Centers for Medicare & Medicaid Services
Submitted electronically, https://www.regulations.gov

June 9, 2022

Re: CMS-1765-P, Medicare Program; Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities; Updates to the Quality Reporting Program and Value-Based Purchasing Program for Federal Fiscal Year 2023; Request for Information on Revising the Requirements for Long-Term Care Facilities to Establish Mandatory Minimum Staffing Levels,

87 Fed. Reg. 22720 (Apr. 15, 2022), https://www.govinfo.gov/content/pkg/FR-2022-04-15/pdf/2022-07906.pdf

Dear CMS Administrator and Brooks-LaSure and CMS Colleagues:

We are writing as a group of geriatric nursing home experts with many years of experience in nursing home research and/or clinical practice and administration. Collectively, we have conducted many research studies on nursing homes and nursing home staffing, written many papers and reports on nursing and nursing home standards, and served on many expert panels and committees for government, foundations, the National Academy of Science, Engineering, and Medicine, and professional organizations. **We strongly recommend that CMS make changes to its Medicare nursing home payment system and establish mandatory minimum staffing standards along with specific guidelines for staffing levels based on resident acuity.**

Requests for Information: Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities

In general, the prospective payment system (PPS) lacks adequate financial reporting and accountability. The Affordable Care Act (ACA) required detailed Medicare nursing home cost reports, including expenditures for staff wages and benefits and separated costs for direct and indirect care, capital costs, and administrative costs that include owners' profits. Medicare cost report data are not audited and penalties are not issued for failure to report. In other words, the Medicare prospective payment system allocates funds for expected costs but does not impose audit requirements or ensure that funds are expended as allocated. The Government Accountability Office (GAO) recommended that CMS take steps to ensure that cost data are reliable and made readily accessible to public stakeholders.[1] Audits of cost reports are

[1] U.S. Government Accountability Office (US GAO). *Skilled nursing facilities: CMS should improve accessibility and reliability of expenditure data.* GAO-16-700. Washington, D.C.: GAO, September, 2016.

needed and penalties should be instituted for inaccurate nursing home ownership and cost data.

We urge CMS to establish a medical loss ratio to assure that expenditures benefit residents. Under the ACA, insurers must spend a certain percentage of their premium on health care claims or quality improvement. This percentage, known as a medical loss ratio (MLR), is set at 85 percent for the large group market and defines the proportion of revenues to be spent on - services versus administration and profits. The nation's nursing homes have high administrative costs and profits. California 2018 nursing home cost reports showed a total of 23 percent of net nursing home revenues were spent on administration and profits, not accounting for the hidden profits from third party contracts.[2] A medical loss ratio similar to that imposed at the federal level for private health insurance companies by the Affordable Care Act, could be imposed on nursing homes.

Since the vast majority of nursing home revenues are from Medicare and Medicaid, the total amount of administration and profits could be limited to 10-15 percent of net income annually. A medical loss ratio of 85 percent could save payers billions of dollars and ensure that funds are used for direct care services. New Jersey adopted such a law called "direct care ratio" in the fall of 2020.[3] In addition, New York and Massachusetts also adopted a direct care ratio and California is considering such legislation. By limiting administrative costs and profit taking, nursing homes can reallocate its revenues to nursing, ancillary, and support services. CMS is well aware that nursing homes are not using funding to provide staffing and other services under the PPS system. CMS should take action to make its nursing home Medicare payment system more accountable.

II. Background on SNF PPS
SNF Market Basket Index 6. Federal Per Diem Rates for FY 2023

CMS establishes federal per diem rates for FY 2023 that are either unadjusted and adjusted for case-mix with differentials for urban and rural areas. For the unadjusted rates, PT, OT, SLP, and NTA rates are all higher in rural areas than in the urban area (See Tables 3 and 4). In contrast, the nursing rates are higher in urban areas than in rural areas. For the case-mix adjusted rates (shown on Table 5 and 6), the PT, OT, SLP, and **nursing** rates are all higher in the urban areas than in the rural areas. This builds in an inequity between urban and rural that can have very negative consequences for rural nursing homes.

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[2] Harrington, C., Ross, L., Mukamel, D., and Rosenau, P. Improving the Financial Accountability of Nursing Facilities. Report prepared for the Kaiser Commission on Medicaid and the Uninsured, Washington, DC: Kaiser Commission on Medicaid and the Uninsured, June, 2013. http://kff.org/medicaid/report/improving-the-financial-accountability-of-nursing-facilities/

[3] New Jersey. Assembly, No. 4482, 219th Legislature. *Establishes minimum wage requirements for certain long-term care facility staff; establishes direct care ratio requirements for nursing homes; requires nursing home care rate study.* 2020-09-16, executive: Approved P.L.2020, c.89. https://fastdemocracy.com/bill-search/nj/219/bills/NJB00038520/

We are concerned that CMS federal per diem rates for nursing home staff may be exacerbating the inequities and shortages between rural and urban nursing homes and hospitals. In March, 2022, 28% of nursing facilities reported at least one staffing shortage (approximately 3,900 out of 14,000 facilities) according to a Kaiser Family Foundation (KFF) study.[4] The current rate, 28%, is higher than the rate reported in May 2020, when 21% of nursing facilities reported at least one type of staff shortage**.** Nursing facilities were most likely to report a shortage of aides and least likely to report a shortage of clinical staff but the staffing shortages vary widely across states. According to KFF, the five states with the highest shares of nursing facilities reporting any staffing shortages include Alaska (80%), Minnesota (64%), Maine (59%), Kansas (58%), and Wyoming (56%). Staff shortages in rural areas may be due to a number of factors, but certainly include wages. A recent study concluded that complex labor pool challenges "require complex solutions:" including " better wages, better health insurance, and better pensions, as well as improved training, supervision, and mentoring." [5]

Nursing facilities compete for RNs with hospitals in both rural and urban areas, and yet the annual mean wage for registered nurses in general medical and surgical hospitals in May 2021 was $85,020 and for RNs in nursing facilities and skilled nursing facilities, $72,260.[6] Most resident care is provided by nursing assistants who make minimum wages. CNAs made an average of $14.41 per hour or $32,090 per year in 2020 in nursing homes, or 84 percent of hospital wages. [7] In comparison, CNAs working in hospitals made $17.25 per hour or $35,180 annually.[8]

By creating an inequity in wages for rural nurses, staff shortages and worker turnover are worsened. CNA median wages are lower than for comparable entry level jobs as janitors, retail sales persons and customer service representatives and wages are less than a dollar higher than those for housekeepers, groundskeepers and food preparation workers.[9] Many staff in nursing homes work more than one job because their work is only part-time and/or is too poorly paid.

We urge CMS to remove the wage differentials that favor urban markets over rural markets for nursing staff in nursing homes. While general wages for workers in rural areas

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[4]Ochieng, N, Chidambaram, P., Musumeci, M. (2022). Facility staffing shortages during the COVID-19 pandemic. Kaiser Family Foundation. Apr 04, 2022. https://www.kff.org/coronavirus-covid-19/issue-brief/nursing-facility-staffing-shortages-during-the-covid-19-pandemic/?eType=EmailBlastContent&eId=17377950-cf9a-4971-bfa2-31596688f7f4Nursing

[5] Towsley, G.L., Beck,S.L., Dudley,W.N., Pepper, G.A. Staffing Levels in Rural Nursing Homes. Gerontological Nursing, 2011: 4(3) 1-14, https://libres.uncg.edu/ir/uncg/f/W_Dudley_Staffing_2011.pdf

[6] Bureau of Labor Statistics. National Industry-specific Occupational Employment and Wage Estimates. NAICS 623000. https://www.bls.gov/oes/current/oes291141.htm

[7] Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Nursing Care Facilities, May 2021. https://www.bls.gov/oes/current/naics4_623100.htm

[8]Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Hospitals, May 2021. https://www.bls.gov/oes/current/naics3_622000.htm

[9] PHI Competitive Disadvantage: Direct care wages are lagging behind. (2020). New York, NY. file:///J:/PHI%20Competitive-Disadvantage-2020-PHI.pdf

may be lower, CMS needs to take other factors into account including labor shortages and the fact that nurses are highly mobile and can move to urban areas thus creating even greater shortages.

III. D. Wage Index Adjustment (p. 22728)

For more than 20 years, since PPS was first implemented for SNFs, CMS has used the **hospital inpatient wage data** to develop a SNF wage index. CMS's rationale is that there was no specific SNF-wage index.

This statement by CMS is not accurate. The Bureau of Labor Statistics in the Department of Labor reports National Industry-Specific Occupational Employment and Wage Estimates and includes a category NAICS 623000 for Nursing and Residential Care Facilities and makes wage estimates available.[10] By using hospital nursing wages instead of nursing home wages, CMS is not holding SNFs accountable for the excess revenue they are receiving and not passing on to staff because hospitals pay 15 percent higher wages than SNFs for RNs as well as other nursing staff.

The Bureau of Labor Statistics reports that the annual mean wage for registered nurses in general medical and surgical hospitals in May 2021 was $85,020 and for RNs in nursing facilities and skilled nursing facilities, $72,260.[11] Specifically, the average RN wages per hour in nursing homes was $ 34.74 per hour (only 85 percent) compared to $ 40.88 for RN hourly hospital wages nationally in 2021.[12]

Most resident care is provided by nursing assistants who make minimum wages. CNAs made an average of $14.41 per hour or $32,090 per year in 2020 in nursing homes, or 84 percent of hospital wages. [13] In comparison, CNAs working in hospitals made $17.25 per hour or $35,180 annually.[14] CNA median wages are lower than for comparable entry level jobs for janitors, retail sales persons and customer service representatives and wages are less than a dollar higher than those for housekeepers, groundskeepers and food preparation workers.[15] Many staff in nursing homes work more than one job because their work is only part-time and/or is too poorly paid.

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[10] Bureau of Labor Statistics. National Industry-specific Occupational Employment and Wage Estimates. NAICS 623000. May 2021. https://www.bls.gov/oes/current/naics3_623000.htm. NAICS 623100 is Nursing Care Facilities (Skilled Nursing Facilities), https://www.bls.gov/oes/current/naics4_623100.htm

[11] Bureau of Labor Statistics. National Industry-specific Occupational Employment and Wage Estimates. NAICS 623000. May 2021. https://www.bls.gov/oes/current/oes291141.htm

[12] Bureau of Labor Statistics. Occupational Employment and Wages, May 2021 29-1141 Registered Nurses. htm https://www.bls.gov/oes/current/oes291141.htm

[13] Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Nursing Care Facilities, May 2021. https://www.bls.gov/oes/current/naics4_623100.htm

[14]Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Hospitals, May 2021. https://www.bls.gov/oes/current/naics3_622000.htm

[15] PHI Competitive Disadvantage: Direct care wages are lagging behind. (2020). New York, NY. file:///J:/PHI%20Competitive-Disadvantage-2020-PHI.pdf

Between 2009 and 2018, the average wage increase for nursing assistants was 4 percent adjusted for inflation. More than 30 percent of nursing assistants made less than $15,000; 68 percent made less than $30,000 per year. Altogether, 15 percent of nursing home workers live in poverty, e.g. living below 100 percent of the federal poverty level, while 44 percent live below 200 percent of the poverty line.[16] Moreover, long term care workers have significantly lower wages than other health workers and are about twice as likely to live in poverty as other health workers.[17] Low-skill long term care workers are also spending more time on paid and unpaid responsibilities such as working, commuting to work, and household and child care activities.[18] [19] As a result, many nursing home workers are working in more than one facility which was found to be a factor that increased the spread of COVID-19 across nursing facilities during the pandemic.[20]

At the current time, there is a shortage of RNs and nursing staff who are willing to work in nursing homes. This is because the wages and benefits are so much lower than the wages and benefits for hospital nursing staff. The complex older adults who are transferred from an acute hospital to a SNF deserve and should expect the same skills and competencies from nursing staff. There should therefore be no wage differential between these two settings.

We strongly urge that nursing homes should pay parity wages with hospitals because they are providing care for the same highly complex patients and they are competing for staff. In implementing parity wages as recommended, Medicare should require SNFs to pay wages at the level for which they are reimbursed. CMS has a duty to ensure that its funds are properly used by providers. CMS should make reimbursement conditional on wage rates being passed through to SNF nursing staff.

V. C. Recalibrating the PDPM Parity Adjustment (p. 22737)

When CMS implemented the Patient Driven Payment Model (PDPM) in October 2019, it intended that the new prospective payment system would be budget-neutral. Instead, as CMS reported in the Notice of Proposed Rulemaking in 2021, PDPM resulted in significantly higher payments to skilled nursing facilities in the first year of its implementation. What is most disturbing about this is the fact that despite higher revenues, therapy staffing was reduced

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[16] PHI. It's time to care: A detailed profile of America's direct care workforce. Bronx, NY: PHINational. January, 2020 https://phinational.org/wp-content/uploads/2020/01/Its-Time-to-Care-2020-PHI.pdf .

[17] PHI. It's time to care: A detailed profile of America's direct care workforce. Bronx, NY: PHINational.org, January, 2020. https://phinational.org/wp-content/uploads/2020/01/Its-Time-to-Care-2020-PHI.pdf

[18] True, S., Cubanski, J. Garfield, R., Rae, M., Claxton, G., Chidambaram, P., and Orgera, K. *COVID-19 and workers at risk: Examining the long-term care workforce.* Kaiser Family Foundation, Apr. 23, 2020. https://www.kff.org/medicaid/issue-brief/covid-19-and-workers-at-risk-examining-the-long-term-care-workforce.

[19] Muench, U., Jura, M., Spetz, J., Mathison, R. & Harrington, C. Financial vulnerability and worker well-being: A comparison of long-term services and supports workers with other health workers. *Medical Care Research and Review.* 2020. DOI: 10.1177/1077558720930131

[20] Centers for Disease Control and Prevention. COVID-19 in a long-term care facility – King Country, Washington, February 27-March 9, 2020. *Morbidity and Mortality Weekly Report.* 2020: 69, March 18.

without a concomitant increase in nurse staffing.[21] Because of the COVID-19 pandemic and the public health emergency, CMS did not recalibrate Medicare payment rates in 2021. This year, CMS proposes to recalibrate Medicare rates by 4.6% (less than the percentage identified by CMS), $1.7 billion. **We fully support this appropriate adjustment because it is appropriate and it is mostly offset by the CMS proposed increase in the market basket. On the other hand, if accountability to mandatory staffing levels can be achieved, it is possible that these funds should be used to assure appropriate staffing levels.**

VI. Skilled Nursing Facility Quality Reporting Program (SNF QRP)
F. Inclusion of the CoreQ: Short Stay Discharge Measure in a Future SNF QRP Program Year – Request for Information (RFI), p. 22761

We strongly oppose use of the CoreQ short stay discharge measure, which was developed by the American Health Care Association. The four questions are too vague to provide useful information, the process excludes many individuals who may have negative feelings about their nursing home experience, and the grading scale includes three "positive" choices, one average and one negative choices, and no neutral middle choice, despite the use of a five-point scale.[22] By eliminating a neutral middle, as is typical in a five-point scale, the grading system deliberately skews the results towards positive. CoreQ has not been adequately tested for reliability nor has it been tested to determine if it produces valid data. Coming up with a single score is meaningless. How can former residents rate their "discharge needs" (Question 4) if they do not know what the requirements for discharge planning actually are and what their facility should have provided? What would be the basis of such an opinion?

In its recent report on nursing homes, the National Academy of Sciences, Engineering, and Medicine (NASEM) wrote:[23]

> In parallel with federal and state efforts, the nursing home industry has developed and implemented its own measures of resident and family satisfaction. For example, CoreQ, endorsed by the American Health Care Association, has three versions: long-term care residents, long-term care family, and short-stay discharged patients. (Castle et al., 2020; CoreQ, 2019; Schwartz, 2021). Each version consists of three or four general questions that focus less on rating the quality of resident experience and more on summative satisfaction ratings. Another example of an industry-developed tool is NRC Health's My Inner View Customer Satisfaction Survey (NRC Health, 2021). Many nursing homes promote and advertise high scores from self-designed and administered surveys of their residents. However, consumer advocates and survey methodologists have raised

[21] McGarry BE, White EM, Resnik LJ, Rahman M, Grabowski DC. Medicare's New Patient Driven Payment Model Resulted In Reductions In Therapy Staffing In Skilled Nursing Facilities. Health Aff (Millwood). 2021 Mar;40(3):392-399. doi: 10.1377/hlthaff.2020.00824. Erratum in: Health Aff (Millwood). 2021 Apr;40(4):682. PMID: 33646861.
[22] American Health Care Association. CoreQ User's Manual. http://www.coreq.org/CoreQ%20Satisfaction%20Questionnaire%20and%20User%20Manual.pdf
[23] National Academy of Sciences, Engineering and Medicine, *The National Imperative to Improve Nursing Home Quality: Honoring Our Commitment to Residents, Families, and Staff*, p. 111 (2022).

concerns that item wording and the choice of response formats may increase the tendency of respondents to provide socially appropriate response choices and thus provide only minimal variation in the scale (Bowling, 2005; Dillman et al., 2014; Nadash et al., 2019)

The NASEM Committee did not endorse CoreQ, but, instead, recommended adding the Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures of resident and family experience (i.e., the nursing home CAHPS surveys) to Care Compare. Recommendation 6A, p. 511.

We strongly urge CMS to use the CAHPS measure which has been thoroughly tested for reliability and validity. Moreover, we urge that CMS establish an independent contractor to conduct in-person interviews of residents in order to assure the collection of a random sample of residents. Nursing home residents require in-person interviews for data collection because many residents have vision, hearing, and cognitive problems. If nursing homes are allowed to collect their own data, results could be easily distorted.

VII. Skilled Nursing Facility Value-Based Purchasing Program
C. Proposal to Adopt the Total Nursing Hours per Resident Day Staffing Measure Beginning with the FY 2026 SNF VBP Program Year, p. 22771

We support the proposal to report the structural measure of total nursing hours per resident day for the VBPP. However, we strongly recommend that total RN hours be used in addition to total nursing hours because research has shown RN hours to be the strongest measure in terms of protecting the health and safety of residents. Nurse staffing levels are far more important to residents' quality of care and quality of life than most of the current VBPP measures.

Many studies have found a strong relationship between nursing staffing levels and improved quality of care in terms of both process and outcome measures.[24] [25] [26] [27] [28] The strongest relationships are between RN staffing levels and quality outcome measures.[29] Studies have shown that higher nurse staffing levels are associated with improved resident outcomes,

[24] Castle, N. Nursing home caregiver staffing levels and quality of care: A literature review. *Journal of Applied Gerontology,* 2008: *27*: 375-405.
[25] Dellefield, M.E., Castle, N.G., McGilton, K.S., & Spilsbury, K. The relationship between registered nurses and nursing home quality: An integrative review (2008-2014). *Nursing Economic$*, 2015: 33 (2):95-108 and 116.
[26] Castle, N.G. & Anderson, R.A. Caregiver staffing in nursing homes and their influence on quality of care. *Medical Care*, 2011: 49 (6):545-552.
[27] Castle, N., & Engberg, J. Further examination of the influence of caregiver staffing levels on nursing home quality. *Gerontologist*, 2008: 48: 464-76.
[28] Schnelle, J.F., Simmons, S.F., Harrington, C., Cadogan, M., Garcia, E., & Bates-Jensen, B. Relationship of nursing home staffing to quality of care? *Health Services Research, 2004:* 39 (2):225-250.
[29] Dellefield, M.E., Castle, N.G., McGilton, K.S., & Spilsbury, K. The relationship between registered nurses and nursing home quality: An integrative review (2008-2014). *Nursing Economic$*, 2015: 33 (2):95-108 and 116.

including: better functional improvement,[30] [31] [32]and reduced incontinence,[33] urinary tract infections and catheterizations,[34] [35] [36] [37] pain,[38] pressure ulcers;[39] [40] [41] [42] [43] [44] weight loss and

[30] Horn, S.D., Sharkey, S.S.. Hudak, S., Smout, R.J., Quinn, C.C., Yody, B. and Fleshner, I. Beyond CMS Quality Measure Adjustments: Identifying Key Resident and Nursing Home Facility Factors Associated with Quality Measures. *J. American Medical Directors Association. 2010:* 11 (7):500-5.

[31] Alexander, G.L. An Analysis of Nursing Home Quality Measures and Staffing. *Quality Management in Health Care.* 2008: 17 (3):242-51.

[32] Horn, S.D., Buerhaus, P., Bergstrom, N., Smout, R.J. RN staffing time and outcomes of long-stay nursing home residents: pressure ulcers and other adverse outcomes are less likely as RNs spend more time on direct patient care. *Am J Nurs.* 2005: 105(11):58-70.

[33] Dorr, D.A., Horn, S.D., & Smout, R.J. Cost analysis of nursing home registered nurse staffing times. *J. of Amer Geriatrics Society,* 2005: 53: 840-845.

[34] Castle, N.G. & Anderson, R.A..

[35] Horn, S.D., Buerhaus, P. et al.

[36] Dorr et al.

[37] Wan, T.T.H., Zhang, N.J. & Unruh, L. (2006). Predictors of resident outcome improvement in nursing homes. *Western J. Of Nursing Research.* 28 (8):974-993.

[38] Castle, N.G. & Anderson, R.A..

[39] Castle, N.G. & Anderson, R.A..

[40] Alexander, G.L

[41] Horn, S.D., Buerhaus, P. et al.

[42] Dorr et al.

[43] Lin, H. Revisiting the relationship between nurse staffing and quality of care in nursing homes: An instrumental variables approach. *J. of Health Economics,* 2014: 37: 13-24.

[44] Horn, S.D., Bender S.A., Ferguson, M.L., Smout, R.J. et al. The national pressure ulcer long-term care study: Pressure ulcer development in long-term care residents. *J. American Geriatrics Society, 2004:* 52: 359-367.

dehydration,[45] [46] [47] [48] use of antipsychotics,[49] [50] restraint use,[51] [52] [53] infections,[54] [55] falls,[56] [57] rehospitalization and emergency department use,[58] [59] [60] [61]missed care,[62] [63] adverse outcomes,[64]

[45] Horn, S.D., Buerhouse, P. et al.

[46] Simmons, S.F., Schnelle, J.F. Individualized feeding assistance care for nursing home residents: staffing requirements to implement two interventions. *J Gerontol A Biol Sci Med Sci.* 2004: 59(9):M966-73.

[47] Simmons, S.F., Keeler, E., Zhuo, X., Hickey, K.A., Sato, H.W., Schnelle, J.F. Prevention of unintentional weight loss in nursing home residents: a controlled trial of feeding assistance. *J Am Geriatr Soc. 2008:* Aug;56(8):1466-73.

[48] Horn, S.D., Bender S.A. et al.

[49] Horn, S.D., Bender S.A. et al.

[50] Phillips, L.J., Birtley, N.M., Petroski, G.F., Siem, C., Rantz, M. An observational study of antipsychotic medication use among long-stay residents without qualifying diagnoses. J. *Psychiatry Mental Health Nursing.* 2018: 25(8):463-474.

[51] Castle, N.G. & Anderson, R.A

[52] Wan, T.T.H., et al,

[53] Park, J. and Stearns S.C. Effects of state minimum staffing standards on nursing home staffing and quality of care. *Health Serv Res.* 2009: 44(1):56-78.

[54] Uchida-Nakakoji, M., Stone, P. W., Schmitt, S. K., & Phibbs, C. S. Nurse workforce characteristics and infection risk in VA Community Living Centers: A longitudinal analysis. *Medical Care*, 2015: **53**, 261–267.

[55] Trivedi, T.K., DeSalvo, T., Lee, L., Palumbo, A., Moll, M., Curns, A., Hall, A.J., Patel, M., Parashar, U.D., Lopman, B.A. Hospitalizations and mortality associated with norovirus outbreaks in nursing homes, 2009-2010. *JAMA.* 2012: Oct 24;308(16):1668-75.

[56] Leland NE, Gozalo P, Teno J, Mor V. Falls in newly admitted nursing home residents: a national study. *J Am Geriatr Soc.* 2012: 60(5):939-45.

[57] Spector, W., Shaffer, T., Potter, D.E., Correa-de-Araujo, R., Rhona Limcangco, M. Risk factors associated with the occurrence of fractures in U.S. nursing homes: resident and facility characteristics and prescription medications. *J Am Geriatr Soc.* 2007: 55(3):327-33.

[58] Xing, J., Mukamel, D. B., & Temkin-Greener, H. Hospitalizations of nursing home residents in the last year of life: Nursing home characteristics and variation in potentially avoidable hospitalizations. *Journal of the American Geriatrics Society*, 2013: **61**, 1900–1908.

[59] Spector, W.D., Limcangco, R., Williams, C., Rhodes, W., Hurd, D. Potentially avoidable hospitalizations for elderly long-stay residents in nursing homes. *Med Care.* 2013 Aug; 51(8):673-81.

[60] Min, A. and Hong, H.C. Effect of nurse staffing on rehospitalizations and emergency department visits among short-stay nursing home residents: A cross-sectional study using the US nursing home compare database. *Geriatr Nurs.,* 2019: 40 (2):160-165

[61] Konetzka, R.T., Spector, W. & Limcangco, M.R. Reducing hospitalizations from long-term care settings. *Medical Care Research & Review,* 2007: 65:40-66.

[62] Simmons, S.F., Durkin, D.W., Rahman, A.N., Choi, L., Beuscher, L., Schnelle, J.F. Resident characteristics related to the lack of morning care provision in long-term care. *Gerontologist*. 2013: 53(1):151-61.

[63] Schnelle, J.F., Schroyer, L.D., Saraf, A.A., and Simmons, S.F. Determining nurse aide staffing requirements to provide care based on resident workload: A discrete event simulation model. *J. American Medical Directors Association*. 2016: 17:970-977.

[64] Konetzka, R.T., Stearns, S.C., Park, J. The staffing-outcomes relationship in nursing homes. *Health Serv Res. 2008:* 43 (3):1025-42.

and mortality rates.[65] [66] Higher staffing levels are strongly associated with fewer deficiencies.[67] [68] [69] See Appendix A for studies.

In constructing a measure of total nursing hours, we strongly urge CMS to exclude temporary nurse aides (TNAs). TNAs are not adequately trained to provide nursing care and moreover, they can be paid less than CNAs, undermining the wage rates for CNAs, and therefore contributing to further nursing shortages.[70] Only certified nursing assistants should be included in the total nursing hours. During the pandemic, TNAs with as little as 8 hours of training were used as if they were certified nurse aides (CNAs). Facilities were allowed to report TNAs to CMS as if they were CNAs through the Payroll based Journal (PBJ) system. CMS then publicly reported CNA information (including TNAs) to the public on *Care Compare* and we oppose this inclusion.

The CMS surveyor guidance issued in April 2021 suggested "that states evaluate their NATCEP [Nurse Adie Training and Competency Evaluation Program] and consider allowing some of the time worked by the nurse aides during the PHE [public health emergency] to count toward the 75-hour training requirement."[71] This guidance gave implicit permission to many states to allow minimally-trained TNAs to transition to permanent CNA status without actually receiving the training that federal law requires.[72] CMS has never identified how many TNAs are providing care to residents, what proportion of the aide workforce they actually represent, what kind of training and how much training they received, who provided the training, where they work, which specific aide tasks they perform, and how well (or inadequately) they perform aide assignments. Thus, CMS has allowed nursing homes to ignore the minimum federal training mandate for CNAs. If TNAs continue to be included in the total nursing hours, this will further undermine the integrity of CMS's staffing requirements.

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[65] Trivedi, T.K., et al.

[66] Tong PK. The effects of California minimum nurse staffing laws on nurse labor and patient mortality in skilled nursing facilities. *Health Econ. 2011:* 20(7):802-16.

[67] Harrington C., Zimmerman D., Karon S.L., Robinson J., Beutel P. (2000). Nursing Home Staffing and Its Relationship to Deficiencies. *Journal of Gerontology Series B: Psychological Science and Social Science.* 55(5): S278-87.

[68] Castle, N.G., Wagner, L.M., Ferguson, J.C. & Handler, S.M. Nursing home deficiency citations for safety. *J. Aging and Social Policy,* 2011: 23 (1):34-57.

[69] Kim, H., Harrington, C. & Greene, W. Registered nurse staffing mix and quality of care in nursing homes: A longitudinal analysis. *Gerontologist,* 2009: 49 (1):81-90.

[70] Center for Medicare Advocacy, Long Term Care Community Coalition, Justice in Aging, Michigan Elder Justice Initiative, and National Consumer Voice for Quality Long-Term Care. Letter to Centers for Medicare & Medicaid Services, October 26, 2021. https://justiceinaging.org/wp-content/uploads/2022/02/Final-10-26-21-letter-re-nurse-aide-training.pdf

[71] Center for Medicare Advocacy. Who provides care for nursing home residents? An update on temporary nurse aides. CMA Special Report, Sept. 15, 2021. https://medicareadvocacy.org/special-report-update-on-tnas/

[72] *Ibid.*

The purpose of VBPP for nursing homes is as an incentive to reach beyond the minimum standard. We urge CMS in general to adopt the principle that all payments should be used for reaching the highest goals that go beyond the minimum federal standards.

Based on this principle, CMS should only give an incentive to nursing homes that go well beyond the minimum staffing levels and adjusted for resident acuity. **We suggest only nursing homes with higher nurse staffing levels than the expected staffing should receive a financial incentive. Another approach is to only reward nursing homes that have a 5-star on RN staffing and on total nurse staffing hours using the combination of measures that the 5-Star Nursing Home Compare website constructs. This measure includes: total RN hours, total nursing hours, hours on weekends and holidays, and turnover rates. Alternatively, each one of these measures could be included in the VBPP separately.**

D. Proposal to Adopt the DTC-PAC Measure for SNFs (NQF #3481) Beginning With the FY 2027 SNF VBP Program Year, p. 22774

CMS proposes to add a SNF measure assessing the rate of successful discharges to the community from SNFs, using two years of Medicare data for residents using traditional Medicare (excluding MedicareAdvantage (MA) recipients). The fidelity of this measure has already been questioned.[73] While the option of returning home is an important resident right, there are three concerns about the measure, as proposed.

First, not all Medicare beneficiaries are able to return home. This measure could have unintended consequences of encouraging nursing homes to favor admissions of residents they assess as short-term and reject those with longer term care needs.

Second, the discharge measure disadvantages residents who continue to need SNF care to "maintain" their function or to prevent or slow their decline or deterioration. The nationwide Settlement in *Jimmo v. Sebelius*, Civil Action No. 5:11-CV-17-CR (D. Vt. Jan. 24, 2013), confirmed maintenance coverage of care for beneficiaries needing skilled nursing or rehabilitation care, or both, in a SNF.[74] Residents needing maintenance coverage in a SNF are disadvantaged if facilities are rewarded solely for improvement under the SNF VBP Program. There needs to be an additional measure reflecting maintenance care and services. **We recommend that CMS not adopt a discharge measure until it is simultaneously able to implement a maintenance measure.**

Third, the discharge measure uses data only for Medicare beneficiaries in the traditional Medicare program; beneficiaries in MedicareAdvantage (MA) programs are excluded. At present, nearly half of all beneficiaries receive their Medicare services from MA plans. Excluding MA beneficiaries from the measure gives a limited, and distorted view of the

[73] McMahon LF, Meddings J. Statistical Quality Measures for Postacute Care Community Discharge: Through a Glass Darkly. *JAMA Netw Open.* 2018;1(7):e184303. doi:10.1001/jamanetworkopen.2018.4303.
[74] Center for Medicare Advocacy. *Jimmo* Settlement. https://www.cms.gov/Center/Special-Topic/Jimmo-Center

successful discharge measure. **We recommend that CMS identify a way to include data for MA beneficiaries in any discharge measure before publicly reporting such a measure.**

VII. I. Requests for Comment on Additional SNF VBP Program Measure Considerations for Future Years. P. 22786

(a) Staffing Turnover Measures in a Future SNF VBP Program Year

We support the plan for including turnover as a future VBPP measure. There is growing evidence that turnover of staff affects quality of care for residents. Analyzing data identified through the payroll-based journal (PBJ) system from more than 11,000 nursing facilities for the period July 2018 through December 2019, a recent study by Abt Associates and CMS finds that facilities with lower levels of turnover in registered nurses (RNs), nursing staff, and administrators have both higher overall star ratings and better performance on four quality measures that are based on Medicare claims data (hospital and emergency department visits for short-stay and long-stay residents).[75] They have shown that turnover is a critical factor in nursing home staffing. Less turnover means better care.

Rather than developing a new turnover measure, we recommend that CMS use the turnover measure that is part of the overall staffing rating system for the 5-Star nursing home compare website. Further, we urge that only facilities with the lowest turnover or a 5-star rating be given a payment incentive.

Finally, we oppose using facility self-reported quality measures that are not audited for the VBPP. It is well-known that facilities up-code their MDS data to improve their quality scores. In addition, the self-reported quality measures appear to be inflated. [76] [77] CMS's publicly reported quality measures are susceptible to self-reporting bias which hampers their accuracy. A comparison of self-reported nursing home data with subsequent hospital claims data for nursing home residents indicates that the self-reported data is often under-reported and unrelated to hospital data. Nursing home pressure ulcers were under-reported compared with the hospital-based data. Although the quality measures on the MDS are good measures, we strongly urge CMS to only use data from claims-based measures. For example, an excellent measure is the percent of residents who receive antipsychotic medication. [78] This measure should be pulled from the Medicare claims data and not from the MDS.

[75] Zheng, Q., Williams, C.S., Shulman, E.T., White, A.J. Association between staff turnover and nursing home quality – evidence from payroll-based journal data, *JAGS.* May 2022. https://doi.org/10.1111/jgs.17843

[76] Government Accountability Office (GAO). Nursing home quality: CMS should continue to improve data and oversight. GAO-16-33. October, 2015.

[77] Integra Med Analytics. Underreporting in nursing home quality measures.

[78] CMS Could Improve the Data It Uses To Monitor Antipsychotic Drugs in Nursing Homes. May, 2021. US Department of Health and Human Services, Office of Inspector General. Issue brief. https://oig.hhs.gov/oei/reports/OEI-07-19-00490.asp

Requests for Information: Revising the Requirements for Long-Term Care Facilities To Establish Mandatory Minimum Staffing Levels

We fully support the Administration's plan to set mandatory minimum staffing levels. Sufficient numbers of well-trained, well-compensated, and well-treated staff are essential to provide residents with high quality of care and quality of life and to protect their health and safety.

The 1987 Nursing Home Reform Law gives the Secretary full authority to set minimum staffing standards. The Medicare provisions of the Nursing Home Reform Law define the "duty and responsibility" of the Secretary to assure that requirements which govern the provision of care in skilled nursing facilities under this subchapter, and the enforcement of such requirements, are adequate to protect the health, safety, welfare, and rights of residents and to promote the effective and efficient use of public moneys 42 U.S.C. §1395i-3(f)(1). The Medicaid provisions of the Reform Law are identical. 42 U.S.C. §1396r(f)(1). Both parts of the Secretary's duty give the Secretary authority to set minimum staffing levels.

In addition, the Secretary must ensure that the "public money" received by facilities (Medicare and Medicaid reimbursement) are effectively and efficiently used. This provides additional authority for development and enforcement of an appropriate nurse staffing standard. Therefore, the Secretary has a statutory "duty and responsibility" under the Reform Law, both to assure that facilities provide each resident with high quality care and to assure that public moneys are spent on care and not diverted to profits, management fees, and inflated payments to self-related parties.

For more than 20 years, CMS has failed to establish minimum nurse staffing standards. The result has been that 75 percent of US nursing homes have less nurse staffing staff than needed to provide adequate care. This lack of understanding of the complexity of care in nursing homes that requires better staffing has resulted in a long history of missed care, poor quality of care, harm, injuries, and deaths of residents.[79] The pandemic, with over 200,000 nursing home deaths, showed that nursing homes were not prepared to protect the health and safety of residents. It is time for CMS to protect residents and stop the diversion of public money away from resident care and into profits, administrative costs, and real estate. Staff need better wages and benefits, more training, better working conditions, more respect and better treatment from employers and better protection by government.

CMS's enacting and enforcing a staffing standard is key to improving nursing home quality of care and quality of life for residents.

[79] White, E. M., Aiken, L. H., & McHugh, M. D. Registered nurse burnout, job dissatisfaction, and missed care in nursing homes. *Journal of the American Geriatrics Society*, 2019: *67*(10), 2065-2071.

What follows are CMS's questions and our responses:

1. Is there evidence (other than the evidence reviewed in this RFI) that establishes appropriate minimum threshold staffing requirements for both nurses and other direct care workers? To what extent do older studies remain relevant? What are the benefits of adequate staffing in LTC facilities to residents and quality of care?

A study on appropriate staffing for Centers for Medicare & Medicaid Services (CMS) in 2001 found a clear association between nurse staffing ratios and nursing home quality of care. Specifically, the study established the importance of having a minimum of 0.75 RN hours per resident day (hprd), 0.55 LVN/LPN hprd, and 2.8 (to 3.0) CNA hprd, for a total of 4.1 nursing hprd to prevent harm and jeopardy for long stay residents.[80] As part of this study, a simulation model of CNAs established the minimum number of staff necessary to provide five basic aspects of daily care in a facility with different levels of resident acuity. The results found that the minimum threshold for CNA staffing is 2.8 hprd to ensure consistent, timely care to residents. Nursing home residents are now more complex than they were 20 years ago and more short stay patients adds to the staffing needs. A later study by Schnelle and colleagues shows the CNA staffing should be 2.8 to 3.6 hprd.[81]

Many studies have found a strong relationship between nursing staffing levels and improved quality of care in terms of both process and outcome measures.[82] [83] [84] [85] [86] The strongest relationships are between RN staffing levels and quality outcome measures.[87] Studies have shown that higher nurse staffing levels are associated with improved resident outcomes,

[80] Centers for Medicare & Medicaid Services, Abt Associates Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes. Report to Congress: Phase II Final*. Volumes I–III. Baltimore, MD: CMS, 2001.

[81] Schnelle, J.F., Schroyer, L.D., Saraf, A.A., and Simmons, S.F. Determining nurse aide staffing requirements to provide care based on resident workload: A discrete event simulation model. *J. American Medical Directors Association*. 2016: 17:970-977.

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[84] Castle, N.G. & Anderson, R.A. Caregiver staffing in nursing homes and their influence on quality of care. *Medical Care*, 2011: 49 (6):545-552.

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[86] Schnelle, J.F., Simmons, S.F., Harrington, C., Cadogan, M., Garcia, E., & Bates-Jensen, B. Relationship of nursing home staffing to quality of care? *Health Services Research,* 2004: 39 (2):225-250.

[87] Dellefield, M.E., Castle, N.G., McGilton, K.S., & Spilsbury, K. The relationship between registered nurses and nursing home quality: An integrative review (2008-2014). *Nursing Economic$*, 2015: 33 (2):95-108 and 116.

including: better functional improvement,[88] [89] [90]and reduced incontinence,[91] urinary tract infections and catheterizations,[92] [93] [94] [95] pain,[96] pressure ulcers;[97] [98] [99] [100] [101] [102] weight loss and dehydration,[103] [104] [105] [106] use of antipsychotics,[107] [108] restraint use,[109] [110] [111] infections,[112] [113]

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[88] Horn, S.D., Sharkey, S.S.. Hudak, S., Smout, R.J., Quinn, C.C., Yody, B. and Fleshner, I. Beyond CMS Quality Measure Adjustments: Identifying Key Resident and Nursing Home Facility Factors Associated with Quality Measures. *J. American Medical Directors Association. 2010:* 11 (7):500-5.

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[91] Dorr, D.A., Horn, S.D., & Smout, R.J. Cost analysis of nursing home registered nurse staffing times. *J. of Amer Geriatrics Society,* 2005: 53: 840-845.

[92] Castle, N.G. & Anderson, R.A..

[93] Horn, S.D., Buerhaus, P. et al.

[94] Dorr et al.

[95] Wan, T.T.H., Zhang, N.J. & Unruh, L. Predictors of resident outcome improvement in nursing homes. *Western J. Of Nursing Research.* 2006: 28 (8):974-993.

[96] Castle, N.G. & Anderson, R.A..

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[99] Horn, S.D., Buerhaus, P. et al.

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[101] Lin, H. Revisiting the relationship between nurse staffing and quality of care in nursing homes: An instrumental variables approach. *J. of Health Economics,* 2014: 37: 13-24.

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[107] Horn, S.D., Bender S.A. et al.

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[110] Wan, T.T.H., et al,

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falls,[114] [115] rehospitalization and emergency department use,[116] [117] [118] [119]missed care,[120] [121] adverse outcomes,[122] and mortality rates.[123] [124] Higher staffing levels are strongly associated with fewer deficiencies.[125] [126] [127]

Strong Verification of the CMS 2001 Minimum Staffing Standard. This minimum standard was verified in a 2004 observational study of residents in 21 nursing homes that found nursing homes that staffed above 2.8 CNA hours per resident day (hprd) performed better on 13 or 16 care processes compared to lower staffed homes. [128] This minimum threshold was later confirmed in a simulation study which found that 2.8 CNA hprd were needed to ensure adequate care to residents with the lowest staffing care needs.[129] Residents with moderate care needs required 3.2 CNA hprd and residents with the highest care needs required 3.6 CNA

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[129] Schnelle, J.F., Schroyer, L.D., Saraf, A.A., Simmons, S.F. Determining nurse aide staffing requirements to provide care based on resident workload: A discrete event simulation model. *JAMDA*. 2016; 17:970-977.

hprd. Nursing homes with RN staffing levels below the recommended minimum of .75 hours per resident per day had a two times greater probability of having COVID-19 infections.[130]

CMS's nursing home staffing data from the payroll-based data system shows that nursing homes with higher averages of nursing hours and higher RN hours per resident day have higher overall quality ratings, better health inspection ratings, and fewer instances of abuse.[131] A recent study of staffing found that as nursing home staffing levels increase, there is a continuous improvement in turnover rates and quality (e.g., hospitalizations). There is no ceiling on improvements as staffing increases.[132]

Experts have recommended higher minimum staffing standards. One study by nursing experts recommended a minimum of 4.55 hprd to improve the quality of nursing home care, with adjustments for resident acuity or case-mix. [133] The CMS 2001 minimum standard has been endorsed by professional associations and experts over the past 20 years.[134] [135] [136] [137] [138]

In 2022, a committee of the National Academies of Sciences, Engineering, and Medicine (NASEM) issued a comprehensive report on the national imperative to improve nursing home quality considering the devasting impact of the pandemic on nursing home residents. [139] This report stated that "despite substantial evidence demonstrating the relationship between nurse staffing and the quality of care in nursing homes, and 24-hour registered nurse (RN) coverage being recommended for decades, today's nurse staffing requirements remain vague."

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We agree with the NASEM 2022 report **Recommendation 2B: Direct-care RN coverage (in addition to the director of nursing) at a minimum of a 24-hour, 7-days per week basis, with additional RN coverage as needed.**

The NASEM 2022 report also says that despite numerous calls over the years to increase nurse staffing, the "same federal staffing regulations have been in place for decades, even though the types of residents and the complexity of their needs have changed dramatically." We agree with the NASEM report Recommendation 2C that calls for the following:[140]

- **Research on minimum and optimal staffing standards for all direct-care staff, including weekend and holiday staffing, based on resident case mix and type of staff needed for the care of specific populations; and**
- **Updated regulatory requirements based on findings from this research.**

Federal law requires that staffing levels must meet resident care needs, and address resident acuity levels.[141] The 2016 CMS regulations also require nursing homes to conduct annual facility assessments to determine what resources are necessary to provide for its residents competently (42 C.F.R. Section 483.70(c).

High Nurse Staffing Levels Increase Resident Quality. Nursing care is the core service provided by nursing homes to both short and long-stay residents along with medical, therapy, nutritional, pharmacy, social, and other services. Many studies have found a strong relationship between nursing staffing levels and improved quality of care in terms of both process and outcome measures.[142] [143] [144] [145] [146] The strongest relationships are between RN staffing levels and quality measures.[147] Studies have shown that higher nurse staffing levels are associated

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[140] NASEM report, 2022

[141] Centers for Medicare & Medicaid Services. *State Operations Manual Appendix PP - Guidance to Surveyors for Long Term Care Facilities (Rev. 11-22-17).* 42 C.F.R. § 483.70(e). https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Nursing-Homes.html

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with improved resident outcomes, including: better functional improvement,[148] [149] [150]and reduced incontinence,[151] urinary tract infections and catheterizations, [152] [153] [154] [155] pain,[156] pressure ulcers;[157] [158] [159] [160] [161] [162] weight loss and dehydration,[163] [164] [165] [166] use of

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[166] Horn, S.D., Bender S.A. et al.

antipsychotics,[167] [168] restraint use,[169] [170] [171] infections,[172] [173] falls,[174] [175] rehospitalization and emergency department use,[176] [177] [178] [179]missed care,[180] [181] adverse outcomes,[182] and mortality rates.[183] [184] Higher staffing levels are strongly associated with fewer deficiencies.[185] [186] [187]

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[174] Leland NE, Gozalo P, Teno J, Mor V. Falls in newly admitted nursing home residents: a national study. *J Am Geriatr Soc.* 2012: 60(5):939-45.

[175] Spector, W., Shaffer, T., Potter, D.E., Correa-de-Araujo, R., Rhona Limcangco, M. Risk factors associated with the occurrence of fractures in U.S. nursing homes: resident and facility characteristics and prescription medications.2007: *J Am Geriatr Soc.* 55(3):327-33.

[176] Xing, J., Mukamel, D. B., & Temkin-Greener, H. Hospitalizations of nursing home residents in the last year of life: Nursing home characteristics and variation in potentially avoidable hospitalizations. *Journal of the American Geriatrics Society*,2013: **61**, 1900–1908.

[177] Spector, W.D., Limcangco, R., Williams, C., Rhodes, W., Hurd, D. Potentially avoidable hospitalizations for elderly long-stay residents in nursing homes. *Med Care.* 2013 Aug; 51(8):673-81.

[178] Min, A. and Hong, H.C. Effect of nurse staffing on rehospitalizations and emergency department visits among short-stay nursing home residents: A cross-sectional study using the US nursing home compare database. *Geriatr Nurs.,* 2019: 40 (2):160-165

[179] Konetzka, R.T., Spector, W. & Limcangco, M.R. Reducing hospitalizations from long-term care settings. *Medical Care Research & Review,* 2007: 65:40-66.

[180] Simmons, S.F., Durkin, D.W., Rahman, A.N., Choi, L., Beuscher, L., Schnelle, J.F. Resident characteristics related to the lack of morning care provision in long-term care. *Gerontologist*. 2013: 53(1):151-61.

[181] Schnelle, J.F., Schroyer, L.D., Saraf, A.A., and Simmons, S.F. Determining nurse aide staffing requirements to provide care based on resident workload: A discrete event simulation model. *J. American Medical Directors Association*. 2016: 17:970-977.

[182] Konetzka, R.T., Stearns, S.C., Park, J. The staffing-outcomes relationship in nursing homes. *Health Serv Res. 2008:* 43(3):1025-42.

[183] Trivedi, T.K., et al.

[184] Tong PK. The effects of California minimum nurse staffing laws on nurse labor and patient mortality in skilled nursing facilities. *Health Econ. 2011:* 20(7):802-16.

[185]Harrington C., Zimmerman D., Karon S.L., Robinson J., Beutel P. Nursing Home Staffing and Its Relationship to Deficiencies. *Journal of Gerontology Series B: Psychological Science and Social Science.* 2000: 55(5): S278-87.

[186] Castle, N.G., Wagner, L.M., Ferguson, J.C. & Handler, S.M. Nursing home deficiency citations for safety. *J. Aging and Social Policy,* 2011: 23 (1):34-57.

[187] Kim, H., Harrington, C. & Greene, W. Registered nurse staffing mix and quality of care in nursing homes: A longitudinal analysis. *Gerontologist,* 2009: 49 (1):81-90.

Although some studies have found mixed results, many of the studies with mixed results had methodological problems with small sample sizes, single state analyses, and cross-sectional designs.[188] In addition, weak relationships may be found when studies include nursing homes with extremely low staffing, because evidence suggests there is a minimum threshold of staffing that must be reached before staffing levels show higher quality.[189] Longitudinal studies and studies that take into account the complex endogenous relationships between RN staffing, resident acuity, and quality have generally shown strong positive relationships between staffing and quality care. [190] [191] [192] Adequate staffing levels must be addressed before improvements can be made in other factors such as turnover, management, and competency.

Low Staffing Levels Are Associated With COVID-19 Infections and Deaths. Insufficient staffing leads to greater infection control violations which lead to greater risk of spread and death. Infection control deficiencies are more common at homes with fewer nurses and aides than at facilities with higher staffing levels, based on an analysis of data from the past two regular inspection periods.[193]

A recent study of California nursing homes found that 80 percent did not meet the minimum recommended staffing levels of 0.75 RN hprd and 55 percent did not meet the minimum 4.1 total nursing hours per resident day prior to the pandemic. Nursing homes with higher Medicare five-star ratings and RN staffing levels, adjusted for acuity, were less likely to have residents infected with COVID-19.

Another study of California nursing homes found that facilities with one or more COVID-19 resident cases had, on average, 25 percent fewer registered nurses per resident immediately prior to the pandemic.[194] In Connecticut, a twenty-minute increase in RN staffing per resident per day was associated with 22 percent fewer COVID-19 cases and 26 percent fewer COVID-19 deaths.[195] Another study of California nursing homes found that those with lower star ratings, including staffing ratings, had an increased probability of having COVID-19 resident cases or

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[188] Dellefield et al.
[189] Schnelle, Simmons, Harrington et al.
[190] Castle and Anderson, 2011.
[191] Konetzka, RT, Stearns, S.C., & Park, J. The staffing outcomes relationship in nursing homes. *Health Services Research.* 2008: 43(3):1025-42 doi: 10.1111/j.1475-6773.2007.00803.x.
[192] Lin, H. Revisiting the relationship between nurse staffing and quality of care in nursing homes: An instrumental variables approach. *J. of Health Economics,* 2014: 37: 13-24.
[193] Rau, J. *Coronavirus Stress Test: Many 5-Star Nursing Homes Have Infection-Control Lapses*, Kaiser Health News, Mar. 4, 2020. https://khn.org/news/coronavirus-preparedness-infection-control-lapses-at-top-rated-nursing-homes/.
[194] Rau, J. & Almendrala, A. COVID-Plagued California Nursing Homes Often Had Problems In Past, *Kaiser Health News*, May 4, 2020. https://khn.org/news/covid-plagued-california-nursing-homes-often-had-problems-in-past/.
[195] Li, Y., Temkin-Greener, H., Shan, G., & Cai, X. COVID-19 infections and deaths among Connecticut nursing home residents: Facility correlates. *J Am Geriatr Soc*. 2020 June, 18. doi: 10.1111/jgs.16689.

deaths.[196] A study of all US facilities that had one or more cases, found high nurse aide and total nursing hours were associated with a lower probability of a COVID-19 outbreak and fewer deaths.[197] Finally, a study of 8 states found that nursing homes with higher star ratings on staffing had lower odds ratios of having high COVID-19 resident case rates.[198]

Inadequate staffing directly affects a nursing home's ability to prevent and contain COVID-19 in at least two ways. First, RNs are essential to design and implement infection control plans for facilities. RNs are trained in infection control, resident assessment and care planning including for infections, and in surveillance of residents including for infections and other conditions. They are responsible for supervising CNAs and licensed vocational nurses or licensed practical nurses (LVNs/LPNs) who are generally responsible for giving medications and treatments to residents.[199] Second, even basic infection control measures—like hand washing, changing PPE and disinfection—take time and require training. Without sufficient staff, even staff with adequate training may have little choice but to skip these basic but essential tasks given the pressure to move quickly from resident to resident.

Nurse Staffing Levels Are Too Low and Continuing to Decline.

Hawk and colleagues found that 25.0% of SNFs met the minimum 4.1 total nursing HPRD, while 31.0%, 84.5%, and 10.7% met the RN, LPN, and CNA thresholds, respectively in 2019. Only 5.0% met all four categories. [200] This study also showed that for-profit nursing homes had substantially lower staffing than non-profit and government homes. Another study found that 75 percent of nursing homes almost never met the CMS expected RN staffing levels based on resident acuity with wide variability in staffing and levels within facilities especially on weekends and holidays during the 2017-18 period.[201]

In March 2019, prior to the pandemic, CMS reported that the average nursing home had 0.69 RN HPRD, 0.87 LVN/LPN HPRD, 2.31 CNA HPRD and 3.87 total nursing HPRD. In May 2022, the average RN HPRD were 0.68, LVN/LPN HPRD were 0.88, CNA HPRD were 2.20 for a total of

[196] He, M., Li, Y., & Fang, F. Is there a link between nursing home reported quality and COVID-19 cases? Evidence from California skilled nursing facilities. *JAMDA.* 2020 Jul;21(7):905-908.
[197] Gorges, R.J. & Konetzka, R.T. Staffing levels and COVID-19 cases and outbreaks in US nursing homes. *JAGS.* 2020 Nov;68(11):2462-2466.
[198] Figueroa, J.F., Wadhere, R.K., Papanicolas, I., Riley, K., Zheng, J., Orav, E.J., and Jha, A.K. Association of nursing home ratings on health inspections, quality of care, and nurse staffing with COVID-19 cases. *JAMA:* August 10, 2020. Doi:10.1001/jama.2020.14709.
[199] Corazzini, K.N., Anderson, R.A., Mueller, C., Thorpe, J.M., McConnell, E.S. Licensed practical nurse scope of practice and quality of nursing home care. *Nursing Research.* Sep-Oct 2013;62(5):315-24.
[200] Hawk T, White EM, Bishnoi C, Schwartz LB, Baier RR, Gifford DR. Facility characteristics and costs associated with meeting proposed minimum staffing levels in skilled nursing facilities. *J Am Geriatr Soc.* 2022; 1-10. doi:10.1111/jgs.17678.
[201] Geng, F., Stevenson, D.G., Grabowski, D.C. Daily nursing home staffing levels highly variable, often below CMS expectations. *Health Affairs*. 2019: 38 (7) 1095-1100.

3.76 HPRD, slightly lower than prior to the pandemic.[202] **As long as for-profit nursing homes have an incentive to keep staffing low to maximize profits, low staffing can be expected to continue unless minimum staffing standards are enacted.**

Staffing Shortages Are Associated with COVID-19 Infections. During the pandemic, staffing shortages have frequently been reported because many staff are unable to come to work because they or their family members may be sick or they do not have adequate child care. In other cases, staff may be unwilling to work given the dangers of contracting the COVID-19 virus. New CMS staffing data for the second quarter of 2020 show that direct care hours were only 3.46 total care staff hours per resident day (hprd) and 0.45 RN hprd.[203] A new study shows that one of every 6 nursing homes self-reported shortages in licensed nurse and nurse aide staffing during the COVID-19 pandemic that varied widely across states.[204] Nursing homes with COVID-19 positive staff or residents were more likely to report staff shortages. Not surprisingly, nursing homes with higher previous RN staffing levels before the pandemic and those with higher overall quality ratings were less likely to report shortages.

Widespread Nurse Understaffing Causes Harm to Residents. Despite evidence demonstrating the importance of nurse staffing levels, understaffing has been a longstanding problem in U.S. nursing homes. A study of 2014 staffing data showed that based on the CMS standard set forth in 2001, half of the nursing homes had low staffing and at least a quarter had dangerously low staffing.[205] Since 2017, nursing homes have been required to submit daily staffing to CMS on the Payroll-Based Journal (PBJ) reporting system on a quarterly basis.[206] After the PBJ reporting was implemented, 7 out of 10 nursing homes reported 12 percent lower staffing on average than the previously self-reported data to CMS.

In the 2017-18 period, 75 percent of nursing homes did not meet the CMS expected RN staffing levels based on resident acuity and had wide variability in staffing levels within facilities especially on weekends and holidays.[207] PBJ data, however, are not always audited by CMS, so there may be errors when compared to audited facility payroll records. A recent OIG study found that 7 percent of nursing homes reported at least 30 total nursing home days with staffing below required federal levels of one RN on duty during the day shift and a licensed

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[202] CMS, Nursing Home Compare 5-Star data). CMS. Nursing homes including rehab services. Provider Files. Data Archives. March 2019 and May 2022. https://data.cms.gov/provider-data/archived-data/nursing-homes

[203] Long Term Care Community Coalition. Nursing homes understaffed at the height of the coronavirus pandemic. New York: LTCCC. November 12, 2020. https://nursinghome411.org/alert-staffing-q2-2020/

[204] Xu, H., Intrator, O., and Bowblis, J.R. Shortages of staff in nursing homes during the COVID-19 pandemic: What are the driving factors? *JAMDA.* 2020: 21:1371-1377.

[205] Harrington, C., Schnelle, J.F., McGregor, M., Simmons, S.F. The need for minimum staffing standards in nursing homes. *Health Serv Insights*. 2016: 9:13-19.

[206] Centers for Medicare & Medicaid Services. Staffing Data Submission PBJ. Baltimore, MD: CMS, 2017. www.data.medicare.gov https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/Staffing-Data-Submission-PBJ.html

[207] Geng, F., Stevenson, D.G., Grabowski, D.C. Daily nursing home staffing levels highly variable, often below CMS expectations. *Health Affairs*. 2019: 38 (7) 1095-1100.

nurse on evenings and nights in 2018. Another 7 percent of nursing homes had 16-29 days below required levels and 40 percent were below on 1-15 days.[208] CMS's Star Ratings do not convey the extent to which staffing varies day to day and CMS does not use the PBJ staffing to enforce staffing standards.

CMS's Failure to Enact Minimum Staffing Leads to Racial Inequities for Residents. Facilities with a higher concentration of racial and ethnic minority residents are more likely to have lower RN levels and these homes are staffed by less-skilled workers.[209] As a consequence of low staffing, there is a higher concentration of racial and ethnic minority residents living in poor quality nursing homes with high deficiency levels.[210]

CMS's Failure to Enforce Staffing Violations Leads to Inadequate Staffing. Failure to have "sufficient" staff to meet resident needs can result in enforcement action by CMS. Nursing homes, however, rarely face consequences for understaffing, both because CMS mischaracterizes almost all staffing deficiencies (over ninety-six percent) as not causing harm.[211] Even when CMS finds that there are staffing deficiencies and that they pose an "immediate jeopardy" to residents, nursing homes are often not sanctioned. A recent review of staffing deficiencies found 1,465 in 2019 of which only 36 were reported as causing harm and 20 as immediate jeopardy. Deficiencies for staffing dropped to 280 (1.5 percent of facilities) in 2020, with only 5 causing harm and 12 immediate jeopardy.[212]

CMS should be monitoring the PBJ staffing data and identifying facilities that are not in compliance with current federal standards. This should include the requirement for one RN on duty seven days a week on the day shift. They should identify facilities that have large drops in staffing on weekends and holidays and other staffing that is dangerous low. Automatic citations could be issued by CMS from the central office for failure to comply with staffing.

Moreover, CMS needs to revise its Survey and Certification guidelines. Currently, surveyors are instructed to only cite the resident problems (for example, pressure ulcers) that are identified, even when the underlying cause of the problem is low staffing. Instead, the

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[208] Office of the Inspector General. Some nursing homes' reported staffing levels in 2018 raise concerns; Consumer transparency could be increased. *HHS OIG Data Brief*. August, 2020. OEI-04-18-00450.

[209] Li, Y., Harrington, C., Temkin-Greener, H. et al. Deficiencies in care at nursing homes and in racial/ethnic disparities across homes fell, 2006–11. *Health Affairs.* 2015; 34(7): 1139-46.

[210] Li, Y., Harrington, C., Mukamel, D.B., et al. Nurse staffing hours at nursing homes with high concentrations of minority residents, 2001-2011. *Health Affairs. 2015;* 34:2129-2137. *doi:10.1377/hlthaff.2015.0422*

[211] Edelman, T. *Staffing deficiencies in nursing facilities: rarely cited, seldom sanctioned.* Washington, CD: Center for Medicare Advocacy, 2014. http://www.medicareadvocacy.org/staffing-deficiencies-in-nursing-facilities-rarely-cited-seldom-sanctioned/

[212]Edelman, T. *Nurse staffing deficiencies.* Washington, DC: Center for Medicare Advocacy, 2019. https://www.medicareadvocacy.org/report-nurse-staffing-deficiencies/
http://www.medicareadvocacy.org/staffing-deficiencies-in-nursing-facilities-rarely-cited-seldom-sanctioned/
Edelman, T.S. Improving nurse staffing levels in nursing facilities: Strategies, approaches, recommendations. Center for Medicare Advocacy September 30, 2020.

CMS guidelines should instruct surveyors to issue citations for both the resident problems that they identify *and* for inadequate staffing that more than likely led to the poor resident outcomes. Each survey should prioritize examining whether staffing is adequate. Holds on reimbursement for new admissions should be issued by CMS when staffing can jeopardize the health and safety of residents and be kept in place until staffing levels are adequate.

Conclusion. We conclude that there is overwhelming evidence that shows the need for CMS to adopt a minimum staffing standard. The evidence shows that this standard should be at least set at the CMS 2001 standard of .75 RN hprd, .55 LVN hprd, 2.8 CNA hprd, and 4.1 total nursing hprd. There are many studies that show the benefits of adequate staffing in NHs and these studies build a strong record of the importance of nurse staffing especially RN staffing. We believe that the older studies as well as the new studies are relevant because they substantiate and confirm the importance of staffing to meet the needs of residents over time. Multiple studies conducted over time help to identify an adequate hprd as a causation of good resident outcomes, not just an association. The attached **Appendix A** lists many of these studies. **We do not believe that new studies are necessary to validate the overwhelming existing evidence, especially in the wake of the tragic death toll from the COVID-19 pandemic.**

2. What resident and facility factors should be considered in establishing a minimum staffing requirement for LTC facilities? How should the facility assessment of resident needs and acuity impact the minimum staffing requirement?

The Nursing Home Reform Act of 1987 required nursing homes to have "sufficient staff" to meet the needs of residents and one RN Director of Nursing on duty 8 hours a day seven days a week and a licensed nurse on evening and night shifts, but this standard is clearly inadequate. Many states have established higher staffing standards than the federal standards[213] [214]

Resident factors are the most important determinant of what the staffing levels should be. The minimum staffing levels should be established for residents with the lowest care needs. These resident care needs are adequately assessed using the MDS 3.0 assessment forms.

As resident care needs or acuity increases, then nursing facilities are expected to increase the staffing levels. This is the entire principle upon which the Medicare prospective payment system (PPS) adjustment for resident acuity is based,[215] as shown in the CMS PPS reimbursement regulations published in the Federal Register April 15, 2022. Why would CMS

[213] The National Consumer Voice for Quality Long Term Care. State nursing home staffing standards summary report. 2021. Washington, DC: https://theconsumervoice.org/uploads/files/issues/CV_StaffingReport.pdf
[214] Medicaid and CHIP Payment and Access Commission (MACPAC). State policies related to nursing facility staffing. 2021. Washington, DC: MACPAC.
[215] Medicare Payment Advisory Commission (MEDPAC). *Report to the Congress: Medicare Payment Policy.* Chapter 7. Washington, D.C. March 2022.

adopt a Medicare payment system based on resident acuity and then not require nursing homes to staff based on the acuity that Medicare has paid for? Many state Medicaid programs pay based on resident acuity.[216]

Unfortunately, the focus of Medicare rate setting has been based almost entirely on controlling costs rather than ensuring quality. Medicare prospective payments are based on estimated costs and not on acutal expenditures. This system allows nursing homes to keep staffing and operating expenses low in order to maximize profits.

Facility size has been a consideration in the past in federal regulations which require fewer licensed staff for smaller facilities. Under the federal regulations, the Director of Nursing may also serve as a charge nurse only when the facility has an average daily occupancy of 60 or fewer residents (§483.35(b)(3)). There is no evidence base for such a regulation to lower licensed staffing for facilities under 60 beds. Nor is there any need to adjust the direct care hours by the number of facility beds. Rather, the staffing standards should be based on hours required per resident day, which over time takes into account the average daily occupancy (facility size).

Based on research,[217] we recommend that the minimum RN staffing levels should be 0.75 RN hours per resident day (hprd) or a ratio of 1 RN to 28 residents on the day shift; 1 RN to 30 residents on evenings; and 1 RN to 40 residents at night. Moreover, even a small facility with 30 or less residents should have an RN on duty 24-hours per day as discussed later (See Question 14).

As facilities grow in size, the administrative nursing requirements should increase commensurate with the size. For facilities with over 100 beds, we believe there should be two RNS on duty 24-hours per day, seven days per week in addition to a Director and Assistant Director of Nursing on the day shift seven days a week.

Schnelle and colleagues' 2016 simulation study found that nursing homes need to adjust CNA staffing for acuity.[218] Based on five ADLs and seven workload categories, average nurse aide staffing should vary between 2.8 hprd for the lowest level of resident acuity to 3.6 hprd for the highest level of resident acuity to maintain a rate of care omissions below 10 percent (See Table 2).[39] For the lowest resident workloads, this converts to 1 CNA for every 7 residents on the day and evening shifts and 1 CNA to 11 residents at night. For the heaviest resident workloads, 3.6 CNA hprd converts to 1 CNA for 5.5 residents on days and evenings and 1 CNA to 11 residents on nights.

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[216] Medicaid and CHIP Payment and Access Commission (MACPAC). State's Medicaid fee-for-services nursing facilities payment policies. 2021. Washington, DC: MACPAC.

[217] Harrington, C., Dellefield, M., Halifax, E., Fleming, M., and Bakerjian, D. Appropriate nurse staffing levels for US nursing homes. *Health Services Insights.* 2020: 13:1-14. Jun 29;13:1178632920934785. doi: 10.1177/1178632920934785. eCollection 2020.

[218] Schnelle JF, Schroyer LD et al. 2016.

CMS needs to enforce its own federal regulations established in 2016 that require nursing homes to conduct a facility self-assessment regarding what resources and qualified staff are needed to meet patient needs and to carry out all functions at the facility level. This analysis must consider: "the number, acuity and diagnoses of the facility's resident population" and must be updated at least annually (42 C.F.R. §483.70(e). The assessment must be conducted at the facility using many sources of information such as the residents, families, councils, and representatives (§483.35(a)(1)-(2)).

Harrington and colleagues developed a methodology for determining whether nurse staffing in a nursing home is sufficient.[219] See Table 1.

Table 1. Average Recommended Nurse Staffing Hours Per Resident Day Converted to Staffing Ratios

	Average Hours Per Resident Day					Ratio of Residents to Staff And Hours Per Resident Day							
Acuity	**RN**	**LVN/LPN**	**AIDE**	**TOTAL**			**RN Ratio to Residents**	**RN hprd**	**LVN/LPN Ratio to Residents**	**LPN hprd**	**AIDE Ratio to Residents**	**AIDE hprd**	**Total Nursing hprd**
Extensive Services	1.85	1.36	3.60	6.81		Day	9	0.89	14	0.57	5.5	1.45	
						Evening	14	0.57	18	0.44	5.5	1.45	
						Night	20	0.40	25	0.32	12.0	0.67	
						Total		**1.86**		**1.34**		**3.58**	6.77
Special Care High	1.36	0.84	3.40	5.61		Day	14	0.57	24	0.33	5.5	1.45	
						Evening	17	0.47	28	0.29	6.0	1.33	
						Night	25	0.32	36	0.22	13.0	0.62	
						Total		**1.36**		**0.84**		**3.40**	5.61
Special Care Low	1.36	0.84	3.40	5.61		Day	14	0.57	24	0.33	5.5	1.45	
						Evening	17	0.47	28	0.29	6.0	1.33	
						Night	25	0.32	36	0.22	13.0	0.62	
						Total		**1.36**		**0.84**		**3.40**	5.61
Clinically Complex	1.03	0.67	3.20	4.90		Day	18	0.44	30	0.27	6.0	1.33	
						Evening	22	0.36	34	0.24	6.5	1.23	
						Night	36	0.22	42	0.19	13.0	0.62	
						Total		**1.03**		**0.69**		**3.18**	4.90
Behavioral Symptoms	0.75	0.55	3.00	4.30		Day	28	0.29	38	0.21	7.0	1.14	
						Evening	30	0.27	40	0.20	7.0	1.14	
						Night	40	0.20	56	0.14	11.5	0.70	
						Total		**0.75**		**0.55**		**2.98**	4.29
Reduced Physical Function	0.75	0.56	3.20	4.51		Day	28	0.29	38	0.21	6.0	1.33	
						Evening	30	0.27	40	0.20	6.5	1.23	
						Night	40	0.20	56	0.14	13.0	0.62	
						Total		**0.75**		**0.55**		**3.18**	4.49

Harrington, C., Dellefield, M., Halifax, E., Fleming, M., and Bakerjian, D. Appropriate nurse staffing levels for US nursing homes. *Health Services Insights.* 2020: 13:1-14.

Estimates include administrative care nurses (Director of Nursing, Assistant Director of Nursing, Director of Staff Development (or about 0.24 hprd for 100 residents), the MDS Coordinator, supervisors, direct care nurses, plus an RN on duty 24 hours per day.

[219]Harrington, C., Dellefield, M., Halifax, E., Fleming, M., and Bakerjian, D. Appropriate nurse staffing levels for US nursing homes. *Health Services Insights.* 2020: 13:1-14. Jun 29;13:1178632920934785. doi: 10.1177/1178632920934785. eCollection 2020.

This facility assessment should determine whether the facility has the lowest level of resident acuity or acuity that is higher. **Facilities with the lowest acuity, should meet the CMS minimum staffing standard and facilities with higher acuity should have additional staffing that takes into account the higher acuity.**

This approach is designed to assist nursing homes in proactively determining and providing appropriate staffing to meet the needs of their residents. The methodology uses the CMS 2001 staffing minimums and adjusts staffing upward based on resident acuity measured by the new PDPM nursing classification system. It assigns RN, LPN, and CNA staffing levels to each PDPM requirement based on the staff time measurement study data and the Schnelle and colleagues 2016 study times for CNAs.[220] This methodology does not use the CMS STRIVE time study recommendations because it was based on actual staffing in a sample of nursing facilities and not on the staffing levels needed to comply with federal regulations.

Although the facility assessment requirement began in November 2017, CMS failed to provide standard forms, measures, or guidelines. Facility assessment is meant to be a thorough process and surveyors may issue a deficiency if the assessment is generic or designed to justify preexisting or budgeted staffing levels that are not based on resident acuity. We strongly recommend that CMS provide measures and guidelines for nursing homes to adjust staffing based on resident acuity.

Research studies provide clear evidence that the majority of nursing homes do not have adequate nurse staffing levels particularly for RNs. Since nursing staff levels and wages are the primary cost components for nursing homes, many nursing homes keep staffing costs as low as possible in order to maximize profits. Keeping nurse staffing levels low results in serious safety and quality problems in many nursing homes across the country and is not consistent with the 2016 federal regulations that require sufficient nursing staff with the appropriate competencies to assure resident safety and attain or maintain the highest practicable level of resident well-being.

In April 2020, the CMS established an independent Coronavirus Commission for Safety and Quality in Nursing Homes that issued a report.[221] One of the recommendations of this Commission was: **Principle Recommendation 6A**: Mobilize resources to support a fatigued nursing home workforce and assess minimum care standards. This recommendation specifically called for CMS to:

> "Issue guidance based on recent research that defines updated, acuity-adjusted, evidence-based, person-centered minimum care standards. These standards should specify hours of

[220] Harrington, C., Dellefield, M., Halifax, E., Fleming, M., and Bakerjian, D. Appropriate nurse staffing levels for US nursing homes. *Health Services Insights.* 2020: 13:1-14. Jun 29;13:1178632920934785. doi: 10.1177/1178632920934785. eCollection 2020.

[221] Centers for Medicare and Medicaid Services. *Coronavirus Commission for Safety and Quality in Nursing Homes*. Baltimore, MD; 2020 Apr 30. https://www.cms.gov/files/document/covid-final-nh-commission-report.pdf

care per resident per day during normal and emergency operations alike, and require nursing homes to adhere to these standards."

We strongly recommend that CMS utilize the methodology recommended by Harrington and colleagues (2020) or a similar methodology, to give facilities clear staffing guidelines linked to resident acuity.

3. Is there evidence of the actual cost of implementing recommended thresholds, that accounts for current staffing levels as well as projected savings from reduced hospitalizations and other adverse events?

There are many studies that show low staffing is related to rehospitalization and emergency room visits.[222] [223] [224] [225] [226]The problem is that the savings for reducing hospitalizations and emergency visits benefit Medicare so facilities have little incentive to reduce these costs. In fact, nursing homes have an incentive for readmissions because when the resident is readmitted to the nursing home, the resident is covered by Medicare with higher rates than Medicaid.

There is also evidence that improving staffing and quality of care is beneficial to facilities.[227] Dorr and colleagues' retrospective cost study of adverse outcome rates of pressure ulcers, urinary tract infections, and hospitalizations showed an annual net benefit of $3,191 per resident per year in a high-risk, long-stay nursing home unit that employed sufficient nurses to achieve 30-40 minutes of RN nurse direct care per resident per day versus nursing homes that had RN time of less than 10 minutes (not counting administrative nursing time).

There are many ways to estimate the costs of implementing minimum staffing standards. Hawk and colleagues (2022) compared actual NH staffing with the 2001 CMS minimum staffing standard recommendations necessary to prevent harm and jeopardy to residents. They found that 95 percent of NHs failed to meet all the recommended minimum staffing levels of 4.10 hours per resident day (hprd), including 0.75 registered nurses (RNs)

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[222] Spector, W., Shaffer, T., Potter, D.E., Correa-de-Araujo, R., Rhona Limcangco, M. Risk factors associated with the occurrence of fractures in U.S. nursing homes: resident and facility characteristics and prescription medications. *J Am Geriatr Soc.* 2007: 55(3):327-33.

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[225] Min, A. and Hong, H.C. Effect of nurse staffing on rehospitalizations and emergency department visits among short-stay nursing home residents: A cross-sectional study using the US nursing home compare database. *Geriatr Nurs.,* 2019: 40 (2):160-165

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hprd, 0.55 licensed practical nurses (LVNs/LPNs) hrpd, and 2.8 certified nursing assistants (CNAs) hrpd. Seventy-five percent of NHs failed to have 4.1 hprd, and 69 percent did not have 0.75 RN hprd in 2019.[228] They estimated that the cost to attain the recommended minimum staffing was $7.25 billion based on current wage rates and stated that this cost represents only **4.2% of the $172.2 billion** of national NH expenditures in 2019.

Bowblis (2022), using data from the 1995/97 Staff Time Measurement (STM) studies as a benchmark for minimum staffing, found that 80 percent of nursing homes did not meet the minimum for registered nurses and 60 percent did not meet the minimum for total nursing staff. He estimated the costs of meeting these minimums would be $500,000 on average for those not meeting the standard or a total of $4.9 billion annually.[229]

These authors argued that many Medicaid reimbursement rates are too low for nursing homes to increase their staffing without additional funds. We strongly disagree with this argument. **There is widespread evidence that most nursing homes have adequate resources to increase their staffing levels without additional Medicaid resources.**

The growth in nursing home sales, mergers, and acquisitions even during the pandemic demonstrates that nursing homes are highly profitable.[230] [231] A 2022 report claims that the average price is almost $100,000 per bed and in some areas, more than $200,000 per bed. [232] A study recently showed that most major publicly traded NH companies were highly profitable even during the pandemic. [233] Another study of Ensign, the second largest publicly-traded nursing home chain in the US, showed they made high profits during the COVID pandemic while keeping staffing levels low and having high rates of COVID-19 resident infections and deaths.[234]

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[231] Stulick A. Why institutional capital is critical for skilled nursing, despite White House rhetoric. Skilled Nursing News. April 3, 2022. https://skillednursingnews.com/2022/04/why-institutional-capital-is-critical-for-skilled-nursing-despite-white-house-rhetoric/?euid=c78589db4d&utm_source=snn-newsletter&utm_medium=email&utm_campaign=3af919ddf6

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[233] Kingsley, D.E. and Harrington, C. COVID-19 had little impact on publicly-traded nursing home companies. *JAGS.* 2021; 69:2099–2102.

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California Nursing Homes Are Profitable and Keep Staffing and Direct Care Spending Low. A recent analysis of California nursing home cost reports shows that California nursing homes were profitable in 2020 compared to 2019. Total nursing home revenues were $12.76 billion in 2020 or 2.3 percent higher than the previous year while expenditures were $12.26 billion. Nursing homes reported a 10 percent increase in Medicare and in Medicaid payment rates per day in 2020 over the previous year.[235] **California average NH Medicaid reimbursement rates were 91 percent ($329 per day) of average Medicare NH reimbursement rates ($360 per day) in 2020.** Even though NH patient days and occupancy rates declined, California NHs had an increase in profits to 5.6 percent in 2020. Of the total revenues after taxes, 38 percent were spent on nursing and routine expenditures, 9.6 percent on ancillary services (e.g., therapies, supplies, pharmacy, laboratory, and other), and 16.6 percent on support service (e.g. dietary, housekeeping, plant operations, social services, activities, and in-service training) for a total of 64.4 percent on direct care services in 2020. Administration and fees were 21.2 percent, property and other expenses were 9.7 percent, and profits were 5.6 percent (a total of 36.5 percent) of total revenues after taxes in 2020. If direct care expenses were required to be 85 percent as proposed in recent California legislation (A.B. 2079), an additional 21% of revenues would be shifted into direct care or close to $2.67 billion dollars.[236]

New York Nursing Homes Are Highly Profitable and Could Have Paid for Higher Staffing. In New York, the 2021-22 budget legislation required that nursing facilities spend 70 percent of reimbursement on care, with 40 percent on direct care staff. They also limited profits over 5 percent. According to a complaint filed against the state by 238 out of 615 nursing homes, these 238 facilities would have had to give up $824 million if the law had been in effect in 2019.[237] The Long Term Care Community Coalition reported that this excess income:

- "could have paid the annual salary and benefits of nearly 5,600 additional full-time Registered Nurses."
- "was the equivalent of over 26 million additional nurse aide hours (hourly wage, excluding benefits)."
- The average excess annual income "was $2,144,770. This figure excludes profits extracted via related party transactions. That is equivalent to almost 112,000 nurse aide hours per facility." [238]

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[235] Harrington, C. Examining California's nursing home cost reports in 2019 and 2020. San Francisco, CA: University of California. May, 2022. https://data.chhs.ca.gov/dataset/long-term-care-facility-disclosure-report-data/resource/4f920b00-80e4-400f-a662-4adadbc3dd8a and https://data.chhs.ca.gov/dataset/long-term-care-facility-disclosure-report-data/resource/904acb73-31f1-4579-95a5-cd764f90337f

[236] Harrington, C. 2022.

[237] Edelman, T. Center for Medicare Advocacy. Report: How do nursing homes spend the reimbursement they receive for care. January 26, 2022. https://medicareadvocacy.org/how-nursing-homes-spend-public-money/

[238] Long Term Care Community Coalition. NY Nursing Homes Admit Excess Profits. January 21, 2022. https://nursinghome411.org/nys-provider-lawsuit/#:~:text=January%2021%2C%202022%20%E2%80%93%20At%20the,law%20on%20nursing%20home%20spending .

Conclusion. There is no evidence that the current Medicare and Medicaid reimbursement rates are inadequate to prevent nursing homes from increasing their staffing levels to the minimum level recommended by CMS (2001).

4. Is there evidence that resources that could be spent on staffing are instead being used on expenses that are not necessary to quality patient care?

There is strong evidence that for-profit nursing homes have excessive administrative and property costs and are profitable. These resources could be spent on staffing.

For-Profit Chains and Non-Chains Often Have Lower Staffing and Poor Quality Care. For-profit nursing home companies generally have poorer quality indices and more deficiencies (for violations of regulations) than non-profit and government facilities.[239] [240] Studies show staffing levels, as a quality indicator, are lower in for-profit nursing homes. For-profit owners often cut nurse staffing, especially RN staffing, and reduce wages, benefits, and pensions to maximize profits, compared to nonprofit and government facilities, which provide higher staffing and quality care.[241] For-profit nursing homes reported an average of 16 percent fewer staff than nonprofits after accounting for differences in resident needs in 2017. There was 1 RN for every 28 residents in nonprofits and 1 for every 43 in for-profit nursing homes.[242] Homes with the highest profit margins have been found to have the worst quality in the US.[243]

Nursing home chains have more quality and compliance problems than other nursing homes.[244] The largest for-profit chains have lower RN and total nurse staffing hours than non-profit facilities and government facilities and have more deficiencies, which is not surprising considering their low staffing and high acuity levels. [245] [246] Non-profit nursing homes (compared to for-profits) have fewer 30-day rehospitalizations and greater improvement in mobility, pain,

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[239] Comondore, V.R., P.J. Devereaux, Q. Zhou, S.B. Stone, et al.. Quality of care in for-profit and not-for-profit nursing homes: Systematic review and meta-analysis. *British Medical Journal.* 2009: 339:b2732.

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[241] Harrington, C., Olney, B., Carrillo, H., Kang, T. Nurse staffing and deficiencies in the largest for-profit chains and chains owned by private equity companies. *Health Serv Res*. 2012; 47(1 pt I):106–128.

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[245] Harrington, C., Olney, B., Carrillo, H., Kang, T. Nurse staffing and deficiencies in the largest for-profit chains and chains owned by private equity companies. *Health Serv Res*. 2012; 47(1 pt I):106–128.

[246] Harrington, C., Jacobsen, F.F., Panos, J., Pollock, A., Sutaria, S., Szebehely, M. Marketization in long-term care: A cross-country comparison of large for-profit nursing home chains. *Health Services Insights.* 2017; 10:1-23.

and functioning.[247] Lawsuits are also more prevalent in nursing homes with lower staffing levels, a higher number of deficiencies, larger number of beds, and for-profit ownership.[248] [249]

COVID-19 Associated with Poor Quality Care and For-Profit and Chain Ownership. While the nursing home industry has argued that COVID-19 is primarily associated with the prevalence of community outbreaks and not associated with poor quality of care,[250] new research has found that outbreaks, infection rates and deaths are associated with the poor quality. A study of eight states found the nursing homes with high ratings on health inspection, quality measures and nurse staffing were less likely to have more than 30 COVID-19 cases than low performing facilities.[251] Other studies also show the link between low quality care and COVID-19 infection.[252] [253] [254]

For-profit nursing homes have been associated with more quality problems related to COVID-19 infections. A California study showed that COVID-19 deaths rates are higher in for-profit homes.[255]Another study found that chains have a higher probability of having COVID-19 cases and that for-profit nursing homes have a larger probability of higher outbreak size.[256] For-profit nursing homes in three states had higher COVID-19 death rates.[257] Nursing homes with private equity investors had higher confirmed COVID-19 cases than nonprofit and government nursing homes in the unadjusted outcomes and higher case rates than government in the adjusted outcomes.[258] Another study in Ontario showed that for-profit SNFs were associated

[247] Grabowski, D.C., Feng, Z., Hirth, R., Rahman, M., Mor, V. Effect of nursing home ownership on the quality of post-acute care: An instrumental variables approach. *J. of Health Economics.* 2013;14; 32(1):12-21.
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[251] Figueroa, J.F., Wadhere, R.K., Papanicolas, I., Riley, K., Zheng, J., Orav, E.J. and Jha, A.K.. Association of nursing home ratings on health inspections, quality of care, and nurse staffing with COVID-19 Cases. *JAMA:* (2020): August 10, E1-E2.
[252] Harrington, C., Ross, L., Chapman, S., et.al. Nursing staffing and coronavirus infections in California nursing homes. *Policy, Politics, & Nursing Practice:* 21:2 (2020): 174-186.
[253] He, M., Li, Y., and Fang, F. Is there a link between nursing home reported quality and COVID-19 cases? Evidence from California skilled nursing facilities. *JAMDA.* 2020: 905-908.
[254] Li, Y., Tempkin-Greener, H., Shan, G. and Cai, X. COVID-19 infections and deaths among Connecticut nursing home residents: facility correlates. *JAGS:* June 18, 2020.
[255] He, M., Li, Y., and Fang, F. Is there a link between nursing home reported quality and COVID-19 cases? Evidence from California skilled nursing facilities. *JAMDA.* 2020: 905-908.
[256] Abrams, H.R., Loomer, L., Gandhi, A. and Grabowski, D. Characteristics of US nursing homes with COVID-19 cases. *JAGS.* 2020: 68:1658-1656.
[257] Unruh, M.A., Yun, H., Zhang, Y., Braun, R.T., Jung, H. Nursing home characteristics associated with COVID-19 deaths in Connecticut, New Jersey, and New York. *JAMDA.* 2020: 21: 983-1003.
[258] Braun, R.T., Yun, H., Casalino, L.P.Myslinski, Zz, Kuwonza, F.M., Jung, H. and Unruh, M.A. Comparative performance of private equity-owned US nursing homes during the COVID-19 pandemic. *JAMA Network Open.* October 28, 2020: 1-11.

with the extent of an outbreak and number of deaths compared to non-profits but not the likelihood of outbreaks.[259]

Private equity companies increase costs and reduce staffing. Private equity firms use loans from private investors to acquire nursing homes as short term investments (3-7 years), usually with the idea of selling at a profit. Private investor acquisition of nursing homes is a concern because of the lack of financial transparency and the potential for adverse impacts on quality and costs. A Government Accountability Office (GAO) study found that private equity investments resulted in increasing costs for facilities and capital, along with higher profit margins compared to other for-profit or nonprofit homes.[260] A recent report claims that private equity firms own about 11 percent of nursing facilities nationwide as investments increased by $5.3 billion since 2015, compared to $1 billion between 2010 and 2014.[261]

A study of large chains purchased by PE companies between 2003-2008 showed little change in staffing levels. However, the number of deficiencies and serious deficiencies increased in some post-purchase years compared with the prepurchase period.[262] A study of a large nursing home chain purchased by Golden Living, showed that this private equity company used ongoing strategies to intensify corporate control, diversify services, divest from unprofitable nursing homes, and used strategies of lowering nurse staffing levels to increase profits. The nursing home chain put new companies on the market, offering guaranteed income for contracting with the Golden Living nursing home facilities.[263]

A more recent study of PE buyouts of nursing homes from 2000 to 2017 showed robust evidence of declines in resident health and compliance with care standards. This was related to cuts to front-line nursing staff and higher bed utilization compared to acquisitions by non-PE corporate chains.[264] Evidence suggests that staffing by PE companies varies based on geographic competition.[265]

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[259] Stall, N.M., Jones, A., Brown, K.A., Rochon, P.A., and Costa, A.P. For-profit long-term care homes and the risk of COVID-19 outbreaks and resident deaths. *CMAJ:* 192:33 (2020): 946-955.

[260] Government Accountability Office (GAO). *Private Investment Homes Sometimes Differed from Others in Deficiencies, Staffing, and Financial Performance.* (GAO-11-571): July 15, 2011. http://www.gao.gov/products/GAO-11-571

[261] Spanko, A. COVID-19 brings private equity investment in nursing homes into the spotlight. *Skilled Nursing News*. March 19, 2020. https://skillednursingnews.com/2020/03/covid-19-brings-private-equity-investment-in-nursing-homes-into-the-spotlight/

[262] Harrington, C., Olney, B., Carrillo, H., Kang, T. Nurse staffing and deficiencies in the largest for-profit chains and chains owned by private equity companies. *Health Serv Res*. 2012; 47(1 pt I):106–128.

[263] Bos, A. and Harrington, C. What happens to a nursing home chain when private equity takes over? A longitudinal case study. *Inquiry.* 2017. 54:1-10.

[264] Gupta, A., Howell, S.T., Yannelis, C., and Gupta, A. Does private equity investment in healthcare benefit patients? Evidence from nursing Homes. Philadelphia, PA: Wharton School. February, 2020.

[265] Gandi,A., Song, Y. and Upadrashta, P. Private equity, consumers, and competition: Evidence from the nursing home industry. Santa Monica, CA: UCLA, June 12, 2020.

One recent paper reported that PE companies had a lower probability of COVID-19 resident infections and fewer shortages of PPE, but facilities that were previously (but not presently) owned by PE companies were associated with increased PPE shortages and higher probability of resident outbreaks.[266] PE companies with a focus on short-term investment are likely to take out profits and resources before selling thus leaving the facility sold with less financial and administrative capacity. Another recent study of 543 (4.7%) PE-owned facilities compared with all other US nursing homes found they had the highest average COVID-19 cases per 1000 residents (88.3) but not the highest death rates. When controlling for other factors, PE-owned facilities had higher infection rates than government-owned homes but not than other for-profit and nonprofit facilities.[267] News reports have identified PE companies with large COVID-19 outbreaks and death rates.[268] [269] Overall, the growth and control by PE companies without expertise and commitment to the long-term delivery of nursing home services is very troublesome.

Real Estate Investment Companies Maximizing Profits Results in Reduced Staffing. Real estate investment companies (REITs) have dramatically expanded their ownership of nursing homes in the U.S. since 2008 when Congress passed the Housing and Economic Recovery Act that allowed REITs to buy health care facilities including nursing homes. A recent report found that REITs now own over 2,000 nursing home and assisted living properties.[270] These companies are related parties that lease their homes to their own nursing home operating companies. Other REITS like Carlyle, a PE company that acquired HCR ManorCare, separated the real estate and sold it to a REIT earning millions in profits. The lease payments to the REIT were so high that ManorCare was later forced into bankruptcy.[271] With the pandemic, the three largest REITS (Ventas, Healthpeak Properties and Welltower) reported a sharp drop in prices.[272] Some REITs reported selling nursing home assets because their high lease escalators were not feasible with nursing homes facing increasing costs related to COVID-19.[273] REITS have

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[266] Gandi,A., Song, Y. and Upadrashta, P. Have private equity owned nursing homes fared worse under COVID-19. Santa Monica, CA: UCLA, August 28, 2020.

[267] Braun, R.T., D; Yun, H., Casalino, L.P., Myslinski, Z., Kuwonza, F., Jung, H., Unruh, M.A. Comparative performance of private equity–owned US nursing homes during the COVID-19 pandemic. *JAMA Network Open.* 2020; 3 (10) doi:10.1001

[268] Woodall, P. Deadly combination of private equity and nursing homes during a pandemic. *Americans for Financial Reform Educational Fund.* August 2020. Laise, E. As the pandemic struck, a private-equity firm went on a nursing-home buying spree. *Barrons Magazine.* August 6, 2020. https://www.barrons.com/articles/as-the-pandemic-struck-a-private-equity-firm-went-on-a-nursing-home-buying-spree-51596723053?mod=hp_LATEST

[269] Cunningham-Cook, M. Greystone nursing homes, whose executives gave $800,000 to Trump, are epicenters of Covid-19 deaths. The Intercept. September 4, 2020. https://theintercept.com/2020/09/04/nursing-homes-coronavirus-deaths-greystone/

[270] Cockburn, A. Elder Abuse. Nursing homes, the coronavirus, and the bottom line. *Harper's Magazine.* September 2020: 43-49. https://harpers.org/archive/2020/09/elder-abuse-nursing-homes-covid-19/

[271] Ibid.

[272] Finn, I. US nursing homes: A goldmine for real estate and private equity firms*. WSWS News*. April 27, 2020. https://www.wsws.org/en/articles/2020/04/27/nur2-a27.html

[273] Flynn, M. Private equity could still pounce on skilled nursing post-pandemic – but with a closer eye on operations. *Skilled Nursing News.* October 4, 2020. https://skillednursingnews.com/2020/10/private-equity-could-still-pounce-on-skilled-nursing-post-pandemic-but-with-a-closer-eye-on-

such high lease requirements that nursing homes keep staffing and labor costs low to save money.

California Nursing Homes Are Profitable and Keep Staffing and Direct Care Spending Low. A recent analysis of California nursing home cost reports shows that California nursing homes were more profitable in 2020 compared to 2019. Nursing homes reported a 10 percent increase in Medicare and in Medicaid payment rates per day in 2020 over the previous year.[274] California average NH Medicaid reimbursement rates were 91 percent ($329 per day) of average Medicare NH reimbursement rates ($360 per day) in 2020. Even though NH patient days and occupancy rates declined, California NHs had an increase in profits to 5.6 percent in 2020. Of the total revenues after taxes, only 38 percent of revenues were spent on nursing and routine expenditures, 9.6 percent on ancillary services (e.g., therapies, supplies, pharmacy, laboratory, and other), and 16.6 percent on support service (e.g. dietary, housekeeping, plant operations, social services, activities, and in-service training) for a total of 64.4 percent on direct care services in 2020. Administration and fees were 21.2 percent, property and other expenses were 9.7 percent, and profits were 5.6 percent (a total of 36.5 percent) of total revenues after taxes in 2020. If direct care expenses were required to be 85 percent as proposed in recent California legislation (A.B. 2079), an additional 21% of revenues, or close to $2.67 billion dollars would be shifted into direct care.[275] Moreover, about 29 percent of nursing home revenues were paid to related party organizations out of $12.26 billion in 2020. Nursing homes can hide profits and administrative costs by siphoning money into related party organizations.

New York Nursing Homes Are Highly Profitable and Could Have Paid For Higher Staffing. In New York, the 2021-22 budget legislation required that nursing facilities spend 70 percent of reimbursement on care, with 40 percent on direct care staff. They also limited profits over 5 percent. According to a complaint filed against the state by 238 nursing homes, these facilities (39% out of 615 total NHs in NY) would have had to give up $824 million if the law had been in effect in 2019.[276] The Long Term Care Community Coalition reported that this excess income:

- "could have paid the annual salary and benefits of nearly 5,600 *additional* full-time Registered Nurses."
- "was the equivalent of over 26 million additional nurse aide hours (hourly wage, excluding benefits)."

operations/#:~:text=Well%20before%20the%20new%20coronavirus,virtual%20Skilled%20Nursing%20News%20RETHINK

[274] Harrington, C. Examining California's nursing home cost reports in 2019 and 2020. San Francisco, CA: University of California. May, 2022. https://data.chhs.ca.gov/dataset/long-term-care-facility-disclosure-report-data/resource/4f920b00-80e4-400f-a662-4adadbc3dd8a and https://data.chhs.ca.gov/dataset/long-term-care-facility-disclosure-report-data/resource/904acb73-31f1-4579-95a5-cd764f90337f

[275] Harrington, C. 2022.

[276] Edelman, T. Center for Medicare Advocacy. Report: How do nursing homes spend the reimbursement they receive for care. January 26, 2022. https://medicareadvocacy.org/how-nursing-homes-spend-public-money/

- The average excess annual income "was $2,144,770. This figure excludes profits extracted via related party transactions. That is equivalent to almost 112,000 nurse aide hours per facility." [277]

Complex Organizational Structures Are Designed to Protect For-Profit Nursing Homes. For-profit nursing home companies have developed increasingly complex corporate ownership structures, with most having a separate property company from the operating company.[278] [279] [280] Some nursing homes have as many as 7-8 layers of companies in control. The complexity of interlocking corporations is designed to protect operating companies from litigation by moving assets to a separate company. A recent study of Ensign (a for profit NH chain) showed that the highly profitable publicly traded company had 430 corporate entities to manage its 228 nursing homes and senior facilities.[281] The complexity is also designed to shield parent companies from liability and reduce regulatory oversight.

Growth in Related-Party Transactions Hides Profits. By contracting with related-party individuals and organizations for services that include management services, nursing and therapy services, lease agreements and loans, facilities are able to siphon money out of the facilities as expenses and hide the profits through these third-party contractors. Nursing and support services expenditure have been found to be lower than at non-profits and administrative costs were higher than non-profit non-chains. For example, one chain's nurse staffing was lower than expected staffing levels and its deficiencies and citations were higher than non-profits, and a number of lawsuits resulted in bankruptcy.[282] Profits were hidden in the chain's management fees, lease agreements, interest payments to owners, and purchases from related party companies.

A study by Kaiser Health News found that nearly three-quarters of US nursing homes (more than 11,000) have related party business transactions. Many homes contract out basic functions like management or rent their own building from a sister corporation. Contracts with related companies accounted for $11 billion of nursing home spending in 2015 — a tenth of their costs — according to Medicare cost reports. Homes that did business with related party companies:

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[277] Long Term Care Community Coalition. (2022). NY Nursing Homes Admit Excess Profits. January 21, 2022. https://nursinghome411.org/nys-provider-lawsuit/#:~:text=January%2021%2C%202022%20%E2%80%93%20At%20the,law%20on%20nursing%20home%20spending .

[278] Stevenson, D., Bramson, J.S., Grabowski, D.C. Nursing home ownership trends and their impacts on quality of care: A study using detailed ownership data from Texas. *J. of Aging & Social Policy.* 2013; 25:30-47.

[279] Harrington, C., Ross, L., Kang, T. Hidden ownership, hidden profits, and poor quality of nursing home care: A case study. *International Journal of Health Services.* 2015;45 (4): 779-800.

[280] Harrington, C., Olney, B., Carrillo, H., Kang, T. Nurse staffing and deficiencies in the largest for-profit chains and chains owned by private equity companies. *Health Serv Res*. 2012; 47(1 pt I):106–128.

[281] Kingsley DE, Harrington C. Financial and quality metrics of a large, publicly traded U.S. nursing home chain in the Age of Covid-19. *International J. Health Serv.,* 2022. doi.org/10.1177/00207314221077649

[282] Harrington, C., Ross, L., Kang, T. Hidden ownership, hidden profits, and poor quality of nursing home care: A case study. *International Journal of Health Services.* 2015;45 (4): 779-800.

- Employed 8 percent fewer nurses and aides
- Were 9 percent more likely to have hurt residents or put them in immediate jeopardy of harm
- Had 53 substantiated complaints for every 1,000 beds (compared with 32 per 1,000 beds at independent homes.[283])
- Were fined 22 percent more often for serious health violations than independent homes
- Had penalties averaging $24,441 (7 percent higher than independent homes).

For-profit nursing homes utilize related corporations more frequently than nonprofits. For-profit homes with related party contracts had 10 percent higher fines, received 24 percent more substantiated complaints from residents, and had 4 percent lower staffing than at independent for-profits.[284]

In California, nursing homes reported related-party expenditures of $3.7 billion (about 30 percent of revenues after taxes) in 2020.[285] The related-party expenditure reports do not indicate what percent of these expenditures were administrative costs and profits. As a result, these related party expenditures are a way for nursing homes to hide administrative costs and profits.

There is No evidence that state Medicaid rates are inadequate to cover a federal minimum staffing standard. Many state Medicaid programs also increased funding to nursing homes during the pandemic. Several states, including California, Rhode Island, Connecticut and Oregon, increased their Medicaid rates by 10 percent. Other states have directed funds to support nursing homes.[286] It is in the public interest to know how the facilities have used the increased funding through the COVID pandemic. Funds should be used for providing resident care and not for profits and administrative costs.

Financial Reporting and Accountability is Inadequate. The ACA required detailed Medicare nursing home cost reports, including expenditures for staff wages and benefits and separated costs for direct and indirect care, capital costs, and administrative costs that include owners' profits. Medicare cost report data are not audited and penalties are not issued for failure to report. In other words, the Medicare prospective payment system allocates funds for expected costs but does not impose audit requirements and ensure that funds are expended as allocated. The GAO recommended that CMS take steps to ensure that cost data are reliable and

[283] Rau J. Care suffers as more nursing homes fed money into corporate webs. *New York Times.* January 7, 2018. https://www.nytimes.com/2018/01/02/business/nursing-homes-care-corporate.html
[284] Ibid.
[285] Harrington, C. Examining California's nursing home cost reports in 2019 and 2020. San Francisco, CA: University of California. May, 2022.

[286] Flinn, B. Leading Age. States leverage Medicaid to provide nursing homes a lifeline through COVID-19. Leading Age. June 12, 2020. https://www.leadingage.org/regulation/states-leverage-medicaid-provide-nursing-homes-lifeline-through-covid-19

made readily accessible to public stakeholders.[287] Audits of cost reports are needed and penalties should be instituted for inaccurate nursing home ownership and cost data.

Minimum Staffing Standards Will Result in a Savings to Government. A 2005 study by Dorr and colleagues showed an annual net societal benefit of $3,191 per resident per year in a high-risk, long-stay nursing home unit that employs sufficient nurses to achieve 30 to 40 minutes of RN direct care time per resident per day versus nursing homes that have RN time of less than 10 minutes.[288] As well as financial savings, increasing RN staffing could have a significant benefit to society and government by reducing adverse outcomes.

Since higher staffing levels, especially RN staffing levels, have been found to be related to reductions in hospitalizations, the Medicare program would benefit from the savings. The Office of Inspector General's report on Medicare nursing home resident hospitalizations (2013) found that one-quarter of nursing home residents were hospitalized in FY 2011. These **hospitalizations cost Medicare $14.3 billion**, and a small number of medical conditions (e.g., septicemia) accounted for the majority of hospitalizations and costs.[289] Nursing homes rated one, two, or three stars (the lowest five-star ratings) on three of the four metrics (the overall, survey, and two staffing metrics) had higher annual hospitalization rates than those rated four or five stars (the highest five-star ratings). The biggest difference between annual hospitalization rates appears in the total staffing metric, where nursing homes rated one, two, or three stars had hospitalization rates that were 5 percentage points higher than that of those rated four or five stars.

In summary, CMS should not increase nursing home payments for higher staffing. There is no evidence that nursing facilities have insufficient resources (if they are being fully transparent in their expenditures) to increase staff spending by the estimated 4 or 5 percent of revenues required. CMS should increase nursing home financial transparency and study how public resources are being spent to ensure adequate staffing levels, wages, and benefits.

5. What factors impact a facility's capability to successfully recruit and retain nursing staff? What strategies could facilities employ to increase nurse staffing levels, including successful strategies for recruiting and retaining staff? What risks are associated with these strategies, and how could nursing homes mitigate these risks?

High Nursing Turnover Rates Results in Low Staffing and Poor Quality. The nation's nursing homes have historically had high nursing staff turnover rates. The national annual turnover rates have ranged between 50 and 100 percent in nursing homes. High turnover rates

[287] U.S. Government Accountability Office (US GAO). (2016). *Skilled* n*ursing facilities: CMS should improve accessibility and reliability of expenditure data.* GAO-16-700. Washington, D.C.: GAO, September

[288] Dorr, D.A., Horn, S.D., & Smout, R.J. (2005). Cost analysis of nursing home registered nurse staffing times. *J. of Amer Geriatrics Society,* 53: 840-845.

[289]Office of Inspector General. (2013). Medicare nursing home resident hospitalization rates merit additional monitoring. November 2013 OEI-06-11-00040. Washington, DC: OIG.

and the use of agency staff are known to result in poor quality of care.[290] [291] [292] A new study found that average annual turnover rates were 44 percent for RNs and 46 percent for total nursing in US nursing homes with higher turnover in for-profit and large nursing homes. Higher turnover was consistently associated with poorer quality based on CMS 5-star ratings for quality.[293]

Research shows that turnover rates result in a net savings to nursing homes which explains why the problem has persisted for many years. Mukamel and colleagues documented that the marginal cost savings associated with a 10 percent point increase in turnover for an average nursing facility was $167,063 or 2.9% of annual total costs.[294] For example, new nursing assistants can be hired at minimum wages and those who leave fail to gain wage increases commensurate with experience.

A recent study in California found that nursing homes with over 50 percent turnover rates had a 30 percent higher COVID-19 resident infection rate.[295] Given the financial incentives of high turnover rates for nursing homes, nursing homes must be required to maintain low turnover rates to protect the health and safety of the residents.

There are many factors related to the nursing home industry's ability to recruit and retain nursing staff.

Heavy Workloads Increase Turnover Rates. Twenty years ago, CMS (2001) research established the importance of having a minimum of 0.75 RN hours per resident day (hprd), 0.55 LVN/LPN hprd, and 2.8 (to 3.0) CNA hprd, for a total threshold of 4.1 nursing hprd to prevent harm and jeopardy for long stay residents.[296] As part of this CMS study, it was documented that the minimum number of CNA staff necessary to provide five basic aspects of daily care is 2.8 hprd to ensure consistent, timely care to residents. This means that CNAs should not have more than 7 residents on the day and evening shifts to care for and more than 13 residents at night. This minimum threshold was later confirmed in a simulation study which found that 2.8 CNA hprd were needed to ensure adequate care to residents with the lowest staffing care

[290] Castle, N.G., Engberg, J. and Men, A. Nursing home staff turnover: Impact on nursing home compare quality measures. *The Gerontologist.* 2007*:* 47 (5) 650–661.
[291] Castle, N. Use of agency staff in nursing homes. *Research Gerontological Nurs.* 2009: 2 (3):192-201.
[292] Lerner, N., Johantgen, M. and Trinkoff, A. et al. Are nursing home survey deficiencies higher in facilities with greater staff turnover. *J. Am Medical Dir Association*: 15:2 (2014): 102-7.
[293] Zheng, Q., Williams, C.S., Shulman, E.T., White, A.J. (2022). Association between staff turnover and nursing home quality – evidence from payroll-based journal data. *JAGS.* 2022:1-9. DOI: 10.1111/jgs.17843
[294] Mukamel, D.B., Spector, W.D., Limcangco, R., Wang, Y, Feng, Z, and Mor, V. The costs of turnover in nursing homes. *Medical Care.* 2009. 47(10):1039–1045. doi: 10.1097/MLR.0b013e3181a3cc62
[295] Spurlock, B., Stack, A., Harrington, C. Ross, L. et al. *Factors driving COVID-19 cases and deaths in California nursing homes.* Cal Hospital Compare Report to the California Health Care Foundation, December 1, 2020.
[296] Centers for Medicare & Medicaid Services, Abt Associates Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes. Report to Congress: Phase II Final*. Volumes I–III. Baltimore, MD: CMS, 2001.

needs.[297] Residents with moderate care needs required 3.2 CNA hprd and residents with the highest care needs required 3.6 CNA hprd.

In spite of this research, in May 2022, the average US nursing home only had an average of 2.2 CNA hprd to provide care which is 22 percent below needed levels.[298] This means that on average, each CNA is providing care to about 10 to 11 residents during the day and evening shifts, meaning that they would be unable to meet residents' care needs. The average US nursing home RN staffing was .68 hprd or 9 percent below the minimum of .75 hprd in May 2022.

Missed or omitted care has been found to be associated with adverse events including: pressure ulcers, medication errors, new infections, and IVs running dry or leaking. Missed nursing care has also been found to be associated with poor patient safety culture and patient falls, a patient safety indicator.[59] [299]Staffing levels, not surprisingly, predict missed nursing care and can explain the relationship between staffing levels and patient outcomes.[300] Missed care was found to be related to high levels of RNs burnout and job dissatisfaction. High nurse turnover rates are also related to inadequate staffing levels and poor quality.[301]

Inadequate Wages and Benefits Increase Turnover Rates. The nursing home workforce has been unstable for many years primarily because wages and benefits for nursing employees are much lower than those for hospital employees and workloads are heavy. Specifically, the average RN wages per hour in nursing homes was $ 34.74 per hour (only 85 percent) compared to $ 40.88 for RN hourly hospital wages nationally in 2021.[302]

Most resident care is provided by nursing assistants who make minimum wages. CNAs made an average of $15.43 per hour or $32,090 per year in 2020 in nursing homes, or 89 percent of hospital wages. [303] In comparison, CNAs working in hospitals made $17.25 per hour or $35,180 annually.[304] Direct care worker median wages are lower than for comparable entry level jobs for janitors, retail sales persons and customer service representatives and wages are

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[297] Schnelle, JF, Simmons, SF, Harrington, C, Cadogan, M, Garcia, E, Bates-Jensen, B. Relationship of nursing home staffing to quality of care? *Health Serv Res,* 2004; 39 (2):225-250.

[298] CMS. Medicare nursing home compare website data. Baltimore, MD: CMS, May 10, 2022 https://www.medicare.gov/care-compare/

[299] Hessels AJ, Paliwal M, Weaver SH, Siddiqui D, & Wurmser T A. Impact of patient safety culture on missed nursing care and adverse patient events. *J Nursing Care Quality.* 2019; 34(4), 287-294.

[300] Kalisch BJ, Tschannen D, Lee KH. Do staffing levels predict missed nursing care? *Intern J. Quality Health Care*. 2011; 23 (3):302-308.

[301] White EM, Aiken LH, McHugh MD. Registered nurse burnout, job satisfaction and missed care in nursing homes. *J. Am Geriatrics Society.* 2019; 67(10):2065-2071.

[302] Bureau of Labor Statistics. Occupational Employment and Wages, May 2021 29-1141 Registered Nurses. https://www.bls.gov/oes/current/naics4_623100.htm

[303] Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Nursing Care Facilities, May 2021. https://www.bls.gov/oes/current/naics4_623100.htm

[304]Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Hospitals, May 2021. https://www.bls.gov/oes/current/naics3_622000.htm

less than a dollar higher than those for housekeepers, groundskeepers and food preparation workers.[305] Many staff in nursing homes work more than one job because their work is only part-time and/or is too poorly paid.

Between 2009 and 2018, the average wage increase for nursing assistants was 4 percent adjusted for inflation. More than 30 percent of nursing assistants made less than $15,000 per year; sixty-eight percent made less than $30,000. Altogether, 15 percent of nursing home workers live in poverty (below 100 percent of the federal poverty level) while 44 percent live below 200 percent of the poverty level.[306] Moreover, long term care workers have significantly lower wages than other health workers and are about twice as likely to live in poverty as other health workers.[307] Low-skill long term care workers are also spending more time than other healthcare workers on paid and unpaid responsibilities such as working, commuting to work, and household and child care activities.[308] [309]

Moreover, because of low wages, many nursing home workers are working in more than one facility which was found to be a factor that increased the spread of COVID-19 across nursing facilities during the pandemic.[310] Another new study shows that long term care (LTC) workers including those in nursing homes are more likely to hold multiple jobs. The study shows a higher percent of multiple jobs for RNs/LVNs, PCAs across LTC settings compared to non-LTC settings, with obvious negative implications for the spread COVID-19 among workers and exposure to residents.[311]

Minimum Wages Need to be Increased By at Least 15 Percent to Reduce Turnover. A recent study by Leading Age estimated that by raising minimum wages of nursing assistants to the living wage level would reduce turnover and stabilize the workforce.[312] Estimates are that the minimum wages for nursing assistants needs to be raised by 15 percent per hour based on

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[305] PHI Competitive Disadvantage: Direct care wages are lagging behind. (2020). New York, NY. file:///J:/PHI%20Competitive-Disadvantage-2020-PHI.pdf

[306] PHI. It's time to care: A detailed profile of America's direct care workforce. Bronx, NY: PHINational. January, 2020 https://phinational.org/wp-content/uploads/2020/01/Its-Time-to-Care-2020-PHI.pdf .

[307] PHI. It's time to care: A detailed profile of America's direct care workforce. Bronx, NY: PHINational.org (January, 2020) https://phinational.org/wp-content/uploads/2020/01/Its-Time-to-Care-2020-PHI.pdf

[308] True, S., Cubanski, J. Garfield, R., Rae, M., Claxton, G., Chidambaram, P., and Orgera, K. *COVID-19 and workers at risk: Examining the long-term care workforce.* Kaiser Family Foundation (Apr. 23, 2020). https://www.kff.org/medicaid/issue-brief/covid-19-and-workers-at-risk-examining-the-long-term-care-workforce.

[309] Muench, U., Jura, M., Spetz, J., Mathison, R. & Harrington, C. Financial vulnerability and worker well-being: A comparison of long-term services and supports workers with other health workers. *Medical Care Research and Review.* 2020. DOI: 10.1177/1077558720930131

[310] Centers for Disease Control and Prevention. COVID-19 in a long-term care facility – King Country, Washington, February 27-March 9, 2020. *Morbidity and Mortality Weekly Report.* 2020: 69, March 18.

[311] Bates, t, Spetz, J, and Wagner, L., UCSF Health Workforce Research Center on Long-Term Care. 2022. Characteristics of multiple job holders in long-term care. Research report. San Francisco: University of California.

[312] Weller, C. Almeida, B., Cohen, M., and Stone, R. *Making care work pay.* LeadingAge LTSS Center at UMass Boston. (2020). Boston, MA. https://leadingage.org/sites/default/files/Making%20Care%20Work%20Pay%20Report.pdf

the minimum wage calculator for 2022.[313] This increase would translate into reducing turnover and stabilizing the workforce, reducing staffing shortages, increasing the hours that individuals are willing to work, and increasing work productivity. There would be a substantial positive effect on the economy as a whole, an increase of jobs in other sectors, and a reduction of the costs of public assistance for Medicaid, food stamps, housing subsidies, tax credits and other costs. Congress appropriated stimulus funds for nursing homes during the emergency and needs to ensure that the funds were used appropriately by nursing homes to ensure adequate wages.[314]

Inadequate Sick Leave and Health Insurance Increases Turnover Rates. In nursing homes, only 62 percent of nursing assistants had health insurance through their employer or union, 25 percent had Medicaid, Medicare or other public coverage, and 8 percent purchased insurance directly in 2018.[315] More than 36 percent of direct care nursing home workers required some form of public assistance, including Medicaid, food and nutrition assistance, and cash assistance.

With the outbreak of the pandemic, many staff members worked while sick or asymptomatic and were the primary source for resident infections.[316] Staff cannot afford not to work and have even been told to report to work when ill. They fear being fired, or being unable to feed their families if they do not show up for work. According to one survey, 64 percent of nursing home staff stated they had no paid sick leave provided by their employer.[317] A recent study of the coronavirus disease 2019 (COVID-19) emergency sick leave provision of the bipartisan Families First Coronavirus Response Act (FFCRA) confirmed the importance of sick leave. It found that states that gained access to two weeks of paid sick leave through the Act saw a statistically significant 400 fewer confirmed cases per day.[318] Health insurance benefits are also necessary so that staff do not have to choose between losing their job and paying out of pocket for testing when nursing homes are unwilling to pay. Sick leave and health insurance will help stabilize the workforce, prevent workers from coming to work sick, reduce the need for workers to work multiple jobs, and address racial/ethnic disparities and income inequities.

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[313] Massachusetts Institute of Technology. Living wage calculator. Cambridge, MA: MIT. https://livingwage.mit.edu/

[314] Centers for Medicaid & Medicaid Services. COVID-19 Survey Activities, CARES Act Funding, Enhanced Enforcement for Infection Control deficiencies, and Quality Improvement Activities in Nursing Homes, QSO-20-31-All, at 4-5. June 1, 2020 (Intiating a performance-based funding requirement tied to the Coronavirus Aid, Relief and Economic Security (CARES) Act supplemental grants for State Survey Agencies.).

[315] PHI. It's time to care: A detailed profile of America's direct care workforce. Bronx, NY: PHINational.org (January, 2020) https://phinational.org/wp-content/uploads/2020/01/Its-Time-to-Care-2020-PHI.pdf

[316] Centers for Disease Control and Prevention. COVID-19 in a long-term care facility – King Country, Washington, February 27-March 9, 2020. *Morbidity and Mortality Weekly Report.* 2020: 69, March 18.

[317] Service Employees International Union. National survey shows government, employers are failing to protect nursing home workers and residents. June 2020. https://www.seiu.org/2020/06/national-survey-shows-government-employers-are-failing-to-protect-nursing-home-workers-and-residents

[318] Pichler, S., Wen, K., & Ziebarth, N.R. COVID-19 emergency sick leave has helped flatten the curve in the United States. Health Affairs. 2020 (October 15) DOI.ORG/10.1377/HLTHAFF.2020.00863

Disparities for Women and Racial and Ethnic Minorities Create Social Inequities. The majority of nursing home nursing assistants are female and the median age of nursing home nursing assistants was 37 in 2017. In nursing homes, 57 percent of nursing assistants were from racial and ethnic minority groups (including 37 percent who were Black/African American, 12 percent were Hispanic/Latino, 4 percent were Asian or Pacific Islander and 4 percent from other groups in 2017). Of the total nursing assistants, about 22 percent were born outside of the US in 2017.[319] Women of color in the direct care workforce are more likely to live in poverty or low-income households and to require public assistance than white women or men. Therefore, the low pay and benefits result in reinforcing existing racial and ethnic disparities and income inequities. These workforce problems result in shortages of staff, lack of continuity of care, and poor-quality services.

Inadequate Support for Nursing Home Unions Results In Poor Care. Poor working conditions for staff in nursing homes is related to the limited unionization of nursing homes. From 1985 to 2009, the proportion of nursing home workers covered by union contracts declined from 14.6 to 9.9 percent, during a period when the workforce grew from 1.3 to 1.8 million workers.[320] Unions were more common in nursing homes where more residents lived in hospital-based or chain-affiliated facilities, and facilities serviced a higher proportion of Medicaid residents. A more recent study found that unions in nursing homes were associated with 10.8 percent lower resident COVID-19 mortality and 6.8 percent lower worker COVID-19 infection rates.[321] Unions can have many benefits for workers including job stability and improved working conditions. Unions can be powerful advocates for workers with management and owners for increasing wages and benefits, increased training and professional development, and staffing levels.

A recent study examined the relationship between the presence of health care worker unions and COVID-19 infection and mortality rates in nursing homes in New York state. Unions were associated with a 42 percent relative decrease in COVID-19 infection rates among nursing home residents and a 30 percent relative decrease in mortality rates.[322] The unionized nursing homes had more access to PPE and are more likely to encourage improved staff training, implementation of infection protocols, and reductions in the use of part time workers. Unions are also associated with improved patient outcomes.[323] There are a number of policy approaches that should be adopted to support unionization efforts including reducing the costs

[319] PHINational. Fast facts, 2018-19. Data from Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) program to May 2019 State Occupational Employment and Wage Estimates. New York, NY. https://phinational.org/policy-research/workforce-data-center/

[320] Sojourner, A.J., Grabowski, D.C., Chen, M., and Town, R.J. Trends in unionization of nursing homes. *Inquiry.* Winter 2010/2011; 47:331-342.

[321] Dean, A., McCallum, J., Kimmel, A.S., Venkataramani, A. Resident mortality and worker infection rates from COVID-19 lower in union than nonunion US nursing homes. *Health Affairs.* May, 2022: 41 (5):751-759.

[322] Dean, A., Venkataramani, A., and Kimmel, S. Mortality rates from COVID-19 are lower in unionized nursing homes. *Health Affairs.* September 20, 2020. DOI.ORG/10.1377/HLTHAFF.2020.01011

[323] Dube A, Kaplan E, Thompson O. Nurse Unions and Patient Outcomes. *ILR Rev.* 2016;69(4):803–33.

of unionization and increasing employer penalties for unfair labor practices that interfere with employees' rights to organize.

Inadequate Training Requirements Leads to Higher Turnover Rates. The federal training requirement for nursing home nursing assistants is 75 hours within four months of employment and passage of a state competency evaluation (including at least 16 hours of supervised practical or clinical training) (42 CFR § 483.152). Even the 75 hours of training, established in 1987, is insufficient to protect the health and safety of residents. Because the federal standards are so low, a number of states require additional training for nursing assistants.[324] Even these standards are often lower than those required by states for manicurists, hair dressers, and others. Staff need full training in care and in essential infection control practices.

During the pandemic in March 2020, CMS used its 1135 waiver authority to waive the 75-hour minimum nurse aide training requirement [325] and a trade association announced a free eight-hour online training program and competency test. This was a dangerous and unnecessary policy which has only made the quality of care worse during the pandemic. Without proper training on care techniques, including lifts, these staff are at risk of being injured. CMS also used its 1135 waiver authority to modify the training requirements for paid feeding assistants in 42 CFR §§ 483.60(h)(1)(i) and 483.160(a) – reducing training from a minimum of eight hours to a minimum of one hour in length. CMS has yet to reinstate the training requirements and has no system to track workers training.

Infection control violations have been widespread in part because nursing personal and other staff were not familiar with and did not use standard infection control practices.[326] Moreover, because of inadequate training, many staff did not know how to use PPE appropriately. CMS's suspension of training requirements and in-service education only led to greater risks for resident and staff COVID-19 infections. The inadequate training levels for nursing assistants have, no doubt, contributed to the spread of COVID-19 and required emergency assistance with training from the nation's Quality Improvement Organizations, hospitals, professional organizations, and local health departments.

The Nursing Work Environment Impacts Recruitment and Retention of Nursing Staff. In addition to individual issues such as inadequate wages and benefits, including sick leave and health insurance coverage; societal social inequities; adverse effects of high turnover on

[324]PHInational. Nurse assistant training hours by state. http://phinational.org/advocacy/nurse-aide-training-requirements-state-2016/

[325] Centers for Medicare & Medicaid Services. Trump administration makes sweeping regulatory changes to help U.S. healthcare system address COVID-19 patient surge. *CMS News.* Mar 30, 2020. https://www.cms.gov/newsroom/press-releases/trump-administration-makes-sweeping-regulatory-changes-help-us-healthcare-system-address-covid-19

[326] Centers for Medicare & Medicaid Services. *CMS Announces Findings at Kirkland Nursing Home and New Targeted Plan for Healthcare Facility Inspections in light of COVID-19*. (March 23, 2020) [ONLINE] Accessed April 2020. https://www.cms.gov/newsroom/press-releases/cms-announces-findings-kirkland-nursing-home-and-new-targeted-plan-healthcare-facility-inspections

quality; lack of support of unionization; and inadequate training, the overall impact of these variables has been described as the facility's nursing work environment. In 2004, the Institute of Medicine, now referred to as the National Academy of Medicine, published the seminal report "Keeping Patients Safe: Transforming the Work Environment of Nurses." The work environment was defined as an assessment of impacts of variables, including management practices, workforce capacity and development, staffing skill mix, work design, and a culture of safety, on resident and staff care processes and outcomes. [327]

Dellefield and Madrigal (2022) summarized the literature related to the nursing work environment.[328]The impact of the nature of nursing work, issues related to the supervision and management of the nursing skill mix, and the care delivery system on perceptions of the nursing work environment were described. **This research provides a substantial understanding of what strategies could be employed to recruit and retain nursing home staff.**

A positive work environment has been associated with improved care including fewer pressure ulcers, hospitalizations, and episodes of incontinence. Practices and programs identified with the best nursing leadership and managerial practices in nursing homes have been identified.[329] [330] [331] [332] [333] [334] [315] For example, Temkin-Greener and colleagues (2009) found that when the work environment in nursing homes is viewed as a measure of organizational performance, factors such as leadership, communication, coordination, and conflict management have an impact on staff cohesion and perceived work effectiveness. [335]

However, these strategies are directly related to a financial impact on the government and the nursing home industry. Staff satisfaction is sustained by adequate wages, benefits, and

[327] Institute of Medicine. *Keeping patients safe: transforming the work environment of nurses.* Washington, DC: National Academy of Medicine, 2004.
[328] Dellefield ME, Madrigal C. Nursing leadership – transforming the work environment in nursing homes. *Nurs Clin N Am,* 2022, https://doi.org/10.1016/j.cnur.2022.02.008
[329] Eaton SC. Beyond 'unloving care': linking human resource management and patient care quality in nursing homes. *Int J Hum Resource Manage*, 2000:11 591-616.8
[330] Dellefield ME. Best practices in nursing homes: clinical supervision, management, and human resource practices. *Res Gerontol Nurs*, 2008; 1(3): 197-207.
[331] Harahan MF, Kiefer K, Johnson A, et al. Addressing shortages in the direct care workforce: the recruitment and retention practices of California's not-for-profit nursing homes. Continuing Care Retirement Communities and Assisted Living Facilities, 2003.
[332] Siegel E, Young H, Mitchell P et al. Nurse preparation and organizational support for supervision of unlicensed assistive personnel in nursing homes: a qualitative exploration. *Gerontologist*,2008; 48(4):453-463.
[333] Toles MT, Anderson RA. State of the science: relationship-oriented management practices in nursing homes. *Nurs Outlook*,2011; 59(4): 221-7.
[334] Corazzini K, Twershy J, White HK, et al. Implementing culture change in nursing homes: an adaptive leadership framework. *Gerontologist*,2014; 55(4): 616-27
[335] Temkin-Greener H, Zheng N, Katz P, et al. Measuring work environment and performance in nursing homes. *Med Care,*2009; 47 (4):482-91.

fair management practices. The nursing home industry could mitigate these risks by focusing primarily on quality care rather than profit maximization and narrow compliance. [336]

Directors of Nursing Play a Key Leadership Role In Establishing the Nursing Home Environment. The industry needs to place a special emphasis on recruiting and retaining highly trained and skilled Directors of Nursing (DONs). [337] [338] [339] High turnover of nursing home leadership results in higher turnover among direct care and poor resident outcomes.[340] Most DONs have an associate degree in nursing with little or no geriatric training or management, [341] CMS and the nursing home industry has long opposed higher training requirements because of concern about costs. Certainly, Certification of DONs and higher training should be encouraged if not required.[342] DONs need to have direct involvement in decisions related to admissions and staffing that factor in resident acuity and staff competencies to care for residents. Increasingly, these two areas are determined by corporate office personnel, rather than the DON, which contributes to job dissatisfaction and turnover.

Consensus Style Leadership Skills are Associated with Lower Staff Turnover and Better Quality. Nursing home administrators and directors of nursing alike are not well trained to lead and manage what are essentially "mini-hospitals." CMS has supported the concept that consistent quality leadership is essential to sustained quality improvement, it is clear that effective leadership competencies are still woefully lacking in most nursing homes.

The importance of nursing home staff turnover as it relates to quality is well documented.[343] A 2009 study demonstrated a significant correlation between nursing home

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[336] Edelman, T.S. Improving nurse staffing levels in nursing facilities: Strategies, approaches, recommendations. Center for Medicare Advocacy September 30, 2020.

[337] Siegel E., Mueller C, Anderson K., & Dellefield ME. The pivotal role of the director of nursing in nursing homes. *J of Nurs Care Qual.* 2010; 34(2): 119-121.

[338] Stone PW, Mooney-Kane C, Larson EL, et al. Nurse working conditions and patient safety outcomes. *Med Care*, 2007; 45(6):571-578.

[339] Holle CL, Sundean LJ, Dellefield ME, et al. Spotlight on leadership: examining the beliefs of skilled nursing facility directors of nursing regarding BSN completion and the impact of nurse leader education on patient outcomes. *J of Nurs Admin,* 2019; 49 (2): 57-60.

[340] Castle, N. G. 2001. Administrator turnover and quality of care in nursing homes. The Gerontologist 41(6):757–767; Castle, N. G. 2005. Turnover begets turnover. The Gerontologist 45(2):186–195

[341]Page A, Institute of Medicine, Board on Health Care Services, Committee on the Work Environment for Nurses and Patient Safety. *Keeping patients safe: transforming the work environment of nurses*. Washington, DC: National Academies Press; 2004. Consensus study report; https://www. nap.edu/catalog/10851/keeping-patients-safe-transformingthe-work-environment-of-nurses.

[342] Kolanowski A, Cortes TA, Mueller C, Bowers B, Boltz M, Bakerjian D, Harrington C, Popejoy L, Vogelsmeier A, Wallhagen M, Fick D, Batchelor M, Harris M, Palan-Lopez R, Dellefield M, Mayo A, Woods DL, Horgas A, Cacchione PZ, Carter D, Tabloski P, Gerdner L. A call to the CMS: Mandate adequate professional nurse staffing in nursing homes. *Am J Nurs.* 2021 Mar 1;121(3):24-27. doi: 10.1097/01.NAJ.0000737292.96068.18.PMID: 33625007

[343] Gandhi A, Yu H, Grabowski DC. High Nursing Staff Turnover In Nursing Homes Offers Important Quality Information. Health Aff (Millwood). 2021 Mar;40(3):384-391. doi: 10.1377/hlthaff.2020.00957. PMID: 33646872; PMCID: PMC7992115

administrators with a consensus leadership style and lower staff turnover.[344] Furthermore, another study demonstrated a significantly positive relationship between a consensus leadership style amongst nursing home administrators and directors of nursing and several quality metrics.[345] The perception of good leadership skills was also found to be correlated with higher rates of vaccine confidence in facility staff.[346]

There is a paucity of data available on how to improve leadership deficiencies.[347] Organizational structure can have an impact on facility administrators and their ability to implement quality improvement efforts.[348] Team-based leadership is of particular value in nursing homes.[349] While TeamSTEPPS was included in Clostridium difficile infection (CDI) reduction efforts during the Quality Improvement Network-Quality Improvement Organization's 11th Scope of Work, there was very little uptake on this important training.

The CMS should develop parameters and guidance that incorporate evaluation and oversight of nursing home leadership style as part of the survey process. Efforts should be made to improve leadership skills among members of the nursing facility leadership team.

Training and Career Advancement Is a Key Issue for CNAs. As the NAM report (2022) noted, CNAs often are not empowered and have little opportunity for advancement. Because CNAs provide a substantial proportion of the nursing care in nursing homes, there is a critical need to significantly improve the quality of jobs and the work environment for CNAs and to advance the role of and empower CNAs**. We strongly support the NAM Recommendation 2E which calls for the following:[350]**

- **Career advancement opportunities and peer mentoring;**
- **Free entry-level training and continuing education;**
- **Coverage of time for completing education and training programs;**

[344] Donoghue C, Castle NG. Leadership styles of nursing home administrators and their association with staff turnover. Gerontologist. 2009 Apr;49(2):166-74. doi: 10.1093/geront/gnp021. Epub 2009 Mar 27. PMID: 19363012.
[345] Castle NG, Decker FH. Top management leadership style and quality of care in nursing homes. Gerontologist. 2011 Oct;51(5):630-42. doi: 10.1093/geront/gnr064. Epub 2011 Jun 30. PMID: 21719632.
[346] Niznik JD, Harrison J, White EM, Syme M, Hanson LC, Kelley CJ, Porter L, Berry SD. Perceptions of COVID-19 vaccines among healthcare assistants: A national survey. J Am Geriatr Soc. 2022 Jan;70(1):8-18. doi: 10.1111/jgs.17437. Epub 2021 Sep 8. PMID: 34449885; PMCID: PMC8657352.
[347] Siegel EO, Young HM. Assuring Quality in Nursing Homes: The Black Box of Administrative and Clinical Leadership-A Scoping Review. Gerontologist. 2021 Jun 2;61(4):e147-e162. doi: 10.1093/geront/gnaa175. PMID: 33151265.
[348] Siegel EO, Bakerjian D, Zysberg L. Quality Improvement in Nursing Homes: Alignment Among Leaders Across the Organizational Chart. Gerontologist. 2018 Jul 13;58(4):e281-e290. doi: 10.1093/geront/gnx054. PMID: 28605540.
[349] Nazir A, Unroe K, Tegeler M, Khan B, Azar J, Boustani M. Systematic review of interdisciplinary interventions in nursing homes. J Am Med Dir Assoc. 2013 Jul;14(7):471-8. doi: 10.1016/j.jamda.2013.02.005. Epub 2013 Apr 6. PMID: 23566932.
[350] National Academies of Sciences, Engineering, and Medicine. 2022. The National Imperative to Improve Nursing Home Quality: Honoring Our Commitment to Residents, Families, and Staff. Washington, DC: The National Academies Press. https://doi.org/10.17226/26526

• Expansion of the role of the CNA; and

• New models of care that take greater advantage of the role of the CNA as a member of the interdisciplinary team.

6. What should CMS do if there are facilities that are unable to obtain adequate staffing despite good faith efforts to recruit workers? How would CMS define and assess what constitutes a good faith effort to recruit workers? How would CMS account for job quality, pay and benefits, and labor protections in assessing whether recruitment efforts were adequate and in good faith?

We recommend that CMS mandate that nursing homes that have trouble recruiting and retaining staff to the level required by CMS staffing regulations should immediately put a hold on admissions and reduce their resident population sufficiently to come into compliance with minimum staffing requirements. This should be made a regulatory requirement.

CMS should not allow "good faith efforts for recruiting staffing" as a substitute for having adequate staffing. Nursing facilities should ensure that its recruiting efforts meet the following requirements:

1. The nursing home should ensure that its RN and LVN wages and benefits are at comparable levels to hospitals within the region.
2. The facility should ensure that its CNA wages and benefits are at least 15 percent higher matching other facilities in the region and at least comparable to the basic wages and benefits for other entry level workers in the region.
3. The facility should ensure that it is offering flexibility in work schedules, adequate training and supervision, sick leave, health insurance, and other employee support services.

Nursing Homes Should Not be Given Staffing Waivers. **Waivers from established staffing standards have negative consequences. Federal staffing waiver provisions need to be removed from existing regulations because there is no rationale for waivers and they undermine minimum staffing standards. Hospitals should not discharge patients to facilities without adequate staffing levels. This could have the positive effect of encouraging hospitals to recognize discrepancies in care that might occur from a discharge from the acute to the SNF.**

During the pandemic, the California Department of Public Health issued a number of staffing waivers to nursing homes because some facilities argued they were unable to hire sufficient staff to meet the state staffing requirements. An analysis of the relationship between staffing levels to staffing waivers in the 3rd quarter of 2020 and the cumulative number of COVID-19 resident infections and deaths and staff infections through January 2021 was undertaken in California.[351] During the fall of 2020, the 231 (20 percent) of California nursing

[351] Harrington C, Ross L, Halifax E. and Chapman S., The Geriatric Circle. Study of California nursing homes with and without staffing waivers. Unpublished study. March 3, 2021. San Francisco: University of California.

homes that were given staffing waivers by the California Department of Public Health had significantly: (1) lower RN staffing hours per resident day (hprd); (2) lower total nurse staffing hours; (3) higher numbers of residents with COVID-19 infections; (4) higher numbers of residents with COVID-19 deaths; and (5) higher numbers of staff with COVID-19 infections.[352]

These findings translated into serious problems at California nursing homes. For example, on October 9, 2020, Watsonville Post-Acute Center reported an outbreak that resulted in 61 resident infections and 9 resident deaths. Over 26 percent of the facility's residents were Latinx, a population at higher risk for the coronavirus infection. This large, for-profit facility also had inadequate staffing levels before the pandemic – only 3.41 total nursing hprd (below the state's legal requirement of 3.5 hprd) with only .25 RN hprd. This facility's resident population characteristics and low staffing indicate it was in a high-risk group for COVID-19 infections. Unfortunately, this facility was granted a staffing workload waiver that further reduced staffing levels and eventually the national guard was brought in to provide care. **Staffing waivers only undercut current wages for nursing home staff and have serious negative consequences, leaving residents subject to neglect.**

7. How should nursing staff turnover be considered in establishing a staffing standard? How should CMS consider the use of short-term (that is, travelling or agency) nurses?

As noted above, the nation's nursing homes have historically had high nursing staff turnover rates. The national annual turnover rates have ranged between 50 and 100 percent in nursing homes. High turnover rates and the use of agency staff are known to result in poor quality of care.[353] [354] [355] A new study found that average turnover rates were 44% for RNs and 46% for total nursing in US nursing homes with higher turnover in for-profit and large nursing homes. Higher turnover was consistently associated with poorer quality based on CMS 5-star ratings for quality.[356] Research shows that turnover rates result in a net savings to nursing homes which explains why the problem has persisted for many years. Mukamel and colleagues documented that the marginal cost savings associated with a 10 percent point increase in turnover for an average nursing facility was $167,063 or 2.9% of annual total costs.[357] New nursing assistants can be hired at minimum wages and those who leave fail to gain wage increases commensurate with experience.

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[352] Ibid.

[353] Castle, N.G., Engberg, J. and Men, A. Nursing home staff turnover: Impact on nursing home compare quality measures. *The Gerontologist.* 2007*:* 47 (5) 650–661.

[354] Castle, N. Use of agency staff in nursing homes. *Research Gerontological Nurs.* 2009: 2 (3):192-201.

[355] Lerner, N., Johantgen, M. and Trinkoff, A. et al. Are nursing home survey deficiencies higher in facilities with greater staff turnover. *J. Am Medical Dir Association*: 15:2 (2014): 102-7.

[356] Zheng, Q., Williams, C.S., Shulman, E.T., White, A.J. (2022). Association between staff turnover and nursing home quality – evidence from payroll-based journal data. *JAGS.* 2022:1-9. DOI: 10.1111/jgs.17843

[357] Mukamel, D.B., Spector, W.D., Limcangco, R., Wang, Y, Feng, Z, and Mor, V. The costs of turnover in nursing homes. *Medical Care.* 2009. 47(10):1039–1045. doi: 10.1097/MLR.0b013e3181a3cc62

CMS should not consider nursing staff turnover as part of its minimum staffing standard. Instead, we recommend that CMS establish a separate regulation that identifies an unacceptable total nursing turnover rate per quarter. If facilities exceed this rate, they should be subject to automatic deficiencies for jeopardy to the health and safety of residents. As noted above, nursing homes have high turnover rates on average. A recent study in California found that nursing homes with over 50 percent turnover rates had a 30 percent higher COVID-19 resident infection rate.[358] Given the financial incentives of high turnover rates for nursing homes, nursing homes must be required to maintain low turnover rates to protect the health and safety of the residents.

CMS has given nursing homes a strong incentive to reduce staff turnover by providing this information on the CMS Nursing Home Compare website. We also believe that nursing turnover rates should be considered an item for its value-based purchasing program. **Value-based purchasing should not reward facilities for improving turnover rates until a facility's total nursing turnover rates are 35 percent or less.**

CMS should work to set a realistic standard for short-term agency use of nursing staff in order to give facilities maximum flexibility in hiring staff. The use of agency staff is not desirable because it results in a lack of continuity of care which can cause poor quality.[359] There are some factors beyond the control of facilities such as family relocation, emergencies, and childcare problems that may result in the need to use agency staff on a short-term basis. While we believe that nursing homes have a responsibility to hire sufficient fulltime staff to meet the needs of their residents, emergencies and pandemics can result in staffing shortages where agency staff may need to be utilized.

Nursing homes try to keep the use of agency staff at a minimum because it is more costly than hiring staff. In some situations, nursing homes may fail to use contract agency staff even when their staffing levels fall very low in order to save money which can jeopardize the health and safety of residents. Many nursing homes make employees work double shifts when they are short staffed and even take double workloads when people call in sick. The recent report by the Long Term Care Community Coalition showed that agency staff made up less than 6 percent of total nursing staff. [360] There is little literature available assessing the impact of agency staff on nursing home culture or quality. **Presently, agency or temporary staff are not a significant component of total staffing, so we suggest that CMS regulations of agency staff should be focused on maximizing their effective utilization.**

8. What fields and professions should be considered to count towards a minimum staffing requirement? Should RNs, LVNs/LPNs, and CNAs be grouped together under a single nursing

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[358] Spurlock, B., Stack, A., Harrington, C. Ross, L. et al. *Factors driving COVID-19 cases and deaths in California nursing homes.* Cal Hospital Compare Report to the California Health Care Foundation, December 1, 2020.
[359] Castle, N., &. Engberg, J. The influence of agency staffing on quality of care in nursing homes. *J. of Aging and Social Policy, 2008:* 20 (4): 437-53.
[360] Long Term Care Community Coalition (LTCCC). (2021). *Nursing Home Staffing Levels Drop in Q2 2021.* November 16, 2021. https://nursinghome411.org/alert-staffing-q2-2021/

care expectation? How or when should they be separated out? Should mental health workers be counted as direct care staff?

Research on staffing as well as expert opinions show the need to set separate minimum staffing standards for RNs, LVNs/LPNs, and CNAs as well as total staffing. **Specifically, we recommend using the CMS 2001 minimum of 0.75 RN hours per resident day (hprd), 0.55 LVN/LPN hprd, and 2.8 (to 3.0) CNA hprd, for a total of 4.1 nursing hprd to prevent harm and jeopardy for long stay residents.**[361] As part of this study, a simulation model of CNAs established the minimum number of staff necessary to provide five basic aspects of daily care in a facility with different levels of resident acuity. The results found that the minimum threshold for CNA staffing is 2.8 hprd to ensure consistent, timely care to residents.

If CMS does not set a minimum standard for RNs, then nursing homes are likely to employ the least costly nursing staff. As noted above, when Florida failed to specify minimums standards for RNs, the result was a decline in RN hours. States that failed to set a minimum for licensed nurse staffing hours also had a decline in hours.[362] When only total nursing hours were specified, nursing facilities employ the least costly nurses which were CNAs, to meet the state standards.[363] [364] **We strongly believe that CMS should set a minimum staffing level for each type of nursing employee as well as for total nurse staffing.**

Staffing standards need to consider both direct nursing care and indirect care, which focuses on maintaining the quality of care. This includes meetings, program development (e.g., implementing new practices and regulatory requirements such as QAPI), staffing, supervisory and managerial practices, survey preparation, and education/training are types of indirect care.[365] These activities are performed to support the infrastructure that enables direct care staff to provide quality care to residents. Documentation is also a type of indirect care. The quality of the work environment is impacted by the level of investment focused on compliance issues rather than quality care at the facility level.

Among nursing home residents, difficulty swallowing is as high as 52.7 percent[366] and malnutrition is as high as 54 percent,[367] making these residents among the most vulnerable

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[361] Centers for Medicare & Medicaid Services, Abt Associates Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes. Report to Congress: Phase II Final*. Volumes I–III. Baltimore, MD: CMS, 2001.
[362] Hyer, K., Temple, A., and Johnson, C.D. (2009) Florida's efforts to improve quality of nursing home care through nurse staffing standards, regulation, and Medicaid reimbursement. *J. of Aging Social Policy.* 21 (4):318-37.
[363] Chen and Grabowski.
[364] Hyer, et al.
[365] Allen D. The invisible work of nurses: hospitals, organization and healthcare. Routledge Advances in Health and Social Policy, 2015, Taylor & Francis Group.
[366] Park Y-H, et al. Prevalence and associated factors of dysphagia in nursing home residents. *Geriatr Nurs.* 2013;34(3):212–217. doi: 10.1016/j.gerinurse.2013.02.014
[367] Namasivayam AM, Steele CM. Malnutrition and dysphagia in long-term care: a systematic review. *J Nutr Gerontol Geriatr.* 2015;34(1):1–21.

living in nursing homes. For this reason, the use of poorly trained feeding assistants can be dangerous. If feeding assistants are employed, they should be supervised by qualified staff.

We recommend that CMS specifically exclude feeding assistants from counting as meeting the minimum CNA staffing standards. Federal standards on feeding assistants at 42 CFR §483.160 require only 8 hours of training. These assistants should clearly not be counted toward nursing assistant hours. They are not adequately trained to provide care to residents and using them only undermines the wages and benefits of the CNA workforce and can endanger the lives and safety of frail vulnerable residents.

In 2022, a committee of the National Academies of Sciences, Engineering, and Medicine (NASEM) issued a comprehensive report on the national imperative to improve nursing home quality considering the devasting impact of the pandemic on nursing home residents. [368] This report stated that "despite substantial evidence demonstrating the relationship between nurse staffing and the quality of care in nursing homes, and 24-hour registered nurse (RN) coverage being recommended for decades, today's nurse staffing requirements remain vague."

The NASEM 2022 report also says that despite numerous calls over the years to increase nurse staffing, the "same federal staffing regulations have been in place for decades, even though the types of residents and the complexity of their needs have changed dramatically." We agree with the NASEM report **Recommendation 2C that calls for the following:[369]**

- **Research on minimum and optimal staffing standards for all direct-care staff, including weekend and holiday staffing, based on resident case mix and type of staff needed for the care of specific populations; and**

- **Updated regulatory requirements based on findings from this research.**

We strongly oppose including any other types of nursing home personnel in the minimum nurse staffing requirement. There is no evidence that social workers, mental health workers or any other ancillary personnel can substitute for nursing staff.

We do support setting minimum staffing standards for other nursing home professionals separate from those for nursing personnel. For example, we agree with the NASEM report Recommendation 2B that calls for the immediate implementation of the following requirements in nursing homes: [370]

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[368] The National Academies of Sciences, Engineering, and Medicine (NASEM); Health and Medicine Division; Board on Health Care Services; Committee on the Quality of Care in Nursing Homes. *The national imperative to improve nursing home quality: honoring our commitment to residents, families, and staff.* Preprint copy. April, 2022. https://nap.nationalacademies.org/catalog/26526/the-national-imperative-to-improve-nursing-home-quality-honoring-our

[369] NASEM report, 2022

[370] NASEM report, 2022.

• Full-time social worker with a minimum of bachelor's degree in social work from an accredited program and 1 year of supervised experience in a health care setting; and

• An infection prevention and control specialist who is an RN, advanced practice RN (APRN), or a physician, at a level of dedicated time sufficient to meet the needs of the size and case mix of the nursing home.

9. How should administrative nursing time be considered in establishing a staffing standard? Should a standard account for a minimum time for administrative nursing, in addition to direct care? If so, should it be separated out?

We strongly urge CMS to set a separate but higher minimum standard for administrative nurses than the current federal regulations. In 2000, an expert panel of nurses made the following recommendation which CMS did not implement.[371] We believe it is time to update these standards.

We recommend:

1 fulltime RN Director of Nursing (DON) for all nursing homes primarily on 5 days a week with options to spend a small percentage of time on alternate shifts or on weekends if there is no ADON or nursing supervisor on those shifts or in response to significant patient safety problems.

1 Assistant Director of Nursing (ADON) on duty whenever the DON is not on duty on days. For 100 beds or more, 2 ADONs on duty with at least 1 on duty every day

1 RN fulltime Director of Education or Staff Development (half time in facilities with less than 50 beds). Add one half-time Director for 150 beds. Add 1 fulltime for 200 beds

1 RN fulltime nursing supervisor on duty 24 hours a day, 7 days a week for every. Add 1 additional fulltime nursing supervisor 24 hours a day, 7 days a week for 100 or more residents.

1 RN fulltime MDS coordinator for all nursing homes counted as administrative time. Add 1 RN MDS coordinator for 100 beds or more.

1 Full time fully trained infection preventionist – this could be a licensed nurse, medical technologist, microbiologist, epidemiologist, public health professional, or

[371] Harrington, C, Kovner, C, Kayser-Jones, J, Berger, S, Mohler, M, Burke R. et al. Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *Gerontologist,* 2000: 40 (1):1-12.

other health care related field. The advantage of having a licensed nurse perform this job is that in an emergency, they can perform nursing jobs.

In addition, nursing homes should be incentivized to use adult-gerontological clinical nurse specialists to monitor and address clinical issues, collaborate with a director of education, coordinate education staff regarding clinical issues, and work with the DON on system issues.

The rationale for these recommendations is that residents in nursing homes are frailer, living longer with more chronic conditions and are administered more dangerous complex medications than they were 22 years ago. Residents are cared for with the same staffing as in 2000, which was inadequate. Residents require better assessment, treatment, and management requiring nursing staff knowledge and skills.

Additionally, there are many more quality activities and reporting requirements than previously existed. The additional administrative nursing staff can facilitate higher quality care and ensure patient safety. These are some activities that this group of individuals can assist with:

- Ensuring that ALL staff are up to date on training and skills: Because of the high staff turnover rates, nursing homes need to have a continuous training effort to oversee training and testing of new CNAs, administration of a competency exam, regular in-service education programs, and new staff orientation programs.
- Creating and managing an effective QAPI program with ongoing activities to ensure that metrics are collected, and interventions put in place to improve resident outcomes, and metrics and status (including problems) are reported to administration in a timely manner.
- Ensuring there is consistent 2-way communication where administrative decisions are communicated to staff on all shifts and concerns, problems, and needs from staff are communicated to administration
- Ensuring consistent adequate clinical staff are available to care for residents when a nurse becomes ill or needs to leave work for an urgent personal issue OR if residents need special care such as assistance with meals, which may often take as long as an hour
- Providing appropriate responses to emergency clinical situations such as a code or rapid deterioration of a resident (s) and/or multiple admissions in a shift or a death of a resident
- Providing a second set of eyes to assess and monitor residents who are not doing well
- Ensuring timely communication with providers (physicians, NPs, PAs) and family members if there is a change of condition
- Having an ability to better coordinate care with consultants – dieticians, pharmacists, dentists, optometrists, mental health providers, and other consultants
- Providing better clinical oversight for residents during activities

- Providing REAL and accurate assessments for MDS purposes. There is evidence that nursing home corporations are moving the MDS coordinators to the regional office, or even outside of the United States, so NHs can control the acuity level and the quality measures that are reported in order to save money.[372]

We recommend to CMS that MDS coordinators are required to be on-site and individual facilities must submit their own MDS data. Regional staff or MDS coordinators should not submit MDS data for individual facilities.

10. What should a minimum staffing requirement look like, that is, how should it be measured? Should there be some combination of options? For example, options could include establishing minimum nurse HPRD, establishing minimum nurse to resident ratios, requiring that an RN be present in every facility either 24 hours a day or 16 hours a day, and requiring that an RN be on-call whenever an RN was not present in the facility. Should it include any non-nursing requirements? Is there data that supports a specific option?

Specifically, we recommend that the minimum requirement for the lowest acuity residents as measured by the PDPM nursing requirement should be:

- **0.75 RN hours per resident day (hprd) (excluding the Director and Assistant Director of Nursing, MDS and Education RNs) for a ratio of 1RN to 28 residents on the day shift; 1 RN to 30 residents on evenings; and 1 RN to 40 residents at night.**
- **0.55 LVN/LPN hprd, and**
- **2.8 (to 3.0) CNA hprd, for a total of 4.1 nursing hprd for low acuity residents. For medium acuity residents, the minimum staffing should be 3.2 hprd, and for high acuity residents the minimum should be 3.6 hours per resident day. The minimum ratio would be 1 CNA to 7 residents on day and evening shifts and 1 CNA to 14 residents at night.**
- **1 fulltime Director of Nursing or Assistant Director of Nursing on duty on the day shift seven days a week. The DON and ADON may not serve as a charge nurse except in facilities with 25 beds or less.**
- **1 RN on duty 24-hours per day seven days a week and adjusted upward for higher resident acuity.**
- **Minimum staffing levels must be maintained seven days a week including on weekends and holidays**
- **Minimum nursing staff must be on duty on site at all times**
- **Nurse turnover levels should never exceed 50 percent per quarter**
- **Facilities must adjust their staffing levels upward (above the minimum) when residents have higher than minimum acuity as measured by the PDPM nursing acuity requirement. CMS guidelines must be developed to assist facilities.**

[372] Zorn, A. (2022). Staffing shortages lead nursing homes to rethink MDS coordinator role. *Skilled Nursing News.* May 15, 2022. https://skillednursingnews.com/2022/05/staffing-shortages-lead-nursing-homes-to-rethink-mds-coordinator-role/?euid=f874751f80&utm_source=snn-newsletter&utm_medium=email&utm_campaign=619f2f032f&mc_cid=619f2f032f

CMS should maintain its current regulatory requirement as stated below.

"The facility must have sufficient nursing staff with the appropriate competencies and skills sets to provide nursing and related services to assure resident safety and attain or maintain the highest practicable level of physical, mental, and psychosocial well-being of each resident, as determined by resident assessments and individual plans of care and considering the number, acuity and diagnoses of the facility's resident population in accordance with the facility assessment…" (See 42 C.F.R. § 483.70(e).[33]

CMS should maintain its current 2016 regulatory requirement:

"…to conduct a facility self-assessment regarding what resources and qualified staff are needed to meet patient needs and to carry out all functions at the facility level."

We strongly urge CMS to establish the minimum nurse staffing standard in both HPRD and in resident ratios as we discussed under Question 2 of this report. See the Harrington and colleagues' recommendation for minimum staffing levels and a methodology for determining higher staffing for resident acuity linked to nurse staffing times to ensure appropriate staffing to meet the acuity needs of residents**.[373]**

We strongly urge CMS to establish a requirement for 24-hour RN staffing in each nursing home in addition to the Director or Assistant Director of Nursing. See the rationale and documentation for this recommendation under Question 14. We strongly object to allowing RNs to be off-site and on-call to meet the minimum standard. All the evidence-based research and expert opinions show the dangers of not having 24-hour RN coverage on-site in nursing homes.

11. How should any new quantitative direct care staffing requirement interact with existing qualitative staffing requirements? We currently require that facilities have "sufficient nursing staff" based on a facility assessment and patient needs, including but not limited to the number of residents, resident acuity, range of diagnoses, and the content of care plans. We welcome comments on how facilities have implemented this qualitative requirement, including both successes and challenges and if or how this standard should work concurrently with a minimum staffing requirement. We would also welcome comments on how State laws limiting or otherwise restricting overtime for health care workers would interact with minimum staffing requirements.

[373]Harrington, C., Dellefield, M., Halifax, E., Fleming, M., and Bakerjian, D. Appropriate nurse staffing levels for US nursing homes. *Health Services Insights.* 2020: 13:1-14. Jun 29;13:1178632920934785. doi: 10.1177/1178632920934785. eCollection 2020.

Federal regulations established in 2016 require nursing homes to conduct a facility self-assessment regarding what resources and qualified staff are needed to meet patient needs and to carry out all functions at the facility level.[25] This analysis must consider: "the number, acuity and diagnoses of the facility's resident population" and must be updated at least annually (42 C.F.R. §483.70(e).[33] The facility assessment is similar to strategic and capital budget planning and should define the facility's strategy and resource allocation decisions. While corporate input may be included, the assessment must be conducted at the facility using many sources of information such as the residents, families, councils, and representatives (§483.35(a)(1)-(2)).[33]

Although the requirement began in November 2017, CMS failed to develop any standard forms, measures, or guidelines other than saying that facility assessment is meant to be a thorough process and surveyors may issue a deficiency if the assessment is generic or designed to justify preexisting or budgeted staffing levels and is not based on resident acuity. While the quality of assessment information will vary by facility, it may be useful for determining the resident care needs and needed nursing resources. CMS needs to develop more specific guidelines for the facility assessment.

As part of the qualitative facility assessment, nursing homes should conduct a comprehensive review of the following areas.[374]

1. **Federal and State Deficiencies.** Facilities that have received deficiencies for violations of quality regulations should show clear evidence of quality problems which are often directly related to understaffing.
2. **CMS Resident Quality Measures from the MDS Assessments.** Residents with pressure ulcers, urinary tract infections, decline in physical functioning, decline in mobility, overuse/unnecessary use of antipsychotics, and falls with injuries and other poor outcomes suggest staffing levels are inadequate. The most important CMS quality measures are those based on claims data. They are more accurate than self-reported quality measures. These include the percent of residents who: were readmitted to the hospital; were successfully discharged to the community; and had outpatient emergency department visits. Poor outcomes on rehospitalization and emergency visits are related to low nurse staffing levels.
3. **All Complaints Received by the Facility and by the State from Residents, Family Members, and Others.** Complaints are one of the best indicators of whether nursing is meeting the care needs of residents.[375] Reports about the timeliness of answering resident call lights, about the quality and the amount of care provided, and about other aspects of nursing care should be reviewed. These reports indicate whether staffing is adequate. Complaints should be minimal. In order to respond, staffing levels may need

[374] Harrington, C., Dellefield, M., Halifax, E., Fleming, M., and Bakerjian, D. Appropriate nurse staffing levels for US nursing homes. *Health Services Insights.* 2020: 13:1-14. Jun 29;13:1178632920934785. doi: 10.1177/1178632920934785. eCollection 2020.

[375] Stevenson, DG. Nursing home consumer complaints and quality of care: a national view. *Med Care Res Rev.* 2006; 63 (3):347-68.

to be increased and in-service training may need to be provided to reduce or eliminate complaints

4. **Survey of Nursing Staff Regarding the Adequacy of Staffing.** The facility should conduct regular quarterly surveys of nursing staff about the adequacy of staffing. This may come directly from reports by facility nursing staff about their workload and their inability to complete assignments including basic care, communications, and timeliness of care.[376] [377] Missed or omitted care has been found to be associated with adverse events including: pressure ulcers, medication errors, new infections, and IVs running dry or leaking. Missed nursing care has also been found to be associated with poor patient safety culture and patient falls, a patient safety indicator.[59] [378]Staffing levels, not surprisingly, predict missed nursing care and can explain the relationship between staffing levels and patient outcomes.[379] Missed care was found to be related to high levels of RNs burnout and job dissatisfaction. High nurse turnover rates are also related to inadequate staffing levels and poor quality.[380]
5. **Director of Nursing Has Responsibility for Determining Facility Staffing for Acuity.** The adequacy of staffing is dependent on many factors such as the physical layout of the facility, the competence of the staff working, and the acuity of the residents. Because of this complexity, the DON must determine the adequacy of staffing because they are accountable for the quality of care provided. Frequently the decision-making for staffing is made at the corporate level and does not involve the DON or professional decisions about staffing adequacy.
6. **Effective Quality of Care Monitoring.** The CMS regulation states that nursing homes are required to develop program feedback, data systems and monitoring of quality of care (§483.75(c)(a) including adverse events. Each facility must also establish a quality assurance and performance improvement (QAPI) program and develop and implement appropriate plans of correction (§483.75(g)(2). Where nursing homes are not able to reduce errors or adverse incidents and improve quality, inadequate staffing levels may be the fundamental underlying problem.

CMS should enforce its specific facility staffing assessment requirements for nursing homes.

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[376] Kalisch BJ, Xie B, Dabney BW. Patient-reported missed nursing care correlated with adverse events. *Amer J. Med Quality.* 2014; 29(5)-415-422.
Dabney BW, Kalisch BJ. Nurse staffing levels and patient-reported missed nursing care. *J. Nurs Care Quality.* 2015; 30(4): 306-312. .

[377] Dabney BW, Kalisch BJ. Nurse staffing levels and patient-reported missed nursing care. *J. Nurs Care Quality.* 2015; 30(4): 306-312.

[378] Hessels AJ, Paliwal M, Weaver SH, Siddiqui D, & Wurmser T A. Impact of patient safety culture on missed nursing care and adverse patient events. *J Nursing Care Quality.* 2019; 34(4), 287-294.

[379] Kalisch BJ, Tschannen D, Lee KH. Do staffing levels predict missed nursing care? *Intern J. Quality Health Care*. 2011; 23 (3):302-308.

[380] White EM, Aiken LH, McHugh MD. Registered nurse burnout, job satisfaction and missed care in nursing homes. *J. Am Geriatrics Society.* 2019; 67(10):2065-2071.

12. Have minimum staffing requirements been effective at the State level? What were facilities' experiences transitioning to these requirements? We note that States have implemented a variety of these options, discussed in section VIII.A. of this proposed rule, and would welcome comment on experiences with State minimum staffing requirements.

There is strong evidence that establishing minimum staffing standards improves staffing levels and quality in nursing homes. In a study of the state nursing staffing levels in U.S. nursing homes, Harrington and colleagues (2007) found that higher state Medicaid reimbursement rates and higher state minimum RN staffing standards were positive predictors of RN and total nursing hours. Higher state minimum staffing standards were a stronger predictor of staffing levels than higher reimbursement rates. Specifically, states with higher RN staffing minimum standards had an increase of 16.6 RN hours for every 100 residents which is a substantial difference.[381]

Zhang and Grabowski (2004) found that after controlling for many factors, there was a significant decrease in the proportion of residents with pressure ulcers, physical restraints, and urinary catheters following the implementation of the nursing home reform act between 1987 and 1993. A positive relationship was found between RN, total licensed hours, and total nurse staffing hours and overall quality of care.[382]

Park and Stearns (2009) found that states that implemented higher minimum nursing home staffing standards did see staffing increases in facilities that had staffing below or close to the new standards. The new standards were associated with a reduction in restraint use and total deficiencies.[383] In addition, Bowblis (2011) found that higher state minimum direct care staffing requirements increased nursing staffing levels and these were generally associated with improved resident outcomes and meeting regulatory standards.[384] Tong (2011) reported that after the California state staffing minimum standard was instituted in 2000, nursing facilities showed an increase in nurse staffing which was related to reduced on-site SNF patient mortality rates.[385] Chen and Grabowski (2015) found that adopting minimum staffing standards in California and Ohio resulted in a 5 percent increase in total nursing hours per resident day and reduced severe deficiencies. The regulation changes had the unintended consequence of lowering the direct care professional nursing and the absolute level of indirect care.[386]

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[381] Harrington, C., Swan, J.H., and Carrillo, H. Nursing Staffing and Medicaid Reimbursement Rates. *Health Services Research,* 2007: 43 (3): 1105-1129.

[382] Zhang, X., & Grabowski, D. C. (2004). Nursing home staffing and quality under the nursing home reform act. *The Gerontologist*, **44**, 13–23. doi:10.1093/geront/44.1.13

[383] Park, J. and Stearns S.C. (2009). Effects of state minimum staffing standards on nursing home staffing and quality of care. *Health Serv Res.* 44(1):56-78.

[384] Bowblis, J.R. (2011). Staffing ratios and quality: An analysis of minimum direct care staffing requirements for nursing homes. *Health Services Research,* 46(5): 1495-516.

[385] Tong PK. (2011). The effects of California minimum nurse staffing laws on nurse labor and patient mortality in skilled nursing facilities. *Health Econ.* 20(7):802-16.

[386] Chen M.M. and Grabowski, D C. (2015) Intended and unintended consequences of minimum staffing standards for nursing homes. *Health Econ.* 24: 822-839.

Paek and colleagues (2016) found that the implementation of state standards for RNs, licensed nurses, and total nurses was positively associated with an increase in actual staffing levels for those types of nurses. Nursing homes more actively responded to licensed staffing requirements than to the total staffing requirements.[387] They also found that nursing homes did not increase their staffing levels as much as those required by state staffing standards. Possibly that was because of weak state enforcement of the standards. Bowblis and Roberts (2020) found that higher nursing home staffing was consistently related to better quality (based on deficiencies), the largest improvements resulted from increasing administrative RNs and social service staffing.[388]

All the State Standards Are Too Low Except for D.C. These low standards are below the minimum standard shown to be necessary to protect the health and safety of residents. As noted above, states that adopted higher staffing standards than the federal standards have resulted in improved staffing levels and improved quality of care. Unfortunately, as the Consumer Voice 2021 report found that with one exception, state standards are substantially below the recommended staffing standard from evidence-based research. Only the District of Columbia with 4.16 hprd of total nursing staff time meets/exceeds the overall recommended level of 4.1 hprd.[389] See also a recent MACPAC report.[390] Because even these low state standards have produced important benefits, establishing higher appropriate minimum staffing is expected to have even greater benefits.

State Standards Show the Need for Separate Standards for Each Type of Nursing Staff. One clear lesson from Florida's state efforts to improve nursing home staffing was that providing Medicaid reimbursement incentives was not effective. Only after state legislation mandated minimum nursing home staffing did nursing homes improve staffing levels. Unfortunately, the state established a minimum for CNAs and total licensed nurse staffing but not for RN staffing. This resulted in nursing homes reducing RN staffing by substituting less expensive LPN/LVNs for RNs.[391]

It is therefore imperative that any minimum staffing standards must specify standards for each type of nursing staff, specifically for RNs, LVNs, and for CNAs. If not, some nursing homes are likely to employ the least expensive type of nurses.

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[387] Paek, SC., Zhang NJ, Wan, TTH, Unruh, LY, and Meemon, N. (2016). The impact of state nursing home staffing standards on nurse staffing levels. *Medical Care Research & Review,* 73(1):41-61

[388] Bowblis, J.R. and Roberts, A.R. (2020) Cost-effective adjustments to nursing home staffing to improve quality. *Med Care Res and Review.* 77 (3):274-284.

[389] The National Consumer Voice for Quality Long Term Care. State nursing home staffing standards summary report. 2021. Washington, DC: https://theconsumervoice.org/uploads/files/issues/CV_StaffingReport.pdf

[390] Medicaid and CHIP Payment and Access Commission (MACPAC). State policies related to nursing facility staffing. 2021. Washington, DC: MACPAC.

[391] Hyer, K., Temple, A., and Johnson, C.D. (2009) Florida's efforts to improve quality of nursing home care through nurse staffing standards, regulation, and Medicaid reimbursement. *J. of Aging Social Policy.* 21 (4):318-37.

13. Are any of the existing State approaches particularly successful? Should CMS consider adopting one of the existing successful State approaches or specific parts of successful State approaches? Are there other approaches to consider in determining adequate direct care staffing? We invite information regarding research on these approaches which indicate an association of a particular approach or approaches and the quality of care and/or quality of life outcomes experienced by resident, as well as any efficiencies that might be realized through such approaches.

CMS should not adopt state approaches for establishing minimum staff levels. Although many states have established higher staffing standards than the federal standards, [392] a Consumer Voice 2021 report found that with one exception, state standards fall far short of the recommended staffing standard. Only the District of Columbia with 4.16 hprd of total nursing staff time meets/exceeds the overall recommended level of 4.1 hprd. The majority of states - 29 - require less than 3.5 hprd, with 15 of those states falling below 2.5 hprd. See also a recent MACPAC report.[393] Therefore, these standards are well below the minimums based on research.

There is no research showing that any particular state approaches are effective. However, as noted above, when California, Ohio, and Florida failed to specify minimums standards for RNs and total licensed nurses, the result was a decline in RN and licensed nurse staffing hours. When only total nursing hours were specified, nursing facilities employed the least costly nurses which were CNAs, to meet the state standards.[394] [395]

It should be noted that some states have converted their nursing hours per resident day requirements into ratios as part of their regulatory requirements. In general, ratios are easier for nursing home staff and consumers to use to monitor staffing levels on units and for individual staff when there is a clear ratio specified. CMS should not only specify the minimum standard in hours per resident day but should also specify the minimum standards in ratios per resident as some states have done. See the example in the Table 1 of this response.

14. The IOM has recommended in several reports that we require the presence of at least one RN within every facility at all times. Should CMS concurrently require the presence of an RN 24 hours a day 7 days a week? We also invite comment on the costs and benefits of a mandatory 24-hour RN presence, including savings from improved resident outcomes, as well as any unintended consequences of implementing this requirement.

[392] The National Consumer Voice for Quality Long Term Care. State nursing home staffing standards summary report. 2021. Washington, DC: https://theconsumervoice.org/uploads/files/issues/CV_StaffingReport.pdf
[393] Medicaid and CHIP Payment and Access Commission (MACPAC). State policies related to nursing facility staffing. 2021. Washington, DC: MACPAC.
[394] Chen and Grabowski.
[395] Hyer, et al.

CMS should require all nursing homes, regardless of size, to have 24-hour RN staff present on site and available. Nursing experts, organizations and advocates have called for 24-hour RN staffing for the past 20 years. [396] The CMS 2001 minimum standard has been endorsed by professional associations and experts.[397]

In 1996, The Institute of Medicine released a report that made a specific recommendation that "Congress require by the year 2020 a 24-hour presence of registered nursing coverage in nursing facilities as an enhancement of the current 8-hour requirement specified under OBRA 87." (p. 154).[398]

In 2000, an expert panel of nurses recommended that in addition to an RN Director and Assistant Director of Nursing, each nursing home should have at least one RN nursing supervisor on duty at all times (24 hr/day, 7 days/week) because of the complex care requirements of nursing facility residents.[399]In addition, the American Nurses' Association and the Coalition of Geriatric Nursing both recommended that all nursing homes have an RN on duty 24 hours per day. [400] [401]

In 2001, a National Academy of Medicine Report consensus study made a recommendation: [402]

> "Recommendation 6.1 The committee recommends that HCFA implement the IOM 1996 recommendation to require RN presence 24 hours per day. It further recommends that HCFA development minimum staffing levels (number and skill mix) for direct care based on casemix-adjusted standards. (p.19)"

In 2004, a report by the Institute of Medicine specifically made the following recommendation:[403]

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[396] Harrington, C, Kovner, C, Kayser-Jones, J, Berger, S, Mohler, M, Burke R. et al. Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *Gerontologist,* 2000: 40 (1):1-12.
[397] Harrington, C., Schnelle, J.F., McGregor, M., Simmons, S.F. The need for minimum staffing standards in nursing homes. *Health Serv Insights*. 2016: 9:13-19.
[398] Wunderlich, G.S., Sloan, F.A., and Davis, C.K. Editors, Institute of Medicine. *Nursing staff in hospitals and nursing homes: Is it Adequate?* Washington, DC: National Academy Press, 1996.
[399] Harrington, C, Kovner, C, Kayser-Jones, J, Berger, S, Mohler, M, Burke R. et al. Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *Gerontologist,* 2000: 40 (1):1-12.

[400] American Nurses' Association. Nursing staffing requirements to meet the demands of today's long term care consumer recommendations from the Coalition of Geriatric Nursing Organizations (CGNO). Position Statement 11/12/14.
[401] Coalition of Geriatric Nursing Organizations (CGNO). Nursing staffing requirements to meet the demands of today's long-term care consumer recommendations, 2013.
[402] Wunderlich GS, et al. *Improving the quality of long-term care*. Washington, DC: National Academy Press; 2001. Consensus study report; https://www.nap.edu/catalog/9611/improving-the-quality-of-long-term-care.
[403] Page A; Institute of Medicine, Board on Health Care Services, Committee on the Work Environment for Nurses and Patient Safety. *Keeping patients safe: transforming the work environment of nurses*. Washington, DC: National

"Recommendation 5-1. The U.S. Department of Health and Human Services (DHHS) should update existing regulations established in 1990 that specify minimum standards for registered and licensed nurse staffing in nursing homes. Updated minimum standards should:

- Require the presence of at least one RN within the facility at all times.
- Specify staffing levels that increase as the number of patients increase, and that are based on the findings and recommendations of the DHHS report to Congress, *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes—Phase II Final Report.*
- Address staffing levels for nurse assistants, who provide the majority of patient care."

In a 2011 the Robert Wood Johnson Foundation and the Institute of Medicine released a report on the future of nursing.[404] The report points out that the nursing profession requires increasingly complex skills and education. They recommended that all nursing schools offer defined academic pathways to promote seamless access for nurses to higher levels of education. They also recommended that health care organizations should encourage nurses with associate's and diploma degrees to enter baccalaureate nursing programs within 5 years of graduation by offering tuition reimbursement, creating a culture that fosters continuing education, and providing a salary differential and promotion. They pointed out that these efforts should take into consideration strategies to increase the diversity of the nursing workforce in terms of race/ethnicity, gender, and geographic distribution.

In 2015, a consortium of international professional nursing experts made recommendations about how to improve care in long term care homes (LTCHs).[405] They recommended the following priority issues for action: (1) define the competencies of RNs required to care for older adults in LTCHs; (2) create an LTCH environment in which the RN role is differentiated from other team members and RNs can practice to their full scope; and (3) prepare RN leaders to operate effectively in person-centered care LTCH environments.

In April 2020, the CMS established an independent Coronavirus Commission for Safety and Quality in Nursing Homes that issued a report.[406] The Commission issued: **Principle Recommendation 6C: Support 24/7 RN staffing resources at nursing homes in the event of a**

Academies Press; 2004. Consensus study report; https://www.nap.edu/catalog/10851/keeping-patients-safe-transforming-the-work-environment-of-nurses

[404] Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine. *The future of nursing: leading change, advancing health*. Washington, DC: National Academies Press; 2011. Consensus study report; https://www.nap.edu/catalog/12956/the-future-of-nursing-leading-change-advancing-health.

[405] McGilton KS, et al. Recommendations from the International Consortium on Professional Nursing Practice in Long-Term Care Homes. *J Am Med Dir Assoc* 2016;17(2):99–103.

[406] Centers for Medicare and Medicaid Services. *Coronavirus Commission for Safety and Quality in Nursing Homes*. Baltimore, MD; 2020 Apr 30. https://www.cms.gov/files/document/covid-final-nh-commission-report.pdf

positive SARS-CoV-2 test within that facility. As noted above in the literature review, RNs are critical for managing acute and chronic conditions of residents in nursing homes including infection prevention and control, and they played an important role in protecting residents during the pandemic.

In 2021, in response to the serious COVID-19 resident infection and death rates in nursing homes, a group of expert nurses (Kolanowski and colleagues) pointed out: [407]

> "RNs in nursing homes are responsible for comprehensive health assessments and plans for person-centered life-sustaining and life-affirming care. They act as mentors and role models to staff; they advocate for needed resources; and they coordinate with the interdisciplinary team as well as local, state, and regional authorities to ensure safe, high-quality care. At an organizational level, RNs are responsible for hiring and training staff, overseeing the implementation of best practices, ensuring resident safety, and compliance with facility policies and procedures as well as state and federal regulations."

They also recommended that LVNs/LPNs should not substitute for RNs because LVNs/LPNs are expected to work under the supervision of an RN. Nursing homes often substitute LVNs/LPNs for RNs because they are substantially less expensive. However, LVNs/LPNs do not have the expertise to conduct comprehensive resident assessments, resident surveillance, and other essential skills that RNs provide.

Another problem addressed by Kolanowski and colleagues is the fact that most RNs working in nursing homes have an associate degree with little or no geriatric education or leadership and management training. Moreover, the Director of Nursing who is required to be an RN, does not have to meet education and training requirements commensurate with the regulatory requirements for managing a nursing home. They point out that research shows that RNs with higher degrees and/or leadership and management training significantly improve problems such as staff turnover and low satisfaction as well as attaining better resident outcomes. Specifically, Kolanowski and colleagues recommended the following:[408]

> "1. Establish and enforce a regulation that mandates a 24-hour, 7-day a week onsite RN presence. This RN should be someone other than the director of nursing.
> 2. Establish and enforce a regulation that mandates 24-hour RN staffing levels at a minimum of one hour per resident-day and adjusts upward for greater resident acuity and complexity.

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[407] Kolanowski A, Cortes TA, Mueller C, Bowers B, Boltz M, Bakerjian D, Harrington C, Popejoy L, Vogelsmeier A, Wallhagen M, Fick D, Batchelor M, Harris M, Palan-Lopez R, Dellefield M, Mayo A, Woods DL, Horgas A, Cacchione PZ, Carter D, Tabloski P, Gerdner L. A call to the CMS: Mandate adequate professional nurse staffing in nursing homes. *Am J Nurs.* 2021 Mar 1;121(3):24-27. doi: 10.1097/01.NAJ.0000737292.96068.18.PMID: 33625007

[408] Kolanowski et al. See also Backhaus R, et al. Future distinguishing competencies of baccalaureate-educated registered nurses in nursing homes. *Geriatr Nurs* 2015;36(6):438–44.

3. Partner with professional nursing organizations to ensure that all directors of nursing in nursing homes become certified and maintain certification in core geriatric nursing and leadership competencies."

In another 2021 article, nursing home experts responded to the impact the pandemic had on nursing home residents. They made additional recommendations beyond those made by the Coronavirus Commission to federal policymakers for meaningful nursing home reform:

> "1) ensuring 24/7 registered nurse (RN) coverage and adequate compensation to maintain total staffing levels that are based on residents' care needs; 2) ensuring RNs have geriatric nursing and leadership competencies; 3) increasing efforts to recruit and retain the NH workforce, particularly RNs; and 4) supporting care delivery models that strengthen the role of the RN for quality resident-centered care." [409]

Finally, in 2022, a committee of the National Academies of Sciences, Engineering, and Medicine issued a comprehensive report on the national imperative to improve nursing home quality considering the devasting impact of the pandemic on nursing home residents. [410] This report stated that "despite substantial evidence demonstrating the relationship between nurse staffing and the quality of care in nursing homes, and 24-hour registered nurse (RN) coverage being recommended for decades, today's nurse staffing requirements remain vague." In Recommendation 2B: **Direct-care RN coverage (in addition to the director of nursing) at a minimum of a 24-hour, 7-days per week basis, with additional RN coverage as needed.**

Clearly, since the 1990s, research has supported 24-hour a day RN coverage and numerous reports have called on CMS to take action to institute 24-hour RN coverage in nursing homes in addition to the Director of Nursing.

RNs Are Needed 24-hours per Day to Protect the Health & Safety of Residents. Obviously, nursing home residents are highly vulnerable and may have emergencies and care needs throughout each day so RNs are needed every day. Here are some examples of violations from California nursing homes that did not have 24-hour RN nursing coverage (from the California Advocates for Nursing Home Reform in 2022):

> 1. Monte Vista Healthcare Center, citation #950017535, Class AA, $120,000, 3-30-2022 A 79-year old resident died on 1/19/2022 after the facility staff failed to provide basic life support, perform CPR or call 911 when he was suddenly found unresponsive, not

[409] Bakerjian, D., Boltz, M., Bowers, B., Gray-Miceli, D., Harrington, C., Kolanowski, A., and Mueller, C.A. Expert nurse response to workforce recommendations made by The Coronavirus Commission for Safety and Quality in nursing homes. *Nursing Outlook.* 2021. Apr 5, 2021: 735-743. doi: 10.1016/j.outlook.2021.03.017.

[410] The National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Care Services; Committee on the Quality of Care in Nursing Homes. *The national imperative to improve nursing home quality: honoring our commitment to residents, families, and staff.* Preprint copy. April, 2022. https://nap.nationalacademies.org/catalog/26526/the-national-imperative-to-improve-nursing-home-quality-honoring-our

breathing and without a heart rate at 5:30 am. A nurse called his doctor at 6 am, half an hour after he was found unresponsive. At 6:30 am, the doctor called back and pronounced the resident dead. Per facility policy, the resident was considered full code because he did not have an advanced directive or POLST (Physician's Order for Life Sustaining Treatment). **The Director of Nursing stated the licensed vocational nurse (LVN) who found the resident unresponsive should have performed CPR. The facility did not have a registered nurse (RN) on-site when the resident was found unresponsive.** Nor did it require all staff to have basic life support (BLS) certifications. As a result of these failings, the resident did not receive CPR or 911 emergency services and died at the facility on 1/19/2022 at 6:30 am.

2. Park Avenue Healthcare & Wellness Center, citation #950016328, Class AA, $100,000, 3-5-2021
A 60-year old resident who was ventilator dependent died on 1/5/21 – about 14 hours after he was admitted to the facility's sub-acute unit – when his tracheostomy tube became dislodged and a respiratory therapist was unable to reinsert it, resulting in the resident being unable to breathe. A number of facility failures preceded his death. Upon admission at 7:50 pm on 1/4/21, a nurse observed that the resident was really anxious, moving around in bed, pointing at his tracheostomy and the ventilator machine, attempting to communicate by mouthing words. Another nurse observed that the resident didn't seem stable. Yet his respiratory status was not assessed. **The sub-acute unit was short-staffed. No RN worked the night shift from 9 pm to 7:15 am that night, although one was needed 24 hours a day.** A doctor who was ill ordered a nurse to find another physician to take over the resident's care but the order was not followed. There were unresolved communication barriers. The resident only spoke Cantonese. He spoke, gestured and attempted to communicate but the staff were unable to understand his needs. The staff tried to communicate in English, but the resident could not understand. The facility failed to communicate with the resident in his language. The resident's tracheostomy tube was found dislodged at 8:30 am and a respiratory therapist unsuccessfully attempted to reinsert it. She stated at the time she was not trained on how to reinsert a tracheostomy tube when the tube was accidentally dislodged. 911 was called when the resident started to desaturate. On 1/5/21, paramedics arrived at the facility and pronounced the resident dead at 9:23 am. The violations were a direct proximate cause of the resident's death.

3. Avalon Care Center – Sonora, citation #030017066, Class AA, $75,000, 11-9-2021
On 4/3/21, a resident choked during the lunch meal, was hospitalized later that day in acute respiratory distress and died five days later on 4/8/21 of respiratory failure and aspiration pneumonia. Despite the resident's history of choking on food, the facility had upgraded her diet two days earlier from soft foods to a regular diet on 4/1/21. The certified nursing assistant (CNA) assigned to the resident that day did not know of her recent diet change and did not receive education or instructions about the diet. The resident was served her lunch in bed despite directions that she be up in a wheelchair for all meals. After the resident began choking, an LVN responded and assisted her in

spitting out pieces of chicken. **A registered nurse (RN) did not assess the resident because none was on duty despite a requirement the facility have a RN on duty 24 hours a day.** Nor did the facility assure the resident's dentures were in place before the meal as required by her care plan. The Department's investigation determined the facility failed to ensure adequate supervision and assistance with the resident's meal and failed to ensure her meal was provided in a texture she could safely swallow. These failures led to difficulty with breathing and a rapid decline in her condition. This chain of events, coupled with a delay in the resident receiving a higher level of care, ultimately contributed to the resident's death.

The Costs of Adding 24-Hour RN Coverage Is Minimal Compared to NH Annual Revenues. The costs of 24-hour coverage to nursing homes is small relative to the benefits and to the current expenditures for nursing home care. Many nursing homes (77.5%) already have 24 RN hours per resident day although these hours are not necessarily distributed across a 24-hour period. A report by the Long Term Care Community Coalition (LTCCC) estimated that the cost for facilities to achieve 24-hour RN staffing coverage nationwide, would be about $75 million per year. The average cost to facilities would be approximately $61.82 per day.[411] LTCCC found that 3,327 nursing homes provided less than 24 hours of RN staffing per day (22.5% of total facilities) in the second quarter of 2021. This means that only 22.5% (*3,327 / 14,812 = 22.46%)* of U.S. nursing homes would have to shift some of their staffing from LPN/LVNs to RNs to achieve 24 hours of RN staffing per day. In order to add an additional RN on duty, the costs would increase over these estimates. Considering the high revenues that nursing homes receive from Medicare, Medicaid, and other payers, the increase in costs for RN coverage would be a fraction of overall nursing home costs.

15. Are there unintended consequences we should consider in implementing a minimum staffing ratio? How could these be mitigated? For example, how would a minimum staffing ratio impact and/or account for the development of innovative care options, particularly in smaller, more home-like settings, for a subset of residents who might benefit from and be appropriate for such a setting? Are there concerns about shifting non-nursing tasks to nursing staff in order to offset additions to nursing staff by reducing other categories of staff?

It is possible that implementing a minimum staffing standard could result in some nursing homes shifting non-nursing tasks to nursing staff. **CMS should specify in their issuing of regulations that nursing homes are expected to maintain their non-nursing staff at a level comparable to their staffing in the one year prior to implementation of the new minimum staffing regulations. CMS could issue a new regulation that states nursing homes must have sufficient dietary and non-nursing personnel to carry out the basic support functions for residents in the facility.**

[411] Long Term Care Community Coalition. 24-hour registered nurses in nursing homes; Essential and affordable. New York, NY: LTCC. www.nursinghome411.org/24-hour-RN

Special regulations are not needed for small nursing home models that have more home like settings. Research on small home models shows that these homes provide adequate staffing for their residents that meet the minimum standards recommended for nursing homes. For example, a new study comparing traditional nursing homes with the Green House small nursing homes found that the Green House model had a higher ratio of CNA staff to residents than traditional homes (4.16 hprd compared to 2.6 hprd in traditional nursing homes). Moreover, the licensed nursing hours for direct care were 1.15 hprd compared to .99 in traditional homes. Overall total nursing hours excluding administrative hours were 5.3 hprd compared to only 3.6 hprd in traditional homes.[412] This clearly shows that small homes can and do meet minimum staffing standards.

16. Does geographic disparity in workforce numbers make a minimum staffing requirement challenging in rural and underserved areas? If yes, how can that be mitigated?

Residents living in facilities in rural and underserved areas in the US have the same nursing care needs as residents living in urban areas. There should not be any reduction or allowance for lower nurse staffing levels in rural areas. In spite of the nurse care need in rural nursing homes, it is clearly documented by Hawk and colleagues (2022) that nursing homes in rural areas provide lower staffing of all types compared to urban nursing homes (RNs, LVNs/LPNs, CNAs, and total nursing).[413] The problems and challenges of recruiting and retaining staff in rural nursing homes were addressed about 40 years ago by the Institute of Medicine.[414]

This is made worse because the Medicare PPS reimbursement system reimburses nursing homes for nurse staffing at a lower rate in rural areas than in urban areas - See Table 5 and 6 in the CMS Medicare Program: Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities proposed for 2023. Specifically, the highest PDPM nursing rate is $437.41 in urban areas and only $417.91 in rural areas. The lowest PDPM nursing payment rate is $70.62 in urban areas and only $67.47 in rural areas. This builds in inequities especially since nursing homes are competing for nursing staff with other nursing facilities and hospitals throughout the state.

Rural and underserved areas have challenges in recruiting nursing and other personnel. This is made worst because the Medicare PPS reimbursement system reimburses nursing homes at a lower rate for rural areas. **One way to mitigate this problem is to eliminate the lower Medicare payment rates for rural areas as part of the PPS payment regulations. CMS**

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[412] Sharkey, S.S., Hudak, S., Horn, S.D., et al. (2011). Frontline caregiver daily practices: A comparison study of traditional nursing homes and the green house project sites. JAGS. 59 (1): 126-131.

[413] Hawk T, White EM, Bishnoi C, Schwartz LB, Baier RR, Gifford DR. Facility characteristics and costs associated with meeting proposed minimum staffing levels in skilled nursing facilities. *J Am Geriatr Soc.* 2022; 1-10. doi:10.1111/jgs.17678.

[414] Institute of Medicine, *Nursing and Nursing Education; Public Policies and Private Actions* (1983), Chapter VI, Alleviating Nursing Shortages in Medically Underserved Areas and Among Underserved Populations, https://www.ncbi.nlm.nih.gov/books/NBK218556/

should have the same payment rates for rural as for urban areas, but require nursing homes to pass these wages through to their workers. This would be the strongest method to improving rural disparities and eliminating rural shortages.

It should be noted that the Medicare wages and benefit rates for nursing homes are calculated based on the hospital wage index and yet nursing homes pay 15 percent lower wages to RNs than hospitals. The nursing home workforce has been unstable for many years primarily because wages and benefits for nursing employees are much lower than those for hospital employees, and workloads are heavier in nursing homes. For example, the average RN wages per hour in nursing homes was $ 34.74 per hour (only 85 percent) compared to $ 40.88 for RN hourly hospital wages nationally in 2021.[415] CNAs made an average of $14.41 per hour or $32,090 per year in 2020 in nursing homes, or 84 percent of hospital wages. [416] In comparison, CNAs working in hospitals made $17.25 per hour or $35,180 annually.[417] These wages are at or below other comparable entry level wages.

The Medicare PPS needs to ensure that nursing homes pay wages and benefits that are based on the levels allocated by Medicare – in other words the wages and benefits should be passed through directly to workers. The current Medicare PPS payment methodology represents a subsidy to nursing homes for wages that CMS knows nursing homes do not provide to nurses.

17. What constitutes "an unacceptable level of risk of harm?" What outcomes and care processes should be considered in determining the level of staffing needed?

We need to be clear that there is no acceptable level of risk or harm due to a facility's failure to have sufficient staffing to meet the needs of residents. The law and its implementing regulations require nursing homes to meet the care needs of residents to attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident (42 U.S.C. Section 483.35) without any qualifications.

Adequate staffing should positively impact the following by reducing:

1. Serious Federal and State Deficiencies and Complaints which can be defined as those at the G level or higher. Deficiencies given for violations of quality regulations show clear evidence of quality problems which are often directly related to understaffing.

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[415] Bureau of Labor Statistics. (2021). Occupational Employment and Wages, May 2021 29-1141 Registered Nurses. htm https://www.bls.gov/oes/current/oes291141.htm

[416] Bureau of Labor Statistics. (2021). Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Nursing Care Facilities, May 2021. https://www.bls.gov/oes/current/naics4_623100.htm

[417] Bureau of Labor Statistics. Occupational Employment and Wages. Bureau of Labor Statistics. Occupational Employment and Wages, Hospitals, May 2021. https://www.bls.gov/oes/current/naics3_622000.htm

2. Complaints about the quality, amount, and timeliness of care.

3. Resident abuse and neglect.

4. Lower than average performance on CMS quality measures that are based on claims data. These include the percent of residents who: were readmitted to the hospital; were successfully discharged to the community; and had outpatient emergency department visits.

5. Reports by facility nursing staff about their inability to complete their assignments including basic care, communications, and timeliness of care indicate inadequate staffing. Missed or omitted care has been found to be associated with adverse events including: pressure ulcers, medication errors, new infections, and IVs running dry or leaking. Missed nursing care has also been found to be associated with poor patient safety culture and patient falls, a patient safety indicator. Staffing levels, not surprisingly, predict missed nursing care and can explain the relationship between staffing levels and patient outcomes.

6. High nurse turnover rates which are also related to inadequate staffing levels and poor quality as well as inconsistent care assignments that put residents at risk.

CMS should establish clear regulatory requirements for nursing staffing. If nursing homes do not meet these staffing requirements, residents can be subjected to harm and jeopardy. Any regulatory enforcement should automatically assume that when staffing standards are not met, this can cause widespread harm and jeopardy to all residents and issue an Immediate Jeopardy deficiency.

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APPENDIX A Nursing Home Staffing Studies Showing a Positive Relationship Between Nurse Staffing and Quality Outcomes		
1977	Linn, M., Gurel, L., and Linn, B.A. (1977). Patient outcomes as a measure of quality of nursing home care. *American J. Public Health.* 67 (4):337-44.	More RN hours per patient were associated with patients being alive, improved, and discharged. A higher professional staff-to-patient ratio was related to being discharged.
1990	Munroe, D. (1990). The influence of registered nurse staffing on the quality of nursing home care. *Research Nursing & Health.* 13:263-270.	A positive, significant relationship existed between nursing home quality and the ratio of RN hours to licensed vocational nurse (LVN) hours per resident day.
1991	Spector, W.D., and Takada, H.A. (1991). Characteristics of nursing facilities that affect resident outcomes. *Journal of Aging and Health* 3 (4): 427-454.	Higher staff levels and lower RN turnover were related to resident functional improvement.
1996	Johnson-Pawlson, J & Infeld, D (1996). Nurse staffing and quality of care in nursing facilities*. J. Gerontol Nurs,* 22: 36-45.	The ratio of RNs to residents is directly related to a measure of resident rights deficiencies. The ratio of total nursing staff to residents is directly related to a lower overall deficiency index and a higher quality of care score.
1996	Kayser-Jones, J. (1996). Mealtime in nursing homes*. J. of Gerontological Nursing.* 22 (3):26-31.	Educating nursing assistants on individualized care at mealtime and ensuring that an adequate number of staff are available to assist residents can improve mealtime and reduce malnutrition.
1997	Kayser-Jones, J. and Schell, E. (1997). Inadequate staffing at mealtime: implications for nursing and health policy. *J Gerontological Nursing.* 23(8):14-21.	Inadequate staffing is a major factor that contributes to weight loss. Each staff CNA should have no more than two to three residents to feed or assist during meals.
1997	Kayser-Jones, J. and Schell, E. (1997). The effect of staffing on the quality of care at mealtime. *Nursing Outlook.* 45 (2):64-72.	Inadequate staffing has serious consequences for the nutritional care of nursing home residents. CNAs should have no more than two or three residents to feed or assist at mealtime and have a minimum of 25-30 minutes to feed each person.
1998	Anderson, A., Hsieh, P. Su, H. (1998). Resource allocation and resident outcomes in nursing homes; Comparisons between the best and worst. *Res Nurs Health.* 21:297-313.	Two sets of comparison groups and showed that the group of nursing homes with the greatest percentage of improvement in resident outcomes had higher levels of registered nurse (RN) staffing and higher costs. The results suggest that, although RN staffing is more expensive, it is key to improving resident outcomes.

1998	Bliesmer, M.M., Smayling, M., Kane, R.L., and Shannon, I. (1998). The relationship between nursing staffing levels and nursing home outcomes. *J. of Aging and Health.* 10 (3):351-371.	In the year after admission, licensed (but not nonlicensed) nursing homes were significantly related to improved functional ability, increased probability of discharge home, and decreased probability of death.
1998	Castle, N. and Fogel, B. (1998). Characteristics of nursing homes that are restraint free. *Gerontologist*. 38:181-188.	Restraint free facilities were likely to utilize more full-time equivalent (FTE) registered nurses (RNs) per resident, but less FTE nurse aides and licensed practical nurses (LPNs) per resident.
1999	Anderson, R.A. and McDaniel, R.R. (1999). RN participation in organizational decision making and improvements in resident outcomes. *Health Care Manage Rev.* Winter;24(1):7-16.	Nursing homes with the most improvements in resident outcomes had greater RN participation in decision making than did homes with the least improvements.
1999	Berlowitz, D., Anderson, J., Brandeis, G., et al. (1999). Pressure ulcer development in the VA: Characteristics of nursing homes providing best care. *Amer J. Medical Quality.* 14: 39-44.	Using multivariate modeling, hospital size and low staffing were significant independent predictors of pressure ulcer development.
1999	Intrator, O., Castle, N., Mor, V. (1999). Facility characteristics association with hospitalization of nursing home residents: Results of a national study. *Medical Care.* 37: 228-237.	Controlling for other factors, more physicians and nurse practitioners or physician assistants were less likely to hospitalize their residents.
1999	Kayser-Jones, J., Schnell, E.S., Porter,C., Barbaccia, J.C., and Shaw, H. (1999). Factors contributing to dehydration in nursng homes: inadequate staffing and lack of professional supervision. *J. American Geriatric Society.* 47 (1):1187-94.	Residents with moderate to severe dysphagia, severe cognitive and functional impairment, aphasia or inability to speak English, and a lack of family or friends to assist them at mealtime are at great risk for dehydration when staffing is inadequate and supervision is poor.
1999	Ooi, W.L., Morris, J.N., Brandeis, G.H., Hossain, M., Lipsitz, L.A. (1999). Nursing home characteristics and the development of pressure sores and disruptive behaviour. *Age Ageing.* 28 (1):45-52.	Nursing homes at high-risk for pressure sores and disruptive behaviour had fewer beds and used less non-licensed nursing staff time.
2000	Harrington, C., Kovner, C., Kayser-Jones, J., Berger, S., Mohler, M., Burke R. et al. (2000). Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *Gerontologist,* 40 (1):1-12.	Experts recommended total minimum staffing levels for nursing homes of 1.15 RN hours, .70 LVN/LPN hours, 2.7 CNA hours, and a total of 4.55 hours including administrative nurses.
2000	Harrington, C., Zimmerman, D., Karon, S., Robinson, J. and Beutel, P., (2000). Nursing home staffing and its relationship to deficiencies. *J. of Geronotology.* 55B: (5):S278-S287.	Few RN and nursing assistant hours were associated with more total deficiencies and more quality of care deficiencies controlling for other variables. Fewer nursing assistant house were associated with more quality of life deficiencies.

2001	US Centers for Medicare and Medicaid Services, Prepared by Abt Associates Inc. (2001). *Appropriateness of minimum nurse staffing ratios in nursing homes. Report to Congress: Phase II Final.* Volumes I-III. Baltimore, MD: CMS.	Recommended staffing levels were 2.78 hrs/resident day for nursing assistants and 1.3 hrs/resident day for licensed staff, including .75 hrs/resident day for RNs to improve outcomes and avoid selected care problems for long stay residents.
2001	Kramer, A.M. and Fish.,R. (2001). The relationship between nurse staffing levels and the quality of nursing home care. In *Appropriateness of minimum nurse staffing ratios in nursing homes. Report to Congress: Phase II Final.* Volumes I-III. Baltimore, MD: CMS.	Staffing threshholds were at 2.78 hrs/resident day for nursing assistants and 1.3 hrs/resident day for licensed staff, including .75 hrs/resident day for RNs, to improve outcomes and avoid selected care problems for long stay residents.
2001	Schnelle, J.F., Simmons, S.F., and Cretin, S. (2001). Minimum nurse aide staffing required to implement best practice care in nursing facilities. In *Appropriateness of minimum nurse staffing ratios in nursing homes. Report to Congress: Phase II Final.* Volumes I-III. Baltimore, MD: CMS, Ch 3, 1-40.	The results of this study showed that 2.8 to 3.2 nursing assistant hours per resident day, depending on the acuity level of the residents, were necessary to consistently provide all of these daily care processes.
2002	Simmons S.F., Babineau, S., Garcia, E., Schnelle, J.F. (2002). Quality assessment in nursing homes by systematic direct observation: feeding assistance. *J Gerontol A Biol Sci Med Sci.* Oct;57(10):M665-71.	Chart information is often inaccurate or incomplete for many daily care processes and food and fluid intake are significantly over-estimated. Residents with low oral food and fluid intake often receive little or no assistance from NH staff during mealtimes.
2001	Svarstad, B. L., & Mount, J. K. (2001). Chronic benzodiazepine us use in nursing homes: Effects of federal guidelines, resident mimix, and nurse staffing. *Journal of the American Geriatrics SoSociety*, **49**, 1673–1678. doi:10.1111/j.1532-415.2001.49278.x.	High BZ use in nursing homes continues. A study in Wisconsin nursing homes found that nurse staffing was the only significant predictor of chronic BZ use where better staffing was associated with lower use.
2002	Zimmerman, S., Gruber-Baldini, A.L., Hebel, J.R., Sloane, P.D., Magaziner, J. (2002). Nursing home facility risk factors for infection and hospitalization: importance of registered nurse turnover, administration, and social factors. *J Am Geriatr Soc.* 50(12):1987-95.	Higher RN turnover is related to infections and hospitalization. High rates of infection were associated with high licensed practical nurse staffing and low nurses' aide staffing.
2003	Harrington, C. and Swan, J.H. (2003). Nurse home staffing, turnover, and casemix. *Medical Care Research and Review*. 60 (2):366-392.	Higher total nurse and RN staffing hours were associated with lower staff turnover rates.
2004	Bates-Jensen, B.M., Schnelle, J.F., Alessi, C.A., Al-Samarrai, N.R., and Levy-Storms, L. (2004). The effects of staffing on in-bed times of nursing home residents. *J. of the American Geriatric Society.* 52 (6): 931-8.	In multivariate analyses, staffing level remained the strongest predictor of time observed in bed after controlling for resident functional measures.
2004	Bostick, J. Relationship of nursing personnel and nursing home care quality. *J. Nursing Care Quality.* 19:130-136.	An increase of RN time can result in lower pressure ulcer rates.
2004	Schnelle, J.F., Simmons, S.F., Harrington, C., Cadogan, M., Garcia, E., & Bates-Jensen, B. (2004). Relationship of nursing	Based on an observational study in 21 nursing homes, the highest nursing assistant staffed nursing homes (above 2.8 hours per patient day) performed significantly better on 13 of 16

	home staffing to quality of care? *Health Services Research,* 39 (2):225-250.	care processes compared to lower staffed homes.
2004	Horn, S.D., Bender S.A., Ferguson, M.L., Smout, R.J. et al (2004). The national pressure ulcer long-term care study: Pressure ulcer development in long-term care residents. *J. American Geriatrics Society,* 52: 359-367.	A retrospective cohort study found a decreased likelihood of developing a Stage I to IV pressure ulcer included new resident, nutritional intervention, antidepressant use, use of disposable briefs, RN hours of 0.25 hours per resident per day or more, nurses' aide hours of 2 hours per resident per day or more, and licensed practical nurse turnover rate of less than 25%.
2004	Simmons, S.F., Schnelle, J.F. (2004). Individualized feeding assistance care for nursing home residents: staffing requirements to implement two interventions. *J Gerontol A Biol Sci Med Sci.* 59(9):M966-73.	46% significantly increased their oral intake with 1 on 1 mealtime feeding assistance (time required was 35 minutes/meal per resident compared with usual NH care (6 minutes). 44% significantly increased their oral intake with between-meal snack intervention (12 minutes).
2004	Weech-Maldonado, R., Meret-Hanke, L., Neff, M.C., and Mor, V. (2004). Nursing staffing patterns and quality of care in nursing homes. *Health Care Management Review.* 29 (2):107-116.	RN staffing levels were found to affect quality of patient care both directly and indirectly through their positive effect on the processes of care.
2004	Zhang, X., & Grabowski, D. C. (2004). Nursing home staffing and quality under the nursing home reform act. *The Gerontologist*, **44**, 13–23. doi:10.1093/geront/44.1.13	After controlling for many factors, there was a significant decrease in the proportion of residents with pressure ulcers, physical restraints, and urinary catheters following the implementation of the NHRA. A positive relationship between RN, total licensed hours, and total nurse staffing hours and overall quality of care was found.
2005	Akinci, F., & Krolikowski, D. (2005). Nurse staffing levels and quality of care in Northeastern Pennsylvania nursing homes. *Applied Nursing Research*, **18**, 130–137. doi:10.1016/j. apnr.2004.08.004	90 licensed nursing homes in Northeastern PA were examined and found a positive association between RN and CNA staffing and quality of patient care provided to nursing home residents.
2005	Dorr, D.A., Horn, S.D., & Smout, R.J. (2005). Cost analysis of nursing home registered nurse staffing times. *J. of Amer Geriatrics Society,* 53: 840-845.	A retrospective cost study of adverse outcome rates of pressure ulcers, urinary tract infections, and hospitalizations showed an annual net benefit per resident per year in a high-risk, long-stay nursing home unit that employed sufficient nurses to achieve 30-40 minutes of RN nurse direct care time per resident per day versus nursing homes that have nursing time of less than 10 minutes.
2005	Hickey, E.C., Young, G.J., Parker, V.A. et a. (2005). The effects of changes in nursing home staffing on pressure ulcer rates. *J. Am Med Dir Assoc*, 6:50-53.	Ten nursing homes that reduced staffing levels from their baseline levels at the beginning of the study and/or changed their staffing mix by replacing licensed personnel with nursing assistants had a 2.1% higher rate of pressure

		ulcer development. Staff stability is associated with better outcomes.
2005	Horn, S.D., Buerhaus, P., Bergstrom, N., Smout, R.J. (2005). RN staffing time and outcomes of long-stay nursing home residents: pressure ulcers and other adverse outcomes are less likely as RNs spend more time on direct patient care. *Am J Nurs.* 105(11):58-70	More RN direct care time per resident per day was associated with fewer pressure ulcers, hospitalizations, and UTIs; less weight loss, catheterization, and deterioration in the ability to perform ADLs; and greater use of oral standard medical nutritional supplements. More CNA and LPN time was associated with fewer pressure ulcers but did not improve other outcomes.
2006	Castle, N. G., & Myers, S. (2006). Mental health care deficiency citations in nursing homes and caregiver staffing. *Administration and Policy in Mental Health*, **33**, 215–225. doi:10.1007/ s10488-006-0038-2	Greater RN staffing was associated with a lower likelihood of being cited for deficiencies in mental health care. Greater LPN and NA staffing were associated with a higher likelihood.
2006	Decker, F.H. 2006. Nursing staff and the outcomes of nursing stays. *Medical Care.* 44 (9):812-21.	For stays less than 60 days, but not among longer stays, the probability of leaving the nursing home in recovered or stabilized condition increased, and that of dying decreased, with an increasing staffing ratio for registered nurses.
2006	Dellefield, M.E. (2006). Organizational correlates of the risk-adjusted pressure ulcer prevalence and subsequent survey deficiency citation in California nursing homes. *Research in Nursing & Health,* 29:345-358.	A study of California nursing homes found higher pressure ulcer prevalence was associated with lower licensed nurse centralization and Medicaid only facilities. Lower deficiencies were in facilities having a higher total nurse staffing level, more licensed nurses, and 160 beds or more.
2006	Kim, H., & Whall, A. L. (2006). Factors associated with psychotropic drug usage among nursing home residents with dementia. *Nursing Research*, **55**, 252–258. doi:10.1097/00006199-200607000-00005	Low levels of RN staffing lead to increased psychotropic drug use.
2006	Mueller, C., Arling, G., Kane, R., Bershadsky, J., Holland, D., & Joy, A. (2006). Nursing home staffing standards: Their relationship to nurse staffing levels. *The Gerontologist,* 46 (1):74-80.	Facilities in states with high staffing standards had somewhat higher staffing than states with no standards or low standards.
2006	Wan, T.T.H., Zhang, N.J. & Unruh, L. (2006). Predictors of resident outcome improvement in nursing homes. *Western J. Of Nursing Research.* 28 (8):974-993.	Controlling for other factors, nursing homes having a high level of nurse staffing had an overall quality improvement of resident outcomes, measured by a weighted index in incidents of pressure ulcers, physical restraints, and catheter use.
2007	Castle, N. & Engberg, J. (2007). The influence of staffing characteristics on quality of care in nursing homes. *Health Services Research,* 42: 1822-1847.	Achieving higher quality was dependent on having more than one favorable staffing

		characteristic such as turnover, staffing levels, worker stability, and agency staff.
2007	Dyck, M.J. (2007). Nursing staffing and resident outcomes in nursing homes: weight loss and dehydration. *J. Nursing Care Quality.* 22 (1):59-65.	Residents receiving at least 3 hours per day of nursing assistant care had a 17% decreased likelihood of weight loss.
2007	Konetzka, R.T., Spector, W. & Limcangco, M.R. (2007). Reducing hospitalizations from long-term care settings. *Medical Care Research & Review,* 65:40-66.	Evidence from 55 peer-reviewed articles on interventions that potentially reduce hospitalizations are those that increase skilled staffing, especially through physician assistants and nurse practitioners.
2007	Spector, W., Shaffer, T., Potter, D.E., Correa-de-Araujo, R., Rhona Limcangco, M. (2007). Risk factors associated with the occurrence of fractures in U.S. nursing homes: resident and facility characteristics and prescription medications. *J Am Geriatr Soc.* 55(3):327-33.	A high certified nurse aide ratio was associated with fewer fractures.
2007	Zhang, N.J., & Wan, T.T. (2007). Effects of institutional mechanisms on nursing home quality. *J. of Health & Human Services Administration,* 29:380-408.	Structural equation modeling found that the potential demand for care, Medicaid reimbursement rate, and occupancy rate are positively associated with nursing home quality. An interaction effect between the regulatory mechanism and nurse staffing is statistically significant.
2008	Alexander, G.L. (2008). An analysis of nursing home quality measures and staffing. *Quality Management in Health Care.* 17 (3):242-51.	The percentage of CNA/LPN/RN staffing-level mix is associated with fewer residents that are incontinent, improvements in activities of daily living, fewer residents with moderate to severe pain, and fewer pressure ulcers.
2008	Castle, N., &. Engberg, J. (2008). The influence of agency staffing on quality of care in nursing homes. *J. of Aging and Social Policy,* 20 (4): 437-53.	More agency nurse aides resulted in a smaller increase in quality, compared to the use of an equivalent number of regular nurse aides.
2008	Castle, N., & Engberg, J. (2008). Further examination of the influence of caregiver staffing levels on nursing home quality. *Gerontologist,* 48: 464-76.	When regression models include agency staff, stability, and professional staff mix), staffing levels were generally associated with the quality measures (i.e., 15 of the 18 staffing measures were significant).
2008	Castle, N.G., Engberg, J. & Men, A. (2008). Nurse aide agency staffing and quality of care in nursing homes. *Medical Care Research and Review,* 65 (2):232-52.	Higher nurse aide agency levels were associated with low quality.
2008	Decker, F.H. (2008). The relationship of nursing staff to the hospitalization of nursing home residents. *Research, Nursing and Health,* 31 (3):238-51.	For patients with longer stays (>30 days), higher RN staffing levels in nursing homes reduced hospitalizations. Higher RN levels reduced hospitalizations more than higher licensed nurse levels or skill mix.

2008	Grabowski, D.C., Stewart, K.A., Broderick, S.M. & Coots, L.A. (2008). Predictors of nursing home hospitalization: A review of the literature. *Medical Care Research and Review,* 65 (1):3-39.	Factors associated with hospitalization included low nurse staffing among others.
2008	Hutt, E., Radcliff, T.A., Liebrecht, D., Fish, R., McNulty, M., Kramer, A.M. (2008). Associations among nurse and certified nursing assistant hours per resident per day and adherence to guidelines for treating nursing home-acquired pneumonia. *J Gerontol A Biol Sci Med Sci.* 63(10):1105-11.	CNA hours per resident day were significantly associated with better pneumococcal and influenza vaccination rates. More than 1.2 licensed nurse hours per resident day was significantly associated with appropriate hospitalization and guideline-recommended antibiotics.
2008	Konetzka, R.T., Stearns, S.C., Park, J. (2008). The staffing-outcomes relationship in nursing homes. *Health Serv Res.* 43(3):1025-42.	Controlling for endogeneity of staffing increases the estimated positive impact of staffing on outcomes in nursing homes. Greater RN staffing significantly decreases the likelihood of adverse outcomes. Increasing skill mix reduces the incidence of urinary tract infections.
2008	Simmons, S.F., Keeler, E., Zhuo, X., Hickey, K.A., Sato, H.W., Schnelle, J.F. (2008). Prevention of unintentional weight loss in nursing home residents: a controlled trial of feeding assistance. *J Am Geriatr Soc.* Aug;56(8):1466-73.	Increasing staff feeding assistance time from 10 minutes to 35 minutes per resident per meal and for snacks from 1 minute to 12 minutes resulted in significant gains in resident food and fluid intake.
2009	Hyer, K., Temple, A., and Johnson, C.D. (2009) Florida's efforts to improve quality of nursing home care through nurse staffing standards, regulation, and Medicaid reimbursement. *J. of Aging Social Policy.* 21 (4):318-37.	Florida's state Medicaid reimbursement incentives was not effective in increasing nursing home staffing. Only after the legislation mandated minimum nursing home staffing did nursing homes improve staffing levels. Unfortunately, the state established a minimum for CNAs and licensed nursing but not for RN staffing. Nursing homes reduced RN staffing by substituting less expensive LVNs for RNs.
2009	Park, J. and Stearns S.C. (2009). Effects of state minimum staffing standards on nursing home staffing and quality of care. *Health Serv Res.* 44(1):56-78.	Increased standards resulted in small staffing increases for facilities with staffing initially below or close to new standards. The standards were associated with reductions in restraint use and the number of total deficiencies at all types of facilities.
2009	Castle, N. (2009). Use of agency staff in nursing homes. *Research in Gerontological Nursing, 2 (3)*: 192-201.	A strong association was found between better quality and lower agency use for both nurse aides and RNs.

2009	Kim, H., Harrington, C. & Greene, W. (2009). Registered nurse staffing mix and quality of care in nursing homes: A longitudinal analysis. *Gerontologist,* 49 (1):81-90.	Higher RN to total nurse staffing ratios and higher RN to licensed staffing ratios was associated with lower total deficiencies and less serious deficiencies.
2009	Kim, H., Kovner, Harrington, C., Greene, W. & Mezey, M. (2009). A panel data analysis of the relationships of nursing home staffing levels and standards to regulatory deficiencies. *J. of Gerontology: Social Sciences,* 64B (2):269-278.	Higher total nursing staffing and RN staffing levels were related to lower total deficiencies, quality of care deficiencies, and serious deficiencies. Nursing homes that met the state staffing standard received fewer total deficiencies and quality of care deficiencies.
2010	Horn, S.D., Sharkey, S.S.. Hudak, S., Smout, R.J., Quinn, C.C., Yody, B. and Fleshner, I (2010). Beyond CMS Quality Measure Adjustments: Identifying Key Resident and Nursing Home Facility Factors Associated with Quality Measures. *J. American Medical Directors Association.* 11 (7):500-5.	Resident activities of daily living decline showed significant associations with licensed nurse turnover.
2011	Bowblis, J.R. (2011). Staffing ratios and quality: An analysis of minimum direct care staffing requirements for nursing homes. *Health Services Research,* 46(5): 1495-516.	Higher minimum direct care staffing requirements increased nurse staffing levels and were generally associated with improved resident outcomes and meeting regulatory standards.
2011	Castle, N.G. & Anderson, R.A. (2011). Caregiver staffing in nursing homes and their influence on quality of care: using dynamic panel estimation methods. *Medical Care,* 49:545-522.	Generalized method of moments estimation examined changes in 4 quality measures (physical restraint use, catheter use, pain management, and pressure sores). A robust positive association between RN, LPN, and CNA staffing and quality indicators. A change to more favorable staffing is generally associated with a change to better quality.
2011	Castle, N.G., Wagner, L.M., Ferguson, J.C. & Handler, S.M.. (2011). Nursing home deficiency citations for safety. *J. Aging and Social Policy,* 23 (1):34-57.	Low staffing levels are associated with the likelihood of receiving deficiency citations for safety violations.
2011	Castle, N.G., Wagner, L.M., Ferguson-Rome, J.C., Men, A, & Handler, S.M.. (2011). Nursing home deficiency citations for infection control. Am. J. Infection Control*,* 39 (1):263-9-57.	For all 3 types of caregiver examined (i.e, nurse aides, Licensed Practical Nurses, and Registered Nurses), low staffing levels were associated with receipt of a deficiency citation for infection control.
2011	Hyer, K., Thomas, K.S., Branch, L.G., Harman, J.S., Johnson, C.E., and Weech-Maldonado, R. (2011). The influence of nurse staffing levels on quality of care in nursing homes. *The Gerontologist.* 51:610-616.	Using a generalized estimating equation approach and controlling for facility characteristics, higher CNA and licensed nursing staff were predictors of facilities' total deficiency score and quality of care deficiency scores using the CMS Nursing Home Compare Five-Star Rating System, adjusting for the complexity of the scope and severity of the citations.

2011	Kalilsch, B.J., Tschannen, D, and Hee, K. (2011). Do staffing levels predict missed nursing care? Intern. J. for Quality in Health Care. 23 (3):302-308.	Ten hospitals in the Midwest were studied by surveying RNs with direct care responsibilities. RN hours per patient day were a significant predictor of missed nursing care.
2011	Tong PK. (2011). The effects of California minimum nurse staffing laws on nurse labor and patient mortality in skilled nursing facilities. *Health Econ.* 20(7):802-16.	After the 2000 state staffing regulation change to 2.8 hours per resident day, increases in nurse staffing reduced on-site SNF patient mortality.
2011	Zhao M, Haley DR. (2011). Nursing home quality, staffing, and malpractice paid-losses. *J Health Care Finance.* 38(1):1-10.	Nursing homes with higher registered nurse to resident ratios are less likely to experience malpractice paid-losses.
2012	Harrington, C., Olney, B, Carrillo, H., & Kang, T. 2012. Nurse staffing and deficiencies in the largest for-profit chains and chains owned by private equity companies. *Health Services Research,* 47 (1), Part I: 106-128.	The top 10 for-profit chains had lower registered nurse and total nurse staffing hours than government facilities, controlling for other factors. The top 10 chains received 36 percent higher deficiencies and 41 percent higher serious deficiencies than government facilities.
2012	Leland NE, Gozalo P, Teno J, Mor V. (2012). Falls in newly admitted nursing home residents: a national study. *J Am Geriatr Soc.* 60(5):939-45.	NHs with higher certified nursing assistant (CNA) staffing had significantly lower rates of falls.
2012	Trivedi, T.K., DeSalvo, T., Lee, L., Palumbo, A., Moll, M., Curns, A., Hall, A.J., Patel, M., Parashar, U.D., Lopman, B.A. (2012). Hospitalizations and mortality associated with norovirus outbreaks in nursing homes, 2009-2010. *JAMA.* Oct 24;308(16):1668-75.	Homes with lower daily registered nurse (RN) hours per resident (<0.75) had increased mortality rates during norovirus outbreaks compared with baseline
2013	Lerner, N.B. (2013). The relationship between nursing staff levels, skill mix, and deficiencies in Maryland nursing homes. *The Health Care Manager*, 32:123-128.	A study of Maryland nursing homes found that number of deficiencies were associated with the number of nursing home beds, nursing assistant hours per patient-day, and the location of the nursing home. The only factor influencing the severity of the deficiencies was RN hours per patient-day.
2013	Simmons, S.F., Durkin, D.W., Rahman, A.N., Choi, L., Beuscher, L., Schnelle, J.F. (2013). Resident characteristics related to the lack of morning care provision in long-term care. *Gerontologist*. 53(1):151-61.	40% of the observations showed a lack of morning care provision, including any staff-resident communication about care. Residents more physically dependent and requiring 2 staff for transfer were more likely to not receive morning care.

2013	Spector, W.D., Limcangco, R., Williams, C., Rhodes, W., Hurd, D. (2013). Potentially avoidable hospitalizations for elderly long-stay residents in nursing homes. *Med Care.* 2013 Aug; 51(8):673-81.	Three fifths of hospitalizations were potentially avoidable and the majority was for infections, injuries, and congestive heart failure. Clinical risk factors include renal disease, diabetes, and a high number of medications among others. Staffing, quality, and reimbursement affect avoidable, but not unavoidable hospitalizations.
2013	Trinkoff, A. M., Han, K., Storr, C. L., Lerner, N., Johantgen, M., & Gartrell, K. (2013). Turnover, staffing, skill mix, and resident outcomes in a national sample of US nursing homes. *The Journal of Nursing Administration*, **43**, 630–636. doi:10.1097/ NNA.0000000000000004	LN turnover was associated with two times the incidence of pressure ulcers. CNA turnover was associated with increased quality issues (PUs, pain and UTIs).
2013	Wagner, L.M., McDonald, S.M., Castle, N.G. (2013). Nursing home deficiency citations for physical restraints and restrictive side rails. *West J Nurs Res*. 35(5):546-65.	Restraint/side rail deficiency citations were negatively associated with higher staffing levels of registered nurses and licensed practical nurses.
2013	Xing, J., Mukamel, D. B., & Temkin-Greener, H. (2013). Hospitalizations of nursing home residents in the last year of life: Nursing home characteristics and variation in potentially avoidable hospitalizations. *Journal of the American Geriatrics Society*, **61**, 1900–1908. doi:10.1111/jgs.12517	Almost 50% of hospital admissions for NH residents in their last year of life were for potentially avoidable conditions. Facilities with higher nursing staffing were more likely to have better performance, as were facilities with higher skilled staff ratio, those with nurse practitioners or physician assistants, and those with on-site X-ray service.
2014	Castle, N., Wagner, L., Ferguson, J., Handler, S. (2014). Hand hygiene deficiency citations in nursing homes. *J Appl Gerontol.* 33(1):24-50.	In the multivariate analyses, low staffing for nurse aides, Licensed Practical Nurses, and Registered Nurses were associated with receiving a deficiency citation for hand hygiene.
2014	Lerner, N.B., Johantgen, M., Trinkoff, A.M., Storr, C.L., and Han, K. (2013). Are nursing home survey deficiencies higher in facilities with great staff turnover. *J. American Medical Directors Association*. 15 (2):102-107.	High CNA and licensed nurse turnover is nursing homes is associated with quality problems measured by deficiencies.
2014	Lin, H. (2014). Revisiting the relationship between nurse staffing and quality of care in nursing homes: An instrumental variables approach. *J. of Health Economics,* 37: 13-24.	Registered nurse staffing has a large and significant impact on reducing quality of care and deficiencies. A one-standard-deviation increase in RN staffing is associated with a 17% decrease in the fraction of residents with pressure sores and with a 10% decrease in the fraction of residents with contractures
2014	Thomas, K.S., Rahman, M., Mor, V., Intrator, O. (2014). Influence of hospital and nursing home quality on hospital readmissions. *Am J Management Care*. Nov 1;20 (11):e523-31.	Patients who received care in higher-quality NHs (as indicated by high nurse staffing levels and lower deficiency scores) were less likely to be rehospitalized within 30 days.

2015	Chen M.M. and Grabowski, D C. (2015) Intended and unintended consequences of minimum staffing standards for nursing homes. *Health Econ.* 24: 822-839.	Adopting minimum staffing standards in California and Ohio resulted in a 5 percent increase in total nursing hours per resident day and reduced severe deficiencies. The regulation changes had the unintended consequence of lowering the direct care professional nursing and the absolute level of indirect care.
2015	Castle, N.G., Ferguson-Rome, J.C. (2015). Influence of nurse aide absenteeism on nursing home quality. *Gerontologist.* Aug; 55(4):605-15.	High levels of staff absenteeism are associated with poor performance on all four quality indicators examined (physical restraint use, catheter use, pain management, and pressure sores).
2015	Dabney, B.W. and Kalisch, B.J. Nurse staffing levels and patient-reported missed nursing care. *J. Nurs Care Quality,* 30 (4):306-312.	A study of 729 inpatient hospital patients were surveyed. Missed timeliness in receiving nursing care from staff was associated with total nursing staff hours of care per resident day, RN hour hours per patient day, and RN skill mix.
2015	Shippee, T.P., Hong, H., Henning-Smith, C., Kane, R.L. (2015). Longitudinal changes in nursing home resident-reported quality of life: the role of facility characteristics. *Res Aging.* Aug;37(6):555-80.	Size, staffing levels (especially activities staff), and resident case mix are some of the most salient predictors of Quality of Life.
2015	Uchida-Nakakoji, M., Stone, P. W., Schmitt, S. K., & Phibbs, C. S. (2015). Nurse workforce characteristics and infection risk in VA Community Living Centers: A longitudinal analysis. *Medical Care*, **53**, 261–267. doi:10.1097/ MLR.0000000000000316	In a 6-year longitudinal panel multivariate analyses, RN and LPN tenure in VA nursing homes were associated with decreased infections by 3.8% and 2% respectively.
2016	Harrington, C., Schnelle, J.F., McGregor, M. and Simmons, S.F. (2016). The need for higher minimum staffing standards. *Health Services Insights.* 9: 13-19.	Multiple research studies show a positive relationship between nursing home quality and staffing and the benefits of implementing higher minimum staffing standards. Many U.S. facilities have dangerously low staffing.
2016	Paek, SC., Zhang NJ, Wan, TTH, Unruh, LY, and Meemon, N. (2016). The impact of state nursing home staffing standards on nurse staffing levels. *Medical Care Research & Review,* 73(1):41-61	The study findings indicated that state staffing standards for the categories of registered nurse, licensed nurse, or total nurse are positively related to registered nurse, licensed nurse, or total nurse staffing levels, respectively. Nursing homes more actively responded to licensed staffing requirements than total staffing requirements.
2016	Schnelle, J.F., Schroyer, L.D., Saraf, A.A., and Simmons, S.F. (2016). Determining nurse aide staffing requirements to provide care based on resident workload: A discrete event simulation model. *J. American Medical Directors Association*. 17:970-977.	Based on a simulation model, the nurse aide staffing required for ADL care that would result in a rate of care omissions below 10% ranged from 2.8 hours/resident/ day for nursing homes with a low workload to 3.6

		hours/resident/day for nursing homes with a high workload.
2016	Uchida-Nakakoji, M., Stone, P. W., Schmitt, S. K., & Phibbs, C.S., Wang, C. (2016). Economic evaluation of registered nurse tenure on nursing home resident outcomes. *Applied Nursing Research,* 29:89-95	The economic costs of high tenure RNs was greater than low tenure RNs across 3 outcomes: dollars per hospitalization; dollars per hospitalization and mortality rates; and morality rates (less costly and more effective) for a substantial savings to the VA healthcare system.
2018	Boscart VM, Sidani S, Poss J, et al. The associations between staffing hours and quality of care indicators in long-term care. *BMC Health Serv Res*. 2018;18(1):750. Published 2018 Oct 3. doi:10.1186/s12913-018-3552-5	The delivery of nursing assistant care hprd was significantly associated with higher quality of resident care.
2018	Phillips LJ, Birtley NM, Petroski GF, Siem C, Rantz M (2018). An observational study of antipsychotic medication use among long-stay residents without qualifying diagnoses. J. *Psych Mental Health Nurs.* 25(8):463-474.	One additional registered nurse hour per resident day could reduce the odds of antipsychotic use by 52% and 56% for residents with and without a dementia diagnosis respectively.
2019	Geng, F., Stevenson, D.G., Grabowski, D.C. (2019). Daily nursing home staffing levels highly variable, often below CMS expectations. *Health Affairs*. 38 (7) 1095-1100.	New payroll-based data reveal large daily staffing fluctuations, low weekend staffing, and daily staffing levels often below the expectations of the Centers for Medicare and Medicaid Services (CMS).
2019	Min, A. and Hong, H.C. (2019). Effect of nurse staffing on rehospitalizations and emergency department visits among short-stay nursing home residents: A cross-sectional study using the US nursing home compare database. *Geriatr Nurs.,* 40 (2):160-165.	Using data for US nursing homes from the 2016 Nursing Home Compare, the Five-Star Quality Rating System's staffing rating is a significant predictor for the rates of rehospitalization and emergency department visit among short-stay nursing home residents. The results also showed the importance of registered nurse staffing in nursing home caring for short-stay residents.
2019	ch-Maldonado, R., Pradhan, R., Dayama, N., Lord, J., Gupta, 019). Nursing home quality and financial performance: Is e a businesss case for quality? *Inquiry,* Jan-Dec:56. 10.1177/0046958018825191	Using data for all free-standing nongovernment nursing homes for 2000-2014, the operating margin was lower in nursing homes that reported higher LPN hours per resident day and higher RN skill mix; higher use of catheters, lower pressure ulcer prevention, and lower restorative ambulation; and more residents with contractures, pressure ulcers, hospitalizations and health deficiencies. Nursing homes that have better processes and outcomes of care perform better financially.
2019	te, E.M., Aiken, L.H., and McHugh, M.D. (2019) Registered e burnout, job dissatisfaction, and missed care in nursing es. *J. Am Geriatric Society,* 67 (1):2065-2071.	A survey of 687 RNs in 540 certified nursing homes in California, Florida, New Jersey, and Pennsylvania found that 30% exhibited high levels of burnout, 31% were dissatisfied with

		their job, and 72% reported missing one or more necessary care tasks on their last shift due to lack of time or resources. One in five RNs reported frequently being unable to complete necessary patient care. Controlling for RN and nursing home characteristics, RNs with burnout were five times more likely to leave necessary care undone than RNs without burnout. Tasks most often left undone were comforting/talking with patients, providing adequate patient surveillance, patient/family teaching, and care planning.
2020	Figueroa J.F., Wadhera R.K., Papanicolas I., Riley K., Zheng J., Orav E.J., Jha, A.K. (2020). Association of nursing home ratings on health inspections, quality of care, and nurse staffing with COVID-19 cases. *J. Amer Medical Association (JAMA),* online August 10, 2020. doi:10.1001/jama.2020.14709	Of the 4254 NHs across the 8 states, high performing NHs were less likely to have had more than 30 COVID-19 cases than were low-performing facilities on health inspections, quality measures, and nurse staffing, High performing NHs had a lower median number of certified beds. After adjustment, NHs with high ratings on nurse staffing were significantly less likely to have more than 30 COVID-19 than were low-performing NHs, but there was no difference on health inspections and quality measures.
2020	Gorges R. J., Konetzka R. T., (2020). Staffing levels and COVID-19 cases and outbreaks in US nursing homes. Journal of the American Geriatrics Society, online August 08, 2020. https://doi.org/10.1111/jgs.16787	71% of the 13,167 nursing homes that reported COVID-19 data as of June 14 had at least one case among residents and/or staff. Of those, 27% experienced an outbreak. Higher RN hours are associated with a higher probability of experiencing any cases. However, among facilities with at least one case, higher nurse aide and total nursing hours are associated with a lower probability of experiencing an outbreak and with fewer deaths. The strongest predictor of cases and outbreaks in nursing homes is per capita cases in the county.
2020	Harrington, C., Ross, L., Chapman, S., Halifax, E., Spurlock, B, and Bakerjian, D. (2020). Nursing staffing and coronavirus infections in California nursing homes. *Policy, Politics, & Nursing Practice*. 21(3):174-186. DOI: 10.1177/1527154420938707.	In a study of California nursing homes through May 4, 2020, 819 did not report residents with COVID-19 and 272 reported one or more COVID-19 residents. Nursing homes with total RN staffing levels under the recommended minimum standard (0.75 hours per resident day) had a two times greater probability of having COVID-19 resident infections. Nursing homes with lower Medicare five-star ratings on total nurse and RN staffing levels (adjusted for acuity), higher total health deficiencies, and

		more beds had a higher probability of having COVID-19 residents.
2020	Li, Y., Temkin-Greener, H., Shan, G., and Cai, X. (2020). COVID-19 Infections and Deaths among Connecticut Nursing Home Residents: Facility Correlates. *J. Am Geriatric Society*, Jun 18; doi: 10.1111/jgs.16689.	In a study of 215 CT nursing homes, average confirmed COVID-19 cases was eight per and confirmed deaths was 1.7 per home. Among facilities with at least one confirmed case, every 20-minute increase in RN staffing (per resident day) was associated with 22% fewer confirmed cases. Four- or five-star facilities had 13% fewer confirmed cases. Facilities with high concentration of Medicaid residents or racial/ethnic minority residents had 16% and 15% more confirmed cases. Among facilities with at least one death, every 20-minute increase in RN staffing significantly predicted 26% fewer COVID-19 deaths.
2020	Stall, N.M., Jones, A., Brown, K.A., Rochon, P.A., Costa, A.P. (2020) For-profit long-term care homes and the risk of COVID-19 outbreaks and resident deaths. *CMAJ,.* doi: 10.1503/cmaj.201197; early-released July 22, 2020.	In a study of 623 Ontario nursing homes, the odds of an outbreak was associated with COVID in the region, the number of residents and older design standards. The extent of the outbreak and deaths was associated with for-profit status, large size, low nursing staff FTEs, and older design standards.
2020	McGarry, B.E., Grabowski, D.C., and Barnett, M.L. (2020). Severe staffing and personal protective equipment shortages faced by nursing homes during the COVID-19 pandemic. *Health Affairs.* 39(10):1812-1821.	Facilities with COVID-19 cases among residents and staff, as well as those serving more Medicaid recipients and those with lower quality scores, were more likely to report shortages of nursing and PPE.
2020	Bowblis, J.R. and Roberts, A.R. (2020) Cost-effective adjustments to nursing home staffing to improve quality. *Med Care Res and Review.* 77 (3):274-284.	This study found that higher staffing was consistently related to better quality (based on deficiencies), the largest improvements resulted from increasing administrative RNs and social service staffing.
2020	Dean, A., Venkataramani, A. and Kimmel, S. (2020). Mortality rates from COVID-19 are lower in unionized nursing homes. *Health Affairs*. 39 (11): 1993-2001.	Health care worker unions were associated with a 1.29 percentage reduction in COVID-19 resident mortality rates in 355 New York state nursing homes compared to facilities without unions.
2021	Wlliams, C.S., Zheng, Q, White, A.J. et al (2021). The association of nursing home quality ratings and spread of COVID-19. *Journal of the American Geriatric Society*. DOI: 10.1111/jgs.17309.	Nursing homes receiving five-star ratings for overall quality as well as for RN staffing and total staffing, had lower COVID-19 resident infection rates and deaths.
2021	Gupta, A., Howell, S.T., Yannelis, C., and Gupta, A. (2021). Does private equity investment in healthcare benefit	PE ownership increases the short-term mortality of Medicare patients by 10%, implying 20,150 lives lost due to PE ownership

	patients? Evidence from nursing homes. Working Paper. 2021-20. Chicago: Becker Friedman Institute and NBER.	over our twelve-year sample period. This is accompanied by declines in other measures of patient well-being, such as lower mobility, while taxpayer spending per patient episode increases by 11%. Operational changes that help to explain these effects, included declines in nursing staffing and compliance with standards.
2022	Mukamel, D.B., Saliba, D., Ladd, H., and Konetzka, R.T. (2022). Daily variation in nursing home staffing and its association with quality measures. *JAMA Network Open.* March 14. 5 (3): e222051. doi:10.1001/jamanetworkopen.2022.2051	Three measures of daily staffing variations for RNs and CNS were found to be significantly associated with the CMS 5-star survey and quality rankings of US nursing homes.
2022	Dean, A., McCallum, J., Kimmel, S.D., Venkataramani, A. (2022). Resident mortality and worker infection rates from COVID-19 lower in union than nonunion US nursing homes, 2020-21. nursing homes. *Health Affairs*. 41 (5):751-759.	Unions were associated with 10.8 percent lower resident COVID-19 morality rates and a 6.8 percent lower worker COVID-19 infection rates in US nursing homes compared to nonunion homes in 2020-21.
2022	Zheng, Q., Williams, C.S., Shulman, E.T., White, A.J. (2022). Association between staff turnover and nursing home quality – evidence from payroll-based journal data. *JAGS.* 2022:1-9. DOI: 10.1111/jgs.17843	This study found average turnover rates of 44% for RNs and 46% for total nursing in US nursing homes with higher turnover in for-profit and large nursing homes in 2018-19. Higher turnover was consistently associated with poorer quality based on CMS 5-star ratings for quality.

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University of California San Francisco, May 9, 2022