Original Study

Nursing Home Control of Physician Resources

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Abstract

Objective: Physician services are increasingly recognized as important contributors to quality care provision in nursing homes (NHs), but knowledge of ways in which NHs manage/control physician resources is lacking.

Data: Primary data from surveys of NH administrators and directors of nursing from a nationally representative sample of 1938 freestanding United States NHs in 2009–2010 matched to Online Survey Certification and Reporting, aggregated NH Minimum Data Set assessments, Medicare claims, and county information from the Area Resource File.

Methods: The concept of NH Control of Physician Resources (NHCOPR) was measured using NH administrators’ reports of management implementation of rules, policies, and procedures aimed at coordinating work activities. The NHCOPR scale was based on measures of formal relationships, physician oversight and credentialing. Scale values ranged from weakest (0) to tightest (3) control. Several hypotheses of expected associations between NHCOPR and other measures of NH and market characteristics were tested.

Results: The full NHCOPR score averaged 1.58 (standard deviation = 0.77) on the 0–3 scale. Nearly 30% of NHs had weak control (NHCOPR \leq 1), 47.5% had average control (NHCOPR between 1 and 2), and the remaining 24.8% had tight control (NHCOPR >2). NHCOPR exhibited good face- and predictive-validity as exhibited by positive associations with more beds, more Medicare services, cross coverage, and number of physicians in the market.

Conclusions: The NHCOPR scale capturing NH’s formal structure of control of physician resources can be useful in studying the impact of NH’s physician resources on residents’ outcomes with potential for targeted interventions by education and promotion of NH administration regarding physician staff.

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Thorough the importance of physician involvement in the nursing home (NH) has been recognized, the scant existing literature suggests that there is little physician presence in most NHs, but that when they are present, they have a positive impact on care.\textsuperscript{1–4} Given the growing shortage of primary care physicians specially trained in geriatrics and/or committed to NH care, the need to identify structures that optimize physician practice and enhance quality within the NH becomes even more pronounced.\textsuperscript{5,6} Research describing the organization of NH medical staff, its variation, and association of different models of medical staff organization with NH resident outcomes is limited, but a small study of 202 freestanding US NHs has shown tighter medical staff organization to be associated with more positive outcomes.\textsuperscript{7,8}

Recent research borrows from hospital organizational literature in developing dimensions of organization of medical staff in NHs.\textsuperscript{9,10} It is important to recognize that, unlike in hospitals, physicians are only occasionally present in NHs. Rather, nurses are the primary resource for NHs providing services required for management of daily care. Nonetheless, models developed for describing organization and function of hospitals can inform our understanding of NHs. Recently, Katz et al\textsuperscript{11} conjectured that salaried NH physicians are more likely to provide better care to residents, not only because of their greater presence in the NH, but also because of the quality of the time spent
there. In this article, we view physicians in NHs as an important, but adjunct, resource necessary to comply with government regulations and which provides nursing staff with applied knowledge and techniques required for managing residents’ medical care.

Nursing home control of physician resources is a structural component of the NH organization. The concept of control of physician resources draws from the approach used by Van de Ven and Delbecq whereby control relates to NH leadership or organizational attempts to manage the behaviors of participants through hierarchy or formalized methods such as rules, policies, and procedures aimed at coordinating work activities. Thus, NH control of physician resources involves issues pertaining to appointment processes, employment modes, and management of hierarchies, and formalized mechanisms aiming to assist in collaboration among staff. Using this understanding, we developed a measure of NH Control of Physician Resources (NHCOPR) based on responses to a survey of NH administrators.

We use the framework of NH medical staff involvement presented by Shield et al to form hypotheses to test the validity of the NHCOPR measure. Following Doabedian’s structure-process-outcome theory, NHs’ medical staff structure, including control of physician resources, was identified as a key element of medical staff involvement in processes of care, which, in turn, were hypothesized to be associated with better resident outcomes.

Conceptually, a NH controls its physician resources by modes of staff employment, credentialing, and formal oversight. For the purpose of this study, we considered physician employment on-staff or through a contract to be similar. If physicians were employed directly or by contract, it was assumed that it was easier for the NH to be proactive in its enrollment of medical services. It is also possible that only a small fraction of residents received their care from those physicians who were retained by employment arrangements, therefore, it was important to include a measure of the degree to which residents received care from nonemployed physicians. This latter measure had been used before to capture the related concept of open/closed practice staff model. Credentialing is another way a NH can control its physician resources. Even if a physician is not employed on-staff or by contract, a NH can require that the physician has specific credentials to provide care to residents. Finally, even if physicians are credentialed and are on-staff or contract, the quality of the care that they provide in the nursing home should be monitored.

### Hypotheses

Because there is no ‘gold-standard’ against which to formally validate NHCOPR, we tested several relationships that we hypothesized should exist between the level of control of a NH over its physician resources and other NH and county level characteristics. We first hypothesized that

1. NHs with more beds will have greater control of their physician resources because of economies of scale.

Controlling for facility size, we further hypothesized that

2. NHs with a higher proportion of Medicare patients receiving skilled services (not rehabilitation) will have a greater control of their physician resources as these patients require more intensive medical services.

The admission process requires physician involvement, therefore we hypothesized that

3. NHs with more admissions will have greater control of their physician resources; and

4. controlling for the population aged 65 and older, NHs in counties with higher concentrations of physicians will have greater control of their physician resources since with more physicians from which to recruit, NHs can be more selective regarding whom they choose to practice.

If NHCOPR measures the ability of the NH to assure adequate physician resources, we would hypothesize that having higher levels of NHCOPR would be associated with

5. more cross-coverage among providers and more coverage on weekends and holidays; and

6. higher expectations that physicians (a) participate in care planning meetings; (b) lead team meetings; (c) talk to pharmacy consultants regarding care of residents; and (d) be the primary NH representative in interactions with families.

### Methods

#### Data

A survey of a nationally representative sample of nursing homes was conducted between August 2009 and April 2011. Administrators in the sampled NHs were asked about the structure of physician involvement in their NHs. Questions were cognitively tested using a group of NH administrators, in which respondents were asked how they interpreted each question, what tools they used to answer them, and about their overall thought processes. As a result of these cognitive tests, questions were restructured and/or dropped to better ensure that the questions were uniformly interpreted, the responses comparable, and that they addressed the intended concepts.

Several other data sources were used to characterize the surveyed NHs. The Centers for Medicare and Medicaid Services Online Survey Certification and Reporting (OSCAR) of annual certification of NHs provided information on NH’s structure and staffing. Aggregated data from the Minimum Data Set assessments of all NH residents, and Medicare claims provided information about the acuity of care needs of NH residents (see www.ltcfocus.org). County level data about the NH market came from the Area Resource File.

#### Study Sample

A universe of 14,703 NHs was identified consisting of all certified NHs that (1) were located within the 48 contiguous states; (2) had 30–499 beds; (3) were not part of previous pilot surveys or cognitive interviews; and (4) had fewer than 20% beds in AIDS or pediatric units. Among these, 4149 NHs were selected for the study and 4035 (97%) were deemed eligible upon further inspection. Completed administrator surveys were received from 2215 (55%) NHs. Ninety-three hospital-based NHs were excluded as their management is likely to be governed by the parent hospital and therefore was expected to be different from that of freestanding NHs. The resulting sample included 2122 freestanding NHs.

A comparison of NH characteristics of the surveyed NHs used in developing NHCOPR to the overall freestanding NH population in 2010 adjusting for the complex stratified sampling frame confirmed that the study sample was representative of the population of US free standing NHs on all characteristics (results not presented).

#### Variables

**NH Control of Physician Resources (NHCOPR)**

NHCOPR was defined as a combination of 3 concepts: credentialing, formal attachment to NH, and physician oversight. These
### Table 1
Development of NHCOPR Scale and Subscales

<table>
<thead>
<tr>
<th>Subscale Concept</th>
<th>Items</th>
<th>Scoring</th>
<th>Distribution: Mean (SD) or N (%)</th>
<th>Recoding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A) Credentialing</strong></td>
<td>[Indicate] ways in which physicians may be credentialed to admit or treat residents in your nursing home…</td>
<td>0.59 (0.49)</td>
<td>If yes to any of the questions, then credentialing = 1, otherwise 0. Concept is set to missing if all 3 questions were missing (1.3%).</td>
<td></td>
</tr>
<tr>
<td>(1) A committee in your NH credentials physicians</td>
<td></td>
<td>516 (25.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) The medical director participates in credentialing physicians</td>
<td></td>
<td>789 (37.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) You, as the NH administrator, participate in credentialing physicians</td>
<td></td>
<td>1147 (55.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(B) Formal attachment to NH</td>
<td>(1) How many [primary care] physicians are paid by your nursing home? (open ended)</td>
<td>0.56 (0.39)</td>
<td>((1 or 2) + 3) and scale to give range 0—1. Concept is set to missing if BOTH (1) and (2) are missing OR if (3) is missing (4.3%).</td>
<td></td>
</tr>
<tr>
<td>(2) How many [primary care] physicians are paid by the nursing home through individual or group contracts? (open ended)</td>
<td></td>
<td>8.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) What percent of residents in your nursing home is currently being cared for by a community physician who is neither salaried by nor under contract with the nursing home?</td>
<td></td>
<td>41.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(C) Physician oversight</td>
<td>How often does the medical director check up on the medical care delivered by each attending physician?…</td>
<td>0.44 (0.29)</td>
<td>Recode medical director is the only doctor as “all of the time” (5.2%). Scale final measure to 0–1. Concept is set to missing for 5.7% facilities with no responses.</td>
<td></td>
</tr>
<tr>
<td>(1) None of the time</td>
<td>Multiple choice:</td>
<td>24.0%</td>
<td>(1) Any = 1, none = 0</td>
<td></td>
</tr>
<tr>
<td>(2) Some of the time</td>
<td></td>
<td>15.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Most of the time</td>
<td></td>
<td>15.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) All of the time</td>
<td></td>
<td>17.1%</td>
<td>Add 0 points if % residents = 76%–100%</td>
<td></td>
</tr>
<tr>
<td>(5) More than 50%</td>
<td></td>
<td>9.5%</td>
<td>Add 1 point if % residents = 76%–100%</td>
<td></td>
</tr>
<tr>
<td>(6) More than 40%</td>
<td></td>
<td>18.1%</td>
<td>Add 2 points if % residents = 0%–10%</td>
<td></td>
</tr>
<tr>
<td>(7) More than 20%</td>
<td></td>
<td>0.44 (0.29)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Final NHCOPR Measure</strong></td>
<td>Control of Physician Staff: NHCOPR</td>
<td>1.58 (0.77)</td>
<td>A + B + C, range 0—3. NHCOPR is missing if A, B, or C were missing (8.7%)</td>
<td></td>
</tr>
<tr>
<td>Weak: NHCOPR ≤1</td>
<td>Mean (SD) or N (%)</td>
<td>584 (29.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average: 1 &lt; NHCOPR ≤2</td>
<td>N (%)</td>
<td>881 (45.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tight: NHCOPR &gt;2</td>
<td>N (%)</td>
<td>473 (24.8%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NHCOPR, Nursing Home Control of Physician Resources; SD, standard deviation.

All sample statistics are weighted to be representative of the population based on the survey weights. Reported n’s are unweighted.

### Other Variables

Information on ownership status (profit/nonprofit), part of a hospital, chain affiliation, number of beds, availability of special care units, payer mix, and occupancy rate were obtained from the OSCAR data. Residents’ case mix acuity, number of admissions per bed, and proportion of occupied bed days that were paid by Medicare were obtained from www.ltcfocus.org. Urban location and number of physicians to population 65 years old or older in the NH’s county were obtained from the Area Resource File. Data from each of the files was taken as close to the DON and NH administrator surveys as possible at the time of analysis.

Cross-coverage was obtained from the NH administrator survey through the question “How often do you expect physicians to provide care for acutely ill residents other than their own patient?” Responses were on a 5-point Likert scale. Physical or phone coverage on weekends and holidays by physicians (MDs), nurse practitioners (NPs) or physician assistants (PAs) was taken from another yes/no questions in the NH administrator survey.

The degree of missing data for each concept ranged from 1.3% to 5.7%, and taken together, NHCOPR was missing for 8.7% of study NHs, resulting in 1938 NHs with a value for NHCOPR. NHs that dropped out of the sample did not significantly differ from those that remained in the sample with one exception: NHs that remained in the model reported a greater number of hours per day per resident of direct care by registered nurses, licensed practical nurses, or directors of nursing (DONs) than NHs that dropped out (results not shown).
Statistical Analyses

Strata were classified based on categories of profit-status, hospital affiliation, bed-size, and percentage non-White residents according to data extracted at the end of 2008 from the OSCAR database. Sampling weights for the NH administrator survey were used in all analyses. Stata survey procedures were used throughout to adjust for the complex sampling design.

To test the hypotheses, multivariate ordinary least squares regression was conducted with NHCOPR as the dependent variable and each of the hypothesized variables as an independent variable adjusting for number of beds, profit status and chain affiliation. Results were presented graphically for each level of the hypothesized relationship.

Using the variables presented above we described NHs in 3 categories of NHCOPR: 0-1 weak control, 1-2 average control, and 2-3 tight control. We also sought to describe which facilities were likely to have tighter control (i.e., higher NHCOPR). We conducted multivariate ordinary least squares regression on NHCOPR and formal attachment subscale and ordinal logistic regression on credentialing and physician oversight, adjusting for the complex survey design.

Results

Table 1 presents the distributions of the NHCOPR measure, its subscales, and underlying variables. Fifty-nine percent of NHs responded positively to at least 1 credentialing item, the most frequent being an administrator’s participation in the credentialing process (55.7%). Nine percent of NHs reported at least 1 salaried physician, and 41.5% reported at least 1 physician under contract. Forty percent of NHs had up to 10% of their residents cared for by community physicians, reflecting a higher degree of physicians’ formal attachment to NHs; 33% of NHs had 11% to 75% of their residents cared for by community physicians; and the remaining had more than three-quarters of their residents being cared for by community physicians. The final formal attachment subscale identified 22% of facilities with lower formal attachment scores and 34% with the highest formal attachment score, for an average scaled score between 0 and 1 of 0.56, standard deviation (SD) 0.39.

Physician oversight was identified in 86% of facilities: 56% of administrators reporting ‘some of the time,’ 16% ‘most of the time,’ and the remaining 14% ‘all of the time’ (including 5% of NHs whose medical director was the sole attending physician.) Scaling responses between 0 (none of the time) and 1 (all of the time) resulted in a mean of 0.44 (SD = 0.29) for this concept.

The full NHCOPR score averaged 1.58 (SD = 0.77) on the 0–3 scale. Nearly 30% of NHs had NHCOPR of 1 or less, 45.7% had NHCOPR between 1 and 2, and the remaining 24.8% had NHCOPR higher than 2.

Face validation results are presented in Figure 1. Compared with NHs with fewer than 50 beds, larger facilities had increasingly higher NHCOPR. After controlling for bed-size, all other associations were in the hypothesized direction and were statistically significantly related to NHCOPR (P < .001 unless otherwise noted). Compared with NHs with the lowest percentage of days paid by

Fig. 1. Face validity of average NHCOPR score as compared to other NH structure measures. NH, nursing home; NHCOPR, NH Control of Physician Resources; SNF, Skilled Nursing Facility service in NH reimbursed by Medicare.
Medicare, those in the third quintile or higher had significantly higher NHCOPR. NHs with higher rates of admissions per bed had higher NHCOPR than NHs with fewer admissions. Controlling for bed-size, counties with higher numbers of physicians per 1000 population aged 65 and over were associated with higher NHCOPR ($P < .001$).

Predictive validation tests confirmed hypotheses 5–6 (Figure 2). Higher NHCOPR levels were associated with NHs having higher levels of cross-coverage, coverage by physicians, NPs, and/or PAs over holidays and weekends, physicians expected to attend care planning meetings, lead team meetings, talk with pharmacy consultants regarding care of residents, and be the primary NH representative in interaction with families.

Table 2 describes NHs within particular ranges of NHCOPR: weak control of physicians (NHCOPR up to 1), average control of physicians (NHCOPR 1–2), and tight control or physicians (NHCOPR 2–3). NHs did not differ in terms of ownership (profit or chain) availability of special care units, or the proportion of Medicaid residents. However, compared to NHs with average control of physicians, NHs with weak control of physicians tended to have fewer beds (95.9 vs 113.9), have more residents not paid by Medicare or Medicaid (26.6% vs 24.2%), have slightly lower case mix (also see in the lower number of admissions per bed and average proportion of days receiving Medicare paid care). These NHs were more likely to be located in rural counties (45.8% vs 24%) that had fewer physicians per capita (2.4 vs 3.7 physicians per 1000 population 65 years old or older). In terms of NH process measures, these NHs had lower occupancy rates (81.2% vs 85.2%), were less likely to have MDs, NPs, or PAs available on-site at all times including weekdays (12.8% vs 24.5%), their physicians were less likely to cover other residents (average 1.64 vs 1.81 on a 5-point Likert scale), and they were less likely to expect their physicians to attend care planning meetings, lead them, talk with pharmacy consultants, or be the primary NH representative for interactions with families (1.40 vs 1.76, 1.22 vs 1.40, 2.38 vs 2.71, 1.78 vs 1.92, respectively).

Compared with NHs with average NHCOPR, NHs with tight control of their physicians were larger (119 vs 113.9 beds), were as likely to be located in urban counties, but those counties had a higher rate of

![Fig. 2. Predictive validity of average NHCOPR score. NHCOPR, Nursing Home Control of Physician Resources.](image-url)
physicians per capita (4.2 vs 3.7 MDs per 1000 population 65 years old or older). Their process measures were better than those of the NHs with average NHCOPR: occupancy rate, coverage or all types, and expectations of physicians were all higher. NHs with average NHCOPR: occupancy rate, coverage or all types, and expectations of physicians were all higher. Their process measures were better than those of the NHs with average NHCOPR: occupancy rate, coverage or all types, and expectations of physicians were all higher.

Table 3 presents results from a multivariable model of NHCOPR and each of its 3 subscales associating NH structure and market characteristics. Ordinary least squares regression was conducted for NHCOPR and formal attachment subscale and ordinal logistic regression was conducted for credentialing and physician oversight. NHs with more beds, higher case mix acuity, and number of admissions per bed were more likely to have higher NHCOPR (ie, tighter control of physicians). However, the relationship of these variables and each of the subscales was somewhat different. Number of NH beds, case mix acuity, and number of admissions per bed were more likely to be related to credentialing. Although profit status was not related to NHCOPR, it was related to each of the 3 subscales; for-profit NHs were more likely to credential and had higher oversight of their physician staff but had lower formal attachment of physicians. On the other hand, as for NHCOPR, urban counties and counties with higher physicians per capita were likely to have higher subscale scores.

Discussion

It has long been recognized that in NHs, as in hospitals, medical staff organization plays a role in the quality of resident care. Recent studies have only begun to quantify physicians' roles and test specific hypotheses. In this article, we presented a new perspective on medical staff organization, that of NH's control of physician resources. We developed a scale, NHCOPR, to capture the concept as it relates to NH leadership attempts to manage the behaviors of physicians through hierarchy or organizational attempts to manage behaviors of physicians through formalized methods such as rules, policies, and procedures aimed at coordinating work activities. NHCOPR captured the concept of control by summing subscales measuring appointment processes, employment modes, and oversight. NHCOPR varied widely across freestanding US NHs. Across its 0–3 range, NHCOPR averaged 1.58 with SD of 0.77. Scores lower than 1, indicating weaker NH control, were observed in 29.5% of facilities and scores greater than 2, suggesting tighter control, were observed in 24.8% of facilities. Correlations among subscales of NHCOPR were small; the highest correlation was between credentialing and oversight (0.25; results not shown). This raises the possibility that future analyses examining the relationship of NHCOPR with outcomes may find a stronger relationship with only some of the subscales.

NHCOPR showed good face validity as exhibited by the relationship in the hypothesized direction of about 10 variables. The predictive validation results showed the association of NHCOPR with NH expectations of cross-coverage on weekends and holidays, physician participation in meetings, interaction with pharmacy consultants, and NH responsibilities toward families. This suggests that there is a relationship to NH processes of care, and potentially hints at a possible association with NH quality of care and resident outcomes. It is important to note that this study used a cross-sectional approach and was not meant to test causal relationships with NHCOPR. Further studies of the relationship of NH control of physician resources to NH processes and outcomes are required.

An initial analysis examining which NHs were more likely to have tighter control of their physician resources showed that these NHs tended to have more beds, care for sicker or more postacute patients, and located in urban counties and in counties with more physicians per capita. However, we also saw that these relationships varied with the 3 subscales (Table 3). Comparing sizes of coefficients across the 3 subscales shows that for-profit NHs were less likely to credential their physicians or require consistent oversight. Credentialing allows NHs to ascertain that the physicians that provide care to residents are qualified, and physician oversight is an ongoing process to assure adequate performance. These measures may relate to better care.
important to the American Health Care Association and other associations to assist in targeting intervention to their for-profit members.

Though NHCOPR relates to physicians NP/PAs provide similar care to NH residents. About 70% of the NHs responding to the administrator survey also responded to a survey of DONs (1477 NHs). DONs reported about modes of employment of NP/PAs: 14.5% of NHs with NHCOPR under 1 had NP/PAs who were employed by the NH, 19% with NHCOPR 1–2, and 22% with NHCOPR 2–3. This finding serves as additional validation to the NHCOPR measure and is in line with the literature that reports that NP/PAs provide complementary and not exchangeable care to that provided by physicians. Though NHCOPR varies among NHs with NP/PAs and whether the concept of control of physician resources can be extended to NP/PAs are topics for future study.

There are several limitations to the study. NHCOPR was constructed from NH administrator responses, which do not include the perspectives of NH medical directors or the physician staff. A future study may examine the concordance of responses of medical directors, better end of life care, and other quality measures and resident outcomes such as fewer “bad medications,” fewer hospitalizations, better end of life care, and other quality measures and resident outcomes. Future studies should also consider the interplay of physicians and other medical staff such as nurse practitioners and physician assistants in the delivery of care to NH residents.

Acknowledgments

The authors wish to acknowledge the contribution of several colleagues in shaping the survey question and focusing the attention to NH control of medical staff. Vince Mor, the Director of the program project, Paul Katz, Jurgis Karuza, Marsha Rosenthal, Renee Shield, and Denise Tyler, our colleagues who contributed to shaping the survey questions, and Richard Bedine, Stefan Gravenstein, Aman Nanda, and David Dosa, physician colleagues who work in nursing homes, who assisted in formulating questions as well as providing a broader perspective of the role and function of the medical director in NHs. Susan Miller provided thoughtful comments.

References

1. Intrator O, Castle N, Mor V. Facility characteristics associated with hospitalization of nursing home residents: Results of a national study. Med Care 1999;37:228–237.

Table 3

<table>
<thead>
<tr>
<th>Which NHs Are Likely to Have Higher Scores on NHCOPR and Each of the Subscales?</th>
<th>NHCOPR Scale (OLS)</th>
<th>Formal Attachment to NH (OLS)</th>
<th>Credentialing (Logistic)</th>
<th>Physician Oversight (Ordinal Logistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regressor Variable</td>
<td>Coef</td>
<td>SE</td>
<td>Sig</td>
<td>Coef</td>
</tr>
<tr>
<td>Total beds (per 100 beds)</td>
<td>0.00</td>
<td>0.00</td>
<td>*</td>
<td>0.00</td>
</tr>
<tr>
<td>For profit</td>
<td>−0.05</td>
<td>0.04</td>
<td>0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>Part of NH chain</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Any special care unit</td>
<td>−0.05</td>
<td>0.04</td>
<td>0.03</td>
<td>0.02</td>
</tr>
<tr>
<td>Percent residents paid by sources other than Medicare or Medicaid</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Percent residents paid by Medicaid</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Average RUGS case mix index at admission</td>
<td>0.42</td>
<td>0.18</td>
<td>0.09</td>
<td>0.07</td>
</tr>
<tr>
<td>Average percent of NH days that were SNF</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Number of admissions per bed</td>
<td>0.04</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Urban county</td>
<td>0.20</td>
<td>0.05</td>
<td>0.10</td>
<td>0.02</td>
</tr>
<tr>
<td>Number MDS per 10,000 Population 65 years old or older</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Constant/Constant 1</td>
<td>0.55</td>
<td>0.30</td>
<td>0.54</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Coef, coefficient; NH, nursing home; NHCOPR, NH Control of Physician Resources; OLS, ordinary least squares; SE, standard error; SNF, Skilled Nursing Facility service in NH reimbursed by Medicare.

Ordinary Least Squares Regression results of full NHCOPR scale and formal attachment and physician oversight subscales, logistic regression credentialing subscale.

*P value < .001.

*P value < .05.

*P value < .1.