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The Need for Higher Minimum Staffing Standards in U.S. Nursing Homes

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ABSTRACT: Many U.S. nursing homes have serious quality problems, in part, because of inadequate levels of nurse staffing. This commentary focuses on two issues. First, there is a need for higher minimum nurse staffing standards for U.S. nursing homes based on multiple research studies showing a positive relationship between nursing home quality and staffing and the benefits of implementing higher minimum staffing standards. Studies have identified the minimum staffing levels necessary to provide care consistent with the federal regulations, but many U.S. facilities have dangerously low staffing. Second, the barriers to staffing reform are discussed. These include economic concerns about costs and a focus on financial incentives. The enforcement of existing staffing standards has been weak, and strong nursing home industry political opposition has limited efforts to establish higher standards. Researchers should study the ways to improve staffing standards and new payment, regulatory, and political strategies to improve nursing home staffing and quality.

KEYWORDS: nurse staffing, nursing homes, standards, regulations, market incentives

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Introduction

Following a decade of controversies about poor nursing home care, the U.S. Congress adopted stronger requirements and oversight of nursing homes with the passage of the Nursing Home Reform Act in 1987.[1] Since 1987, the U.S. Centers for Medicaid and Medicare Services (USCMS) has developed a range of new initiatives to improve nursing home quality and implemented new requirements in the Patient Protection and Affordable Care Act of 2010.[2,3] These efforts have included revisions in policies and survey procedures, public reporting of nursing home quality, and other efforts that have resulted in some positive changes in nursing home care, such as reductions in the use of physical restraints.[4]

Over the years, U.S. government studies and investigative reports have found that many nursing homes continue to have serious quality problems.[5–11] In the U.S., in 2013, over 120,000 deficiencies were issued to nursing homes for regulatory violations, while 2,466 civil money penalties and 524 denial of payments were issued for serious quality violation.[12] Furthermore, 20.5% of nursing homes received deficiencies for causing the potential for or actual harm or jeopardy to residents in 2014[13] and 6% of homes were rated as substandard.[14] Overall, these regulatory actions show that nursing homes still need to improve the nursing home quality.

Recently, the U.S. Office of the Inspector General found that 33% of Medicare nursing home resident sample experienced adverse events, resulting in harm or death during the first 35 days of a postacute skilled nursing stay.[15] Medicare beneficiaries had over 2.5 million nursing home admissions in 2011, which cost about $28 billion. Sixty percent of the adverse events in the study were related to substandard treatment, inadequate monitoring, and/or failures or delays in treatment by nursing staff and others, costing $2.8 billion for Medicare.[15] A separate study found that 25% of Medicare nursing home residents were readmitted to the hospital for common and preventable problems in 2011 at a cost of $14 billion.[16]

One important underlying reason for quality problems is inadequate nurse staffing levels. In addition to reforming the oversight process, the Nursing Home Reform Act of 1987 required nursing homes to have *sufficient staff* to meet the needs of residents and one registered nurse (RN) Director of Nursing on duty for eight hours a day, seven days a week, and a licensed nurse in evening and night shifts,[1] but this standard has been criticized as inadequate.[17,18] Subsequently, 41 states have established higher staffing standards than the federal standards; however, even with higher standards, most state standards remain well below the levels recommended by experts.[17,19]

In 2015, the U.S. government proposed new nursing home regulations to strengthen the quality of nursing home care.[20] Unfortunately, the proposed regulations do not change the federal staffing standard, even though the previous standards are considered too low, and resident acuity has increased dramatically since 1987.[21] For example, the percent of total Medicare resident days classified as needing intensive rehabilitation and nursing care increased from 29 to 79 days between 2002 and 2013.[21] Although resident acuity appears to be overstated because nursing homes have incentives for upcoding acuity to increase revenues,[21] there is clearly increased association with early hospital discharge to nursing homes. Under the newly proposed regulations, nursing homes would be allowed to continue to set their own staffing levels without a higher federal minimum standard than the current requirement.

In the U.S., 15,600 licensed nursing homes must provide RNs (with a minimum of two to four years of training) and licensed professional nurses (with one to two years of training) on staff.[22] Licensed residential care homes must also provide care but are not required to provide registered or licensed nurses. In some countries such as Canada, nursing homes are called *residential care homes* or *homes for the aged* and are equivalent to *nursing homes* because they also require registered or licensed nurses.[22] This article focuses on nursing homes that require licensed nursing staff.

First, this commentary examines the need for higher federal minimum nursing staff standards for RNs and total nursing staff in U.S. nursing homes and provides a rationale for this perspective. Second, this commentary examines the barriers to adopting higher federal staffing standards in the U.S. The regulation of nursing home staffing in the U.S. is expected to be of interest to researchers and policy makers in other countries that have low nursing home staffing standards and staffing levels such as in Canada and England.[22,23]

Part I: Nurse Staffing and Quality

High nurse staffing levels and quality. Over the past 25 years, numerous research studies have documented a strong positive impact of nurse staffing on both care process and outcome measures.[18] Over 150 staffing studies have been documented in systematic reviews, conducted primarily in the U.S. but also including studies in Canada, United Kingdom, Germany, Norway, and Sweden.[24–28] The strongest positive relationships are found between RNs (with two to four years of training) and quality, which is stronger than the relationship between licensed vocational/practical nurses (LVNs/LPNs; who have less training than RNs) and quality. Total nurse staffing levels (which includes RNs, LVNs/LPNs, and certified nursing assistants [CNAs; with about two weeks of training]) are also related to quality.[24–28]

Although some studies have found mixed results, many of these had methodological problems with small sample sizes, single-state analysis, and cross-sectional designs.[27] In addition, weak relationships may be found when studies include nursing homes with extremely low staffing, because evidence suggests that there is a minimum threshold of staffing that must be reached before staffing levels show higher quality.[17,29] 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 of care.[30–32]

While a minimum staffing level is a necessary prerequisite to providing good quality of care, nursing staff also must be well trained and managed. High professional staff mix (ratios of RN to total staffing levels), low turnover rates, consistency of staffing, and low use of agency staff are all strongly associated with high quality.[33–37] Staffing levels and the other factors are interrelated. For example, low staffing levels are associated with high turnover rates and vice versa.[38] It is likely that adequate staffing levels must be addressed before improvements can be made in other factors such as turnover, management, and competency.

Implementation of higher minimum staffing standards improves quality. Many studies have specifically identified the benefits of implementing higher federal and state staffing standards. The proportion of residents with pressure ulcers, physical restraints, and urinary catheters decreased, following the implementation of the U.S. Nursing Home Reform Act in 1987, in part, due to adoption of the 24-hour licensed nursing standard.[39] Moreover, numerous studies have consistently shown that higher state minimum staffing levels (beyond the federal minimum requirements) have had significant positive effects on staffing levels and quality outcomes.[19,31,40–45] In addition, higher state minimum RN and total nurse staffing have been shown to have a stronger effect on nursing home staffing levels than higher Medicaid payment rates.[31]

CMS and experts recommend higher minimum staffing levels. A USCMS study in 2001 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 meet the federal quality standards (Table 1).[17] 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.[17]

This recommended minimum threshold level was later confirmed in a 2004 observational study of nursing home staffing[29] and in a reanalysis by Abt Associates in 2011.[46] Across the entire distribution of staffing levels, there is a strong association between higher total staffing levels and better outcomes as defined by lower survey deficiencies and improved resident quality measures from the Minimum Data Set (MDS) (eg, pressure ulcers).[4,46,47] Staffing is a better predictor of deficiencies than MDS quality measures, probably because facility-reported MDS quality measures appear to be

Table 1. Nursing hours per resident day reported in all U.S. nursing homes in 2014 compared to recommended minimum staffing levels and expected staffing levels.

TOTAL NUMBER OF NURSING HOMES (15,391) AND PERCENTILES	RN HOURS PER RESIDENT DAY	LVN/LPN HOURS PER RESIDENT DAY	CNA HOURS PER RESIDENT DAY	TOTAL NURSING HOURS PER RESIDENT DAY
90% N = 1,539	1.36	1.26	3.27	5.39
75% N = 3,848	0.98	1.02	2.80	4.55
Mean	1.00	0.90	2.64	4.54
Median N = 7,696	0.72	0.81	2.40	3.97
25% N = 3,848	0.53	0.60	2.08	3.53
10% N = 1,539	0.39	0.39	1.83	3.18
CMS study recommended minimum standard (2)	**0.75**	**0.55**	**2.80**	**4.10**
Average CMS expected staffing based on resident acuity (3)	**1.08**	**0.66**	**2.43**	**4.17**

Notes: (1) CMS Casper Nursing Home Staffing Data (2014). (2) USCMS. (2001). (3) Abt Associates (2015).
Abbreviations: RN, registered nurses; LVN/LPN, licensed vocational or licensed practical nurse; CNA, certified nursing assistants.

inflated.[46,47] Moreover, staffing is a better predictor of hospitalization rates than the MDS quality measures.[46]

Some experts have recommended higher minimum staffing standards (a total of 4.55 hprd) to improve the quality of nursing home care, with adjustments for resident acuity or case mix.[48] A number of organizations have endorsed the minimum of 4.1 hprd standard, have recommended that at least 30% of total nursing care hours should be provided by licensed nurses, and have recommended that RNs should be on duty for 24 hours per day. These organizations include the American Nurses Association, the Coalition of Geriatric Nursing Organizations, and the National Consumer Voice for Quality Long-Term Care.[18,49,50]

Nurse staffing levels are too low in half of U.S. nursing homes. Total facility-reported median staffing levels gradually increased from 3.7 hprd in 2009 to 3.97 hprd in 2014 and RN hours increased from 0.5 to 0.7 hprd in the same period, with wide variations across states.[4,47]

In spite of improvements, Table 1 shows that the median nursing home has RN, CNA, and total staffing levels, which are below the CMS recommended standard. Table 1 also shows that nursing homes in the lowest quartile on staffing (n = 3,848) reported CNA staffing below 2.08 hprd in 2014, which translates into ratios of about 10–11 residents to one CNA in the day and evening shifts when the most labor intensive care (eg, feeding assistance and incontinence care) has to be provided. The lowest quartile of nursing homes also reported half or less the average RN staffing, which reduces the probability that CNAs with high workloads are well managed. Nursing homes with low total staffing are highly likely to have low RN and LVN/LPN nurse staffing as well.[46,47] Thus, half of the nursing homes have low staffing and at least a quarter have dangerously low staffing.

Staffing levels need to be adjusted for resident acuity. Because it is widely agreed that staffing levels should be increased beyond the CMS minimum recommended level when resident acuity levels increase,[18,49,50] CMS's Medicare Nursing Home Compare Five-Star Rating System developed a method to determine the minimum nurse staffing levels needed for each U.S. nursing home based on its resident acuity.[51] The staffing star rating is based on two measures: total nursing hprd (RN + LVN/LPN + CNA hours) and RN-specific hprd. CMS calculates the *expected hours* of care based on the resident acuity (case mix) obtained from the Resource Utilization Group scores reported by each facility and CMS staff time measurement studies published in 2000.[52] The CMS staffing rating is based on facility staffing compared with other nursing homes and the staffing thresholds identified in its 2001 staffing study and confirmed in 2011.[17,46,47]

CMS's recent analysis of *expected* staffing levels taking into account acuity indicates that the average U.S. nursing home should have 4.17 total nursing hprd, including 1.08 RN hprd (Table 1). The actual total staffing level for almost 60% of facilities is below their expected level based on facility case mix. Almost 80% have RN staffing levels below, 30% have LVN staffing below, and 54% have CNA staffing below the expected levels (data not shown).[47]

The minimum expected staffing based on acuity should be higher than the recommended minimums. However, the average expected CNA staffing level of 2.43 hprd is well below the CMS study that recommended a minimum staffing level of 2.8 hours. This occurred because the CMS staff time studies used for the five-star system were based on the usual staffing reported in a selected sample home without assurance that the care actually met the quality standards.[53] A more recent time study (called STRIVE) had the same weakness and did not include nursing management time. Because resident acuity has increased over time,[46] CMS needs to update its staffing time studies for different levels of acuity with the assurance that resident care actually meets acceptable quality

standards. New time studies should be used to develop an improved methodology for calculating expected nurse staffing levels based on acuity.

Part II: Barriers to Staffing Reform

Given the existing knowledge about the importance of nurse staffing to nursing home quality and the low staffing levels in many nursing homes, why has the U.S. not made more progress in improving staffing levels and nursing home quality? Perhaps Binstock's argument that the U.S.'s ideological shift to neoliberalism beginning in the late 1970s (that portrays old-age benefits as burdensome and focuses on free market policies) can explain the unwillingness to enact stronger regulatory and staffing requirements.[54] Many economic, political, public policy, and sociological theories could help understand the failure to adopt staffing reform. While it is beyond the scope of this commentary to discuss the theoretical issues, some barriers are discussed below.

Economic issues. Since the passage of the U.S. 1987 Nursing Home Reform Act, the primary policy focus has been on controlling health expenditures including nursing home costs, and increased staffing standards appear to conflict with cost controls. To control costs, the U.S. Congress adopted Medicare (for aged and disabled) prospective payment rates for nursing homes in 1997. These rates have been higher than the cost of providing care, and Medicare profit margins have been extremely high for many years (ranging from 10% to 21% annually between 2000 and 2014 and over 13% in 2014).[21] Total profit margins are lower when all payer revenues are considered, and Medicare appears to be cross-subsidizing the low state Medicaid rates.[21,55]

Medicare does not conduct financial audits and has no limits on administrative costs and profits, which are often hidden in public reports.[21,56,57] The Medicare payment system, which pays higher rates for higher resident acuity, gives the facilities incentives to upcode resident acuity, especially because CMS did not audit resident assessments for accuracy, which CMS plans to implement in the future.[2] Prospective payment also allows the facilities to keep staffing levels low because their payment rates are not directly tied to nurse staffing levels.

The U.S. Congress has given state Medicaid programs (for low-income populations) wide discretion in setting nursing home payment rates, which have been lower than Medicare rates and vary by state. Studies show a positive relationship between higher Medicaid funding, increased staffing,[58] and higher quality.[59] Nevertheless, state Medicaid programs have financial incentives to keep payment rates low, which can have a negative impact on staffing levels, especially in facilities with high proportions of Medicaid residents. State Medicaid reimbursement methods have been found to be overly complex and burdensome and have failed to achieve policy goals of improving quality.[60] Moreover, there are incentives for cost-shifting between Medicare and Medicaid fee-for-service policies, which both focus on overall cost controls rather than quality outcomes.[61]

Under current federal and state payment systems, nursing homes are able to make choices on how to allocate their resources with few regulatory restrictions. In 2010, California nursing homes spent only 36% of total revenues (including Medicare and Medicaid) on staffing and over 20% on administration and profits.[56,57]

About 70% of U.S. nursing homes are for-profit facilities with an orientation to maximizing profits for owners and shareholders.[13] The profit incentive has been shown to be directly related to low staffing. For-profit nursing homes and for-profit chains operate with lower staffing and more quality deficiencies (violations) compared with nonprofit facilities.[62–64] Facilities with the highest profit margins have been found to have the poorest quality.[65]

Recognizing nursing home quality problems, the U.S. Affordable Care Act (ACA) in 2010 focused efforts on market-based strategies rather than on regulatory requirements such as staffing standards. These efforts included increasing public disclosure of ownership and expenditures, public reporting using Medicare Nursing Home Compare, quality improvement programs, and pay-for-performance programs.[3] Nurse staffing levels were incorporated as incentives into the public reporting system and the nursing home pay-for-performance demonstration.

Recently, nursing home pay-for-performance demonstrations were established in eight states with incentives tied to fewer deficiencies and higher staffing levels. Unfortunately, these Medicaid demonstrations failed to consistently achieve quality improvements and increase staffing levels in nursing homes, possibly because the incentive bonuses were too low.[66] This suggests that regulatory requirements may have more impact on staffing than market-based policies.

Regulatory enforcement. The CMS is the federal agency responsible for setting federal nursing home standards and for regulatory oversight. CMS contracts with state agencies to carry out the federal guidelines for surveys, complaint investigations, and enforcement compliance. Numerous investigations by governmental and Congressional agencies have found that U.S. nursing home violations are underidentified, and serious violations are underrated by state surveyors, while enforcement varies widely across and within states.[5–9] Often facilities are not given penalties for serious violations, or the penalties are so minimal that enforcement does not result in compliance.[5–9,67] Moreover, nursing homes are seldom terminated from the Medicare/Medicaid programs as a result of violations. State political leadership has been found to be a factor influencing the stringency of nursing home oversight, where more liberal leadership is associated with stronger regulation and conservative leadership with less regulation.[68] A number of government reports have urged CMS to improve its regulatory oversight and the consistency of enforcement across and within states.[5–9]

Within the U.S. regulatory environment, the enforcement of current staffing requirements has been weak. Deficiencies for low or inadequate staffing levels are rarely issued by state inspectors, and CMS does not have the guidelines for penalties for staffing violations.[68,69] When the state agencies adopt stronger enforcement programs, the results show improvement in staffing and quality of care.[19,42] To have a stronger deterrent effect, CMS regulations would need to specify penalties for inadequate staffing levels, such as imposing automatic fines and holds on admissions until acceptable staffing levels are reached. New approaches are needed to make the enforcement of existing staffing standards more effective in improving staffing and quality.

Political influences. Political conflict has been a major factor preventing the adoption of higher staffing standards in the U.S. The U.S. nursing home industry has consistently opposed regulatory requirements and supported higher reimbursement rate policies and payment incentive programs to improve nursing home quality.[70] In contrast, U.S. consumer advocacy groups have advocated for higher staffing requirements and more aggressive regulatory enforcement to improve quality.[70] Political ideologies are sharply divided between conservative and liberal politicians, where conservatives tend to strongly oppose regulatory approaches in contrast to liberal views that tend to support government interventions in the marketplace.[70] The role of ideology and partisanship in an era of divided government can preclude reaching political consensus on nursing home policies.

Nursing homes, similar to other health-care industries, attempt to influence public policies through campaign contributions, association lobbying, and educational activities. Between 2006 and 2009, the health sector contributed $1.7 billion in lobbying the U.S. Congress and federal agencies.[71] The health industry (including nursing homes) contributions were $5 billion from 1990 to 2008.[72] In 2013–2014, the American Health Care Association (AHCA) representing nursing homes was one of the top 16 health contributors to federal campaigns.[73] These contributions do not include those made by individual nursing home owners, association lobbying, and industry educational activities.

State campaign contributions in the U.S. have also involved the nursing home industry. The Kentucky nursing home industry gave $1.8 million to Kentucky federal and state politicians over the past decade while lobbying against bills requiring them to hire more employees, increasing fines for violations, and prosecuting elder abuse.[74] Nursing home industry campaign contributions were recently documented in Arkansas for appellate court races[75] and in Louisiana campaign races for state policy makers.[76]

The revolving door of policymakers has been another long-standing concern, where health policymakers at the federal and state levels leave government to take jobs as lobbyists, consultants, and strategists. Government often hires health industry managers into high-level government positions,[73] and these managers may have pro-industry and antiregulatory perspectives and policies. Revolving doors between nursing home companies/associations and government may occur at the federal and state levels, and this may explain why public officials and providers have been found to hold similar views supporting market-incentive programs rather than regulatory approaches.[70]

The imbalance of power between the nursing home industry and consumer advocates has prevented the establishment of higher federal staffing standards. The AHCA often hires leading politicians into leadership roles and has a large staff in Washington, D.C., known for its effective lobbying campaigns. The reliance of members of Congress on lobbyists and special interest groups has been well documented.[77]

Although there has been a large growth in old-age interest groups in the U.S., the effectiveness of their advocacy has been questionable[54] and very few of these advocacy groups focus on nursing home issues. Consumer organizations that do advocate for nursing home issues have faced a constant financial struggle to survive. Although consumer advocates were able to obtain more disclosure requirements for nursing home ownership and expenditures, payroll reporting of staffing, and staff criminal background checks in the ACA of 2010,[3] they have not been able to overcome the strong industry opposition to higher staffing standards.

Conclusion

Low staffing levels and poor quality of care continue to be problems in a significant number of U.S. nursing homes, despite the overall staffing improvements in many homes. The problems of low nursing home staffing have also been found in other countries such as the Canada and England.[22,23] Compelling evidence supports the need for higher U.S. minimum nurse staffing standards, adjusted for resident acuity, to ensure adequate quality of nursing home care as a necessary precondition for making other quality improvements such as in leadership, management, and training. Economic, regulatory, and political solutions are needed to ensure that all nursing homes provide safe and high quality of care. Researchers should not only take up the challenge of studying barriers to reform but also studying new regulatory, payment, and accountability strategies to improve nursing home staffing and quality.

Author Contributions

CH wrote the first draft of the manuscript. CH, JFS, MM, and SFS all contributed to the writing and editing of the manuscript and agreed with the text and conclusions of the paper. CH, JFS, MM and SFS all reviewed and approved the final version of the manuscript.

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