



**STATE EXPERIENCES
WITH MINIMUM NURSING
STAFF RATIOS FOR
NURSING FACILITIES:
FINDINGS FROM THE RESEARCH
TO DATE AND A CASE STUDY
PROPOSAL**

February
2003

**U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy**

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This report was prepared under contract #100-97-0010 between the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Office of Disability, Aging and Long-Term Care Policy and the Urban Institute. For additional information about this subject, you can visit the DALTCP home page at <http://aspe.hhs.gov/daltcp/home.shtml> or contact the ASPE Project Officer, Jennie Harvell, at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201. Her e-mail address is: Jennie.Harvell@hhs.gov.

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February 2003

Prepared for
Office of Disability, Aging, and Long-Term Care Policy
Office of the Assistant Secretary for Planning and Evaluation
U.S. Department of Health and Human Services
Contract #HHS-100-97-0010

INTRODUCTION¹

The purpose of this project is to inform federal and state policymakers about what can be learned about the implementation and enforcement of state minimum nursing staff ratios for nursing homes, and related issues, such as labor shortages and resident case-mix. The experiences of states that have already grappled with the complexities of setting, monitoring, and enforcing minimum staffing ratios could be instructive. The project will describe the states' minimum ratios and their goals, the issues states confront as they implement the ratios, and the perceived impact of these ratios on the quality and cost of nursing home care.

To date, we have formed a Technical Advisory Group to review project products, conducted a literature review to identify states with minimum nursing staff ratios, and held discussions with key stakeholders and officials at the national level about issues around state implementation of this type of nursing staff standard for nursing homes.

This paper reports on (1) what is known about the status of minimum nursing staff ratios, and (2) gaps in knowledge about this type of nursing staff standard and its implementation. To achieve consistency in discussion of the great variety of approaches that states have taken, we have imposed the following terminology: We use the term “requirements” to refer to federal staffing requirements; “nursing staff standards” to refer to all of the different types of standards that states use (federal requirement by default, professional coverage standards that do not involve ratios, and ratios); and “nursing staff ratios” to refer to the three types of ratios that are the focus of this study--hours per resident day (hprd), staff-to-residents, or staff-to-beds. The paper also describes a qualitative case study methodology for addressing the outstanding questions.

BACKGROUND

The Nursing Home Reform Act of 1987 established federal requirements that are applied when surveying and certifying nursing homes for participation in Medicare and Medicaid. Federal law requires a minimum of 8 hours per day of registered nurse (RN) service and 24 hours per day of licensed nursing service sufficient to meet residents' needs,² but these staffing requirements may be--and frequently are--waived. Although the certification requirements for the Medicare and Medicaid programs are virtually identical, one difference between them is that the standards used to grant waivers of nursing staff requirements are stricter under Medicare than under Medicaid. Federal regulations also require nursing homes to provide “sufficient nursing staff to attain or maintain the highest practicable ... well-being of each resident”³ The Nursing Home Reform Act did *not* mandate a specific staff-to-resident ratio or a minimum number of hprd for resident care.

The federal and state governments have several means of collecting data on nursing home staffing and quality, and data from these systems have been used to explore the relationship between staffing and quality. The federal government has two national reporting systems--the Online Survey, Certification and Reporting database (OSCAR) and the national Minimum Data Set (MDS)--each of which has limitations. OSCAR contains information on facility and resident characteristics as well as information on any deficiencies identified during the state surveys of all nursing homes that are certified to participate in Medicare and Medicaid. As part of the survey process, each nursing home has to report its staffing for the two-week period preceding the survey. State staff enter staffing and other data into the OSCAR database. OSCAR staffing data do not undergo formal audits, and the data for the two-week period preceding the survey may or may not be an accurate reflection of facility staffing throughout the year.

Data from the MDS supplement the OSCAR survey deficiency data as measures of quality at nursing facilities. Every nursing facility must do a periodic, comprehensive assessment of each resident's functional capabilities and medical needs and submit that information to the Centers for Medicare and Medicaid Services (CMS). The federal government has collected these data at the national level and constructed various quality indicators and quality measures for each nursing facility. Several issues have been raised concerning the MDS data including: (1) the accuracy of the data, (2) the validity of the quality indicators and quality measures used to provide risk-adjusted measures of nursing home quality, and (3) the consistency of reporting across facilities and states and over time.

There are two potential sources of additional staffing data at the state level, and these sources vary across the states. First, each state has unique requirements for the annual Medicaid cost reports that nursing homes must file to receive reimbursement. These cost reports can contain staffing data, and, because cost reports are audited, these data are considered more reliable than OSCAR staffing data. However, costs for any year may be based on a prior year's costs trended forward, rather than on actual reported costs, and so might not accurately reflect that year's staffing conditions. Second, a few states with established minimum nursing staff ratios have begun collecting data that they use to determine whether facilities are complying with this type of staffing standard. We are currently exploring these data collection systems.

In response to continuing Congressional concerns about quality of care in nursing homes, the Department of Health and Human Services (HHS) has sponsored research examining the relationship between the level of nursing staff and quality of resident care in nursing homes. Two reports detailing the findings of this research have recently been completed.⁴ The Phase I report, based on research conducted by Abt Associates and prepared by CMS staff, found a relationship between staffing levels and quality of care and identified preliminary evidence of critical thresholds for nursing staff below which nursing home residents are at risk for serious quality of care problems. The evidence, however,

had major data and sample limitations. As noted in the Phase II report, the Phase I report “established that currently available staffing information on individual nursing homes is highly inaccurate.”⁵ The Phase I study used MDS data on quality and case mix for three states only for 1996 and 1997, with some quality analyses restricted to only two of the states due to lack of data for the third. Even in the two study states, the researchers found that they could not reliably match MDS and claims data as the analyses required; furthermore, the generalizability of the findings was hampered by inconsistencies in the results across the states.⁶

The Phase II study, conducted by Abt Associates for CMS, replicated the Phase I analyses using a larger, more nationally representative sample of nursing homes along with more recent and improved data. In Phase II, seven states were added to the analysis file, staffing data were taken from Medicaid cost reports, and quality measures were computed separately for long-stay and short-stay residents. The Phase II analysis found an association between the level of staffing and quality of care but only within a particular range of staff levels. Specifically, that research suggests that there is a level of staffing below which residents are at substantially increased risk of suffering from quality of care problems, and above which there are incremental increases in the quality of care as staffing increases, with each type of staff having an upper threshold at which quality increases level off. Beyond these thresholds, further increases in staff were seen to yield no further measurable increases in quality of care. The results were further reported to suggest that the greatest increments in improvement in quality are seen as the staffing thresholds are approached.⁷ The research estimated that more than 90 percent of all nursing facilities failed to meet at least one of the staffing thresholds for certified nurse assistants (CNAs), licensed practical nurses (LPNs), or RNs that emerged from the Phase II study.

In a letter to Congress conveying the Phase II results, Secretary Thompson stated that “... it would be improper to conclude that the staffing thresholds described in this Phase II study should be used as staffing standards.” He pointed out that the relationship between the number of staff and quality of care is complex, listing several important staffing issues related to nursing home quality of care that the Phase I and II studies do not adequately address.⁸ Specifically, the analyses did not take into account factors such as facility management and organizational structure, tenure and training of staff, and the mix of staff by type and level of experience, that are likely to affect quality independently of staffing level. Nor did the study link the effects of the current nursing shortage to the analyses of staffing ratios. HHS also has serious reservations about the reliability of the staffing data used in the study. In addition, HHS expressed concern that the study did not provide enough information to address the question posed by Congress, i.e., “the appropriateness” of establishing minimum ratios. The full text of the letter is provided in **Appendix 1.**⁹

The HHS Office of the Assistant Secretary for Planning and Evaluation (ASPE) determined that more information about nursing home staffing requirements was needed. More than 30 states have imposed minimum nursing staff ratios on their own initiative. ASPE is sponsoring this study to examine the experience of these states in the implementation and enforcement of this type of staffing standard.

METHODOLOGY

We took a two-pronged approach to determining what is currently known about state minimum nursing staff ratios and their implementation. The first was an annotated review of the published and unpublished literature on state standards. The purpose of the literature review was to identify states with minimum nursing staff ratios and to learn how this type of standard is being implemented. Second, we engaged in guided discussions with key national stakeholders about the issues around state nursing staff ratios. Our analysis of the literature and guided discussions identified major gaps in knowledge about the states' activities. We will attempt to fill these gaps via case studies that we will undertake in the second part of this study--a series of guided discussions with researchers and key stakeholders at the state level about various aspects of state minimum nursing staff ratios and their implementation.

Annotated Literature Review

The annotated literature review examined articles and reports from 1999 to the present on state nursing staff standards, to update and verify existing information on minimum nursing staff ratios; the review is provided in **Appendix 2**. We gathered reports using Internet search engines and searched federal and state websites, websites of nursing home advocacy organizations, and on-line services such as Medline. The literature review also includes conference proceedings from the last three years on state nursing staff standards, CMS Phase I and Phase II Staffing Studies, and studies completed in the last three years on state-initiated staffing standard activities. To categorize states by type of minimum nursing staff ratio and the date the ratio was established, Urban Institute staff reviewed the state code or authorizing language, when available, and contacted state officials by telephone to update state information. When state code or authorizing language was not available, staff used information from the literature.

We created a draft matrix that describes available information about state minimum nursing staff ratios, which are measured either as hprd, as a ratio of staff-to-residents, or as a ratio of staff-to-beds. For the 36 states with staffing ratios, we present the date the ratio was established or reauthorized, and if there have been changes to the ratio since 1997. We use 1997 as a cut-off point to identify potential states for case studies in which we plan to discuss factors associated with state policy changes in the past five years with

current state officials and stakeholders. Where available, we have included information on how compliance with the ratio is monitored and whether the state allows exceptions to the ratio (i.e., waivers).

For those 36 states with staffing ratios, we indicate whether we were able to obtain the state code to verify information about the ratio taken from the literature review. We indicate whether states with major changes to their ratios since 1997 collect and maintain nursing staff and quality data beyond the federal data collection requirements. The existence of independent state-maintained, facility-level datasets covering the period before and after implementation of a state ratio might allow future quantitative analysis of the effects of state minimum staffing ratios on quality not possible with existing OSCAR and MDS federal datasets due to the problems related to accuracy and consistency.

The matrix containing this information appears in **Appendix 3**.¹⁰ This matrix is a work in progress; information in it will be verified and updated in planned discussions with state officials and stakeholders.

Guided Discussions with Key Stakeholders and Researchers

This portion of the study was designed to fill the gaps in the literature regarding key aspects of state minimum nursing staff standards, with a particular focus on nursing staff ratios, through guided telephone discussions with researchers and key stakeholders at the national level. The discussions addressed the following questions that the extant literature does not cover:

1. What factors have influenced states' decisions to establish, increase, decrease, delay, or eliminate staffing ratios?
2. How have factors such as nursing home quality, costs, nursing home payment levels, and labor shortages affected implementation of state ratios and provider compliance with them?
3. What approaches are states taking to implement ratios, monitor compliance with them, and enforce them?
4. Have any states measured the costs of nursing staff ratios?

Telephone discussions were conducted with six researchers, two consumer advocates, three provider representatives, and seven federal and state governmental officials during the fall and winter of 2002-2003. A series of open-ended questions guided the discussions, which lasted from 30 to 60 minutes each. Respondents were assured that they would not be quoted by name and that their individual responses would remain confidential.

SUMMARY OF FINDINGS FROM THE LITERATURE REVIEW

In our review of the recent literature and available state administrative or regulatory code for minimum nursing staff ratios in nursing homes we found 36 states that have established such ratios. These states' ratios are expressed as hprd, a ratio of staff-to-resident or staff-to-bed, and, in some cases, a mixture of requirements. The focus of this study and **Appendix 3** is on these 36 states.

The remaining 14 states and the District of Columbia either: (i) use the federal nursing staff requirements when surveying nursing homes that wish to be certified for participation in Medicare or Medicaid; or (ii) have state professional coverage standards for nursing home licensure that are similar to or exceed the federal requirements. Hawaii is an example of a state that exceeds the federal requirements because it requires one RN on duty full time, 24 hours per day, 7 days per week. These professional coverage standards are not the focus of this study.

Our literature review found that the minimum staffing ratios that the 36 states use are quite complex and differ markedly across the states. Differences include the type of staff to whom the ratios apply, as well as differences in the ratios and the facilities to which they apply. These differences are summarized below. We also found recent state activity around nursing staff ratios in nursing homes. This recent state activity includes efforts by some states to increase, decrease, or eliminate minimum staffing ratios, or make ratios more flexible.

State Nursing Staff Ratios are Complex

One challenge to identifying and categorizing states with minimum nursing staff ratios is the complexity of the various states' ratios. We found, as did Charlene Harrington,¹¹ that state ratios vary in how they are described and are difficult to compare across states. For example, ratios vary by facility size or type, personnel, and shift; some are expressed as ratios to residents or to beds while others are expressed in hours. We found inconsistencies in the reporting of state ratios among different sources that might be caused by this variation and complexity; alternatively, the inconsistencies might be due to the timing of the various studies. These reporting inconsistencies create difficulty in identifying and comparing states' current minimum nursing staff ratios. To resolve inconsistencies among various reports on state nursing staff standards we attempted to get the state code or authorizing language for states with minimum nursing staff ratios. We were able to obtain the state code for 27 of the 36 states identified as having a ratio and to compare the code to information available from previous surveys of state standards.

Although most studies found roughly the same number of states, 35 to 36, with minimum staffing ratios, not all studies list the same states in these groups. One possible

source of discrepancy is the definition of a state standard. Our interest is in minimum state nursing staff ratios; other studies of state standards do not state their classification method. In other cases, the cause of the discrepancy is less clear. For example, several sources listed Hawaii¹² as a state with minimum staffing ratios, although we found no information to suggest that Hawaii has an established ratio. In another example, according to New Mexico's authorizing language, Harrington's study,¹³ and the PHI/NCCNHR report,¹⁴ New Mexico established minimum nursing staff standard of 2.5 hprd for direct care staff^a in 2000. However, Devore,¹⁵ the CMS Phase I Report,¹⁶ and Appendix E to the Report to the California Legislature¹⁷ say that New Mexico has no minimum staffing ratio.

Minimum State Nursing Staff Ratios Differ Across States

A majority of states have established minimum nursing staff ratios for nursing homes, these standards vary widely across states not only in form but also in level, and, in some states, the standard is expressed in more than one form. For example, California requires 3.2 hours of direct care per resident day while Maine maintains a direct care staff-to-resident ratio of 1 to 5 during the day, 1 to 10 in the evening, and 1 to 15 at night. Among the states with minimum nursing staff ratio standards, twenty states express the ratio as hprd (California, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Massachusetts, Minnesota, Mississippi, Nevada, New Jersey, New Mexico, North Carolina, Tennessee, Vermont, West Virginia, Wisconsin, and Wyoming). Four express their standard as a staff-to-resident ratio (Arkansas, Maine, Oregon, and South Carolina). Ten have standards expressed as both hprd and a staff-to-resident ratio (Delaware, Florida, Kansas, Louisiana, Maryland, Michigan, Ohio, Oklahoma, Pennsylvania, and Texas). Alaska expresses the requirement as a staff-to-occupied bed ratio, while Montana's requirement is based on the number of beds, occupied or not.

In some states with more than one type of ratio, one form is easily translated into the other. For example, Texas requires 0.4 hours of licensed care staff per resident per day or a 1 to 20 licensed nurse-to-resident ratio every 24 hours. In other states with more than one ratio standard, one form is in addition to the other. In 2001, Ohio added a standard of 2.75 hours of direct care per resident to complement its 1 to 15 direct care staff-to-resident ratio. There is no indication in the written literature or in Ohio's state code suggesting that one requirement takes precedence over the other.

State minimum staffing ratios may also differ by facility size or type, such as an intermediate care facility versus a skilled nursing facility. State definitions of these facilities vary, but skilled nursing facilities generally care for residents with more medically-related needs. Other variation in standards occurs by personnel group such as licensed staff [RN, LPN, or licensed vocational nurse (LVN)], non-licensed staff [CNA or nurse's

^a Direct care staff includes licensed and unlicensed nursing staff who provide nursing care directly to residents (administrative and ancillary staff time generally excluded).

aide (NA)], or direct care staff. Due to the number of dimensions on which ratios can vary, there is little consistency across states in how the ratios are expressed. Connecticut, for example, has ratios that vary by shift, staff type, and facility licensure category, with eight separate nursing staff ratios depending on a facility's licensure category (chronic/convalescent homes vs. rest home with nursing supervision), whether a staff person is licensed or unlicensed, and the shift. The ratios for chronic/convalescent homes, for example, are 0.47 hprd (days) and 0.17 hprd (nights) for licensed staff, and 1.4 hprd (days) and 0.5 hprd (nights) for direct care staff. The hprd requirements for a rest home with nursing supervision are about half those required for chronic/convalescent homes by shift and staff type. Arkansas has ratios that vary by personnel group and shift, while Louisiana has both hprd and another ratio standard for all direct care workers that differs by facility type.

Most states with minimum nursing staff ratios established their current standards in the past decade. Nine states (Arkansas, Delaware, Florida, Maine, Mississippi, New Mexico, Ohio, Oklahoma, and Vermont) established their current standards in the year 2000 or later. Thirteen states (Alaska, California, Georgia, Louisiana, Maryland, Massachusetts, New Jersey, North Carolina, Oregon, Pennsylvania, South Carolina, West Virginia, and Wisconsin) established their standard in the 1990's, six states (Colorado, Connecticut, Idaho, Michigan, Montana, and Tennessee) in the 1980's, and one state (Wyoming) in the 1970's. In seven states (Illinois, Indiana, Iowa, Kansas, Minnesota, Nevada, and Texas) we have been unable to determine the year in which the state established its current standards; however, we do know that in none of these states was the standard established before 1980.

Among the 36 states with staffing ratios, fourteen allow waivers or exceptions to their state nursing staff standards (Colorado, Idaho, Illinois, Indiana, Iowa, Louisiana, Maryland, Ohio, Oklahoma, Oregon, South Carolina, Texas, Wisconsin, and Wyoming). However, five of these states (Idaho, Iowa, South Carolina, Wisconsin, and Wyoming) indicated that waivers are very rare and only allowed in unusual circumstances.¹⁸ Wyoming has never allowed any waivers, while Iowa did not allow any waivers from 1994 to 1999. Texas allows time-limited waivers for regions unable to recruit RNs, while Colorado allows waivers only in rural areas.¹⁹

Recent State Activity on Minimum Nursing Staff Ratios

Several states have seen legislative activity on nursing staff ratios in nursing homes in the past five years. Our research shows that, since 1997, 19 states have taken action to increase, decrease, eliminate or delay implementation of ratios.²⁰ According to our research to date, the following states have implemented increased staffing requirements: Arkansas, California, Florida, Indiana, Georgia, Louisiana, Maine, Mississippi, New Mexico, Ohio, Pennsylvania, South Carolina, Vermont, Wisconsin, and West Virginia. For example, in 2001, Arkansas and Florida passed legislation that increased their staffing

ratios with both states planning to phase-in their changes incrementally for licensed nurses and nurse aides over the next few years, while California passed legislation requiring state officials to convert their standard from a 3.2 hprd to an as-yet unspecified staff ratio. In 2002, legislative activity in Oklahoma and Delaware took a different direction. The Oklahoma legislature delayed implementing a scheduled increase in its nursing staff ratio by one year, while Delaware introduced more flexibility into its implementation schedule. Two states, Arizona and Missouri, have eliminated their ratios.

Five of the 19 states have some form of data on nursing staff in addition to the federally required OSCAR and MDS data--Arkansas, California, Florida, Vermont, and Wisconsin. Many of these state data collection efforts are fairly recent, usually implemented within the past year, and states often do not maintain the data electronically, making it difficult to use for research purposes.

Several states have introduced legislation in the past three years to establish new minimum nursing staff ratios (Connecticut, Illinois, Kansas, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Rhode Island, Virginia); however, this legislation has either stalled or failed to pass the legislature. For example, Senate Bill 1125 of the 2001 Session of the Virginia General Assembly would have required Virginia nursing homes to implement minimum nursing staff of 5.2 hprd with separate CNA and licensed nurse ratios for day, evening, and night shifts. These ratios would have exceeded those of all other states and those recommended by advocacy and research organizations. The legislation was not enacted.

GAPS IN LITERATURE AND INFORMATION FROM GUIDED DISCUSSIONS

Our review of the recent literature revealed several gaps that will require further research to address. First, there is very little information on why states decide to establish staffing ratios and how a state chooses the particular form and level of its ratio. The literature indicates that states believe ratios will promote quality,²¹ but there is less attention given to other factors such as costs, nursing home payment levels, or labor shortages that might affect a state's decision.

The guided discussions indicated that most researchers and stakeholders believe that quality, rather than cost or labor supply, was the dominant concern for most states with recent activity on standards. In addition, some states that have raised nursing home payment rates to address the long-term care labor shortage have imposed staffing ratios to help ensure that increased funding for nursing homes is used to augment staffing in facilities. Little was known about why some states have rescinded or delayed implementation of standards, although some respondents believed that state budgetary factors or long-term care labor shortages might have driven these decisions.

Second, we know little about the methods states employ for monitoring and enforcing compliance with staffing standards. Respondents and some states reported that enforcement occurs during routine licensing and certification surveys or through on-site reviews in response to complaints. Although many states have recently adopted or increased their nursing staff ratios, little is mentioned in the literature about new or existing efforts to monitor and enforce the ratios. The California report states that “aggressive” enforcement is needed for minimum nursing staff ratios to be effective in maintaining and improving quality of care.²² According to the California report, the state intends to add a component to the federal survey protocol that would calculate facility’s compliance with the 3.2 hprd minimum standard. Connecticut’s Legislative Program Review and Investigations Committee finds that neither CMS protocol nor Connecticut state law provide a benchmark for facilities to adequately evaluate staffing levels based on case-mix of residents.²³ Connecticut recommends that surveyors obtain facility data on nursing staff hours and total resident days as reported in Medicaid cost reports prior to conducting a federal survey or state licensing inspection. Using these data, average daily staff-to-resident ratios will be calculated and compared to actual nursing staff levels during the federal survey or state inspection process. Recommendations also include an assessment of resident acuity, based on CMS’ published 1995 and 1997 Staff Time Measurement Studies, to ensure that sufficient staff and levels of licensed and unlicensed personnel are available to meet residents’ needs.

Third, the literature review revealed only a few studies that report on whether nursing homes have complied with minimum ratios or the effect that ratios have had on either staffing levels or the quality of care in nursing homes. Connecticut and Vermont compared nursing home staffing levels to the current ratios to determine the number of facilities below the standard.²⁴ Connecticut found that all nursing facilities are meeting the state minimum ratios. Vermont reported that most nursing homes were meeting the ratios prior to the increase, with those facilities below the old ratio now staffing up to meet the new ratio. California reported the effect of its staffing ratio increase from preliminary findings of a representative sample of 111 nursing facilities.²⁵ The state reported that since the implementation of the 3.2 hprd standard, nursing staff levels have increased and deficiency citations for federal "substandard quality of care" have decreased. However, the report also noted that a third of nursing facilities in the sample did not meet the new requirement and facilities with a higher percentage of Medi-Cal residents were less likely to provide the required staffing levels.

Finally, the literature lacks information on the costs of nursing staff ratios. Virginia and California were the only states that mentioned the estimated costs of implementing or increasing standards in their reports. Virginia’s Joint Commission on Health Care estimated the fiscal impact of a proposed 5.2 hprd on the Medicaid program to be \$91.2 million from the general fund annually. A report published by The National Senior Citizens Law Center (NSCSL)²⁶ estimated that adoption of the New York University expert panel’s staffing levels,²⁷ would cost California an added \$150 to \$199 million in Medi-Cal costs

annually, while a three-year phase-in of this plan would cost between \$40 and \$50 million annually. The NSCSL report notes that a reduction in harm suffered by residents could lead to decreased hospitalization costs and lower spending by Medicare and Medi-Cal and that increases in staffing could reduce the costs associated with staff turnover.

QUANTITATIVE ANALYSIS FEASIBILITY

The lack of quantitative analyses on the effect of new or revised standards on either staffing or quality may be due, at least in part, to the inadequacy of the data on staffing and quality in nursing facilities for the purposes of research, a problem that respondents pointed out and that is substantiated by the literature review. There are two readily available sources of data on nursing staff--self-reported staffing data that nursing homes report on the OSCAR system and data from the Medicaid cost reports. OSCAR data are widely viewed as insufficiently reliable to allow detection over time of changes in staffing due to state-required staffing levels. Respondents asserted that the data are particularly unreliable for those facilities with low staffing levels. Unfortunately, these low-staffed facilities are where one would expect to see a response to the institution of staffing standards, since they are more likely than higher-staffed facilities to have staffing levels that do not meet the standard.

Respondents view state Medicaid cost report data as generally more reliable than OSCAR data but these data are not available for all states that have instituted staffing ratios. Even for those states that have instituted ratios and have available cost report data, we have not yet ascertained whether the data are available both pre- and post-implementation, as would be required for a comprehensive analysis. The differences in survey practices across states²⁸ and in cost-reporting, as well as variations in other conditions such as the staffing shortage and nursing home payment practices that might influence staffing at the state level, argue strongly for looking at staffing within individual states rather than across states. There are also indications in the data that suggest that reporting within any state may vary over time. This intertemporal variation would not invalidate state-level analyses but will make it more difficult to pick out changes, particularly in a short time series.

While data on quality from the MDS are seen as more reliable than OSCAR data, our respondents noted that their reliability is still low for the purposes of research. The MDS was developed as a tool for resident assessment and care planning. While these data may be adequate to the task of developing quality indicators for individual nursing homes, they are, like the OSCAR data, unlikely to be useful for identifying small changes in quality in a limited number of facilities over a short time frame. A recent CMS-sponsored study on MDS accuracy corroborated this opinion, finding that the MDS error rate averaged 11.7 percent for all MDS items.²⁹ As another recent study noted, “the information best suited for

internal quality management and improvement is not necessarily the same as that most useful for public accountability.”³⁰

If the problems with the staffing and quality indicator data were systematic, e.g., facilities of a certain type were likely to over-report staffing, they could possibly be addressed by systematically adjusting the data. Unfortunately, respondents indicated that the data problems were not systematic and so not likely to be amenable to adjustment for use in a quantitative analysis. More generally, the data on staffing as well as on quality were characterized as so “noisy” that it may be quite difficult to pick out the “signal” after taking into account the relevant control factors. It is likely that the changes induced by the institution of staffing standards are small. Any analysis would have to be designed to address the problem of identifying such small changes in a limited number of facilities within the noisy data set.

The initial scope of work for this project required a quantitative analysis examining the relationship between the implementation of state-established staffing ratios and nursing home quality. However, given the concerns discussed above about the accuracy, validity, and availability of the data needed to detect changes in staff and any attendant changes in quality of care for residents, this project will not undertake such an analysis. Instead, as discussed below, the project will expand the number of state case studies to better understand the status of state-established nursing home staffing ratios and the issues states have considered with respect to this type of standard.

CASE STUDY RESEARCH

Given the identified gaps in knowledge about state activities, further research will involve case studies of up to 15 of the 19 states that have implemented new nursing staff ratios or made changes to their pre-existing ratios since 1997. In up to 15 states, we will hold guided discussions with survey and certification officials to confirm that the information we have collected about the states’ minimum staffing ratios is correct and that ratios have indeed changed during the past five years. In those states with verified changes, we will next hold guided discussions with key state stakeholders including nursing home ombudsmen, consumer advocates, and provider representatives. In those states that have linked increased nursing home payment to staffing ratios, we will include state nursing home payment officials.

The telephone discussions will be designed to elicit the opinions of these stakeholders regarding the following public policy questions:

1. What goals did states associate with establishing increased nursing staff ratios?

2. How do states' balance beliefs about the benefits of increased staffing ratios with other factors such as costs, nursing shortage, etc.?
3. How has the state addressed other factors that have potential to affect nursing home quality, such as the labor shortage, facility management, and staff training and retention?
4. What is the status of the implementation of the staffing ratio and what factors have affected implementation?
5. What is known about the effectiveness of the ratios in achieving the desired goal(s)?
6. What are the estimated and actual costs (if known) to the state, providers, nursing home residents, and others, of staffing ratios, and how are such costs financed?
7. How is compliance with ratios monitored and enforced, and what factors have affected the state's monitoring and enforcement of nursing home compliance?
8. To what extent are providers complying with minimum ratios? To what extent do providers rely on permanent vs. contract staff?
9. Can minimum ratios be waived? If so, under what circumstances?
10. What are the barriers to implementation? Have staffing ratios been waived or adjusted, given implementation challenges and, if so, what adjustments have been made?
11. What policy issues have been and continue to be discussed at the state level regarding the ratios? How have these issues been resolved and what issues remain?
12. What suggestions do state respondents have regarding federal monitoring and enforcement activities around federal nursing staff requirements?

We will be conducting this qualitative study in up to 15 of the 19 states that the literature indicates have recently made changes in staffing ratios. Since we are examining relatively recent changes in state ratios, we are likely to find stakeholders who are knowledgeable about the policy discussion that occurred around passage and implementation of the ratios. Thus, we expect to be able to identify the issues states have faced and to examine both what is common among their experiences and where and why their experiences differ.

END NOTES

1. This paper summarizes findings from the research as of February 2, 2003. This research is ongoing and information will be verified and updated in planned discussions with state officials and stakeholders.
2. (Section 1819 and 1919(b)(4)(C)).
3. Code of Federal Regulations 42, Part 483, Subpart B, §483.30.
4. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes; Report To Congress: Phase I.* Health Care Financing Administration. Washington, DC: HCFA, July 2000. Abt Associates, Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report.* Baltimore, MD: Centers for Medicare and Medicaid Services, December 24, 2001.
5. Abt Associates, Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report.* Baltimore, MD: Centers for Medicare and Medicaid Services, December 24, 2001, p. ES-3.
6. Abt Associates, Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report.* Baltimore, MD: Centers for Medicare and Medicaid Services, December 24, 2001, p. 2-2.
7. Abt Associates, Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report.* Baltimore, MD: Centers for Medicare and Medicaid Services, December 24, 2001.
8. Tommy G. Thompson, Secretary of Health and Human Services, Transmittal Letter to the Senate, no date. www.cms.hhs.gov/medicaid/reports/rp1201ltr.asp. Accessed December 18, 2002.
9. The full text of the letter can be accessed at www.cms.hhs.gov/medicaid/reports/rp1201ltr.asp.
10. To obtain a copy of Appendix 3 please contact Kirsten Black of The Urban Institute at kblack@ui.urban.org.
11. Charlene Harrington. *Nursing Home Staffing Standards in States and Regulations.* Kaiser Commission on Medicaid and the Uninsured. San Francisco, CA: University of California, May 2001.

12. Elizabeth Devore. *Issue Brief: Nursing Home Staffing Standards*. Washington, DC: Health Policy Tracking Service, June 28, 2002. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes; Report To Congress: Phase I*. Health Care Financing Administration. Washington, DC: HCFA, July 2000. National Citizen's Coalition for Nursing Home Reform. *Federal and State Minimum Staffing Requirements for Nursing Homes--October 1999 Draft*. Washington, DC: National Citizen's Coalition for Nursing Home Reform. October 1999.
13. Charlene Harrington. *Nursing Home Staffing Standards in States and Regulations*. Kaiser Commission on Medicaid and the Uninsured. San Francisco, CA: University of California, May 2001.
14. Paraprofessional Healthcare Institute and National Citizens' Coalition for Nursing Home Reform. *National Survey on State Initiatives to Improve Paraprofessional Health Care Employment: October 2000 Results on Nursing Home Staffing*. Bronx, NY: Paraprofessional Healthcare Institute, October 2000.
15. Elizabeth Devore. *Issue Brief: Nursing Home Staffing Standards*. Washington, DC: Health Policy Tracking Service, June 28, 2002.
16. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes; Report To Congress: Phase I*. Health Care Financing Administration. Washington, DC: HCFA, July 2000. Abt Associates, Inc. *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report*. Baltimore, MD: Centers for Medicare and Medicaid Services, December 24, 2001. Health Care Financing Administration.
17. Department of Health Services' Licensing and Certification Program. *Nursing Staff Requirements and the Quality of Nursing Home Care: A Report to the California Legislature*. Sacramento, CA: California Department of Health Services' Licensing and Certification Program, June 2001.
18. Paraprofessional Healthcare Institute and National Citizens' Coalition for Nursing Home Reform. *National Survey on State Initiatives to Improve Paraprofessional Health Care Employment: October 2000 Results on Nursing Home Staffing*. Bronx, NY: Paraprofessional Healthcare Institute, October 2000.
19. Paraprofessional Healthcare Institute and National Citizens' Coalition for Nursing Home Reform. *National Survey on State Initiatives to Improve Paraprofessional Health Care Employment: October 2000 Results on Nursing Home Staffing*. Bronx, NY: Paraprofessional Healthcare Institute, October 2000.

20. An example of an increase is when Florida changed its standard in 2001 from 0.6 hprd licensed staff time and 1.7 hprd for unlicensed staff time to 1.0 and 2.7 hprd, respectively; an example of a decrease is when Delaware changed its standard in 2002 from 1:15 (days) and 1:23 (evenings) for licensed staff to 1:20 (days) and 1:25 (evenings). For unlicensed staff, Delaware's standard changed from 1:8 (days) and 1:20 (nights) to 1:9 (day) and 1:22 (nights).
21. See for example, Joint Commission on Health Care. *Report of the Joint Commission on Health Care to the Chairman of the Senate Committee on Education and Health: Nurse Staffing Ratios in Nursing Facilities Study*. Richmond, Virginia: Virginia Joint Commission on Health Care, 2002.
22. Department of Health Services' Licensing and Certification Program. *Nursing Staff Requirements and the Quality of Nursing Home Care: A Report to the California Legislature*. Sacramento, CA: California Department of Health Services' Licensing and Certification Program, June 2001.
23. Legislative Program Review and Investigations Committee. *Staffing in Nursing Homes Report--Final*. Hartford, CT: Connecticut Legislative Program Review and Investigations Committee, 2000.
24. Legislative Program Review and Investigations Committee. *Staffing in Nursing Homes Report--Final*. Hartford, CT: Connecticut Legislative Program Review and Investigations Committee, 2000. Elizabeth M. Ready. *Caring for Our Elders: Improving Nursing Home Care*. Office of the Vermont State Auditor, Department of Aging and Disabilities. Montpelier, Vermont: Office of the Vermont State Auditor, June 26, 2002.
25. Department of Health Services' Licensing and Certification Program. *Nursing Staff Requirements and the Quality of Nursing Home Care: A Report to the California Legislature*. Sacramento, CA: California Department of Health Services' Licensing and Certification Program, June 2001.
26. Eric Carlson, Esq. *The Need For Increased Staffing Levels In California's Nursing Facilities*. Los Angeles, CA: National Senior Citizens Law Center, 2001.
27. Charlene Harrington, Christine Kovner, and Mathy Mezey. *Experts Recommend Minimum Nurse Staffing Standards for Nursing Facilities in the United States*. The Gerontologist 40(1): 5-16, 2000.

28. U.S. General Accounting Office, *Nursing Homes: Sustained Efforts Are Essential to Realize the Potential of the Quality Initiatives*, GAO-HEHS-00-197, Washington DC: September 2000.
29. Abt Associates, Inc., Development and Testing of a Minimum Data Set Accuracy Verification Protocol, final report prepared for HCFA, February 27, 2001.
30. Barbara Manard, "Nursing Home Quality Indicators: Their Uses and Limitations," Washington, DC: AARP Public Policy Institute, December 2002, p. 6.