The Role of Organizational Slack in Buffering Financially Distressed Hospitals from Market Exits

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EXECUTIVE SUMMARY

Financial distress is a persistent problem in U.S. hospitals, leading them to close at an alarming rate over the past two decades. Given the potential adverse effects of hospital closures on healthcare access and public health, interest is growing in understanding more about the financial health of U.S. hospitals. In this study, we set out to explore the extent to which relevant organizational and environmental factors potentially buffer financially distressed hospitals from closure, and even at the brink of closure, enable some to merge with other hospitals. We tested our hypotheses by first examining how factors such as slack resources, environmental munificence, and environmental complexity affect the likelihood of survival versus closing or merging with other organizations. We then tested how the same factors affect the likelihood of merging relative to closing for financially distressed hospitals that undergo one of these two events. We found that different types of slack resources and environmental forces impact different outcomes. In this article, we discuss the implications of our findings for hospital stakeholders.

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INTRODUCTION

Financial distress is a common problem in U.S. hospitals, with some estimates suggesting that approximately 15% to 30% of the hospitals are classified as "distressed" in any given year (Richards, 2014). Healthcare executives have emphasized the role of negative margins, stemming from changing Medicare reimbursements and falling Medicaid margins, in placing increasing financial pressures on U.S. hospitals (American Hospital Association [AHA], 2020; MedPAC, 2016). These financial pressures are putting hospitals into financial distress, eventually leading them to exit their markets. The number of hospitals in the United States has gradually declined because of exits, primarily in the form of closures and consolidation (mergers and acquisitions; Harrison, 2007). According to the Cecil G. Sheps Center for Health Services Research (2020), more than 160 rural hospitals closed in the United States between 2005 and 2019 alone.

Hospitals that close exhibit financial distress relative to those that remain open (Holmes et al., 2017). Additionally, when faced with financial distress, many hospitals likely merge with other hospitals, while others attempt turnarounds or persist without any organizational response (Langabeer, 2008). Hospital closures lead to lost medical care for patients in their counties, which may negatively affect access to healthcare (Zhao, 2007). Other consequences of hospital closures include rising unemployment rates, increases in the infant mortality rate, increases in unintentional injuries, and decreased access to care for low-income residents (Buchmueller et al., 2006; Holmes et al., 2006).

Financial distress refers to a period during which a borrower leaves payment obligations to a lender unmet (Zaki et al., 2011). Researchers have looked at the consequences of financial distress on hospitals, notably public hospitals (Ramamonjiarivelo et al., 2015). However, to date, only one study has examined the consequences of financial distress and compared acute care hospitals that merged, closed, or survived (Bazzoli & Andes, 1995). The study concluded that distressed urban hospitals that eventually closed were smaller in size and had higher outpatient visits compared with distressed urban hospitals that merged. Also, the authors reported that hospital competition was higher for distressed hospitals that closed compared with distressed hospitals that merged in both rural and urban areas. However, the study sample consisted of only 340 community hospitals (19 closures, 11 mergers, and 310 surviving hospitals), making it challenging to generalize the results. Further, the study considered mergers and closures as independent events, not as competing events. Another study that compared hospital mergers, closures, and surviving hospitals found that social capital (mutualistic ties and legitimating ties) buffers hospitals from merging or closing (Wells et al., 2001).

Although our study considered mergers and closures as competing events, it did not find any association between the two with respect to social capital. Most importantly, our study did not make a clear distinction regarding the extent to which the hospitals were financially distressed before they merged or closed. This raises the following question: Why do some hospitals choose to persist despite being financially distressed, while other hospitals choose to close or merge?

In this article, we extend the concept of business failure in acute care hospitals by

using data collected from a national sample of short-term acute care hospitals between 2006 and 2016. We explore distress-related exits (merger and closure) and attempt to identify organizational and environmental factors that buffer the hospitals from either of these events. We also look at these factors and determine the likelihood of one event (merger) occurring over the other (closure) for financially distressed hospitals (FDHs). The study findings may have implications for a distressed hospital's stakeholders, including employees, patients, lenders, suppliers, the community, and the economy.

CONCEPTUAL FRAMEWORK

Financially distressed organizations may face multiple outcomes that include merging with other organizations, closure (through bankruptcy or other formal proceedings), or turnaround (Langabeer, 2008). Turnarounds, although not often successful, typically involve implementing strategies designed to address efficiency and/or quality concerns; the success of such turnarounds depends not only on the environmental conditions faced by the hospital, but also on the availability of specific types of internal resources and capabilities (Langabeer, 2008). Alternatively, an organization could choose to persist without undertaking any of these responses.

Although a turnaround strategy can help the hospital retain its organizational identity and alleviate financial distress, administrators may find it challenging to reverse the fortunes of an underperforming organization overnight. However, if an organization decides to exit the market via a closure, it is considered a single-sided event; in contrast, a merger requires the target organization to be an attractive option to a potential buyer. In the case of acute care hospitals, regardless of whether FDHs end up choosing different events—merging, closing, or persisting—we suggest that these outcomes are contingent on particular organizational and environmental factors. Guided by the competitive strategy literature and previous qualitative studies of FDHs (Langabeer, 2008), we examined how specific factors buffer FDHs from merging or closing, as well as how those factors affect the likelihood of a merger over a closure if the organization must undergo one of these two events.

Organizational Factors

Slack Resources

FDHs, along with other types of organizations, generally have limited amounts of easily deployable resources, also referred to as *financial slack*. Slack resources exist in a continuum, as they range from unabsorbed to absorbed slack (Singh, 1986). *Unabsorbed slack* generally involves currently uncommitted resources that are readily available and easily redeployed within organizations (Bourgeois & Singh, 1983). The most easily redeployed resources typically are cash resources, over which managers have the greatest discretion in terms of allocation (George, 2005; Greve, 2003). We expect unabsorbed slack to buffer the hospitals from merging or closing. Alternatively, *absorbed slack* is defined as resources that may be recoverable but might already have been utilized in current operations; recovering these resources requires additional managerial time and effort. Examples are human resources, overhead expenses, and accounts receivable (Bourgeois & Singh, 1983; Greve,

2003; Voss et al., 2008). Along this continuum lies potential slack.

Potential slack is slack that can be more difficult and potentially less desirable to convert to an easily deployable form; it can be called the slack of last resort. It reflects the extent to which assets can be converted to liquid form, and it can be measured in terms of the debt-to-equity ratio, or debt leverage (total liabilities/total assets; Vanacker et al., 2017). For example, if a hospital owned buildings, this construct would measure the extent to which selling the property and leasing it back would free up cash, or the extent to which the organization can take out debt, enabling it to monetize its equity for use in operations. Given the distressed state of hospitals in our study and their perceived need to use all means necessary to survive, we can expect that this type of slack, in different forms, will affect FDH events.

Debt Leverage

Drawing on Langabeer's (2008) in-depth analysis of individual FDHs, we can infer that debt leverage has the potential to influence organizations' merger or closure decisions. Specifically, high-debt leverage can make an organization vulnerable to competitors' aggressive behavior (Langabeer, 2008; Majumdar et al., 2016). However, this scenario may help the distressed organization with high levels of debt receive a better buyout price from a rival, even when it is unprofitable (Balcaen et al., 2012). In contrast, high leverage may decrease the likelihood of a merger. Balcean et al. (2012) explained that exceedingly high debt levels due to financial deterioration will make it difficult for organizations to find a suitable takeover or merger partner. A debt level that is too high might decrease the attractiveness of an organization as an acquisition candidate (Pastena & Ruland, 1986). We believe that high-debt leverage may increase the likelihood of both a merger and a closure for FDHs. However, in the face of turbulent healthcare environments, hospitals will be deterred from taking risky strategies such as merging with another hospital that has high-debt leverage, making merger over a closure less likely for FDHs.

System Membership

Group membership is another source of potential slack (Ringlstetter, 1995) By forming an *internal capital market* that allows resources to be reallocated across hospitals to facilitate mobilization of slack resources, organizations can buffer underperforming hospitals from merging or closing (Shin & Stulz, 1998). For hospitals, group membership can include being part of a bigger system. Being a part of a system may help in quickly moving the collection of intragroup receivables to the hospitals that face unexpected cash shortages (Deloof & Jegers, 1996). Avoiding the loss of reputation is another reason why systems may resist closing underperforming hospitals. Liquidation of a subsidiary may result in a considerable loss of reputation for the parent organization (Prantl, 2003). Consequently, a hospital system may persist with the underperforming hospital or find a merging partner for it instead of allowing it to close. Group membership has a positive influence on the likelihood of finding a merger partner because of the presence of many participants in a group or network who may help find a potential buyer or merger partner

(Balcaen et al., 2012). Therefore, we hypothesize here that

> Hypothesis 1a (H1a): Slack (unabsorbed or potential) will buffer FDHs from both merging with other organizations and closing.

> Hypothesis 1b (H1b): Given the necessity of either merging or closing, FDHs with higher levels of slack (unabsorbed or potential) will be more likely to merge than to close.

Environmental Factors

In addition to slack resources that are internal to an organization, certain environmental factors can buffer hospitals from merging or closing when faced with financial distress. Organizations depend on the resources within their environments to operate (Pfeffer & Salancik, 2003). Scarce resources or an uncertain environment places an additional challenge on managers to act in ways that enable them to secure resources and reduce uncertainty. Resource dependency theory provides a framework for measuring the environmental constructs of munificence and complexity. *Munificence* refers to the availability of critical resources in the organization's environment, while *complexity* pertains to the uncertainty, heterogeneity, or diversity in the environment. A hospital's decision to merge, close, or persist when facing financial distress may be associated with the level of environmental munificence and complexity.

Environmental Munificence

Munificence is defined as the availability of resources in the environment that will support sustained stability or growth (i.e., capacity) for the organization (Sutcliffe, 1994). A high degree of munificence can provide a necessary cushion to organizations in the form of financial and professional slack that will help facilitate both stability and growth (Andrews & Johansen, 2012). In contrast, environmental scarcity can aggravate the likelihood of both mergers and closures because of the insufficiency of resources to support an existing hospital. However, environmental munificence should increase the likelihood of a merger rather than a closure if there is a choice between the two events. From an acquirer's perspective, the FDH in a scarce environment may not be an attractive target for a merger because of the inadequacy of future earning potential.

> Hypothesis 2a (H2a): Environmental munificence will have a positive influence on buffering FDHs from both merging with other organizations and closing.

> Hypothesis 2b (H2b): Given the necessity of merging or closing, FDHs operating in munificent environments are more likely to merge than to close.

Environmental Complexity

Environmental complexity refers to the degree of heterogeneity within the market (Dess & Beard, 1984). A heterogeneous environment contains a large number of diverse entities, which adds to the uncertainty in the environment, as organizations need to compete with too many players for access to critical resources. Also, a complex environment may produce information uncertainty for decision-makers. Complex environments as measured by

competitiveness may affect the exit outcome for FDHs. FDHs in less competitive markets will likely persist rather than merge or close. However, less competitive markets may increase the likelihood of a merger compared with a closure. From an acquirer's perspective, merging with a single entity in a fragmented market would yield a less competitive advantage (Wells et al., 2001).

> Hypothesis 3a (H3a): Environmental complexity will have a negative influence on buffering FDHs from both merging with other organizations and closing.

> Hypothesis 3b (H3b): Given the need to either merge or close, FDHs operating in more complex environments are more likely to merge than to close.

METHODS

Data

Our study drew on secondary data from multiple sources. For mergers, we relied on 2006 to 2016 data from the AHA Annual Survey of Hospitals (n.d.) extracted from Wharton Research Data Services (2020) and the hospital acquisition report from Irving Levin Associates (n.d.), which contains data that tracks hospital mergers and acquisitions on a yearly basis. Mergers included hospitals that merged with another hospital and those that were acquired by another hospital or health system. We further segregated target hospitals that merged on the basis of whether they were financially distressed at the time of the merger. An Altman Z score below 1.8 was considered a measure of financial distress.

For closures, we used the AHA annual survey and the Cecil G. Sheps Center for Health Services Research data as sources. We considered hospitals that closed to be financially distressed at the time of the event if their Altman *Z* score was below 1.8.

We considered hospitals that did not merge or close to be persisting hospitals that were financially distressed. To determine the Altman *Z* score, we used the Healthcare Cost Report Information System from the Centers for Medicare & Medicaid Services, which provides data on financial performance measures. The Healthcare Cost Report Information System data set contains hospitals' utilization, cost, and charge data (Kane & Magnus, 2001). Also, the AHA survey provided data about organizational characteristics, including health system membership, size, and ownership type. The Area Health Resources Files provided data regarding county-level market characteristics of hospitals (Hart et al., 2005).

Analysis

Dependent Variables

In this study, we were interested in hospitals' prospects for merging with other hospitals or closing. Therefore, merging included acquisitions and consolidations. We coded a hospital as having been merged or acquired when it changed its name and its AHA survey identification code to that of the acquiring entity. Consolidation occurred when a hospital added the name of another hospital to its own, and when the other hospital reported the same change. We coded a hospital as having closed when it reported permanently ceasing all hospital care functions. The third group consisted of hospitals that persisted even when financially distressed.

Independent Variables

Organizational factors. *Debt leverage* (H1) was measured as the ratio of total liabilities to total assets, while *cash holdings* were measured using hospitals' cash and cash equivalents. *Health care system membership* (H1) was coded as a binary variable, and coded "0" if the hospital was not a part of the system and "1" if the hospital was a system member.

Environmental factors. *Environmental munificence* (H2) was operationalized using three variables: (1) the percentage of the population eligible for Medicare in the hospital's county, (2) the county's unemployment rate, and (3) the location of the hospital (Menachemi et al., 2012; Tarver & Menachemi, 2018). *Environmental complexity* (H3) was operationalized using the Herfindahl–Hirschman index (HHI) (Hsieh et al., 2010; Zinn et al., 1998) and Medicare-managed care penetration as variables. The HHI is a common measure of the market concentration and is calculated as a ratio of the number of hospital admissions in a given year to the county's hospital admissions in a given year.

Controls

We measured hospital size according to the number of staffed beds. We categorized hospital ownership as nonfederal government, nongovernment not-for-profit, and for-profit. Teaching status of the hospital was categorized as a binary variable (1 if the hospital was a part of the Council of Teaching Hospitals and Health Systems, 0 if otherwise). We calculated payer mix as the proportion of patients with Medicaid or Medicare coverage (Yeager et al., 2015). Medicaid payer mix is the ratio of the number of Medicaid inpatient days to total inpatient days, and Medicare payer mix is the ratio of the number of Medicare inpatient days to total inpatient days.

Model and Estimation

To determine how organizational and environmental factors affect three distinct outcomes, we included the same set of covariates and ran three separate logistic regression models in predicting the competing risks of (1) closure versus nonevent, (2) merger versus nonevent, and (3) merger versus closure. The assumption made is that parallel events unfold in sequence, where a hospital first faces an undesirable event—either merge with another hospital or close—and then attempts to minimize that event by merging rather than closing (Wells et al., 2001). For model 1, the event was closing and the nonevent was persisting with financial distress without any organizational response (hospitals that merged were excluded). For model 2, the event was merging and the nonevent was persisting with financial distress without any organizational response (hospitals that closed were excluded). For model 3, the event was merging and the nonevent was closing (hospitals that did not merge or close were excluded). Model 3 thus examined the factors that affected the likelihood of merging versus closing for FDHs, given that one of these two events occurred. For the first two hypotheses, we used generalized estimating equations to avoid biases due to correlation within individual hospitals across time (Liang & Zeger, 1986). For model 3, because each hospital was only in this data set once, there was no concern about autocorrelation; we therefore used regular logistic regression.

RESULTS

Table 1 provides the descriptive statistics for all of the hospitals in our data set. There were 11,395 hospital-year observations. The mean Medicare-managed penetration rate was 21.77%, and the mean level of market fragmentation (HH1) was 0.72 on a scale from 0 to 1, indicating the presence of dominant market shares. For the organizational variables, about 60% of the hospitals belonged to systems. The average occupancy rate of the hospitals was 52.3%. In terms of ownership, 52.72% of the hospitals were not-for-profit, 26.04% were for-profit, and 21.24% were non-federal government hospitals. More than 60% of the hospitals were located in urban areas, and only 5% were members of the Council of Teaching Hospitals and Health Systems.

Table 2 presents the descriptive statistics of the subset of hospitals that closed (n = 100) or merged (n = 70). Descriptive statistics for the subset of hospitals that merged or closed during the study period do not reveal substantial differences from the broader sample of 11,395 hospital-year observations. The hospitals that merged had an average leverage of 1.2, whereas hospitals that closed had a slightly higher average leverage of 1.7. Again, 46.5% of the hospitals in this subsample belonged to a system. The mean level of market

TABLE 1

Descriptive Statistics: All Financially Distressed Acute Care Community Hospital-Years (N = 11,395)

Variable	Observations	*M*	*SD*	Minimum	Maximum
Slack resources					
Cash holdings, $	11,395	3,310,000	8,550,000	–5,780,000	6.79e + 07
Leverage	11,395	1.124	.989	–272	7.512
System membership	11,395	.587	.492	0	1
Environmental scarcity					
Unemployment rate	11,395	7.174	2.753	0	22.9
Population eligible for Medicare, %	11,395	19.057	54.088	.382	1,308.573
Location (urban)	11,395	.607	.489	0	1
Environmental complexity					
Managed care penetration	11,395	21.78	14.25	0	65.23
HHI	11,395	.721	.342	.041	1
Control variables					
No. of staffed beds	11,395	147.27	173.868	0	2,700
Ownership	11,395	.685	.8	0	2
Teaching status	11,395	1.947	.224	1	2
Occupancy rate	11,395	.524	.241	.003	6.593
Medicare payer mix	11,395	14.991	16.389	0	98.957
Medicaid payer mix	11,395	39.365	27.259	0	235

Note. HHI = Herfindahl–Hirschman index.

TABLE 2

Descriptive Statistics: Financially Distressed Hospitals That Merged or Closed (N = 170)

	Mergers (n = 70)		Closures (n = 100)	
Variable	*M*	*SD*	*M*	*SD*
Slack resources				
Cash holdings, $	2,270,000	5,120,000	1,100,000	3,560,000
Leverage	1.123	.62	1.717	1.227
System membership	.7	.462	.44	.499
Environmental scarcity				
Unemployment rate	7.417	2.245	8.01	3.164
Population eligible for Medicare, %	15.58	17.505	14.635	4.025
Location (urban)	.829	.38	.63	.485
Environmental complexity				
Managed care penetration	23.364	12.215	22.203	12.989
HHI	.621	.356	.681	.377
Control variables				
No. of staffed beds	150.286	109.244	90.01	93.904
Ownership	.5	.608	.72	.697
Teaching status	.057	.234	.01	.1
Occupancy rate	.579	.193	.433	.201
Medicare payer mix	16.535	17.53	14.089	11.338
Medicaid payer mix	44.318	24.224	44.243	25.859

Note. HHI = Herfindahl–Hirschman index.

fragmentation (HHI) in the subsample was 0.651 on a scale from 0 to 1, indicating more moderate market shares.

Table 3 lists the coefficients and standard errors from our logistic regression analysis. The study findings partially support H1a, which states that FDHs with slack resources (unabsorbed or potential) are less likely to close compared with those that persist. The findings suggest that FDHs with higher cash holdings ($p < .1$), lower leverage ($p < .01$), and system membership ($p < .01$) were less likely to close than persist. However, we did not find any association between slack resources and the likelihood of merging compared with persisting. According to H1b, FDHs with higher levels of slack resources would be more likely to merge than to close. Our findings supported this hypothesis for potential slack; an increase in debt leverage was associated with a decrease in the likelihood of a merger compared with a closure ($p < .01$). Also, being affiliated with a system increased the likelihood of a merger compared with a closure ($p < .01$).

The study findings reveal partial support for H2a: FDHs operating in munificent environments were less likely to close ($p < .05$). However, the study findings did not show any association between environmental munificence and the choice of a merger over a closure (H2b). In addition, FDHs in areas with higher unemployment rates ($p < .05$) and in rural areas ($p < 0.1$) were more likely to close. Environmental

TABLE 3

Logistic Regression Models: Effects of Covariates on Merging and Closing

	Closure vs. No Event		Merger vs. No Event		Merger vs. Closure	
Variable	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
Slack resources						
Cash holdings	0.000*	0.000	0.000	0.000	0.000	0.000
Leverage	0.349***	0.062	−0.030	0.127	0.789***	0.245
System membership	−0.704***	0.217	0.246	0.273	−1.121***	0.405
Environmental munificence						
Unemployment rate	0.088**	0.035	0.039	0.046	0.070	0.082
Population 65 years or older, %	−0.008	0.013	−0.002	0.005	−0.016	0.033
Location	0.440*	0.262	1.188***	0.365	−0.749	0.518
Environmental complexity						
Managed care penetration	0.005	0.008	−0.006	0.010	0.021	0.016
Market competition (HHI)	−0.749**	0.328	−0.539	0.374	−0.012	0.598
Control factors						
No. of staffed beds	−0.003**	0.001	−0.002	0.001	−0.002	0.002
Ownership	−0.124	0.138	−0.255	0.183	0.253	0.314
Teaching status	−0.541	1.056	−0.259	0.595	1.175	1.347
Occupancy rate	−1.314**	0.589	0.484	0.358	−2.877**	1.137
Medicare payer mix	0.006	0.007	0.007	0.008	−0.001	0.014
Medicaid payer mix	0.003	0.004	−0.002	0.001	−0.012	0.008

Note. HHI = Hirschman-Herfindahl index.
*$p \leq .1$. **$p \leq .05$. ***$p \leq .01$.

complexity, as measured by the level of market fragmentation (HHI), was associated with the likelihood of merging ($p < .05$) and the likelihood of closing ($p < .01$), providing support for H3a. However, there was no association between environmental complexity and the likelihood of mergers relative to closures (H3b). Smaller hospitals (in number of beds) were more likely to close than larger hospitals; however, the study findings showed no association between hospital size and the likelihood of a merger. Higher occupancy rates reduced the likelihood of closures, but were unrelated to mergers. However, higher occupancy rates favored mergers over closures ($p < .01$). Regarding the hospitals that persisted, we ran a survival analysis to see the length of time a hospital could sustain operations in financial distress and found hospitals that persisted through all 11 years in the data. The survival analysis is published online as Supplemental Digital Content at http://links.lww.com/JHM/A46.

DISCUSSION

The purpose of this study was to examine which organizational and environmental

factors buffer FDHs from merging or closing and enable them to persist in the market. In addition, we looked for factors that were associated with the likelihood of a merger over a closure for FDHs. The overall findings of this study suggest that slack resources, environmental munificence, and environmental complexity likely play roles in whether hospitals persist, choose mergers, or close.

Measures of organizational slack that involve cash holdings and debt leverage helped FDHs persist in the market. These findings lend support to the idea that unabsorbed and potential slack impact the ability of FDHs to navigate turbulent times. System membership, another measure of potential slack, also was significantly associated with outcomes for FDHs. This finding was validated by a study that found that rural hospital closures were positively correlated with lack of system membership (Mullner & Whiteis, 1988).

Environmental factors that buffer FDHs from closing include a low unemployment rate and low competition. In this study, a higher number of staffed beds and low occupancy rates also cushioned hospitals from closing. However, we did not find many organizational and environmental factors that buffered FDHs from merging relative to persisting with no organizational response. Only the level of market fragmentation (HHI) was negatively associated with rates of merging. These results show that low potential slack, in the form of high debt leverage, decreases the likelihood of a merger over a closure. FDHs with exceeding amounts of debt leverage may be less attractive targets for mergers or a suitable takeover. Also, creditors may be cautious or even oppose the transfer of property as part of a merger because of high leverage.

Potential slack in another form also influenced mergers over closures. FDHs that were part of a healthcare system were more likely to merge than close. System members may find merging partners and avoid closure. Hospitals that closed were not affiliated with any system. This study points to the increasing influence of health systems in the United States and gives researchers additional direction in exploring how health systems manage financial distress in individual hospitals.

Our findings raise important issues regarding potential hospital responses to financial distress. Little attention has been given to how the organizational and environmental factors buffer FDHs from merging or closing. One significant finding is that slack resources play an important role in buffering hospitals from closing. FDHs that have too much debt leverage may eventually have to exit the market through a closure that affects the entire community. High debt leverage also may reduce the attractiveness of a hospital to a potential merging partner.

In addition, our study findings add information about how hospitals' response to financial distress is related to environmental factors. FDHs operating in munificent environments are less likely to close. Policymakers in charge of Centers for Medicare & Medicaid Services reimbursement programs should take these factors into consideration and increase reimbursement for hospitals in environments with scarce resources if they do not want them to close. Hospital leaders may apply the variables in this study to examine their own internal organizations' capacity and

perform environmental scanning when determining their future.

CONCLUSION

As financial distress becomes a reality for more hospitals, decision-makers need to consider many types of slack in their strategic planning. Given the negative ramifications of hospital closures for surrounding communities, even persisting at a suboptimal performance level can provide substantive benefits to many stakeholders. Possession of the various types of slack discussed in this study provides opportunities for this positive outcome.

REFERENCES

American Hospital Association. (n.d.). *Annual survey of hospitals.* https://www.ahadata.com/

American Hospital Association. (2020). *Hospitals and health systems face unprecedented financial pressures due to COVID-19*. https://www.aha.org/system/files/media/file/2020/05/aha-covid19-financial-impact-0520-FINAL.pdf

Andrews, R., & Johansen, M. (2012). Organizational environments and performance: A linear or nonlinear relationship? *Public Organization Review*, *12*(2), 175–189. https://link.springer.com/article/10.1007/s11115-012-0173-z

Balcaen, S., Manigart, S., Buyze, J., & Ooghe, H. (2012). Firm exit after distress: Differentiating between bankruptcy, voluntary liquidation and M&A. *Small Business Economics*, *39*(4), 949–975.

Bazzoli, G., & Andes, S. (1995). Consequences of hospital financial distress. *Journal of Healthcare Management*, *40*(4), 472–495.

Bourgeois, L. J., III, & Singh, J. V. (1983). *Organizational slack and political behavior among top management teams* [Paper presentation]. *Academy of Management Proceedings*. https://journals.aom.org/doi/10.5465/ambpp.1983.4976315

Buchmueller, T. C., Jacobson, M., & Wold, C. (2006). How far to the hospital? The effect of hospital closures on access to care. *Journal of Health Economics*, *25*(4), 740–761. https://www.sciencedirect.com/science/article/abs/pii/S0167629605001116

Cecil G. Sheps Center for Health Services Research. (2020). *NC rural health research program*. https://www.shepscenter.unc.edu/programs-projects/rural-health/

Deloof, M., & Jegers, M. (1996). Trade credit, product quality, and intragroup trade: Some European evidence. *Financial Management*, *25*(3), 33–43. https://www.jstor.org/stable/3665806

Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, *29*(1), 52–73. https://www.jstor.org/stable/2393080

George, G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal*, *48*(4), 661–676. https://www.jstor.org/stable/20159685

Greve, H. R. (2003). A behavioral theory of R&D expenditures and innovations: Evidence from shipbuilding. *Academy of Management Journal*, *46*(6), 685–702. https://www.jstor.org/stable/30040661

Harrison, T. D. (2007). Consolidations and closures: An empirical analysis of exits from the hospital industry. *Health Economics*, *16*(5), 457–474. https://doi.org/10.1002/hec.1174

Hart, L. G., Larson, E. H., & Lishner, D. M. (2005). Rural definitions for health policy and research. *American Journal of Public Health*, *95*(7), 1149–1155. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1449333/pdf/0951149.pdf

Holmes, G. M., Kaufman, B. G., & Pink, G. H. (2017). Predicting financial distress and closure in rural hospitals. *Journal of Rural Health*, *33*(3), 239–249. https://onlinelibrary.wiley.com/doi/abs/10.1111/jrh.12187

Holmes, G. M., Slifkin, R. T., Randolph, R. K., & Poley, S. (2006). Underserved populations: The effect of rural hospital closures on community economic health. *Health Services Research*, *41*(2), 467–485. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1702512/pdf/hesr041-0467.pdf

Hsieh, H.-M., Clement, D. G., & Bazzoli, G. J. (2010). Impacts of market and organizational characteristics on hospital efficiency and uncompensated care. *Health Care Management Review*, *35*(1), 77–87. https://journals.lww.com/hcmrjournal/Abstract/2010/01000/Impacts_of_market_and_organizational.9.aspx

Irving Levin Associates. (n.d.). *Deal search online.* https://products.levinassociates.com/dso/

Kane, N. M., & Magnus, S. A. (2001). The Medicare cost report and the limits of hospital accountability: Improving financial accounting data. *Journal of Health Politics, Policy and Law*, *26*(1), 81–106. https://read.dukeupress.edu/jhppl/article-abstract/26/1/81/28191/The-Medicare-Cost-Report-and-the-Limits-of?redirectedFrom=fulltext

Langabeer, J. (2008). Hospital turnaround strategies. *Hospital Topics*, *86*(2), 3–12. https://www.tandfonline.com/doi/abs/10.3200/HTPS.86.2.3-12

Liang, K. -Y., & Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models. *Biometrika*, *73*(1), 13–22. https://academic.oup.com/biomet/article/73/1/13/246001

Majumdar, S. K., Moussawi, R., & Yaylacicegi, U. (2016). *Capital structure and merger waves in the telecommunications sector*. https://www.ebos.com.cy/cresse2013/uploadfiles/2017_pa2_pa1.pdf

MedPAC. (2016). *Medicare Payment Advisory Commission (MedPAC). Report to the Congress: Medicare payment policy. 2016*. http://www.medpac.gov/docs/default-source/reports/march-2016-report-to-the-congress-medicare-payment-policy.pdf

Menachemi, N., Mazurenko, O., Kazley, A. S., Diana, M. L., & Ford, E. W. (2012). Market factors and electronic medical record adoption in medical practices. *Health Care Management Review*, *37*(1), 14–22. https://journals.lww.com/hcmrjournal/Abstract/2012/01000/Market_factors_and_electronic_medical_record.3.aspx

Mullner, R. M., & Whiteis, D. G. (1988). Rural community hospital closure and health policy. *Health Policy*, *10*(2), 123–135. https://www.sciencedirect.com/science/article/abs/pii/0168851088900012

Pastena, V., & Ruland, W. (1986). The merger/bankruptcy alternative. *Accounting Review*, *61*(2), 288–301. https://www.jstor.org/stable/247259

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.

Prantl, S. (2003). Bankruptcy and voluntary liquidation: Evidence for new firms in East and West Germany after unification. *ZEW Discussion Papers*. https://ideas.repec.org/p/zbw/zewdip/1682.html

Ramamonjiarivelo, Z., Weech-Maldonado, R., Hearld, L., Menachemi, N., Epané, J. P., & O'Connor, S. (2015). Public hospitals in financial distress: Is privatization a strategic choice? *Health Care Management Review*, *40*(4), 337–347. https://doi.org/10.1097/hmr.0000000000000032

Richards, C. A. (2014). *The effect of hospital financial distress on immediate breast reconstruction* [Doctoral thesis, Columbia University]. https://doi.org/10.7916/D8C53HZ2

Ringlstetter, M. (1995). *Konzernentwicklung [Group development]. In Rahmenkonzepte zu Strategien, Strukturen und Systemen [Framework concepts for strategies, structures and systems]*. Kirsch.

Shin, H. -H., & Stulz, R. M. (1998). Are internal capital markets efficient? *Quarterly Journal of Economics*, *113*(2), 531–552. https://academic.oup.com/qje/article-abstract/113/2/531/1915751?redirectedFrom=fulltext

Singh, J. V. (1986). Performance, slack, and risk taking in organizational decision making. *Academy of Management Journal*, *29*(3), 562–585. https://www.jstor.org/stable/256224

Sutcliffe, K. M. (1994). What executives notice: Accurate perceptions in top management teams. *Academy of Management Journal*, *37*(5), 1360–1378. https://journals.aom.org/doi/10.5465/256677

Tarver, W. L., & Menachemi, N. (2018). Environmental market factors associated with electronic health record adoption among cancer hospitals. *Health Care Management Review*, *43*(4), 303–314. https://journals.lww.com/hcmrjournal/Abstract/2018/10000/Environmental_market_factors_associated_with.5.aspx

Vanacker, T., Collewaert, V., & Zahra, S. A. (2017). Slack resources, firm performance, and the institutional context: Evidence from privately held European firms. *Strategic Management Journal*, *38*(6), 1305–1326. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.2583

Voss, G. B., Sirdeshmukh, D., & Voss, Z. G. (2008). The effects of slack resources and environmental threat on product exploration and exploitation. *Academy of Management Journal*, *51*(1), 147–164. https://www.jstor.org/stable/20159499

Wharton Research Data Services. (2020). *Wharton Research Data Services*. https://wrds-www.wharton.upenn.edu/

Wells, R., Lee, S. -Y. D., & Alexander, J. A. (2001). Institutionalized ties and corporate social capital: The case of hospital mergers and closures. In: S. M. Gabbay & R. T.A.J. Leenders, (Eds.).

Social capital of organizations (pp. 59–82). Emerald Group Publishing Limited. https://www.emerald.com/insight/content/doi/10.1016/S0733-558X(01)18003-1/full/html

Yeager, V. A., Zhang, Y., & Diana, M. L. (2015). Analyzing determinants of hospitals' accountable care organizations participation: A resource dependency theory perspective. *Medical Care Research and Review*, *72*(6), 687–706. https://journals.sagepub.com/doi/10.1177/1077558715592295

Zaki, E., Bah, R., & Rao, A. (2011). Assessing probabilities of financial distress of banks in UAE. *International Journal of Managerial Finance*, *7*(3), 304–320. https://www.emerald.com/insight/content/doi/10.1108/17439131111144487/full/html

Zhao, L. (2007). *Why are fewer hospitals in the delivery business?* The Walsh Center for Rural Health Analysis, NORC at the University of Chicago. https://www.norc.org/PDFs/Publications/DecliningAccesstoHospitalbasedObstetricServicesinRuralCounties.pdf

Zinn, J. S., Weech, R. J., & Brannon, D. (1998). Resource dependence and institutional elements in nursing home TQM adoption. *Health Services Research*, *33*(2 Pt 1), 261–273. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1070264/pdf/hsresearch00025-0108.pdf

PRACTITIONER APPLICATION: The Role of Organizational Slack in Buffering Financially Distressed Hospitals From Market Exits

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The financial viability of our nation's hospital facilities needs to be a significant concern for both practitioners and researchers. Very few new hospitals open in any given year, while hundreds have closed or merged over the past decade. Closures and mergers can lead to a shrinking supply of organizations and capacity, especially in rural and underserved areas. Puro and colleagues used multiple longitudinal data sources and a robust research framework in this study to gain insight into the levels of financial distress across U.S. hospitals.

When hospitals begin to fail financially, there are major consequences to the surrounding community, and that phenomenon tends to further impair neighborhoods and local economies. Numerous factors contribute to closures, such as poor market location, lack of adequate competitive strategy, turbulent environment, poor management, and inability to retain sufficient capital necessary for plant and technology investments, among others. In this study, the authors found evidence of 170 merged or closed facilities during a 10-year period. Differences between those facilities that closed versus those that remained viable suggest some significant patterns. Those that closed had higher debt ratios, less cash on hand, and were less likely to be part of a system.

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All hospital leaders can learn from the results of this study. Of note, financial distress does not need to be permanent. A variety of strategic, operational, and financial maneuvers can alleviate distress; effective turnarounds are possible. Turnarounds, or a return to financial recovery, involve carefully identifying steps to evade collapse. Yet, this will require proactive leaders who can navigate the complexities of identifying network and system partners, implementing quality and process improvement practices, and restructuring bonds and other debt tools. A comprehensive approach to managing financially distressed facilities calls for committed leaders who understand drivers of revenue cycle, supply chain, marketing, and human resources. Turnarounds to convert a distressed hospital into a financially viable one are possible; bankruptcy is not the only fate. Frequently, consultants are necessary to help pave a clear turnaround path.

The authors point to organizational slack and the importance of participating in a health system as important variables to avoid distress. In addition, identifying potential partners such as medical schools is equally strategic in navigating in today's environment. Maybe the most important lesson we can take away from this article is that financial distress is complex and multifactorial. For most hospitals, poor financial situations develop over the course of years, and it can take that long to resolve them. Bankruptcy filings are not inevitable. Changes in the strategic, operational, and financial response to the distress can provide effective alternatives in maneuvering through these difficult times.