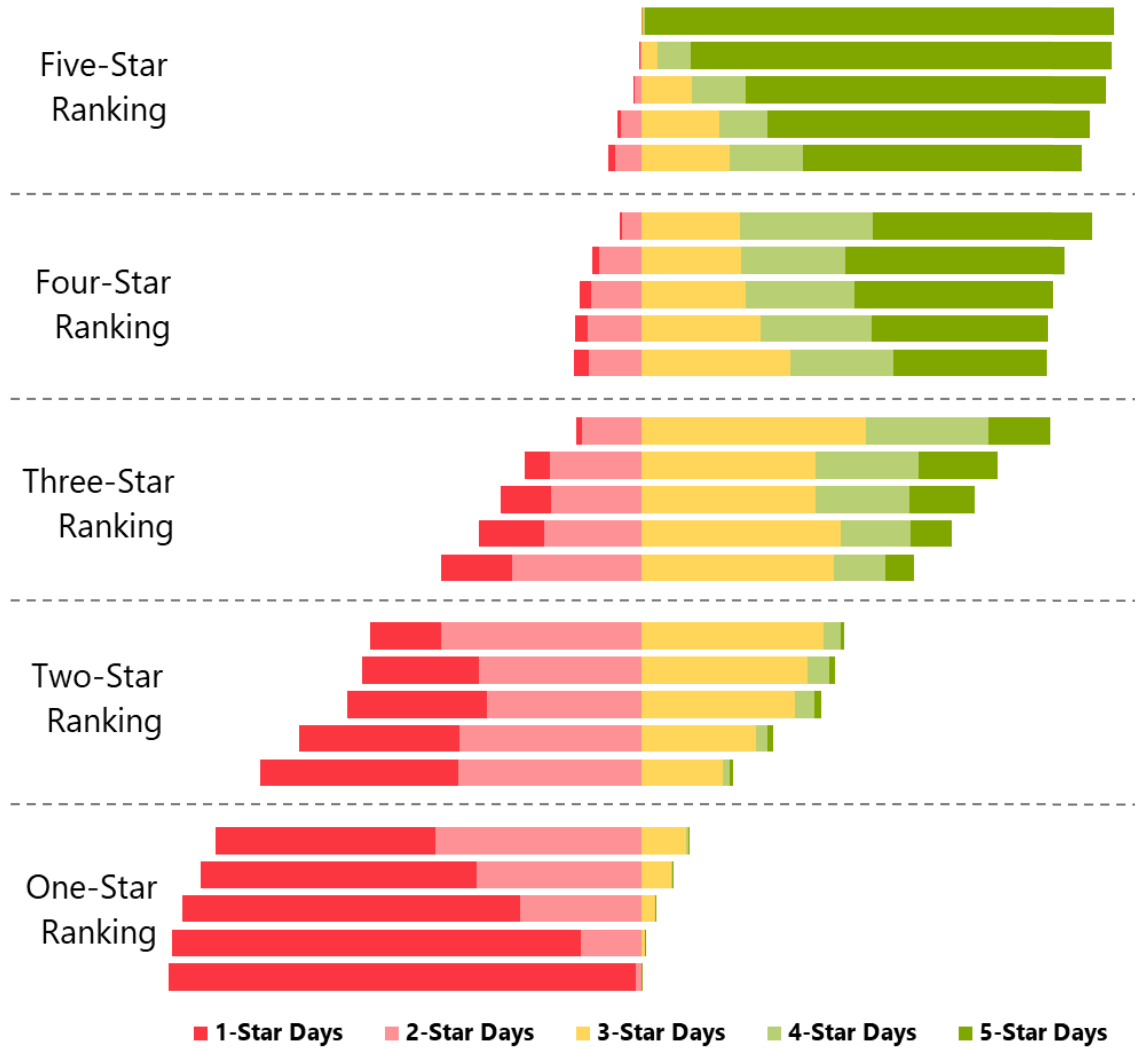
**RN**



This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.
Source: OIG analysis of 2018 PBJ data, 2019.

**TN**
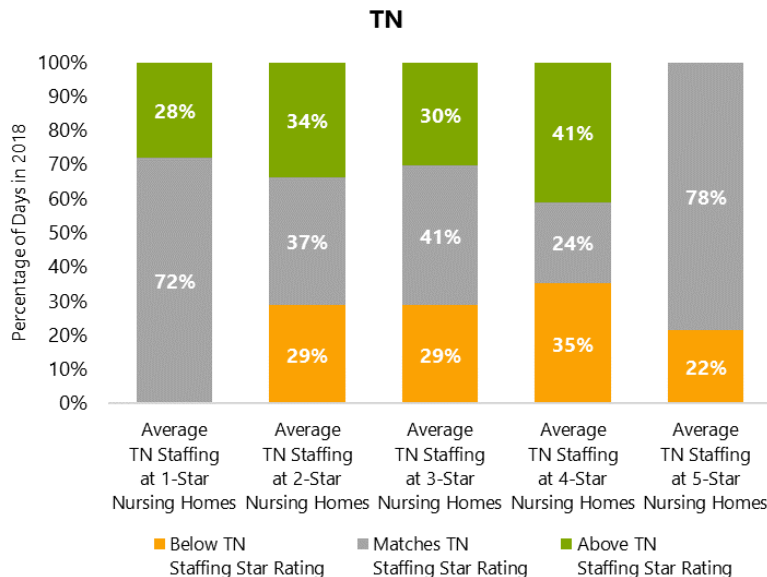


This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.
Source: OIG analysis of 2018 PBJ data, 2019.

# APPENDIX F: DAY-TO-DAY DIFFERENCES IN NURSING HOMES' STAFFING LEVELS

**Exhibit F-1.  There are considerable day-to-day differences in staffing levels among nursing homes that have the same RN Staffing Star Rating in Nursing Home Compare.**
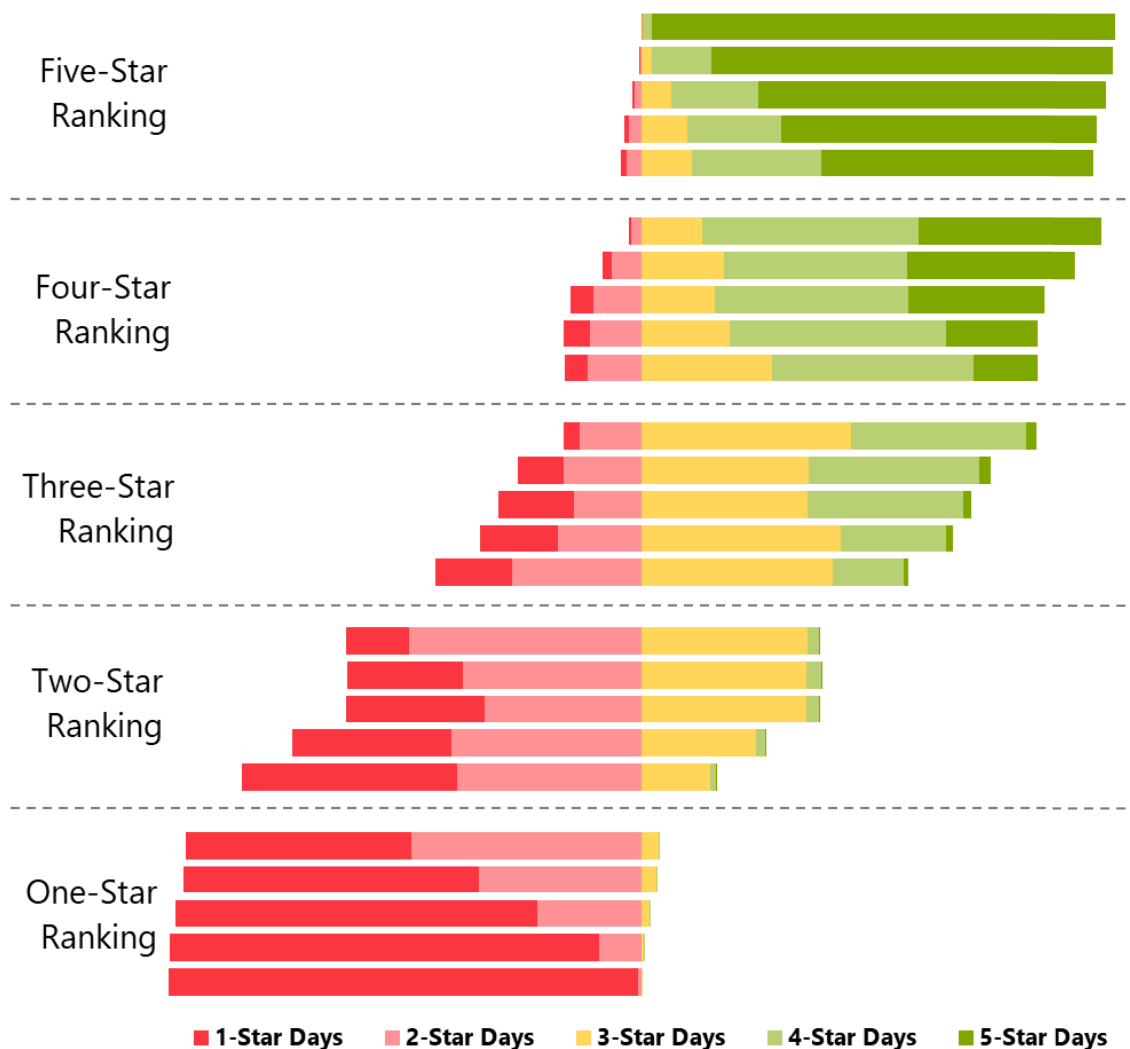


Legend: ■ 1-Star Days  ■ 2-Star Days  ■ 3-Star Days  ■ 4-Star Days  ■ 5-Star Days

This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.
NOTE: The groups of nursing homes are ranked based on the percentage of days that staffing levels were either above or below their quarterly RN Staffing Star Rating.
Source: OIG analysis of 2018 PBJ data, 2019.

**Exhibit F-2. There are considerable day-to-day differences in staffing levels among nursing homes that have the same TN Staffing Star Rating in Nursing Home Compare.**



Legend: ■ 1-Star Days ■ 2-Star Days ■ 3-Star Days ■ 4-Star Days ■ 5-Star Days

This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.

NOTE: The groups of nursing homes are ranked based on the percentage of days that staffing levels were either above or below their quarterly TN Staffing Star Rating.

Source: OIG analysis of 2018 PBJ data, 2019.

**Exhibit F-3.  Average Number of Nursing Homes by RN Staffing Star Rating on Nursing Home Compare and Number of Days Staffing Levels Corresponded to 1-Star RN Levels in 2018**

|  | 1-Star Nursing Homes | 2-Star Nursing Homes | 3-Star Nursing Homes | 4-Star Nursing Homes | 5-Star Nursing Homes |
|---|---|---|---|---|---|
| **0 Days** | 0 | 7 | 233 | 1,239 | 2,034 |
| **1–6 Days** | 0 | 50 | 858 | 1,329 | 433 |
| **7+ Days** | **789** | **1,789** | **2,034** | **542** | **36** |

This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.
Source: OIG analysis of 2018 Nursing Home Compare and PBJ data, 2019.

**Exhibit F-4.  Average Number of Nursing Homes by TN Staffing Star Rating on Nursing Home Compare and Number of Days Staffing Levels Corresponded to 1-Star TN Levels in 2018**

|  | 1-Star Nursing Homes | 2-Star Nursing Homes | 3-Star Nursing Homes | 4-Star Nursing Homes | 5-Star Nursing Homes |
|---|---|---|---|---|---|
| **0 Days** | 0 | 8 | 500 | 709 | 2,191 |
| **1–6 Days** | 0 | 42 | 992 | 502 | 444 |
| **7+ Days** | **1,757** | **2,503** | **1,569** | **117** | **39** |

This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.
Source: OIG analysis of 2018 Nursing Home Compare and PBJ data, 2019.

# APPENDIX G: AGENCY COMMENTS

**DEPARTMENT OF HEALTH & HUMAN SERVICES**

Centers for Medicare & Medicaid Services

*Administrator*
Washington, DC 20201

**DATE:** July 2, 2020

**TO:** Christi Grimm
Principal Deputy Inspector General

**FROM:** Seema Verma
Administrator

**SUBJECT:** Office of Inspector General (OIG) Draft Report: Some Nursing Homes' Reported Staffing Levels in 2018 Raise Concerns; Consumer Transparency Could Be Increased, OEI-04-18-00450

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to review and comment on the Office of Inspector General's (OIG) draft report.

CMS is charged with developing and enforcing quality and safety standards across the nation's health care system, a responsibility we take seriously. This duty is especially important when it comes to the care provided for some of the most vulnerable in our society, beneficiaries residing in nursing homes, and is especially critical now as we respond to the coronavirus disease 2019 (COVID-19) pandemic.

CMS' approach to oversight of nursing homes, including their staffing levels, is constantly evolving, and CMS is continuously looking for ways to improve our oversight approach to nursing home safety and quality. Over the past two years, CMS has undertaken a comprehensive review of its regulations, guidelines, internal structure, and processes related to safety and quality in nursing homes. To ensure that the care provided in nursing homes is of the highest possible quality, CMS has developed a five-part plan that focuses on strengthening oversight, enhancing enforcement, increasing transparency, improving quality, and putting patients over paperwork.

As the OIG acknowledges, CMS has long identified staffing as a vital component of a nursing home's ability to provide quality care, and CMS has used staffing data to more accurately and effectively gauge its impact on quality of care in nursing homes. As part of CMS' commitment to enhancing enforcement, CMS started holding nursing homes accountable for their staffing levels through a more precise staffing reporting tool, called the Payroll Based Journal (PBJ). This monitoring system allows CMS to track nursing home staffing through auditable data, which nursing homes must submit on a quarterly basis. To further increase accountability, since November 2018, CMS has shared nursing home staffing data with state survey agencies identifying nursing homes that may have potential staffing problems so they can target their reviews. In response to the COVID-19 crisis, CMS temporarily suspended PBJ reporting requirements, which is retrospective data, to redirect resources to patient safety. However, CMS recently announced that nursing homes will need to resume submitting staffing data through the PBJ system by August 14, 2020.

CMS works in partnership with State Survey Agencies (SSAs) to oversee nursing homes, since these agencies are generally also responsible for state licensure. Since November 2018, CMS has shared staffing data with SSAs so they know which nursing homes may have potential staffing problems in order to target their surveys appropriately. Prior to the COVID-19 pandemic, SSAs were conducting a portion of their unannounced surveys after-hours and on weekends to focus on staffing problems during those times. In addition, when conducting standard or complaint surveys, the SSAs would also investigate compliance with the nursing staffing requirements for those identified to have reported days of no registered nurse onsite. SSAs would take appropriate enforcement actions against those facilities that failed to provide the required nurse staffing. By targeting these surveys, CMS has been able to engage in better, stronger enforcement of staffing rules.

CMS is dedicated to empowering consumers, their families, and their caregivers by giving them the resources they need to make informed decisions, and key to our effort is our Nursing Home Compare website. Nursing Home Compare offers a wide variety of data related to nursing home quality, including nurse staffing. A facility's rating for staffing levels is one of three performance measures that make up a facility's overall rating under CMS' Nursing Home Five Star Quality Rating System. As OIG notes, to incentivize nursing homes to staff nurses every day, CMS announced in April 2018 that we would automatically downgrade a nursing home's Staffing Star Rating to the lowest one-star if it reported no registered nurse hours for at least seven days within a quarter. In April 2019, CMS strengthened our criteria, and now downgrades the Staffing Star Rating if no registered nurse hours are reported for at least four days within a quarter.[1]

CMS thanks OIG for its efforts on this issue and looks forward to working with OIG on this and other issues in the future. OIG's recommendations and CMS' responses are below.

**OIG Recommendation**
Enhance efforts to ensure nursing homes meet daily staffing requirements.

**CMS Response**
CMS is already working to ensure nursing homes meet daily staffing requirements and will continue to analyze nursing home staffing and will enhance efforts accordingly. As stated above, to incentivize nursing homes to staff nurses every day, CMS assigns a one-star staffing rating to facilities that report no registered nurse hours for at least four days within a quarter. CMS also informs state survey agencies of facilities with potential staffing issues, specifically facilities with significantly low nurse staffing levels on weekends and facilities with several days in a quarter without a registered nurse onsite, so that they can conduct targeted investigations. CMS instructed state survey agencies when conducting standard or complaint surveys to review for compliance of the nurse staffing requirements for these facilities that have been identified as having reported days without a registered nurse onsite. In addition, states are required to conduct at least 50 percent of the required off-hours surveys on weekends using the list of facilities identified with low staffing levels on weekends.

**OIG Recommendation**
Explore ways to provide consumers with additional information on nursing homes' daily staffing levels and variability.

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[1] CMS Center for Clinical Standards and Quality/Quality, Safety & Oversight Group, Memo to State Survey Agency Directors, Ref: QSO-19-08-NH, *April 2019 Improvements to Nursing Home Compare and the Five Star Rating System* (March 5, 2019)

**CMS Response**

CMS has posted the average number of staffing hours per nursing home resident per day based on PBJ data since 2018, and provides a staffing star rating for each nursing home. CMS is dedicated to empowering consumers, their families, and their caregivers by giving them the resources they need to make informed decisions. CMS regularly reviews and analyzes how to present information in clear, consumer-friendly ways on its websites and in publications. We are continually exploring ways to improve the Nursing Home Compare and the Five Star Rating System. CMS uses the average of nurse staffing reported by a facility to reflect the general level of quality and care a facility provides, and to prevent overwhelming the public with fluctuations between days, months or quarter. Information on nursing home staff census data is available online at https://data.medicare.gov/data/nursing-home-compare. CMS will continue to explore ways to provide nursing homes' daily staffing levels and variability in clear, consumer-friendly ways.

# ACKNOWLEDGMENTS

To obtain additional information concerning this report or to obtain copies, contact the Office of Public Affairs at Public.Affairs@oig.hhs.gov.

# ENDNOTES

[1] Kramer, A.M., and Fish, R., "The Relationship Between Nurse Staffing Levels and the Quality of Nursing Home Care," in *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report*, Abt Associates, Inc., Winter 2001. This study, also known as the CMS Staffing Study, found a clear association between nurse staffing and nursing home quality of care. CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf. Accessed on November 14, 2019.

[2] Additionally, we use the term "nursing homes" to refer to both Medicare Skilled Nursing Facilities and Medicaid nursing facilities.

[3] CMS, *QSO-18-17-NH Memorandum*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO18-17-NH.pdf. Accessed on September 6, 2019.

[4] Mathews, Anna Wilde, and Kamp, Jon, "Coronavirus Hits Nursing Homes Hard, as Staff Combat Infections, Shortages," *Wall Street Journal*, https://www.wsj.com/articles/coronavirus-hits-nursing-homes-hard-as-staff-combat-infections-shortages-11585250841?ns=prod/accounts-wsj. Accessed on April 7, 2020.

[5] Kenan, Joanne; Roubein, Rachel, and Luthi, Susannah, "How Public Health Failed Nursing Homes," *Politico*, https://www.politico.com/news/2020/04/06/public-health-failed-nursing-homes-167372. Accessed on April 7, 2020.

[6] CMS, "About Nursing Home Compare," https://www.medicare.gov/NursingHomeCompare/About/nhcinformation.html. Accessed on October 1, 2019.

[7] Ibid.

[8] 42 CFR §483.35. Nursing homes must also have sufficient hours of nurse services to meet residents' needs to attain or maintain practical physical, mental, and psychological well-being for each resident. We did not assess the sufficiency of nurse staffing levels to meet residents' needs because CMS does not use the number of reported staff hours per resident (i.e., Hours Per Resident per Day or HPRD) to define the sufficiency of nurse staffing levels. When State survey agencies inspect nursing homes, they determine whether nursing homes have sufficient staff to provide the care and services residents need. CMS, *State Operations Manual—Appendix PP*, https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf. Accessed on February 26, 2020.

[9] 42 CFR § 483.35(a)(1)(i) and § 483.35(b). Out of the 12,862 nursing homes we analyzed, 2 had RN waivers and 8 had 24-hour waivers.

[10] Section 6106 of the Patient Protection and Affordable Care Act instructed the Department of Health and Human Services (HHS) to require nursing homes to electronically submit this data as codified in 42 USC 1320a-7j(g) and implemented in 42 CFR 483.70(q). The Improving Medicare Post-Acute Care Transformation Act of 2014 provided funding for the creation of the PBJ.

[11] Direct care staff are those individuals who, through interpersonal contact with residents or resident care management, provide care and services to allow residents to attain or maintain the highest practicable physical, mental, and psychosocial well-being. Direct care staff does not include individuals whose primary duty is maintaining the physical environment of the long-term care facility (for example, housekeeping). CMS, *Electronic Staffing Data Submission Payroll-Based Journal: Long-Term Facility Policy Manual Version 2.5*, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/Downloads/PBJ-Policy-Manual-Final-V25-11-19-2018.pdf. Accessed on July 16, 2019.

[12] Ibid. PBJ staffing data include both full-time and part-time nursing home employees and individuals under an agency or individual contract.

[13] CMS, "About Nursing Home Compare," https://www.medicare.gov/NursingHomeCompare/About/nhcinformation.html. Accessed on October 17, 2019. CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf. Accessed on February 27, 2020.

[14] CMS Newsroom, *CMS Improving Nursing Home Compare in April 2019*, https://www.cms.gov/newsroom/press-releases/cms-improving-nursing-home-compare-april-2019.  Accessed on September 13, 2019.

[15] The other two areas that contribute to each nursing home's Overall 5-Star Rating are:
- Health Inspections: Ratings for the overall health inspection area, including the number, extent, and severity of deficiencies identified during the three most recent on-site state annual health inspections.
- Quality Measures: Ratings for the overall quality measure area are based on nursing homes' performance on 12 quality measures based on residents' MDS assessments and 5 measures based on residents' Medicare claims data.

CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on February 27, 2020.

[16] The Staffing Rating considers differences in the levels of residents' care needs in each nursing home.  For example, a nursing home with residents who have more health problems would be expected to have more nursing staff than a nursing home where the residents need less health care.  CMS, "About Nursing Home Compare," https://www.medicare.gov/NursingHomeCompare/About/nhcinformation.html.  Accessed on October 1, 2019.

[17] CMS, *QSO-18-17-NH Memorandum*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO18-17-NH.pdf.  Accessed on September 6, 2019.

[18] Kramer, A.M., and Fish, R., "The Relationship Between Nurse Staffing Levels and the Quality of Nursing Home Care," in *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report*, Abt Associates, Inc., Winter 2001; Abt Associates,  *Nursing Home Compare Five-Star Quality Rating System: Year Three Report*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/Downloads/FSQRS-Report.pdf.  Accessed on September 13, 2019.

[19] CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on September 26, 2019.

[20] The RN and TN staffing hours per resident do not necessarily show the number of nursing staff present at any given time or reflect the amount of care given to any one resident.  CMS, *QSO-18-17-NH Memorandum*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO18-17-NH.pdf.  Accessed on September 6, 2019.

[21] CMS, *QSO-18-17-NH Memorandum*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO18-17-NH.pdf.  Accessed on September 6, 2019.

[22] Ibid.  Any nursing homes with an automatically downgraded Staffing Star Rating would also have their overall (composite) rating reduced by one star.

[23] Additionally, in April 2019, CMS changed its automatic downgrade policy criterion from 7 days without any RN time to 4 days without any RN time.  CMS, *WSO-19-08-NH Memorandum*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO19-08-NH.pdf.  Accessed on October 2, 2019.

[24] Administration for Community, "Administration on Aging," https://acl.gov/about-acl/administration-aging.  Accessed on April 30, 2020.  In 2012, the creation of the Administration for Community Living (ACL) consolidated the efforts of AoA, the Administration on Intellectual and Developmental Disabilities, and the HHS Office on Disability.  AoA continues to administer the LTCOP.  ACL, "About ACL, Mission & Strategic Plan," https://acl.gov/about-acl.  Accessed on April 30, 2020.

[25] Pub. L. 95-478: Comprehensive Older Americans Act Amendments (October 18, 1978).

[26] Pub. L. 100-175: Older Americans Act Amendments of 1987 (November 29, 1987).

[27] 45 CFR Part 1324, Subpart A.

[28] Administration for Community Living, "Long-Term Care Ombudsman FAQ," https://acl.gov/programs/long-term-care-ombudsman/long-term-care-ombudsman-faq.  Accessed on February 3, 2020.

[29] CMS converts the reported nurse staffing hours into measures that indicate an average RN and TN hours per resident day (HPRD) throughout each quarter.  CMS adjusts the staffing levels for differences in the acuity of residents at each nursing home.  Each nursing home's RN and TN Staffing Star Ratings are assigned based on how its RN and TN staffing levels compare to the distribution of RN and TN staffing levels for nursing homes in the Nation.

CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on October 18, 2019; CMS, *QSO-18-17-NH Memorandum*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO18-17-NH.pdf.  Accessed on October 25, 2019.

[30] CMS, *PBJ Public Use Files Data Documentation—Payroll-Based Journal Public Use Files: Technical Specifications— April 2019*, https://data.cms.gov/Special-Programs-Initiatives-Long-Term-Care-Facili/PBJ-Public-Use-Files-Data-Documentation/ygny-gzks.  Accessed on November 22, 2019.

[31] Residents' needs are clinically assessed with MDS assessments that measure several aspects of residents' needs (i.e., acuity), such as mental and physical functioning; pain; medical diagnoses and health conditions; and medication use. Residents with similar needs are grouped into 1 of 66 unique Resource Utilization Groups (RUGs), creating a mix of residents' needs (case-mix) specific to each nursing home.  CMS, *Long-Term Care Facility Resident Assessment Instrument 3.0 User's Manual, Version 1.17.1, October 2019*, https://downloads.cms.gov/files/mds-3.0-rai-manual-v1.17.1_october_2019.pdf.  Accessed on February 20, 2020.

[32] Only residents with MDS assessments that (1) occurred in the year prior to the quarter when the census will be calculated and (2) were not discharged or deceased are included in the daily resident census.  CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on November 4, 2019.

[33] Ibid.  Residents at each nursing home included in CMS's case-mix census are those who (1) have received MDS assessments in the year prior to the quarter when the case-mix census will be calculated; (2) have been assigned to a RUG based on their health needs; and (3) were not discharged or deceased.

[34] CMS includes all nursing homes' PBJ data in the PBJ Public Use File (PUF) if the nursing homes were participating in Medicare and/or Medicaid on the last day of the quarter.  CMS excludes nursing homes from being included in the PBJ PUF for several reasons which indicate that the nursing homes' PBJ data may be unreliable.  These are (1) if average TN staffing within a quarter is less than 1.5 HPRD; (2) if average TN staffing within a quarter for both nurses and residents is greater than 12 HPRD; and (3) average Aide staffing within the quarter is greater than 5.25 HPRD. CMS, *Payroll-Based Journal Public Use Files: Technical Specifications—April 2019*.

[35] Nursing homes may be excluded from the PBJ PUF for multiple quarters within a year for other reasons, including that the nursing home did not submit information on time, did not submit MDS Census data, or may be too new to submit staffing data, among others.  CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on November 6, 2019.

[36] Nursing homes may be excluded from the PBJ PUF for multiple quarters within a year for other reasons, including that the nursing home did not submit information on time, did not submit MDS Census data, or may be too new to submit staffing data, among others.  CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on November 6, 2019.  We also removed two nursing homes that shared a unique identifier but submitted separate staffing information because including the staffing data for both nursing homes would have counted

[37] We used the Provider Information files available on Data.Medicare.gov to determine which nursing homes were not downgraded to a 1-Star RN or TN Staffing Rating in any quarter during our review period.  The Provider Information files we used populated the information on Nursing Home Compare from July, October, and January 2018, and April 2019.

[38] RN hours include hours from RNs, the RN director of nursing, and RNs with administrative duties.  Licensed nurse hours include hours from LPNs/LVNs, LPNs/LVNs with administrative duties, and any type of RN hours listed in the prior sentence.  CMS, *Nursing Home Compare Technical Users' Guide*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on October 30, 2019. The full list of PBJ job codes is available in CMS's *Electronic Staffing Data Submission Payroll-Based Journal Long-Term Care Facility Policy Manual*.  This manual is accessible at https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/Downloads/PBJ-Policy-Manual-Final-V24.pdf.

[39] CMS, *State Operations Manual – Appendix PP*, 430, https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf.  Accessed on February 26, 2020.

[40] This analysis includes only the subpopulation of 11,373 nursing homes whose Staffing Star Ratings were not downgraded to a 1-Star RN or Overall Staffing Star Rating in any quarter of 2018.

[41] CMS, *Nursing Home Compare Technical Users' Guide—July 2018*, 21.

[42] This analysis reflected CMS's changes to the Staffing Star Rating thresholds for Q4 2018.  In addition, Nursing Home Compare does not post TN Staffing Star Ratings; therefore, we assigned each nursing home a quarterly TN Staffing Star Rating.  To do so, we first, obtained the quarterly Adjusted TN HPRD for each nursing home for each quarter of 2018 from the Provider Information files available on www.data.cms.gov.  We then assigned TN Staffing Star Ratings to each nursing home for each quarter using CMS's Staffing Star Ratings thresholds, as appropriate.

[43] CMS funded a national staff time measurement study on nursing homes (i.e., the STRIVE Project) to update the RUG-III case-mix weights, which support the Medicare Skilled Nursing Facility Prospective Payment System.  The STRIVE Project's primary objective was to use resident characteristics to explain the daily cost of care.  A large part of daily care costs is nursing staff time.  Residents with similar needs may require similar resources (i.e., amounts of nurse staff time); therefore, residents with similar needs were placed into RUGs.  CMS counts the number of residents in each RUG to determine the daily case-mix census (i.e., RUG census).  CMS, *Staff Time and Resource Intensity Verification Project – Phase I Report*, https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/TimeStudy.html.  Accessed on November 13, 2019.

[44] These star ratings are based on CMS's calculation of each nursing home's quarterly average RN and TN Adjusted HPRD.

[45] The daily sum of residents at each nursing home is determined by the number of residents with MDS assessments.  CMS refers to this sum of residents as "the MDS Census."  CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on November 4, 2019.

[46] Nursing home residents are placed into RUGs using the RUG-IV classification system.  Based on residents' resource needs, the RUG-IV classification is divided into eight major categories: rehabilitation plus extensive; rehabilitation; extensive services; special care high; special care low; clinically complex; behavioral symptoms and cognitive performance; and reduced physical functioning.  Residents' needs are further differentiated between and within the eight major categories.  The RUG-IV system replaced the RUG, Version III (RUG-III) system for Medicare starting on October 1, 2010.  CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on November 13, 2019.

[47] A nursing home with residents who have more severe health problems would be expected to have more nursing staff than a nursing home with residents who have less severe health problems.  CMS "About Nursing Home Compare," https://www.medicare.gov/NursingHomeCompare/About/nhcinformation.html.  Accessed on November 13, 2019.

[48] The Nursing Home Compare Technical Users' Guide is available at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.

[49] CMS's *Nursing Home Compare Technical Users' Guide—April 2019* contains detailed instructions for calculating the quarterly RN and TN Case-Mix HPRD.

[50] CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, 10.

[51] Prior to this April 2018 change, CMS used the RUG-III risk adjustment methodology to determine nursing homes' Staffing Star Ratings.  CMS, *Memorandum – QSO-18-17-NH*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO18-17-NH.pdf.  Accessed on November 22, 2019.

[52] CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on November 22, 2019.

[53] CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on December 6, 2019.

[54] CMS, *Nursing home Compare Technical Users' Guide—July 2018*, 12; CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on December 6, 2019.

[55] CMS, *Nursing Home Compare Technical Users' Guide—July 2018*, 12.

[56] CMS, *QSO Memorandum QSO19-08-NH*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO19-08-NH.pdf.  Accessed on December 6, 2019.

[57] CMS, *Nursing Home Compare Technical Users' Guide—April 2019*, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/usersguide.pdf.  Accessed on December 6, 2019.

[58] Ibid.

[59] CMS, *Your Rights and Protections as a Nursing Home Resident*, https://downloads.cms.gov/medicare/Your_Resident_Rights_and_Protections_section.pdf.  Accessed on November 24, 2019.

[60] 42 CFR §483.35(e)-(f).

[61] States may grant Medicaid-certified nursing home waivers from all nursing services requirements, and the HHS Secretary may grant waivers from the daily 8-consecutive-hour RN requirement to (1) nursing homes participating only in Medicare; and (2) nursing homes participating in both Medicare and Medicaid.  The HHS Secretary delegates authority to grant waivers, and this authority differs by facility certification type.  For example, the State has authority to grant waivers for nursing homes that are only Medicaid-certified, and CMS has authority if the facility participates in both Medicare and Medicaid.  CMS, *State Operations Manual – Appendix PP*, 444.  To be eligible for staffing waivers, the facility must (1) be located in a rural area with a shortage of skilled nurses, (2) have one full-time RN on duty for 40 hours per week, and (3) demonstrate an inability to recruit appropriate personnel.  Additionally, the agency granting the waiver must notify the State Long Term Care Ombudsman (State LTCO) and the State's protection and advocacy system for individuals with mental disorders.  Nursing homes that have been granted waivers must notify residents.