THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF HEALTH POLICY AND ADMINISTRATION

THE IMPACT OF LEADERSHIP STYLE ON CRITICAL ACCESS HOSPITAL OUTCOMES

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of the requirements
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in Health Policy and Administration
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ABSTRACT

Critical access hospitals (CAHs) are a unique category of rural hospitals with flat organizational structures. Prior research has shown that leadership style can affect organizational outcomes, but little research has been conducted to determine if this relationship exists in CAHs specifically. This thesis will attempt to address this gap in the literature and determine if leadership style has a significant impact on financial and quality measures in CAHs.

This study analyzes the leadership styles of the Chief Executive Officers (CEOs) at the 13 CAHs in Pennsylvania over a six year period (2007-2012) to determine if leadership style influences operating margin, days cash on hand, net days in accounts receivable, and readmission rates. Leadership styles were categorized using Bartell & Bartell, Ltd.’s DiSC Assessment. Data for the four measures of interest were collected from The Flex Monitoring Team’s reports on the Sheps Center website and the PA Health Care Cost Containment Council’s (PHC4) publicly available Hospital Performance Report. Once the data was collected and analyzed, I sought secondary validity by interviewing 3 key informants with varying levels of health care experience.

The results showed no clear influence of leadership style over the four measures analyzed. Key informants attributed this lack of visible influence to the small size of CAHs, the limited availability of providers, and their tight-knit communities.
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Chapter 1

Introduction

Overview of Rural Health Care

Rural communities in the United States encompass approximately 15 percent of the population (Cromartie, 2013). A rural community is defined by the Federal Office of Rural Health Policy (ORHP) as either open countryside or rural towns with a population less than 2,500. (An urban area is defined as having a population of 2,500 or more) (“What Is,” 2013). Residents in rural communities generally display a strong sense of independence, self-reliance, a shared pride in community, and a strong spiritual and/or religious faith (Crosby, Wendel, Vanderpool, & Baretta, 2012). On the downside, many rural residents can have a “Pioneer Mentality” seeming isolated from mainstream thinking, having different beliefs and practices, being intolerant of change, becoming closed-minded, and avoiding assistance from outside their community (Ibid).

Rural residents also often experience lower access to health care services than residents in urban areas, including physician practices, hospitals, and other hospital amenities (Crosby, et al., 2012). Many factors contribute to the struggle for rural Americans to lead a normal, healthy lifestyle. These include economic factors, cultural and social differences, educational shortcomings, lack of recognition by policymakers, and geography - the sheer isolation of living in secluded rural areas (“What’s Different,” 2014). In some cases, the quality of life for those in rural America is significantly lower than that of those who reside in urban America.

Just as residents of rural communities are defined as independent, self-reliant, and somewhat isolated in thinking, so are rural health care organizations. Rural health care facilities face different and sometimes greater challenges than their urban counterparts. Rural communities tend to have higher
poverty rates, a higher percentage of the elderly, a greater percentage of uninsured patients, and poorer overall health than urban and suburban communities.

**Critical Access Hospitals**

The combination of population health needs and isolation led the federal government to create a unique category of rural facilities to serve these populations, Critical Access Hospitals (CAHs). In 1997, Congress created the Medicare Rural Hospital Flexibility Program (Flex Program), which allows smaller hospitals in rural areas to be certified as CAHs (“The Flex,” 2010). CAHs are community hospitals in rural areas that receive cost-based reimbursement for their services (“Critical Access Hospitals [1],” 2014). Today, there are 1,300 designated CAHs in the US; 13 are located in Pennsylvania (PA). Certain requirements must be met for a hospital to be designated as a CAH. First, the hospital must be located in a rural area, at least 35 miles away from any other hospital or CAH (or 15 miles in regions with rocky terrain or only secondary roads available) or be certified before January 1, 2006 by the State as being an essential health care services provider. Second, the hospital can have no more than 25 beds. Next, the hospital must maintain an annual average length of stay of no more than 96 hours (4 days) for acute inpatient care. Finally, the hospital must offer 24-hour, 7-days-a-week emergency care (“The Flex,” 2010). If a hospital does not meet all of these requirements, it may still be classified as a CAH by other state criteria unique to each state.

The Flex Program allows designated CAHs to receive cost-based reimbursement from Medicare rather than standard fixed reimbursement rates. Cost-based reimbursement provides CAHs with funding that is 1 percent above the cost of delivering the care. Many CAHs struggle financially because their revenue from payers other than Medicare typically does not cover the costs of providing care. For this reason, CAHs rely heavily on cost-based reimbursement from Medicare in order to remain economically viable and be able to provide care for their rural communities. Although CAHs comprise approximately
30 percent of total acute care hospitals and approximately 66 percent of total rural community hospitals in the US, they receive only 5 percent of the total Medicare payments to hospitals (“Critical Access Hospitals [1],” 2014).

The Flex Program is very beneficial for CAHs. It has improved their financial performance and helped reduce hospital closures. CAHs are often the first line of care for those living in rural areas and many rural residents depend on the care that these hospitals provide (“Critical Access Hospitals [1],” 2014). Thanks to the Flex Program, CAHs are able to deliver health care services that satisfy the needs of their communities, and they can continue to provide high quality access to primary and emergency health care services (“Critical Access Hospitals [2],” 2014). CAHs are also key community assets, which, along with schools and municipal government, are often the largest employers in small towns and serve as important institutional anchors for attracting other health care providers and other businesses to rural places. Finally, given the complexity of their operations, CAHs often serve as the greatest source of management and business expertise in small communities. As a result, leaders of CAHs are important both to the overall success of their organizations and to the business climate of their communities.

While this paper will focus on the impact of CAH leadership, it is important to understand leadership influence in general before examining the unique context of CAHs.

**Leadership Style Influence on Organizational Outcomes**

The following section reviews evidence on the influence of effective leadership on various organizational outcomes. I will begin by describing the upper echelons theory and related literature in health care and then focus on leadership styles.

The upper echelons theory states that organizational performance is dependent upon the values and characteristics of the organization’s top managers. Both psychological and observable characteristics of managers are considered in influencing outcomes. Observable characteristics include age, education,
financial status, previous career experiences, and socioeconomic status (SES), among others. These characteristics also aid in the formulation of organizational strategy (Hambrick & Mason, 1984).

The relationship between leadership and performance outcomes is upheld in a study that examined managerial impacts in Intensive Care Units (ICUs). Data collection from 17,440 patients across 42 ICUs indicated that hospitals with engaged leaders in their ICUs are more likely to have advanced technology which is associated with lower mortality rates. ICUs with employees that valued teamwork and had supportive leaders were found to be more efficient at moving patients in and out of the unit and had lower nurse turnover rates. Finally, this study found that supportive leaders promoted better technical quality of care and better caregiver interaction from nurses and physicians (Shortell, Zimmerman, Rousseau, Gillies, Wagner, Draper, Knaus, & Duffy, 1994).

Jonathan Clark, a Penn State professor and researcher, has collaborated with various research partners and submitted numerous publications concerning leadership and organizational design and performance in health care. In his paper, “The internal processes and behavioral dynamics of hospital boards: An exploration of differences between high- and low-performing hospitals,” Clark finds that a strong relationship between a nonprofit hospital’s CEO and its board members is critical to organizational performance. A healthy relationship is created by holding regular meetings, facilitating open communication, and feeling mutual trust (Kane, Clark, & Rivenson, 2009). In a more recent publication, Clark analyzes the effects of ownership and governance structures (who owns and oversees the organization) on the opportunity for leadership influence. He found that even when these two factors constrain leadership influence, CEOs are still able to influence performance outcomes (Clark, Murphy, & Singer, 2013).

Previous research shows that leaders clearly have an effect on organizational outcomes, whether directly or indirectly. Jonathan Clark demonstrates through his work that this relationship between leadership style and performance is applicable in the health care field. However, little research has been done to examine if this relationship exists in CAHs specifically. CAHs are unique organizations with flat
organizational structures, so it is likely that the effect of CAH administrators on performance indicators may be even more evident.

**Leadership Style Theories**

Numerous methods of leadership style classification exist, indicating that the study of leadership behavior is very challenging and that many factors contribute to the degree of leadership effectiveness. In this section, I briefly review three of the more widely-used and referenced methods and theories.

**Transformational & Transactional Leadership:**

The Transformational Leadership Theory was developed by researcher Bernard Bass in 1985. Transformational leaders motivate their followers to be successful and inspire positive change. They are often well respected. Bass defines four key components of transformational leadership: intellectual stimulation, individualized consideration, inspirational motivation, and idealized influence (Bass & Avolio, 1994). Research has shown that groups led by leaders who embody these four components typically have greater workplace performance and higher levels of satisfaction (Barling, Weber, & Kelloway, 1996).

Transactional leaders, on the other hand, are leaders who reward and punish their followers based on performance. Whereas transformational leadership entails a more collaborative relationship between leaders and followers, transactional leadership (or contingent reward) entails a relationship characterized by exchange. The two styles are often studied in conjunction with one another, and research shows that charismatic transformational leaders contribute to positive performance adjustments once the effects of transactional leadership are considered (Bass & Avolio, 1994).

**The Full Spectrum Model of Leadership Styles:**

The Full Spectrum Model includes six leadership styles, including authoritarian, pacesetting, facilitative, collaborative, serving, and visionary. This model draws on the past work of leadership style
researchers, such as Blake and Mouton’s managerial grid (1964), Blake and McCanse’s leadership grid (1991), Hersey and Blanchard’s situational leadership model (1969), and Quinn’s competing values framework (1988). Many of the viewpoints of these researchers seemed to overlap, so the Full Spectrum Model creates a continuum, or a hierarchy of leadership styles, based on their work (Ward, 2006).

Authoritarian leaders are characterized as controlling and power-based. These types of leaders typically overextend their power in order to get their employees to do as they want (Buchbinder & Shanks, 2012). Pacesetting leaders set high goals for their employees and work hard to improve their employees’ performance. Facilitative leaders encourage open conversation among their employees and are supportive of their employees’ decisions. Collaborative leaders promote teamwork among their employees and encourage employees to share their different viewpoints in order to reach a decision. Serving leaders possess strong listening skills and value helping their employees. Finally, visionary leaders are characterized as inspiring and tend to focus more on the future than the present (Ward, 2006). Research has shown that leaders who are able to incorporate aspects of all six leadership styles across the entire spectrum are typically more effective leaders than those who encompass aspects of just a few styles (Ward, 2006).

DiSC Profile:

The DiSC profile is a theory of behavior and a useful tool that can help evaluate leadership styles. DiSC was developed based on Dr. William Marston’s research in the 1920’s. The tool has since been utilized by over 30 million people to help them understand their behavioral traits and what type of leader they are. Participants in the DiSC program are asked a series of questions that yield a report about their personality and behavior. The DiSC profile divides behavior into four elements: drive, influence, steadiness, and conscientiousness.

Drivers are characterized as demanding, forceful, decisive, and inquisitive. They like to control others, are results-oriented, and continuously seek personal challenges to work toward. Often, drivers take on more than they can handle. Their innovation and desire to continue moving forward adds value to their
organization; however, they may be perceived as being overly competitive, insensitive, and easily frustrated. Influencers are characterized as outgoing, emotional, impulsive, and gregarious. They are very people-oriented and enjoy living for the moment. They thrive on social recognition and fear social rejection. Influencers help negotiate conflicts in the workplace and help motivate others to reach their goals. On the downside, they can become more concerned with popularity than completing their work and can over talk at times. People with a high degree of steadiness are characterized as service focused, loyal, and cooperative. They are good team players and enjoy harmony and routine. Their patience, strong listening skills, and dependability help add value to an organization, but they are often fearful of confrontation and can have difficulty sharing their ideas with a group. Those with high conscientious scores can be described as independent, analytical, systematic, and perfectionistic. They hold themselves and others to high standards and fear being criticized. They tend to be overly critical and can be bound by methods and procedures, but they are valuable in that they are quality-oriented in their work and have a strong sense of justice.

Everyone displays some behavioral aspects of each of the four elements, but this tool helps evaluate the degree of intensity that they display for each. Once participants have a better understanding of their behaviors, they will be able to identify their strengths, areas in need of improvement, and specific strategies that would best help facilitate their development in order for them to become more effective leaders.

In this study, I use the DiSC profile to assess the leadership styles of the 13 CAH Chief Executive Officers (CEOs) in PA. I decided to use this tool because I had access to the DiSC profile scores of these CEOs from the Pennsylvania Critical Access Hospital Consortium held in February of 2009. Any one of the four DiSC leadership styles may be effective in certain organizations and cultures, but my goal was to investigate if one style is more effective in producing certain outcomes. Due to the small size and volatility of CAHs, it is possible that I will find no obvious impact of leadership style.
Chapter 2

Methods

Sources of Data

This study uses data from three sources. CEO leadership styles were determined using Bartell & Bartell, Ltd.’s DiSC Assessment. This assessment is commonly used for personality/professional profiling and leadership development. Characteristics of the four different leadership styles as defined by the DiSC Assessment can be found in Appendix C. Although the assessment informs individuals of both their natural and adapted leadership styles, this study only examines adapted styles, as adapted styles represent a combination of both the CEO’s personality and their response to the demands of their environment (“Discovery,” 2014). Eight of the 13 CEOs were tested in February of 2009 at the Pennsylvania Critical Access Hospital Consortium. The remaining 5 CEOs were tested in March of 2014, as they had not been in their current positions in 2009 and did not attend the PA CAH Consortium.

The Flex Monitoring Team’s reports on the Sheps Center website (http://www.shepscenter.unc.edu/) were utilized to obtain data for 3 financial indicators reported for each CAH in PA over a six-year period (2007-2012). The Flex Monitoring Team is a conglomerate of the Rural Health Research Centers in Minnesota, North Carolina, and Maine. Funded by the Federal Office of Rural Health Policy, the Flex Monitoring Team assesses the impact of the Medicare Rural Hospital Flexibility Grant Program (the Flex Program) and works to improve the quality, access, and cost of health care for rural residents and communities. The data compiled in the Flex Monitoring Team’s reports is collected from Medicare Cost Reports provided by the Centers for Medicare and Medicaid Services (CMS). The PA Health Care Cost Containment Council’s (PHC4) publicly available Hospital
Performance Report was utilized to obtain data for one quality indicator for each CAH in PA over a six-year period (2007-2012).

Variables

In order to measure CEO influence on hospital outcomes, three financial variables and one quality variable were selected. The three financial variables that are included in this study are Operating Margin, Days Cash on Hand, and Net Days Revenue in Accounts Receivable. I chose to include these variables because they are three of the most commonly reported financial measures for hospitals and they are good indicators of a hospital’s overall profitability. Operating margin measures the revenue and costs that are exclusively related to patient-care activities. A positive operating margin is ideal, as this indicates that revenue exceeds expenses. High negative operating margins indicate that the hospital may be in financial danger. Days cash on hand measures the number of days a hospital can continue operating without collecting any cash. The higher the number for days cash on hand is the better. Net days revenue in accounts receivable measures the number of days it takes a hospital to collect its receivables. This measure reflects the efficiency of billing operations and is a good indicator of the process of documenting care, billing for that care, and resolving payment disputes with insurers. A lower number is preferred for this indicator. The quality variable included in this study is Readmission Rate for Any Reason. According to the PHC4, readmission rates are not always preventable, but they can often be telling about the quality of care provided in a hospital in regards to the action taken or not taken during a patient’s initial stay, or to a patient’s post-discharge care or behavior (“Hospital,” 2012). A lower value for readmission rates is ideal.

Due to the natural instability of CAH outcomes, the best way to identify CEO influence is to trend the data over a six-year time period (2007-2012). All of the 2010 data for the Readmission Rates for Any Reason variable was missing, so I filled in the 2010 data with the averaged values from the other
five years. This approach of using averages for missing data is a common approach when conducting research which will rely on descriptive data approaches rather than multivariate modeling (Ruzcinski, I. 2014). I also found the average readmission rate among the 13 PA CAHs over the six-year time period to create a bar chart with the average line running through the graph. Visuals for the three financial variables include both a line chart for each variable that compares the data among all of the CAHs and a bar chart for each that compares the 13 CAHs to the PA and peer group medians. The Sheps Center determines peer groups based on CAHs with similar characteristics.

Methodology

This study uses a mixed methods approach, integrating both quantitative and qualitative data collection and analysis. Due to the small sample size and limited data, I decided to use descriptive statistics to analyze the impact of CEO leadership style on hospital outcomes. First, I analyzed the data and drew assumptions based on my knowledge of health care as an undergraduate health policy and administration student. Then, I sought secondary validity by interviewing three key informants with varying levels of knowledge in the health care field. I interviewed Chris Calkins, my thesis advisor and a previous hospital administrator. I then interviewed Alex Brennsteiner, a second year Master of Health Administration (MHA) student at Penn State. Alex has spent the past two years working with CAHs and presents a new perspective on rural health care that is not skewed by years of working experience. Finally, I spoke with Larry Baronner, the CAH Coordinator at the PA Office of Rural Health. Larry is a subject matter expert on CAHs. I asked each of the key informants to review the data and then compared the data analyses of these three informants to determine if they believe CEO leadership style does impact readmission rates, operating margin, days cash on hand, and net days in accounts receivable in CAHs. The following seven questions were used with each of the key informants. Common themes to their answers are summarized in the results section.
1. Overall, how much influence do you expect a Critical Access Hospital CEO to have over financial and quality outcomes?

2. Given the outcomes measures selected, did you expect to see more of an influence by CEO leadership style?
   a. If not, are there measures that would have been better for demonstrating an influence if it was there?

3. Why do you think there was no evidence of CEO Leadership Style influence on outcome measures?

4. When you look at the data, what other explanations for these patterns occur to you?

5. Is there something unique about CAHs and their communities that make it difficult for a CEO to influence these kinds of outcome measures?

6. What are the take-aways/lessons from this analysis for you?

7. Based on this analysis, what would you recommend to CAH Boards when evaluating or selecting a CEO?
Chapter 3

Results

Operating Margin

Operating margins for PA’s 13 CAHs fluctuate greatly from year to year (Figure 1). However, certain hospitals consistently perform above or below the peer group and PA medians (Figure 2). The peer group median ranged from -1.04 to 2.26 over the study period, with a study period average median of .73. The PA median for the study period ranged from .89 to 2.08, with an average annual margin of 1.475. Muncy Valley and Troy have higher operating margins than the other CAHs, with their operating margins never falling below 5.94 percent. Cole Memorial and Tyrone’s operating margins have been steadily improving since 2007. Mid-Valley’s operating margin peaked in 2009 at 7.76, while Corry’s operating margin peaked in 2010 at 8.84, but both of these CAHs generally have low operating margins. For Corry, 2010 was the only year that the hospital had a positive operating margin during the study period. Similarly, Mid-Valley had a negative operating margin in four of the six years studied. Bucktail stands out among the other CAHs in that its operating margin is consistently below the peer group and PA medians. Bucktail’s operating margin dropped significantly in 2008 to -19.56 and has since remained at zero or below.

Figure 1. Operating Margins 2007-2012

![Operating Margins 2007-2012](image)
Figure 2. Operating Margins 2007-2012 with PA and Peer Group Medians

Table 1. Operating Margins 2007-2012

<table>
<thead>
<tr>
<th>Hospital</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Kasson</td>
<td>9.21</td>
<td>1.78</td>
<td>(3.12)</td>
<td>(1.67)</td>
<td>3.26</td>
<td>0.89</td>
</tr>
<tr>
<td>Brookville</td>
<td>(5.45)</td>
<td>1.21</td>
<td>3.90</td>
<td>2.06</td>
<td>(5.85)</td>
<td>(1.94)</td>
</tr>
<tr>
<td>Bucktail</td>
<td>2.28</td>
<td>(19.56)</td>
<td>(5.05)</td>
<td>(0.48)</td>
<td>(3.42)</td>
<td>(7.79)</td>
</tr>
<tr>
<td>Cole Memorial</td>
<td>(6.58)</td>
<td>NA</td>
<td>(1.13)</td>
<td>(2.72)</td>
<td>2.08</td>
<td>0.59</td>
</tr>
<tr>
<td>Corry</td>
<td>(2.05)</td>
<td>(1.57)</td>
<td>(1.20)</td>
<td>8.84</td>
<td>(0.45)</td>
<td>(2.98)</td>
</tr>
<tr>
<td>Fulton County</td>
<td>2.17</td>
<td>(1.09)</td>
<td>1.35</td>
<td>(0.21)</td>
<td>(4.51)</td>
<td>1.00</td>
</tr>
<tr>
<td>Jersey Shore</td>
<td>1.06</td>
<td>6.76</td>
<td>5.51</td>
<td>6.83</td>
<td>2.26</td>
<td>(3.00)</td>
</tr>
<tr>
<td>Meyersdale</td>
<td>0.87</td>
<td>3.93</td>
<td>(1.16)</td>
<td>2.59</td>
<td>5.79</td>
<td>1.37</td>
</tr>
<tr>
<td>Mid-Valley</td>
<td>(6.75)</td>
<td>(2.61)</td>
<td>7.76</td>
<td>1.40</td>
<td>(1.26)</td>
<td>(4.12)</td>
</tr>
<tr>
<td>Endless Mountains</td>
<td>(4.14)</td>
<td>6.21</td>
<td>2.02</td>
<td>14.31</td>
<td>7.45</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
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<tr>
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<td>-------</td>
<td>-------</td>
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</tr>
<tr>
<td>Troy</td>
<td>8.10</td>
<td>14.70</td>
<td>14.14</td>
<td>10.00</td>
<td>10.35</td>
<td>5.94</td>
</tr>
<tr>
<td>Tyrone</td>
<td>(10.21)</td>
<td>(5.94)</td>
<td>(2.73)</td>
<td>(0.42)</td>
<td>(4.23)</td>
<td>1.66</td>
</tr>
<tr>
<td>Peer Group Median</td>
<td>2.26</td>
<td>0.65</td>
<td>(0.42)</td>
<td>2.03</td>
<td>(1.04)</td>
<td>0.89</td>
</tr>
<tr>
<td>PA Median</td>
<td>0.97</td>
<td>1.50</td>
<td>1.35</td>
<td>2.06</td>
<td>2.08</td>
<td>0.89</td>
</tr>
</tbody>
</table>

**Days Cash on Hand**

For the most part, the CAHs’ supplies of days cash on hand remain more constant than their operating margin values. Peer group medians average 57.04 days over the study period, while the PA median averages 52.69 days for the same period. Troy consistently has a higher supply of days cash on hand than the other CAHs, and its supply continues to increase each year (Figure 3). Cole Memorial, Fulton County, Meyersdale, and Muncy Valley maintain consistently higher supplies of days cash on hand than their peer group and PA medians (Figure 4). Corry stands out among the other hospitals in that its supply of days cash on hand continued to improve over the years before increasing significantly in 2011 to 555.16 days, and then decreasing sharply in 2012 to 225.87 days. Brookville experienced a significant drop in days cash on hand in 2011, falling from 93.08 days to 3.35 days. Bucktail, Barnes Kasson, and Endless Mountains’ supplies of days cash on hand remained consistently low and below peer group and PA medians.

*Figure 3. Days Cash on Hand 2007-2012*
### Table 2. Days Cash on Hand 2007-2012

<table>
<thead>
<tr>
<th>Hospital</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Kasson</td>
<td>1.77</td>
<td>9.49</td>
<td>7.47</td>
<td>13.07</td>
<td>15.52</td>
<td>7.62</td>
</tr>
<tr>
<td>Brookville</td>
<td>17.97</td>
<td>22.66</td>
<td>44.95</td>
<td>93.08</td>
<td>3.35</td>
<td>11.96</td>
</tr>
<tr>
<td>Bucktail</td>
<td>3.24</td>
<td>8.69</td>
<td>12.70</td>
<td>13.94</td>
<td>4.02</td>
<td>3.63</td>
</tr>
<tr>
<td>Cole Memorial</td>
<td>120.31</td>
<td>NA</td>
<td>93.24</td>
<td>92.72</td>
<td>110.06</td>
<td>89.08</td>
</tr>
<tr>
<td>Corry</td>
<td>4.83</td>
<td>7.21</td>
<td>35.21</td>
<td>46.45</td>
<td>555.16</td>
<td>225.87</td>
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<tr>
<td>Fulton County</td>
<td>107.88</td>
<td>109.99</td>
<td>143.37</td>
<td>141.89</td>
<td>163.33</td>
<td>148.01</td>
</tr>
<tr>
<td>Jersey Shore</td>
<td>22.70</td>
<td>19.48</td>
<td>41.91</td>
<td>52.66</td>
<td>79.25</td>
<td>28.67</td>
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<tr>
<td>Meyersdale</td>
<td>60.52</td>
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<td>82.57</td>
<td>60.35</td>
<td>94.01</td>
<td>91.95</td>
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<tr>
<td>Mid-Valley</td>
<td>7.85</td>
<td>21.70</td>
<td>35.69</td>
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<td>Endless Mountains</td>
<td>3.46</td>
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<td>3.44</td>
<td>9.83</td>
<td>12.02</td>
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<tr>
<td>Muncy Valley</td>
<td>160.27</td>
<td>136.02</td>
<td>116.87</td>
<td>130.66</td>
<td>201.70</td>
<td>223.48</td>
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<table>
<thead>
<tr>
<th></th>
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<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>Troy</td>
<td>123.98</td>
<td>203.27</td>
<td>166.94</td>
<td>235.43</td>
<td>340.95</td>
<td>333.84</td>
</tr>
<tr>
<td>Tyrone</td>
<td>93.36</td>
<td>68.83</td>
<td>72.43</td>
<td>74.64</td>
<td>30.07</td>
<td>30.08</td>
</tr>
<tr>
<td>Peer Group Median</td>
<td>62.23</td>
<td>35.62</td>
<td>34.09</td>
<td>88.15</td>
<td>44.84</td>
<td>77.28</td>
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<tr>
<td>PA Median</td>
<td>20.34</td>
<td>22.18</td>
<td>44.95</td>
<td>60.35</td>
<td>79.25</td>
<td>89.08</td>
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**Net Days in Accounts Receivable**

For this measure a lower number is better. Barnes Kasson’s net days in accounts receivable stands out among the other CAHs in that its values are significantly higher, ranging from 68 to 93 days with a study period average of 83.59 days, compared with 54.82 for the peer group, and 47.48 for the PA comparison group (Figure 5). Brookville and Tyrone’s net days in accounts receivable fluctuate greatly from year to year, but both hospitals’ values tend to remain above the peer and PA medians (Figure 6). Tyrone had a significant increase from 34.12 days to 65.04 days in 2010. Bucktail and Fulton County’s days in accounts receivable remain stable and fall among the middle of the other CAHs. Corry’s days in accounts receivable is consistent from year to year and is much lower than the other CAHs, reaching a low of 29.61 days in 2010.
Figure 6. Net Days in Accounts Receivable 2007-2012 with PA and Peer Group Medians

Table 3. Net Days in Accounts Receivable 2007-2012

<table>
<thead>
<tr>
<th>Hospital</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
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<tbody>
<tr>
<td>Barnes Kasson</td>
<td>81.00</td>
<td>91.41</td>
<td>93.36</td>
<td>79.69</td>
<td>68.27</td>
<td>87.78</td>
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<tr>
<td>Brookville</td>
<td>54.38</td>
<td>69.39</td>
<td>50.44</td>
<td>73.10</td>
<td>56.59</td>
<td>61.13</td>
</tr>
<tr>
<td>Bucktail</td>
<td>49.29</td>
<td>51.36</td>
<td>53.84</td>
<td>40.92</td>
<td>45.25</td>
<td>66.71</td>
</tr>
<tr>
<td>Cole Memorial</td>
<td>46.33</td>
<td>NA</td>
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<td>42.30</td>
<td>41.92</td>
<td>45.66</td>
</tr>
<tr>
<td>Corry</td>
<td>34.57</td>
<td>38.88</td>
<td>34.96</td>
<td>29.61</td>
<td>31.68</td>
<td>29.70</td>
</tr>
<tr>
<td>Fulton County</td>
<td>49.27</td>
<td>54.95</td>
<td>49.11</td>
<td>50.66</td>
<td>47.99</td>
<td>59.98</td>
</tr>
<tr>
<td>Jersey Shore</td>
<td>41.42</td>
<td>39.09</td>
<td>NA</td>
<td>37.86</td>
<td>38.67</td>
<td>47.81</td>
</tr>
<tr>
<td>Meyersdale</td>
<td>46.97</td>
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<td>45.44</td>
<td>32.51</td>
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</tr>
<tr>
<td>Mid-Valley</td>
<td>52.46</td>
<td>40.82</td>
<td>41.02</td>
<td>44.21</td>
<td>31.56</td>
<td>NA</td>
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<td>Endless Mountains</td>
<td>49.91</td>
<td>53.65</td>
<td>44.71</td>
<td>45.59</td>
<td>53.31</td>
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<tr>
<td>Muncy Valley</td>
<td>40.56</td>
<td>47.98</td>
<td>53.19</td>
<td>40.42</td>
<td>48.33</td>
<td>49.30</td>
</tr>
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</table>
Readmission Rates for Any Reason

Like operating margins, readmission rates for the CAHs fluctuate widely, from a low of 0 percent to a high of 50 percent during the study period (Figure 7). Troy’s readmission rate steadily increased until it dropped between 2009 and 2011, only to increase again in 2012 to 22.2 percent, which means that one in every five persons discharged from the hospital was readmitted within 30 days. Tyrone, Corry, and Endless Mountains typically have worse than average readmission rates (Figure 8). Muncy Valley, Jersey Shore, and Fulton County typically have better than average readmission rates. Bucktail did not have any data available on this measure. Readmission rates averaged 15.7 percent among PA CAHs for the study period.

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troy</td>
<td>45.59</td>
<td>46.03</td>
<td>47.22</td>
<td>44.99</td>
<td>33.38</td>
<td>36.99</td>
</tr>
<tr>
<td>Tyrone</td>
<td>57.83</td>
<td>48.37</td>
<td>34.12</td>
<td>65.04</td>
<td>58.46</td>
<td>58.36</td>
</tr>
<tr>
<td>Peer Group Median</td>
<td>56.58</td>
<td>60.06</td>
<td>53.74</td>
<td>48.41</td>
<td>52.02</td>
<td>58.10</td>
</tr>
<tr>
<td>PA Median</td>
<td>49.28</td>
<td>49.86</td>
<td>46.95</td>
<td>44.21</td>
<td>45.25</td>
<td>49.30</td>
</tr>
</tbody>
</table>

Figure 7. Readmission Rates for Any Reason 2007-2012

![Readmission Rates for Any Reason 2007-2012](image)
Figure 8. Readmission Rates for Any Reason with Average

![Bar chart showing readmission rates for any reason from 2007 to 2012 for various hospitals.]

Table 4. Readmission Rates for Any Reason 2007-2012

<table>
<thead>
<tr>
<th>Hospital</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td><strong>Barnes Kasson</strong></td>
<td>17.60</td>
<td>14.80</td>
<td>7.70</td>
<td>13.72</td>
<td>21.40</td>
<td>7.10</td>
</tr>
<tr>
<td><strong>Brookville</strong></td>
<td>NA</td>
<td>NA</td>
<td>11.10</td>
<td>14.00</td>
<td>19.40</td>
<td>11.50</td>
</tr>
<tr>
<td><strong>Bucktail</strong></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Cole Memorial</strong></td>
<td>4.80</td>
<td>26.70</td>
<td>15.00</td>
<td>16.86</td>
<td>14.70</td>
<td>23.10</td>
</tr>
<tr>
<td><strong>Corry</strong></td>
<td>15.80</td>
<td>19.20</td>
<td>18.20</td>
<td>15.58</td>
<td>9.10</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Fulton County</strong></td>
<td>5.60</td>
<td>22.20</td>
<td>10.50</td>
<td>12.96</td>
<td>15.40</td>
<td>11.10</td>
</tr>
<tr>
<td><strong>Jersey Shore</strong></td>
<td>10.30</td>
<td>18.40</td>
<td>11.90</td>
<td>11.98</td>
<td>13.20</td>
<td>6.10</td>
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<tr>
<td><strong>Meyersdale</strong></td>
<td>0.00</td>
<td>0.00</td>
<td>36.40</td>
<td>13.00</td>
<td>28.60</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Mid-Valley</strong></td>
<td>13.60</td>
<td>NA</td>
<td>23.10</td>
<td>16.50</td>
<td>10.50</td>
<td>18.80</td>
</tr>
<tr>
<td><strong>Endless Mountains</strong></td>
<td>NA</td>
<td>NA</td>
<td>26.70</td>
<td>20.53</td>
<td>28.60</td>
<td>6.30</td>
</tr>
<tr>
<td><strong>Muncy Valley</strong></td>
<td>4.30</td>
<td>13.00</td>
<td>21.40</td>
<td>11.88</td>
<td>15.40</td>
<td>5.30</td>
</tr>
</tbody>
</table>
Leadership Styles

All four DiSC leadership styles are represented among the 13 CAH CEOs. Conscientious leaders (C) are the dominant style, with this type identified as the primary leadership style for six of the 13 CEOs. Those with a primary “C” style include Rexford Catlin of Endless Mountains, Jason Hawkins of Fulton County, Staci Covey of Troy, Mary Libengood of Meyersdale, Carey Plummer of Jersey Shore, and Sara Adornato of Barnes Kasson. Two of the CEOs, Ed Pitchford of Cole Memorial and Barbara Nichols of Corry, are characterized as primary drivers (D). Ann Marie Stevens of Mid-Valley is the only CEO characterized as a primary steady leader (S). None of the CEOs were found to be primary influencers (I).

Four of the CEOs were found to encompass multiple DiSC styles. Ronald Reynolds of Muncy Valley is a dual influencer and steady leader. Steve Gildea of Tyrone is a dual steady and conscientious leader. Thomas Foster of Bucktail is a dual influencer and conscientious leader. Julianne Peer of Brookville is the only triple-style leader, categorized as an influencer, steady leader, and conscientious leader. A visual depiction of the adapted CEO DiSC leadership styles can be found in Appendix D.

Leadership Influence on Outcomes

These quantitative results lead me to believe that in unique hospitals like these, leadership does not have an apparent impact on the measures being evaluated. Operating margins and readmission rates for the 13 CAHs are especially volatile and unpredictable. No consistent trends are evident in the data among any of the four measures.

After analyzing the overall patterns in the data, I decided to look at outcomes by primary leadership style to see if trends would be more evident in CAHs with similar leaders. In Figures 9-12,
Cole Memorial and Corry are compared among all four measures, as both hospitals are led by primary drivers.

**Figure 9. Operating Margins among CAHs with Primary Driver CEOs**

![Graph showing operating margins for Cole Memorial and Corry from 2007 to 2012](image)

**Figure 10. Days Cash on Hand among CAHs with Primary Driver CEOs**

![Graph showing days cash on hand for Cole Memorial and Corry from 2007 to 2012](image)
Figures 11-12 compare Endless Mountains, Fulton County, Troy, Meyersdale, Jersey Shore, and Barnes Kasson, as these six hospitals are led by primary conscientious leaders.
Figure 13. Operating Margins among CAHs with Primary Conscientious CEOs

Figure 14. Days Cash on Hand among CAHs with Primary Conscientious Leaders
After this more detailed review by primary leadership style, no consistent trends are evident in the data, supporting my initial conclusion that leadership style in CAHs does not have an obvious impact on the measures evaluated in this study.
Key Informant Interviews

Four key themes stood out when I interviewed my three key informants. The small size of CAHs, the limited availability of providers in their rural environments, and the tight-knit communities of CAHs are three factors that may likely limit the ability of CEOs to exert significant influence over the four measures analyzed in this study. Additionally, all three key informants had similar thoughts regarding board members of CAHs and offered comparable recommendations to these board members for choosing a CAH CEO. A full transcript of the key informant interviews can be found in Appendix E.

Theme 1: Small Size of CAHs

All three key informants noted that scale in a hospital is protective, but CAHs are faced with the “tyranny of low volume.” Because CAHs are so small with 25 beds or less, their hospital outcome measures can vary greatly. Minor incidents, such as missing out on a procedure or a medical error on one patient, can have significant effects on financial and quality outcomes because there is not enough patient volume to flatten out the variance. Market changes and environmental changes within the community can strongly impact these small hospitals, possibly as much as a CEO’s leadership style.

Theme 2: Limited Availability of Providers

All three key informants agreed that it is difficult to recruit, train, and retain providers at CAHs, and that the number of providers at these hospitals is limited. Therefore, the loss of a single provider can significantly impact the organization in a negative manner. This is especially true if that provider is a specialist of some sort, because it is likely that they are one of a very few or possibly even the only specialist at the hospital, so the loss of this specialist can determine if a service or type of surgery can be offered at all, directly affecting the hospital’s bottom line. Since providers are so coveted at CAHs, a CEO may be more lenient of their providers and not as critical of them as they should be to ensure that they are providing the highest quality of care to their patients. Also, CEOs may be limited in their ability to
improve quality and enact change because they must change the behavior of their providers rather than simply replace them with more qualified providers, and practice and behavioral changes can take a very long time.

Theme 3: Tight-Knit Communities

The three key informants all felt that CEOs at CAHs tend to know their patient populations personally. The impact of this is that often decisions are made for social reasons instead of business reasons. For example, a patient may be readmitted or allowed to stay longer in the hospital because the CEO knows that no one is home to take care of that patient. Another component of these tight-knit communities is that the CEOs often see their staff outside of work, so it may be harder for CEOs to fire poorly performing providers and staff members in order to become more operationally efficient. Also, because CAHs are typically among the largest employers in town, it is common for staff members to be related to other staff members. This political factor, again, makes it extremely difficult for CEOs to cut staff and improve their hospital measures.

Theme 4: Hospital Board Members and Recommendations

The three key informants had similar views of board members and offered their recommendations. CAH board members are typically business leaders that represent different segments of the community. They usually have little to no health care experience, so it is vital for them to take the time to understand the health care industry and the constantly changing environment. Unfortunately, the small town, tight-knit community nature can sometimes make its way into the makeup of the board. Board members may use their positions on the board to seek out more control, in turn allowing the CEO less control over the hospital and its outcomes.

The key informants had several recommendations to board members. The top three recommendations noted by the key informants are listed below:
• Board members should understand what their hospital’s CEO can and cannot influence so that they have realistic expectations and evaluations of the CEO’s performance.

• Board members must focus their attention on strategic planning rather than management issues, which should be left to the CEO.

• In selecting a CEO, board members should strive to choose a leader who will work well with the board and effectively execute the strategy that the board sets for the hospital.
Chapter 4

Discussion

The aim of this study was to determine if CEO leadership style in CAHs has an impact on certain financial and quality measures, and if so, which leadership style is most effective in producing positive outcomes. The measures of interest for this study included operating margin, days cash on hand, net days in accounts receivable, and readmission rates. Leadership style was identified using the DiSC Assessment, which categorizes leaders as drivers, influencers, steady leaders, or conscientious leaders. Once the data was collected and analyzed for all four measures, I interviewed three key informants who helped identify common themes and offered possible explanations for the results.

Results indicated that leadership does not have a significant obvious impact on the four measures selected. No consistent trends were evident in the data among any of the measures. Operating margins and readmission rates were especially unpredictable among the 13 hospitals. After analyzing the four measures of interest specifically by primary leadership styles, no trends were evident.

My three key informants provided three common explanations for the data. First, they all believed that the small size of CAHs can really limit a CEO’s ability to exert a great deal of influence over the four measures examined in this study. Second, certain measures, such as the quality of care provided at CAHs, can be difficult to influence, partially due to the fact that providers are so difficult to recruit, train, and retain in rural areas. Finally, CAHs are located in tight-knit communities where decisions are not always strictly for business reasons.

There are several limitations of this study. One of the key challenges of studying CAHs is that the volume of cases they handle is consistently low. For this reason, limited data exists on key indicators and it is very difficult to attain the limited data that does exist. The 13 CAHs in this study were missing data on important measures that they must report to Medicare, so I was limited in which measures I could use. The operating margins for the year of 2010 were missing from all 13 hospitals, so I had to work around
this by averaging the data from the other years. Also, my sample size \(n=13\) was very small. Typically, a larger sample size is better because the results are more reliable and generalizable.

Despite the limitations and insignificant findings of this study, the results do provide great insight into the nature of CAHs. The explanations provided by my key informants for why the data looked the way it did and why leadership style did not have more of an obvious impact on the measures analyzed in this study are specific to CAHs. CAHs face challenges that larger, more urbanized hospitals do not. For example, large hospitals have greater patient volumes, so minor mishaps do not have as much potential to completely skew certain performance indicators. Larger hospitals also have larger pools of providers, so CEOs and their management teams have more freedom in choosing the best candidates who can provide high quality care. CAHs, on the other hand, do not have these same opportunities.

Ultimately, it is important to continue studying CAHs because they are vital to the communities they serve. The residents of rural areas depend on CAHs to provide care, as they often have no other options. Although the results of this study indicate that leadership style does not significantly impact the measures that were analyzed, Dr. Calkins and I speculated and conversed often during our meetings over what condition the 13 PA CAHs would be in without the guidance and strong leadership from their CEOs. It is likely that the CAHs would be in much worse states. Future studies could explore factors that may be more directly influenced by CEOs, such as employee satisfaction, provider recruitment and retention success, and hospital reputation in the community.
## Appendix A

### Pennsylvania Critical Access Hospitals

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
<th>State</th>
<th>Administrator/CEO</th>
<th>Website Links</th>
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</thead>
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<tr>
<td>Barnes-Kasson County Hospital</td>
<td>Susquehanna</td>
<td>PA</td>
<td>Sara F. Adornato</td>
<td><a href="http://www.barnes-kasson.org/">http://www.barnes-kasson.org/</a></td>
</tr>
<tr>
<td>Bucktail Medical Center</td>
<td>Renovo</td>
<td>PA</td>
<td>Thomas Foster</td>
<td><a href="http://www.bucktailmed.org/center/index.php">http://www.bucktailmed.org/center/index.php</a></td>
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<tr>
<td>Cole Memorial Hospital (Formerly Charles Cole Memorial Hospital)</td>
<td>Coudersport</td>
<td>PA</td>
<td>Edward C. Pitchford</td>
<td><a href="http://www.charlescolehospital.com/">http://www.charlescolehospital.com/</a></td>
</tr>
<tr>
<td>Conemaugh Meyersdale Medical Center (Formerly Meyersdale Medical Center)</td>
<td>Meyersdale</td>
<td>PA</td>
<td>Mary L. Libengood</td>
<td><a href="https://www.conemaugh.org/meyersdale/">https://www.conemaugh.org/meyersdale/</a></td>
</tr>
<tr>
<td>Corry Memorial Hospital</td>
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<td>Barbara Nichols</td>
<td><a href="http://www.corryhospital.com/">http://www.corryhospital.com/</a></td>
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<tr>
<td>Endless Mountains Hospital (Formerly Montrose General Hospital)</td>
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<td>Rexford Catlin</td>
<td><a href="http://endlesscare.org/">http://endlesscare.org/</a></td>
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<tr>
<td>Fulton County Medical Center</td>
<td>McConnellsburg</td>
<td>PA</td>
<td>Jason F. Hawkins</td>
<td><a href="http://www.fcmcpa.org/">http://www.fcmcpa.org/</a></td>
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<tr>
<td>Guthrie Troy Community Hospital (Formerly Troy Community Hospital)</td>
<td>Troy</td>
<td>PA</td>
<td>Staci Covey</td>
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<tr>
<td>Mid-Valley Hospital</td>
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<td>PA</td>
<td>Ann Marie Stevens</td>
<td><a href="http://www.mosestaylorhospital.net/Mid-ValleyHospital/Pages/Mid-Valley%20Hospital.aspx">http://www.mosestaylorhospital.net/Mid-ValleyHospital/Pages/Mid-Valley%20Hospital.aspx</a></td>
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</table>
Appendix B

Map of the PA Critical Access Hospitals
DiSC Leadership Style Characteristics

<table>
<thead>
<tr>
<th>High Drive Propensities</th>
<th>High Influence Propensities</th>
<th>High Steadiness Propensities</th>
<th>High Conscientiousness Propensities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demanding, forceful, decisive, inquisitive</td>
<td>Outgoing, emotional, impulsive, gregarious</td>
<td>Service focused, loyal, cooperative</td>
<td>Independent, analytical, systematic, perfectionistic</td>
</tr>
<tr>
<td>Results-oriented</td>
<td>People-oriented</td>
<td>Team players</td>
<td></td>
</tr>
<tr>
<td>Seek personal challenges</td>
<td>Live in the moment</td>
<td>Enjoy routine</td>
<td>Have high standards</td>
</tr>
<tr>
<td>Sometimes perceived as overly competitive, insensitive, and easily frustrated</td>
<td>Thrive on social recognition and fear social rejection</td>
<td>Patient and dependable</td>
<td>Fear critical</td>
</tr>
<tr>
<td>Help motivate individuals to meet their goals</td>
<td></td>
<td>Strong listening skills</td>
<td>Quality-oriented</td>
</tr>
<tr>
<td>Can become more concerned with popularity in the workplace</td>
<td></td>
<td>Fearful of confrontation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Strong sense of justice</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May be overly critical</td>
</tr>
</tbody>
</table>
Appendix D

Adapted CEO DiSC Leadership Styles

Legend for Styles
SA  Sara Adornato  RC  Rexford Catlin  SC  Staci Covey
JP  Julianne Peer  JH  Jason Hawkins  AMS  Ann Marie Stevens
ML  Mary Libengood  BN  Barbara Nichols  EP  Ed Pitchford
CP  Carey Plummer  TF  Thomas Foster
RR  Ronald Reynolds  SG  Stephen Gildea
Appendix E

Full Key Informant Interviews

1. Overall, how much influence do you expect a Critical Access Hospital CEO to have over financial and quality outcomes?

Chris: You know, I think given the flat nature of the organizational structure in critical access hospitals, my expectation is that they would have a great deal of influence over everything, to include financial and quality outcomes. I think the challenge for them is twofold; one, how long does it take to cause change in culture in an organization? I think they have a high likelihood of having an impact, but perhaps a limited capacity to have quick or fast impact…especially I would say on financial measures, because the reality of their reimbursement structure and the size of the organization probably means that they may not be operating efficiently, highly efficiently…but for the most part, by definition, they have 25 and fewer beds…they’ve got probably a pretty lean staffing structure…but the fixed costs part of their operation, the age of their buildings, the age of their equipment and those kind of things, probably means that, like, the quick opportunities for things like energy efficiency are really not available to them in those ways. And the largest cost center for any health care operation is staffing costs, and they probably don’t have a lot of latitude. You know, if you need a nurse to come in on call, there’s agreed upon salary rates and you really don’t a lot of flexibility in that piece of it. So, if you’re gonna staff a 24/7 ER you just have those kind of overhead costs, and so that side of the financial measures equation doesn’t have a lot of flexibility in it. And given the nature of the populations they serve, the Affordable Care Act may change the insured status of these rural populations in a way that we haven’t seen in the past. But for the years that you’ve looked at the data, those populations have a higher likelihood of being insured by Medicaid or insured by Medicare, so there’s not a lot of growth opportunity in highly insured people where you can drive the revenue side of the equation. In terms of quality, I think to some extent the limitations on their ability to affect
change there are also driven by staff, so they’ve got basically the same people doing the same types of procedures and if they’re gonna change and improve quality, that means they gotta change the behavior of somebody who’s probably been doing it for a long time. An urban center, for example, let’s say…even Mount Nittany Medical Center or Jefferson System in Philadelphia…if they have people who are not able to perform at the quality level that they need to to have their measures be improved or consistent, they can fire those people with confidence that there are enough nurses or enough health staff to replace them at the same cost. That’s not true for rural and critical access hospitals. They know how much…how difficult it is to recruit and train and retain staff in those settings, and so performance improvement may be slower because you can’t change the actors, you have to change the behavior and that always takes a lot of time.

**Alex:** I would expect a critical access hospital CEO to have above average influence on financial and quality indicators because of the small size of the hospital. I would expect the CEO to have a greater hand in operational issues like that. Obviously, any CEO is going to have, you know, a lot of influence financially. Quality though I would typically expect to be more of a, more of an assumed thing that the clinical staff would take care of that and the CEO would jump in if there was any major issues. But I would expect a critical access hospital CEO to have above average influence in general, particularly with financial and quality because of the small size of the hospital and their ability to have a more wide-ranging influence just on day-to-day operations as opposed to just focusing on strategy.

**Larry:** I think they really set the tone for those. Traditionally, the financial measures have always been, kind of, the one the board and everybody concentrate on. But more and more, it’s the quality measures that are coming to the forefront, and so they set kind of the strategic plan and put the importance for both financial and now quality measures at the forefront. One of the programs we’ve had for the hospitals…it’s called the board’s role on quality and patient safety… and most of the hospitals have had that now. Some of them, a couple times, as they’ve had board turnover. When a
CEO is willing to do those kind of programs, I think it really enhances how much emphasis is put on quality. We did it at one hospital and immediately the board said ‘where’s your quality data? We wanna start seeing more of it.’ So, when a CEO is willing to do that, then that’s when quality really comes to the forefront.

2. Given the outcomes measures selected, did you expect to see more of an influence by CEO leadership style?
   a. If not, are there measures that would have been better for demonstrating an influence if it was there?

Chris: Yeah, I did, but I think maybe because I’m naïve in believing that leaders have the capacity to have more impact than the evidence suggests. You know, I think maybe there’s an intermediary set of measures that we could have looked at. For this study, because you’re using secondary data it would have been hard to gather, but to use something like employee satisfaction, like a Press Ganey survey, and look at employees’ sense of connectedness. So, Dr. McCaughey in our department studies this sort of employee engagement factors, and that might have been an interesting precursor. Rather than looking at the financial data per se…and because we weren’t able to measure patient satisfaction consistently…employee satisfaction, employee engagement, and patient satisfaction, I bet, would be tied together, and those might be measures…if you repeated this study, for example, those might be measures that you would wanna look at. But that would honestly mean going to get funding to do surveys, so if you’re gonna do it, you need somebody who’s willing to pay you to do it. Yeah, and then I think these measures might be adequate for looking at CEO leadership style impacts, but we might need longer trend data than we have. And we might need to do the kind of information you found from the Sheps Center…what we might need to measure is variance from the peer group mean over time rather than their averages or trends over time just because of the volatility you found…for that to smooth out, we might need 10/15 years worth of data. And the challenge I think then, Val, is that the environment around them, even in a rural, small place, is more dynamic over 15 years than we
can model. Because, for example, in Pennsylvania…in rural Pennsylvania you have things like the rise and decline of wood products as a major industry. And up at Coudersport you had a telecom company that boomed and busted, so that hospital went from 75 beds and a very positive margin to critical access in the space of 2 years because one business closed. And then with Marcellus Shale and all of that development coming in…that also changes the dynamic and the economics of a place, but also the insurance makeup of the market place changes with the Marcellus Shale people. So the volatility that you see in your data is as much related to the community that the hospital is located in as it is to a CEO’s impact on it.

Alex: No, I think that the measures you picked were really good. Based on what I’ve looked at, I would say that’s about what I expected. I’m not well-versed in the data, but, you know, you would expect some to be better than others. And yeah…no, I think based on those measures that’s about what I expected.

Larry: The leadership style thing was really interesting, and seeing the variance between them and not one consistent leadership style. I think it really gets more into, almost…rather than style, it’s the effectiveness. One of the interesting things that have occurred since you did this is that Tom Foster, who was the CEO of Bucktail, he has since resigned. And, it was interesting in speaking with him before that…he thought he was, I forget which one, but he thought he was actually a different style, but he felt that what was going on at Bucktail actually affected how he answered some of the questions. They have a real board leadership problem there. They have a board structure that’s not conducive to how the future of health care is going to…they’re stuck really in the past. So, I think it comes down to more of the effectiveness of the CEO and working with the board rather than any specific style.

3. Why do you think there was no evidence of CEO Leadership Style influence on outcome measures?
Chris: It’s probably a combination of the granularity of the measures that we had…days in accounts receivable and things like that…and this volatility piece that we just described. So, the measure itself isn’t sensitive enough to CEO leadership impact, and we didn’t have enough data consistently over time to perhaps see a pattern. You know, had we done regression analysis or a method that had more statistical sensitivity, we might have been able to pick it up. But given that there’s only 13 of these hospitals, the…the N is too small to really have confidence in statistical power, so we would have had to look at, like, all critical access hospitals in the country. And then trying to get a DiSC inventory assessment on 1300 CEOs would have been way more time than you or I have to work on this.

Alex: Because I think regardless of leadership style, you would expect those things to be…you would expect any CEO regardless of their leadership style to demonstrate their ability to influence those metrics.

Larry: It’s more…rather than style, it’s effectiveness. I guess it’s kind of like a tennis player. Some people go to the net a lot…they’re really aggressive…and other people are baseliners, but you can win both ways. It’s kind of like that in a way. You can have different styles of leadership, but it comes down to the effectiveness. It was interesting, you drew Barb Nichols from Corry and Ed Pitchford from Charles Cole being kind of the same style, but their backgrounds are completely different. Barb Nichols is a registered nurse, so she came up from the clinical ranks, and Ed Pitchford was a chief financial officer and came up through the financial ranks. So, even though they’re, you know, similar leadership styles, their backgrounds are a little bit different. We have a number of our CEOs who came up through the nursing ranks. For instance, the conscientious leaders…there were six…and two of them, Staci Covey and Mary Libengood, are nurse leaders, and then the rest of them kind of came up through the financial ranks. Same way, Ann Marie Stevens, she’s an RN. Steve Gildea came from being a chief information officer and Julie Peer, CFO. So, you know, their backgrounds are even mixed within the leadership styles.

4. When you look at the data, what other explanations for these patterns occur to you?
Chris: So one of the things...when I was in Chicago recently at the American College of Health Care Executives, there was a key note address by the CEO...the woman who’s the CEO of the Henry Ford Health System, and she said something that I think is relevant to answering this question, which is, for them, scale being really huge is protective. And for critical access hospitals, they just don’t have that option. They’re so small, they’re...they’re almost at the whim of market changes and environmental changes around them, like employment in their market places and insurance status. And decisions at Medicare and Medicaid about how to reimburse and how quickly they reimburse...Medicaid typically is taking 9 months to pay a bill that’s clean. So, you’ve got 270 days in accounts receivable for your Medicaid patients...it’s really hard to move that measure over time because you don’t really have any control over the factors that could change it. And so I think that combination of small size, the volatility of the market around them, and the...what we weren’t able to measure, but we talked about quite a bit, is if we assume that all of these leaders, all of these CEOs were effective, no matter their leadership style, but were effective in leading their organizations, then the thing that we couldn’t measure is how much worse would these measures be if they didn’t have consistent leadership. And that’s...you know, the negative is always something that’s really difficult to measure. You have to proxy your way into it, and I don’t...I don’t know that we could have done it. But that I think...that’s why the data looks like it does for us.

Alex: I’m gonna say no. The only pattern I’m noticing is when I know that there is a reason for an outlier, such as a new hospital being built.

Larry: With some of the data, there were some anomalies that were affected by kind of the strategy that was going on in the hospitals. For instance, like the 2011 year for Corry, that’s the year before their new hospital came. So you have a couple of those. Obviously, the one correlation you can make is about Muncy and Troy being system-related hospitals, and they’re certainly the two that are doing the best financially. But you would think Troy being led by a nurse...that their quality numbers would be better and they’re not. They’re probably one of the ones that struggle a little bit in terms of
quality. I think you drew or made a comment about Charles Cole and Tyrone having consistent leadership…and Ed came, I think, in 2007, and Steve Gildea, I think it was 2009, but he had been there prior to that. I think they were both…they’re very strategic leaders. They have taken the organizations and improved their financials. Tyrone at one point had been in bankruptcy and so they had to come out of that. They’ve really made some major changes within the organization. Readmission rates is one we’re gonna have to look at. One thing we talk about in rural health care is called the tyranny of low volume. Obviously, the larger your institution, the more numbers you’re gonna have. It’s gonna, you know, flatten out the variances. And there are some pretty wild variances I see in the readmission rates. I mean, even year-to-year. You have one hospital, Barnes Kasson, one year was 21.4 and next year they’re 7.1. The national average is 19.20. Endless Mountain going 28.6 to 6.3…Muncy going 15.4 to 5.3..so, whether they have one patient in a hospital this size or a couple outlier patients could have a major effect on your readmission rates. So it could be that…that’s an interesting occurrence. We talk about that tyranny of low volume even with a lot of the core measures. You’ll see not having high numbers…you know, you miss out on, you know, one procedure you should have done…that can really throw your numbers off, and you can go from 100 percent to 80 percent real quick, so you fall below the national benchmarks. So, that can certainly happen with these small rural hospitals.

5. Is there something unique about CAHs and their communities that make it difficult for a CEO to influence these kinds of outcome measures?

Chris: Yeah, I think there are probably two or three unique factors that come to mind. One…one we’ve already talked about a little bit is how the communities in which they’re located…they are often the largest employer in town other than the school district. And, so, decisions that they might take, for example to become more operationally efficient by laying off staff, are almost impossible, politically, to do in a small, tiny town, you know, where the percentage of people who work for the hospital who are related to somebody else who works for the hospital make it really hard to get
efficient by cutting staff. Because, the other thing is, if you’re a member of that community, you’re standing in the grocery line with those same people, you’re at church with those same people…it just makes it harder than if you’re, you know, the CEO of UPMC. You probably know the 25 people who work in your building closest to you and that’s it, so firing people is easy because they’re faceless and nameless. I think the other is the culture of small places, and especially as you write at the beginning of your thesis, the tendency for the kind of stick together mentality makes it hard for anybody to make a pure business decision in that way. And, I think, probably the third factor is that there’s a kind of natural inertia to small places like that…that doing things the way we’ve always done them makes it hard to do performance improvement and quality measures. For example, there may be an upper bound on patient satisfaction if you know everybody who’s your patient and they know you personally. It may make it hard for them to see you in a new light, even if your service orientation changes towards them to some extent. And, so, any individual leader pushing against the culture and the normative behavior of a staff like that is, I think, exponentially more difficult.

**Alex:** So from a board perspective, I would say yes because of the small community. You know, you have the board members representing, not necessarily, but in many cases you would assume that the board members would represent a pretty decent part of the community and represent different segments within the community. So then the board members are not only thinking about advise and consent and what the hospital can do for the community, but now they may be thinking about a special interest group that they represent, which can happen on any board I guess. So I would guess that because of that small town nature that often makes its way into the makeup of the board, that would actually give the CEO less control than they would even have in a big system or a big community hospital in their ability to control those things because the board may want in, they may want more control.

**Larry:** Sometimes, what you see are decisions made for kind of the social reasons rather than the business reasons. So, for instance, in these small communities you may have somebody that gets
either readmitted or is allowed to stay a little bit longer due to the fact that the CEO knows that
there’s nobody home that weekend to take care of them or something like that. So, you know,
sometimes you have things like that that occur in these small rural communities, because people
know one another so much…and that probably wouldn’t happen in a large, urban institution. One of
the other things that occurs a lot are maybe the tolerance of certain physicians to practice a certain
way and not being as critical of them as they should be, where in a large institution that can afford to
lose a doctor, you know, they’ll be much harder on them. A lot of these small rural hospitals…if they
lose a physician, especially like a surgeon, it can have a monumental effect on their bottom line
because maybe they only have one or two orthopedic surgeons on staff…so…or they lose one of their
primary care physicians who’s a major admitter to the hospital…that can have a really big impact.
Where, in a larger hospital, people are coming and going all the time so that kind of flattens it out
more.

6. What are the take-aways/lessons from this analysis for you?

Chris: I think a couple. One, for boards who hire critical access hospital CEOs to be aware and be
realistic about the kind of change that those people can make. I mean, I think, for example, a person
like Steve Gildea, who’s the CEO at Tyrone, has by all accounts been a transformative leader, but the
evidence of that is that he has Tyrone community and Tyrone hospital employees believing
something is different about themselves. They’re sort of emerging from a long, dark period. But,
whether those are things that we can pick up in financial performance measurements or quality
metrics, I don’t know. If you ask them ‘do you feel differently about yourself because Steve has come
here?’ my guess would be that many of them would say yes, but would we ever be able to measure
that in the kind of data that’s collected and publicly reported? I don’t know. So, boards being realistic
about how much change a CEO in a place like that can exact is one thing. CEOs being clear about
which of the factors that are important to our success can I in fact influence and how do I do that over
time is an important kind of perspective to take if you’re coming in as a CEO in one of these small
places. And, I think the third thing is how important it is for the role of CEO in a critical access hospital to build business literacy…to cause change by making people more a part of the solution…to buy into and understand when you make a decision to wait till tomorrow to process a claim, how much…how narrow the margin is that they have to play with like that. So, thinking about and helping everybody who’s employed there understand…if you want this place to be open tomorrow…I mean, we looked at a couple of places where their days cash on hand was less than a week, so the question of ‘do you want this place to be open tomorrow?’ is actually a real question for them. The more employees of the place who understand that and believe it…the more likely they are to make decisions on a day-to-day basis with organizational survival as a goal, then I think the more likely they are to have performance improvement over time.

Alex: So I think it’s always good to know types of leadership, leadership styles and to see evidence of how they correlate with organizational performance. At their core, every leadership style should be able to produce a core set of results.

Larry: I guess I’ve been in this long enough that it didn’t…didn’t overly surprise me on a lot of what I saw there as far as the numbers. I’m maybe a little bit too close to the action in this case to be surprised by anything. But, you know, again, little things can make a big difference with these hospitals as compared to maybe a larger, more tertiary hospital.

7. Based on this analysis what would you recommend to CAH Boards when evaluating or selecting a CEO?

Chris: Critical access hospital boards, as we’ve talked about throughout your thesis writing, tend to be business leaders from the community, but business leaders who have no health care experience…that one of the things…one of their obligations as a board member is to invest the time necessary to understand the environment that their hospital actually operates in, and what are the forces and factors that are within the CEO’s control and which ones are not within their CEO’s control, so that they can evaluate the performance of that person realistically rather than idealistically.
Like…we want…we want you to save the hospital. You know, if the factors that you can control that might lead to the hospital staying open are 2 percent of the forces that are acting on that question, then saving the hospital may not be the most realistic task to give to that person.

**Alex:** You definitely want someone who is conscientious because you want someone who’s a good relationship builder because a critical access hospital is, you know, oftentimes the heart of the community so you want someone who can build relationships and know their constituency and not just come in and think that what they did at the last place is gonna work at the place they’re at now. You want a driver because oftentimes, you know, I’ve seen examples of a board not wanting to affiliate because they want to remain independent. Well then, you know, if you have people who are stuck on ‘let’s do things the way we’ve always done them,’ you need a driver to be able to influence them as to why, you know, why we can’t accept the status quo, why we need to drive change, why we always need to be changing and growing and adapting to trends in the industry. So I would say those two above all are important things to look for.

**Larry:** My first thing is that we have to turn it around a little…that we also need to do a little bit better job of selecting and evaluating board members. I think that’s one of the areas in rural health care we need to do a better job…in getting the boards to accept kind of the new role that is out there for them…to look at more strategy over management issues. They have to leave the management issues to the people that they select and the CEO roles and the other executive leadership. And they need to focus more on those issues rather than what we call the parking lot issues, where they go out and they talk about people that are, you know, so and so working at the hospital…or, you know, more of those issues that should be left to management. But, as far as what the CAH boards really need to focus on as far as selecting a CEO…somebody that is good at executing the strategy that they set, I think, is really important. But, again, we have to educate the boards first on their role and what strategies they should be looking at in today’s changing health care environment.
BIBLIOGRAPHY


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EDUCATIONAL BACKGROUND:

The Pennsylvania State University, University Park, PA
The Schreyer Honors College
Bachelor of Science, Health Policy and Administration
Minor in Labor Studies and Employment Relations

Honors and Awards:

Dean’s List Fall 2011- Spring 2014
Health and Human Development Honor Society 2012-2014
Phi Eta Sigma Honor Society 2011-2014
Fasola Family Honors Scholarship in the College of Health and Human Development, 2013-2014
Greater Phoenixville Healthcare Scholarship 2011
PSAA Montco Chapter Scholarship 2011

RELEVANT EXPERIENCE:

Main Line Health Bryn Mawr, PA
Administrative Intern, Performance Improvement and Regulatory Affairs May - Aug. 2014
- Conducted patient flow observations in the ED and helped propose recommendations for patient flow processes
- Developed content for a culture of safety - “Power Gradient” awareness
- Facilitated communication to policy owners regarding policy renewals
- Created templates for a fishbone diagram, force field analysis, voice of customer tool, and nominal group technique tool using Microsoft Excel and PowerPoint
- Attended system-level leadership meetings for Quality Improvement and Patient Safety

Windy Hill Village Philipsburg, PA
Undergraduate Intern, Strategic Planning and Marketing Jan. - May 2014
- Conducted a SWOT analysis for Windy Hill Village
- Created a marketing plan to help Windy Hill form an ACO with a prominent local hospital

Phoenixville Hospital Phoenixville, PA
- Identified potential hospital employees using CareerBuilder and Taleo
• Developed employment descriptions for the HR department
• Created family trees for patients seeing the genetic counselor

LEADERSHIP EXPERIENCE:

Health Policy and Administration Club May 2013 – May 2014
Fundraising and Social Chair
• Planned and executed fundraisers for club of approximately 40 members
• Organized social events that allowed club members to interact and get to know one another

Team Captain
• Coordinated game times and meetings and informed team of 10 members of the IM rules and policies

OPPerations Committee Promotional Events Chair
• Identified all THON-related promotional events and coordinated our committee’s attendance
• Involved in year-round efforts to raise funds

WORK EXPERIENCE:

Iron Hill Brewery and Restaurant Phoenixville, PA May 2012 – Aug. 2013
Hostess
• Provided superior customer service
• Promoted to host in-charge within two months of employment

Kinetix Sports Club Fairview Village, PA Nov. 2010 – Aug. 2011
Tennis Instructor and Front Desk Employee
• Taught children the basic tennis strokes in the “Quickstart” clinic

CERTIFICATIONS & SKILLS:

Introduction to Lean – Main Line Health
Focus and Simplify for Policies & Procedures Workshop – Main Line Health
Error Prevention/Culture of Safety Training – Main Line Health
Social and Behavioral Human Subjects Research (IRB) Certification
Basic proficiency in: SAS, SPSS, Microsoft Excel