Factors Related to Hospital Bankruptcy: 2007-2019

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From 2007 through 2019 the hospital industry underwent significant changes including the Great Recession and the passage of the Affordable Care Act. Healthcare organizations faced challenges that contributed to a number of alarming trends. Throughout this period, 48 hospitals and health systems filed for bankruptcy protection. Half of these hospitals eventually ceased operations. This article examines factors associated with hospitals that file bankruptcy. Non-financial factors associated with bankruptcy filings were identified from a literature review of hospital trade publications and other available sources. Poor financial management, challenges related to payer mix and reimbursement, and poor management were the most common factors that filing hospitals faced. A comparison between these results and similar research examining the period from 2000-2006 reveals that most of the non-financial factors contributing to bankruptcy are relatively stable over time. These findings emphasize that hospital managers and boards must evaluate the financial health of their organizations using a broad framework that includes political and economic factors as well as financial characteristics.

Keywords: financial management, hospital, health system

INTRODUCTION

Factors Related to Hospital Bankruptcy: 2007 - 2019

The past twenty years arguably have been one of the most challenging periods in the modern history of healthcare delivery in the United States. During this time period the U.S. has experienced volatility in the economic environment as well as the enactment of the most impactful healthcare legislation since the

creation of Medicare and Medicaid in the mid-1960s. Hospitals and other provider organizations have been asked to do more with less while also undergoing sweeping changes and mandated capital investments associated with the implementation of electronic health records, increasing cybersecurity threats, and complex quality reporting requirements.

This myriad of factors presents significant challenges for healthcare organizations and have contributed to a number of alarming trends including hospital closures and provider burnout. Over-leveraged health systems and declining inpatient volumes have resulted in an environment of the "haves" and the "have-nots" (Caine, 2015). Median operating margins for nonprofit hospitals have recently stabilized after reaching an all-time low of 1.7% in 2018 (Kacik, 2019). Hospitals are employing a variety of strategies to survive, including bankruptcy and consolidation, among others. Competition has increased as larger health systems seek to expand their reach to combat the impact of lower reimbursements as payment transitions to fee-for-value (Caine, 2015). These changes have been particularly impactful for rural hospitals, especially in states that did not elect to expand Medicaid (Hinkle, January 9, 2019). Since 2010, one hundred twenty rural hospitals have closed (NC Rural Health Research Program, 2020). This can have a devastating effect on the communities they serve, not only in the loss of access to health services but also in the impact on the local economy.

A study published in 2009 (Landry & Landry, 2009) examined 42 hospital bankruptcies occurring over the six-year period of 2000 through 2006 and identified non-financial factors (i.e., factors other than financial ratios) contributing to the bankruptcy filings. Since that time numerous hospitals have filed for bankruptcy (American Bankruptcy Institute, 2020). The purpose of this study is to extend the work of Landry and Landry (2009) to examine trends in hospital bankruptcies over the past twenty years, including the impact of the passage of major healthcare legislation in 2009 and 2010. This study utilizes the conceptual framework and methods employed in the earlier study to analyze hospitals bankruptcies identified for the time period of 2007 – 2019, and compares non-financial factors contributing to bankruptcies in this period to non-financial factors the earlier study identified as contributing to bankruptcy during the 2000-2006 period.

BACKGROUND

The eighteen months prior to summer of 2009 marked the longest period of recession since the Great Depression in the 1930s. This most recent global financial crisis is referred to by many as the "Great Recession" (Grusky, Western, & Wimer, 2011). U.S. hospitals were affected by this financial downturn. Although many hospitals have weathered the financial storm and rebounded, those that were weak financial performers prior to the recession continue to struggle (Bazzoli, Fareen, & Waters, 2014).

Bankruptcy is often viewed as the ultimate business failure and financial maneuver of last resort. Business have two bankruptcy options: Chapter 7 to liquidate or Chapter 11 to reorganize (United States Courts, n.d.). Although it can be used as a policy lever to relieve financial pressure, bankruptcy reorganizations are often unsuccessful and end in organizational closure. If bankruptcy is successful, a hospital might have the opportunity to emerge from crippling debt and resume operations with a fresh financial start. Hospitals might be better positioned to partner with other organizations or become the object of an acquisition that will allow for the hospital to continue operating. However, many hospitals fail to emerge from bankruptcy and eventually close. Hospital closure can negatively affect local economies, reduce access to healthcare, and result in job loss (Holmes, Kaufman, & Pink, 2017a; Kaufman et al., 2016). Understanding factors associated with hospital bankruptcy is important for policy makers and organizational leaders. Early identification of facilities in danger of financial failure can allow for risk mitigation that can potentially save the organization.

Both financial and non-financial factors associated with hospitals filing and surviving bankruptcy are similar to patterns observed in other industries. The 2009 work by Landry and Landry surmised that hospital factors associated with filing and surviving bankruptcy relate to organizational size, system affiliation, and ownership. The majority of hospitals that filed for bankruptcy during the study period did not make it out of reorganization and eventually closed. Hospitals that filed for bankruptcy were smaller than competitors,

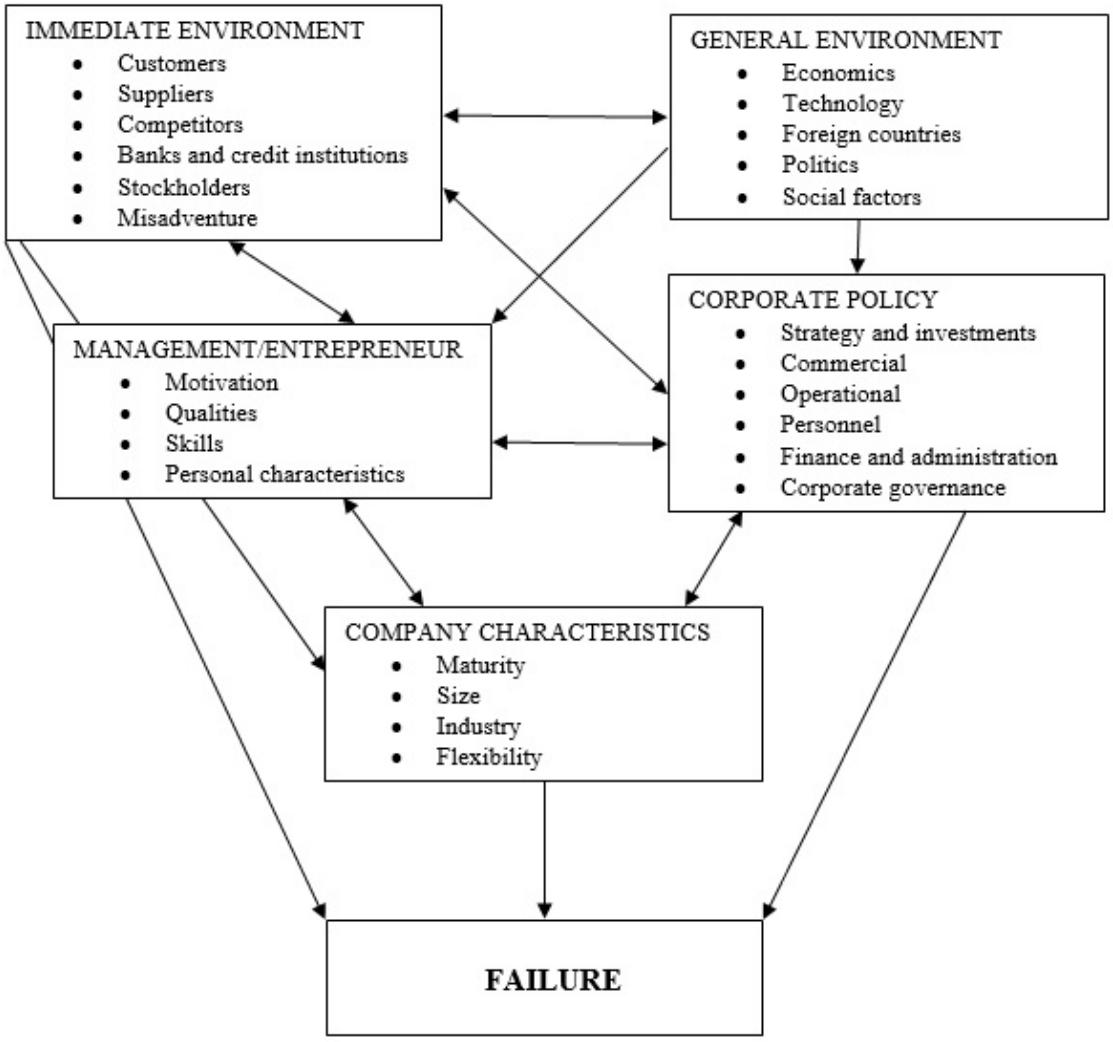
less likely to belong to a system, and more likely to be investor-owned. The study also delved into factors contributing to hospital financial distress. Nonfinancial factors associated with bankruptcy included mismanagement, reimbursement changes, fraud, physician and workforce issues, and increased competition (Landry and Landry 2009). Although the myriad of factors contributing to hospital insolvency is complex, there is value in understanding organizational, environmental, and market pressures contributing to hospital financial distress.

Though more research on organizational failure has emerged in the healthcare literature in recent years, most of this work continues to focus on financial indicators of performance rather than antecedents to financial distress, insolvency, and organizational closure (Bazzoli et al., 2014; Langabeer, Lalani, Champagne-Langabeer, & Helton, 2018). Altman's Z-score model (1968) has been used to predict bankruptcy or closure in acute care hospitals, academic medical centers, rural hospitals, and nursing homes (Holmes, Kaufman, & Pink, 2017b; Lord et al., 2020; Puro et al., 2019; Ramamonjiarivelo, Weech-Maldonado, Hearld, & Pradhan, 2014). Research outside the healthcare industry suggests that while financial prediction models are very accurate in assessing short-term organizational insolvency, combined models coupling financial and non-financial variables are more accurate in predicting long term organizational failure (Altman, Iwanicz-Drozdwoskia, Lairinen, & Suvas, 2015). Other studies have assessed organizational and market characteristics associated with financial distress and hospital closure (Holmes et al., 2017b; Liu, Jervis, Younis, & Forgione, 2011; Ramamonjiarivelo et al., 2014). However, few studies have used a qualitative approach to identify factors contributing to financial distress in hospitals (Landry & Landry 2009).

Conceptual Framework

Financial models attempting to predict bankruptcy and financial insolvency abound (Altman, 1968; Ohlson, 1980), yet relatively little empirical research has attempted to generate a comprehensive model of non-financial contributors to bankruptcy in the management literature. Organizational scholars have looked at attributes including size of the organization and market characteristics. However, the most inclusive model of factors related to organizational bankruptcy found in the management research was the typology proposed by Ooghe and Waeyaert (2004) (as cited in Ooghe & Prijcker, 2008). After an extensive review of the literature, they propose a model suggesting that a combination of factors lead to bankruptcy including (1) general environment, (2) immediate environment, (3) management/entrepreneur, (4) corporate policy, and (5) company characteristics (see Figure 1).

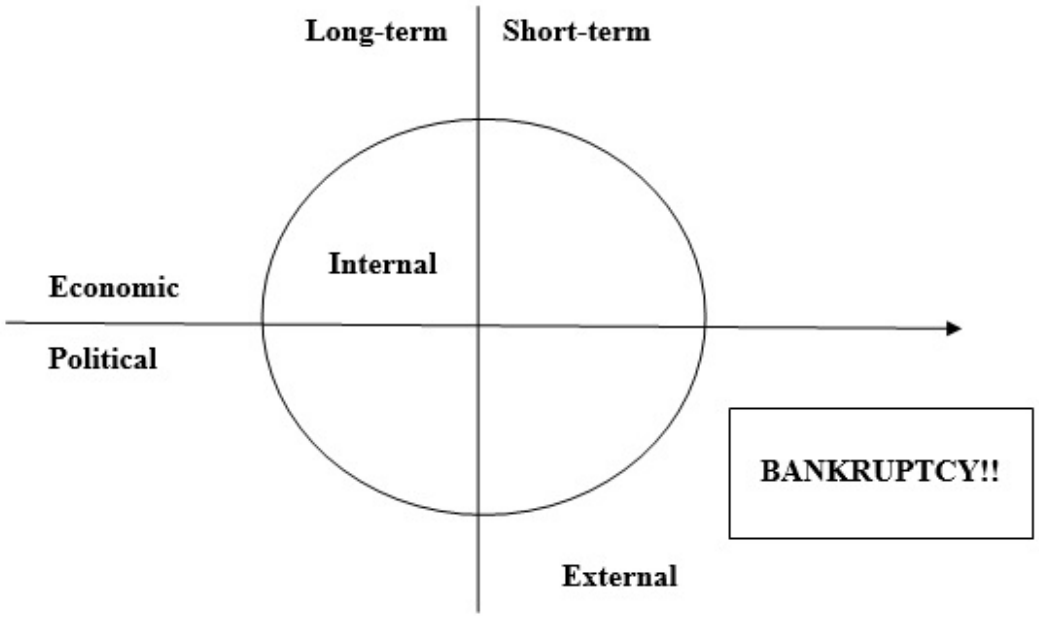
FIGURE 1
A CONCEPTUAL FAILURE MODEL OF POSSIBLE CAUSES OF BANKRUPTCY



Environmental factors in the immediate and general environments, which may include the economy, political pressures, and competition, influence management and corporate policy and are likewise influenced by management and corporate policy. These interactions coupled with company characteristics all play a role in organizational failure (Ooghe & De Prijcker, 2008). While comprehensive with regard to causal factors associated with financial decline and bankruptcy, this model neglects the time dimension of bankruptcy and financial distress which is acknowledged as problematic by management scholars. Although the model considers organizational maturity, there is no delineation between long and short-term factors contributing to financial decline (Ooghe & De Prijcker, 2008).

Outside of the management literature, legal scholars have attempted to identify factors contributing to bankruptcy filing inclusive of time horizon. The Park (2004) framework is a three dimensional model of causal factors for bankruptcy. It was developed based on historical filing data in U.S. municipal bankruptcies (n=500). This theoretical model suggests (1) long-term and short-term factors, (2) internal and external factors, and (3) economic and political factors lie on a continuum eventually leading to bankruptcy (see Figure 2).

FIGURE 2
A MODEL OF THE CAUSES OF MUNICIPAL BANKRUPTCY



Although this model is based on municipal bankruptcy filings, Park's (2004) factors are inclusive of those proposed by Ooghe and De Prijcker (2008) in the management literature. For example, the *immediate* and *general environments* in the Ooghe and Waeyaert model are represented by Park's *external, economic* and *political* constructs. Park's *internal* construct includes the *management, corporate policy*, and *company characteristic* constructs proposed by Ooghe and Waeyaert. Therefore, the Park model accounts for multiple attributes associated with bankruptcy filing inclusive of the time horizon.

By definition, financial distress is a contributing factor to hospital bankruptcy. However, understanding other factors related to financial distress and eventual insolvency can be instructive for organizational leaders, policy makers, and community advocates. The remainder of this article will identify organizational attributes of hospitals filing for bankruptcy and those emerging successfully from bankruptcy. We will also evaluate factors associated with hospital bankruptcy filings within the context of the Park model of bankruptcy causes.

We will compare our results to those of Landry and Landry (2009) to ascertain the effect of the economic downturn on factors associated with bankruptcy. The previous study was published at the height of the economic downturn of the early 2000s, prior to the passage of the economic stimulus legislation that infused funding in the healthcare sector through the Health Information Technology for Economic and Clinical Act (HITECH) of 2009 and the landmark Affordable Care Act (ACA) of 2010. The ACA includes mechanisms to expand health coverage through both a health insurance marketplace and Medicaid expansion. In addition to these impactful pieces of legislation, the Center for Medicare and Medicaid Services (CMS) has also introduced value-based reimbursement methodologies that are transforming payment for provider organizations. This study will only attempt to validate the Park framework for use in assessing factors associated with bankruptcy in the hospital sector and determine how the dynamics of the healthcare environment have affected organizational financial performance.

METHODS

A systematic review of the hospital industry trade literature was performed in an effort to identify hospital and hospital system bankruptcies and publicly disclosed causes for filings. Unfortunately, Federal

databases containing information on bankruptcy filings are not structured in a way that allows researchers to isolate hospital bankruptcies from bankruptcies declared by other types of firms in other industries. Because of the lack of a comprehensive data source with information on all hospital bankruptcies and because hospital bankruptcy filings are rare events with the potential to have a significant impact on communities and creditors, we believe most bankruptcies are likely to receive attention in the press.

In conducting our search, we employed a strategy similar to Landry and Landry (2009). We used the ABI/Inform database to search the *Modern Healthcare* trade publication for the dates January 1, 2007 until September 1, 2019 using the keyword "bankruptcy." This strategy identified a total of 48 bankruptcy events, 10 of which were hospital system bankruptcies and 38 of which were bankruptcies filed on behalf of individual hospital facilities.

After identifying a bankruptcy event, we conducted a secondary literature search to identify the non-financial factors that contributed to the hospital's decision to file for bankruptcy. For each event, we searched for *Modern Healthcare* articles that contained the hospital or system's name, as well as the city in which the hospital was located, for a period from five years before the bankruptcy filing until September 1, 2019. If this strategy yielded less than three relevant articles, we supplemented that information with additional information from a search of Google's "news" function. We analyzed information from the first 10 relevant results this search yielded.

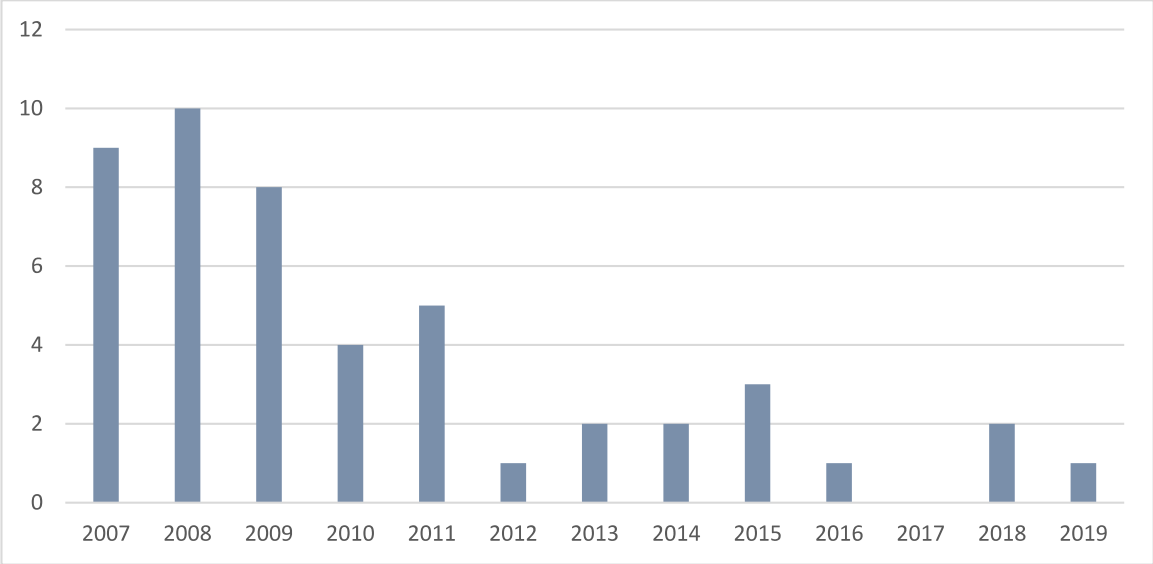
After identifying news reports related to each of the filing hospitals, these reports were analyzed to identify factors that contributed to the bankruptcy filings. To facilitate comparisons with prior research, we employed the 13 themes identified by Landry and Landry (2009). Ten of these themes are listed in Table 2. Three factors from prior research (physician politics, cost of malpractice insurance, and quality issues) were not identified as contributors to any of the more recent hospital bankruptcies and are not listed in the table. Expert coders reviewed the information related to each of the bankruptcy filings and recorded the reported factors contributing to each bankruptcy. The factors are not mutually exclusive and the sources describing most of the bankruptcy events identified more than one contributing factor. As some filings garnered more public attention than others, more is known about some filing hospitals than others.

In addition to the published information on events preceding and subsequent to hospitals' bankruptcy filings, we identified characteristics of the filing hospitals' characteristics using the American Hospital Association's annual survey of hospitals. These characteristics were drawn from the AHA surveys completed in the years before a hospital filed for bankruptcy since, after declaring bankruptcy, some facilities experience changes in relevant characteristics like bed size or ownership. In cases where these sources of information were inadequate (e.g., information on the operational status of hospitals that declared bankruptcy in more recent years) we supplemented these data sources with additional information gleaned from hospital websites and news reports from hospitals' local communities. Information was verified through multiple sources to ensure its accuracy and currency.

RESULTS

We identified 48 hospital bankruptcies occurring between 2007 and 2019. The majority of events occurred from 2007-2009, consistent with the timing of the Great Recession. Figure 3 shows the number of bankruptcies declared by year.

FIGURE 3
NUMBER OF BANKRUPTCY EVENTS BY YEAR (2007-2019) IN THE STUDY SAMPLE



Of the bankruptcy events we identified, the majority (38) were cases in which individual hospitals declared bankruptcy. Ten of the bankruptcies were for entire systems, as opposed to individual hospital facilities. Among the 10 system bankruptcies, the average size of the system was 4.4 hospitals with a range of 2-12 hospitals. Our results focus on characteristics of individual hospital facilities that declared bankruptcy, rather than multihospital systems. This is both to be consistent with the earlier Landry and Landry (2009) research and because some hospital characteristics (e.g. location) may be difficult to measure for systems that include multiple hospitals.

AHA data on the 38 hospitals filing for bankruptcy protection between 2007 and 2019 were used to conduct a comparison of organizational characteristics between those hospitals that remained open and those that have closed. In addition, the differences in the 2007-2019 sample of bankrupt hospitals are compared to differences in open and closed hospitals during the 2000-2006 period (see Table 1).

From 2007-2019, half of the hospitals that declared bankruptcy (19) remained open while an equal number closed. The characteristics of hospitals that remained open, as opposed to those that closed, remained relatively similar to the 2000-2006 period. In both periods open and closed hospitals were of similar bed size. In both time periods, the majority of both open and closed hospitals were not members of a multihospital system, though the more recent time period saw a slightly higher percentage of system members declaring bankruptcy. Urban hospitals made up the majority of bankruptcies in both time periods. The geographic distribution of bankruptcies also remained similar over time with the largest number of bankruptcies occurring in the Northeast and West Coast, and smaller numbers of bankruptcies occurring in the Midwest, Southeast and Southwest. This distribution may be driven by the relatively larger number of hospitals that exist in the Northeastern and West Coast regions of the United States. Differences have emerged over time, however, in the relationship between closure and ownership. From 2000-2006 the majority of closed hospitals were under for-profit ownership. Seventeen closed hospitals were for-profit compared to 11 that were not-for-profit while only 4 hospitals that remained open were for-profit compared to 10 that were not-for-profit. In the more recent study period, a higher proportion of closed hospitals are not-for-profits. From 2007-2019, 16 of the 19 closed hospitals were under not-for-profit ownership compared to 11 of 19 hospitals that remained open.

TABLE 1
HOSPITAL CHARACTERISTICS ASSOCIATED WITH FILING HOSPITALS BY CLOSURE STATUS

	2000-2006[1]		2007-2019		
	Open Hospitals (n = 14) Frequency (%)	Closed Hospitals (n = 28) Frequency (%)	Open Hospitals (n = 19) Frequency (%)	Closed Hospitals (n = 19) Frequency (%)	
Mean bed size	140	135	157	156	
Ownership					Pearson Chi Square[2]
For-profit	4 (29)	17 (61)	8 (42)	3 (15)	0.074
Not-for-profit	10 (71)	11 (39)	11 (57)	16 (84)	
System membership					
Member	2 (14)	3 (11)	5 (26)	4 (21)	0.703
Nonmember	12 (86)	25 (89)	14 (74)	15 (79)	
Location					
Urban	10 (71)	26 (93)	16 (84)	17 (89)	0.631
Rural	4 (29)	2 (7)	3 (16)	2 (11)	
Region					
Northeast	4 (33)	5 (19)	7 (37)	10 (53)	0.262
West Coast	3 (25)	6 (22)	2 (11)	4 (21)	
Mountain	0 (0)	0 (0)	0 (0)	1 (5)	
Midwest	1 (8)	7 (26)	5 (26)	2 (11)	
Southeast	4 (33)	3 (11)	2 (11)	2 (11)	
Southwest	0 (0)	6 (22)	3 (16)	0 (0)	

1- 2000-2006 data from Landry and Landry (2009)

2- Test of independence for 2007-2019 data

In addition to the qualitative comparisons discussed here, we also conducted Pearson Chi Squared tests to determine whether observed differences in ownership, system membership, location or region were significantly different for open and closed hospitals. The differences we observed were not statistically significant. However, this is not surprising given the relatively small number of bankrupt hospitals in our sample.

Nonfinancial Factors Associated With Filing Hospitals

A second literature review was performed after the initial identification of bankrupt hospitals to secure additional information about factors contributing to filing. Expert coders reviewed the literature and used the themes identified by Landry and Landry (2009) as an a priori framework. In the more recent review, ten themes emerged as factors associated with hospital bankruptcy (see Table 2).

TABLE 2
COMMON THEMES AMONG FILING HOSPITALS CATEGORIZED IN THE PARK (2004) FRAMEWORK

	Theme	Time Horizon		Context		Environment	
		Long-Term	Short-Term	Internal	External	Political	Economic
1.	Poor Financial Management (n=23)	X	X	X			X
2.	Payor Mix/Reimbursement (n=18)	X	X	X	X	X	X
3.	Poor Management (n=11)	X	X	X			X
4.	Fraud Allegations (n=7)		X	X			X
5.	Financial Strategy/Desire to Sell (n=7)		X	X		X	X
6.	Competition (n=7)	X			X		X
7.	Workforce Issues (n=7)		X	X		X	X
8.	Declining Volume (n=8)	X			X		X
9.	Demographic Changes (n=3)	X			X		X
10.	External Politics (n=4)		X		X	X	X

*The theme was identified in (n) filing hospitals

Quality issues, physician politics, and the cost of malpractice insurance were cited as contributors to hospital bankruptcy in work by Landry (2009), which captured factors associated with hospitals filing between 2000 - 2006. However, these did not materialize as themes in the most recent sample of bankrupt hospitals. The list of themes is by no means exhaustive, and some bankruptcies received more attention in the media than others. Also, themes are not mutually exclusive, so a hospital may be coded to have multiple contributing factors to bankruptcy filing. The recent findings confirm many of the factors associated with hospital bankruptcy cited in the original work by Landry and Landry (2009) and provide support for the application of the Park (2004) framework in the healthcare sector.

Poor financial management was the theme cited most often (n=23) in the press as a precursor to bankruptcy. Cash-flow issues, default on bonds, and lack of access to capital were all mentioned in the articles identified in this review. Issues related to payor mix/reimbursement emerged as a close second (n=18) leading factor associated with bankruptcy. In particular, increases in the amount of uninsured patients, unfavorable managed care contracts, and continued tightening of governmental reimbursements were cited as contributors. Poor management (n=11), declining patient volumes (n=8), competition (n=7) and workforce issues (n=7) again played a part in hospital bankruptcies. Examples of poor management include a lack of oversight of financial processes including billing and overextension on building projects. With regard to the workforce, hospitals faced increased wage expenses related to unionization and workforce shortages in some cases.

Allegations of fraud (n=7) again was cited as a factor in an alarming number of bankruptcy filings. Some hospitals were recovering from issues of fraud, and others were victims of fraud via an owner. The

utilization of bankruptcy as a financial strategy to make hospitals more appealing to potential buyers was also observed in (n=7) the literature. Investment firms played an important role in many filings leading to acquisitions, as did joint ventures between firms supplying capital and physician groups seeking to purchase hospitals. An increase in the number of filings related to external politics (n=4) was observed, and this was often related to community judgements on the suitability of a buyer for a local hospital. Demographic changes (n=3) was the factor least often cited in the trade press; however, it was cited more often in the most recent sample of bankrupt facilities.

The authors acknowledge that a review of the trade press is not an unbiased look at factors associated with bankruptcy. However, it does offer some perspective on causes of bankruptcy filing. Although this study likely excluded some factors contributing to hospital bankruptcy, this analysis does shed some light on challenges hospitals face that lead to financial insolvency.

The Park Framework

The Park framework (Figure 2) asserts that factors causing bankruptcy can be categorized according to time horizon, context, and the environment. Contributors to bankruptcy either affect the organization on a long-term or short-term basis, may be internal or external, or may be of a political and/or economic nature. Our research demonstrates how the themes associated with hospitals filing bankruptcy in the years 2008 – 2018 correspond with the Park framework (see Table 2).

Time Horizon

Certain factors associated with bankruptcy can build over time and eventually lead to financial insolvency. These are considered long-term factors. Other issues occur during the short term that directly trigger bankruptcy. The themes identified in this research fall into both the long and short-term categories. The implications of poor management, both financial and general, can build up over several years and eventually lead to financial distress. Poor decisions related to debt structure, construction projects, and general strategic direction can eventually contribute to a hospital's financial demise. Shifting demographics can lead to an unfavorable payor mix or declining volumes over time. Hospitals may be located in areas that are experiencing economic decline, and this can affect their business. Finally, increasing competition and shrinking reimbursements can erode a hospital's operating income over time and make it difficult to meet financial obligations.

Poor management can also negatively affect organizations in the short term. The ability of management to effectively weather short-term environmental challenges such as an economic downturn is critical to sustained financial success. Errors in financial strategies can lead to cash-flow challenges and even default on bond payments. Management must have the ability to effectively negotiate with payers and employees. An unfavorable union agreement or a poorly negotiated managed care contract can create a financially unsustainable hospital. Certain factors such as fraudulent activity and external political pressures are difficult to anticipate and may trigger immediate financial distress within an organization that leads to insolvency. Finally, bankruptcy might be used as a short-term financial strategy to reduce debt in an effort to appear more attractive to acquiring firms. The desire to sell is a time limited. Often investors wish to acquire a hospital, but they do not want to acquire the hospital's debt. Bankruptcy can alleviate this burden and lead to an acquisition in the short-term.

Context

Factors contributing to bankruptcy that occur within the organization are considered internal. For example, organizational leadership and employees are associated are internal factors related to bankruptcy. A manager might misallocate funds or commit fraud leading to financial distress. An organization might make an internal decision to find a suitable partner for acquisition and file for bankruptcy to relieve the hospital's burden of debt. Nurses might unionize or go on strike affecting a hospital's financial status. It is arguable that an organization has more control over internal factors associated with bankruptcy than those factors that are external to the organization. For example, hospitals have little control over demographic changes in the community and shifting payor mix. Declining volume resulting from competition is also

difficult to combat. In some cases, hospitals operate at the whim of external politics and pressures from the community. It can be difficult or even impossible to generate a strategy that effectively mitigates external pressures to the organization.

Environment

Environmental factors also play a role in hospital bankruptcies. Politics at the federal and state levels can negatively impact reimbursement for governmental payers including Medicare and Medicaid. Funding cuts can have a devastating impact on a hospital's operating income. Local politics can also pose challenges to hospital operations. A municipality might publicly contest a strategic partnership based on its community impact. For example, the community might oppose the conversion of a community hospital from not-for-profit to for-profit status and hamper an acquisition. Employee unions and collective bargaining units may also pose a political challenge to hospitals trying to avoid financial distress and bankruptcy. The outcomes of such negotiations have a large financial impact. The economic environment is related to most factors associated with hospital bankruptcy. The general state of the economy relates to payor mix/reimbursement and hospital volumes. When unemployment increases, the number of privately insured patients declines which negatively affects operating income. Access to capital can lead to financial or other mismanagement, and financial pressures might even result in fraudulent activities. The demographics of a community and the socio-economic status of its citizens have a large impact on the viability of a hospital. To summarize, all of the themes identified in our study fit within the constructs of the Park (2004) framework, again confirming its applicability in the healthcare sector.

DISCUSSION

One of the most surprising results from our study is the relatively low number of bankruptcy events identified. From 2007-2019 we identified 49 events for an average of 3.7 per year compared to the prior Landry and Landry (2009) study which identified 42 events over the seven-year period studied, an average of 6 bankruptcies per year. Given the extensive discussion of the financial challenges facing hospitals in the trade press (Bannow, 2019) we expected to identify a larger number of bankruptcies. There are several possible explanations for this finding. First, it is possible that many of the most financially vulnerable hospitals were forced into bankruptcy in the early years of the study (2007-2009) during and immediately after the Great Recession, leaving relatively fewer hospitals likely to file for bankruptcy in the following years. This is consistent with our findings that there were 27 bankruptcy events from 2007-2009 but only three identified from 2017-2019 (Figure 3). Another possible explanation is that the increase in the number of people with health insurance brought about by the ACA has been successful in reducing the burden of uncompensated care that hospitals face (Antonisse, Garfield, Rudowitz, & Artiga, 2017; Nikpay, Buchmueller, & Levy, 2016), thus reducing the number of facilities filing for bankruptcy. Finally, it is possible that our search strategy did not identify all bankruptcies that occurred during the study period. Indeed, after we conducted our literature review, we discovered a report from the American Bankruptcy Institute indicating that 30 hospitals declared bankruptcy in 2019 (American Bankruptcy Institute, 2020). In light of this information, the number of bankruptcies we have identified certainly underestimates the actual prevalence of hospital bankruptcies. However, we feel that our study's inability to identify all hospital bankruptcy filings is an unlikely explanation for the lower rate of bankruptcy filings identified in this study as compared to the prior Landry and Landry (2009) study. Since both studies employed the same search strategy, we see no reason that the current study would have failed to identify more bankruptcies than the prior study.

For the most part, the hospital characteristics associated with bankruptcy filings were similar for both the 2007-2019 and the 2000-2006 periods. Moreover, the differences in hospitals that remained open and those that closed were similar as well. One notable exception is that during the more recent period, not-for-profit hospitals that declared bankruptcy were more likely to close than in the prior period. This may be because the limited availability of credit during the 2007-2009 period (Barrell & Davis, 2008) was a

particular challenge for not-for-profit organizations which face greater barriers to accessing financial capital than their for-profit peers (Robinson, 2000).

Limitations

This study is not without limitations. First, despite a thorough literature review it is possible that our methods failed to identify bankruptcy events that occurred. In particular, our study may have failed to identify bankruptcies of smaller and rural facilities in areas where press coverage of local events is less comprehensive. If true, the prevalence of hospital bankruptcy filings may be greater than what we report here. However, as discussed previously, this limitation is unlikely to affect our comparisons between the current 2007-2019 period and the period from 2000-2006. Second, our search strategy relied on publicly disclosed factors contributing to bankruptcy filings. We acknowledge that this may be a limited view into the full causes of bankruptcy. For instance, we identified relatively few cases (5) in which the desire to sell was a stated reason for declaring bankruptcy. However, in cases where communities place a high value on local control of a financially struggling hospital, hospital managers and boards may have been reticent to publicly state the desire to sell as a motivation for filing for bankruptcy.

CONCLUSION

Despite the significant changes that have taken place in the hospital industry during the 2007-2019 study period, it seems that the factors associated with hospital bankruptcies are much the same as they were in earlier periods. Moreover, the Park model of bankruptcy, with its emphasis on the political and economic factors that can lead hospital organizations into bankruptcies, continues to be a useful framework through which governing boards and hospital managers can evaluate their organization's financial health. Given the timeless nature of these factors, future research should examine hospitals that have dealt with factors that can contribute to bankruptcy in an attempt to identify strategies that have resulted in successful organizational outcomes (i.e. the avoidance of bankruptcy or the successful reorganization after bankruptcy). This research could assist managers of at-risk facilities as they endeavor to avoid the negative economic and health outcomes associated with closure.

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