TRENDS IN FREQUENCY AND SEVERITY OF FLORIDA HOSPITAL MEDICAL MALPRACTICE CLAIMS

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ABSTRACT

This study examines the relative quality of healthcare services delivery by acute care hospitals within the state of Florida, utilizing data from the Florida Department of Insurance's closed medical malpractice claim database. Closed medical malpractice claims were used as the primary performance metric. We focus on 15 large cities in Florida with the highest number of malpractice claims from 2006 to 2016 to show both the cross-sectional and longitudinal trends of the claim records. The analysis revealed that from 2006 to 2011 the number of malpractice claims per year fluctuated from +13.8% to -18.3%, with the highest number of claims (1,314) occurring in 2007. However, from 2011 to 2016, there was a consistent yearly downward trend. If the number of (a) malpractice claims, (b) death claims from malpractice, and (c) claim ratios can be used to represent healthcare quality, it can be suggested that healthcare quality in the state of Florida has significantly improved over the ten years from 2006 through 2016.

INTRODUCTION

Though the issues of patient safety and medical malpractice have been extensively studied, the use of such studies to inform healthcare organizational management has received much less attention. The development of quantifiable outcome indicators of healthcare quality are vital additions to existing knowledge and necessary implements for the pursuit of improved quality in healthcare (Bij & Vissers, 1999). This study undertakes an examination of closed medical malpractice claims from the state of Florida for the years 2006-2016 (inclusive) in order to establish benchmarks and examine potential trends.

Generalizing from marketing and services marketing literature, as well as healthcare administration literature, suggests that reduction of medical malpractice claims may be expected to result in a lessening of the human and financial costs to patients and providers that result from disputes concluded through a third-party complaint resolution processes, and in particular, the filing and prosecution of medical malpractice claims.

Marketing literature suggests a primary cause of medical malpractice claims is disconfirmation of patient expectations and dissatisfaction with service quality. The intangible nature of service provider interactions with customers makes it difficult to measure the factors comprising the service operation. Smith and Houston (1983) state, "…satisfaction with services is related to confirmation or disconfirmation of expectations", and when consumers do not perceive services as meeting or exceeding their expectations they have feelings of dissatisfaction with the service operation, technical service quality, or treatment outcomes, often referred to in services marketing literature as negative disconfirmation of expectations (Szymanski 2001). Virshup and Oppenberg opine that "Many malpractice suits are brought not because of malpractice nor even because of complaints about the quality of medical care but as an expression of anger about some

aspect of patient-doctor relationships and communications" (Virshup, Oppenberg, & Coleman, 1999).

Providing quantitative measures, and quantitative peer-based data-driven comparative benchmarks is a principal and accepted tool in the study of healthcare outcomes and performance. Such measures and benchmarks provide constructive information to healthcare managers in their efforts to realize organizational objectives.

Over the past two decades there has been a major focus on the quality and cost of healthcare in the United States. According to Hartman (Hartman, et al, 2018), the United States spends about 18% of its gross domestic product (GDP) on healthcare, which represents approximately $3.3 trillion annually. A significant concern is that such high healthcare expenditures could cause negative impacts on the overall U.S. economy.

Given the vast sums the United States spends on healthcare, healthcare quality has become a persistent concern as waste in the U.S. health care system contributes to the high cost of medical care and deflects resources from other desirable societal goals. (Bentley, Effros, Palar, & Keeler, 2008); Nordgren, Johnson, Kirschbaum, & Peterson, 2004). Leape et al. (Lucian L. Leape, Brennan, Laird, & al., 1991) stated that in 1984, 3.7% of the patients admitted to hospitals in the state of New York sustained some type of injury. Nearly 28% of the injuries were due to negligence. A combined study of 4,000 patients at Brigham and Women's Hospital and at Massachusetts General Hospital in Boston sought to investigate the relationship between systems failures and the occurrence of medical errors (Bates et al., 1995). In the study, 334 medication errors that led to 264 adverse drug effects were identified.

The Harvard Medical Practice Study declared that more than one million preventable medical errors occur in hospitals throughout the United States each year resulting in 180,000 preventable deaths (Brennan, Hebert, & al, 1991; Lucian L Leape & Brennan, 1991). The Institute of Medicine (Institute of Medicine, 1999) in its publication "To Err is Human: Building a Safer Health System", estimated the annual number of preventable deaths between 44,000 and 98,000. James (James, 2013) concluded both the Harvard and the IOM studies above underestimated the number of premature deaths associated with preventable harm to patients, and determined it at more than 400,000 per year, with serious harm 10- to 20-fold more common than lethal harm. Zhan and Miller (Zhan & Miller, 2003) found medical error rates in teaching hospitals are greater than in nonteaching hospitals (3.61 per 1,000 patients versus 2.08 per 1,000 patients). Further, larger hospitals with 200 or more beds had a higher medical error rate than smaller hospitals. They also found that serious medication errors decrease when physician work hours are reduced.

Reason (Reason, 1990) discovered that individual human errors are major causes of medical errors. Many of the human errors were caused by faults that existed in the design of work and the conditions that people work in. For instance, work conditions that mandated high workloads and caused fatigue induced errors in the workplace. Improper training of employees also leads to accidents. Reason stated that these errors could be prevented by changing systems, which involves designing tasks that are fool-proof. Fool-proofing requires standardizing tasks, simplifying tasks, and avoiding a reliance on memory to successfully complete tasks.

In response to the troubling number of medical errors, many hospitals have undertaken initiatives targeted toward patient safety (Barry & Smith, 2005). According to Stock (Stock, McFadden, & Gowen, 2007) hospitals have implemented quality programs that have led to a reduction in the frequency and severity of medical errors. Hospitals have implemented a set of Patient Safety Indicators (PSI) developed by the Agency for Healthcare Research and Quality (AHRQ); Gray et al (Gray, et al 2016) states their study "demonstrated a clear association between

clinically validated PSIs and patient outcomes—LOS, 30-day unplanned readmission, and mortality. These findings have important implications in policy and practice as health care reform dictates improvement in the experience of care, improvement in the health of populations, and reduction in per capita cost of health care—also known as the Triple Aim."

Errors in medical practice often bring about medical malpractice claims. Medical malpractice has an adverse impact on the healthcare delivery system, increasing healthcare delivery cost and forcing some practitioners into bankruptcy; a consequence is a reduction in access to healthcare services (Young, 2005). According to Williams (Williams, 2008), Florida patients sue for medical malpractice far more often than average for any other state. Hence, it is important to assess the quality of the healthcare delivery to ensure that medical errors that lead to malpractice claims are eliminated.

Young and Williams (Young & Williams, 2010) analyzed hospital susceptibility as it relates to the skill set of human resources (physicians and nurses) and the hospital propensity to medical malpractice claims. Their focus was on 118 acute-care hospitals in the state of Florida. Young's (Young, 2005) results show that the skill sets of hospital human capital had a significant impact on the number of malpractice claims. Hospitals with a larger number of employed physicians tend to have a lower number of medical malpractice claims than do hospitals with a larger number of resident physicians. Further, hospitals with a higher number of registered nurses had a lower number of claims than do hospitals with a larger number of licensed practical nurses.

The elemental rationale for the existence of healthcare organizations is to deliver healthcare services that are intended to improve health. Medical malpractice is an outcome of this care delivery process and represents a failure to adequately deliver healthcare (Hickson et al., 2002). Occasionally this produces not a benefit, but a detriment to health outcomes. As a malfunction of the hospital health services delivery process, malpractice does not contribute to the organization's efforts to meet its goals (Mello & Gallagher, 2010). The negative aspects of medical malpractice detract from the ability of hospitals to optimize the access, quality, and cost of healthcare. Malpractice is an indication of ineffectiveness and viewed from this perspective hospital malpractice claims are one metric that may be used to evaluate this negative organizational performance.

This study focused on the assessment of healthcare quality over the decade 2006-2016. The objective was to determine if healthcare quality had improved based on a readily available quantitative peer-based metric, exempli gratia the number of medical malpractice claims in Florida acute care hospitals. Hospitals should be able to explore relationships between their performance as developed by this study and other internally and externally developed performance measures (Bell, Delbanco, Anderson-Shaw, McDonald, & Gallagher, 2011); such studies will inform management's strategic planning, goal setting, and resource allocation decisions.

METHODOLOGY

In this study, the data set from the Florida Department of Insurance's Medical Professional Liability Closed Claims was used. The sample consisted of general, non-federally owned, acute care hospitals in the state of Florida. The original data set contained 107,413 records. We focus on identifying the trend of medical malpractice claims from 2006 to 2016, which reduce the sample size to 39,049 observations. We reach 21,692 unique medical malpractice claims after removing duplicate observations (each medical malpractice claim was counted once).

In our dataset, the malpractice claims are categorized by cities in Florida. We observe in total 313 cities who have at least one malpractice claim from 2006 to 2016. For instance, Miami has 1798 malpractice claims and is ranked as the top city for malpractice claims (Table 1). Tampa is the next city with the highest number of malpractice claims and has 1409 claim records (Table 1). Of all the cities that have malpractice records, the top 15 cities account for more than 45% of the total claims (Table 1). We are interested in the trend of both the total malpractice claims and the malpractice claims per city. To make the results comparable with each other, we will focus on the top 15 cities that have in total 9900 malpractice claims to present our findings.

Table 1
THE 15 FLORIDA CITIES RANKED BY THE TOTAL NUMBER OF CLAIMS FROM 2006 TO 2016

City Rank	City	Number of Claims	Percent of total
1	Miami	1798	8.29
2	Tampa	1409	6.50
3	Jacksonville	1205	5.56
4	Fort Lauderdale	859	3.96
5	St. Petersburg	770	3.55
6	Orlando	571	2.63
7	Fort Myers	516	2.38
8	Coral Gables	411	1.89
9	Boca Raton	398	1.83
10	Clearwater	351	1.62
11	Plantation	344	1.59
12	Gainesville	337	1.55
13	Ocala	334	1.54
14	West Palm Beach	303	1.40
15	Tallahassee	294	1.36
	total	9900	45.64

Table 2 shows the patient severity outcomes resulting from those medical errors. Obviously, the “Death (D)” outcome from the medical error is the most severe and the “Emotional Only (EO)” would be the least severe. This study seeks to determine the healthcare quality over time for all different kinds of severity outcomes with a particular emphasis on the rate of wrongful deaths.

The use of administrative data has proven to be revealing in previous studies and is accepted practice in healthcare research. Administrative data has the notable advantages of lower cost, easier acquisition, large data sets, and in this instance where statutorily mandated data is reported, consistency of reported information and has been the subject of significant development for use in the study of healthcare and adverse events.

Table 2 Severity of Patient outcomes resulting from medical malpractice	
Severity	Severity Description
Death (D)	Permanent: Death.
Emotional Only (EO)	Emotional Only - Fright, no physical damage
Permanent Grave (PG)	Permanent: Grave - Quadraplegia, severe brain damage, lifelong care or fatal prognosis.
Permanent Major (PMJ)	Permanent: Major - Paraplegia, blindness, loss of two limbs, brain damage.
Permanent Minor (PMN)	Permanent: Minor - Loss of fingers, loss or damage to organs. Includes non-disabling injuries.
Permanent Significant (PS)	Permanent: Significant - Deafness, loss of limb, loss of eye, loss of one kidney or lung.
Temporary Major (TMJ)	Temporary: Major - Burns, surgical material left, drug side effect, brain damage. Recovery delayed.
Temporary Minor (TMN)	Temporary: Minor - Infections, misset fracture, fall in hospital. Recovery delayed.
Temporary Slight (TS)	Temporary: Slight - Lacerations, contusions, minor scars, rash. No delay.

DATA ANALYSIS

Cross-sectional Analysis

Table 3 is a contingency table that shows the relationship between the cities and the patient severity outcomes result in medical malpractice claims. The table shows that, 18.16% of the medical claims occurred in Miami (Rank #1) and 14.23% of the medical claims occurred in Tampa (Rank #2) and so on. The table also shows that 28.98% of all medical claims were due to wrongful deaths; the next largest medical claims is temporary minor which represent 18.34% of the claims and so forth. Of all the cities, Miami contained the most wrongful death claims at around 18.8%. Wrongful death claims represented about 30% of the all claims occurring in Miami. Compared to Tampa, who has the 2nd highest medical claims, Miami had about 22.7% more wrongful death claims than Tampa. On the other hand, West Palm Beach (Rank #14) and Tallahassee (Rank #15) both had approximate three percent of the claims and less than one percent of the wrongful death claims.

Longitudinal Analysis

Table 4 shows the number of medical malpractice claims per city per year. The table shows that in 2006, there were 1155 medical malpractice claims filed. That number fluctuated from +13.8% to -18.3%, through 2011 with the highest claims of 1314 occuring in 2007. From 2011 to 2016, the total number of medical malpractice claims per year significantly decreased. Miami (Rank #1) consistently had the highest number of claims from 2006 to 2014. In 2015 and 2016, the number of malpractice claims in Tampa (Rank #2) exceeded that in Miami.

Table 3
Percentage of Medical Malpractice Claim by Severity Level

	Severity									
City Rank	D	EO	PG	PMJ	PMN	PS	TMJ	TMN	TS	Totals
1	5.46	1.08	0.79	1.55	2.21	1.57	1.77	2.91	0.83	18.16
2	4.45	0.48	0.54	0.85	1.78	0.96	1.78	2.54	0.86	14.23
3	3.00	0.56	0.47	0.60	1.54	0.65	1.34	3.53	0.49	12.17
4	1.93	3.33	0.15	0.51	0.47	0.39	0.64	0.94	0.31	8.68
5	2.65	0.23	0.39	0.52	0.81	0.56	0.95	1.36	0.31	7.78
6	1.56	0.35	0.35	0.57	0.60	0.39	0.63	1.03	0.29	5.77
7	1.44	0.33	0.16	0.15	0.49	0.58	0.65	1.02	0.38	5.21
8	1.34	0.13	0.14	0.19	0.57	0.37	0.45	0.78	0.17	4.15
9	1.05	0.25	0.17	0.26	0.45	0.36	0.42	0.76	0.28	4.02
10	1.04	0.15	0.06	0.24	0.53	0.33	0.29	0.70	0.20	3.55
11	1.18	0.16	0.08	0.29	0.27	0.27	0.65	0.47	0.09	3.47
12	1.08	0.05	0.10	0.15	0.61	0.38	0.36	0.63	0.04	3.40
13	1.11	0.13	0.08	0.21	0.37	0.20	0.45	0.66	0.15	3.37
14	0.87	0.14	0.20	0.30	0.27	0.36	0.24	0.54	0.13	3.06
15	0.81	0.16	0.04	0.20	0.63	0.27	0.21	0.49	0.15	2.97
Totals	28.98	7.56	3.74	6.59	11.60	7.66	10.84	18.34	4.71	100

Table 4
Number of Medical Malpractice Claims Per City Per Year

	Year											
City Rank	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	162	279	188	211	178	218	183	198	119	50	12	1798
2	154	157	181	169	154	152	158	124	88	57	15	1409
3	130	143	133	117	146	122	131	125	99	52	7	1205
4	112	162	149	165	72	56	46	51	27	17	2	859
5	82	79	86	100	76	124	95	75	33	17	3	770
6	85	78	55	83	56	89	47	46	18	12	2	571
7	46	62	63	74	72	54	46	52	30	9	8	516
8	49	66	59	58	49	32	24	49	16	8	1	411
9	62	45	69	55	43	42	33	31	11	5	2	398
10	40	36	42	68	39	41	35	20	16	9	5	351
11	62	37	37	41	37	24	33	33	26	9	5	344
12	34	31	53	37	55	35	22	37	21	10	2	337
13	39	49	41	44	22	49	34	24	20	12	0	334
14	55	55	32	29	29	36	23	24	15	3	2	303
15	43	35	52	41	27	23	36	17	16	3	1	294
Total	1155	1314	1240	1292	1055	1097	946	906	555	273	67	9900

Figure 1 shows the year-to-year change in the total number of medical malpractice claims. From Figure 1, we can see the trend of medical malpractice claims over time. Although from 2006 to 2011, the number of claims varied, we still can observe a clear overall declining trend. There was a significant decrease of the malpractice claims in the most recent three years, e.g. from 2014 to 2016.

Figure 1
Year-to-Year Change in Number of Medical Malpractice Claims

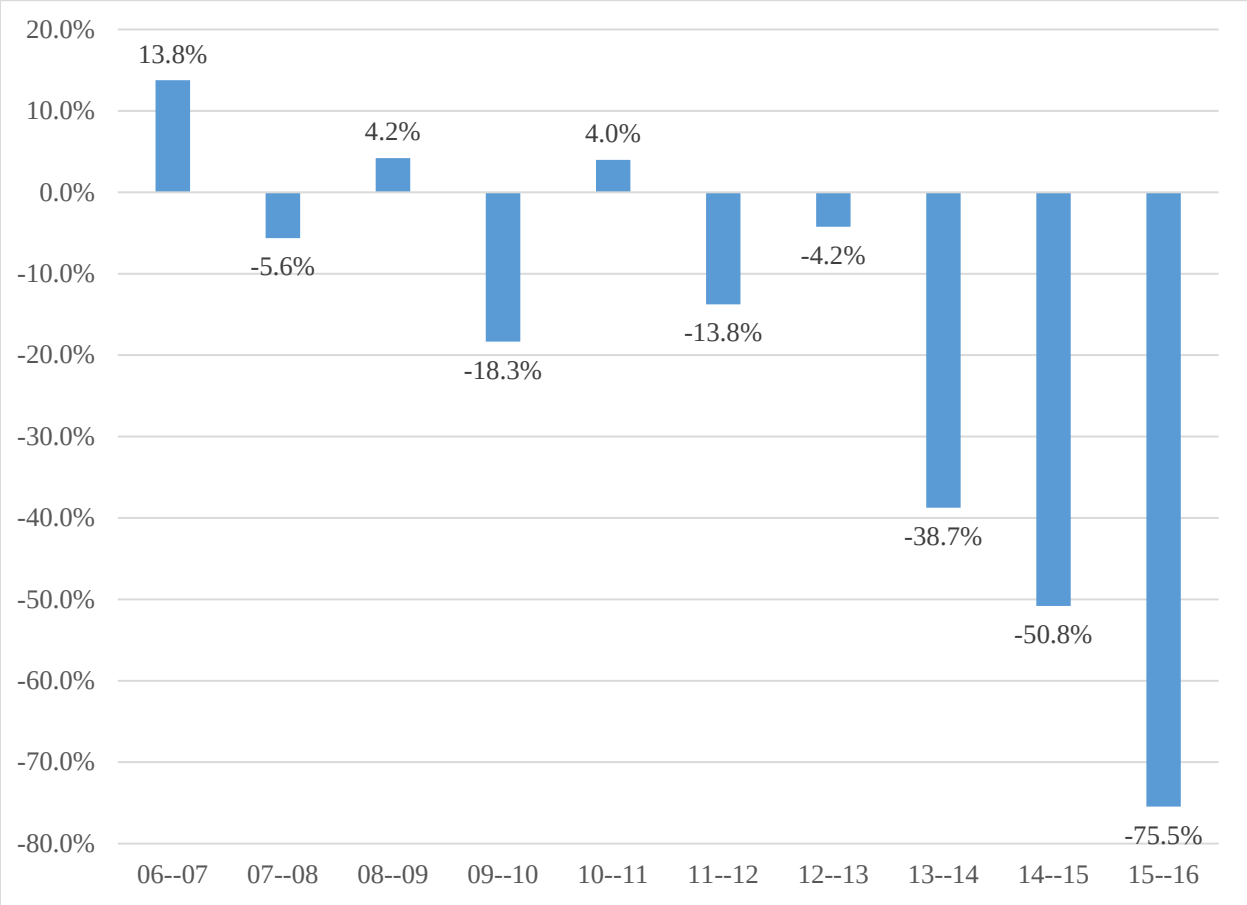

Table 5 shows the percentage change in the number claims per year for each city. We find that the performance of cities was not consistent over time. For example, from 2006 to 2007, Miami (Rank #1) has the highest increase of malpractice claims, an increase of 72%; and Plantation (Rank #11) has the highest malpractice claims reduction of 40%. From 2007 to 2008, Gainesville (Rank #12) had the worst performance, an increase of 71% in claims; and West Palm Beach (Rank #14) had the best improvement of a 42% decrease in claims. Starting from 2014, all cities observed a decrease in number of claims filed, yet the most improved cities are not consistent over time. From 2013 to 2014, Coral Gables (Rank #8) has the largest decline of claims at 67%; from 2014 to 2015, Tallahassee (Rank #15) has the largest decline of claims at 81%; and from 2015 to 2016, Ocala (Rank #13) has a claim reduction of 100%.

Table 5
% of change in Medical Malpractice Claims Per City Per Year

	Year									
City Rank	06--07	07--08	08--09	09--10	10—11	11--12	12--13	13--14	14--15	15--16
1	**72%**	-33%	12%	-16%	22%	-16%	8%	-40%	-58%	-76%
2	2%	15%	-7%	-9%	-1%	4%	-22%	-29%	-35%	-74%
3	10%	-7%	-12%	25%	-16%	7%	-5%	-21%	-47%	-87%
4	45%	-8%	11%	**-56%**	-22%	-18%	11%	-47%	-37%	-88%
5	-4%	9%	16%	-24%	63%	-23%	-21%	-56%	-48%	-82%
6	-8%	-29%	51%	-33%	59%	**-47%**	-2%	-61%	**-33%**	-83%
7	35%	2%	17%	-3%	-25%	-15%	13%	-42%	-70%	**-11%**
8	35%	-11%	-2%	-16%	-35%	-25%	**104%**	**-67%**	-50%	-88%
9	-27%	53%	-20%	-22%	-2%	-21%	-6%	-65%	-55%	-60%
10	-10%	17%	**62%**	-43%	5%	-15%	-43%	-20%	-44%	-44%
11	**-40%**	0%	11%	-10%	-35%	38%	0%	-21%	-65%	-44%
12	-9%	**71%**	**-30%**	**49%**	**-36%**	-37%	68%	-43%	-52%	-80%
13	26%	-16%	7%	-50%	**123%**	-31%	-29%	-17%	-40%	**-100%**
14	0%	**-42%**	-9%	0%	24%	-36%	4%	-38%	-80%	-33%
15	-19%	49%	-21%	-34%	-15%	**57%**	**-53%**	**-6%**	**-81%**	-67%
Max	72%	71%	62%	49%	123%	57%	104%	-6%	-33%	-11%
Min	-40%	-42%	-30%	-56%	-36%	-47%	-53%	-67%	-81%	-100%

Table 6 shows the number of wrongful death medical malpractice claims per city per year. The highest total number of 375 death claims were filed in year 2007. Starting from 2009, the total number of death claims continuously declined. Before 2013, none of the cities achieved zero wrongful death claims filed. From 2014 to 2016, we observe 1, 2, and 9 cities with zero death claims respectively. Miami had the highest number of death claims for most of the years, except for in 2006, 2011, and 2013 when it was surpassed by Tampa (Rank #2) and in 2015 when it was outpaced by both Tampa (Rank #2) and Jacksonville (Rank #3).

Figure 2 shows the year-to-year change in the total number of wrongful death medical malpractice claims. Shown in Figure 2, in the beginning three years, e.g. from 2006 to 2009, the number of wrongful death claims varied. For instance, from 2006 to 2007 we observed a 5.9% increase of death claims; from 2007 to 2008, the death claims number dropped 9.3%; and from 2008 to 2009, the number increase again for 8.8%. For all the following years, the number of wrongful death claims continuously declined. Remarkable decrease of death claims were found from 2013 to 2016. From 2015 to 2016, there was an 83.5% decrease in the number of death claims.

Table 7 shows the percentage change in the number of wrongful death claims per year for each city. The performance of cities on death claims were inconsistent over time. For instance, from 2006 to 2007, Miami has the highest increase of death claims, an increase of 114% and Plantation (Rank #11) has the most reduction of death claims, a decrease of 65%. From 2007 to 2008, Clearwater (Rank #10) has the worst performance of a 250% increase in death claims and West Palm Beach (Rank #14) has the best performance of a 71% reduction in the death claims.

Table 6
Number of Wrongful Death Claims Per City Per Year

	Year											
City Rank	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	37	79	78	85	50	47	71	41	32	14	7	541
2	49	56	49	52	47	55	48	45	22	17	1	441
3	48	36	24	21	45	28	36	27	10	20	2	297
4	22	37	16	30	29	14	13	17	5	8	0	191
5	31	28	31	33	19	57	23	26	11	3	0	262
6	28	15	17	20	20	27	11	10	3	3	0	154
7	12	19	19	20	19	8	17	13	12	3	1	143
8	15	26	21	22	14	5	8	9	10	3	0	133
9	15	13	17	14	13	12	9	11	0	0	0	104
10	11	4	14	36	14	11	8	3	2	0	0	103
11	26	9	11	8	19	5	9	17	8	3	2	117
12	7	14	19	7	16	15	6	14	7	2	0	107
13	13	15	10	10	8	22	9	12	5	6	0	110
14	23	17	5	3	12	11	5	3	5	1	1	86
15	17	7	9	9	12	10	4	7	3	2	0	80
Total	354	375	340	370	337	327	277	255	135	85	14	2869

Figure 2
Year-to-Year Change in Number of Wrongful Death Claims

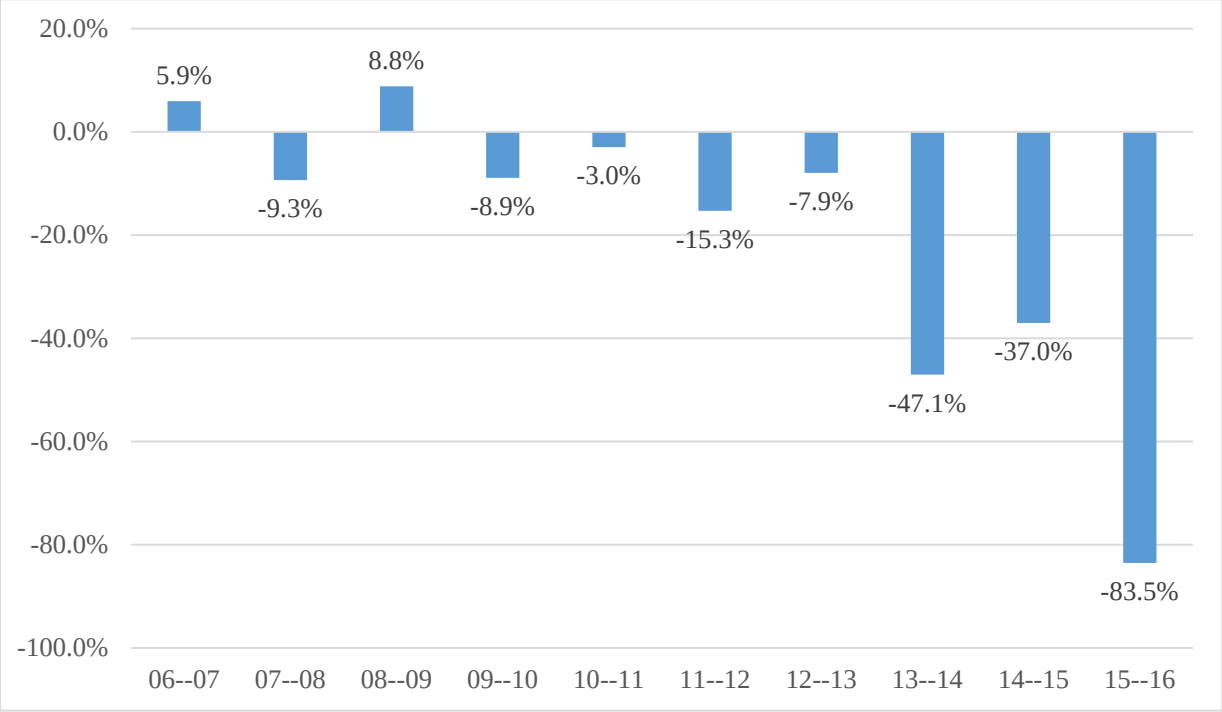

Table 7
Percentage of Change in Wrongful Death Claims ("D") Per City Per Year

	Year									
City Rank	06--07	07--08	08--09	09--10	10--11	11--12	12--13	13--14	14--15	15--16
1	**114%**	-1%	9%	-41%	-6%	51%	-42%	-22%	-56%	-50%
2	14%	-13%	6%	-10%	17%	-13%	-6%	-51%	-23%	-94%
3	-25%	-33%	-13%	114%	-38%	29%	-25%	-63%	**100%**	-90%
4	68%	-57%	88%	-3%	-52%	-7%	31%	-71%	60%	**-100%**
5	-10%	11%	6%	-42%	**200%**	-60%	13%	-58%	-73%	**-100%**
6	-46%	13%	18%	0%	35%	-59%	-9%	-70%	0%	**-100%**
7	58%	0%	5%	-5%	-58%	**113%**	-24%	-8%	-75%	-67%
8	73%	-19%	5%	-36%	-64%	60%	13%	11%	-70%	**-100%**
9	-13%	31%	-18%	-7%	-8%	-25%	22%	**-100%**	n/a	n/a
10	-64%	**250%**	**157%**	**-61%**	-21%	-27%	**-63%**	-33%	**-100%**	n/a
11	**-65%**	22%	-27%	138%	**-74%**	80%	89%	-53%	-63%	-33%
12	100%	36%	**-63%**	129%	-6%	**-60%**	**133%**	-50%	-71%	**-100%**
13	15%	-33%	0%	-20%	175%	-59%	33%	-58%	20%	**-100%**
14	-26%	**-71%**	-40%	**300%**	-8%	-55%	-40%	**67%**	-80%	**0%**
15	-59%	29%	0%	33%	-17%	-60%	75%	-57%	-33%	-100%
Max	114%	250%	157%	300%	200%	113%	133%	67%	100%	0%
Min	-65%	-71%	-63%	-61%	-74%	-60%	-63%	-100%	-100%	-100%

LIMITATIONS

This study has several limitations. Hospital characteristics other than those used in this study may have affected outcomes performance, but were not evaluated in this study. Given the limitations of existing risk-adjustment techniques and data sources, hospital outcomes measures represent an approximation for comparing hospital quality. This study was based on administrative databases, and although this strategy has worked well in other studies, it is not known that the characteristics described by the data encompass the majority of the significant sources of variation in outcomes performance.

The limitation of generalizability is certainly present in this study, as it is composed only of Florida general acute care hospitals. It is anticipated that there will be significant variation between the malpractice claims rates of differing states, given that there is little uniformity in tort law from state to state. Even though all Florida general acute care hospitals were included in the original sample, numerous hospitals were eliminated from the study due to incomplete data fields or for failing to meet the classifications described above. Further study is needed to see if the study's methodology and findings may apply to hospitals in other states, and types of hospitals other than the one encompassed by this study.

Medical malpractice closed-claims data provides a limited view of patient experiences with errors, adverse outcomes, and patient safety. Previous studies have raised the concerns that most negligence never leads to a malpractice claim and most claims are not the result of negligence.

It is not yet advisable to judge quality on administrative data alone in studying comparative hospital performance. Administrative data may well be used for preliminary quality control and evaluation, but until administrative information systems develop further in capturing significant factors responsible for performance variations, no definitive conclusions should be drawn.

DISCUSSION AND CONCLUSIONS

This study makes several contributions to the literature, and to the knowledge base of healthcare administration and management scholars. The study's results corroborated the belief that there was heterogeneity between the malpractice claims performance of the subject healthcare cities. The study established a scientifically-based methodology for the measurement and benchmarking of Florida healthcare districts' malpractice claims performance, and utilizing both cross-sectional and longitudinal analysis to shed light on variations between city-to-city performance on relative healthcare quality. Further research is needed to better explain the characteristics of these variations. The study results do give a plausible explanation for the underlying resource-based view assumption that Florida hospitals and healthcare cities possess distinctive characteristics and capabilities and that further studies of the relationship between hospital characteristics and outcomes is warranted.

This research sought to assess the quality of the healthcare delivery systems within the state of Florida using data from the Florida Department of Insurance's closed medical malpractice claim files. Medical malpractice claims were used as the primary performance metric and we focus on the top 15 cities with the highest number of claims to show the trend of malpractice claims by city over time. The data analysis showed that from 2006 to 2011, the number of malpractice claims oscillated with the highest claims of 1314 happened in 2007. From 2011 to 2016, there was a remarkable downward trend. If the number of (a) malpractice claims, (b) deaths from malpractice, and (c) claims ratios can be used to represent healthcare quality, it can be concluded that healthcare quality in the state of Florida slightly fluctuated from 2006 to 2011 and has significantly improved since 2012.

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