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Use of Physician Credentialing Standards by U.S. Medical Services Professionals

James Allen Reeder
Walden University

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Walden University

College of Social and Behavioral Sciences

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James Reeder

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Walden University
2017

Abstract

Use of Physician Credentialing Standards by U.S. Medical Services Professionals

by

James A. Reeder

MA, Northwestern University, 2008

BS, Santa Clara University, 1986

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

November 2017

Abstract

Credentialing in hospitals is the first line of defense for improving patient safety and reducing medical errors by verifying a physician's medical knowledge and skills. There is no single set of standards for physician credentialing followed by all hospitals in the United States. Using May's normalization process theory, the purpose of this quantitative study was to survey medical services professionals (MSPs) to determine which physician credentialing standards were being used, the sources being used, and the frequency of standards used. The dependent variables in this study were the 13 ideal credentialing standards developed by the National Association of Medical Staff Services (NAMSS). The independent variables were the methods MSPs use to satisfy the credentialing standard, or the way in which a hospital performs this function. The independent variables were measured using Likert-scale responses (always, almost always, sometimes, almost never, and never) and the dependent variables were measured by frequency of responses to each standard. A questionnaire was sent to 5,634 members of NAMSS. Findings from 364 responses indicated every facility had at least 1% of MSPs who almost never or never performed a particular standard in accordance with the ideal credentialing standards. A distribution table was used to measure the results, both individually and percentages of the total. To determine if there was a difference in credentialing standards based on hospital size or geographic location, a chi square was used. The results of this study demonstrated there are areas for improvement in physician credentialing. Results may be used to safeguard the public from fraudulent representation through implementation of a national credentialing standard.

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Dedication

This study is dedicated to my friends and family for all of their support and encouragement throughout this entire process. Special thanks to my husband, Greg, whose love and advice sustained me from beginning to completion. Another word of gratitude goes to two of my best friends, Danny and Margaret, who have always been there for me. Others who have been there for me include my mother, Mary Jo, as well as my sister, Julie. I would also like to dedicate this dissertation to my circle of friends who have shown me immense love and caring since I applied to graduate school.

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Table of Contents

List of Tables	v
Chapter 1: Introduction to the Study.....	1
Background.....	6
Problem Statement.....	15
Purpose of the Study.....	18
Research Questions.....	18
Research Question Presumptions.....	20
Theoretical Framework.....	24
Nature of the Study.....	28
Definitions.....	36
Assumptions.....	38
Scope and Delimitations	38
Limitations	39
Significance.....	40
Summary.....	42
Chapter 2: Literature Review.....	44
Connection Between Credentialing and Improved Outcomes.....	44
Monetary Benefits of Credentialing.....	46
Technology and Credentialing.....	48
Credentialing and Patient Safety.....	48
Error-Ridden Credentialing Processes.....	51

Criteria-Based Credentialing	51
Credentialing on a Global Level.....	52
NAMSS’s Credentialing Gold Standard vs. Current Practices.....	53
Credentialing and Privileging	55
Credentialing and Accreditation	56
Hospital Credentialing vs. Managed Care Credentialing	57
Credentialing and Government Agencies	58
Process Theory.....	60
Search Criteria	63
Conclusion	64
Chapter 3: Research Method.....	65
Research Design and Rationale	66
Variables	67
Methodology.....	71
Data Collection and Analysis.....	73
Instrumentation Reliability and Validity	74
Introduction to the Survey	76
Anonymity Assurance.....	77
Ethical Responsibility.....	78
Research Question Presumptions.....	78
Summary	79
Chapter 4: Results.....	81

Data Collection	82
Results	
Research question 1.	89
Research question 2.	90
<i>Proof of identity</i>	91
<i>Verification of education and training</i>	99
<i>Verification of completion of medical school</i>	99
<i>Verification of internship</i>	110
<i>Verification of residency</i>	120
<i>Verification of fellowship</i>	130
<i>Explanation of gaps</i>	140
<i>Military service</i>	148
<i>Verification of license.</i>	150
<i>Verification of DEA and state controlled substance certificates.</i>	154
<i>Verification of board certification.</i>	162
<i>Verification of affiliation and work history.</i>	168
<i>Criminal background checks.</i>	178
<i>Verification of sanctions.</i>	184
<i>Verification of health status.</i>	196
<i>NPDB.</i>	198
<i>Verification of malpractice insurance.</i>	200
<i>Verification of professional references.</i>	212
Research question 3.	221
Research question 4.	224
Research question 5.	228
<i>Proof of identity and size of hospital.</i>	230
<i>Verification of education and training and size of hospital.</i>	233
<i>Verification of military service dates and size of hospital.</i>	235
<i>Verification of license and size of hospital.</i>	237
<i>Verification of DEA and size of hospital.</i>	239
<i>Board certification and size of hospital.</i>	241
<i>Work history/affiliations and size of the hospital.</i>	243
<i>Criminal background checks and size of hospital.</i>	245
<i>Sanctions and size of hospital.</i>	247
<i>Health status and size of hospital.</i>	249
<i>National practitioner data bank and size of hospital.</i>	251

<i>Malpractice insurance and size of hospital.</i>	253
<i>References and size of hospital.</i>	255
<i>Proof of ID and geographic location.</i>	257
<i>Education and training and geographic location.</i>	259
<i>Military service and geographic location.</i>	261
<i>Proof of license and geographic location.</i>	263
<i>DEA and geographic location.</i>	265
<i>Board certification and geographic location.</i>	267
<i>Work history/affiliation and geographic location.</i>	269
<i>Criminal background checks and geographic location.</i>	271
<i>Sanctions and geographical location.</i>	273
<i>Health status and geographic location.</i>	275
<i>NPDB and geographic location.</i>	277
<i>Malpractice insurance and geographic location.</i>	279
<i>References and geographic location.</i>	281
Research Presumption Evaluations	297
Summary	299
Chapter 5: Discussion, Conclusions, and Recommendations	302
Interpretation of the Findings	303
Limitations of the Study	305
Recommendations	306
Implications	307
Conclusion	309
References	310
Appendix A: Survey	319
Appendix B: Site Permission	324
Appendix C: Informed Consent	238
Figures 1: Geographical Map	239

List of Tables

Table 1. Research Questions.....	20
Table 2. Hospital Size.....	85
Table 3. Geographic Location.....	86
Table 4. Hospital Credentialing.....	88
Table 5. Proof of Identity: Government Issued Photo ID.....	92
Table 6. Proof of Identity: NPI.....	94
Table 7. Proof of Identity: I-9.....	96
Table 8. Proof of Identity: VISA or Employment Verification Card.....	98
Table 9. Education and Training: MS Direct.....	101
Table 10. Education and Training: MS AMA.....	103
Table 11. Education and Training: MS AOA.....	105
Table 12. Education and Training: MS ECFMG.....	107
Table 13. Education and Training: MS Other.....	109
Table 14. Education and Training: Int Direct Source.....	111
Table 15. Education and Training: Int AMA.....	113
Table 16. Education and Training: Int AOA.....	115
Table 17. Education and Training: Int ECFMG.....	117
Table 18. Education and Training: Int Other.....	119
Table 19. Education and Training: Res Direct Source.....	121
Table 20. Education and Training: Res AMA.....	123
Table 21. Education and Training: Res AOA.....	125

Table 22. Education and Training: Res ECFMG.....	126
Table 23. Education and Training: Res Other	129
Table 24. Education and Training: Fel Direct Source	131
Table 25. Education and Training: Fel AMA	133
Table 26. Education and Training: Fel AOA.....	135
Table 27. Education and Training: Fel ECFMG.....	137
Table 28. Education and Training: Fel Other	139
Table 29. Education and Training: Gaps MM/YY	141
Table 30. Education and Training: Gaps 6 Month.....	143
Table 31. Education and Training: Gaps 1 Year.....	145
Table 32. Education and Training: Gaps 2 Years	147
Table 33. Military Service	149
Table 34. Licensure: State Boards	151
Table 35. Licensure: FSMB.....	153
Table 36. DEA: Copy	155
Table 37. DEA: NTIS	157
Table 38. CDS: Copy.....	159
Table 39. CDS: Licensing Board	161
Table 40. Board Cert: CertiFACTS	163
Table 41. Board Cert: ABMS	165
Table 42. Board Cert: AOA.....	167
Table 43. Work History: All Locations	169

Table 44. Work History: Most Locations	171
Table 45. Work History: Only Previous	173
Table 46. Work History: Start and End Dates	175
Table 47. Work History: Good Standing	177
Table 48. Background: Federal.....	179
Table 49. Background: State.....	181
Table 50. Background: County.....	183
Table 51. Sanctions: NPDB	185
Table 52. Sanctions: OIG.....	187
Table 53. Sanctions: LEIE	189
Table 54. Sanctions: EPLS	191
Table 55. Sanctions: FSMB	193
Table 56. Sanctions: SAM	195
Table 57. Health Status	197
Table 58. NPDB.....	199
Table 59. Malpractice: All	201
Table 60. Malpractice: Open.....	203
Table 61. Malpractice: Settlements.....	205
Table 62. Malpractice: Current	207
Table 63. Malpractice: NPDB.....	209
Table 64. Malpractice: Direct Insurers	211
Table 65. References: Direct Authorities.....	213

Table 66. References: Program Directors	215
Table 67. References: Department Chiefs	217
Table 68. References: ACGME	219
Table 69. Compliance Rates	223
Table 70. Non-Compliance	226
Table 71. Geographic Locations	229
Table 72. Statistical Analysis.....	231
Table 73. Compliance by Geographic Location	233
Table 74. Military and Size.....	235
Table 75. License and Size	237
Table 76. DEA and Size.....	239
Table 77. Board Certification and Size.....	241
Table 78. Work History and Size.....	243
Table 79. Background and Size	245
Table 80. Sanctions and Size	247
Table 81. Health and Size	249
Table 82. NPDB and Size	251
Table 83. Malpractice and Size.....	253
Table 84. Reference and Size.....	255
Table 85. ID and Geographic.....	257
Table 86. Education and Geographic	259
Table 87. Military and Geographic.....	261

Table 88. License and Geographic.....	263
Table 89. DEA and Geographic.....	265
Table 90. Board Cert and Geographic	267
Table 91. Work History and Geographic	269
Table 92. Background and Geographic	271
Table 93. Sanctions and Geographic	273
Table 94. Health and Geographic	275
Table 95. NPDB and Geographic	277
Table 96. Malpractice and Geographic.....	279
Table 97. References and Geographic	281
Table 98. Compliance by Geographical Location	284

Chapter 1: Introduction to the Study

Section 482.12 of the Medicare and Medicaid Conditions of Participation (CoP) (2012) mandates that a hospital's governing board is legally responsible for the operation and functionality of a hospital. One important aspect of the functionality of a hospital is the evaluation and verification of competency of a physician in a particular area of medicine or surgery. The process of evaluating a physician's competency is called credentialing. Credentialing is the first line of defense for ensuring physicians who see patients in a hospital or ambulatory setting have had their credentials vetted by credentialing specialists, also called medical services professionals (MSPs) (Cairns, 2014).

The role of the MSP is to gather information on the physician and verify all of the information contained in the credentialing application. Once the information has been verified through approved sources, the data are then placed in a credentialing file. The data in the file can either be accessed by a paper copy or an electronic copy. The data are then presented to the approving body such as a credentials committee, medical executive committee, or governing body. It is important for all of the data to be complete and accurate for the approving body to make an informed decision (Cairns, 2014).

Verification of education and training, state licensure, malpractice insurance history is part of the credentialing process. It can be a crucial factor to ensure a potentially negligent physician is able to practice on an unsuspecting patient. There have been cases in which negligent physicians have harmed patients, and one of the most celebrated cases was the case of Michael Swango.

Michael Swango attended and graduated from Southern Illinois University School of Medicine (Stewart, 1999). He later went on to a 1-year internship at Ohio State University Medical Center. He was initially offered a position as a resident once he completed his internship. This offer was later rescinded, so at the end of his internship he returned to Illinois and worked as an emergency medical technician. His coworkers noticed that whenever he would bring in coffee or food, several of them took ill. The police were called in to investigate and found arsenic and other lethal substances on his person. He was arrested, convicted, and sentenced to 5 years in prison.

Swango legally changed his name to Daniel J. Adams. He applied to various residency programs. After forging several documents, he was admitted to a residency program at the Sanford USD Medical Center in Sioux Falls, South Dakota. He forged documents stating that the governor had agreed to reinstate Dr. Swango's ability to vote based on colleagues' recommendations. Dr. Swango made the mistake of applying for membership in the American Medical Association (AMA), which conducted an extensive background check and discovered he had a criminal record. His application for membership in the AMA was denied.

Dr. Swango found a different residency in New York. Once again his patients began dying inexplicably. After becoming suspicious, a nurse called a contact she had at Sanford and inquired about Dr. Swango's past. After some investigating, Dr. Swango's true past resurfaced. He was fired from the residency and the dean of the residency program sent warnings to all medical schools and training facilities to be cautious of Dr. Swango. With no other options, he fled to Zimbabwe, Africa and was hired as an

attending physician at a hospital using forged documents. As more patients started mysteriously dying, he was investigated and ultimately convicted of fraud against the Zimbabwe government. He had already fled Zimbabwe and took a position in a hospital in Namibia.

Sensing he would be captured in Namibia, Dr. Swango falsified documents and applied for a position as an attending physician at a hospital in Saudi Arabia. During his time in Zimbabwe, United States government agents ran more autopsies and concluded that Dr. Swango had been poisoning patients. An arrest warrant was issued for Dr. Swango. While he was on a layover in Chicago, IL from Namibia to Saudi Arabia, Dr. Swango was arrested. The U.S. government charged him with fraud, to which he pled guilty. He was sentenced to 3.5 years in prison. This gave U.S prosecutors time to build a murder case against him. Dr. Swango ultimately pled guilty to murder and was sentenced to three consecutive life sentences. He admitted to killing only four people, but prosecutors claimed there could be as many as 60 people who were murdered by Dr. Swango. The Zimbabwe government charged him with poisoning seven people, five of whom died. Had he not pled guilty, he would have faced the death penalty in New York and extradition to Zimbabwe.

Dr. Swango's criminal record was discovered through a process called credentialing. In Dr. Swango's case, if an extensive background check had been performed by the hospitals to which he applied, he would have been discovered and the patients whom he poisoned might not have died; he would not have had access to them or the prescription medications. Some speculate he could have murdered at least 60 patients,

although he admitted to murdering only four. It is unknown how many imposters there are practicing medicine without the proper education and training. One line of defense to safeguard against such tragedies is to have a consistent practice of verifying education and training, work history, licensure, and malpractice claims (NAMSS, 2017).

Cairns (2014, pp 173-192) discussed the various requirements a MSP should follow when credentialing a physician. The requirements are different and vary according to the credentialing standards of the accrediting body. For example, The Joint Commission's Primary Source Requirements (2017), an accreditor of hospitals, suggested best practices for verification of graduation from medical school are through the American Medical Association, the American Osteopathic Association, or the Educational Commission for Foreign Medical Graduates. Alternative methods of verifying graduation from medical school include correspondence with the medical school, a documented phone call, or completion of a form from the source (Cairns, 2014).

Requirements for verification of medical school for the National Committee for Quality Assurance are different. If the physician is board certified, only the verification of board certification is required as proof of graduation from medical school. If he or she is not board certified, verification of the highest level of training is sufficient to meet the requirement. In this case, verification of completion of residency would satisfy the requirement of verification of completion of medical school. The other accreditation organizations have their own set of criteria (Cairns, 2014).

Because accreditation organizations have differing credentialing standards, each hospital, depending on the accreditation organization, may have differing credentialing

standards. This means that a hospital on the north side of the street may have different credentialing standards from the hospital on the south side of the street. The need for a common credentialing standard throughout the United States has not been addressed. A comprehensive survey of the credentialing practices of hospitals throughout the United States had not occurred prior to the current study.

The credentialing standards used throughout the United States need to be documented to determine the extent of the variations in the credentialing standards being employed. Until the credentialing standards across the United States can be determined, it is unclear how pervasive substandard credentialing processes are being followed. If it is determined that substandard or deficient credentialing standards are being followed, there needs to be a measured inquiry as to how often substandard credentialing is happening, where substandard credentialing standards are being performed, and whether there is any difference in credentialing standards based on the size of the hospital. *Deficient* is defined as levels of credentialing standards that do not meet the 13 ideal credentialing standards (ICS) developed by the National Association of Medical Staff Services (NAMSS). This was the basis for the study.

This chapter begins with a brief history of credentialing. This chapter also addresses the various credentialing requirements of the major accrediting organizations. According to Cairns (2014), this is important because as credentialing standards vary from hospital to hospital, depending on the accrediting organization, the highest level of investigation into the medical knowledge and training may not be employed.

I sent a survey to the 5,634 members of the National Association of Medical Staff

Services to determine which credentialing standards are being used. Once this information was gathered and statistically vetted, further studies could be performed to determine whether the need for a national credentialing standard exists. The lack of consistency of credentialing standards could allow a physician who may not have enough training to treat patients and expose them to substandard care.

After reviewing the background and current standards of the various credentialing organizations, I explore the issues a nonstandardized credentialing standard could present as well as the purpose of the study, its research questions, and hypotheses. I also discuss the theoretical framework for the study. Finally, I explain the assumptions, scope and delimitations, and significance of the study.

Background

The earliest written documentation of physician credentialing is outlined in a book of religious law dating back to 1,000 BC. The *Vendidad* allowed for a prospective physician to heal three heretics to prove his or her knowledge and skills. If successful, he or she had the right to practice medicine indefinitely (Sethna, 1977). As time passed, the College of Saint Come formed. It defined the conditions of participation to practice medicine, one of which demanded a candidate pass an examination administered by a panel of surgeons. During the reign of King Louis VIII, the English Act of 1511 was adopted, requiring all surgeons be examined in a public forum and approved by a group of four master surgeons (Scoville & Newman, 2009). The English Act of 1511 mandated that surgical candidates had to be residents of London and required non-Londoners to pass qualifying exams and be approved by local master surgeons.

In 1743 King Louis XV issued an ordinance mandating the practice of surgery be restricted to those who were “properly trained” (Garrison, 1929, p. 393). As the centuries passed, the process of completing a written exam and approval by master surgeons continued. Current requirements to practice medicine in the United States are dictated by the Accreditation Council for Graduate Medical Education (ACGME). In the first phase, medical students are required to pass a written medical examination supervised by the faculty of the medical school. Once the medical student successfully completes the examination, he or she is able to move into the residency phase of his or her training (ACGME, 2017).

During the period of residency, physicians learn from practicing physicians how to hone their skills with the intent of practicing independently. Once a physician has completed his or her residency, he or she is able to sit for one of the 70 independent state medical licensing boards. Some states have separate licensing boards for doctors of osteopathic medicine, and some states have more than one state licensing board. After successful completion of the licensing process, a physician is able to practice independently in the state in which he or she passed the licensing exam.

If a physician wants to practice at an institution such as a hospital, he or she must go through the hospital’s credentialing process to be admitted to the medical staff. The MSPs rely on a number of sources of information to allow the approval body to make an informed credentialing decision. In addition to credentialing, the medical staff office must also gather information regarding the privileges a physician is allowed to perform. Credentialing and privileging are two separate functions of the approval process, but

most of the time they occur simultaneously.

In the case of privileging for someone out of residency, MSPs must ask the department chair at the training facility if the physician has completed all of the requirements of his or her residency program. In the case of physician who has been practicing for a number of years, the MSPs should ask the department chair or his or her designee within every facility in which the physician has practiced, which dates he or she practiced, in which specialty he or she practiced, whether he or she was in good standing, and whether there were any reductions in privileges, loss of privileges, or sanctions against the physician. If the physician wants special privileges, he or she must be able to demonstrate competency in that particular type of procedure (Cairns, 2014).

The applicant to a medical staff must demonstrate proficiency in a particular area or technique to be able to practice in a certain area. For example, a neurosurgeon must demonstrate competency in general surgery, but must then demonstrate additional training and experience to be privileged in neurosurgery. The study was limited to issues surrounding credentialing and not privileging, although the two processes are usually processed simultaneously. Credentialing allows a physician to be on the medical staff while privileging addresses the procedures a physician can perform.

The credentialing process is one of the ways a physician is evaluated by either the hospital's Medical Executive Committee, Governing Board, Credentialing Committee, or another approval body at the hospital (Cairns, 2014). According to the Health Resources and Services Administration (HRSA), credentialing is part of a process by which a

healthcare entity (hospital) assesses and confirms the qualifications of a licensed or certified healthcare provider (HRSA, 2017).

Each state (and territory) in the United States licenses physicians independently from other states, thus allowing the potential for physicians to have their licensure suspended or revoked in one state without the knowledge of other states. In an effort to assist hospitals in their credentialing process, the United States government launched the National Practitioner Data Bank (NPDB), an independent organization run by the United States government. It is a not-for-profit organization dedicated to improve healthcare quality, reduce fraud and abuse, and ultimately protect the public (NPDB, 2017).

All 50 states are required to report any medical malpractice payments, federal and state licensure certification actions, limitations, restrictions, revocations, sanctions, surrendering, or suspensions of a physician's license, adverse professional society actions, negative actions or findings by accreditation organizations or peer review organizations, healthcare related criminal convictions and civil judgments, and exclusion from participating in Medicare and Medicaid to the NPDB (NPDB, 2017). The penalty for not reporting adverse actions could result in a fine of up to \$25,000 per non-reported incident.

According to the NPDB's compliance report, the practice of reporting to the NPDB is, for the most part, adhered to. There are, however, certain states that do not tend to report negative activity to the NPDB. In Louisiana, for example, over 70% of hospitals have never reported a negative action to the NPDB (Citizens, 2014). As a result, the possibility of a physician's licensure record may not fully reflect a physician's practice

history and therefore impact a credentialing decision designed to make an informed decision based on license history. Attempts have been made by the NPDB to address compliance, but it is easier to address reporting compliance rather than investigate every sanction placed on every provider in all 70 state medical boards.

One of the Institutes of Medicine (IOM) missions is to help health practitioners and health institutions make informed decisions about health policies and practices in an effort to safeguard the American people (IOM, 2017). It is only fitting the IOM help implement better methodologies to identify unqualified practitioners. Identifying unqualified practitioners has been inconsistent because healthcare lacks a single methodology and a single regulatory credentialing requirement. The result is an inconsistent industry where an unqualified physician might be allowed to practice at one hospital but could be denied at another.

There are a number of accrediting bodies that have established credentialing standards for the purpose of operating a hospital, but the largest hospital accreditation organization is The Joint Commission (TJC), formerly known as the Joint Commission on Accreditation of Healthcare Organizations (JACHO). DerGurahian's (2008) study estimated that over 90% of hospitals select accreditation through TJC.

TJC has its own credentialing standard and requires hospitals to detail their credentialing standards in their bylaws or policies and procedures. TJC has its own minimal requirements for credentialing, but leaves the final credentialing decision to the hospital. TJC provides suggestions on how a hospital credentials a physician, but leaves many of the methods up to the hospital. For example, verification of licensure can be

performed by inquiring directly to the state medical board or delegate the verification to the American Medical Association (AMA) by purchasing their AMA profile.

Hospitals may choose to be accredited, but it is not a requirement. Accreditation from the Centers for Medicare and Medicaid Services (CMS) is granted following audits (usually performed through the Department of Health) certifying the facility's compliance with CMS standards. Organizations found to be in compliance with CMS standards (which include minimal credentialing standards) are given deeming status. This standard means any hospital accredited by TJC, for example, is deemed in compliance with CMS and can bill Medicare for services rendered.

Other options for accrediting bodies include the Accreditation Association for Ambulatory Healthcare (AAAHC), Det Norske Veritas GL Healthcare (DNV-GL), and Healthcare Facilities Accreditation Program (HFAP). The variances in credentialing standards could result in a very rigorous credentialing standard for one hospital, while another follows the minimally accepted credentialing standard of a different accreditation organization. The hospital with the minimally acceptable credentialing standard could possibly approve a physician whose performance is substandard, but well hidden. For example, if the hospital uses the AMA profile and that profile is outdated and the physician's license was revoked, the use of the AMA profile for purposes of credentialing may allow someone who may not have adequate training and lost his or her license may be allowed to obtain approval on the medical staff due to incomplete information.

The mission of the HRSA is to improve healthcare by improving access to skilled healthcare workers and achieving health equity (HRSA, 2017). In order to have access to

skilled healthcare workers, the workers themselves must be evaluated in some fashion. This evaluation is typically performed by submitting the worker's education, training, and experience through the credentialing process. The HRSA does not have a formal credentialing policy, but instead relies on Centers for Medicare and Medicaid Services (CMS) standards for those deemed to meet certain criteria for participation with Medicare (CMS, 2017).

The only accreditation organizations that have met the criteria for deemed status are TJC, the American Osteopathic Association's Health Facilities Accreditation (AOA/HFAP), and Det Norske Veritas Healthcare's National Integrated Accreditation for Healthcare Organizations (DNV/NIAHO) (CMS, 2017). The criteria for meeting deemed status are individual character, competence, training, experience, and judgment (42 CFR 482.12 (a) (6)). This deemed status ensures the workers who have been credentialed through an approved accreditation organization, such as TJC, meet the Conditions of Participation (CoP) in Medicare.

One problem with the CoP is they are very basic and the process for validating the criteria varies between accreditation organizations. In other words, there are inconsistencies in the credentialing process that accreditation organizations use to meet the CoP standards. The HRSA recognizes inconsistencies in the credentialing process (HRSA/BPHC, 2017). HRSA cites examples of credentialing policies of one of the largest accreditation organizations in the United States, TJC, and juxtaposes it with the requirements of the Bureau of Primary Health Care (BPHC) and the Accreditation Association for Ambulatory Health Care (AAAHC). For example, the BPHC cites that

individual health organization or hospitals, can determine if part-time contractors or locum tenens, which could be physicians, need to be credentialed (BPHC, 2017).

HRSA cites TJC credentialing standards which only require hospitals to credential Licensed Independent Practitioners (LIPs), while the AAAHC requires credentialing for all licensed healthcare practitioners. This substandard credentialing practice could potentially allow a non-qualified physician to be admitted onto a medical staff. Allowing non-qualified physicians onto a medical staff could affect the safety of the patients a non-qualified physician sees.

As a result of these inconsistencies, BPHC is in the process of adopting the policy that meets or exceeds the credentialing requirements of the Federally Supported Health Centers Assistance Act (FSHCAA) of 1992. This Act requires all physicians and licensed or certified healthcare providers be credentialed. The process is confusing because previous BPHC requirements only mandated hospitals follow the requirements of national accrediting organizations, which may or may not meet the requirements of the FSHCAA.

Therefore, hospitals can be in compliance with their accreditation body, but be out of compliance with federal requirements if they receive federal funding. For-profit hospitals that do not receive federal funding may follow their accrediting body and be in compliance. These inconsistencies in credentialing standards could potentially place patients at risk.

Due to inconsistencies in the credentialing standards and seeing the need for increased patient safety measures, NAMSS developed an Ideal Credentialing Standard

(ICS) consisting of 13 criteria that should be thoroughly investigated prior to approving a practitioner onto a medical staff panel (NAMSS, 2017). No known study has surveyed hospitals to determine which credentialing standards are followed. This study illuminates which credentialing elements hospitals are being followed in an effort to determine if there are deficiencies on a national or regional level which may help establish whether or not a national standard needs to be developed.

NAMSS convened a meeting with top healthcare industry leaders, including the American Board of Medical Specialties, the American Medical Association, the American Hospital Association, the Federation of State Medical Boards, the Centers for Medicare and Medicaid Services, and the Joint Commission, to name a few. All members agreed on the Ideal Credentialing Standards in an effort to promote improved patient safety. NAMSS is the major healthcare organization that is dedicated to improving patient safety via MSP education and certification. The executive board of NAMSS keeps in contact with industry partners and works in conjunction with various government agencies to address issues surrounding healthcare and credentialing.

Healthcare and healthcare regulations are constantly changing. Creating the 13 Ideal Credentialing Standards is a good first step toward uniformity of the credentialing standards. Failure to fully investigate every physician's education and training, criminal background, licensure, malpractice history, and board certification status could lead to an increase in adverse patient safety events. Collaborating with industry leaders could bring about a more cohesive policy dealing with credentialing.

Problem Statement

There are many inconsistencies in credentialing standards (HRSA, 2017). It was previously unknown which credentialing standards were being followed because each accreditation organization has varying credentialing standards. The Joint Commission (2016), for example, promotes best practices of verification of completion of medical school via the American Medical Association, the American Osteopathic Association, and the Educational Commission for Foreign Medical Graduates. Another option is a documented phone call to the institution or completion of a form by the institution. The Centers for Medicare and Medicaid Services (CMS) does not list acceptable secondary sources (Cairns, 2014). If a physician's graduation from medical school is not properly verified, there is a potential for an imposter to gain access to patients and cause irreparable harm.

Until it is fully known which credentialing standards are being followed throughout the United States, the extent to which hospitals are following the minimum credentialing standards or are following the ideal credentialing standards cannot be known. The current study addressed the credentialing standards that are being followed. By studying the actual credentialing standards, I sought to determine whether the implementation of the ideal credentialing standards adopted by NAMSS would be necessary. A single credentialing standard may provide more assurance that a potentially dangerous physician with subpar education and training could never be admitted onto a medical staff.

In addition to NAMSS, other organizations have credentialing standards. The

Greeley Company is an educational company dedicated to helping health care organizations promote high quality and cost effective patient care (Greeley, 2017). The Greeley Evolving Credentialing Standard was developed to provide a framework for MSPs to delve deeper into a physician's background to make a more informed credentialing decision. The Greeley Company is less concerned about minimal regulatory compliance and more concerned about a patient's safety (Greeley, 2017).

Although NAMSS has 13 ideal credentialing standards (ICS), the Greeley Evolving Credentialing Standard has 16 elements for credentialing excellence. These include: lifetime licensure history, lifetime clinical education and training history, professional liability and claims history, specialty board status, sanctions and disciplinary actions, National Practitioner Databank (NPDB), lifetime criminal record, verification of identity, all healthcare-related employment/appointment history, peer references, clinical activity for the past 6 to 12 months, performance assessment, ability to perform requested privileges, internet search, establish consistent practices for employed and non-employed practitioners, and assess verified applicant information for internal consistency and compliance with medical staff credentialing and privileging criteria.

The Standard goes far and above the minimal criteria for accreditation by organizations such as The Joint Commission and the Centers for Medicare and Medicaid Services. Greeley (2017) argued these criteria do not go far enough to ensure physicians who may not have the competency to practice in their specialty. To see the extent of noncompliance with either the 13 ideal credentialing standards or with the 16 elements for credentialing excellence, it must first be known which credentialing standards are

being followed.

It is now known there are hospitals in the U.S that do not follow NAMSS's 13 ideal credentialing standards. There may be documents in the credentialing file indicating graduation from medical school was verified, but the Joint Commission allows for a documented phone call with the medical school as an acceptable means to verify completion of medical school. It would be very easy for an MSP to write on a sheet of paper that he or she called the medical school and verified the physician's graduation, but never actually made the phone call.

There are more examples of how the various accreditation organizations' credentialing standards vary. For example, TJC requires verification of licensure by specified sources. State licensure can only be verified by contacting the state licensing board via its website or via a documented phone call. CMS does not specify acceptable sources for verification of state licensure. DNV-GL does not specifically state which primary source verification method to be used, but as an alternative allows copies of certificates or some other primary source verification. HFAP will only allow primary source verification. Secondary alternative sources are the same as TJC (Cairns, 2014).

In the case of foreign doctors whose education and training cannot be verified, documentation of all efforts to primary source verify his or her education and training may suffice. This is not the case with all accrediting organizations, but an accepted practice for some. TJC suggests contacting colleagues who worked with the applicant to satisfy the requirement. The main problem is prior to this study, no one knows which credentialing standards are currently being followed.

Purpose of the Study

The objective or purpose of this study was to survey MSPs and find out which specific credentialing standards were being used and to determine which sources were being used to investigate the education and training, state licensure, malpractice history, and other ideal credentialing standards supported by NAMSS. I also sought to determine whether there was any correlation between geographical location and the size of the hospital. Size was defined by the number of beds a hospital is licensed to use. Geographical location was broken up into the four geographic locations delineated by the United States Census Regions and Divisions.

The results of the analysis indicated whether medical staff are completing a comprehensive investigation into the qualifications of potential physicians seeking an appointment to a hospital medical staff. I also sought to identify the criteria they used to make a credentialing decision. Data collection included a survey completed by NAMSS members who work to investigate a physician's credentials. Data analysis indicated that the NAMSS Gold Standard was not being met in all areas. Results also indicated that a national credentialing standard should be implemented across the United States.

Research Questions

The purpose of this study was to survey MSPs and find out which specific credentialing standards are being performed, ascertain which sources are being used to investigate the education and training, the state licensure, the malpractice history and the rest of the 13 Ideal Credentialing Standards supported by NAMSS. Further, the study is in an effort to determine whether a national credentialing standard is necessary. A

questionnaire was developed to investigate credentialing practices throughout the United States. The survey asked how often a standard is used as well as the sources used to satisfy the requirements. For example, the ideal credentialing standards include confirming proof of identity (Research Question 1). This can be satisfied in a number of ways: government issued ID, national provider index (NPI), I-9, VISA card, or employment verification card.

Proof of identity is required by TJC, but hospitals have the option of verifying proof of identify by a state or federal agency or a current picture hospital card. If a hospital uses a current picture hospital ID card, there is not a way to verify whether the current hospital used a government issued identification card. Under this scenario, a person could be an imposter and could be admitted to the medical staff using the identity of another physician.

The current study addressed credentialing practices being used by MSPs. Determining which credentialing standards are being used may indicate whether a national standard needs to be established or whether follow-up studies need to be performed. Only TJC mentions proof of identify in their credentialing standards; hospitals accredited by CMS, DNV-GL, or HFAP may not require proof of identity as part of their credentialing standards.

Each of the 18 survey questions addressed whether the MSPs perform the various functions of the Ideal Credentialing Standards. Each question in the survey was designed to measure the frequency that an MSP performs the standard when credentialing. The responses were always, almost always, sometimes, almost never, and never. The answers

indicated which of the standards the MSPs follow and how often they perform the standard.

This results indicated which standards were being followed as well as how often the ideal credentialing standards were being followed. Through chi square statistical analysis, I examined whether the standards were being performed in geographical locations and whether the standards were based on the number of beds a hospital had.

The study was guided by the following research questions (RQs) (see Table 1):

Table 1

Research Questions

RQ1: Which credentialing standards do MSPs perform?

RQ2: Do the credentialing standards being performed by hospitals match the gold standard developed by NAMSS?

RQ3: How often are the gold standards being followed?

RQ4: Are there NAMSS gold standard practices that are almost never or never performed?

RQ5: Is there a difference in credentialing standards by hospital size or geographical location?

Research Question Presumptions

Much is unknown as to which credentialing standards are being followed by all MSPs. RQ1 in this study asks which credentialing standards are being performed. Since approximately 90% of all hospitals are accredited by TJC (TJC, 2017), it is presumed

approximately 90% of all MSPs will respond they always or almost always follow a particular standard. Since there are many standards that are not uniform as to how they are followed (Cairns, 2014), the response rate will most likely be lower than the 90% compliance rate.

In 2014 NAMSS developed the 13 Ideal Credentialing Standards (ICS) (NAMSS, 2017). RQ2 asks if the credentialing standards being performed by MSPs match those ICS developed by NAMSS. It is presumed that since NAMSS places such high standards in educating its members, the percentage of MSPs, (all are members of NAMSS) who follow the ICS will be high (80-90%). NAMSS promotes patient safety as one of its top priorities and a stringent and fully vetted credentialing process would be of value to its members and the patients who come for care at their hospital. It is possible that education is not the only component to a high compliance rate with the ICS. Other factors such as insufficient staffing and the high cost of credentialing software could play a factor in a hospital not following the ICS.

Finding out how frequently an MSP follows the ICS is important to know for many reasons, but one in particular is to see how prevalent it is that a MSP does not follow the ICS. RQ3 specifically asks how often the ICS are being followed. It is presumed that MSPs will follow most of the ICS most of the time, but in the case of Dr. Swango (Stewart, 1999), allowing one unqualified or an imposter could be detrimental to patient safety.

The frequency of how often a MSP follows the ICS is important, but are there ICS that are never followed? RQ4 asks if there are ICS that are never followed. It is presumed

that there will be very few ICS that are never followed. Most of the ICS have a direct correlation to the credentialing standards of TJC (TJC, 2017), so if there are MSPs that never perform certain standards that comprise the ICS, then they would be out of compliance with their accreditation standards. If there are components of the ICS that are never followed, it is interesting to note which components some MSPs never perform.

RQ5 asks if there are differences in the credentialing standards being performed throughout the United States based on the size of the hospital or the geographic location of the hospital. It is presumed the larger hospitals would have a more robust credentialing standard since many large hospitals have a large IT infrastructure that can support credentialing software. Larger hospitals may also have a Credentials Verification Organization (CVO) that handles the credentialing for several hospitals within a system of hospitals. In terms of geographic location, it is presumed credentialing standards will be the same throughout the United States with possibly a larger adherence to the ICS in the Northeast where there are more integrated systems of healthcare.

This study helped determine the need for a national credentialing standard. The various hospital accrediting bodies allow for varying methodologies as part of the credentialing process. For example, TJC only requires verification of licensure in the state of the institution. CMS does not specifically address which primary source should be used for licensure. DNV-GL also only requires verification of the license in the state where the institution is located. HFAP, on the other hand, requires verification of all state licensure where a physician practices medicine. A national credentialing standard might prevent a non-qualified physician -from being admitted to a medical staff and confirm a

medical staff professional is satisfying his/her due diligence in the credentialing process.

The accrediting bodies accredit hospitals approximately every three years (Cairns, 2014). Documentation of the credentialing process is verified, but technology can often provide a mechanism for the appearance of adhering to a protocol. For example, it would be perfectly acceptable under TJC for an MSP to document he/she called the state licensing board and verified licensure over the phone. As long as there is documentation in the form of a note in the file that a license was verified by phone, it is a perfectly acceptable method to verify licensure. The credentialing system software would show compliance with the standard when it may not have been followed. A national credentialing standard following those suggested by NAMSS or Greeley could solve deficiencies should some become identified.

Before this study, no studies had been performed inquiring about whether or not a medical staff office always follows their own credentialing protocols. MSPs may want to document they are adhering to their credentialing protocols, but it might be too easy to cover up certain protocol inadequacies. An anonymous survey was determined to be the best method to obtain results that may expose discrepancies in the published information from the information gleaned from the responses to the study.

Another problem with some accrediting organizations is that some do not publish individual inadequacies such as credentialing; they only publish that the hospital achieved an acceptable percentage overall. For example, if someone went to The Joint Commission's website and looked up the accreditation status of a hospital, the website would only provide the term for which a hospital is accredited. There is no way to

determine if there were areas of deficiency within the credentialing process. The hospital could be accredited for a number of years and yet deficiencies in the credentialing process might permit the admission of negligent physicians to be added onto the Medical Staff. It is much easier to deny admission onto a medical staff from the beginning rather than finding some sort of negligence that may have been discovered had there been a standardized credentialing process in place.

It was assumed that all hospitals at a minimum follow the NAMSS ICS in the areas of licensure verification, education and training, malpractice history, explanation of gaps in training and practice, sanctions, and professional references. This is assumed because they are all credentialing standards that TJC requires. Many of the larger institutions are accredited by TJC, but one question this study attempted to answer is are the NAMSS ICS being met by larger institutions and are smaller institutions not following them. This study also intended to determine if some institutions were not following the NAMSS ICS due to geographic locations, or the size of the hospital (number of beds).

Theoretical Framework

I used quantitative methodology to determine how many hospitals are verifying state licensure in every state a physician is licensed in, and to examine the other 12 criteria approved by NAMSS. Using a 5-point Likert scale, I examined how many facilities always check for state licensure, how many almost always check, how many sometimes check, how many usually do not check, and how many never check for state licensure. The survey was developed using examples of other surveys and with the

assistance of NAMSS staff who have extensive backgrounds designing surveys. The surveys were designed in conjunction with previous surveys NAMSS has sent out. The answers to the research questions may indicate there are certain patterns among different hospitals with regard to credentialing guidelines.

The theoretical framework for the study was normalization process theory (NPT). This framework is effective in both qualitative and quantitative research because it allows the researcher to collect massive amounts of data at the same time and in a standardized format. The surveys were answered independently from each other and were sent at one time.

NPT can provide a rational foundation that can substantiate knowledge claims and assist in the process of determining if a national credentialing standard needs to be put into place. NPT allows for a standardization of the actors (MSPs), objects (credentialing standards), context (healthcare/patient safety), and the processes that govern them (credentialing standards imposed by the accreditation organizations). NPT is an explanatory model that focuses more on the work that people do (credentialing standards) than the outcomes. It was developed to address gaps in the tools available to explain why certain procedures were failing. One of its first uses was in the field of telemedicine. Many errors were reported and risk managers and clinical safety personnel needed a tool to assist them in determining what dysfunctional (May, 2006) was.

NPT focused on the drivers of change. In this instance it was NAMSS that brought together a team of experts to discuss which standards were considered crucial to a successful credentialing practice and which ones were less important. NPT focused on

the coherence of the work being performed. In this case, it was the credentialing standards. NPT requires cognitive participation. In this case it is the MSPs who perform the credentialing practices. NPT requires collective action. In this instance, NPT is concerned about how the work gets done and what MSPs do. The final construct of NPT involves reflexive monitoring, or how the work is understood. This final construct is not included in the study, but could occur after implementation of a national credentialing standard is put into place.

RQ1 asks which credentialing standards MSPs perform and the frequency with which they are performed (always, almost always, sometimes, almost never, and never). The study illuminated the fact that not all hospitals follow the Ideal Credentialing Standards at all times. This could lead to a decrease in patient safety because a truly informed credentialing decision could not be made due to inaccurate or incomplete data. Knowing which credentialing standards were being met was the first step in determining if a national credentialing standard is needed.

Using NPT can be a valuable tool in identifying how many institutions follow the “gold standard” of credentialing and see if there is a relationship between accreditation organizations and the credentialing standards the hospitals follow. NPT can assist in helping compare how different organizations credential in hopes of determining exactly which credentialing standards are being followed. NPT can assist in the development and design of the study. It can also assist with the development of the survey tool by standardizing the types of questions asked on the survey.

NPT is an action theory that deals more with what people do (process) instead of

their attitudes or beliefs (emotion) regarding the process (May et al., 2010). The study was based on discovering which standards are being met and thus asked the MSP what they do. How MSPs feel about what they do is irrelevant and thus NPT lends itself well to the overall design and functionality of the survey. The survey focused on discovering which standards are being performed and compares what MSPs actually do with the 13 ICS.

NPT consists of four basic constructs: Coherence, Cognitive Participation, Collective Action, and Reflexive Monitoring. Within the Coherence construct, we must first make sense of the credentialing process one person may follow as opposed to other processes (RQ1). Within the Cognitive Participation construct, the main focus is on the relational work people perform (RQ1). The MSPs are the major contributors to the credentialing process so it must be known what MSPs do. Collective Action deals with the operational work an individual performs in relation to the group (RQ1 and RQ3). RQ3 asks how often the ICS are followed. Reflexive Monitoring helps participants understand and appraise the merits of following a new process. This last construct would be more appropriate for use in a follow-up study should a national credentialing standard be put into place.

The study has the potential to illuminate national leaderships such as NAMSS to possibly use the data as a basis to champion credentialing reforms and mandate the Ideal Credentialing Standards nationwide. Furthermore, NPT could highlight any potential deficiencies and play a role in improving patient safety, thus bolstering the need for additional studies in healthcare.

Nature of the Study

Credentialing practices are inconsistent and need to be addressed (HRSA, 2017). One of the difficulties of addressing the issue of inconsistencies is the lack of knowledge of which credentialing standards hospitals follow. Because accreditation plays a large role in which standards are followed, the issue of having various accrediting organizations with varying credentialing standards does not allow for an insight into the credentialing standards across the United States.

This study was conducted to measure which credentialing standards are being used and the frequency of the methodology of verifying a physician's education, training, and so on to make an informed credentialing decision. The research questions were as follows:

RQ1: Which credentialing standards do MSPs perform?

RQ2: Do the credentialing standards being performed by hospitals match the ICS developed by NAMSS?

RQ3: How often are the ICS being followed?

RQ4: Are there NAMSS ICS practices that are never performed?

RQ5: Is there a difference in credentialing standards by hospital size or geographic location?

The study was conducted to measure which credentialing standards MSPs perform (RQ1). I also intended to determine whether the credentialing standards supported by NAMSS were being followed (RQ2), which of the ideal credentialing standards were being followed, as well as their degree and frequency (RQ3 & RQ4).

Because geographical inconsistencies were unknown, RQ5 addressed the possible correlation between the hospital size or geographical location. The data were analyzed using a chi square.

The MSPs involved in this study included members of NAMSS (5,632 at the time the survey was sent out), the largest medical staff professional organization in the United States. These members were chosen because of their expertise in the area of credentialing and their understanding of the survey questions. MSP are the professionals who perform the credentialing processes. The survey was sent electronically via SurveyMonkey. NAMSS has the capability to send the survey out without disclosing its membership information to the researcher. All information returned from the survey was anonymous.

Survey questions (Appendix A) correlate exactly with the 13 ICS supported by NAMSS. The questions helped determine there are in fact, inconsistencies and helped determine a national credentialing standard should be looked at in more detail. The questions asked which methods each MSP uses to credential a physician. For example, question 1 asked if the MSP uses a government issued ID, the NPI number, I-9 documentation, VISA card, or employment verification card. The questions asked if each standard was performed always, almost always, sometimes, almost never, and never. This question helped answer RQ1, RQ2, RQ3, and RQ4 by noting the method they follow in credentialing a physician as well as the frequency of which the method was followed.

Survey question 2 asked for information about the methodology and frequency of verifying education and training. The potential sources for verification of education and training can come from direct contact with the following sources: direct contact with the

educational facility, the AMA, AOA, ECFMG, or Other. The AMA has a database of physician information that has been primary source verified by the AMA. The report of data from the AMA database is called the AMA Profile. The AMA Profile is an acceptable source for verifying education and training. The American Osteopathic Association (AOA) also offers this service for its members. Note: Most MDs are associated with the AMA and most DOs are associated with the AOA. This question helped answer RQ1, RQ2, RQ3, and RQ4

Survey question 3 continued with education and training because the process of becoming a physician occurs in stages. Completion of an internship helps determine whether the physician successfully completed that part of his/her training. The question asked if the following sources were used to verify completion of internship: direct contact with the source, AMA, AOA, ECFMG, or other. This question helped answer RQ1 RQ2, RQ3, and RQ4.

Survey question 4 continued with education and training by asking how successful completion of residency is verified. Residency is the last crucial step in a physician's general training. After successful completion of residency a physician can apply for privileges in his/her chosen specialty. Note that many specialties require additional training called fellowship. The survey question asked which of the following sources were used to verify successful completion of residency: direct contact with the source, AMA, AOA, ECFMG, or other. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 5 continued with education and training by asking how

successful completion of a fellowship was verified. As previously stated, many specialties require an additional year or more focusing on a specific set of training in a specialty or sub-specialty. For example, a general surgeon may wish to perform surgery on pediatric patients. He/she would have to train additional years to practice in pediatric surgery. The question asked which of the following sources were used to verify successful completion of a fellowship: direct contact with the source, AMA, AOA, ECFMG, or other. These questions helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 6 continued with education and training by asking if there are any gaps in training. There are a variety of reasons why gaps in training could be important such as a physician applying for membership on a medical staff who could have been in jail and yet did not disclose the information. The question asked for gaps greater than 2 months, 6 months, one year, and greater than 2 years. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 7 continued with education and training by asking how verification of the ECFMG was completed. The ECFMG verifies the education and training of foreign medical graduates. The ECFMG can be an important tool in verifying education and training due to the length of time it could take to verify the education and training by contacting the primary source. This question helped answer RQ1, RQ2, RQ3, and RQ4. .

Survey question 8 asked how the MSP verifies military service if applicable. If a physician is deployed for over a three year period, they may lose their medical staff privileges. By verifying military service, the red flag of losing medical staff privileges

could be resolved. The survey question asked if the MSP used the form DD214 to verify active duty. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 9 asked how professional licensure is verified. Verification of licensure is extremely important because patterns can be seen through licensure. If, for example, a physician moves from one state to another, it could be indicative of a pattern of leaving a state before sanctions or restrictions could be imposed. Verification of licensure can also assist with work history. If a physician indicates they held a license in a particular state yet has no work history in that state, it could be a red flag. The question asked the MSP if licensure was verified through the state regulation board or the Federation of State Medical Boards (FSMB). The FSMB stores information on licensure in all 50 states. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 10 asked if the Drug Enforcement Agency (DEA) certificate was verified. The DEA allows physicians to prescribe different classes of drugs. The question asked if the DEA was verified by inspection of the certificate or through the National Technical Information Service (NTIS). The NTIS offers a subscription to healthcare organizations to electronically track valid DEA numbers, schedules, and expiration dates for physicians who have a DEA. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 11 continued with verification of a controlled substance certificate, but at the state level. Many states require a separate controlled substance certificate. The question asked the MSP if they verified the controlled substance certificate by inspection of a copy of the certificate or with the state licensing board. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 12 asked if or how the physician's board certification has been verified. A physician can become board certified in his/her specialty by following a series of documentation of procedures performed as well as oral and written examinations. The question asked the MSP if they verified the physician's board certification by a subscription service called CertiFACTS, the American Board of Medical Specialties (ABMS), or the AOA. CertiFACTS is a subscription of all board certification and is operated by the ABMS. The ABMS is a 24 member board umbrella. An MSP can go to the individual's board and verify it from them, subscribe to CertiFACTS or in the case of a DO, through the AOA. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 13 asked which affiliations and work history a MSP verifies when credentialing a physician. Work history verification is important as it provides the MSP an opportunity to see patterns and verify if there were any instances which might impede a physician's ability to practice medicine. The survey question asked if the MSP verifies all affiliations, most affiliations, only the previous practice location, start and end dates, and standing. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 14 asked if a criminal background check was performed via various methods: federal, state, or county databases. A criminal background check can assist in determining if a physician has been incarcerated on a county level that may not have been included in a federal or state database report. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 15 asked if sanction disclosure were reviewed via federal and state entities such as National Practitioner Databank (NPDB), Office of Inspector General

(OIG), List of Excluded Individuals or Entities (LEIE), Excluded Parties List System (EPLS), Federation of State Medical Boards (FSMB), or the System for Award Management (SAM). The NPDB is a government run not-for-profit entity which tracks all state sanctions and malpractice settlements. The OIG is a federal government database which houses a database intending to prevent waste, fraud and abuse of the Medicare system. People or companies found to be defrauding Medicare are placed on a list. A hospital can be fined if they do business with someone on this list. People who opt out of Medicare are also placed on the OIG report.

The LEIE and EPLS are programs with databases that list parties that are excluded from federal contracts. As previously stated the FSMB houses all sanctions on a physician's licensure in all 50 states. SAM consolidated many federal contracting databases such as the EPLS and combined them into one database. Failure to query these databases could result in fines which could be quite costly. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 16 asked if a physician's health status is good enough to practice medicine. The question is generally part of the attestation found as part of the credentialing application. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 17 asked whether the MSP queries the NPDB. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 18 asked how malpractice insurance is verified. It asked various questions on the types of malpractice insurance cases are queried. These include: all carriers, including dates of coverage, a list of all open, pending, settled, closed or

dismissed cases, a list of cases involving settlements, a current certificate of insurance, if the NPDB is queried, and if the MSP contacts all insurance carriers. Verifying solely through the NPDB can be problematic since not all hospitals report to the NPDB as will be discussed in the literature review. This question helped answer RQ1, RQ2, RQ3, and RQ4.

Survey question 19 asked if the MSP requests professional references and are verified, including current competencies. The question asked if the MSP contacts professional authorities with direct contact, training program directors, and department chairs, chiefs, and lists from the Accreditation Council for Graduate Medical Education (ACGME). Training directors and department chairs would be very unlikely to give a misleading reference for a physician who does not have the skills or education necessary to practice in his/her specialty. By not contacting them directly for an assessment, there is a potential that a non-qualified physician could get through the system and could have a negative impact on patient safety. This question answers RQ1, RQ2, RQ3, and RQ4.

RQ5 asked if there is a difference in the credentialing standards based on a hospital's size (number of beds) or geographical location. In order to determine if there is a different set of standards for hospitals in the South, for example, this question had to be answered. The MSP had a set of questions on the initial SurveyMonkey home page. The MSP answered if they work in a small, medium, or large hospital (the definition of the size will be provided), which geographical location their hospital is (Northeast, South, Midwest, or West).

The research questions on the survey are designed to transform from any

questions asking if there “are any” into which credentialing standards are being used in hospitals in an effort to determine whether or not a national standard should be adopted, the NPT was an excellent choice to assist in the design of the study as well as the development of the survey.

The survey asked which credentialing standards were being followed and statistical analysis of the data illuminated how the actual practices align with the ICS designed by NAMSS. The analysis allowed for a determination that the ICS are not always being adhered to and there were deficiencies. Some crucial deficiencies were found, warranting more analysis to determine if a national credentialing standard is warranted. Although the majority of MSPs responded they almost always or always perform the ICS, there was sufficient data to determine some of the ICS are almost never or never followed.

RQ 5 asks if there is any connection between the ICS being followed as determined by geographical location or size of the hospital. As previously stated, the ICS developed by NAMSS in collaboration with other industry leaders, is a first step. As healthcare evolves, so too will the ICS also change to meet the needs of patients.

Definitions

This section provides definitions of terminology used in health care that may not be familiar to people who do not work in the health care field.

Accreditation: Accreditation is recognition that an institution maintains a certain level of standards to achieve credentials for professional practice (ACCME, 2016; USDE, 2016). Although most people relate accreditation with educational institutions,

accreditation in health care settings is similar. The accrediting institutions (TJC, HFAP, AAAHC, etc.) look at the hospital's policies, procedures, and practices to determine whether the level of care is sufficient to earn the credentials of an institution that meets the highest level of care.

Credentialing: Credentialing is the process by which an institution examines the credentials of a physician by means of verifying licensure, education and training, work history, etc. (ANCC, 2016). Credentialing is designed to be a rigorous process by which an MSP looks at a physician's history, licensure, etc. and presents the information to the approving body, usually a medical executive committee or a governing board or a hospital.

Gold standard: The gold standard is defined in the credentialing profession as a best practice. It refers to the ideal credentialing standard agreed upon by experts in the field as the credentialing standard that meets or exceeds accreditation standards (Cairns, 2014).

Medical services professional: Medical services professionals (MSPs) are defined as the experts in credentialing physicians. Their primary responsibility is to ensure doctors who apply to a medical staff are who they claim to be, have the training and experience required to practice medicine, and have the clinical competency required to help maintain patient safety (NAMSS, 2016).

Privileging: Privileging is the process of granting a physician a set of procedures he or she may perform within his or her specialty. This is done by verifying experience, competencies, quality, references, and outcomes (Rouse, Vlasses & Webb, 2014).

Assumptions

Because most hospitals are accredited by TJC, I assumed that the MSPs followed the standards required by TJC. I also assumed participants would be truthful in answering the survey questions because all information would be anonymous and data would be coded. I assumed most, if not all hospitals, were following the NAMSS ICS. Finally, I assumed that if not all hospitals were following the NAMSS ICS, reasons for the lack of consistency may be found in demographic information.

Scope and Delimitations

This study was limited to licensed independent practitioners who are medical doctors and doctors of osteopathic medicine practicing at accredited hospitals. The survey used was sent electronically to all participants who are members of NAMSS.

Credentialing and privileging are two separate processes, but are normally performed simultaneously. The credentialing process is fragmented. So too is the privileging process. Depending on the accreditation requirements, hospitals may privilege a physician using a standard set of privileges for a particular specialty. This process is called core privileging. If a physician wants to apply for other specialized privileges, he or she may have to demonstrate competence and training in that particular to obtain those privileges. This study did not address issues of privileging and focused only on credentialing.

There is no national standard for the types of competencies a physician may need to demonstrate in a particular area. For example, at Hospital A, a surgeon may need to prove he or she attended a conference on a particular topic such as laparoscopic

abdominal surgery. At Hospital B, the same physician may have to provide a report card from a skills course indicating that he or she completed the laparoscopic abdominal surgical techniques under the tutelage of a trained proctor to qualify for those privileges.

Although there are no national standards on credentialing, most credentialing practices employ a very similar set of standards. It is in the methodology of verifying a physician's credentials where hospitals diverge. Hospitals are usually accredited by organizations like the TJC, but many are beginning to switch their accreditation organization to lesser known accrediting bodies such as Healthcare Facilities Accreditation Program (HFAP) and Det Norske Veritas--Global Healthcare (DNV). Managed care companies and most physician groups are usually certified by the National Committee on Quality Assurance (NCQA) or the Utilization Review and Accreditation Commission (URAC) or both. Physicians credentialed into these organizations were not included in this study.

This study did not address issues such as system credentialing or credentials verification organizations (CVO). A CVO can function as an internal primary source verification unit, but it cannot make a credentialing decision. The hospital system may have multiple hospitals, but all primary source verifications are performed internally. The hospital dictates which primary source verification standards a CVO performs. Therefore, the decision was made to include only the credentialing standards of hospitals.

Limitations

This study was limited to the members of NAMSS. It was unknown how many hospitals do not follow the ICS developed by NAMSS, and it was not known how many

hospitals do not have any MSPs who are members of NAMSS. In these cases, the data were incomplete in terms of a comprehensive look at credentialing practices. A sampling of the approximately 5,634 members gave an informed snapshot of the credentialing standards being followed, but further studies should be performed that do not limit the survey only to members of NAMSS.

Another limitation was the size of the survey. NAMSS has many subparts within the 13 ICS categories. Although the survey took only 7 minutes to complete, many MSPs who are burdened with surveys may not have taken the time to answer each question thoughtfully. MSPs may also not have believed the disclaimer that all information submitted was completely anonymous; fear of retribution by hospital administration may have inhibited truthful answers.

Significance

The United States government has established that credentialing standards are inconsistent (HRSA, 2017). The extent of these inconsistencies was unknown. To determine which credentialing standards were being practiced at hospitals by MSPs, I employed a survey. Because there are over 6,000 members of NAMSS, a phone interview was not feasible given time constraints and limited access to NAMSS members. I decided in conjunction with NAMSS executive staff that a survey would be the best option to reach a large audience of MSPs and receive as many responses as possible. Proof of identity via a government-issued identification card is not addressed by all accrediting organizations. If a physician's identity is not verified, someone attempting to impersonate a physician could be a threat to patient safety.

One of the positive implications of measuring the credentialing standards being used throughout the United States (RQ1) was that the credentialing practices could be compared. The survey responses indicated there were hospitals that almost never or never verify gaps in work history over 2 years. Steps need to be taken to address these deficiencies because they could have major negative consequences. A national credentialing standard needs to be developed. Through consistent enforcement of credentialing standards chosen as the national standard, patients will have a much better chance of receiving care from a physician who has been completely investigated to the highest set of standards.

The findings have been shared with NAMSS administration. NAMSS has an advocacy arm and may address the deficiencies on a national level. This study could be the primer for improved patient safety throughout the United States and could serve as a first step in improved quality of care. To achieve this goal, I investigated which standards were being followed throughout the United States. This study illuminated the areas where deficiencies could be addressed.

The results of this study indicated the ICS are not being followed in all geographic areas. Findings showed that credentialing is inconsistent and needs to be investigated further to determine if a national credentialing standard should be implemented. The ICS developed by NAMSS in conjunction with national health care organizations has the potential to influence public policy. This study could be the impetus for such change.

Summary

Health care credentialing is inconsistent (HRSA, 2017). MSPs perform a number of services designed to help ensure patients are not subjected to inferior health care. One of the first lines of defense for patients is the onboarding of physicians in a hospital. Credentialing standards vary depending on the accrediting organization the hospital chooses. These inconsistencies could allow an imposter or an unqualified physician providing patient care.

The research questions in this quantitative study addressed which credentialing standards are being performed, the frequency with which the MSP performs these standards (always, most of the time, sometimes, almost never, and never), and whether there was a difference in the credentialing standards of a hospital based on size or geographical location. The findings could have a significant impact on public policy. The findings indicated the ICS are not being followed in all locations; NAMSS is now aware of the situation and has data to present to government and other national health care leaders regarding the need to implement a national credentialing standard. Having the data will allow NAMSS to promote credentialing standard unity among all hospitals in the United States and possibly the world.

Understanding the current practices was the first step toward determining whether a national credentialing standard needs to be implemented. As hospitals focus more on quality, patient safety, and transparency, investigative studies such as this one need to be performed. The findings indicated gaps in the execution of credentialing

standards, and a national credentialing standard is needed to ensure hospitals are doing everything possible to keep their patients safe.

Chapter 2: Literature Review

The study's intent was to measure the credentialing standards used by MSPs across the United States to determine whether a national credentialing standard should be implemented. The literature review includes the following areas: the correlation between credentialing and improved outcomes, the monetary benefits of credentialing, credentialing and patient safety, technology and credentialing, error-ridden credentialing processes, criteria-based credentialing, credentialing on a global level, NAMSS's credentialing gold standard vs. current practices, credentialing and privileging, credentialing and accreditation, hospital credentialing versus managed care credentialing, credentialing and government agencies, process theory, and conclusions.

Connection Between Credentialing and Improved Outcomes

In September 2014 the Institute of Medicine (IOM) met to identify whether there is a correlation between credentialing and improved outcomes (Barnett, 2015). The IOM Taskforce joined with the American Nurses Credentialing Center (ANCC) to determine whether a direct correlation between credentialing and improved outcomes exists. They determined that although there was little research and no direct correlation between credentialing and improved outcomes, credentialing did play a significant role in achieving high-quality patient care. One reason the IOM Taskforce could not establish a direct connection between improved outcomes and credentialing is because most of the studies focused on the hospital and not the credentialed provider of care (Barnett, 2015).

Until a few years ago, hospitals lacked the individualized medical record indicators. Most medical records were on paper and stored in the patient's chart. As

hospitals moved to an electronic format, the electronic medical record (EMR) provided researchers with more individualized data because the physician's actions were now recorded and attached to the patient's medical record. Researchers could perform analyses to examine possible correlations between patient care and an individual physician's actions (Hadad, 2010).

McHugh et al. (2013) attempted to determine whether a correlation existed between credentialing and improved outcomes. The researchers could not link the two but were able to determine that improving patient satisfaction tended to be higher at magnet facilities where the focus was on transformational leadership, structured empowerment, exemplary professional practice, new knowledge, innovation and improvements, and empirical outcomes (ANCC, 2015). Part of the credentialing process is determining appropriate skills. Magnet organizations tend to have a higher number of nurses with a bachelor's degree and more specialty certifications. The staff at a magnet organization tend to have higher retention with a higher degree of learning, which helps in making an informed credentialing decision (McHugh et al., 2013). Better work environments also keep staff morale higher in magnet organizations. Due to higher patient satisfaction, magnet facilities scored higher in patient outcomes (ANCC, 2015).

In 2013 the American Health Information Management Association (AHIMA, 2017) began oversight of a certification program that verified a physician's health information technology skills. The AHIMA strives to take the lead in advancing health informatics and data analysis. One of its certification areas, the physician/practitioner consultant, recognizes competency in HIT areas. Hospitals using an electronic medical

record (EMR) or electronic health record (EHR) need to provide documentation of the skills of their physicians for credentialing or recredentialing purposes. Having a certification in the area of EMR or EHR only helps MSPs with the credentialing process.

Another organization that certifies physicians in HIT is the American Medical Informatics Association (AMIA). This certification also provides documentation of competency in clinical informatics (AMIA, 2017). This certification provides physicians with the ability to become board certified in HIT. Its Advanced Health Informatics Certification addresses informatics content geared toward many professions including dentistry and public health. These certifications can help organizations make a more informed credentialing decision. If a hospital uses an EMR or EHR, there has to be some mechanism to evaluate a physician's ability to enter and house a patient's medical record and also prescribe tests and medications. The inability to effectively use this technology could be a determining factor in granting medical staff privileges.

Monetary Benefits of Credentialing

Staggs and Dunton (2012) claimed credentialing is a valuable tool in controlling the costs of health care. They concluded the costs of credentialing were offset by decreased costs associated with a higher quality of care. Jha, Orav, and Epstein (2011) reported that hospitals with lower quality of care were often found in areas with a depressed economy and a population that could not afford the cost of health care. Jha et al. found hospitals in more affluent areas had populations with access to better insurance and higher reimbursement from agencies such as CMS due to lower quality of care standards and CMS's value-based purchasing program.

McHugh et al. (2013) concluded more research into the correlation between individual credentialing and improved outcomes was needed. Their research indicated a need for stakeholders (medical staff officers, physicians, chief financial officers, and managed care executives) to better understand the value of credentialing and provide sufficient funding to study the cost benefits of credentialing. One solution to the cost benefits of credentialing could be a reduction in risk. With malpractice insurance premiums skyrocketing, a focused credentialing standard could reduce the liability of the institution.

Praderelli, Campbell, and Dimick (2015) outlined the monetary benefits of improved credentialing by highlighting a legal case involving the DaVinci surgical system (DaVinci). DaVinci includes robotic technology to perform surgeries. Operating the DaVinci system is complex and requires many hours of training prior to operating on a real patient. Although the hospital purchased the expensive equipment, the medical staff office did not implement a credentialing standard (Praderelli, Campbell, and Dimick, 2015).

The lack of verifying a surgeon's ability to perform a new technologically advanced procedure indicated a failure to ensure the safety of the patient. Although the surgeon had performed prostate surgery hundreds of times in the traditional manner, the surgeon had only performed the procedure once using the DaVinci without supervision. The case was settled out of court, but due to the fact that the patient subsequently died of complications, the result was a large amount of money being lost due to negligent credentialing and privileging (Praderelli, Campbell, and Dimick, 2015).

Technology and Credentialing

In cases where new technology has advanced and outpaced the protocol set up by the Accreditation Committee on Graduate Medical Education (ACGME), hospitals must rely on industry-based education, which may or may not have the patient's best interest at heart. There have been numerous cases in which new industry initial protocols have been later found to be detrimental to the patient's health (Phipps et al., 2008). There may be many influences on the governing board to make certain decisions, but it is the primary duty of the hospital and its decision-making committees (credentialing, medical executive, or governing boards) to safeguard the welfare of the patients it treats (Finch et al., 1983). The makers of technology might wish to promote a new piece of equipment, but it is often left to the MSPs to determine the best standards by which to judge a physician's qualifications to use the new equipment.

Credentialing and Patient Safety

One area of concern to patient safety is in the credentialing of surgeons and verifying the qualifications of the surgeon prior to granting them the privileges of using new technology such as the DaVinci on real patients. Because the field of robotics in surgery is relatively new, the medical staff office of a hospital had little choice but to base their decision to credential and privilege a surgeon based on the protocols determined by the manufacturers of DaVinci (Phipps et al., 2008). The manufacturers recommended one training session on the device followed by a proctored surgical procedure.

Although leading-edge technology companies, such as DaVinci, can create machines able to revolutionize surgical procedures, the use and standardization of protocol, especially for credentialing purposes often lags behind (Krader, 2012). Many times the medical staff office does not have the expertise or experience in creating policies and procedures for advanced technology, but the credentialing staff are required to complete and evaluation of the expertise of the physician prior to approving and granting privileges in the specialty (TJC, 2015, Cairns, 2014). With the newer technology, there is a lack of standardization.

Patient safety concerns abound in the area of technology and credentialing because there is little evidence of the efficacy of the training (Pradarelli, J., Campbell, D., and Dimick, J., 2015). Instead of performing research into their credentialing standards regarding new technology, patient safety was compromised. In the case of the prostate surgery using new technology, the surgeon had only received the formal DaVinci training and two (2) supervised surgeries. This procedure was his first unsupervised surgery using DaVinci for the surgeon.

Another area where patient safety and credentialing are tied together is in the electronic medical record (EMR) and computerized practitioner order entry (CPOE). CPOE is relatively new and closely tied with an EMR. In order for physicians to order medications, they must first enter the prescription into the EMR. The pharmacy will then fill the prescription and the nurse administering the medication can follow the orders of the physician and track compliance in the EMR. Adoption of CPOE can enhance patient safety in that drug interactions can be detected prior to them being administered.

Catapano (2012) researched CPOE and found that when it was tied to credentialing, physician compliance with the electronic order entry system was much more comprehensive. If physicians did not take a CPOE course, they could not be credentialed onto a medical staff. Not being an active member of a medical staff resulted in physicians having read-only permissions. It also meant a physician could not bill Medicare because all bills were submitted electronically through the EMR.

Ibbott, Folowill, Molineu, Lowenstein, Alvarez, & Roll (2008) researched data from the Radiological Physics Center (RPC) and found most institutions using advanced technology were requiring all physicians involved in clinical trials be credentialed through the medical staff office. The authors concluded the policy of credentialing all physicians helped ensure all policies and procedures required by the medical staff office were being followed. The data for the clinical trials were housed in the EMR and tracked by the quality departments. Without being credentialed, the physicians involved in the clinical research would not be able to prescribe the drugs being tested. Credentialing also allowed all of the data to become part of the EMR and document adherence to research protocols.

The credentialing process can be a vital tool in safeguarding staff from potentially harmful practitioners (Foster, Turnbull, McGuire, Ho, & Worthington, 2011). Hospitals, physician groups, and managed care organizations need to document potential risks to their patients through an organized mechanism (credentialing), thus shielding the patient from potential risk of harm even death. The credentialing process is designed to help make an informed decision on the clinical qualities of a practitioner, but there is a lack of

uniformity in the credentialing process. Under the various accreditation standards, a potentially harmful practitioner may remain undetected or risk factors may never be documented to evaluate aggregate trends.

Error-Ridden Credentialing Processes

Haddad (2010) detailed a typical credentialing process. Hospital staff manually enters information found on a physician's application into a commercial credentialing database or an in-house developed credentialing database. Physician data may remain in the database without being updated and thus cause current information to be outdated. The manual entry system is often seen as the cause for the most up to date information not being accurate in a credentialing database. Issues from inaccurate provider credentialing files could have a detrimental effect on the accuracy of information disseminated throughout the organization and could have a negative impact on patient care (Haddad, p.25).

Integration of accurate provider data, on which credentialing decisions are made, can also be jeopardized when provider data is housed in multiple databases. Boe, Kennedy, Coyne, and Smith (2012) concluded the transition from a manual entry of credentialing data into a database to an online, paperless environment, resulted in improved quality and accuracy.

Criteria-Based Credentialing

The American Board of Medical Specialties (ABMS) introduced six core competencies to which every board certified physician should adhere. The six core competencies are medical knowledge, patient care, interpersonal and communication

skills, practice based learning and improvement, professionalism, and systems based practice (ABMS, 2015). Hospitals accredited by TJC must incorporate the six core competencies in their credentialing criteria. Due to accreditation requirements of TJC that mandated a criteria-based credentialing protocol, hospitals needed a methodology by which they could evaluate physicians (TJC, 2015).

The adoption of these standards as a criteria-based credentialing system was essentially developed out of a need for hospitals to evaluate ambulatory physicians who had very little patient contact at the hospital, but still wished to maintain active status on a medical staff. The physicians who had high volumes of patients in the hospital could be evaluated based on outcomes (Kohn, Corrigan, & Donaldson, 2000). The system was put into place to create a fair and unbiased methodology for hospitals to make an informed credentialing decision not based in a relationship with the Department Head or reputation, but on measurable criteria.

Credentialing on a Global Level

The need for consolidation of credentialing can also be seen as the world becomes more mobile (Driscoll, 2009). As surgeons and other specialists fly around the world treating patients, the need for a mechanism to credential them for the entire United States becomes more evident. Hospital accreditation standards vary within the United States, but credentialing a foreign-trained physician can be extremely cumbersome for a United States hospital medical staff office.

Foreign hospital systems routinely collaborate with each other in an attempt to promote health and health education (Allegrante, 2015). Some foreign hospital systems

also lack uniformity in following their credentialing standards. A study performed by Nagari and Chu (2010) documented that only 39% of practitioners who were assigned ultrasounds were actually credentialed according to the institution's standard.

Another credentialing issue related to global training is the time it takes to verify completion of medical school for foreign-trained physicians. In some cases it can take weeks or even months to verify a physician's completion of medical school or residency (Parboosingh, 2000). One solution to this time lag would be a global clearinghouse of medical school graduations. A national clearinghouse could also deter people from impersonate a physician as all graduations from medical school would be primary source verified.

NAMSS's Credentialing Gold Standard vs. Current Practices

Due to a lack of cohesive policies and procedures for evaluating a physician's qualifications, one of the largest national organizations for Medical Staff Professional (MSP), the National Association of Medical Staff Services (NAMSS) worked with local, state and national healthcare organizations to develop an Ideal Credentialing Standard (ICS) (NAMSS, 2015). The ICS was approved by the NAMSS Board of Directors in 2015. This study intends to determine how many hospitals are in compliance with the ICS.

According to NAMSS' ICS, there are 13 criteria that should be thoroughly investigated prior to approving a practitioner onto a Medical Staff panel. These criteria include verification of: 1) proof of identity; 2) education and training; 3) military service, if applicable; 4) professional licensure; 5) Drug Enforcement Agency (DEA) certificate

and state Controlled Substance Certificate; 6) board certification, if applicable; 7) affiliation and work history; 8) criminal background disclosure; 9) sanctions disclosure; 10) health status; 11) National Practitioner Database (NPDB); 12) malpractice insurance; and 13) professional reference.

There are a number of government requirements for credentialing set forth by the Health Resources and Services Administration (HRSA) and the Centers for Medicare and Medicaid Services (CME), but the requirements for satisfying them are vague (HRSA, 2015, CMS, 2015). The methodology of how essential elements of the government standards are met are largely left to the requirements of the accreditation organization by which a hospital is accredited (Cairns, 2014). The one safety net which is national is the NPDB. It serves as a safety net to inform hospitals of past malpractice settlements in case a practitioner neglected to divulge the information (Waters, Warnecke, Parsons, Almagor, & Budetti, 2006).

If, for example, a physician practices in one state, then moves to another state and neglects to document it, there is no other way to verify all of the states a physician has or has had a license to practice than querying all 70 state-level medical licensing boards. Although it is a requirement to report any loss or restriction of privileges, many institutions may be hesitant to report to the NPDB. Citizens (2014) performed a national study of hospitals in all 50 states and found that 70% of hospitals in Louisiana have never reported to the NPDB. This statistic has the potential for hospital administrators to lose faith in the reliability of the NPDB and opens up more potential for fraud and abuse. If a physician's privileges are restricted and are not reported to the NPDB, he or she may

simply move to another hospital in another state and not even report having privileges at that facility.

Credentialing and Privileging

Any unified approach must first begin with an analysis of the process flow (Dolean & Petrusel, 2012). In healthcare, one of the first processes is the credentialing and privileging of Licensed Independent Practitioners (LIP). After the physician has been credentialed and privileged, he/she can begin seeing patients. The medical staff office will then monitor the physician's practices by reviewing patient outcomes. For hospitals accredited through the Joint Commission (TJC), they use an Ongoing Professional Performance Evaluation (OPPE).

One way to validate the competency of a physician is to use simulation (Byrne, et al., 2007). By using a simulation lab, a physician's competency can be assessed by using a mannequin that simulates a real patient. Real life scenarios can be programmed into the computer, thus assessing how a physician would respond in a real life situation. Simulation could also be used to evaluate a surgeon's knowledge and skills by having the surgeon think out loud while he/she is operating on the mannequin. The assessor could be able to show how likely a surgeon would be to make an error in the operating room and use the data as a learning tool.

At some hospitals it has been reported that if the relationship between two surgeons is strong, the Department Head may simply sign off on his friend's privilege sheet. It is also widely reported that the privileges of a competing physician have also been denied purely based on a potential negative economic impact on the friend of the

Department Head. This practice of denying privileges based on competing monetary factors is called economic credentialing.

Credentialing and Accreditation

TJC is a not-for-profit organization that accredits healthcare agencies such as hospitals, free-standing ambulatory healthcare facilities, behavioral health facilities, etc. (TJC, 2015). TJC accredits over 20,000 healthcare organizations in the US alone. TJC's focus is on providing safe and effective healthcare in an ongoing effort to improve healthcare by improving performance standards. One criticism some people have of TJC is it requires a fairly robust IT infrastructure, something that is prohibitively expensive for smaller and some independent hospitals.

HFAP accreditation is closely tied with CMS' CoP and therefore has deeming status with CMS (HFAP, 2013). HFAP promotes education and capitalizes on ways to resolve newly identified deficiencies. Its focus is to assist healthcare facilities manage patient care in an ever-changing healthcare environment. Although HFAP is not one of the largest accrediting organizations for hospitals, its affiliation is growing. With over 200 healthcare facilities, HFAP is one of the few accrediting agencies to accredit both Doctor of Medicine (MD) and Doctor of Osteopathic (DO) Medicine programs and is the oldest continuous accrediting organizations in the US.

DNV's purpose is to safeguard life, property and the environment (DNV, 2013). DNV only gained deeming status with CMS in September of 2008 and is most likely the fastest growing accreditation organizations in the US. DNV began in Denmark and already has over 300 hospitals under its accreditation status. DNV focuses on a constant

state of compliance instead of the typical two or three year cycle of auditing for compliance. DNV accredited facilities never need to worry if they are in compliance on a particular standard, the standards are constantly being revised to meet the needs of the patients.

Hospital Credentialing vs. Managed Care Credentialing

Hospital credentialing is very similar to managed care or physician group credentialing in that there are certain functions that are common to all: verification of licensure, verification of a DEA or State Controlled Substance, malpractice insurance and claims, board certification, if applicable, state licensure and education and training. Much of the work is duplicative. In a typical scenario, if a physician wants to practice at three different hospitals and joins five managed care panels, each of the three hospitals must credential the doctor separately and each of the five managed care companies has to credential the physician separately. The duplicated efforts become even more pronounced when a physician joins a networked hospital and joins group managed care contracts which could exceed 50.

Since there is so much duplication of effort, many have proposed a more unified procedure (Nagaraj & Chu, 2010). A national standard may help resolve the differences in credentialing standards by the hospital and managed care accrediting organizations, but it does not go far enough to address the duplication of efforts (McFarlane, 2009). One reason why there is so much duplication is that hospitals have differing credentialing standards, depending on the accrediting body they have chosen. There are also influences

by the Federal Government via the Centers for Medicare and Medicaid Services' (CMS) Conditions of Participation (CoP) (CMS, 2015).

Practitioners who are not independent are considered to be hospital based. This designation may determine if a practitioner needs to be reviewed following a strict credentialing process or is simply reviewed by the Human Resources Department in a hospital. Independent practitioners are also referred to as Licensed Independent Practitioners (LIPs). LIPs must go through the rigorous credentialing process set forth by the Medical Staff Office, the Physician Group or the Managed Care Company. It is important to note the managed care companies routinely only credential non-hospital-based practitioners.

Hospital-based practitioners are practitioners the patient does not have a choice to see or do not have the ability to make an appointment to see at a designated time. Patients are assigned to doctors in areas such as Emergency Medicine, Critical Care Medicine, Neonatology, etc. This practice places the onus of the credentialing, quality of care, and patient safety on the hospital. Until recently, managed care companies only credentialed practitioners who were contracted into Health Maintenance Organizations (HMOs).

Credentialing and Government Agencies

As a result of the IOM's report on patient safety, agencies like the Federal Emergency Management Agency (FEMA) resolved to standardize their credentialing process whereby all practitioners in FEMA need to go through a rigorous program by which any practitioner who treated patients needs to have their credentials, their

qualifications, their competency, and their skills evaluated prior to treating a patient (FEMA, 2013).

According to CMS, credentialing involves the review of a healthcare practitioner's special qualifications as well as any other relevant information required to make an informed credentialing decision of whether or not to accept a practitioner onto a hospital medical staff, physician group, or healthcare organization (CMS, 2015). CMS mandates a credentialing process for all practitioners who request to see patients independently. Practicing independently is one of the key provisions to credentialing. Independence can dictate the type of credentialing that is required.

The National Committee for Quality Assurance (NCQA) is a not-for-profit organization that accredits health plans and offers certification to groups such as Credential Verification Organizations (CVO). The importance of the CVO will be discussed in more detail in the Literature Review. According to their website, NCQA recognizes hundreds of healthcare plans that provide coverage to over 109 million people (NCQA, 2015). Their accreditation program has deeming status with CMS, which is important with health plans wishing to have a Medicare Health Maintenance Organization (HMO). The CoP mandates a formalized credentialing process. Thus, if an institution wishes to be paid by Medicare, it must conform to the CoP by credentialing and privileging at a minimum MDs and DOs. The CMS CoP allows for the credentialing of other LIPs, especially when state law mandates it or if an institution chooses to credential and privilege an LIP. CMS also grants accrediting agencies deeming status (CMS, 2015). Accrediting agencies like the TJC, NCQA, HFAP and NDV have qualified

for deeming status with CMS. Hospitals wishing to bill for Medicare must abide by the CoP and apply to one of these agencies for deemed status. Without the deemed status, a healthcare agency, such as a hospital, would not be able to bill for Medicare, which could cause great financial hardship.

Process Theory

Normalization Process Theory (NPT) provides the rationale for “how often” a particular standard is met. May, et al. (2010) differentiated the distinctiveness of NPT in that instead of dealing with attitudes or emotions, NPT deals with what people do (the process). NPT is an ideal tool to help develop the design of the study, as well as assist in the development of the survey, since it deals with measuring what credentialing standards are being performed.

The theory consists of four basic constructs: coherence, cognitive participation, collective action, and reflexive monitoring (May et al., 2009). Within the coherence construct: the study’s author must first make sense of the credentialing process one person may follow as opposed to other processes. Within the cognitive participation construct, the main focus is on the relational work people perform. Collective action deals with the operational work an individual performs in relation to the group. Reflexive monitoring helps participants understand and appraise the merits of following a new process. This last construct would be more appropriate for use in a follow-up study should a national credentialing standard be put into place since it deals with how satisfied people are with a new process (May et al., 2010). This study deals with what people do and how they work, which fits well with NPT.

McEnvoy, Balini, Maltoni, Mair, & Macfarlane (2014) performed a meta-analysis of studies that were designed using NPT. The researchers discussed the merits of 29 studies out of a total of 383 were found to be significant relative to their research criteria. Three were found to be ideal in that NPT assisted very well in the design of tools to study healthcare. Topics of the studies included chronic health care, maternity care and language interpretation services. May et al. (2011) described analysis of toolkits based on NPT and discussed how effective they were to the researchers. Using NPT, researchers can gain insight as to what workers do as opposed to how they feel about the job they are performing. In this way, researchers can determine exactly which actions are being performed. NPT influenced the study in the selection of research questions by asking what MSPs actually do (RQ1). This was the first step in determining if a national credentialing standard was warranted. RQ2 asks how do the credentialing standards being followed by MSPs measure against the NAMSS ICS. It was first established what elements of the credentialing standards were being followed, but then information had to be gleaned from the responses by the MSPs regarding the ICS.

From there, RQ3 asks about the frequency that MSPs follow the ICS. Are MSPs following the ICS always or almost always, or were they almost never or never following them. RQ4 asks if there are elements in the credentialing standards that are never followed. This information measured how pervasive the ICS standards were not being followed. Healthcare professionals may then ask if there are extenuating circumstances where credentialing standards are or are not followed (RQ5). Two areas were chosen to determine if the size of the hospital played a role in adherence to the ICS or did

geographical location play a role? The dependent variables (credentialing standards) were compared with the independent variables (hospital size and geographic location).

Based on the research by May et al (2010), the study used a five point Likert scale. Respondents to the survey were asked how they currently perform certain tasks. This line of questioning is exactly how this study is approaching the measurement of various credentialing standards and determining if they meet the ICS. The research questions in this study mirrored the types of questions used in the May research. Since this study looks at what MSPs do, it is necessary to ask how often the MSP performs these functions. It also helps to answer the research questions asking what functions MSPs use in the credentialing process.

Quantitative research delivers factual data and the research can sometimes be generalizable to a larger population. This survey is based on quantifiable information such as how often an MSP contacts the medical school of a physician applicant (always, most of the time, sometimes, hardly ever, and never. The NPT uses quantifiable data to address what people do and is not geared toward the feelings people have about the duties they are performing. This particular research also has the potential to assist in developing a national credentialing standard which could save lives and improve patient safety. Therefore the combination of quantitative research and NPT could have a profound effect on NPT itself.

Using NPT gave this study a basis for questions that were previously unknown. NPT offered a theory of what people do so adoption of an agreed upon standard could be implemented. The study, in turn, helped expand the theory. By using a framework based

on NPT, data are known about the credentialing practices of MSPs. This knowledge can help industry leaders move forward and answer more complex questions such as improved outcomes based on a formal ICS.

Finch et al. (2013) performed a study regarding the set up and design of a complex intervention in healthcare. Although this study is not complex in nature, the potential follow up on this study may be more complex. For consistency, using a design that provides opportunities for variability, NPT is a useful tool for straight forward survey questions to complex studies with multiple variables. Finch et al. (2013) found use of the NPT allowed his team to identify factors that could ultimately affect the process and predict outcomes.

Search Criteria

A variety of search engines were utilized in researching the literature relevant to the topic. Search engines utilized were from the Health Sciences library at Walden University. Medline with full text, PubMed, ProQuest Nursing and Allied Health as well as ProQuest Health and Medical Complete databases were all used. These sources were chosen due to their content being healthcare related. Internet searches were also performed using the terminology below.

In all databases and websites (Google) “credentialing” was used as the main criteria. Subsequent searches included combinations of key words such as “credentialing” and “physician” as well as “credentialing” and “accreditation”

Wherever possible “peer reviewed” was a checked criterion. As the results of the searches appeared, article abstracts were read. If the article was related to the study’s

research questions or answered questions regarding specific healthcare backgrounds, the article was synthesized in a brief paragraph followed by the citations. The articles were then placed in the order appropriate for the study's design.

Conclusion

A review of the literature begins with the correlation between credentialing and improved outcomes. This topic is placed first due to the importance of credentialing and how a diligent and thorough credentialing process can have an effect on improved quality outcomes. Monetary benefits were included because of the ways in which a robust credentialing program can save money and lowering healthcare costs is always a major concern for hospitals and physicians. Credentialing and technology can also have an effect on improved patient safety.

RQ1, RQ2, RQ3, and RQ4 ask the questions of what credentialing functions MSPs perform and the frequency that they perform those functions. The literature demonstrates the need for a uniform credentialing standard. Other topics in this section dealt with criteria-based credentialing, credentialing around the world, the NAMSS Gold Standard, credentialing and privileging, and credentialing and accreditation. Next was a section on hospital versus managed care credentialing, credentialing and government agencies, and finally process theory.

By reviewing the literature, a common theme arises: credentialing is an integral part of the operations of a hospital. Credentialing can be the first line of defense in patient safety. By discovering what functions MSPs perform, the data could lead to improved outcomes and a national standard.

Chapter 3: Research Method

Due to the fact that physician credentialing has many inconsistencies (HRSA, 2017), no one knows which credentialing standards are being followed. No studies have included a detailed analysis of which credentialing standards MSPs are following. This study aimed to measure the credentialing standards currently being used and the frequency with which each aspect of the credentialing standards is being followed. Statistical analysis was also performed to determine whether different credentialing standards were being used based on geographical location and size of the hospital.

The research questions were formulated out of a need to investigate the exact credentialing standards being performed. A tabulation of each response for each of the credentialing standards and subparts served as the basis for determining which standards were being followed and which ones were not.

To assist in the design and content of the ICS, NAMSS partnered with key industry leaders. Credentialing addresses the education and training, board certification status, hospital privileges, malpractice insurance history, quality of care, and accreditation standards of physicians. NAMSS partnered with several organizations to ensure the ICS were all-encompassing and agreed to as being the gold standard for credentialing.

The health care organizations involved in the development of ICS included the American Board of Medical Specialties, the American College of Physician Executives, the American Hospital Association, the American Medical Association Organized Medical Staff Section, the American Society for Healthcare Risk Management, the

Council for Affordable Quality Healthcare, the Centers for Medicare and Medicaid Services, the Federation of State Medical Boards, the Healthcare Facilities Accreditation Program, the Health Resources and Services Administration, the Medical Group Management Association, the National Association for Healthcare Quality, the National Patient Safety Foundation, The Joint Commission, and the Utilization Review Accreditation Council (NAMSS, 2015). NAMSS (2015) identified essential data elements to determine where standardization could help produce a more effective and efficient credentialing system. However, whether hospitals were adhering to the ICS was unknown. The creation of the standards left a gap in knowledge regarding which hospitals were following the ICS. One way to determine whether standards were being followed was to survey the members of NAMSS who are present in all 50 states.

In this chapter, I present the research design and rationale for the study including the dependent variables, the research design as it related to the research questions, time and resource constraints, the target population, and the size of the targeted population. I also describe how the data were collected, the methodology of obtaining informed consent, the development of the survey, the reliability and validity of the survey instrument, and how each variable was operationalized and measured. In addition, I discuss the data analysis plan, statistical tests and threats to validity, ethical procedures, treatment of data, and confidentiality.

Research Design and Rationale

This section outlines the research design and approach used to identify the credentialing practices used in a variety of health care settings. A quantitative approach

was the most conducive to this study because it required a numeric description of credentialing processes based on survey results from a sample population (see Creswell, 2009). I intended to measure the credentialing standards MSPs follow. Information on geographical location of the hospital and size of the hospital allowed me to examine possible reasons why certain hospitals do or do not follow the NAMSS ICS.

The survey approach was chosen because of the potential rapid turnaround time in data collection and the established use in quantitative research. Measuring the credentialing standards the sample MSPs followed allowed me to answer Research Questions 1 to 4 and assess the need for a follow-up study to determine whether a national credentialing standard should be implemented. Without knowing the exact standards that were being followed, it was not possible to determine whether a national credentialing standard was needed.

Variables

The independent variables in this study were the 13 ideal credentialing standards. The dependent variables were the methods MSP use to satisfy the credentialing standard. For example, a hospital may have a standard that requires a criminal background check. The dependent variable is the way in which a hospital performs this function. The dependent variables were measured using Likert-scale responses (always, almost always, sometimes, almost never, and never). The responses measured by counting the number of responses to each standard.

For example, if 2,000 people respond to the question asking how often they primary-source verify the physician's license and state they always primary-source verify

a physician's license, and 1,000 people respond they almost always primary-source verify the physician's license, then the numbers can be compared using a chi-square. The results will show how often the dependent variable is used. The results will offer a good indication of how often a particular independent variable was being followed.

The design of the survey allowed for a quick turnaround time as well as a relatively quick time to complete. MSPs were very familiar with the terminology in the survey and the credentialing practices of their hospital. The survey design was consistent with other surveys sent to the NAMSS membership, so they should have been accustomed to this format. According to all surveys NAMSS has sent, a 5-point Likert scale is consistently used.

The variables were as follows: proof of identity; education and training; military service, if applicable; professional licensure; DEA certificate and state Controlled Substance Certificate; board certification, if applicable; affiliation and work history; criminal background disclosure; sanctions disclosure; health status; National Practitioner Database (NPDB); malpractice insurance; and professional reference. Each participant was asked whether he or she performed a particular credentialing standard always, most of the time, sometimes, almost never, and never. Responses were used to answer Research Questions 1 to 4.

Geographical information was split into four regions as defined by the United States Census Regions and Divisions (2014): Northeast, Midwest, South, and West. The exact states included in each region vary, but according to the federal government the Northeastern states include CT, ME, MA, NH, RI, VT, NJ, NY, and PA. The Midwestern

states include IN, IL, MI, OH, WI, IA, KS, MN, MO, NE, ND, and SD. The Southern states include DE, DC, FL, GA, MD, NC, SC, VA, WV, AL, KY, MS, TN, AR, LA, OK, and TX. The Western states include AZ, CO, ID, NM, MT, UT, NV, WY, AK, CA, HI, OR, and WA. The states are ordered this way due to the fact that they are further broken up into separate divisions within the regions. By coding the geographical area, I could examine possible patterns of compliance with the gold standard. Including this geographical location information enabled me to answer Research Question 5.

Inquiring about the size of the hospital was proven to be valuable by seeing if there was a pattern or probability that certain sized hospitals, large for example, may follow the Gold Standard in a more consistent basis than a smaller hospital. According to statistics from HealthIT.gov (2015), a small hospital has 1-99 staffed beds. Medium hospitals have 100-399 staffed beds, and large hospitals have 400 or more staffed beds. Based on the data received, descriptive statistics were used to show how many large hospitals always follow the Gold Standards, how often medium sized hospitals always follow the Gold Standard and how often small hospitals always follow the Gold Standard. Including this data helped answer RQ5.

Since the data are based on numerical or graphical summaries, descriptive statistical analysis for the first four research questions was used. The data showed which credentialing standards are being used, if they met the Gold Standard and if so which standards were always being followed and which standards were never being followed. The descriptive statistics were used by counting the number of occurrences an MSP responds that he/she always performs a certain function such as primary source verifying

a state medical license. This number is represented as X_1 . The next MSP's response (always) is represented as X_2 . All of the always responses will be added together and will be represented as X_n . Once the data was collected, a histogram was used to demonstrate the frequency of always responses, almost always responses, sometimes responses, almost never responses, and never responses to each question.

The fifth research question required a more advanced statistical analysis. A chi-square was used to see if there is a relationship between large, medium or small hospitals always following the Gold Standard, if geographical location plays a role in probability of all large facilities, and if type of hospital influence how compliant a hospital follows the Gold Standard. The data were analyzed using a chi-square to determine if a correlation between the number of physicians being credentialed in any given year influences the use of the Gold Standard. If, for example, a hospital credentials ten (10) physicians in any one year, does this factor influence the standards the MSP follows? Do larger hospitals always follow the Gold Standard because they credential so many physicians or might the volume of physicians credentialed cause MSPs to not always follow the Gold Standard? These are questions the data were able to give insight into the factors present when determining compliance with the Gold Standard.

Since research question five (RQ5) deals with variables of categorical data such as geographical location and the size of the hospital the chi-square was used to determine if there was a statistically significant relationship. A p-value of less than or equal to .05 is considered statistically significant. The percentage of people who responded almost always or always for primary source verification of a medical license, for example, was

calculated. Since MSPs cannot be in two geographical locations at the same time, the data is categorical and the results were analyzed by percentage.

Each variable was described and then the relationship between the variables was determined. For example, 75% of the MSPs in the Northeast always primary source verified the medical license while only 30% of MSPs in the South primary source verified the state medical license. To check for statistical significance, the relationship was measured by using the following formula: $\text{chi-square} = 25.6, \text{df}=1, p<.001$.

Methodology

The survey approach allows for a cross-sectional review of the data that is collected. The survey was approved by the Institutional Review Board (IRB) of Walden University (11-04-16-0248139), and then was sent to the NAMSS membership via e-mail. The respondents completed the survey and the data was downloaded from the NAMSS website and analyzed by using a chi-square for RQ5 only. Descriptive statistics were used on RQ1-4. A chi-square is appropriate for RQ5 because it allows researchers to measure the difference between different sets of relationships. For example, the chi-square will show how MSPs in the South tend to primary source verify a physician's medical license 50% of the time while MSPs in the Northeast tend to always verify the medical license 75% of the time. The results showed the relationship between the two variables.

The study utilized a survey documenting the hospital's credentialing practices in an attempt to discover if any of the 13 ICS are being followed. This information can be a key part in determining if there are wide gaps in credentialing standards not being

followed. The data can then be used to determine if a follow-up study needs to be performed to test whether or not the ICS should become a national credentialing standard.

Using a survey methodology, a questionnaire was sent to approximately 5,000 individuals who work in various health care settings and are members of the NAMSS. The NAMSS membership was chosen because of the breadth of MSPs throughout the United States, which allows for a more robust study of credentialing practices throughout the United States.

Utilizing a Likert Scale, the survey asked about which of the 13 “Best Practices” credentialing standards developed by NAMSS is being used. A goal of at least 500 individual participant respondents was set at the onset of the study. The referral sources were several medical and professional healthcare facilities. The survey was e-mailed to NAMSS members.

Participation was completely voluntary and no incentives were offered to participants. Participant respondents had two weeks to complete the survey. Reminders were not sent due to the fact that the identities of the responders were not kept and e-mail addresses were not stored, therefore it was impossible to determine who had returned a survey and who had not. No identifiable information was used as a part of this study. The study did, however ask the size of the hospital and from which geographical location the hospital is located.

No demographic information was collected as part of the Questionnaire (See Appendix A). All information was anonymous and will be released to NAMSS only in aggregate. The samples were analyzed randomly to give a greater probability of being

selected (Creswell, 2009). No stratification was employed because information such as gender or race is irrelevant to this study.

A 'Brief Questionnaire' (see appendix A) was utilized to collect participant information and 13 Best Criteria items. The self-administered questionnaire was designed to help aid in the elimination of those individuals and facilities that did not match the exclusion criteria for the study, as well as to collect descriptive information about participants. The questionnaire main screen asked if they work in a hospital. Additionally the questionnaire provided useful information during the analysis of data, as it provided a multitude of information about significant factors that could impact participants' responses.

Data Collection and Analysis

The surveys were sent electronically to each participant. The study's intent was to measure the actual credentialing standards across the US in an effort to determine which of the 13 ideal credentialing standards are being followed (RQ1, RQ2, RQ3, and RQ4). The goal of the current study was to administer the surveys to all 5,000 NAMSS members. The questions answering RQ1, RQ2, RQ3, and RQ4 was tabulated while the questions answering RQ5 and was analyzed statistically. Each participant was given two weeks to complete the survey.

The survey administrator included a brief script of the following. "On May 8th, 2014 the National Association Medical Staff Services (NAMSS) convened a roundtable to discuss best practice standards for the initial credentialing of independent practitioner applicants in medical facilities. Please complete the survey and click on the submit

button. Your participation is completely confidential and will not be released to anyone but the study administrator.”

The same survey was sent to all 5,000 members of NAMSS. The results were analyzed by lining up all 13 ideal credentialing standards on an Excel spreadsheet. Using a frequency distribution table, all 13 ICS categories were placed on their own line. Each response was counted and the number of times the MSP always performs a certain function were documented. The same statistical analysis was performed documenting when the MSP answered almost always. The same process continued until all responses were collected and the frequency of each response was tabulated.

Instrumentation Reliability and Validity

The survey itself was designed for this research only and the content was based on the 13 ideal credentialing standards developed by NAMSS. NAMSS authorized the use of its membership database to send the survey to its members. The design of the survey is similar to templates used by SurveyMonkey, but not based on any particular SurveyMonkey template. Since SurveyMonkey only allows 10 questions and the number of ideal credentialing standards exceeds that, the decision was made to use a trusted format, but enhance it by utilizing all 13 ideal credentialing standards and the subsets of options for compliance. The design was also developed in conjunction with NAMSS’ administrative personnel employed by Smith Bucklin, who are educated in survey design.

The content validity of the survey was established by asking only about the current practice of credentialing standards, asking which standard an institution uses to credential physicians. Only the content of the 13 ICS were surveyed. With regard to the

predictive validity, the scores were able to predict the actual credentialing standards being used across the United States. The construct validity of this survey allows the measurement of actual credentialing standards and does not ask open-ended questions which could deviate from the purpose of the study: to measure how different organizations follow NAMSS' ideal credentialing standards.

Threats to external validity such as a pre-knowledge of the test questions do not exist in this survey design. The survey was sent once and there was no follow-up. Threats to internal validity such as passage of time did not exist because the survey is given at one point in time. The survey itself did not change and will only be scored by the administrator, thus reducing the possibility of a variance of scoring. The selection of subjects was limited to members of NAMSS, thus reducing the potential for error in sampling.

The survey design is reliable because it is based on a five point Likert scale and only offers respondents the option of stating if they always follow the standard, most of the time follow the standard, sometimes follow the standard, most of the time they do not follow the standard, and never follow the standard. The survey used continuous scales exactly like the templates in SurveyMonkey. The survey results were sent to the Executive Committee of NAMSS for their review and if they feel the results are significant, they will distribute the aggregate results to the entire membership. Any inconsistencies, discrepancies, or unclear verbiage were resolved prior to delivery to the NAMSS membership at large.

The survey was designed by using NPT. NPT seeks to answer questions such as what people do (work). It allows for a mechanism to answer questions that may not have the appropriate tools to answer. Research question 1 (RQ1) asks what standards MSPs use to credential a physician. Using NPT the study looked at the actual practices of MSPs and determined which standards were actually being performed. Using NPT the study was also able to answer how the standards MSPs were using aligned with the ICS (RQ2). In order to determine how often MSPs follow the ICS, the frequency of the alignment also had to be factored in (RQ3). In order to determine if non-compliance was chronic or not, RQ4 asked how often an MSP almost never or never followed the ICS.

Finally NPT was used to answer the question of whether or not there were variables that may contribute to adherence or non-adherence to the ICS (RQ5). RQ5 asked if there was any correlation between credentialing practices and the size of the hospital or geographic location. NPT allowed for a framework that could answer the questions that needed to be answered to determine if a national credentialing standard was warranted.

Introduction to the Survey

NAMSS members were asked to fill out the survey by answering the questions of whether they “Always, Almost Always, Sometimes, Almost Never, and Never” follow these practices. All answers and sources remained anonymous to protect the identity of the MSP as well as the facility. The survey asked if the MSP works in hospital credentialing. This is to ensure only hospital credentialing staff responses are counted.

NAMSS has a number of MSPs who work in managed care settings and would not qualify for the parameters of this study.

These criteria include areas verification in the following domains: 1) proof of identity; 2) education and training; 3) military service, if applicable; 4) professional licensure; 5) Drug Enforcement Agency (DEA) certificate and state Controlled Substance Certificate; 6) board certification, if applicable; 7) affiliation and work history; 8) criminal background disclosure; 9) sanctions disclosure; 10) health status; 11) National Practitioner Database (NPDB); 12) malpractice insurance; and 13) professional reference. The answers range from Always, Most of the Time, Sometimes, Almost Never, and Never (see appendix A).

Anonymity Assurance

The survey did not ask for identifiable information either by the respondent or the name of the facility. The survey did not identify gender, or socio-economic information. The respondents were informed the answers are completely anonymous and only aggregate data was released to NAMSS. No one was able to identify neither the respondent nor any particular response. The only coding that was performed was numerical in terms of geographic location. The responses were coded according to geographic location and size of hospital (RQ5). The survey was voluntary. According to the Walden University Institutional Review Board (IRB), "Confidential data contains one or more identifiers, but identifiers are kept private by the researcher. In order to protect participant's privacy, and assure study that participation is truly voluntary, anonymous data collection is preferred, "whenever possible" (p. 13).

Ethical Responsibility

The author of this study was the only person to see the raw data. There are no relationships related to the study with the exception of NAMSS, who received the aggregate data once the study has been completed. The author did and does not stand to gain any monetary or professional acclaim as a result of this study. There are no multiple roles being played between the study and NAMSS. Participants in the study were informed of the following: 1) purpose of the research; 2) participants' rights; 3) research benefits; 4) lack of incentives to participate; and 5) who to contact should any questions arise.

The data is locked in a safe in electronic format with a paper copy of the aggregate data. This information is also being backed up to an encrypted server. The aggregate data will also reside with NAMSS. The data will be kept safe for a period of seven (7) years and will then be destroyed. The only person who has access to the raw data will be the author of the study.

Research Question Presumptions

RQ1 asks which credentialing standards MSPs perform. A survey was used to inquire about the standards MSPs use, including the frequency which they perform them. The first Research Question regarding credentialing standards in this study presumes that since 90% of all hospitals are accredited by The Joint Commission (TJC), MSPs will most likely respond "almost always" or "always" less than 90% of the time. The second Research Question in Reference to if the standards reported match the NAMSS' "gold standards" presumes MSPs will "almost always" or "always" meet the NAMSS ICS at

least 80-90% of the time. This result is presumed because of the education MSPs who are members of NAMSS receive.

Research Question three presumes the ICS are being followed most of the time. Credentialing needs consistency so MSPs usually have a checklist of standards to complete. In the case of Dr. Swango, one unqualified or unstable physician can cause a great deal of harm to patients. Research Question four presumes there are very few MSP who will respond “almost never” or “never” infrequently. If they respond they never check proof of identity via a government issued ID, then they would be out of compliance with accreditation standards.

Research Question five presumes MSPs in the Northeast will be more compliant than MSPs in other parts of the country due to the Northeast having more health systems than in other parts of the country. It also presumes larger hospitals will be more compliant with the ICS because they have more resources (IT, CVOs, larger budgets) than smaller hospitals. It is presumed larger hospitals would also have access to direct feeds of data such as the NTIS (verification of controlled substances) than a smaller hospital.

Summary

The research design, method and data analysis is discussed in this chapter. The study was quantitative in nature and uses a survey as the vehicle for measuring which of the 13 ideal credentialing standards are being followed in hospitals throughout the United States. Data analysis consists of tabulating the responses for each of the 13 ideal credentialing standards, performing statistical analysis using a chi-square for RQ5. The

data is aggregated and analysis was performed and presented. The purpose of the research methods is to better understand which credentialing standards are being followed, possibly indicating whether or not a national credentialing standard needs to be implemented.

Chapter 4: Results

The objective or purpose of this study was to survey members of the National Association of Medical Staff Services (NAMSS) in an attempt to determine whether credentialing standards being practiced in hospitals across the United States meet the criteria for NAMSS's 13 ideal credentialing standards (ICS). Analysis of the data indicated whether a national credentialing standard is warranted. There were five research questions that were answered as a result of the data analysis:

RQ1: Which credentialing standards do MSPs perform?

RQ2: Do the credentialing standards being performed by hospitals match the "Gold Standard" developed by NAMSS?

RQ3: How often are the "Gold Standards" being followed?

RQ4: Are there NAMSS "Gold Standard" practices that are almost never or never performed?

RQ5: Is there a difference in credentialing standards by hospital size or geographic location?

This chapter includes a description of the data collection timeframe, as well as how and why members of NAMSS were chosen to be participants in the study. Results of the data collection are also discussed in this chapter. The results of the distribution table are discussed as well as how the results were used to answer the research questions. Tables are used to present the data in a clear and concise format. Results of the Pearson chi-square are also discussed as they relate to RQ5. Finally, a summary of all data findings is presented.

Data Collection

To better understand the credentialing standards that are being followed throughout the United States, I decided that a survey would be the best vehicle to gather that information. The survey was selected because the size of the population of MSPs in NAMSS was large and there was significant distance between each MSP. MSPs could complete the survey at their convenience. The survey was based on a 5-point Likert scale to measure which standards were being followed and how often a particular standard was being followed. The survey was designed using the 13 ideal credentialing standards developed by NAMSS.

For example, proof of identity ideally should be verified by inspection of a government-issued ID. In addition to using a government-issued ID, MSPs can verify by other means such as an I-9 or national provider index (NPI) number. The survey asked whether the MSP always, almost always, sometimes, almost never, or never asks for the documents. By measuring which verification methods were being followed and how often they were being performed, I was able to answer the research questions.

SurveyMonkey was chosen as the vehicle for the survey because it is user friendly and has functionality necessary to the study, such as anonymity. No one knew who returned the survey. As a result, I assumed that the MSP would be more truthful regarding what they do as opposed to reporting what they knew they should be doing. The survey was available online with a link to the survey on a secure website.

The survey was sent to MSPs who are members of NAMSS. Most NAMSS members credential physicians as well as allied health professionals. NAMSS members

traditionally work in a hospital and either have attended courses in how to credential or have learned on the job. MSPs who work in a hospital are usually located in the medical staff office. Most report to the chief medical officer, but some report to a vice president of quality.

NAMSS members most likely use credentialing software to assist in the credentialing process. These software programs perform a variety of functions such as query the National Practitioner Data Bank, state licensing boards, and the Office of Inspector General. Many of the programs are online, and all of the credentialing information is housed electronically. Once the credentialing information has been verified, MSPs send the information to a credentialing committee for approval. The credentialing files may be electronic and the committee may review them online or in paper form.

NAMSS members perform a variety of functions including verifying the physician's credentials, gathering quality data on the physician, and educating the staff on changes in health care policy. Some members work in managed care arenas or other areas of health care not directly associated with a hospital. For the purposes of this study, physician credentialing was the main focus, and I excluded allied health practitioners.

This quantitative study addressed the lack of uniformity in the credentialing process hospitals use to make an informed decision on whether to accept a physician onto their medical staff. To determine whether a national credentialing standard should be implemented, I first had to determine which credentialing standards MSPs were following. If some hospitals never verified a physician's identity by asking for a

government-issued photo ID, someone could impersonate another physician and gain access to patients, like Dr. Swango (Stewart, 1999).

Because NAMSS is the largest organization of MSPs in the United States, their members were the ideal population to study to determine which credentialing standards were being followed. The survey was developed using the 13 ideal credentialing standards. Including a 5-point Likert scale, the survey asked whether the MSP always followed the standard, almost always followed the standard, sometimes followed the standard, almost never followed the standard, or never followed the standard.

The survey (Appendix A) was sent to all 5,632 members of NAMSS on November 29, 2016. The e-mail to be sent out to the NAMSS membership was drafted collaboratively by me and the NAMSS staff. NAMSS sent the e-mail out via their database of member e-mails. The e-mail contained a direct link to the survey via a dedicated website hosted by me. MSPs had 2 weeks to complete the survey, with zero reminders. NAMSS was concerned about sending too many surveys out in a short period of time, so no reminders were sent. The 2-week time period was selected due to the upcoming holiday season, when many people would have been out of the office.

SurveyMonkey has a feature that prevents anyone from identifying the survey respondent, thereby ensuring anonymity. I was the only person to view the results. Three hundred sixty-four surveys were returned ($N = 364$) out of 5,632 surveys sent out. Although the response rate was lower than expected (6.46%), there was representation from all four geographical areas as well as representatives from small, medium, and large hospitals (see Tables 2 and 3).

The objective of this study was to survey MSPs to measure which credentialing standards were being used and which methods MSPs were using to verify education and training, state licensure, malpractice history, and so on. The data were compared to the ideal credentialing standards developed by the NAMSS. The survey questions were based on a 5-point Likert scale. The results were converted to numeric values as follows: always = 5, almost always = 4, sometimes = 3, almost never = 2, and never = 1. The results were downloaded to IBM Statistical Package for the Social Sciences (SPSS) Version 23 to analyze the responses.

Responses were tabulated and scored according to frequency, percentage, cumulative frequency, and cumulative percent. Question 2 on the survey asked how many beds the hospital had. The number of beds determines the relative size of the hospital, or small, medium, and large. The results of this question will be addressed when RQ5 is discussed. The number of beds (size of hospital) was broken down into small (0-99), medium (100-200), and large (201 and greater) (see Table 2). The size of the hospital is determined by the number of beds for which it has licenses.

Table 2

Hospital Size

How many beds does your hospital have? Answer Choices	Response %	Response #
1-99 (1)	22.99	63
100-200	15.79	57
201 or greater (3)	44.60	161
I don't work in a hospital	16.62	60
Total	361	

Responses were tabulated and scored according to frequency, percentage, cumulative frequency, and cumulative percent. Question 2 on the survey asked how many beds the hospital had. The number of beds determines the relative size of the hospital, or small, medium, and large. The results of this question will be addressed when RQ5 is discussed. The number of beds (size of hospital) was broken down into small (0-99), medium (100-200), and large (201 and greater) (see Table 2). The size of the hospital is determined by the number of beds for which it has licenses.

Geographic regions were broken down into the Northwest (1), Midwest (2), South (3), and West (4). This breakdown was chosen because it is the same breakdown by the United States Census Regions and Divisions (see Table 3).

Table 3

Geographical Location

In which geographic region is your hospital?					Response	Response
Answer Choices					%	#
Northeast (1)					19.19	66
Midwest (2)					29.07	100
South (3)					28.20	97
West (4)					23.55	81
Minimum	Maximum	Median	Mean	Standard Deviation		
1.0	2.0	1.0	1.14	0.35		

The first question on the survey asked if the MSP credentialed physicians in a hospital setting (see Table 4). Fifty (50 or 14%) of MSPs stated they did not credential physicians in a hospital setting. The MSPs could have credentialed physicians who

practice in a hospital setting and worked for an organization outside of the hospital setting, such as a Credentialing Verification Organization (CVO). The data collection did not deviate from the process outlined in Chapter 3. Participation was voluntary, all respondents were over 18 years of age, members of NAMSS, and worked as Medical Services Professionals (MSPs) (see Table 4).

Table 4

Hospital Credentialing

Do you credential physicians for physicians in a hospital setting?

Answer Choices	Response %	Response #
Yes (1)	86.07	309
No (2)	13.93	50
Total		359

Basic Statistics				
Minimum	Maximum	Median	Mean	Standard Deviation
1.0	2.0	1.0	1.14	0.35

NAMSS members have access to educational conferences, webinars, and online programming. They also have access to over 6,000 other MSPs for the purpose of networking. NAMSS membership grew to over 6,000 members after the survey was sent to the membership. NAMSS offers the opportunity to become a Certified Provider Credentialing Specialist (CPCS) and/or a Certified Professional Medical Services Management (CPMSM). As a member benefit, NAMSS members have access to an online publication titled *Synergy*, which is a valuable informational tool in offering advice on best practices are followed and that members have access to regulatory updates.

According to the American Hospital Association (AHA), there are 5,564 hospitals in the U.S. (AHA, 2017). As of November 2016 there were 5,632 MSPs in NAMSS; sending the survey to NAMSS members is most likely a good representation of MSPs in the U.S. It is unknown how many MSPs there are in the U.S., or what percentage of MSPs are members of NAMSS, but on average there is one MSP in NAMSS for every hospital in the U.S. The survey included 68 questions which may account for a low response rate, but member feedback was overwhelmingly positive and supportive.

Results

Research question 1.

Research question 1 (RQ1) asked which credentialing standards MSPs perform. The results of the survey identified that at least one or more MSPs perform the following credentialing standards: : 1) Proof of Identity; 2) Verification of Education and Training; 3) Military Service; 4) Professional License; 5) DEA Registration and State DPS and

CDS; 6) Board Certification; 7) Affiliation and Work History; 8) Criminal Background Disclosure; 9) Sanctions Disclosure; 10) Health Status; 11) NPDB; 12: Malpractice Insurance; and 13) Professional and Peer References.

The survey was designed to be specific about the Ideal Credentialing Standards approved by NAMSS (see Appendix A). It is unknown if MSPs throughout the U.S. perform other credentialing standards than the ones list above. In terms of the first a assumption, since approximately 90% of the hospitals in the U.S. are accredited by TJC, there should be a compliance rate lower than 90%. The results cannot confirm the assumption for this research question in all cases. All areas of credentialing were below 90% with the exception of asking for health statuses, usage of the NPDB, and the use of professional references to make an informed credentialing decision.

Research question 2.

Research question 2 (RQ2) asked which of the credentialing standards being performed in hospitals matched the Ideal Credentialing Standards developed by NAMSS. The survey followed the order of the Ideal Credentialing Standards (ICS) approved by NAMSS. The results of this survey were broken down into the following categories: 1) Proof of Identity; 2) Verification of Education and Training; 3) Military Service; 4) Professional License; 5) DEA Registration and State DPS and CDS; 6) Board Certification; 7) Affiliation and Work History; 8) Criminal Background Disclosure; 9) Sanctions Disclosure; 10) Health Status; 11) NPDB; 12: Malpractice Insurance; and 13) Professional and Peer References.

Proof of identity.

Proof of identity is the first category NAMSS identified as part of the Ideal Credentialing Standards. The recommended primary source for proof of identity is a government issued photo ID, the National Provider Index (NPI), I-(and supporting documents, or a VISA card of Employment Verification card. NAMSS recommends a government issued photo ID along with any of the other three documents in order to comply with the Ideal Credentialing Standards (NAMSS, 2017). Eighty-nine percent (89%) of MSPs responded they almost always or always check the physician's identity by asking for a government issued photo ID. Six percent (6%) responded they almost never or never ask for a government issued photo ID as proof of identity (see Table 5).

Table 5

Proof of Identity: Government Issued Photo ID

Proof of identity is reviewed by verifying a government issued ID

Answer Choices	Response %	Response #		
Always (1)	77.78	266		
Almost Always (2)	11.11	38		
Sometimes (3)	5.26	18		
Almost Never (4)	1.46	5		
Never (5)	4.39	15		
Total				
342				
Basic Statistics				
Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	1.44	0.99

It is unclear whether the MSPs who responded to Proof of Identity exclusively used the NPI or not, so this subsection of Proof of Identity is not significant. Thirty-six percent (36%) of MSPs (see Table 6) responded they almost never or never use the NPI for proof of identification, but they would be in compliance if they asked for a government issued photo ID and not the NPI.

Table 6

Proof of Identity: NPI

 Proof of identity is reviewed by verifying a physician's NPI number

Answer Choices	Response %	Response #
Always (1)	57.91	205
Almost Always (2)	2.82	10
Sometimes (3)	3.67	13
Almost Never (4)	5.37	19
Never (5)	30.23	107

Total

354

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	2.47	1.82

Since the I-9 is collected as part of the employment process, many hospitals that do not employ physicians would most likely not have the I-9 forms as part of their credentialing process. Again, this subcategory of Proof of Identity did not ask if MSPs also asked for a governmental photo ID as part of the credentialing process.

Table 7

Proof of Identity: I-9

 Proof of identity is reviewed by verifying a physician's I-9 documentation

Answer Choices	Response %	Response #
Always (1)	15.43	54
Almost Always (2)	2.00	7
Sometimes (3)	8.29	29
Almost Never (4)	9.43	33
Never (5)	64.86	227

Total

350

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	5.0	4.06	1.48

Forty-two percent (42%) of MSPs responded they almost never or never used a VISA or Employment Verification Card for Proof of Identity (see Table 8). Forty-six percent (46% responded they almost never or never used a VISA or Employment Verification Card as proof of identity. It cannot be determined if the MSPs who responded almost never or never also asked for a government issued photo ID.

Table 8

Proof of Identity: VISA or Employment Verification Card

Foreign trained physician's identity is reviewed by verifying his/her VISA card or employment verification card.

Answer Choices	Response %	Response #
Always (1)	40.00	138
Almost Always (2)	5.51	19
Sometimes (3)	12.46	43
Almost Never (4)	7.25	25
Never (5)	34.78	120
Total		
345		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	3.0	2.91	1.76

The minimum standard for NAMSS with regard to Proof of Identity is a government issued photo ID with any of the other three methods as additional safeguards. Eighty-nine percent (89%) of MSPs responded they almost always or always verify identity via a government issued photo ID. Six percent (6%) of MSPs respondents indicated they almost never or never verify the physician's identity via a government issued ID. The fact that 20 out of the 342 respondents (5.9%) indicated they almost never or never ask for a government issued photo ID indicates there is a gap in the credentialing standards as it pertains to Proof of Identity. Since NAMSS recommends a copy of the government issued photo identification (ID) accompany requests for professional and peer references (ICS 13), the implication is that an imposter could evade detection and access patients if there is no photo ID. Although the number of MSPs who almost never or never ask for a government issued ID, even one imposter could cause a great deal of harm to patients. Dr. Swango, for example, might have been responsible for 64 deaths of patients he had access to (Stewart, 1999).

Verification of education and training.

Verification of completion of medical school.

Verification of medical school is an integral part of the credentialing process. The principal requirement to practice medicine is graduating from medical school. After graduating from medical school physicians enter a period of training called internship and residency. Verification of graduation from medical school can be completed in several methods including communication directly from the source, the AMA, OR THE AOA. There could also be another source, but other sources are not included in the ICS. Forty-

nine percent (49%) of MSPs responded they almost always or always confirm graduation from medical school directly with the medical school (see Table 9). Fourteen percent responded they almost never or never directly contracted the medical school to confirm graduation from medical school.

Table 9

Education and Training: MS Direct

Education and training and graduation from medical school are verified by direct contact with the source

Answer Choices	Response %	Response #
Always (1)	22.32	77
Almost Always (2)	26.38	91
Sometimes (3)	37.68	130
Almost Never (4)	8.12	28
Never (5)	5.51	19
Total		
345		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	3.0	2.48	1.09

The AMA is an acceptable source for verification of graduation from medical school according to the ICS. Forty-two percent (42%) of MSPs responded they used the AMA as verification of completion of graduation from medical school (see Table 10). Nine percent (9%) responded they almost never or never use the AMA for verification of graduation from medical school

Table 10

Education and Training: MS AMA

 Education and training and graduation from medical school are verified by the AMA

Answer Choices	Response %	Response #
Always (1)	42.05	148
Almost Always (2)	26.42	93
Sometimes (3)	22.44	79
Almost Never (4)	5.40	19
Never (5)	3.69	13

Total

352

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.02	1.09

For verification of graduation from medical school 74% of MSPs responded they almost always or always verify an osteopathic physician's graduation from medical school via the AOA (see Table 11). Nine percent (9%) responded they almost never or never verify graduation from medical school via the AOA.

Table 11

Education and Training: MS AOA

Education and training and graduation from medical school for osteopathic physicians are verified by the AOA

Answer Choices	Response %	Response #
Always (1)	47.84	166
Almost Always (2)	24.50	85
Sometimes (3)	18.73	65
Almost Never (4)	5.19	16
Never (5)	3.75	13
Total		
347		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	1.93	1.10

For foreign medical graduate who qualify to complete their training in the U.S., the ECFMG is an acceptable source to verify graduation from medical school according to the ICS. Ninety-two percent (92%) of MSPs responded they almost always or always use the ECFMG as validation of graduation from medical school (see Table 12). Ninety-two percent (92%) of MSPs responded they almost always or always verify graduation from medical school for foreign trained physicians. Six percent (6%) responded they almost never or never used the ECFMG to verify completion of medical school for foreign trained medical school graduates.

Table 12

Education and Training: MS ECFMG

 Education and training and graduation from medical school for foreign trained physicians

are verified by the ECFMG

Answer Choices	Response %	Response #
Always (1)	84.33	296
Almost Always (2)	7.69	27
Sometimes (3)	1.99	7
Almost Never (4)	1.99	7
Never (5)	3.99	14
Total		351

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	1.34	0.93

Additional sources for verification of graduation from medical school comply with the NAMSS ICS as long as the primary sources outlined in the ICS have also been verified. As far as MSPs who responded to the survey, they indicated that 11% of MSPS almost always or always use additional sources to verify graduation from medical school (see Table 13). Sixty-two percent (62%) responded they almost never or never used additional sources to verify graduation from medical school.

Table 13

Education and Training: MS Other

 Education and training and graduation from medical school are verified by another source

Answer Choices	Response %	Response #
Always (1)	5.62	19
Almost Always (2)	5.33	18
Sometimes (3)	26.63	90
Almost Never (4)	25.44	86
Never (5)	36.98	125

Total

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	4.0	3.83	1.15

NAMSS' ICS recommends verification of completion of medical school, internships, residencies and fellowship programs and their completion status. The MSP should ask for verification in mm/yy format and should ask for an explanation of any gap greater than 60 days. If the physician is foreign trained, the ECFMG should be verified. Acceptable verification sources include training schools, residency training programs, AMA, AOA, FSMB, and state medical boards.

These findings are inconclusive since there were multiple sources for verification and each category was separate. If, for example, 13% of the MSPs responded they almost never or never verify graduation from medical school directly with the school from which the physician graduated. They could use the AMA profile instead and that would be an acceptable form of verification according to the NAMSS ICS. The design of the survey should have incorporated verbiage that would have clarified the source of the verification. If the MSP responded they did not directly contact the medical school, the question should have asked which of the alternate sources the MSP utilizes to verify completion of medical school.

Verification of internship.

Forty-four percent (44%) of MSPs responded they almost always or always contact the hospital(s) where the physician completed his/her internship. Seventeen percent (17%) responded they almost never or never verify internship with the hospital(s) where the physician completed his/her internship (see Table 14).

Table 14

Education and Training: Int Direct Source

 Verification of internship is verified by direct contact with the source

Answer Choices	Response %	Response #
Always (1)	16.67	59
Almost Always (2)	27.12	96
Sometimes (3)	39.55	140
Almost Never (4)	9.89	35
Never (5)	6.78	24

Total

354

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	3.0	2.63	1.08

Sixty-three percent (63%) of MSPs responded they almost always or always use the AMA as verification of internship while 11% percent responded they almost never or

never use the AMA as their source for verification of completion of internship (see Table 15).

Table 15

Education and Training: Int AMA

 Verification of internship is verified by the AMA

Answer Choices	Response %	Response #
Always (1)	35.43	124
Almost Always (2)	27.71	97
Sometimes (3)	26.29	92
Almost Never (4)	6.0	21
Never (5)	4.57	16

Total

350

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.17	1.11

Sixty-seven percent (67%) of MSPs responded they almost always or always verify completion of internship for osteopathic physicians through the AOA. Eleven percent (11%) of MSPs responded they almost never or never verified completion of internship with the AOA (see Table 16).

Table 16

Education and Training: Int AOA

 Verification of internship for osteopathic physicians is verified by the AOA

Answer Choices	Response %	Response #
Always (1)	39.88	138
Almost Always (2)	27.46	95
Sometimes (3)	21.39	74
Almost Never (4)	5.49	19
Never (5)	5.78	20

Total

346

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.10	1.16

Fifty-eight percent (58%) of MSPs responded they almost always or always use the ECGMG as the source for verification of internship for foreign trained physicians. Thirty-six percent (36%) responded they almost never or never use the ECFMG to verify internship (see Table 17).

Table 17

Education and Training: Int ECFMG

 Verification of internship for foreign trained physicians is verified by the ECFMG

Answer Choices	Response %	Response #
Always (1)	47.71	167
Almost Always (2)	10.00	35
Sometimes (3)	6.29	22
Almost Never (4)	4.29	15
Never (5)	31.71	111
Total		
350		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.62	1.78

Eleven percent (11%) responded they almost always or always used another source to verify completion of internship while 62% responded they almost never or never use another source for verification of internship see Table 18)

Table 18

Education and Training: Int Other

 Verification of internship is verified by another source

Answer Choices	Response %	Response #
Always (1)	5.99	20
Almost Always (2)	5.39	18
Sometimes (3)	26.95	90
Almost Never (4)	25.45	85
Never (5)	36.23	121

Total

334

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	4.0	3.81	1.16

As was the case of verification of completion of medical school, the findings in this area are inconclusive as to the actual sources used to verify internship. The survey should have been designed to ask the MSP if they only used a particular verification source or if multiple sources were used for verification of internship.

Verification of residency.

Forty-eight percent (48%) of MSPs responded they almost always or always verify completion of residency with the hospital. Twelve percent (12%) responded they never directly verify completion of residency with the hospital (see Table 19).

Table 19

Education and Training: Res Direct Source

 Completion of residency is verified by direct contact with the source

Answer Choices	Response %	Response #
Always (1)	17.58	61
Almost Always (2)	29.97	104
Sometimes (3)	40.63	141
Almost Never (4)	7.78	27
Never (5)	4.03	14

Total

347

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	3.0	5.51	1.0

Sixty-five percent (65%) of MSPs responded they almost always or always verify completion of residency through the AMA while 10% responded they almost never or never verify completion of residency through the AMA (see Table 20).

Table 20

Education and Training: Res AMA

 Completion of residency is verified by the AMA

Answer Choices	Response %	Response #
Always (1)	38.76	138
Almost Always (2)	26.12	93
Sometimes (3)	25.28	90
Almost Never (4)	5.90	21
Never (5)	3.93	14

Total

356

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.10	1.10

For osteopathic physicians, 69% of MSPs responded they almost always or always use the AOA to verify completion of residency while 11% responded they almost never or never verify residency with the AOA (see Table 21).

Table 21

*Education and Training: Res AOA***Completion of residency for osteopathic physicians is verified by the AOA**

Answer Choices	Response %	Response #
Always (1)	40.75	141
Almost Always (2)	28.32	98
Sometimes (3)	20.23	70
Almost Never (4)	5.78	20
Never (5)	4.91	17

Total**346****Basic Statistics**

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.06	1.13

With regard to the verification of residency for foreign trained physicians, 51% responded they almost always or always verify residency through the ECFMG. Forty-two percent responded they almost never or never verify residency through the ECFMG (see Table 22).

Table 22

Education and Training: Res ECFMG

 Completion of residency for foreign trained physicians is verified by the ECFMG

Answer Choices	Response %	Response #
Always (1)	41.60	146
Almost Always (2)	9.40	33
Sometimes (3)	7.41	26
Almost Never (4)	5.13	18
Never (5)	36.47	128

Total

351

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.85	1.80

Twelve percent (12%) of MSPs responded they almost always or always verify residency through some other source while 60% responded they almost never or never use other sources to verify residency (see Table 23).

Table 23

Education and Training: Res Other

 Completion of residency is verified by another source

Answer Choices	Response %	Response #
Always (1)	6.69	22
Almost Always (2)	5.17	17
Sometimes (3)	28.27	93
Almost Never (4)	24.62	81
Never (5)	35.26	116

Total

329

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	4.0	3.77	1.18

Verification of residency is a crucial step in the credentialing process. If 42% of MSPs responded they almost never or never use the ECFMG for verification of residency and 48% of MSPs responded they almost always or always verify completion of residency directly through the hospital, there is a potential for imposters to gain access to patients. Once again, the findings are inconclusive due to the fact that the MSP may have used one or more sources that are consistent with the NAMSS ICS.

Verification of fellowship.

Fifty-eight percent (58%) of MSPs responded they almost always or always verified a physician's completion of fellowship directly with the hospital. Eleven percent (11%) responded they almost never or never verified the fellowship directly with the source (see Table 24).

Table 24

Education and Training: Fel Direct Source

 Completion of fellowship (if applicable) is verified by direct contact with the source

Answer Choices	Response %	Response #
Always (1)	25.80	89
Almost Always (2)	31.88	110
Sometimes (3)	31.59	109
Almost Never (4)	6.38	22
Never (5)	4.35	15

Total

345

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.32	1.06

Fifty-five percent (55%) of MSPs responded they almost always or always verified fellowship through the AMA. Fourteen percent (14%) responded they almost never or never verified a fellowship through the AMA (see Table 25).

Table 25

Education and Training: Fel AMA

 Completion of fellowship (if applicable) is verified by the AMA

Answer Choices	Response %	Response #
Always (1)	34.49	119
Almost Always (2)	20.58	71
Sometimes (3)	30.72	106
Almost Never (4)	8.12	28
Never (5)	6.09	21

Total

345

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.31	1.20

For osteopathic physicians, 61% of MSPs responded they almost always or always verified fellowship through the AOA while 15% responded they almost never or never verify fellowship through the AOA (see Table 26).

Table 26

Education and Training: Fel AOA

 Completion of fellowship (if applicable) for osteopathic physicians is verified by the

AOA

Answer Choices	Response %	Response #
Always (1)	38.24	130
Almost Always (2)	23.24	79
Sometimes (3)	23.53	80
Almost Never (4)	7.94	27
Never (5)	7.06	24

Total

340

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.22	1.23

For foreign trained physicians, 42% of MSPs responded they almost always or always verify fellowship through the ECFMG while 49% responded they almost never or never verify completion of fellowship through the ECFMG (see Table 27).

Table 27

Education and Training: Fel ECFMG

Completion of fellowship (if applicable) for foreign trained physicians is verified by the ECFMG

Answer Choices	Response %	Response #
Always (1)	32.85	114
Almost Always (2)	8.93	31
Sometimes (3)	8.93	31
Almost Never (4)	6.34	22
Never (5)	42.94	149

Total

347

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	3.0	3.18	1.78

Twelve percent (12%) of MSPs responded they almost always or always verify fellowship through other sources. Sixty-one percent (61%) of MSPs responded they almost never or never verify fellowship through other sources (see Table 28).

Table 28

Education and Training: Fel Other

 Completion of fellowship (if applicable) is verified by another source

Answer Choices	Response %	Response #
Always (1)	7.53	25
Almost Always (2)	4.52	15
Sometimes (3)	27.41	91
Almost Never (4)	24.70	82
Never (5)	35.84	119

Total

332

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	4.0	3.77	1.20

The results are inconclusive for the research question regarding meeting the NAMSS ICS for verification of fellowship due to the design of the survey which should have asked which of the following sources the MSP uses to verify fellowship and then ask the frequency they used those sources. It is interesting to note how few (58%) MSPs contacted the hospital directly to verify completion of fellowship. Although the alternate sources may be highly reliable, direct verification with the source is one of the most reliable methods to verify information. Having a copy of a government issued ID would be one step closer to a thorough verification process.

Explanation of gaps.

A gap in education and training can mean there was a period of time during which the physician took time away from medical school, internship, residency, or fellowship. In the context of practice, a gap in practice can mean any time period when the physician was not actively practicing medicine. A gap in education and training can be as easily explained in most cases and can be as simple as a maternity leave or relocation. An extended gap in education and training might mean there are other reasons to be away from medical school or residency. In terms of gaps in practice, a lengthy gap could indicate a suspended license or a loss of privileges. It could also be that a physician took a break to raise a family or go on an extended vacation. Whichever is the case, gaps over two months should be investigated.

Sixty-nine percent (69%) of MSPs responded they almost always or always request an explanation of gaps for two (2) months. Nineteen percent (19%) responded they almost never or never verify gaps for two months (see Table 29).

Table 29

Education and Training: Gaps MM/YY

 Explanation of gaps (mm/yy format) is verified for gaps greater than two (2) months

Answer Choices	Response %	Response #
Always (1)	56.81	196
Almost Always (2)	12.17	42
Sometimes (3)	11.88	41
Almost Never (4)	9.57	33
Never (5)	9.57	33

Total

345

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	2.03	1.39

Ninety-three percent (93%) of MSPs responded they verify gaps greater than six (6) months. Five percent (5%) of MSPs responded they almost never or never requested information on gaps of six months (see Table 30).

Table 30

Education and Training: Gap 6 Month

 Explanation of gaps (mm/yy format) is verified for gaps greater than six (6) months

Answer Choices	Response %	Response #
Always (1)	87.97	307
Almost Always (2)	5.16	18
Sometimes (3)	1.72	6
Almost Never (4)	1.43	5
Never (5)	3.72	13

Total

349

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	1.28	0.88

Ninety-three percent (93%) of MSPs responded they almost always or always request an explanation of a gap of one year or more. Five percent (5%) responded they almost never or never request gaps of one year or greater (see Table 31).

Table 31

Education and Training: Gaps 1 year

 Explanation of gaps (mm/yy format) is verified for gaps greater than one (1) year

Answer Choices	Response %	Response #
Always (1)	89.31	309
Almost Always (2)	4.05	14
Sometimes (3)	1.73	6
Almost Never (4)	0.87	3
Never (5)	4.05	14

Total

346

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	1.26	0.88

Ninety-four percent (94%) of MSPs responded they ask for an explanation of a gap of two years or greater while five percent (5%) responded gaps of two years or greater were almost never or never verified (see Table 32).

Table 32

Education and Training: Gaps 2 Years

 Explanation of gaps (mm/yy format) is verified for gaps greater than two (2) years

Answer Choices	Response %	Response #
Always (1)	90.96	322
Almost Always (2)	2.82	10
Sometimes (3)	1.13	4
Almost Never (4)	1.13	4
Never (5)	3.95	14
Total		
354		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	1.24	0.87

The results of a lack of consistent process to request information about a gap in practice raises the potential for inadequately trained physicians to gain access to patients. This lack of verification of unaccounted time potentially exposes patient to harm. For example, if a physician practices at a hospital for two years and has his/her privileges revoked, if that practice location is not on the physician's application, how will the MSP know where to investigate?

Without requesting an explanation of a gap in practice, many malpractice claims could have been filed, but the MSP wouldn't know it unless the claim resulted in a settlement and the hospital and/or insurance company reported it to the NPDB. As seen in the case of hospitals not reporting loss of privileges or restrictions placed on their privileges, there is much room for an imposter or inadequately qualified physician to have access to patient care (Citizens, 2014). For the lack of an explanation of a gap of two (2) years occurs in 5% of the time, patients could be harmed. NAMSS recommends gaps of 60 days or greater be explained in writing.

Military service.

Sixty-three percent (63%) of MSPs responded they almost always or always verify military service using the DD214. Twenty-three percent (23%) responded they almost never or never verify military service using the DD214 to verify military service. Although the survey only listed the DD214 as a source of verification of military service, other sources such as the National Personnel Records Center (NPRC) or the applicable military branch and duty station are perfectly acceptable. The latter sources were not included in the survey and therefore make the results inconclusive (see Table 33).

Table 33

Military Service

 Military service (if applicable) is verified by the DD214

Answer Choices	Response %	Response #
Always (1)	44.32	156
Almost Always (2)	18.18	64
Sometimes (3)	14.20	50
Almost Never (4)	5.40	19
Never (5)	17.90	63

Total

352

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.34	1.51

Verification of license.

Ninety-eight percent (98%) of MSPs responded they almost always or always verify licensure directly with the state licensing boards. One percent responded they almost never or never directly verified a physician's licensure with the state that issued (see Table 34).

Table 34

Licensure: State Boards

 Professional licensure is verified through state licensing boards

Answer Choices	Response %	Response #
Always (1)	90.52	315
Almost Always (2)	7.18	25
Sometimes (3)	1.15	4
Almost Never (4)	0.00	0
Never (5)	1.15	4
Total		
348		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	1.14	0.53

Another source that NAMSS recommends for verification of licensure is the FSMB. Eighteen percent (18%) of MSPs responded they almost always or always use the Federation of State Medical Boards (FSMB) to verify licensure while 58% responded they almost never or never used the FSMB (see Table 35). One percent (1%) of MSPs responded they almost never or never verify a physician's license directly with the state, but they could have used the FSMB, thereby causing the results to be inconclusive (see Table 35).

Table 35

Licensure: FSMB

 Professional licensure is verified through the FSMB

Answer Choices	Response %	Response #
Always (1)	15.38	54
Almost Always (2)	2.28	8
Sometimes (3)	24.79	87
Almost Never (4)	14.25	50
Never (5)	43.30	152

Total

351

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	4.0	3.68	1.43

Verification of DEA and state controlled substance certificates.

Forty-two percent (42%) of MSPs responded they almost always or always verify the Drug Enforcement Agency (DEA) certificate by an inspection of a copy of the certificate. Forty-three percent (43%) of MSPs responded they almost never or never verify the DEA by an inspection of the copy (see Table 36).

Table 36

DEA: Copy

 DEA is verified by inspection of a copy of the certificate

Answer Choices	Response %	Response #
Always (1)	37.57	133
Almost Always (2)	4.24	15
Sometimes (3)	14.97	53
Almost Never (4)	6.21	22
Never (5)	37.01	131

Total

354

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	3.0	3.01	1.76

Sixty-five percent (65%) responded they almost always or always used the National Technical Information Service (NTIS) for verification of the DEA. Twenty-eight percent (28%) responded they almost never or never use the NTIS for verification of the DEA. The NTIS is a subscription service which verifies a physician's DEA and schedule (list of the various classes of drugs a physician is allowed to prescribe). The results of this standard are inconclusive since 43% of MSPs who do not verify the DEA via an inspection of the copy of the DEA could have used the NTIS (see Table 37).

Table 37

*DEA: NTIS*DEA is verified by NTIS

Answer Choices	Response %	Response #
Always (1)	56.82	200
Almost Always (2)	8.24	29
Sometimes (3)	7.39	26
Almost Never (4)	3.69	13
Never (5)	23.86	84

Total

352

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	2.30	1.69

Twenty-eight percent (28%) of MSPs responded they almost always or always verify the state Controlled Dangerous Substance (CDS) certificate by inspection of a copy of the certificate 28.20% of the time while 61% almost never or never used inspection of a copy of the CDS as a verification method (see Table 38).

Table 38

CDS: Copy

 State CDS (if applicable) is verified through inspection of a copy of the certificate

Answer Choices	Response %	Response #
Always (1)	23.28	71
Almost Always (2)	4.92	15
Sometimes (3)	10.49	32
Almost Never (4)	5.90	18
Never (5)	55.41	169

Total

305

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	5.0	3.65	1.68

Seventy-two percent (72%) of MSPs almost always or always verify the CDS by contacting the state licensing board. Twenty-three percent (23%) responded they almost never or never contacted the state licensing board to verify the CDS (see Table 39). These results are inconclusive since not all states have a state controlled substance certificate and that 61% who did not verify the CDS by inspection of the certificate could have verified it by contacting the state licensing board and could have been included in the 72% who almost always or always verified the CDS by contacting the state licensing board (see Table 39).

Table 39

CDS: Licensing Board

State CDS (if applicable) is verified through the state licensing board

Answer Choices	Response %	Response #
Always (1)	65.20	208
Almost Always (2)	6.90	22
Sometimes (3)	5.02	16
Almost Never (4)	2.19	7
Never (5)	20.69	66
Total		
319		

Basic Statistics				
Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	1.0	2.06	1.63

Verification of board certification.

Fifty-three percent (53%) of MSPs almost always or always verified board certification through CertiFACTS. Thirty-four percent (34%) of MSPs responded they almost never or never use CertiFACTS to verify board certification (see Table 40).

Table 40

Board Cert: CertiFACTS

 Board certification (if applicable) is verified through CertiFACTS

Answer Choices	Response %	Response #
Always (1)	41.47	141
Almost Always (2)	11.76	40
Sometimes (3)	12.94	44
Almost Never (4)	3.82	13
Never (5)	30.00	102

Total

340

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.69	1.71

Fifty-one percent (51%) of MSPs responded they almost always or always verify board certification by contacting the board itself. Twenty-four percent (24%) responded they almost never or never directly contact the board to verify board certification (see Table 41).

Table 41

Board Cert: ABMS

 Board certification (if applicable) is verified through ABMS

Answer Choices	Response %	Response #
Always (1)	38.62	134
Almost Always (2)	12.39	43
Sometimes (3)	25.07	87
Almost Never (4)	8.65	30
Never (5)	15.27	53

Total

347

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.0	5.0	2.0	2.50	1.45

CertiFACTS is a subscription service of the American Board of Medical Specialties (ABMS). The verification will include the dates board certification is valid and will also provide details of the status of a physician's Maintenance of Certification (MOC). With regard to osteopathic physicians, 87% of MSPs responded they almost always or always verify board certification via the AOA. Four percent (4%) of MSPs responded they almost never or never verify board certification with the AOA (see Table 42). The results of verification of board certification are inconclusive since MSPs could use another source such as the AMA profile or another subscription service other than CertiFACTS (see Table 42).

Table 42

Board Cert: AOA

 Board certification for osteopathic physicians is verified by the AOA

Answer Choices	Response %	Response #
Always (1)	70.54	249
Almost Always (2)	16.71	59
Sometimes (3)	8.50	30
Almost Never (4)	0.57	2
Never (5)	3.68	13

Total

353

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.50	0.95

Verification of affiliation and work history.

NAMSS' ICS recommend MSPs check a physician's work history and affiliations for at least the past five (5) years, but also recommends MSPs go back longer should any discrepancies or suspicious indicators be found in either the work history or affiliations. The verifications should include start and end dates as well as staff status and verification of the standing he/she had while they worked at that location. Although the ICS is only five (5) years, if the hospital chooses, they can be more comprehensive and verify all work histories even though it may prove to be challenging. The fact that a physician changed locations very often could be suspicious in and of itself. In the interest of patient safety, it may be most prudent to verify all work history.

Seventy-one percent (71%) of MSPs responded they almost always or always verify affiliations and/or work history by contacting each location on the application. Twelve percent (12%) responded they almost never or never verify affiliations and/or work history by contacting all locations listed on the application (see Table 43).

Table 43

Work History: All Locations

 Affiliations and work history are verified by all practice locations

Answer Choices	Response %	Response #
Always (1)	38.92	130
Almost Always (2)	32.04	107
Sometimes (3)	17.96	60
Almost Never (4)	4.79	16
Never (5)	6.29	21

Total

334

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	2.00	2.07	1.15

Seventy-three percent (73%) of MSPs responded they almost always or always verified work history at most locations. Fifteen percent (15%) responded they almost never or never verified most practice locations (see Table 44).

Table 44

Work History: Most Locations

 Affiliations and work history are verified by most locations

Answer Choices	Response %	Response #
Always (1)	40.00	134
Almost Always (2)	32.54	109
Sometimes (3)	12.24	41
Almost Never (4)	2.09	7
Never (5)	13.13	44

Total

335

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	2.00	2.16	1.33

Twenty-one percent (21%) of MSPs responded that they almost always or always only verify a physician's last practice location while 70% responded they almost never or never only verify a physician's last practice location (see Table 45).

Table 45

Work History: Only Previous

 Affiliations and work history are only verified by the previous practice location

Answer Choices	Response %	Response #
Always (1)	15.02	50
Almost Always (2)	5.71	19
Sometimes (3)	9.01	30
Almost Never (4)	16.22	54
Never (5)	54.05	180

Total

333

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	5.00	3.89	1.48

Ninety-six percent (96%) of MSPs responded they almost always or always include the start and end dates when verifying work history. Three percent (3%) responded they almost never or never include start and end dates when verifying work history (see Table 46).

Table 46

Work History: Start and End Dates

 Affiliations and work history are verified with start and end dates

Answer Choices	Response %	Response #
Always (1)	79.53	272
Almost Always (2)	16.67	57
Sometimes (3)	1.75	6
Almost Never (4)	0.88	3
Never (5)	1.17	4
Total		
342		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.27	0.65

Ninety-one percent (91%) of MSPs responded they almost always or always ask if the physician was in good standing at the hospital. Four percent (4%) responded they almost never or never ask if a physician is in good standing (see Table 47).

Table 47

Work History: Good Standing

 Affiliations and work history verifications include verification of good standing

Answer Choices	Response %	Response #
Always (1)	68.38	240
Almost Always (2)	22.51	79
Sometimes (3)	4.84	17
Almost Never (4)	1.42	5
Never (5)	2.85	10

Total

351

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.48	0.88

If 2% of all MSPs almost never or never include start and end dates as a part of the credentialing process, then they open the door to the possibility of a physician working at a location and not disclosing the location due to restrictions or loss of privileges. Also, not asking if the physician was not in good standing could lead to inadequately trained physicians or poorly functioning physicians having access to patients. This occurred in 4% of the time, which might not sound high, but from the standpoint of the kinds of damage one physician can do, this could be a large factor in determining if there needs to be a uniform credentialing process throughout the U.S.

Criminal background checks.

Criminal background checks on the federal, state and county level are recommended to be included in the ICS. Eighty-two percent (82%) of MSPs responded they always or almost always check a physician's background through federal databases. Twelve percent (12%) responded they almost never or never check the federal databases as part of the credentialing process (see Table 48).

Table 48

Background: Federal

 Criminal background disclosures are verified through federal databases

Answer Choices	Response %	Response #
Always (1)	73.98	253
Almost Always (2)	7.60	26
Sometimes (3)	6.43	22
Almost Never (4)	0.88	3
Never (5)	11.11	38

Total

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.68	1.32

Eighty-three percent (83%) of MSPs responded they almost always or always perform a background check on the state level while 11% responded they almost never or never perform a background check on the state level (see Table 49).

Table 49

Background: State

 Criminal background disclosures are verified through state databases

Answer Choices	Response %	Response #
Always (1)	74.71	260
Almost Always (2)	8.05	28
Sometimes (3)	5.75	20
Almost Never (4)	2.01	7
Never (5)	9.48	33

Total

348

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.64	1.27

Sixty-four percent (64%) of MSPs responded they almost always or always perform a background check using county databases. Twenty-six percent (26%) responded they almost never or never perform background checks on the county level (see Table 50).

Table 50

Background: County

 Criminal background disclosures are verified through county databases

Answer Choices	Response %	Response #
Always (1)	59.01	203
Almost Always (2)	4.36	15
Sometimes (3)	10.17	35
Almost Never (4)	5.23	18
Never (5)	21.22	73
Total		
344		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.25	1.66

Since almost 12% of MSPs responded they almost never or never perform criminal background checks with federal and state databases, the possibility of another situation similar to Dr. Swango occurring is elevated (Stewart, 1999). Granted Dr. Swango was found to have changed his name to enter a residency program, background checks would have provided enough information to prevent him from having access to patients. Dr. Swango's impersonation was finally discovered through a background check performed by the AMA.

Verification of sanctions.

Sanctions such as loss of privileges, reduction in the scope of privileges, loss of licensure, etc. are commonly part of the credentialing process. Eighty-seven percent (87%) of MSPs responded they almost always or always use the NPDB as a tool to verify if a physician has sanctions against him/her. Eight percent (8%) responded they almost never or never used the NPDB as a tool to verify sanctions (see Table 51).

Table 51

Sanctions: NPDB

Sanction disclosures are reviewed through NPDB

Answer Choices	Response %	Response #
Always (1)	86.76	295
Almost Always (2)	0.00	0
Sometimes (3)	5.59	19
Almost Never (4)	1.76	6
Never (5)	5.88	20

Total

340

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.40	1.08

Ninety-six percent responded they almost always or always query the Office of Inspector General (OIG) to verify sanctions. Two percent (2%) responded they almost never or never verify sanctions via the OIG (see Table 52).

Table 52

Sanctions: OIG

Sanction disclosures are reviewed through OIG

Answer Choices	Response %	Response #
Always (1)	93.14	326
Almost Always (2)	2.86	10
Sometimes (3)	2.00	7
Almost Never (4)	0.29	1
Never (5)	1.71	6

Total

350

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.15	0.62

Fifty-three percent (53%) of MSPs responded they almost always or always verified sanctions by querying the List of Excluded Individuals/Entities (LEIE). The LEIE is a database of excluded individuals or companies who have been sanctioned by the OIG. Forty-one percent (41%) responded they almost never or never use the LEIE as a method for verifying sanctions (see Table 53).

Table 53

Sanctions: LEIE

Sanction disclosures are reviewed through LEIE

Answer Choices	Response %	Response #
Always (1)	51.35	171
Almost Always (2)	1.50	5
Sometimes (3)	5.71	19
Almost Never (4)	6.91	23
Never (5)	34.53	115

Total

333

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.72	1.85

Sixty-five percent (65%) of MSPs responded they almost always or always verify sanctions via the Excluded Parties List System (EPLS). The EPLS is a government list of excluded parties and lists Medicare and Medicaid sanctions. Twenty-nine percent (29%) of MSPs responded they almost never or never verify sanctions via the EPLS (see Table 54).

Table 54

Sanctions: EPLS

Sanction disclosures are reviewed through EPLS

Answer Choices	Response %	Response #
Always (1)	61.29	209
Almost Always (2)	3.52	12
Sometimes (3)	6.16	21
Almost Never (4)	3.23	11
Never (5)	25.81	88

Total

341

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.29	1.74

Twenty-seven percent (27%) of MSPs responded they almost always or always verify sanctions via the FSMB. Fifty-nine percent (59%) responded they almost never or never verify sanctions via the FSMB (see Table 55).

Table 55

Sanctions: FSMB

Sanction disclosures are reviewed through FSMB

Answer Choices	Response %	Response #
Always (1)	23.58	79
Almost Always (2)	3.28	11
Sometimes (3)	13.73	46
Almost Never (4)	8.66	29
Never (5)	50.75	170

Total

335

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	5.00	3.60	1.65

The System for Award Management (SAM) is another database of the federal government that people can search to find information about sanctions. Sixty-seven percent (67%) of MSPs responded they almost always or always use SAM as a part of their sanction verification while 27% of MSPs responded they almost never or never use SAM as a part of their sanction verification process (see Table 56).

Table 56

Sanctions: SAM

Sanction disclosures are reviewed through SAM

Answer Choices	Response %	Response #
Always (1)	65.99	229
Almost Always (2)	1.44	5
Sometimes (3)	5.76	20
Almost Never (4)	4.32	15
Never (5)	22.48	78

Total

347

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.16	1.70

These results are inconclusive since the remaining 13% that do not use the NPDB for verification of sanctions, could have used other sources such as the FSMB. Due to the fact the various sources that could be used for verification of sanctions were independent and some of the MSPs could have used one or the other and not all. The survey should have been designed to ask which source MSPs used and the MSP would have checked off all that applied.

Verification of health status.

Health status of a physician is sometimes used to determine if a physician is capable of performing certain procedures. Ninety-five percent (95%) of MSPs responded they almost always or always ask about health status during the credentialing process. Five percent (5%) responded they almost never or never ask about health status (see Table 57). If 5% of MSPs do not ask for information regarding health status, it paves the way for physical issues or mental illness to be overlooked. Even if one mentally unstable physician were to be allowed access to patients, under certain circumstances, it could lead to a compromised safe environment for patients (see Table 57).

Table 57

Health Status

 Health status is verified by the attestation on the application

Answer Choices	Response %	Response #
Always (1)	91.14	319
Almost Always (2)	3.43	12
Sometimes (3)	0.57	2
Almost Never (4)	0.86	3
Never (5)	4.00	14
Total		
350		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.23	0.85

NPDB.

Ninety-seven percent (97%) of MSPs responded they almost always or always use the NPDB as part of their credentialing process, especially for the content housed in the NPDB. One percent (1%) responded they almost never or never query the NPDB for the information contained in the NPDB. Since 1% of MSPs responded they almost never or never use the NPDB, not querying the NPDB means that at least 1% never satisfies this standard (see Table 58).

Table 58

NPDB

 Information housed in the NPDB is verified through the NPDB

Answer Choices	Response %	Response #
Always (1)	96.56	337
Almost Always (2)	0.57	2
Sometimes (3)	2.01	7
Almost Never (4)	0.29	1
Never (5)	0.57	2

Total

349

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.08	0.44

Verification of malpractice insurance.

The NAMSS ICS suggests all malpractice carriers, types of coverage, effective dates as well as coverage types. NAMSS also suggests the MSP collect information such as a list of open, pending, settled, closed, and dismissed cases as well as current malpractice insurance coverage. NAMSS suggests the information listed above be verified for at least the last five (5) years.

Seventy-five percent (75%) of MSPs responded they almost always or always verify malpractice history on physicians by all malpractice carriers under which a physician has been covered, including coverage dates. Sixteen percent (16%) responded they almost never or never verify malpractice insurance on all carriers (see Table 59).

Table 59

Malpractice: All

 Malpractice insurance is verified with all carriers including dates

Answer Choices	Response %	Response #
Always (1)	58.62	204
Almost Always (2)	16.67	58
Sometimes (3)	8.62	30
Almost Never (4)	5.75	20
Never (5)	10.34	36

Total

348

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.93	1.35

Seventy percent (70%) of MSPs responded they almost always or always only verify malpractice insurance based on a list of open, pending, settled, closed or dismissed cases while 21% responded they almost never or never verify malpractice insurance based on the above criteria (see Table 60).

Table 60

Malpractice: Open

Malpractice insurance is verified by a list of open, pending, settled, closed or dismissed cases

Answer Choices	Response %	Response #
Always (1)	59.94	205
Almost Always (2)	10.53	36
Sometimes (3)	8.48	29
Almost Never (4)	6.14	21
Never (5)	14.91	51
Total		
342		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.06	1.51

Sixty-three percent (63%) of MSPs responded they almost always or always verify malpractice insurance through a list of cases with settlements. Twenty-nine percent (29%) responded they almost never or never verify malpractice insurance via the above criteria (see Table 61).

Table 61

Malpractice: Settlements

 Malpractice insurance is verified through a list of cases with settlements

Answer Choices	Response %	Response #
Always (1)	52.54	176
Almost Always (2)	10.45	35
Sometimes (3)	8.06	27
Almost Never (4)	8.36	28
Never (5)	20.60	69
Total		
335		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.34	1.64

Eighty-five percent (85%) of MSPs responded they verify malpractice insurance through the current malpractice carrier almost always or always to verify current malpractice insurance. Eleven percent (11%) responded they almost never or never verify the current malpractice insurance (see Table 62).

Table 62

Malpractice: Current

 Malpractice insurance is verified through the current malpractice carrier

Answer Choices	Response %	Response #
Always (1)	78.06	274
Almost Always (2)	6.84	24
Sometimes (3)	4.27	15
Almost Never (4)	2.85	10
Never (5)	7.98	28

Total

351

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.56	1.21

Thirty-four percent (34%) of MSPs responded they verify malpractice insurance through the NPDB while 59% of MSPs responded they almost never or never verify malpractice insurance through the NPDB (see Table 63).

Table 63

Malpractice: NPDB

 Malpractice insurance is verified through the NPDB

Answer Choices	Response %	Response #
Always (1)	32.54	110
Almost Always (2)	1.78	6
Sometimes (3)	6.21	21
Almost Never (4)	10.65	36
Never (5)	48.82	165

Total

338

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	4.00	3.41	1.79

Sixty-nine% of MSPs responded they almost always or always verify malpractice insurance directly with the malpractice carrier while 17% responded they almost never or never directly contact the malpractice insurance carrier to verify malpractice insurance (see Table 64).

Table 64

Malpractice: Direct Insurers

 Malpractice insurance is verified through direct contact with insurance carriers

Answer Choices	Response %	Response #
Always (1)	51.59	179
Almost Always (2)	17.00	59
Sometimes (3)	14.12	49
Almost Never (4)	4.90	17
Never (5)	12.39	43

Total

347

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	2.10	1.40

It is clear there are many different methods being followed by MSPs with regard to malpractice insurance verification. More investigation needs to be performed, but the 17% of MSPs who never verify all malpractice insurance directly with the carriers are not following the ICS and leaves room for a potential history of malpractice negligence. NAMSS recommends the MSP verify all current and past malpractice coverage over the past five (5) years. The fact that 11% of the MSPs almost never or never verified the current malpractice insurance is a factor that could call for the implementation of a uniform credentialing standard in the U.S.

Verification of professional references.

Ninety-two percent (92%) of MSPs responded they almost always or always verify references of physicians (including competencies) by direct contact with professional authorities. Seven percent (7%) responded they almost never or never verify professional references via direct contact with the professional authorities (see Table 65).

Table 65

References: Direct Authorities

Professional references are verified (noting current competencies) by direct contact with professional authorities

Answer Choices	Response %	Response #
Always (1)	81.66	285
Almost Always (2)	10.60	37
Sometimes (3)	3.72	13
Almost Never (4)	0.86	3
Never (5)	3.15	11
Total		
349		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	1.00	1.33	0.85

Fifty-three percent (53%) responded that professional references were verified (noting current competencies) via training and program directors while seven percent (7%) responded they almost never or never verified professional references via training or program directors (see Table 66).

Table 66

References: Program Directors

Professional references are verified (noting current competencies) by training program directors

Answer Choices	Response %	Response #
Always (1)	32.95	114
Almost Always (2)	20.52	71
Sometimes (3)	39.88	138
Almost Never (4)	0.87	3
Never (5)	5.78	20
Total		
346		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	2.00	2.26	1.10

Forty-five percent (45%) of MSPs responded they almost always or always contact the department chairs or chiefs when verifying professional or peer references (with current competencies). Ten percent (10%) responded they almost never or never verify professional references (with current competencies) directly with department chairs or chiefs (see Table 67).

Table 67

References: Department Chiefs

Professional references are verified (noting current competencies) by department chairs/chiefs

Answer Choices	Response %	Response #
Always (1)	26.67	92
Almost Always (2)	18.26	63
Sometimes (3)	45.22	156
Almost Never (4)	4.64	16
Never (5)	5.22	18
Total		
345		

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	3.00	2.43	1.09

MSPs also responded to the question if professional references were verified (noting current competencies) via the Accreditation Council for Graduate Medical Education (ACGME). Fifteen percent (15%) of MSPs responded they almost always or always check with the ACGME to verify professional references (noting current competencies). Seventy-four percent (74%) responded they almost never or never check with the ACGME for professional references (see Table 68).

Table 68

References: ACGME

Professional references are verified (noting current competencies) by ACGME lists

Answer Choices	Response %	Response #
Always (1)	13.37	46
Almost Always (2)	1.74	6
Sometimes (3)	10.47	36
Almost Never (4)	11.63	40
Never (5)	62.79	216

Total

344

Basic Statistics

Minimum	Maximum	Median	Mean	Standard Deviation
1.00	5.00	5.00	4.09	1.41

Since seven percent (7%) of MSPs are not verifying professional references with the training or program directors and 10% are not always or almost always verifying professional references with department chairs, there could be insufficiently trained or poorly skilled physicians having access to patients. Department chairs or chiefs at each institution are fully aware of all of the issues surrounding each physician under their charge. Contacting them could help the hospital administration make a better informed decision on a physician.

In terms of the first and second assumptions, since all MSPs who responded were members of NAMSS, the response rate would be in 80-90% range for following the same standards as recommended in the ICS. Eighty-nine percent (89%) of MSPs responded they used a government issued ID as proof of identity.

For verification of education and training, the response rates were mixed. Ninety-one percent (91%) of MSPs responded they almost always or always either use the AMA profile or they contact the medical school directly. Both of these sources are part of the ICS. For verification of internship, the results were inconclusive since it appears some institutions use the AMA profile as well as contact the hospital directly. The same is true for verification of residency and fellowship.

Sixty-three percent (63%) of MSPs responded they almost always or always check military service dates. Given the fact that there are alternate methods to verify military service other than the one used in question 33, the results are inconclusive. Ninety-eight percent (98%) of MSPs responded they almost always or always verify licensure directly with the state. The results for board certification were inconclusive

since the question only asked if one particular service was used, yet there are more than one service to verify board certification.

Work history did not reach the threshold to support the assumption for 80-90% of MSPs response rate. Responses were in the 70% range for verification of all or most locations in which the physician practiced. It was interesting to note that 21% of MSPs responded they only verify the last practice location. For background checks MSPs responded in the 80% range that they used criminal background checks on the federal and state level, yet only 64% queried county databases as well.

Health status and use of the NPDB were in the 95 and 97% range respectively. With regard to malpractice insurance verification, verifying insurance by all malpractice carriers was at 75% with 70% of MSPs responding they only check open cases. Eighty-five percent (85%) of MSPs responded they check current malpractice insurance. Ninety-two percent (92%) of MSPs responded they checked professional references, although there were some variations in who was contacted to verify the references.

The first assumption was supported in most cases, Areas that did not support the assumptions were in the areas of work history, background checks using county databases, and malpractice history. These areas could be problematic given Dr. Swango's scenario. There could be locations a physician left before they were caught or had malpractice claims that were recent enough to not be reported in the NPDB or other sources.

Research question 3.

Research Question 3 (RQ3) asked how often the Gold Standards are being followed. In order to compare which standards MSPs actually follow compared to the 13 Ideal Credentialing Standards (ICS), it is important to review the ICS: 1) Proof of Identity; 2) Verification of Education and Training; 3) Military Service; 4) Professional License; 5) DEA Registration and State DPS and CDS; 6) Board Certification; 7) Affiliation and Work History; 8) Criminal Background Disclosure; 9) Sanctions Disclosure; 10) Health Status; 11) NPDB; 12: Malpractice Insurance; and 13) Professional and Peer References. The results for RQ3 demonstrate the following standards are being followed by detailing the data by MSPs who responded they meet the ICS almost always and always. Due to the design of the survey, some standards are inconclusive as to whether the MSP adhered to the standards (see Table 69)

Table 69

Compliance Rates

Standard #	Name of Standard	% of Compliance	Result
1	Proof of Identity	89%	Conclusive
2	Education and Training	Varies	Inconclusive
3	Military Service	Varies	Inconclusive
4	Professional License	98%	Inconclusive
5	DEA and State DPS and CDS	Varies	Inconclusive
6	Board Certification	Varies	Inconclusive
7	Affiliation and Work History	90%	Somewhat Conclusive
8	Criminal Background Disclosure	64%	Conclusive
9	Sanctions Disclosure	Varies	Inconclusive
10	Health Status	95%	Conclusive
11	NPDB	97%	Conclusive
12	Malpractice Insurance	Varies	Inconclusive
13	Professional and Peer References	92%	Conclusive

The standards that MSPs are following (to varying degrees) are in the areas of Proof of Identity, Affiliation and Work History, Criminal Background Disclosure, Health Status, NPDB, and Professional and Peer References. Due to the design of the survey, MSPs could have adhered to the standard, but since multiple options were available in some categories, it is uncertain as to the exact method used to satisfy the standard according to the ICS.

The assumption for RQ3 is that most MSPs will follow most of the ICS most of the time. The data confirm this assumption to be true. In most areas of the ICS the percentages of MSPs who almost always or always followed the ICS was above 75%. The outliers were background checks on the county level (64%), verification of malpractice insurance (only checking open cases 70%) or only a list of settled cases (63%). Work history was problematic in that 71% verified all practice locations while 73% verified most. Twenty-one percent (21%) of MSPs responded they only verified the current malpractice carrier.

Research question 4.

Research Question 4 (RQ4) asked if there are any of the ICS that are never followed. The 13 ICS are: 1) Proof of Identity; 2) Verification of Education and Training; 3) Military Service; 4) Professional License; 5) DEA Registration and State DPS and CDS; 6) Board Certification; 7) Affiliation and Work History; 8) Criminal Background Disclosure; 9) Sanctions Disclosure; 10) Health Status; 11) NPDB; 12: Malpractice Insurance; and 13) Professional and Peer References. The results below

indicate an MSP responded almost never or never in each of the categories (see Table 70).

Table 70

Non-Compliance

Standard #	Name of Standard	Never or Almost Never	Result
1	Proof of Identity	6%	Non-Compliant
2	Education and Training	Varies	Inconclusive
3	Military Service	Varies	Inconclusive
4	Professional License	Varies	Inconclusive
5	DEA and State DPS and CDS	Varies	Inconclusive
6	Board Certification	Varies	Inconclusive
7	Affiliation and Work History	Varies	Inconclusive
8	Criminal Background Disclosure	Varies	Inconclusive
9	Sanctions Disclosure	Varies	Inconclusive
10	Health Status	5%	Non-Compliant
11	NPDB	1%	Non-Compliant
12	Malpractice Insurance	11%	Non-Compliant
13	Professional and Peer References	7%	Non-Compliant

The following standards were out of compliance with the ICS: Proof of Identity, Health Status, NPDB, Malpractice Insurance, and Professional and Peer References.

What is interesting to note is that five percent (5%) of MSPs responded they almost never or never verify gaps of two (2) years. Four percent (4%) of MSPs responded they almost never or never ask if the physician was in good standing at his/her previous place of practice. Twenty-six percent (26%) of MSPs responded they never included county databases when performing a criminal background check.

The fourth assumption related to RQ4 dealt with the number of MSPs who never followed a particular ICS. The assumption was that if the MSP's hospital was accredited, they would have to follow all of the ICS in at least some way or jeopardize their own accreditation standards. Some areas where MSPs responded they almost never or never perform a particular ICS are in the areas of proof of identity (6%), health status (5%), NPDB (1%), malpractice insurance verification (11%), and professional and peer references (7%). The data confirms the assumption for the most part with a few exceptions. If 6% of MSPs are never seeking proof of identity, imposters could easily impersonate a legitimate physician and gain access to patients.

Another surprising response to the survey is in the area of malpractice insurance verification. With an 11% response rate indicating they almost never or never verify malpractice insurance, chances are greater that someone with a past malpractice history could gain access to patients without that information being present while making a credentialing decision.

Research question 5.

Research question 5 (RQ5) asked if there are any distinctions in credentialing standards that can be made based on the number of beds a hospital has or based on geographic location. The study attempted to see if there is any relationship between the two variables (geographic location or number of beds). For RQ5, a chi square was used to determine if there was a correlation between which credentialing standards are performed more often in a geographic region or in a hospital with the same number of beds. For geographic location, the U.S. was divided into four separate regions. The regions correspond to the United States Census Regions and Divisions's criteria for establishing various sectors.

Figure 1

Geographic Regions United States Census Regions and Divisions (2017)

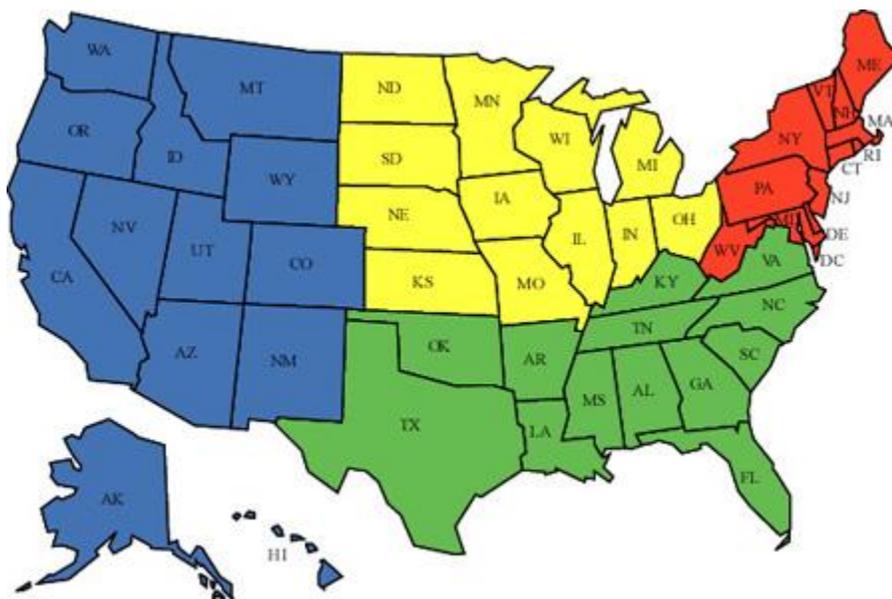


Table 71

Geographic Locations

Region	Regional Code
Northeast	1
Midwest	2
South	3
West	4

The regions are divided into the Northeast (1), the Midwest (2), the South (3), and the West (4). The number of beds a hospital has indicates the size of the facility. The number of beds was broken into three sizes: small (1-99), medium (100-200), and large (201 or greater). For this study small hospitals were coded as a 1. Medium sized hospitals were coded as a 2. Large hospitals were coded as a 3. There was a fourth option on the survey which allowed the MSP to opt for a response of “I don’t work in a hospital.” The number of MSPs who work in a small hospital comprised 22.8% of the total number of respondents. Medium sized hospitals comprised 15.66% of the total population and large hospitals accounted for 44.23% of all respondents. Compliance rates are defined as responses of always or almost always. Non-compliance rates are defined as responses of sometimes, almost never, or never.

Compliance percentages for this section were calculated by logging into SurveyMonkey. For each question the responses were assigned a numeric code. “Always” was assigned a one (1). “Almost always” was assigned a two (2).

“Sometimes” was assigned a three (3). “Almost never” was assigned a four (4) and “never” was assigned a five (5). The number of responses for each standard was divided by the total number of responses. For example, proof of identity by verifying a government issued ID had 266 always responses out of 342 total. That gave it a 77.78% response rate. Combined with an 11.11% response rate for almost always, that gave it a total of 88.89%.

A chi square was used to calculate the compliance rate between two variables: proof of identity and government issued ID. Those MSPs who responded never and almost never were placed in a column with a null value (0). Those who responded always or almost always were placed in a column with a value of one (1). The frequency for the MSPs who had a 0 code was calculated to have a number of six (6). The frequency was calculated for the MSPs with a 1 code had a value of 77. The total frequency value was 83. If you divide six (6) into 83 you receive a row percent of 7.23 for the never and almost never responses, which means 7.23% are out of compliance since the ICS recommends MSPs prove identity with a government issued ID.

Proof of identity and size of hospital.

With regard to proof of identity and small hospitals, 93% were compliant with the ICS approved by NAMSS while 7% were non-compliant. Medium hospitals were compliant with the ICS with 95%.of all hospitals. The non-compliant rates were 5%. The proof of identity for large hospitals had a compliance rate of 93%% while the non-compliance rate was 7%. The proof of identity is statistically significant $p = 0.04$. Overall, medium sized hospitals had a lower non-compliance rate than smaller and larger

hospitals. Larger-sized hospitals had a higher percentage rate of non-compliance than small and medium ones. There does appear to be a difference between proof of identify and the size of the hospital (see Table 72).

Table 72

Proof and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	77	54	149	49
Non-Compliant (N)	6	3	12	11
Total (N)	83	57	161	60
Row Percent Compliant	93	95	93	82
$df =$	3			
$p =$	0.04			
F =	3			

Verification of education and training and size of hospital.

Small hospitals were compliant with the NAMSS ICS 38.55% of the time. Non-compliance rates were 61.45%. Medium hospital compliance rates were 31.58%, while non-compliance rates were at 68.42%. Large hospitals were compliant 36.02% while non-compliance rates were 63.98%. There was no statistical significance, $p = 0.77$. It cannot be determined that there is or is not a difference in verification of education and training based on the size of the hospital (see Table 73).

Table 73

Education and Training and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	32	18	58	19
Non-Compliant (N)	51	39	103	41
Total (N)	83	57	161	60
Row Percent Compliant	39	32	46	32
$df =$	3			
$p =$	0.77			
F =	3			

Verification of military service dates and size of hospital.

Compliance rates for small hospitals were 59.04% while non-compliance rates were 40.96%. Medium hospitals were compliant at a rate of 64.91% while non-compliant rates were at 35.09%. Large hospitals saw a 63.35% compliance rate and a 36.65% non-compliance rate. The relationship between verification of military service was not significant, $p = 0.27$. Smaller hospitals tended to be more non-compliant than medium and large hospitals (see Table 74).

Table 74

Military and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	49	37	102	30
Non-Compliant (N)	34	20	59	30
Total (N)	83	57	161	60
Row Percent Compliant	59	65	63	50
$df =$	3			
$p =$	0.2			
F =	3			

Verification of license and size of hospital.

Only 13.25% of small hospitals were in compliance with the ICS while the non-compliance rate was 86.75%. Medium-sized hospitals were in compliance 22.81% of the time while non-compliance rates were 77.19%. Large hospitals had a compliance rate of 13.66% while non-compliance rates were 86.34%. The relationship between verification of licensure and size of hospital is significant, $p = 0.22$. Due to the fact there were multiple variables with regard to how to verify a license, there is insufficient data either way to demonstrate a difference in verifying a license and size of the hospital (see Table 72).

Table 75

License and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	11	13	22	6
Non-Compliant (N)	72	44	139	54
Total (N)	83	57	161	60
Row Percent Compliant	13	23	14	10
$df =$	3			
$p =$	0.2			
F =	3			

Verification of DEA and size of hospital.

Small hospitals were compliant with the ICS in 45.78% of the time. Non-compliance rates were at 54.22%. Medium hospitals were compliant 35.09% of the time while non-compliance was at 64.91%. Large hospitals were compliant in 27.95% of the time while non-compliance was at 72.05%. The relationship between verification DEA and size of hospital is significant, $p = 0.04$. Due to the fact there were multiple variables with regard to verification of the DEA (inspection of a copy or the NTIS), it cannot be demonstrated that there is a difference between verification of the DEA and the size of the hospital (see Table 76).

Table 76

DEA and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	38	20	45	18
Non-Compliant (N)	45	37	116	42
Total (N)	83	57	161	60
Row Percent Compliant	46	35	28	30
$df =$	3			
$p =$	0.04			
F =	3			

Board certification and size of hospital.

Small hospitals were compliant 74.70% of the time while they were non-compliant in 25.3% of the time. Medium hospitals were compliant 82.46% of the time while non-compliance rates were at 17.54%. Large hospitals were compliant 85.09% of the time while being non-compliant in 14.91% of the time. The relationship between board certification is significant, $p = 0.02$. Small hospitals appear to be much less compliant in the verification of board certification and the size of the hospital, but this could be due to small hospitals verifying board certification directly with the board itself as opposed to verifying it via CertiFACTS or some other source. Budgetary constraints may force smaller hospitals to directly verify board certification (see Table 77).

Table 77

Board Cert and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	62	47	137	41
Non-Compliant (N)	21	10	24	19
Total (N)	83	57	161	60
Row Percent Compliant	75	82	85	68
$df =$	3			
$p =$	0.02			
F =	3			

Work history/affiliations and size of the hospital.

Small hospitals were compliant with the ICS 63.86% of the time while being non-compliant 36.14%. Medium-sized hospitals were compliant 63.16% while non-compliance was 36.84%. Large hospitals were compliant 60.25% while being non-compliant 39.75%. The relationship between work history and hospital size was significant, $p = <.0001$. Large hospitals were slightly less compliant with verification of work history/affiliations when compared to small or medium hospitals (see Table 78).

Table 78

Work History and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	53	36	97	17
Non-Compliant (N)	30	21	64	43
Total (N)	83	57	161	60
Row Percent Compliant	64	63	60	28
$df =$	3			
$p =$	<.0001			
F =	3			

Criminal background checks and size of hospital.

Small hospitals were compliant 57.83% while being non-compliant 42.17% of the time. Medium hospitals were compliant 54.39% of the time while being non-compliant 45.61%. Large hospitals were compliant 55.90% of the time while being non-compliant 44.107% of the time. The relationship between criminal background checks is significant, $p = 0.44$. The differences in small, medium, and large hospitals were negligible. Overall, smaller hospitals tended to be more in compliance with criminal background checks (see Table 79).

Table 79

Background and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	48	31	90	27
Non-Compliant (N)	35	26	71	33
Total (N)	83	57	161	60
Row Percent Compliant	58	54	56	45
$df =$	3			
$p =$	0.4			
F =	3			

Sanctions and size of hospital.

Small hospitals were compliant in 16.87% of the time while non-compliant 83.13% of the time. Medium hospitals were compliant 19.30% and non-compliant 80.70%. Large hospitals were compliant 15.53% of the time while non-compliant 84.47% of the time. The relationship between verifying sanctions and the size of the hospital is not significant, $p = 0.83$. Due to the multiple variables used in determining if a hospital was in compliance or not, it cannot be determined if there is or is not a difference between verification of sanctions and the size of the hospital (see Table 80).

Table 80

Sanctions and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	14	11	25	8
Non-Compliant (N)	69	46	136	52
Total (N)	83	57	161	60
Row Percent Compliant	17	19	16	13
$df =$	3			
$p =$	0.8			
F =	3			

Health status and size of hospital.

Small hospitals were compliant 95.18% of the time while being non-compliant 4.82% of the time. Medium hospitals were compliant in 94.74% of the time while being non-compliant 5.26% of the time. Large hospitals were compliant 89.44% of the time while being non-compliant 10.56% of the time. The relationship between health status and size of hospital is significant, $p = 0.20$. Large hospitals were approximately 6% more likely to be out of compliance with ICS standards regarding health status than small or medium sized hospitals (see Table 81).

Table 81

Health and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	79	54	144	52
Non-Compliant (N)	4	3	17	8
Total (N)	83	57	161	60
Row Percent Compliant	95	95	89	87
$df =$	3			
$p =$	0.1			
F =	3			

National practitioner data bank and size of hospital.

Small hospitals were compliant 98.8% of the time while being non-compliant 1.20% of the time. Medium hospitals were compliant 98.25% while being non-compliant 1.75% of the time. Large hospitals were compliant 92.55% of the time while being non-compliant 7.45% of the time. The relationship between the NPDB and size of hospital is significant, $p = 0.001$. Large hospitals were approximately 6% less compliant than small or medium sized hospitals (see Table 82).

Table 82

NPDB and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	82	56	149	50
Non-Compliant (N)	1	1	12	10
Total (N)	83	57	161	60
Row Percent Compliant	99	98	93	83
<i>df</i> =	3			
<i>p</i> =	0.001			
F =	3			

Malpractice insurance and size of hospital.

Small hospitals were compliant 8.43% of the time while being non-compliant 91.57% of the time. Medium hospitals were compliant 15.79% of the time while being non-compliant 84.21% of the time. Large hospitals were compliant 18.01% of the time while being non-compliant 81.99% of the time. The relationship between verification of references was not significant, $p = 0.06$. Since there is not statistically significant, it cannot be determined in certainty that there is or is not a difference in verification of references and the size of the hospital (see Table 83).

Table 83

Malpractice and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	22	14	22	5
Non-Compliant (N)	61	43	139	55
Total (N)	83	57	161	60
Row Percent Compliant	27	22	14	8
$df =$	3			
$p =$	0.008			
F =	3			

References and size of hospital.

Small hospitals were compliant 91.57% of the time while being non-compliant 8.43% of the time. Medium sized hospitals were found to be compliant in 84.21% and non-compliant 15.79% of the time. Large hospitals were compliant 81.99% of the time while out of compliance 19.01% of the time. The relationship between verification of references and size of the hospital is not statistically significant, $p = 0.06$. It cannot be determined in certainty that there is or is not a difference in verification of references and the size of the hospital (see Table 84).

Table 84

References and Size

	Hospital Beds 0--99	Hospital Beds 100-200	Hospital Beds <200	I do not work in a hospital
Compliant (N)	7	9	29	4
Non-Compliant (N)	76	48	132	56
Total (N)	83	57	161	60
Row Percent Compliant	8	16	18	7
$df =$	3			
$p =$	0.06			
F =	3			

Proof of ID and geographic location.

Hospitals in the Northeast were compliant with proof of ID 92.50% of the time and were non-compliant 7.50% of the time. Hospitals in the Midwest were compliant 94.64% of the time and were non-compliant 5.36% of the time. Hospitals in the South were compliant 93.36% of the time and non-compliant 7.64% of the time. Hospitals in the West were compliant 78.57% of the time and non-compliant 21.43% of the time. The relationship between proof of ID and geographic location is not significant, $p = 0.25$. Since there is no statistical significance, a determination as to whether or not there is a difference in proof of ID and geographic location cannot be made without further research (see Table 85).

Table 85

ID and Geographic

	Northeast	Midwest	South	West
Compliant (N)	57	90	90	78
Non-Compliant (N)	9	10	7	3
Total (N)	66	100	97	81
Row Percent Compliant	86	90	93	96
$df =$	3			
$p =$	0.16			
F =	3			

Education and training and geographic location.

Hospitals in the Northeast were compliant 38.75% of the time and were non-compliant 61.25% of the time. Hospitals in the Midwest were compliant 32.14% of the time while non-compliant 67.86% of the time. Hospitals in the South were compliant 36.31% of the time and were non-compliant 63.69% of the time. Hospitals in the West were compliant 50.00% of the time and were non-compliant 50.0% of the time. The relationship between proof of education and training is not significant, $p = 0.63$. Since there is no statistical significance, a determination on whether or not there is a difference between education and training and the geographic location cannot be made without further research (see Table 86).

Table 86

Education and Geographic

	Northeast	Midwest	South	West
Compliant (N)	21	33	44	22
Non-Compliant (N)	45	67	53	54
Total (N)	66	100	97	81
Row Percent Compliant	32	33	45	33
$df =$	3			
$p =$	0.18			
F =	3			

Military service and geographic location.

Hospitals in the Northeast were compliant 58.75% of the time and were non-compliant 41.25% of the time. Hospitals in the Midwest were compliant 64.29% of the time while non-compliant 35.71% of the time. Hospitals in the South were compliant 63.06% of the time and were non-compliant 36.94% of the time. Hospitals in the West were compliant 64.29% of the time and were non-compliant 35.71% of the time. The relationship between verification of military service and geographic location is not significant, $p = 0.90$. Since there is no statistical significance, a determination on whether or not there is a statistical significance between verification of military standard and geographic location cannot be made without further research (see Table 87).

Table 87

Military and Geographic

	Northeast	Midwest	South	West
Compliant (N)	35	60	71	47
Non-Compliant (N)	31	40	26	34
Total (N)	66	100	97	81
Row Percent Compliant	53	60	73	58
$df =$	3			
$p =$	0.04			
F =	3			

Proof of license and geographic location.

Hospitals in the Northeast were compliant 13.75% of the time and were non-compliant 86.25% of the time. Hospitals in the Midwest were compliant 31.43% of the time while non-compliant 78.57% of the time. Hospitals in the South were compliant 14.01x% of the time and were non-compliant 78.57% of the time. Hospitals in the West were compliant 21.43% of the time and were non-compliant 78.57% of the time. The relationship between verification of license and geographic location is moderately significant, $p = 0.51$. Due to multiple variables used in this survey, a definitive determination on whether or not there is a difference in proof of license and geographic location cannot be made without further research (see Table 88).

Table 88

License and Geographic

	Northeast	Midwest	South	West
Compliant (N)	11	13	17	9
Non-Compliant (N)	55	87	80	72
Total (N)	66	100	97	81
Row Percent Compliant	17	13	18	18
$df =$	3			
$p =$	0.59			
F =	3			

DEA and geographic location.

Hospitals in the Northeast were compliant 46.25% of the time and were non-compliant 53.75% of the time. Hospitals in the Midwest were compliant 35.71% of the time while non-compliant 64.29% of the time. Hospitals in the South were compliant 27.39% of the time and were non-compliant 72.61% of the time. Hospitals in the West were compliant 21.43% of the time and were non-compliant 78.57% of the time. The relationship between verification of DEA is significant, $p = 0.02$. Due to multiple variables used in this survey, a definitive determination on whether or not there is a difference in verification of DEA and geographic location cannot be made without further research (see Table 89).

Table 89

DEA and Geographic

	Northeast	Midwest	South	West
Compliant (N)	25	42	26	23
Non-Compliant (N)	41	58	71	58
Total (N)	66	100	97	81
Row Percent Compliant	38	42	27	28
$df =$	3			
$p =$	0.08			
F =	3			

Board certification and geographic location.

Hospitals in the Northeast were compliant 75.00% of the time and were non-compliant 25.00% of the time. Hospitals in the Midwest were compliant 82.14% of the time while non-compliant 17.86% of the time. Hospitals in the South were compliant 85.35% of the time and were non-compliant 14.65% of the time. Hospitals in the West were compliant 100% of the time and were non-compliant 0% of the time. The relationship between verification of board certification is not significant, $p = 0.07$. Since there is no statistical significant for this chi square, it cannot be determined if there is a difference in verification of board certification and geographic location without further research (see Table 90).

Table 90

Board Cert and Geographic

	Northeast	Midwest	South	West
Compliant (N)	52	83	79	65
Non-Compliant (N)	14	17	18	16
Total (N)	66	100	92	81
Row Percent Compliant	79	83	81	80
$df =$	3			
$p =$	0.9			
F =	3			

Work history/affiliation and geographic location.

Hospitals in the Northeast were compliant 65.00% of the time and were non-compliant 35.00% of the time. Hospitals in the Midwest were compliant 62.5% of the time while non-compliant 37.5% of the time. Hospitals in the South were compliant 59.87% of the time and were non-compliant 40.13% of the time. Hospitals in the West were compliant 28.57% of the time and were non-compliant 71.43% of the time. The relationship between verification of work history and/or affiliations is not significant, $p = 0.08$. Since there is no statistical significant for this chi square, it cannot be determined if there is a difference in verification of work history/affiliation and geographic location without further research (see Table 91).

Table 91

Work History and Geographic

	Northeast	Midwest	South	West
Compliant (N)	38	55	58	46
Non-Compliant (N)	28	45	39	35
Total (N)	66	100	97	81
Row Percent Compliant	58	55	60	57
$df =$	3			
$p =$	0.9			
F =	3			

Criminal background checks and geographic location.

Hospitals in the Northeast were compliant 56.25% of the time and were non-compliant 43.75% of the time. Hospitals in the Midwest were compliant 53.57% of the time while non-compliant 46.43% of the time. Hospitals in the South were compliant 57.32% of the time and were non-compliant 42.68% of the time. Hospitals in the West were compliant 57.14% of the time and were non-compliant 42.86% of the time. The relationship between criminal background checks and geographic location is not significant, $p = 0.97$. Since there is no statistical significant for this chi square, it cannot be determined if there is a difference in criminal background checks and geographic location without further research (see Table 92).

Table 92

Background and Geographic

	Northeast	Midwest	South	West
Compliant (N)	38	48	56	50
Non-Compliant (N)	28	52	41	31
Total (N)	66	100	97	81
Row Percent Compliant	56	48	58	62
$df =$	3			
$p =$	0.27			
F =	3			

Sanctions and geographical location.

Hospitals in the Northeast were compliant 17.50% of the time and were non-compliant 82.5% of the time. Hospitals in the Midwest were compliant 19.64% of the time while non-compliant 80.36% of the time. Hospitals in the South were compliant 15.92% of the time and were non-compliant 84.08% of the time. Hospitals in the West were compliant 21.43% of the time and were non-compliant 78.57% of the time. The relationship between verification of sanctions and geographic location is not significant, $p = 0.89$. Since there is no statistical significant for this chi square, it cannot be determined if there is a difference in verification of sanctions and geographic location without further research (see Table 93).

Table 93

Sanctions and Geographic

	Northeast	Midwest	South	West
Compliant (N)	13	17	10	14
Non-Compliant (N)	53	83	87	67
Total (N)	66	100	97	81
Row Percent Compliant	20	17	10	17
$df =$	3			
$p =$	0.36			
F =	3			

Health status and geographic location.

Hospitals in the Northeast were compliant 95.00% of the time and were non-compliant 5.00% of the time. Hospitals in the Midwest were compliant 94.64% of the time while non-compliant 5.36% of the time. Hospitals in the South were compliant 89.81% of the time and were non-compliant 10.19% of the time. Hospitals in the West were compliant 100% of the time and were non-compliant 0% of the time. The relationship between inquiring about health status and geographic location is significant, $p = 0.27$. Since there is no statistical significant for this chi square, it cannot be determined if there is a difference in asking about health status and geographic location without further research (see Table 94).

Table 94

Health and Geographic

	Northeast	Midwest	South	West
Compliant (N)	59	92	86	79
Non-Compliant (N)	7	8	11	2
Total (N)	66	100	97	81
Row Percent Compliant	89	92	89	98
$df =$	3			
$p =$	0.14			
F =	3			

NPDB and geographic location.

Hospitals in the Northeast were compliant 98.75% of the time and were non-compliant 1.25% of the time. Hospitals in the Midwest were compliant 98.21% of the time while non-compliant 1.71% of the time. Hospitals in the South were compliant 92.99% of the time and were non-compliant 7.01% of the time. Hospitals in the West were compliant 85.71% of the time and were non-compliant 14.29% of the time. The relationship between querying the NPDB and geographic location is significant, $p = 0.05$. Hospitals in the South were approximately 6% higher in non-compliance than hospitals in the Northeast and Midwest. Hospitals in the West non-compliant approximately 13% more than hospitals in the Northeast and Midwest (see Table 95).

Table 95

NPDB and Geographic

	Northeast	Midwest	South	West
Compliant (N)	60	95	89	79
Non-Compliant (N)	6	5	8	2
Total (N)	66	100	97	81
Row Percent Compliant	91	95	92	98
$df =$	3			
$p =$	0.27			
F =	3			

Malpractice insurance and geographic location.

Hospitals in the Northeast were compliant 27.5% of the time and were non-compliant 72.5% of the time. Hospitals in the Midwest were compliant 23.21% of the time while non-compliant 76.79% of the time. Hospitals in the South were compliant 14.01% of the time and were non-compliant 85.99% of the time. Hospitals in the West were compliant 7.14% of the time and were non-compliant 92.86% of the time. The relationship between verification of malpractice insurance and geographic location is significant, $p = 0.04$. Due to multiple variables associated with this question, it cannot be determined with certainty if there is or is not a difference in the verification of malpractice insurance and geographic location (see Table 96).

Table 96

Malpractice and Geographic

	Northeast	Midwest	South	West
Compliant (N)	12	19	12	19
Non-Compliant (N)	54	81	85	67
Total (N)	66	100	97	81
Row Percent Compliant	18	19	12	23
$df =$	3			
$p =$	0.29			
F =	3			

References and geographic location.

Hospitals in the Northeast were compliant 8.75% of the time and were non-compliant 91.25% of the time. Hospitals in the Midwest were compliant 16.07% of the time while non-compliant 83.93% of the time. Hospitals in the South were compliant 18.47% of the time and were non-compliant 81.53% of the time. Hospitals in the West were compliant 0% of the time and were non-compliant 100% of the time. The relationship between verification of references and geographic location is not significant, $p = 0.08$. Since there is no statistical significant for this chi square, it cannot be determined if there is a difference in verification of references and geographic location without further research (see Table 97). For the purpose of this study values above 0.05 were not considered statistically significant.

Table 97

References and Geographic

	Northeast	Midwest	South	West
Compliant (N)	3	13	20	14
Non-Compliant (N)	63	87	77	67
Total (N)	66	100	97	81
Row Percent Compliant	5	13	21	17
$df =$	3			
$p =$	0.03			
F =	3			

The fifth assumption presumes larger hospitals will have a higher percentage of MSPs in compliance with the ICS because they have more technical resources at their disposal due to a more robust IT infrastructure. It also presumes that MSPs in the Northeast will be more compliant with the ICS than MSPs in other areas of the country because of a higher percentage of hospital systems in the Northeast. For proof of identity, larger hospitals (93%) were compliant at the same rate as small hospitals (93%) while medium hospitals had a two percent (2%) higher compliance rate.

Compliance rates for military service dates in small hospitals was more non-compliant (40.96%) than medium (35.09%) or large hospitals (36.65%). In terms of health status, larger hospitals were approximately 6% more likely to be out of compliance than small (4.82%) or medium (5.26%) sized hospitals. Larger hospitals were more out of compliance with ICS for use of the NPDB (7.45%) than small (1.20%) and medium (1.75%). For malpractice insurance verification smaller hospitals were less out of compliance (8.43%) than medium (15.79%) and large (18.01%) hospitals.

The data do not support the assumption that larger hospitals would be more in compliance with the ICS than small or medium sized hospitals. Larger hospitals were found to be more out of compliance with ICS in the areas of verifying military service dates, use of the NPDB, and verification of malpractice insurance. In some instances the smaller hospitals were more in compliance than the medium and large hospitals.

The second part of the fifth assumption presumed hospitals located in the Northeast would be more compliant than hospitals located in the Midwest, South or West. One of the only areas where there was statistical significance between geographic

location and compliance with the ICS was in the area of the NPDB. Hospitals in the Northeast were non-compliant 1.25% of the time while hospitals in the Midwest were non-compliant 1.71% of the time. Hospitals in the South were non-compliant 7.01% of the time while hospitals in the West were non-compliant 14.29% of the time. The data do not support the assumptions that hospitals in the Northeast would be more compliant with the ICS than hospitals in the Midwest, South or West (see Table 98).

Table 98

Compliance by Geographic Location

Standard	Geographic Location	% Compliant	% Not Compliant	Statistically Significant
Proof of ID	Northeast	92.50	7.50	Yes
	Midwest	94.64	5.36	Yes
	South	92.36	7.64	Yes
	West	78.57	21.43	Yes
Education and Training	Northeast	38.75	61.25	No
	Midwest	32.14	67.86	No
	South	36.31	63.69	No
	West	50.00	50.00	No
Military Standard	Northeast	58.75	41.25	No
	Midwest	64.29	35.71	No
	South	63.06	36.94	No
	West	64.29	35.71	No
License	Northeast	13.75	86.25	Moderate
	Midwest	31.43	78.57	Moderate
	South	14.01	78.57	Moderate
	West	21.43	78.57	Moderate
DEA	Northeast	46.25	33.75	Yes
	Midwest	35.71	64.29	Yes
	South	27.39	72.61	Yes
	West	21.43	78.57	Yes
Board Certification	Northeast	75.00	25.00	No
	Midwest	82.14	17.86	No
	South	85.35	14.65	No
	West	100.00	0.00	No
Work History	Northeast	65.00	35.00	No
	Midwest	62.50	37.50	No
	South	59.87	40.13	No
	West	28.57	71.43	No
Criminal Background	Northeast	56.25	43.75	No
	Midwest	53.57	46.43	No
	South	57.32	42.68	No
	West	57.14	42.86	No

(table continues)

Sanctions	Northeast	17.50	82.50	No
	Midwest	19.64	80.36	No
	South	15.92	84.08	No
	West	21.43	78.57	No
Health Status	Northeast	95.00	5.00	Yes
	Midwest	94.64	5.36	Yes
	South	89.91	10.19	Yes
	West	100.00	0.00	Yes
NPDB	Northeast	98.75	1.25	Yes
	Midwest	98.21	1.79	Yes
	South	92.99	7.01	Yes
	West	85.71	14.29	Yes
Malpractice	Northeast	27.5	72.5	Yes
	Midwest	23.21	76.79	Yes
	South	14.01	85.99	Yes
	West	7.14	92.86	Yes
References	Northeast	8.75	91.25	No
	Midwest	16.07	83.93	No
	South	18.47	81.53	No
	West	0.00	100.00	No

Table 72

Statistical Analysis

	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Proof of Identity	0-99	199		
Compliant (N)	77	54	149	49
Non-Compliant (N)	6	3	12	11
Total (N)	83	57	161	60
Row Percent Compliant	93	95	93	82
<i>df</i> =	3			
<i>p</i> =	0.04			
F =	3			
	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Education and Training	0-99	199		
Compliant (N)	32	18	58	19
Non-Compliant (N)	52	39	103	41
Total (N)	83	57	161	60
Row Percent Compliant	39	32	36	32
<i>df</i> =	3			
<i>p</i> =	0.7			
F =	3			
	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Military Service	0-99	199		
Compliant (N)	49	37	102	30
Non-Compliant (N)	34	20	59	30
Total (N)	83	57	161	60
Row Percent Compliant	59	65	63	50
<i>df</i> =	3			
<i>p</i> =	0.2			
F =	3			

(table continues)

	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Licensure	0-99	199		
Compliant (N)	11	13	22	6
Non-Compliant (N)	72	44	139	54
Total (N)	83	57	161	60
Row Percent Compliant	13	23	14	10
<i>df</i> =				
<i>p</i> =				
F =				
	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
DEA	0-99	199		
Compliant (N)	38	20	45	18
Non-Compliant (N)	45	37	116	42
Total (N)	83	57	101	60
Row Percent Compliant	46	35	28	30
<i>df</i> =	3			
<i>p</i> =	0.04			
F =	3			
	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Board Certification	0-99	199		
Compliant (N)	62	47	137	41
Non-Compliant (N)	21	10	24	19
Total (N)	83	57	161	60
Row Percent Compliant	75	82	85	68
<i>df</i> =	3			
<i>p</i> =	0.02			
F =	3			

(table continues)

Work History/Affiliation	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Compliant (N)	0-99	199	97	17
Non-Compliant (N)	30	21	64	43
Total (N)	83	57	161	60
Row Percent Compliant	64	63	60	28
<i>df</i> =	3			
<i>p</i> =	<0001			
F =	3			
Criminal Background	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Compliant (N)	0-99	199	90	27
Non-Compliant (N)	48	31	71	33
Total (N)	35	26	161	60
<i>df</i> =	3	54	56	45
<i>p</i> =	0.4			
F =	3			
Sanctions	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Compliant (N)	0-99	199	25	8
Non-Compliant (N)	14	11	136	52
Total (N)	69	46	161	60
Row Percent Compliant	83	57	16	13
<i>df</i> =	3			
<i>p</i> =	0.8			
F =	3			

(table continues)

	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Health Status	0-99	199		
Compliant (N)	79	54	144	52
Non-Compliant (N)	4	3	17	8
Total (N)	83	57	161	60
Row Percent Compliant	95	95	89	87
<i>df</i> =	3			
<i>p</i> =	0.1			
F =	3			
	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
NPDB	0-99	199		
Compliant (N)	82	56	149	50
Non-Compliant (N)	1	1	12	10
Total (N)	83	57	161	60
Row Percent Compliant	99	98	93	83
<i>df</i> =	3			
<i>p</i> =	0.001			
F =	3			
	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
Malpractice	0-99	199		
Compliant (N)	22	14	22	5
Non-Compliant (N)	61	43	139	55
Total (N)	83	57	161	60
Row Percent Compliant	27	22	14	8
<i>df</i> =	3			
<i>p</i> =	0.008			
F =	3			

(table continues)

	Hospital Beds	Hospital Beds 100-	Hospital Beds <200	Do not Work in a Hospital
References	0-99	199		
Compliant (N)	7	9	29	4
Non-Compliant (N)	76	48	132	56
Total (N)	83	57	161	60
Row Percent Compliant	8	16	18	7
<i>df</i> =	3			
<i>p</i> =	0.06			
F =	3			
Geographical				
Proof of Identity	Northeast	Midwest	South	West
Compliant (N)	57	90	90	78
Non-Compliant (N)	9	10	7	3
Total (N)	66	100	97	81
Row Percent Compliant	86	90	93	96
<i>df</i> =	3			
<i>p</i> =	0.16			
F =	3			
Education and Training	Northeast	Midwest	South	West
Compliant (N)	21	33	44	22
Non-Compliant (N)	45	67	53	54
Total (N)	66	100	97	81
Row Percent Compliant	32	33	45	33
<i>df</i> =	3			
<i>p</i> =	0.18			
F =				
Military Service	Northeast	Midwest	South	West
Compliant (N)	35	60	71	47
Non-Compliant (N)	31	40	26	34
Total (N)	66	100	97	81
Row Percent Compliant	53	60	73	58
<i>df</i> =	3			
<i>p</i> =	0.04			
F =	3			

(table continues)

Licensure	Northeast	Midwest	South	West
Compliant (N)	11	13	17	9
Non-Compliant (N)	55	87	80	72
Total (N)	66	100	97	81
Row Percent Compliant	17	13	18	18
<i>df</i> =	3			
<i>p</i> =	0.59			
F =	3			
DEA	Northeast	Midwest	South	West
Compliant (N)	25	42	26	23
Non-Compliant (N)	41	58	71	58
Total (N)	66	100	97	81
Row Percent Compliant	38	42	27	28
<i>df</i> =	3			
<i>p</i> =	0.08			
F =	3			
Board Certification	Northeast	Midwest	South	West
Compliant (N)	52	83	79	65
Non-Compliant (N)	14	17	18	16
Total (N)	66	100	92	81
Row Percent Compliant	79	83	81	80
<i>df</i> =	3			
<i>p</i> =	0.9			
F =	3			
Work				
History/Affiliation	Northeast	Midwest	South	West
Compliant (N)	38	55	58	46
Non-Compliant (N)	28	45	39	35
Total (N)	66	100	97	81
Row Percent Compliant	58	55	60	57
<i>df</i> =	3			
<i>p</i> =	0.9			
F =	3			

(table continues)

Criminal Background	Northeast	Midwest	South	West
Compliant (N)	38	48	56	50
Non-Compliant (N)	28	52	41	31
Total (N)	66	100	97	81
<i>df</i> =	3	48	58	62
<i>p</i> =	0.27			
F =	3			
Sanctions	Northeast	Midwest	South	West
Compliant (N)	13	17	10	14
Non-Compliant (N)	53	83	87	67
Total (N)	66	100	97	81
Row Percent Compliant	20	17	10	17
<i>df</i> =	3			
<i>p</i> =	0.36			
F =	3			
Health Status	Northeast	Midwest	South	West
Compliant (N)	59	92	86	79
Non-Compliant (N)	7	8	11	2
Total (N)	66	100	97	81
Row Percent Compliant	89	92	89	98
<i>df</i> =	3			
<i>p</i> =	0.14			
F =	3			
NPDB	Northeast	Midwest	South	West
Compliant (N)	60	95	89	79
Non-Compliant (N)	6	5	8	2
Total (N)	66	100	97	81
Row Percent Compliant	91	95	92	98
<i>df</i> =	3			
<i>p</i> =	0.27			
F =	3			

(table continues)

Malpractice	Northeast	Midwest	South	West
Compliant (N)	12	19	12	19
Non-Compliant (N)	54	81	85	67
Total (N)	66	100	97	81
Row Percent Compliant	18	19	12	23
<i>df</i> =	3			
<i>p</i> =	0.29			
F =	3			
References	Northeast	Midwest	South	West
Compliant (N)	3	13	20	14
Non-Compliant (N)	63	87	77	67
Total (N)	66	100	97	81
Row Percent Compliant	5	13	21	17
<i>df</i> =	3			
<i>p</i> =	0.03			
F =	3			

Table 73

Compliance by Geographic Location

Standard	Geographic Location	Compliant	Not Compliant	Significant
Proof of ID	Northeast	92.50	7.50	Yes
	Midwest	94.64	5.36	Yes
	South	92.36	7.64	Yes
	West	78.57	21.43	Yes
Education and Training	Northeast	38.75	61.25	No
	Midwest	32.14	67.86	No
	South	36.31	63.69	No
	West	50.00	50.00	No
Military Standard	Northeast	58.75	41.25	No
	Midwest	64.29	35.71	No
	South	63.06	36.94	No
	West	64.29	35.71	No
License	Northeast	13.75	86.25	Moderate
	Midwest	31.43	78.57	Moderate
	South	14.01	78.57	Moderate
	West	21.43	78.57	Moderate
DEA	Northeast	46.25	33.75	Yes
	Midwest	35.71	64.29	Yes
	South	27.39	72.61	Yes
	West	21.43	78.57	Yes
Board Certification	Northeast	75.00	25.00	No
	Midwest	82.14	17.86	No
	South	85.35	14.65	No
	West	100.00	0.00	No
Work History	Northeast	65.00	35.00	No
	Midwest	62.50	37.50	No
	South	59.87	40.13	No
	West	28.57	71.43	No
Criminal Background	Northeast	56.25	43.75	No
	Midwest	53.57	46.43	No
	South	57.32	42.68	No
	West	57.14	42.86	No

(table continues)

Sanctions	Northeast	17.50	82.50	No
	Midwest	19.64	80.36	No
	South	15.92	84.08	No
	West	21.43	78.57	No
Health Status	Northeast	95.00	5.00	Yes
	Midwest	94.64	5.36	Yes
	South	89.91	10.19	Yes
	West	100.00	0.00	Yes
NPDB	Northeast	98.75	1.25	Yes
	Midwest	98.21	1.79	Yes
	South	92.99	7.01	Yes
	West	85.71	14.29	Yes
Malpractice	Northeast	27.5	72.5	Yes
	Midwest	23.21	76.79	Yes
	South	14.01	85.99	Yes
	West	7.14	92.86	Yes
References	Northeast	8.75	91.25	No
	Midwest	16.07	83.93	No
	South	18.47	81.53	No
	West	0.00	100.00	No

Research Presumption Evaluations

Much of which standards MSPs follow was unclear until now, the initial assumption presumed since approximately 90% of MSPs follow the credentialing standards of The Joint Commission, fewer than 90% of MSPs would follow the ICS. Eighty-nine point fifty-two percent (89.52%) of MSP responded they “almost always” or “always” use a government issued ID for proof of identity (see Table 98). Education and training, military standards, and verification of license were inconclusive due to a lack of clarification on the survey. Eighty-five point sixty-two percent (85.62% of MSPs responded they followed the same standards as the ICS for board certification.

Other areas such as work history, criminal background checks, sanctions were also inconclusive due to a lack of clarification on the survey. Health status had the highest percentage of MSPs responding they “always” or “almost always” ask about health status of the physician. Ninety-four point eighty-eight percent (94.88%) of MSPs responded this way. Malpractice insurance verification and references were inconclusive. Overall the assumption that slightly less than 90% of MSPs followed the ICS. The first assumption is mostly proven to be true.

RQ1 asks which credentialing standards are being used by MSPs. Since the survey was designed using the 13 ICS, at a minimum it is known that MSPs in some form are credentialing according to the ICS. The extent to which they are compliant varies, but it is now known which credentialing standards are being used.

RQ2 asks if the credentialing standards being performed by MSPs match the 13 ICS. Since the questions on the survey were based on the ICS, the same responses as

those for RQ1 can be used. Assumption 2 presumes that 80-90% of MSPs would follow the ICS. Although there were inconclusive results due to a lack of clarity on some of the survey questions, 80-90% of MSPs responded they adhere to the ICS (see Table 98). The assumption is mostly proven true.

RQ3 asks how often the ICS are being followed. The same results can be applied to this research question. Eighty-ninety percent (80-90%) of MSPs responded they always or almost always follow the ICS. Assumption 3 presumed MSPs would follow the ICS. The assumption is proven true as the results of frequency are in the 80-90% range.

RQ4 asks if there are ICS that are almost never or never followed. Nine point sixteen percent (9.16%) of MSPs responded they almost never or never follow the ICS. Five point thirteen percent (5.14%) of MSPs responded they almost never or never ask about health status. In one or more element of verification of malpractice insurance, eighty-two percent (82%) of MSPs responded they almost never or never followed the ICS (see Table 98). The rest of the areas were not conclusive as the questions on the survey were not clearly stated. Assumption 4 presumes there were very few of the ICS that were almost never or never followed. There were several instances where 9.16% and 82% of MSPs did not adhere to the ICS. In light of the data, the assumption is proven false.

RQ5 asks if there differences in credentialing standards based on the geographic location or the size of the hospital. Seventy-eight percent (78%) of MSPs in the West, for example, were compliant with proof of identity, while the other regions had a compliance rate of over 90% (see Table 98). Alternatively hospitals in the West had a compliance

rate of 100% in the area of board certification. Assumption 5 presumed hospitals in the Northeast would have a higher percentage of compliance than in other parts of the United States. due to more healthcare systems. The data do not support this presumption.

With regard to size of the hospital and compliance, Various elements demonstrated compliance rates were within ten (10) percentage points of each other. Assumption 5 also presumed larger hospitals (<200 beds) would have a higher compliance rate than medium (100-200 beds) or smaller (0-99 beds) hospitals. The data do not support this presumption. Therefore the assumption is false.

Summary

The objective and purpose of this study was to survey members of NAMSS in an attempt to see if the various credentialing practices throughout the United States met the ICS adopted by NAMSS. The research questions asked which credentialing standards MSPs perform (RQ1). MSPs are involved in numerous verifications that include: 1) proof of identity; 2) verification of medical school; 3) verification of internship; 4) verification of residency; 5) verification of fellowship; 6) explanation of gaps in training or work history; 7) verification of license; 8) verification of DEA; 9) verification of state controlled substance certificate; 10) verification of board certification; 11) verification of work history; 12) criminal background checks; 13) verification of sanctions; 14) verification of health status; 15) verification of malpractice insurance; 16) query the NPDB; 17) and verification of professional references.

RQ2 asked if the credentialing practices met the NAMSS ICS. A review of the data highlighted the following areas in which credentialing practices did not meet the

ICS: 1) proof of identity; 2) verification of residency; 3) explanation of gaps; 4) verification of work history; 5) criminal background checks; verification of health status; 6) verification of sanctions; and 7) verification of professional references. The other credentialing practices were inconclusive as to whether or not they were or were not compliant. Further research needs to be performed in order to determine whether or not these areas are compliant.

RQ3 asked how often the ICS are being followed. There is insufficient data as to how often they are being followed. There are 7 areas of non-compliance and the other 8 areas cannot be determined due to various factors. RQ4 asked if there are ICS practices that are almost never or never performed. Every practice had at least one MSP respond they almost never or never performed that practice. Of course more research needs to be performed to determine if the ones that were deemed inconclusive actually meet the ICS or not.

RQ5 asked if there is any correlation between credentialing practices and the size of the hospital and if there is any correlation between the credentialing standards and geographical location. There are some instances where the size of the hospital may have had a factor in compliance with ICS. For example, proof of ID was significantly higher in non-compliance in large hospitals when compared with small and medium hospitals.

Verification of military service dates was more non-compliant in smaller hospitals than medium and large hospitals. With regard to work history/affiliations, large hospitals were less compliant with ICS. Other examples of differences in compliance between

small, medium, and large hospitals was that large hospitals tended to be approximately 6% more non-compliant than small or medium hospitals.

The non-compliance rate based on geographic location was mostly inconclusive, but one standout is that querying the NPDB is less compliant in the West. MSPs responded that they query the NPDB 13% less than other regions. The other credentialing functions could not be determined as to whether or not they are in compliance due to statistical analysis that showed chi square ranges above 0.05.

Most of the standards are intertwined in some fashion. If the application does not ask for start and end date it may affect the verification of licensure, malpractice insurance, professional and peer references, background checks, and affiliations/work history, etc. If a complete work history is not verified, it could affect a background check. Counties where a physician may have worked may not be included if a complete work history is not performed and verified. There are too many opportunities for an unqualified or underqualified physician to hide his/her past and then have access to patients. It is the duty of the MSP to verify all aspects of the ICS in order to safeguard the public.

In the next chapter (5) the interpretation of the findings will be discussed. Limitations to the study will also be discussed. Recommendations based on the result of the study will also be included in chapter 5. Chapter 5 will also include implications for the healthcare and especially the role of the MSP and the reasons a national credentialing standard may need to be implemented across the United States. Finally there will be a conclusion summarizing the important aspects of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

There is much duplication of efforts to ensure only qualified physicians are approved to see patients. The determination as to who is allowed to practice medicine at a particular facility is based on the credentialing process. Prior to this study, little was known about the credentialing standards being followed. The objective and purpose of this study was to determine which credentialing standards were being followed across the United States. The National Association of Medical Staff Services (NAMSS) developed 13 ideal credentialing standards, but there was no information on which hospitals were following these standards.

NAMSS is the largest organization of Medical Services Professionals (MSPs). With over 6,000 members, it is seen as the preeminent organization on matters of credentialing, recredentialing, and regulatory compliance (NAMSS, 2017). I determined that a quantitative study would be appropriate to determine which standards were being followed. A survey was developed using a 5-point Likert scale (1 = always, 5 = never). The survey was based on the 13 ICS and was sent to all 5,632 members of NAMSS (in November 2016). Three hundred sixty-four ($N = 364$) MSPs responded to the survey.

There were five research questions:

RQ1: Which credentialing standards do MSPs perform?

RQ2: Do the credentialing standards being performed by hospitals match the gold standard developed by NAMSS?

RQ3: How often are the gold standards being followed?

RQ4: Are there NAMSS gold standard practices that are never performed?

RQ5: Is there a difference in credentialing standards by hospital size or geographical location?

Research Question 4 addressed whether there were ICS that were never followed. In every category, there was at least 1% of MSPs who responded they almost never or never perform at least one of the ICS. Items in which a larger percentage indicated they almost never or never perform the ICS included work history at all locations (11%), if physician was in good standing when he or she left (4%), ran a background check with a federal database (12%), if the physician's health status was an issue (5%), verification of malpractice insurance at all locations (16%), and references being sent to direct authorities (4%).

RQ5 addressed the possible correlation between the credentialing standards and the size of a hospital (number of beds) and its geographical location. One area of significance was the size of the hospital and proof of identity. On average, small hospitals (0-99 beds) were more compliant than medium and large hospitals. With regard to geographical location, 13% of the hospitals in the West were less compliant than other regions in the area of querying the NPDB.

Interpretation of the Findings

Based on the responses from MSPs throughout the United States, the results confirmed that there are many ICS that are not being followed. The objective and purpose of the study was to determine whether a need existed for a national credentialing standard. This could only be determined by finding out which credentialing standards were being followed. In the case of Dr. Swango, he was able to be hired at several

hospitals using forged documents. If one of the ideal credentialing standards of both NAMSS and Greeley had been used, namely proof of identity, he would not have been allowed to practice medicine in any of the hospitals at which he practiced. A copy of a government-issued ID would have proven he was not who he claimed to be. From a patient safety perspective, the findings indicated that a national credentialing standard should be developed and implemented.

Due to the survey design, I could not confirm that ICS were or were not being met in various areas. Although there were limitations to the design of the survey, information is now available regarding the credentialing processes and standards MSPs follow across the United States. By asking what functions an MSP performs, researchers may gain insight into how often an MSP follows a particular credentialing standard.

Responses from MSPs indicated they almost never or never use the NPDB to verify malpractice insurance or malpractice claims. One of the safety nets for hospitals wanting to ensure the physician has no malpractice claims that were not disclosed is the NPDB (Waters, Warnecke, Parsons, Almagor, and Budetti, 2006). Although the NPDB can be a safety net, there are hospitals that may not report loss of privileges or a sanction on a physician's license. Citizens (2014) found that 70% of hospitals in Louisiana never reported to the NPDB. It is critical that multiple sources be used to verify standards such as malpractice insurance, sanctions, licensure, and so on.

The survey was designed based on normalization process theory, which is not concerned with how an MSP may feel about a particular standard, but instead focuses on what an MSP does. Data are now available that can illuminate which standards are being

followed all of the time, almost always, sometimes, almost never, and never. Because quantitative research delivers factual data as opposed to emotional feelings toward the work MSPs perform, NPT worked well with this type of study (May's et al, 2010).

Limitations of the Study

The study was designed to measure the credentialing standards MSPs use. The study design was well suited for measuring which of the ICS MSPs use. One limitation to the design was that it did not include open-ended questions that may have revealed other credentialing standards used that are not part of the ICS. Another limitation was that the survey should have asked MSPs if they only used a certain verification source. For example, when asking about proof of identity, the question should have addressed whether a government-issued photo was requested. If they answered yes, the MSP could then respond with secondary sources such as VISA or the NPI. The same was true for other categories such as education and training.

For verification of completion of residency, the AMA profile is an acceptable source for verification of completion of residency. One of the survey questions addressed whether the MSP verifies residency directly with the hospital. Twelve percent responded they almost never or never verify residency directly with the hospital. This gives the impression they may not be following the ICS, when in fact they may be following it.

Only 364 (6%) of 5,632 MSPs responded to the survey. It is impossible to verify that all members of NAMSS received the survey because there was no return receipt attached due to privacy issues. There also could have been instances in which the MSP may not have been performing the ICS very often and, instead of risking being identified,

may have chosen not to complete the survey. The survey was very long (68 questions). Although it only took on average fewer than 7 minutes during a mock survey to complete, it may have appeared to take much longer. That could have been a factor in the low response rate. Another limitation was the fact that not every hospital has a member of NAMSS as an MSP. That population was not asked about their credentialing standards.

Recommendations

Recommendations for further research would include another survey to both members and non-members of NAMSS. NAMSS members have many opportunities to become educated on the ICS and thus non-NAMSS members may not be in compliance with the ICS. Non-members may demonstrate how pervasive non-compliance is with regard to the standards. If NAMSS members are more highly educated, chances are those less educated in credentialing standards may be even more non-compliant.

The revised survey should be more concise. It should leave room for open-ended questions so credentialing standards that are practiced could be accounted for. In some instances, some hospitals may be more stringent on their credentialing standards and actually surpass the 13 Ideal Credentialing Standards approved by NAMSS

Some MSPs could be going well above and beyond the ICS, but there was no opportunity for them to document them. Another recommendation is to survey the same population (members and non-members of NAMSS) and if they respond they almost never or never perform one or more of the ICS, ask them why they do not. By asking them why they do not perform certain standards, they may be using an acceptable source such as the AMA Profile. They may be using the AMA Profile instead of relying on the

ECFMG for verification of education and training. These national leaders could include members of the Attorney General's Office, quality improvement leaders, as well as members of high performance hospitals.

Much like the National Quality Forum (NQF) healthcare leaders could come to a consensus on the best methods to enact a truly ideal credentialing standard. The 13 ICS developed by NAMSS may be a good start to the debate over the best standard, but if it was determined that in order to safeguard the public, a national credentialing standard that had true promise to ensure 100% effectiveness, the standards may need more overarching requirements.

Implications

The implications of this study may help illuminate the wide range of credentialing standards used across the United States. This study could serve as a basis for a national credentialing standard now that the standards which MSPs follow are documented. The study provides detailed response rates from MSPs who perform the credentialing standards. It is now known what percentage of MSPs almost always or always verifies education and training directly with the hospital. The study also provides data on the percentage of MSPs who almost never or never verify education and training with the hospital where the physician completed his/her training.

If a national credentialing standard was to be implemented, all physicians would be vetted using the same criteria. Some may suggest that states may want to introduce a state credentialing standard, but if the national credentialing standard would be required of all managed care payers, Medicare and Medicaid, the intent of the standard would still

need to be followed or there would be no compensation for medical bills. The Health Insurance Portability and Accountability Act (HIPAA) started out as a mechanism to protect people who left on job and went to another employer. Not too long after adoption it added in protected health information. It further went on to require all medical billing use the same platform. The same could hold true for a national credentialing standards.

By implementing a national standard, the possibility of another Dr. Swango being credentialed onto a medical staff would be much less likely. MSPs are generally very conscientious about performing their duties. Sometimes hospitals may not financially support the credentialing process as much as they might want to due to budgetary constraints or the need to have a physician on staff as soon as possible due to a loss of physicians in a particular specialty.

This study is the first known of its kind to be published. As a result, healthcare administrators may have a better idea of the credentialing realities and possibly dedicate more resources to be in compliance with the ICS. A national credentialing standard may also help clarify how credentialing standards should be met. Many accreditations are similar in their requirement, but standardizing the credentialing process would allow better compliance reconciliation. Ultimately, knowing the standards that are being followed may help standardize patient safety at every hospital in the United States, and many other areas of healthcare.

Internationally, this study could become a source of information for collaboration between United States credentialing standards and international standards. The more healthcare leaders know, the more informed decisions they can make. Based on

international data, the United States could become a pioneering partner of a global credentialing standard. As more countries provide credentialing data, trends and outcomes can be measured on a global level, helping to achieve a healthcare standard unlike any that has been achieved thus far. This baseline study can serve as a catalyst to ensure patient safety is at the forefront of medicine and patients achieve better outcomes.

Conclusion

This ground-breaking study is only the first step in determining whether a national credentialing standard is warranted. In order to determine if it is warranted, there first had to be measurable data that demonstrates exactly which credentialing standards MSPs are following across the United States was needed. The results of this study may lead to further discussion on a national credentialing standard, but at the very least demonstrates there are instances in every one of the ICS developed by NAMSS of a lack of compliance. The story of Dr. Swango proved that one non-fully vetted physician can cause irrevocable harm to several patients. Even if the level of compliance with the ICS is high, one physician who is not properly vetted could be the difference between life and death.

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Appendix A: Survey

1.
Proof of Identity is reviewed by verifying the following:

Government Issued ID	Always	Almost Always	Some times	Almost Never	Never
NPI	Always	Almost Always	Some times	Almost Never	Never
I-9 Documentation	Always	Almost Always	Some times	Almost Never	Never
VISA Card or Employment Verification Card	Always	Almost Always	Some times	Almost Never	Never

2.
Education and Training and Graduation from Medical School verification through:

Direct Contact with Source	Always	Almost Always	Some times	Almost Never	Never
AMA	Always	Almost Always	Some times	Almost Never	Never
AOA	Always	Almost Always	Some times	Almost Never	Never
ECFMG	Always	Almost Always	Some times	Almost Never	Never
Other	Always	Almost Always	Some times	Almost Never	Never

3.
Completion of Internship verification through:

Direct Contact with Source	Always	Almost Always	Some times	Almost Never	Never
AMA	Always	Almost Always	Some times	Almost Never	Never
AOA	Always	Almost Always	Some times	Almost Never	Never
ECFMG	Always	Almost Always	Some times	Almost Never	Never
Other	Always	Almost Always	Some times	Almost Never	Never

4.
Completion of Residency verification:

Direct Contact with Source	Always	Almost Always	Some times	Almost Never	Never
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AMA	Always	Almost Always	Some times	Almost Never	Never
AOA	Always	Almost Always	Some times	Almost Never	Never
ECFMG	Always	Almost Always	Some times	Almost Never	Never
Other	Always	Almost Always	Some times	Almost Never	Never
5. Completion of Fellowship (if applicable) verification through:					
Direct Contact with Source	Always	Almost Always	Some times	Almost Never	Never
AMA	Always	Almost Always	Some times	Almost Never	Never
AOA	Always	Almost Always	Some times	Almost Never	Never
ECFMG	Always	Almost Always	Some times	Almost Never	Never
Other	Always	Almost Always	Some times	Almost Never	Never
6. Explanation of Gaps (mm/yy Format) verified through:					
Greater Than Two (2) Months	Always	Almost Always	Some times	Almost Never	Never
Greater than Six (6) Months	Always	Almost Always	Some times	Almost Never	Never
Greater than One (1) Year	Always	Almost Always	Some times	Almost Never	Never
Greater than Two (2) Years	Always	Almost Always	Some times	Almost Never	Never
Other	Always	Almost Always	Some times	Almost Never	Never
7. ECFMG Validation checked (if applicable)					
	<u>Always</u>	<u>Almost Always</u>	<u>Some times</u>	<u>Almost Never</u>	<u>Never</u>
8. Military Service Checked (if applicable)					
DD214	<u>Always</u>	<u>Almost Always</u>	<u>Some times</u>	<u>Almost Never</u>	<u>Never</u>
9. Professional Licensure verified					

through:

State Licensing Boards	Always	Almost Always	Some times	Almost Never	Never
FSMB	Always	Almost Always	Some times	Almost Never	Never

10.

DEA verification through:

Inspection of Copy	Always	Almost Always	Some times	Almost Never	Never
NTIS	Always	Almost Always	Some times	Almost Never	Never

11.

State CDS Certification verified through:

State Licensing Board	Always	Almost Always	Some times	Almost Never	Never
Inspection of Copy	Always	Almost Always	Some times	Almost Never	Never

12.

Board Certification verified through:

CertiFACTS	Always	Almost Always	Some times	Almost Never	Never
ABMS	Always	Almost Always	Some times	Almost Never	Never
AOA	Always	Almost Always	Some times	Almost Never	Never

13.

Affiliations and Work History

All Practice Locations	Always	Almost Always	Some times	Almost Never	Never
Most Practice Locations	Always	Almost Always	Some times	Almost Never	Never
Only the Previous Practice Location	Always	Almost Always	Some times	Almost Never	Never
Start and End Dates	Always	Almost Always	Some times	Almost Never	Never
Verification of Good Standing	Always	Almost Always	Some times	Almost Never	Never

14.

Criminal Background Disclosure verified through:

Federal Databases	Always	Almost Always	Some times	Almost Never	Never
State Databases	Always	Almost	Some	Almost	Never

		Always	times	Never	
		Almost	Some	Almost	
County Databases	Always	Always	times	Never	Never
15.					
Sanctions Disclosure reviewed through					
Federal and State entities:					
NPDB	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
OIG	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
LEIE	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
EPLS	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
FSMB	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
SAM	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
16.					
Health Status verified:					
Attestation on Application	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
17.					
NPDB verified:					
NPDB	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
18.					
Malpractice Insurance verified:					
List all Carriers Including Dates	Always	Almost	Some	Almost	Never
List of Open, Pending, Settled, Closed and Dismissed Cases	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
List of Cases with Settlements	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
Current Certificate of Insurance	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
NPDB	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
Insurance Carriers Contacted	Always	Almost	Some	Almost	Never
		Always	times	Never	Never
19.					
Professional References verified (noting current competencies)					

Professional Authorities with Direct Contact	Always	Almost Always	Some times	Almost Never	Never
Training Program Directors	Always	Almost Always	Some times	Almost Never	Never
Department Chairs/Chiefs	Always	Almost Always	Some times	Almost Never	Never
ACGME Lists	Always	Almost Always	Some times	Almost Never	Never

Appendix B: Site Permission

Hi Jim,

The NAMSS Board approved your research. I am copying Tiffany here so you can give her a timeline so the NAMSS staff can assist you. Our understanding is that NAMSS will e-blast your survey to our members. We look forward to learning the results of your survey. All the best,

Linda

Linda Waldorf | Director CCO & UNC OMSS
President, NAMSS
UNC Health Care System
101 Manning Drive, Chapel Hill, NC 27514

Appendix C: Informed Consent

Hello,

My name is James (Jim) Reeder and I am a PhD candidate completing my dissertation. My dissertation studies the actual standards that MSPs use to credential a physician. Its purpose is to determine which standards are being used, the frequency in which they are used, and attempts to determine if there is an association between credentialing standards and geographic location or the size of the hospital. I am writing you to assist me gather the data so we can get a better grasp of exactly which standards are being followed. You do not have to respond to this survey, but completing it would be of tremendous value for the healthcare industry because we would have a baseline to understand which credentialing standards are being followed in an attempt to determine if a national credentialing standard is warranted.

You were chosen to complete this survey because you are a member of NAMSS. This survey is being sent to all members of NAMSS, which has a membership of over 5,000. NAMSS is sending the survey out to its members but study is not sponsored by them. NAMSS will receive the results in aggregate form only. There is no conflict of interest between NAMSS and myself. I personally have nothing to gain either in the form of monetary compensation or other perks. It is a one-time survey and you will not be asked to complete any follow-up questions.

You would simply complete the survey questions by answering a question such as how often do you use the AMA Masterfile to verify graduation from Medical School. The survey should take roughly 7 minutes to complete and you would know the responses without having to perform any research. Once you click on the submit button, the data will come to me anonymously. I will not know who completed the survey nor will I know the institution from which it came. Your data will be secure and confidential. Your participation is completely voluntary and is not part of any of your job requirements, and you can opt out or discontinue at any time.

Participation in this survey is completely voluntary and there is no penalty for refusing to participate or discontinuing participation. I do not foresee any risks or discomfort in participating in the survey and there can be no recourse because I will not know who completed the survey and who did not complete the survey. I will not be collecting the e-mail addresses of participants, so confidentiality is ensured. One benefit of participating in the survey is that it will give us a more enlightened picture of the credentialing standards across the U.S.

If you have further questions about the survey you can contact me at james.reeder@waldenu.edu or call me at (312) 720-1803. The aggregate results will be posted with my dissertation at www.jamesreeder.com. You may keep a copy of this e-mail for future reference or look me up in the member directory on the NAMSS website.

If you have questions about your rights as a participant, you can contact Walden University at irb@waldenu.edu.

Thank you for your participation should you elect to do so!

Appendix D

*Figure 1**Geographic Regions United States Census Regions and Divisions (2017)*