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Organizational Culture and High Medicaid Nursing Homes Financial Performance

RESEARCH

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ABSTRACT

Background and Objectives: This paper investigates the relationship between organizational culture and financial performance in under-resourced nursing homes (85% or higher Medicaid residents).

Research Design and Methods: We tested whether the type of organizational culture (clan, adhocracy, market, and hierarchical) was associated with higher financial performance, measured by the operating margin. Survey data of 341 nursing home administrators were collected in 2017–2018 and merged with secondary datasets with facility and market characteristics. We used multiple regression analysis to test our hypotheses.

Results: We found that a market culture was positively associated with higher operating margin. On the other hand, having a clan, hierarchical, or non-dominant culture was associated with lower financial performance, compared to a market culture.

Discussion and Implications: Ensuring the financial viability of high-Medicaid nursing homes is important since they provide care to low-income residents and a high proportion of racial/ethnic minorities. Our findings suggest that having a market culture with an external orientation may be associated with better financial performance among these nursing homes.

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INTRODUCTION

The nursing home industry is a critical component of the US health care system, providing care to some of the most vulnerable populations and often acting as a safety net for older adults and people with disabilities (Bowblis & Vassallo 2014). The financial viability of nursing homes is an area of increasing concern due to increasing competition **as a result of** declining occupancy rates, alternative providers, and a changing regulatory environment (Weech-Maldonado et al. 2019). Nursing homes with sustained poor financial performance may face risk of insolvency and closure, potentially affecting access to long-term care in rural or underserved areas (Bowblis 2011; Lord, Weech-Maldonado, Blackburn, & Carroll 2021; Weech-Maldonado, Laberge, Pradhan, Johnson, & Hyer 2010). Nursing homes must balance the many challenges that can negatively impact their financial position, such as staffing requirements, falling occupancy rates, high liability insurance costs, and state Medicaid funding cuts (Weech-Maldonado et al. 2019). Poor financial performance of nursing homes is associated with lower resident quality and higher risk of consolidation and closure. This situation can be worse for nursing homes with a high proportion of Medicaid residents (85% and higher) as they may have limited resources given Medicaid's lower reimbursement rates as compared to other payers (Mor, Zinn, Angelelli, Teno, & Miller 2004). These under-resourced nursing homes were identified by Mor and colleagues (2004) in their seminal work that explored systemic disparities within the nursing home industry. High-Medicaid nursing homes are described as having worse quality, higher percent of minorities, and are at increased risk of closure (Castle, Engberg, Lave, & Fisher 2009; Mor et al. 2004). External factors like floundering state budgets, increasing wages, and the COVID-19 pandemic may increase the financial pressures facing nursing homes. As such, facilities with high-Medicaid census are likely to operate in a resource-constrained environment for the foreseeable future. Ensuring the financial viability of high-Medicaid nursing homes is important since they provide care to low-income residents and a high proportion of racial/ethnic minorities (Mor et al. 2004).

Given the resource constraints, high-Medicaid nursing homes need to explore management strategies that may result in lower costs. Nursing home care is highly labor-intensive (Kane 1995); therefore, labor not only constitutes a significant portion of total expenditures, but also has a direct impact on quality and operations within a nursing home (Allan & Vadean 2021; Antwi & Bowblis 2018). Outcomes can be contingent on the performance of the nursing home staff (Castle, Engberg, & Men 2007; Dellefield, Castle, McGilton, & Spilsbury 2015). An organization's culture can affect nurse staffing and ultimately organizational performance (Banaszak-Holl, Castle, Lin, Shrivastwa, & Spreitzer 2015; Gregory, Harris, Armenakis, & Shook 2009). Organizational culture is defined as a pattern of norms or ideas that are developed in an organization while facing external and internal problems. These established patterns of norms have worked well enough to be institutionalized and taught to new employees as appropriate ways of organizational thinking and action (Schein, 1990).

In the nursing home industry, Banaszak-Holl et al. (2015) explored how organizational culture may impact staff turnover. They found that nursing homes with an external, market-oriented culture had higher turnover among registered nurses (RN), licensed practical nurses (LPN), and among nursing assistants (NA) after adjusting for facilities with small numbers of staff. Moreover, nursing homes that emphasized a hierarchical, internal focused culture were associated with lower RN turnover. However, to date there have been no studies examining the relationship between organizational culture and financial performance in the US nursing home industry.

Using survey data from nursing home administrators, the purpose of this study was to examine the relationship between organizational culture and financial performance among high-Medicaid nursing homes. Findings from the study have important implications for nursing home administrators and policy makers with respect to the role of management practices in ensuring financial viability in under-resourced organizations.

CONCEPTUAL FRAMEWORK

Our conceptual framework is based on tenets from Resource Dependence Theory (RDT) (Pfeffer & Salancik 2003) and the Competing Values Framework (CVT) (Quinn & Spreitzer 1991). RDT was used to conceptualize the relationship between organizational culture and financial performance. The Competing Values Framework (CVF) is used to measure organizational culture.

The Competing Values Framework (CVF) is a popular and validated survey instrument for examining organizational culture (Quinn & Spreitzer 1991). CVF has been used in the nursing home literature, especially as it relates to resident-care movements, quality improvements, and nurse staffing (Banaszak-Holl et al. 2015; Scott-Cawiezell, Jones, Moore, & Vojir 2005; Van Beek & Gerritsen 2010). The CVF divides the top management values and orientation along two dimensions: internal versus external dimension, and stability versus flexibility dimension. The *internal versus external dimension* indicates if an organization emphasizes more internal activities like work process improvements, or pays greater attention to external activities, such as environmental scanning, monitoring competition, and/or seeking new business opportunities. The *stability versus flexibility dimension* reflects whether

managers expect employees to follow determined rules or processes, or whether they are flexible in responding to ongoing environment changes. Contrasting the two value dimensions within the CVF results in four competing cultural types (Figure 1): a clan culture, an adhocracy culture, a hierarchical culture, and a market culture. Clan cultures (high internal focus and flexibility) have participative leaders and members motivated by membership and attachment to the group with an emphasis on member development and commitment. Adhocracy cultures (high external focus and flexibility) have entrepreneurial leaders and members motivated by growth and creativity, while still emphasizing resource acquisition. Market cultures (high external focus and stability) have directive leaders and members who are motivated by competition with an emphasis on productivity and efficiency. Hierarchical cultures (high internal focus and stability) have conservative leaders and members motivated to follow rules and maintain order with a focus on control and efficiency as markers of effectiveness (Banaszak-Holl et al. 2015; Cameron & Quinn 2011). The following sections briefly give explanations of each organizational culture type and their potential association with firm performance.

RDT provides information about directional relationships involving the tenets of power, munificence, and environmental uncertainty (Pfeffer & Salancik 2003). This open system theory assumes that organizations are not in control of all the resources they need to survive, and that many of their strategies for survival include attempts to reduce their dependence on external resources in times of uncertainty by securing necessary inputs themselves (Pfeffer & Salancik 2003). The culture of an organization is developed through systematic, planned efforts by the management and staff. Nursing homes may consciously and purposefully develop their organizational culture to gain more resources.

Building upon RDT, high-Medicaid nursing homes may view organizational culture as a way to secure resources necessary to survive. By having a specific type of culture, nursing homes may appeal to certain pools of residents seeking care. Residents may perceive some organizational cultures to be better than others. Similarly, by having a particular type of culture, nursing homes may be able to recruit and retain critical staff, such as RNs. Finally, a nursing home's culture may influence the organization's strategy or level of competitiveness. Nursing homes with a high external focus, such as in the market culture, may attempt to differentiate themselves to appeal to unique payers, such as Medicare, Medicaid, and private pay, all of which may have different selection criteria and cost containment goals (Libersky, Stone, Smith, Verdier, & Lipson 2017; Wiener et al. 2017).

Organizational culture encompasses different values that may influence managerial decisions, work environment, and even resident care. These are the

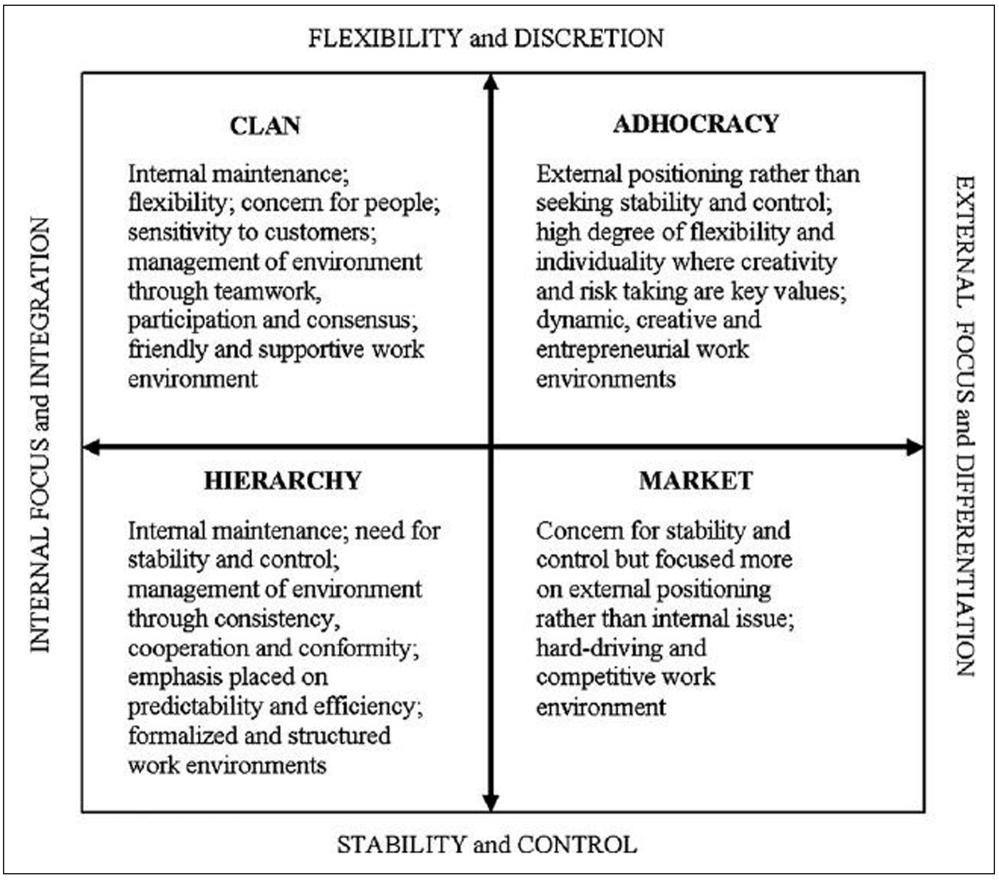

Figure 1 Competing values framework dimensions and cultural types (Cameron & Quinn 2011).

same values and factors that can ultimately impact the operations and financial performance of a nursing home. The core values that dominate market-oriented organizations are competitiveness and productivity. A market culture is regarded as a results-oriented workplace with emphasis on winning, outpacing the competition, maximizing perceived value, attracting customers, and dominating a market (Cameron & Quinn 2011; Scott-Cawiezell et al. 2005). Within a market-based culture, organizations have an inclination to stay close to stakeholders, such as, customers, suppliers, payers, regulators, and unions as these relationships may result in timely market information, joint product/services development activities, strong brand loyalties, and lead to better financial performance (Peters, Waterman, & Jones 1982). Additionally, employees are consistently motivated and pushed to achieve better results, mainly to increase profits. In an empirical study, Fekete & Borsckei (2011) found a positive effect of market culture on financial performance.

Within nursing homes, a market culture, is one that focuses on competitiveness, profitability, and productivity. Nursing homes with this culture are results oriented, with an emphasis on winning market share (Scott-Cawiezell et al. 2005). In a work by Scott-Cawiezell and colleagues (2005), it was found that larger nursing homes had significantly higher market culture scores, as they had more beds to fill and needed to have an external outlook to attract residents.

Organizations with a market culture are externally oriented by nature and this may affect their performance as these organizations are able to adapt to their environment efficiently and timely (Kim Jean Lee & Yu 2004; Kotter & Heskett 1992). Han and colleagues (1998) indicated that a market-oriented culture has been increasingly considered a key element of superior performance among different firms. Nursing homes with a market culture will attempt to differentiate themselves and make themselves look better as compared to their peers. For example, market-oriented nursing homes may emphasize hiring and retaining qualified, professionals, and staff as this reflects well on the organization and can be a selling point to attract new residents.

The finite level of resources in an environment can be challenging for all organizations (Miller & Friesen 1983). According to RDT, firms attempt to secure resources in order to survive in an increasing competitive market (Pfeffer & Salancik 2003). Nursing homes that have a market culture could position themselves to acquire necessary resources by attracting a more profitable payer-mix of residents. This would give these nursing homes a competitive advantage in their market as compared to nursing homes with other types of organizational cultures. Additionally, since nursing homes with market culture are more externally oriented with an emphasis on dominating the competition (Cameron & Quinn 2011), they may be able to proactively scan their environment and respond to changes better and faster than nursing homes with clan, adhocracy, and hierarchy cultures. Knowing that the external environment of nursing homes is hostile rather than benign (Weech-Maldonado et al. 2019; Yang, Yong, & Scott 2021), it is expected that nursing homes with a market culture will have better financial performance than facilities with other types of organizational culture. Therefore, we hypothesized:

> *H1. Nursing homes with a market culture have better financial performance compared to having a clan, adhocracy, or hierarchy culture.*

Furthermore, we expect facilities that have organizational cultures that emphasize friendly work environments, and that support innovation and creativity would outperform organizations that have cultures that are characterized by formalized and rigid structures. According to Cameron (2011) organizations with a clan culture are a 'friendly place with an extended family working together'. The clan culture is characterized by commitment, loyalty, tradition, collaboration, morale, teamwork, participation, consensus, and individual development (Cameron & Quinn 2011; Tseng 2010). A clan culture emphasizes the long-term benefit of human resources development with high cohesion and morale, but at the same time it is prudent and conservative (Tseng 2010). Firm performance in a clan culture comes from interdependent behavior like cooperation, flexibility, knowledge sharing, and mutual assistance. These can be particularly relevant to nursing homes since the nature of work in a nursing home is very labor intensive.

An adhocracy culture is characterized by a dynamic, entrepreneurial, innovative, and creative workplace. Organizations with an adhocracy culture emphasize new products or services, flexibility, growth, innovation, and learning from experiment (Cameron & Quinn 2011); these characteristics reflect the external orientation of the organization. An adhocracy culture encourages knowledge acquisition from their external environment as this can lead to better performance (Kim Jean Lee & Yu 2004). Ogbonna & Harris (2000) found that an innovative and externally oriented culture is positively related to better organizational performance. Similarly, Fekete & Borsckei (2011) showed a positive relationship between adhocracy culture and financial performance. Nursing homes that emphasize innovation and growth may be better positioned to respond to an increasingly competitive environment. Studies have shown positive association between innovative management and performance of nursing homes (Amirkhanyan, Meier, O'Toole Jr, Dakhwe & Janzen 2018).

An organization with a hierarchical culture is characterized as being formalized and structured, along

with control procedures and well-defined processes (Cameron & Quinn, 2011; Ogbonna & Harris 2000). The earliest approach to organizing in the modern era was based on the work of a Max Weber (1947), who proposed that hierarchical structure/culture would improve the performance of firms. This structure was tempting for many firms and was adopted widely in organizations. In fact, until the 1960s, because the environment was relatively stable, much of the emphasis in management and in the scholarly literature was on creating hierarchical or bureaucracies because this led to stable, efficient, highly consistent products and services. However, nowadays organizations, especially healthcare provider organizations such as nursing homes are operating in increasingly turbulent environment and facing financial pressures due to lower Medicaid and Medicare reimbursement rates, increased poverty, lower demand for services, excessive administrative costs, increased market competition, the emergence of new diseases like COVID-19, and nursing staff shortages (Barnett & Grabowski 2020; Grabowski & Mor 2020; Lord, Davlyatov, Ghiasi, & Weech-Maldonado 2021; Weech-Maldonado et al. 2019). Given that a hierarchical culture is conservative by nature, and it is internally oriented, these characteristics may constrain knowledge conversion and utilization, and ultimately timely response to environmental changes in a competitive market (Tseng 2010). As such, this may negatively impact the financial performance of organizations compared to other culture types (Fekete & Bocskei 2011). Nursing home leaders traditionally have used formal approaches, using top-down communication and decision-making structure for lower-skilled staff (i.e. CNAs) (Forbes-Thompson, Gajewski, Scott-Cawiezell & Dunton 2006). However, researchers have suggested that formal culture/structure are problematic, remarking that nursing staff may feel powerless in a nursing home with a hierarchical/formal culture compared to family-oriented cultures like clan culture, or a culture with a higher degree of flexibility and dynamism like the adhocracy culture. Additionally, some studies have shown more staff turnover, less communication, and less teamwork in nursing homes with formal organizational structures (Bond & Fiedler 1999; Sheridan, White & Fairchild 1992). Having higher staff turnover and poor teamwork may result in lower quality of services, which eventually may lead to lower financial performance of nursing home compared to nursing homes with other organizational cultures. Thus, we hypothesize that:

H2: Nursing homes with a hierarchical culture are negatively associated with financial performance compared to those with adhocracy and clan cultures.

METHODS

DATA AND STUDY SAMPLE

The study used survey and secondary data sources for the years of 2017-2018. The survey data was collected through a national mailer to Nursing Home Administrators (NHAs) in high-Medicaid nursing homes. To ensure a higher response rate, we followed a modified approach to Dillman's (2011) Total Design Method, with three rounds of surveys with post-card reminders and follow-up phone calls starting in November of 2017 through March 2018. All mailings included a link to the online survey. In addition, an incentive payment ($25) was provided to survey respondents. The first round of surveys was sent to all nursing homes (n = 1,518) who had an 85% or higher Medicaid census. Following the approach of Mor et al. (2004), additional criteria were applied to the sample size that excluded nursing homes with more than 10% of private pay and greater than 8% supported by Medicare, which led to a sample size of 1,050. In the end, we had received 348 responses from NHAs for a response rate of 33%. **Seven observations were excluded due to missing values on the dependent variable; therefore this resulted in a final analytic sample of 341 nursing homes.**

Survey data were merged with secondary datasets including Brown University's Long-Term Care Focus (LTCFocus), Nursing Home Compare, Medicare Cost Reports, and Area Health Resource File. LTCFocus data provides nursing home organizational, demographic, quality, and market information. The Nursing Home Compare data provides quality of resident care and staffing information. The Centers for Medicare and Medicaid Services' (CMS) Medicare Cost Reports provides financial performance information for certified facilities. Finally, the Area Health Resource File provides market and demographic information for the county.

DEPENDENT VARIABLE

The dependent variable was the nursing home's operating margin as a financial performance indicator. Operating margin is calculated by dividing operating income (net patient revenue - operating costs) over net patient revenue. Operating margin is an indicator of operating efficiency, which focuses on core business functions and excludes the influence of non-operating income like endowments.

INDEPENDENT VARIABLES

The main independent variable consisted of the organizational culture. We measured nursing home culture using the Organizational Culture Assessment Instrument (OCAI) to operationalize the Competing Values Framework (CVF), a commonly used, validated survey instrument for studying organizational culture (Cameron & Quinn 2011). This approach has been used

extensively to measure organizational culture (Martin 2001; Scott, Mannion, Davies & Marshall 2003). This instrument was originally developed and validated by Cameron and Quinn (2011). The OCAI consists of six sub-scales or dimensions of organizational culture: dominant characteristics, organizational leadership, management of employees, organization glue, strategic emphases, and criteria of success. Each sub-scale has four scenarios that align with each of the four organizational culture types (A = Clan, B = Adhocracy, C = Market, and D = Hierarchical). Respondents were asked to divide 100 points among these four alternatives depending on the extent to which each alternative is similar to their organization. An example of the dominant characteristics dimension and the four scenarios is presented in Table 1. Scoring the OCAI requires several steps: First, we computed an average score for each of the alternatives (A = Clan, B = Adhocracy, C = Market, and D = Hierarchical) across all six sub-scales, by adding together all responses for each alternative and dividing by six. Second, we assigned a specific culture to the nursing home. Nursing homes with highest score on alternative A are categorized as a clan culture. Nursing homes with the highest score on alternative B belonged to adhocracy culture (there was no observation in this group). Nursing homes with greatest values on C are placed in the market culture. Nursing homes with highest score on alternative D were identified as hierarchy culture. Finally, nursing homes which had equal score on at least two alternatives (for example A and B, or C and D) were identified as non-dominant culture. This resulted in nursing homes being categorized into four groups: clan culture (70.38 %), market culture (3.52%), hierarchical culture (20.82%), and non-dominant culture (5.28%). None of the observations were classified as an adhocracy in this study.

CONTROL VARIABLES

We controlled for structural and market characteristics associated with nursing homes financial performance (Weech-Maldonado et al. 2010; Weech-Maldonado et al. 2019). Organizational characteristics included whether a facility has a nurse practitioner/physician assistant, chain affiliation, for-profit status, size (total beds), occupancy rate, Medicare payer mix (% of Medicare residents), Medicaid payer mix (% of Medicaid residents), RN skill mix (number of RN FTEs / (number of RN FTEs + LPN FTEs)), RN intensity (RN hours per resident day), LPN intensity (LPN hours per resident day), CNA intensity (CNA hours per resident day), percent of Black residents, percent of Hispanic residents, percent of 'Other Race' residents. Market/county characteristics include poverty level (% population under poverty level), Medicare Advantage (MA) penetration (% Medicare beneficiaries in MA), unemployment rate, Herfindahl-Hirschman-Index (HHI) (sum of the squared of the market shares) for market competition, and urban location.

ANALYSIS

We used multiple regression model to assess the relationship between organizational culture and nursing home operating margin. Results of these models are reported as beta coefficients, where beta represents the association of organizational culture type (clan culture, hierarchical culture, or non-dominant culture) with nursing home operating margin (compared to market culture). We checked for potential multicollinearity among control variables using variance inflation factors (VIF) from the regression models. We did not find any evidence of multicollinearity among the variables (i.e. VIF => 5, $r < 0.8$). To adjust for potential non-response survey bias of nursing homes, we included propensity score weights in the regression analysis. The propensity score weights were calculated as the inverse of the propensity scores for nursing homes that participated in the survey. To estimate the propensity score, we used a logistic regression model where we regressed respondent status (respondent = 1, non-respondent = 0) on the control variables: size, ownership status, chain affiliation, payer mix, acuity index, occupancy rate, use of physician assistant/nurse practitioner, RN staffing mix, RN hours per resident day, LPN hours per resident day, CNA hours per resident day, residents' race/ethnicity, Medicare Advantage (MA) market penetration, per capita income, poverty, unemployment, education, competition (HHI), location, and percent of individuals over 65 (see

	DOMINANT CHARACTERISTIC	SCORE
A	The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.	
B	The organization is a very dynamic entrepreneurial place. People are willing to stick their necks out and take risks.	
C	The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	
D	The organization is a very controlled and structured place. Formal procedures generally govern what people do.	
	Total	100

Table 1 Dominant Characteristics Dimension.
Survey respondents are asked to divide 100 points among four alternatives (A, B, C, D) depending on the extent to which each alternative is similar to their organization.

Supplemental Table 1). The propensity score weight, or inverse of the propensity score, was included in the regression model. Stata 15 was used for the statistical analysis. Statistical significance was evaluated at a 0.05 or smaller alpha level.

RESULTS

Table 2 shows the descriptive analysis for dependent and independent variables in both respondents and non-respondent nursing homes. We reported mean

VARIABLE	RESPONDENTS	NON-RESPONDENTS	T-TEST/CHI2
OPERATING PROFIT MARGIN (M/SD)	**8.96 (12.07)**	**9.06 (11.03)**	**P = 0.9180**
Organizational culture			P = 0.001
Clan Culture	240 (70.38%)	–	
Market Culture	12 (3.52%)	–	
Hierarchy Culture	71 (20.82%)	–	
Non-dominant Culture	18 (5.28%)	–	
Nursing Home Characteristics			
For-Profit Status (N/Percent)			P = 0.002
0 (not-for-profit)	97 (30.50%)	69.50 (22.27%)	
1 (for-profit)	221 (69.50%)	1,194 (77.73%)	
Facility Has Nurse Practitioner/Physician Assistant	0.39 (0.48)	0.43 (0.49)	P = 0.7
Chain Affiliation (N/Percent)			
Non-Affiliated	188 (59.12%)	772 (50.26%)	P = 0.004
Affiliated	130 (40.88%)	764 (49.74%)	
Total Beds (M/SD)	101.05 (85.041)	112.16 (74.97)	P = 0.019
Occupancy Rate(M/SD)	84.27 (15.41192)	81.87 (15.62)	P = 0.012
Percentage of Medicaid Residents (M /SD)	89.12 (7.03)	88.03 (6.76)	P = 0.0095
Percentage of Medicare Residents (M/SD)	4.25 (4.49)	5.21 (4.48)	P = 0.0005
Percentage of Private Pay Residents (M/SD)	6.63 (1)	6.75 (1)	P = 0.047
RN Skill Mix (RN FTEs/ (RN FTEs + LPN FTEs) (M/SD)	0.31 (0.21)	0.31 (0.21)	P = 0.45
RN Hours Per Resident Day(M/SD)	0.5 (1.46)	0.38 (0.48)	P = 0.017
LPN Hours Per Resident Day (M/SD)	0.87 (0.5)	0.85 (0.62)	P = 0.6
CNA Hours Per Resident Day (M/SD)	2.39 (1.37)	2.22 (0.84)	P = 0.009
Percent of Black Residents (M/SD)	17.35 (25.2)	22.25 (26.92)	P = 0.003
Percent of Hispanic Residents (M/SD)	4.91 (13.93)	5.82 (14.97)	P = 0.31
Percent of White Residents (M/SD)	64.18 (31.66)	58.75 (30.7)	P = 0.004
Percent Other Race Residents (M/SD)	13.92 (20.96)	13.47 (20.24)	P = 0.74
Total Beds (M/SD)	101.05 (85.04)	112.16 (74.97)	P = 0.019
Community/ Market Characteristics			
Poverty Level (M/SD)	18.03 (6.55)	18.06 (6.32)	P = 0.94
Medicare Advantage Penetration (M/SD)	28.77 (14.35)	29.74 (14.02)	P = 0.26
Unemployment Rate(M/SD)	5.74 (1.7)	5.94 (1.8)	P = 0.073
Herfindahl-Hirschman Index (M/SD)	0.25 (0.3067887)	0.20 (0.27)	P = 0.004
Location (N/Percent)			
Rural	20 (24.39 %)	62 (94.78%)	P = 0.46
Urban	328 (21.03%)	1,232 (78.97 %)	

Table 2 Descriptive Statistics—Study Measures **(n = 341).**

and standard deviation for continuous variables and frequency and percent for categorical variables. For the dependent variable, there was no statistical significance between respondents and non-respondents in terms of operating margin. With respect to ownership, respondent nursing homes were more likely to be not-for-profit and independent (non-system affiliated) compared to non-respondent nursing homes. On average, nursing homes in the respondent group had smaller size (101 beds) compared to non-respondent nursing homes (112 beds). Respondent nursing homes had a higher proportion of Medicaid residents but lower proportion of Medicare residents. In terms of market characteristics, respondent nursing homes are located in counties with lower unemployment rate and less competition.

Tables 3 and 4 show the multiple regression results of the relationship between organizational culture and financial performance of nursing homes. The results supported the first hypothesis. Compared to a market culture, having a clan culture was associated with 9.2% lower operating margin; having a hierarchical culture with 9.7% reduction of the operating margin; and having a non-dominant culture associated with a 10.3% lower operating margin (Table 3). However, we did not find any empirical evidence to support the second hypothesis. Pairwise comparisons show there are no significant differences among clan culture, hierarchy culture, and non-dominant cultures and operating margin (Table 4).

In addition, several of the control variables were significantly associated with operating margin. Among the organizational characteristics, size (total beds),

VARIABLES	OPERATING MARGIN COEFFICIENT (SE)
Organizational Culture[1]	
Clan Culture	–9.22 (3.26) **
Hierarchy Culture	–9.69 (3.74) *
Non-Dominant Culture	–10.27 (3.980) *
Nursing Home Characteristics	
For-Profit	0.88 (2.86)
Facility Has Nurse Practitioner/Physician Assistant	–0.82 (1.91)
Chain Affiliation	2.18 (1.9)
Total Beds	0.05 (0.023)*
Occupancy Rate	0.08 (0.57)
Medicare Payer Mix	–0.06 (0.24)
Medicaid Payer mix	–0.13 (0.3)
RN Skill Mix (RN FTEs/(RN FTEs + LPN FTEs))	3.53 (15.35)
RN Hours Per Resident Day	–9.16 (10.63)
LPN Hours Per Resident Day	–1.46 (5.11)
CNA Hours Per Resident Day	–4.13 (1.67)*
Percent of Black Residents	0.01 (0.061)
Percent of Hispanic Residents	0.09 (0.036)*
Percent of Other Race Residents	0.0001 (0.0001)**
Market/Community Factors	
Poverty Level	0.11 (0.17)
Medicare Advantage Penetration	0.01 (0.074)
Unemployment Rate	–0.06 (0.84)
Herfindahl-Hirschman-Index	9.58 (3.71)*
Location (urban)	5.54 (5.36)
Constant	12.21 (22.21)

Table 3 Regression results for the association between organizational culture and nursing home operating margin **(n = 341)**.
[1] Reference group - market culture. ** $p < 0.01$, * $p < 0.05$.
$R^2 = 0.14$.

ORGANIZATIONAL CULTURE	COEFFICIENT	SE	t	P > t
Market Culture vs Clan Culture	9.22***	3.26	2.83	0.005
Hierarchy Culture vs Clan Culture	–0.47	2.4	–0.19	0.85
Non-dominant vs Clan Culture	–1.04	3.28	–0.32	0.75
Hierarchy Culture vs Market Culture	–9.7**	3.74	–2.59	0.01
Non-dominant vs Market Culture	–10.26**	3.98	–2.58	0.011
Non-dominant vs Hierarchy Culture	–0.58	3.611	–0.16	0.87

Table 4 Pairwise comparison of beta coefficients for organizational cultures on the relationship with operating margin **(n = 341).**
*** p < 0.01, ** p < 0.05, * p < 0.1.

percent of Hispanic residents, and percent of other race residents were positively associated with the operating margin. On the other hand, CNA hours per resident day was negatively associated with the operating margin. In terms of market/community factors, lower competition (higher HHI score) was associated with positively associated with the operating margin.

DISCUSSION AND CONCLUSION

The purpose of this study was to examine the association between organizational culture and financial performance of under-resourced or high-Medicaid nursing homes. The results **showed a statistically significant association** between organizational culture and nursing home financial performance. These findings were consistent with other studies that have found a robust association between organizational culture and hospital financial performance (Jacobs et al. 2013; Rondeau & Wagar 1998). Our findings suggest that similar relationships may exist in nursing homes, especially among those that are under-resourced.

More specifically, our findings suggest that nursing homes with a market-oriented culture have better financial performance compared to those with a clan culture, hierarchical culture, or non-dominant culture. One explanation for these findings could be related to the environment in which nursing homes operate. Nursing homes are competing with other types of long-term care providers, such as assisted living facilities, home and community-based care, and others (Bowblis 2012). This competitive enviroment may make it more beneficial for a nursing home to adopt a market-oriented strategy and culture. A market culture is known as a results-oriented workplace with emphasis on market leadership. Nursing homes with a market culture are more likely to have employees who are consistently motivated and pushed to achieve better results, such as, increasing revenues and/or decreasing costs. Nursing homes with a market culture may attempt to make themselves attractive or marketable to potential residents in an attempt to increase occupancy and generate additional revenue (Scott-Cawiezell et al. 2005). In addition, given that a market culture is externally oriented, nursing homes with this type of culture might be able to adapt to their market better than their competitors and financially outperform them.

On the other hand, other types of organizational culture, hierarchical, clan, and non-dominant were negatively associated with financial performance compared to a market-oriented culture. One thing the hierarchical and clan cultures have in common is the internal focus of the organization, perhaps at the detriment of being responsive to external forces. Similarly, a non-dominant culture may also lack a clear strategic focus, which may affect financial performance. However, further research is needed to understand the specific mechanisms by which different types of organizational culture may affect financial performance.

Our findings showed that none of the nursing homes in our sample fit the criteria of an adhocracy culture, which is characterized by an innovative and dynamic work environment. One potential explanation **could be** that given that nursing homes operate in a heavily regulated environment, they may feel more constrained to engage in risk-taking activities. Furthermore, our study focuses on under-resourced nursing homes, which may not have the resources to engage in more innovative models of care. However, given the current environment of increasing competition from alternative long-term care providers and changes in reimbursement, the survival of these nursing homes may be at risk without changes in strategy and organizational culture. Finally, our small sample size could be another reason to explain why none of the nursing homes fit in an adhocracy culture.

The study's findings should be interpreted in light of several limitations. First, this study is cross-sectional, so we are not able to make definitive causal claims about the effect of organizational culture on nursing home financial performance. Second, our sample is small and was limited to high-Medicaid nursing homes; therefore, our findings may not be generalizable to all nursing homes.

Moreover, our results should be interpreted cautiously due to the relatively small percentage of nursing homes pursuing a market culture (4%) compared to other types of organizational cultures. Third, we focused on the operating margin, as a measure of profitability as it relates to the core operations of the organization. However, future studies should examine other financial performance indicators, such as solvency and liquidity. Finally, the data used in this study was based on surveys completed by nursing homes administrators. We cannot rule out the possibility of social desirability bias with respect to the questions measuring organizational culture of a nursing home.

MANAGERIAL IMPLICATIONS

While there are many factors that may predict nursing home financial performance, our cross-sectional study suggests that nursing home administrators should consider organizational culture as a factor that may influence financial performance. This study may be helpful for management in understanding how different types of organizational culture may be associated with nursing home financial performance. For example, our findings suggest that a market culture, characterized by being externally oriented and results focused, may result in better financial performance compared to other organizational cultures, especially in under-resourced or high-Medicaid nursing homes. However, despite this positive association between market culture and financial performance compared to other types of organizational cultures, our findings showed that only a small proportion of nursing homes (4%) are pursuing a market culture. One potential reason for this could be the cost related to developing a market culture. Since these types of nursing home are externally oriented, they may need to spend more resources for marketing and making themselves attractive for potential residents. Given the costs associated with attracting residents by creating a brand loyalty or investing more on quality of care, pursuing a market culture may not be possible for every nursing home.

In our study, the clan culture was the predominant culture type (70.38 %) among nursing homes. Nursing home administrators may have placed greater emphasis on creating a family-oriented environment due to the nature of nursing home facilities. Nursing homes provide intensive care to older adults and people with disabilities (Bowblis & Vassallo 2014), and this work environment may foster a family-type of atmosphere. Factors like concern for people, being sensitive to residents, teamwork and supportive work environment may play a greater role on nursing homes in their development of organizational culture. Management of nursing homes may need to find a balance between having a family-oriented and market-oriented environments to potentially achieve better financial outcomes.

CONCLUSION

Nursing homes with high-Medicaid residents are especially challenged to improve their financial performance. Our study provides some initial evidence that nursing homes may have differential financial performance based on their organizational culture. Our cross-section study suggests that nursing homes with a market culture, characterized by its external orientation, may exhibit better financial performance compared to other more internally oriented cultures. As such, nursing home managers may consider organizational culture as another factor that may influence financial performance. The results of these study may be useful for researchers as well as nursing home managers to understand organizational culture and its association with financial performance.

ADDITIONAL FILE

The additional file for this article can be found as follows:

- **Supplemental Tables.** Table 1 and 2. DOI: https://doi.org/10.31389/jltc.115.s1

COMPETING INTERESTS

The authors have no competing interests to declare.

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