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Recent Graduates' Perceptions of Critical Management Competencies for Healthcare Administrators

By

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ABSTRACT OF DISSERTATION

This study assessed recent graduates' perceptions of the most important management competencies necessary for them to be successful in their jobs; how important they perceived the Accrediting Commission on Education for Health Services Administration's (ACEHSA) criteria to be in today's healthcare industry; and how adequately they felt their academic program prepared them for these competencies and ACEHSA criteria.

The study population consisted of 185 recent graduates who completed baccalaureate or master's level training within three years of participating in the study and who were nonstudent, nonfaculty members of the American College of Healthcare Executives. The design of the study was a self-administered, cross-sectional mail survey.

Results indicate that recent graduates perceived broad qualitative competencies as most important to their career success. In terms of adequacy of preparation, the data indicate that participants felt "somewhat prepared" to "prepared" by their academic program. Substantial and statistically significant gaps were found between ratings of importance and adequacy of preparation in 42 out of 43 competencies. Statistically significant findings also showed that perceptions of importance of the management

competencies varied by participants' years of experience in healthcare administration and by their type of degree. For adequacy of preparation ratings, a statistically significant difference was found as a function of the respondents' ethnicity. All 10 ACEHSA criteria were perceived to be important by recent graduates; however, they indicated they were only "somewhat prepared" to "prepared" for the criteria by their academic program. As with the management competencies, substantial and statistically significant gaps were found in all 10 criteria between ratings of importance and adequacy of preparation.

In light of these findings, academic programs might seek to improve preparation in qualitative management skills by adding direct instruction and practice in qualitative skills and by integrating the development of qualitative skills into exercises that are also designed to develop other skills, such as financial management. In addition, national and local professional associations might seek to assist in developing qualitative skills by offering training seminars during conferences and/or at monthly meetings.

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CHAPTER I

INTRODUCTION

Healthcare organizations have long been recognized as among the most complex entities in society (Warden & Griffith, 2001). They are more complicated in several dimensions than General Electric, Walmart, or Johnson & Johnson. For example, healthcare organizations lack direct control of the basic means of production; have difficulty measuring and controlling the ultimate outcome of services; and have a strong social contract with the community, which also has input into the products and services provided by the healthcare organization. Moreover, over 255 different disciplines work in the healthcare field; there is randomness in providing the product or service; and providers, by their very nature, are risk-adverse (B. J. Horak, personal communication, January 18, 2000). Perhaps most importantly, healthcare is highly personal in nature, and production cannot be stopped for retooling.

In addition, over the past 30 years healthcare delivery has evolved from a highly regulated, fairly predictable business provided by small, local organizations into a competitive, dynamic business with large, complex, regional, and in some cases national companies, along with many small- and mid-sized organizations (Zuckerman, 2000). As a

result, greater risks and opportunities have emerged that demand more of recent graduates of healthcare administration programs than ever before.

Because of the complexity of the healthcare environment, it is useful to identify the competencies required for successful management. Some authors use "competency" to define the minimum standard necessary to perform a job (Mulholland, 1994; Wright, 1998). From this perspective, a competent individual is one who has the knowledge, skills, and abilities to perform a job adequately.

In contrast, "competency" has also been used to describe "star" performers. Both the Healthcare Financial Management Association's career development model described by Goldstein (1995) and General Electric's emphasis on developing "A players" (Stockman, 1999) typify this approach. While considerable effort has been made to determine healthcare organization's chief executive officers' (CEOs) perceptions of the most important management competencies necessary for "star" performance, little empirical research exists about what recent graduates working in the healthcare industry perceive as most important for them to be successful in their jobs; whether they feel they have been adequately prepared by academic programs for the competencies needed in their healthcare management position; and whether they believe the criteria established by the Accrediting Commission on Education for Health Services Administration (ACEHSA) are relevant in today's healthcare industry. The intent of this proposal is to expand knowledge about recent graduates' perceptions of these matters

The Practice of Healthcare Administration

The Commission on Health Education defines the function of healthcare management as planning, organizing, directing, controlling, coordinating, and evaluating resources and procedures by which needs and demands for health and medical care are met by the provision of services to individual clients, organizations, and communities (Trent, 1986). Setting aside the healthcare references, this definition is rather standard: any undergraduate textbook in basic management more or less discusses the same functions. Additionally, all management serves clients, both internal and external, as well as other organizations and, to some extent, the broader community. Trent contends, however, that "management as practiced in healthcare institutions is uniquely different from management in other American business endeavors. It is riddled with paradoxes that serve to restrain managerial performance, create questions as to who is in charge, divide employee and trustee loyalty, and traditionally result in difficult cost controls" (Trent, 1986, p. 122). Trent also cites the observations of the Commission for Health Education:

> The complexity of demands on those in administrative positions creates barriers. Administrators are accountable to institutional owners, the community, consumers, resources, regulatory bodies, and third-party payment agencies. They are also responsible to the board of trustees, the medical staff, hospital employees, and various personal and professional standards (p. 127).

To address the "practice" of healthcare administration is a difficult proposition. This difficulty in defining specifically what healthcare managers do contributes

significantly to the more critical issue of defining the management competencies required to do the job.

This concern, however, is preceded by the education and training that is pertinent to the occupation. The literature differentiates between the organizational roles of the baccalaureate-degree student versus the master's degree student in the field. Boissoneau maintains that the "initial intent of many of these undergraduate programs was to educate men and women for middle management positions in large hospitals; executive positions in small rural hospitals; and administrative positions in nursing homes, state health agencies, and other organizations" (Boissoneau, 1986, p. 72).

Today, however, graduate education is increasingly the norm for all but the lowest levels of health service management (Griffith, 1999). Although exceptional individuals occasionally arrive through other routes, successful completion of graduate education is evidence of general intellectual ability, energy, and perseverance. It may seem reasonable to assume from Boissoneau's and Griffith's observations, then, that graduate programs in health administration are designed for career path growth to upper or senior management positions within these same environments, as well as preparation for administrative positions in larger health and multihospital systems.

What is clear from the literature is that the field of health administration is very broad, not necessarily well defined, and extremely multifaceted. Unlike many academic disciplines, it does not have a narrow curricular focus. Instead, it borrows from several academic and occupational sources. Consequently, its graduates are exposed to a wide

array of interdisciplinary learning experiences and are generally prepared for a variety of positions and tasks both within and outside of the healthcare setting.

At the culmination of the education program, graduates are expected to assume positions as both generalist and specialist health services managers who strategically lead and manage the delivery of population-based health services. Generalists are administrators who manage or help to manage an entire facility or system (Bureau of Labor Statistics, 2000). The Bureau of Labor Statistics defines specialists as managers in charge of specific clinical departments or services found only in the health services industry. However, potential employment positions for graduates in the healthcare industry far surpass the Bureau of Labor Statistics definition. Graduates work in diverse settings with varying job descriptions, including, but not limited to, consulting, public health, public policy, insurance, managed care, health information systems/technology, hospital and health systems, and physician practice management (Davidson, Andersen, Hilberman, & Nakazono, 2000). Further, to illustrate the diversity of the practice of health management, Robbins, Bradley, and Spicer (2001) identify other settings in which some form of healthcare management occurs, such as mental health provider organizations, long-term care facilities, integrated delivery systems, pharmaceutical companies, Internet firms, and even investment banks.

Within this expansive index of health services, administrators function not only as CEOs or administrators of a healthcare facility, they also function or intervene at a series of levels throughout the organizational matrix, which is where recent graduates are most likely to be found. Bellin and Weeks (1981) note:

A typical hospital has a series of departments around which patient care activities are centered. These departments may be Nursing, Pharmacy, Social Services, Dietary, Housekeeping, Laundry and Linen, Plant Maintenance, Security, Telephone, Purchasing, Storeroom, Accounting, Personnel, Public Relations, and Central Sterile Supply. . . . An administrator will see to it that his or her areas of responsibility function effectively, that they are properly staffed, that employees are motivated, that productivity is high, and that the organizational goals are fulfilled. These activities need to be conducted on a 24-hour, 365-day-a-year basis. The administrator needs to identify problems, consider various alternatives, and resolve them. Problems can include inadequate food service, complaints about nursing service, loss of medical records, lack of adequate reimbursement for emergency room services, community opposition to an expansion program, or the establishment of an affiliation with a medical school. In larger hospitals, administrators may be employed in staff roles as special assistants, coordinators, planners, community relations specialists, and troubleshooters. Today's problems do not resemble what occurred yesterday, nor are the solutions replicable. An administrator's calendar can include appointments with the chief of engineering to solve a problem with a boiler, with the chief of surgery to discuss a professional issue, with the architect to review building design, the treasurer of the board of trustees to solve financial problems, a student seeking career counseling, the shop steward on a labor management issue, the attorney representing the hospital in a malpractice case, and so on (pp. 17-19).

The processes of planning, organizing, controlling, coordinating, and evaluating resources hardly seem to be a suitable definition for the overwhelming responsibilities associated with healthcare management. Echoing Drucker's observations on the complexity of this occupation, Bellin and Weeks (1981) portray the profession of health administration as "the most difficult management assignment in modern society" (p. 2).

Statement of the Problem

As mentioned, the practice of healthcare administration is a difficult endeavor. This endeavor is further complicated by the revolution occurring within the American healthcare system. Three trends have emerged and are proceeding at an accelerated pace: (1) the organization of hospitals into multi-institutional arrangements; (2) the development of alternative delivery and financing systems; and (3) managers' perceptions of healthcare organizations as more business-like enterprises rather than public service organizations with social service products.

In business terms, healthcare administrators are faced with rising costs, rising consumer expectations, changing government regulations, new kinds of competition, labor problems, and product price limitations. It is no longer a question of whether a healthcare organization should compete; it is a question of how to compete, and how to compete in such a way to ensure the healthcare organization's survival and continued effectiveness.

Under the impact of economic and regulatory pressures, the equation for healthcare organizations' financial solvency is shifting dramatically. Healthcare organizations are making changes in their missions and goals, corporate structures, and

management systems in order to survive. Inertia on the part of healthcare organizations can quickly translate into insolvency and, perhaps, closure. A healthcare organization's ability to thrive in this complex environment depends more than ever on imaginative leadership by, and skills of, the healthcare manager. "Well-managed efficient institutions are in the best position to offer cost savings and thus survive in a very competitive market" (Louden, 1982, p. 15).

Questions have been raised as to what essential management competencies will be needed to successfully meet the challenges described above (Mecklenburg, 2001; Pointer, Luke, & Brown, 1986; Schneller, 1997). More specifically, there are questions as to whether the current curricula for formal undergraduate and graduate education, as well as continuing education programs, are providing an adequate foundation for the successful management of healthcare organizations (Ibrahim, 2000; Griffith, 2000; Leatt & Green, 1995; Savitz, 2000).

The educational preparation of new health services managers has been determined largely by faculty perceptions of the needs of health services managers in acute care settings (Greene, 1990; Griffith, 1999; Scalzi & Wilson, 1993). The curriculum tends to reflect the faculty's philosophy regarding what is appropriate for health service managers to study; the faculty's perception of current practice and future directions; and the resources available both at the university and in the community where the graduate program is located—rather than the competencies students or recent graduates feel would contribute to their success as managers (Davidson et al., 2000).

Graduate health administration education faculty have sought curriculum guidance from various professional organizations, such as the American College of Healthcare Executives (ACHE), American College of Medical Practice Executives (ACMPE), American College of Physician Executives, American Hospital Association (AHA), American Medical Association, American Organization of Nurse Executives, American Public Health Association, Association of University Programs in Health Administration (AUPHA), Canadian College of Health Service Executives, Healthcare Financial Management Association, and Healthcare Information and Management Systems Society (ACEHSA, 2001). These groups have used seasoned experts in the field to define the roles, functions, and competencies of health services administration education.

With the exception of Mustard's work (1992), there have been no reported studies on how recent graduates view their job responsibilities and which management competencies they see as most crucial to their success as healthcare managers (Leatt & Green, 1995). The lack of information about recent graduates' perceptions of management competencies leaves an unsolved question, or deficiency, in the literature. For healthcare administration education programs to adequately prepare graduates to work in the healthcare industry, they should pay some attention to recent graduates' perceptions of needed competencies and the adequacy of their preparation for job demands. In summary, the problem is to assess recent graduates' perceptions of the most important management competencies necessary for them to be successful in their job; to determine how relevant they perceive the ACEHSA criteria to be in today's healthcare industry; and to ascertain

how adequately they feel their academic program prepared them for these competencies and the ACEHSA criteria.

Purpose of the Study

The purpose of this study is to strengthen the empirical knowledge base for health administration education curricula by determining recent healthcare management graduates' perceptions of needed competencies, adequacy of their preparation, and the importance of ACEHSA's criteria in today's healthcare industry. As mentioned, graduate health administration education programs seek curriculum guidance primarily from various professional organizations. While this approach is useful, it does not take into account the opinions of all stakeholders (Griffith, 2000). Recent graduates are an important constituency whose opinions should be considered when developing courses that teach crucial healthcare management competencies (Andersen, Davidson, Hilberman, & Nakazono, 2000).

Further, ACEHSA, the accrediting body for healthcare administration programs, requires the periodic evaluation of student success in order to make changes in the program as necessary. Criteria standard I.B.5 states: "There will be evidence that graduates are well prepared to pursue careers consistent with program goals and that the career paths of graduates are monitored, documented and used in program evaluation and as a basis for change" (ACEHSA, 2001). The dissemination of the results of this study could conceivably provide that basis for change and lead healthcare administration

programs to revise their curricula as needed to meet the needs of one of their most important constituencies, their students.

Research Questions

1. Which healthcare management competencies do recent graduates rate as most important, and how adequately do they feel prepared for the competencies by their academic program?

   Subsidiary questions:

   a. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' age, experience, gender, and ethnicity?

   b. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' highest educational degree (e.g., baccalaureate versus master's)?

   c. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' type of educational degree (MHA, MHSA, MBA, MPH, and others)?

   d. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' type of managerial position (i.e., clinical manager, nonclinical manager)?

   e. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' type of managerial experience (i.e., clinical manager, nonclinical manager)?

3. Which ACEHSA criteria do recent graduates rate as most important in today's healthcare industry, and how adequately do they feel prepared for each criterion by their academic program?
    a. Are there differences in respondents' perception of the criteria and preparation as a function of their age, experience, gender, and ethnicity?
    b. Are there differences in respondents' perception of the criteria and preparation as a function of their highest educational degree (e.g., baccalaureate versus master's)?
    c. Are there differences in respondents' perception of the criteria and preparation as a function of their type of educational degree (MHA, MHSA, MBA, MPH, and others)?
    d. Are there differences in respondents' perception of the criteria and preparation as a function of their type of managerial position (i.e., clinical manager, nonclinical manager)?
    e. Are there differences in respondents' perception of the criteria and preparation as a function of their type of managerial experience (i.e., clinical manager, nonclinical manager)?

Summary of Methodology

The study was a self-administered, cross-sectional mail survey following procedures outlined in *Mail and Internet Surveys* by Don Dillman, Ph.D (2000). The subjects were a sample drawn from the 2001 membership of ACHE. Subjects were

selected who had completed baccalaureate or master's-level training within three years of participating in the study and who were not students or faculty members.

The survey instrument was composed of two sections with close- and open-ended questions. Close-ended questions asked participants to rate, on a five-point Likert-type scale, the following items: (1) preselected management competencies, (2) the relevancy of ACEHSA's criteria in today's healthcare environment, and (3) the adequacy of their preparation by their academic program for the competencies and ACEHSA's criteria. Open-ended questions asked participants to identify other competencies or areas not listed on the survey that they felt were important to successfully complete their job requirements. A third section of the survey instrument solicited demographic data. The survey's substance was derived from the following sources: (1) "The Educational Competency Needs of Healthcare Administrators," by Onunwah (1987); (2) curriculum content areas required by ACEHSA (2001); (3) "Management Competencies for Medical Practice Executives: Skills, Knowledge and Abilities Required for the Future," by Hudak et al. (1997); and (4) "Healthcare Administration in the Year 2000: Practitioners' Views of Future Issues and Job Requirements," by Hudak et al. (1993). The survey instrument can be found in Appendix B.

Conceptual Framework

The conceptual framework for this study is based upon four decades of management literature that suggests that skills, or competencies, necessary for successful management can be categorized into broad domains. In 1955, Katz identified three

domains of management skill: technical, human, and conceptual. Katz's work also suggests a trajectory of development—entry-level positions require technical expertise, mid-level positions require human or interpersonal expertise, and senior-level leadership roles require conceptual skills (Katz, 1974). Figure 1 illustrates the type and degree of skills used by different types of healthcare managers at different levels of the organization's hierarchy with varying spans of authority and scopes of responsibilities.

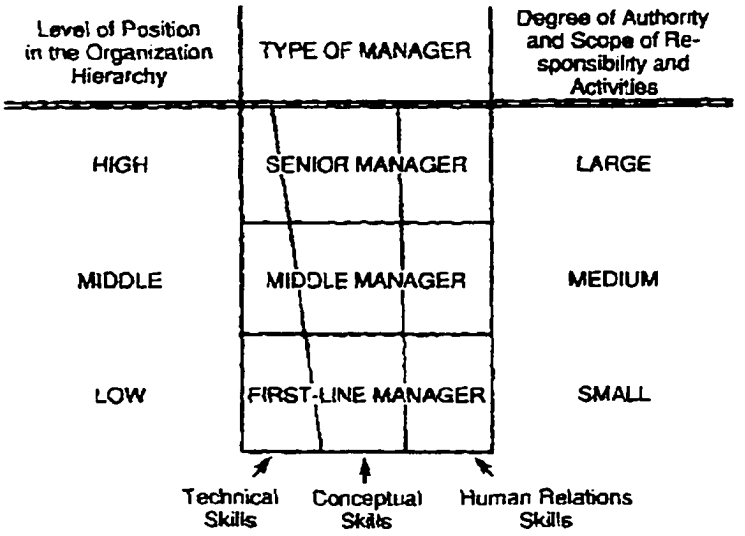

Figure 1. Skills used by different types of healthcare managers. Reprinted with permission from Rakich, Longest, and Darr (1994, p. 6).

Technical skill implies an understanding of and a proficiency in a specific kind of activity and is perhaps the most familiar because it is the most concrete. Technical skills are important for new graduates since early in their careers they are close to the front lines where technical skills are very important and give them a special advantage. The technical skills that are at a premium in today's marketplace include a knowledge of information systems, financial skills, and experience dealing with managed care (Wenzel, Grady, & Freedman, 1995).

Human skills, by contrast, are demonstrated in the way an individual interacts with his or her superiors, equals, and subordinates. While technical skill concentrates on working with "things" (processes or physical objects), human skill focuses on working with people. Rakich et al. (1994) state that all managers use human skills because they

accomplish work through people. They add that human relation skills include motivation, leadership, and communication.

Conceptual skills are the most critical at senior levels of administration (Katz, 1974). An organization's overall success depends on its managers' conceptual skills in establishing and carrying out policy decisions. Rakich et al. (1994) note that senior managers use disproportionately more conceptual skills in their jobs than do middle-level or first-line managers, yet all healthcare managers use some degree of conceptual skills. These skills include recognizing and evaluating multiple complex issues and understanding their relationships, engaging in planning and problem solving that profoundly affect the health service organization, and thinking globally about the organization and its environment.

Other approaches have defined related but slightly different domains. For instance, Goleman (1998) outlines three domains from his review of competency models of 188 companies: purely technical, cognitive, and emotional intelligence. Goleman highlights emotional intelligence as the distinguishing competence of senior leaders. Kotter (1988) builds on ideas by Burns (1979) and Bass (1985) to articulate the difference between transactional and transformational leadership, distinguishing the management of the technical (existing aspects of an organization) from the management of organizational adaptation and change. Kotter (1988) identifies six domains for effective senior management in complex settings: broad industry knowledge, relationships, reputation and track record, abilities and skills, personal values, and motivation. Finally, Heifetz (1998) distinguishes technical from adaptive situations and describes the psychological

competencies required of leaders who attempt to decrease gaps between reality and values in adaptive situations.

Within these domains of knowledge, studies have sought to identify and forecast the management competencies most relevant to senior healthcare executives. Most notable is the seminal study conducted by Hudak, Brooke, Finstuen, and Riley (1993). Hudak et al. sought to determine the most important competencies (termed "domains") in the field of healthcare administration over the next five years. They identified, in order of importance, cost-finance, leadership ability, professional staff relations, healthcare delivery concepts, access to care, ethics, quality and risk management, technology, and marketing. This study, in conjunction with the above-mentioned studies, provides the theoretical framework from which the research problem will be viewed. Studies of management competencies as perceived by senior healthcare executives will be discussed in greater detail in Chapter 2.

Consistent with the above-mentioned literature, key variables that will be examined in this study are management competencies, whether recent graduates believe the criteria established by ACEHSA are relevant in today's healthcare industry, and whether recent graduates feel they have been adequately prepared by their academic programs for the competencies and ACEHSA criteria.

Significance of the Study

This study is designed to assess the perceptions of recent graduates on pertinent management competencies needed to be successful in their jobs. An abundance of research

addresses the perceptions of CEOs on management competencies necessary for successful management. For example, Allcorn's (1989) and Eubanks' (1990) research reports that respondents to a cross-sectional study of hospital CEOs asked to prioritize skills needed for future success ranked strategy formulation/planning as most important, followed by finance, negotiation and consensus-building, and human resource development.

Further research provides ample evidence of forecasting management competencies needed by CEOs to cope with organizational demands. Brooke, Hudak, Finstuen, and Trounson (1998), Hudak, Brooke, and Finstuen (1994), Hudak, Brooke, and Finstuen (2000), Hudak et al. (1993), Hudak, Brooke, Finstuen, and Trounson (1997), Sentell and Finstuen (1998), and Wenzel et al. (1995) have shown that CEOs perceive cost-finance and leadership to be among the most important competencies needed for future healthcare managers. Other competencies identified in these studies include information systems/information management, healthcare delivery concepts, and personal and interpersonal communications.

Research has also been conducted to determine CEOs' perceptions of management competencies desired in recent graduates (Wallace, 1994). When asked to rank the management competencies they seek in hiring recent healthcare administration graduates, CEOs ranked decision-making, leadership, and people management as the highest-priority skills, experience, and knowledge they sought. More specifically, the study found that directors of health management programs, faculties, and practitioners should re-examine the basic educational curriculum for health services administration students to ensure that

students have the skills required to meet the challenges of managing healthcare organizations and the expectations of practitioners.

This study will broaden the knowledge base by collecting information from entry-level and mid-level healthcare managers on their perceptions of the management competencies needed for successful healthcare administration By adding their perceptions to the literature on CEO perceptions of competencies, we will broaden our understanding of the needs of healthcare administrators.

This study contributes to the field of healthcare management by specifically addressing several aspects of recent graduates' competence: the management competencies they perceive to be critical to their success, their perceptions on the importance of ACEHSA criteria, and adequacy of academic preparation for the competencies and criteria. This study will also assist formal and continuing education programs in determining the content of their courses. Finally, this analysis will provide a literature review and suggest a valid and replicable methodology that may be applied toward the study of other healthcare managers, e.g., integrated systems managers and clinician managers.

Definition of Terms

Many of the terms used in this document are based in the general study of management and administration. However, some of these terms take on expanded meaning when employed in the study of healthcare administration education. Where appropriate, these terms are defined within this context. The author has consulted the

leading texts in this field, including *Managing Health Services Organizations* (Rakich et al., 1994), *Essentials of Health Service* (Williams, 1995), and *The Well-Managed Healthcare Organization* (Griffith, 1999) for the definitions used in this study.

Abilities - Physical, mental, or legal power.

ACHE member - Entry-level, noncredentialed status in the American College of Healthcare Executives.

Ambulatory units - Clinical facilities designed for outpatient treatment.

American College of Healthcare Executives - An international professional society of nearly 30,000 healthcare executives known for its prestigious credentialing and educational programs.

Chief executive officer - Generally used synonymously with hospital vice president or president; informally, a manager who participates in the strategic functions of the organization or who supervises several levels of managers.

General care - A facility or practice (practitioner) devoted to generic, nonspecialized healthcare needs.

Graduate programs in healthcare administration - Master's degree level of education in hospital administration, health services administration, or public health administration that prepares individuals for administrative responsibilities in healthcare organizations.

Healthcare manager - A persons appointed to a position of authority who enables others to do their work effectively, who has responsibility for resource utlization, and who is accountable for work results.

Hospital administrator - The person who has been assigned the responsibility for the daily operation of the hospital. The hospital administrator is accountable to the board of directors/trustees.

Hospital board/trustee member - A member of the hospital governing board. The board's involvement in hospital management extends from mission statement and policy formation to control of operating and planning decisions. The board recruits, evaluates, and terminates the appointment of the CEO/hospital administrator. The board members are usually lay people who may not have healthcare administration experience or training.

Knowledge - Facts and principles.

Long-term care unit - Facility dedicated for extended healthcare requirements. Care includes a variety of services, both health and social-related. Services may be provided in the home or institutionally, as in a nursing home.

Managed care - Collective label for a broad range of changes in the financing mechanisms for healthcare that transfer the costs back to providers, such as doctors and hospitals, and to users, patients and their families.

Management competencies - Managerial capabilities, which current and aspiring healthcare executives, in various settings and with differing educational backgrounds, should possess to enhance the probability of their success in current and future positions of responsibility.

Recent graduate - A healthcare manager who has completed baccalaureate or master's-level training within three years of participating in the study.

Skills - Technical expertise.

Specialized care - A facility or practice (practitioner) devoted to specialized healthcare needs, as in radiological services.

Summary

The complexity of healthcare management requires managers to possess a variety of competencies in order to meet the challenges of working in a very fluid and dynamic industry. Chapter 1 of this proposal explained the practice of working in the healthcare management field, identified the conceptual framework from which this study will be viewed, and related the purpose and significance of the study.

Chapter 2 reviews the literature and research pertinent to the study of management competencies in healthcare administrators. Included in this examination are a review of the education of healthcare managers, the relevance of healthcare administration curricula to industry needs, management competency studies conducted using the Delphi technique, and management competency studies conducted using the cross-sectional survey method.

Chapter 3 describes the methods that will be used to conduct the study, including the research population, the research instrument, and the procedures for data collection and analysis.

Chapter 4 displays the results of the statistical analysis, presenting separate analyses for each research question.

Chapter 5 discusses the findings and draws implications for theory, practice, and future research.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter presents a review of the literature related to management competencies needed by healthcare managers. It is organized into four sections: (1) the education of healthcare managers, (2) the relevance of healthcare administration curricula to industry needs, (3) management competency studies using the Delphi technique, and (4) management competency studies using the cross-sectional survey.

The Education of Healthcare Managers

Hospital administration was identified as a distinct educational discipline when the University of Chicago established the first master's degree program in 1934 (Rakich et al., 1994). The year prior, 1933, marked the founding of the American College of Hospital Administrators, now the American College of Healthcare Executives. These were milestones in the development of healthcare administration as a professional identity. In 2001, 62 U.S. graduate programs were accredited by ACEHSA with more than 25,000 graduates.

Consistent with changes in the healthcare environment, educational programs typically provide a general education in health services, rather than hospital, management. Some offer specialty preparation in hospital, nursing facility, or ambulatory services management. Educational content varies and is best described as eclectic, with significant emphasis on business management skills (Rakich et al., 1994).

The didactic portion for accredited programs is two academic years—four semesters. Most programs include field experiences of varying lengths. Many require a one-year residency that allows application of the academic preparation under the guidance of an on-site preceptor.

The most common educational preparation for healthcare managers is the master's degree program. The basic curriculum in accredited health services management graduate programs covers 10 areas (ACEHSA, 2001):

- The structuring and positioning of health organizations to achieve optimum performance
- Financial management of health organizations under alternative financing mechanisms
- Leadership, interpersonal, and communications skills in managing human resources and health professionals in diverse organizational environments
- The management of information resources and the collection, analysis, and use of business and health information in decision making
- The use of statistical, quantitative, and economic analysis in decision making
- The use of legal and ethical analysis in business and clinical decision making

- Organizational and governmental health policy formulation, implementation, and analysis
- The assessment and understanding of the health status of populations, determinants of health and illness, and the management of health risks and behaviors in diverse populations
- The development, organization, financing, and measurement of performance of health systems in diverse communities, drawing broadly on the social and behavioral sciences
- The measurement of business and health outcomes; the analysis of process/outcome relationships and methods for process improvement in health organizations

The number of undergraduate programs preparing health services management personnel grew rapidly in the late 1960s and early 1970s. In 2001, 32 undergraduate programs were affiliated with AUPHA (AUPHA, 2001). However, there are probably more than 100 such programs in the United States. As mentioned, the focus of the two levels of education is different. Master's degree programs prepare graduates to become senior-level line or staff managers; baccalaureate programs train middle-level supervisors or department managers (Rakich et al., 1994).

Careers in healthcare management are generally an end in themselves; people come into healthcare management at various ages from various roles much more often than they leave the field for some other activity (Griffith, 1999). Entry from senior clinical levels is much more common, for example, than return to clinical practice. As Griffith notes,

lawyers and accountants who come to specialize in healthcare applications tend to stay with the specialty, either improving their specialty skills or moving into general healthcare management as they are promoted.

Professionals enter healthcare management one of three ways. Many young people enter by way of a master's degree program in the field, gaining experience before and after their degree in junior management positions. Others enter from established careers in caregiving professions, chiefly medicine and nursing. The third, and probably smallest, group enters from general business, law, accounting, or other specialties. All develop their skills by continuing education and experience.

As Griffith (1999) observes, the kind of graduate education influences the knowledge and skills acquired. Clinical and legal education emphasize skills other than management, and the knowledge these educational specialties impart is only partly relevant to healthcare. Finance, marketing, organizational design, and human relations are topics dealt with only in management-oriented graduate programs; however, a factual and analytic review of the healthcare system is generally available only in healthcare administration programs.

The Relevance of Healthcare Administration Curricula to Industry Needs

The relevance of healthcare administration curricula to the needs of the field and the role of planning in maintaining curricula were the problems explored by Brown and Brown (1995). Brown and Brown found that traditional curriculum content and structure in health administration education programs focused on the management of individual

institutions, the business function, and the hospital as the center of the health system. These assumptions are challenged by the changing healthcare industry, particularly managed care, with its focus on the integration of business and clinical functions, prevention and primary care, and the provision of services through integrated service networks.

Health services management programs have faced many curriculum challenges as they have responded to change in the healthcare system. Content in health economics and organization behavior was strengthened in the 1960s, financial management in the 1970s, ethics in the 1980s, and total quality management in the 1990s (Brown & Brown, 1995). Curriculum changes were frequently preceded by task force reports by AUPHA, written by leading faculty and practitioners. The dynamic tension between the field of practice and university programs produced educational programs that were responsive to the field and based on sound theory and concept.

Curriculum challenges currently facing programs are compounded because health systems are changing at an increasingly rapid rate and are experiencing discontinuous change. Health service managers will be challenged to not only run organizations better, but continually conceptualize and implement new organizational forms. Traditional management roles are being eliminated and new ones are emerging, frequently in new organizational designs. These roles require changes in management competencies, knowledge, and skills.

In a study of CEOs from a variety of hospitals in Canada and the United States, Wenzel et al. (1995) reported that the most important management competencies needed

for success could be grouped into nine categories: leadership, communication, lifelong learning, conceptual skills, results management, resource management, compliance to standards, political and health environment awareness, and consumer/community responsiveness and public relations. Wenzel et al. contend that hospitals are evolving in a direction that requires more of an emphasis on leadership competencies than on the functional requirements of management practice, such as resource and results management. The researchers continue, "The role demands of hospital management are highly varied and becoming more so. These demands are more diverse than those in other management fields, and it is becoming progressively more difficult to find one individual with the talents and tastes for all of the required managerial dimensions" (p. 629).

More recent literature has focused on management competencies from the perspective of healthcare administration program directors. Andersen et al. (2000) report in a 1998 National Study of Program Directors of Healthcare Administration Programs that the most frequently mentioned category of major skills and abilities that graduates need to be effective managers was "personal and interpersonal communication," including effective teamwork, interorganizational relations, negotiation and conflict resolution, personal management, and lifelong learning. In second place was a homogeneous category, "oral and written communication." Tied for third place were "leadership" and "information systems and information management," including such responses as ability to collect, assess, and interpret information; use of technology to understand the marketplace; and "financial analysis skills," including corporate finance, managed care capitation, management of risks, and financial and business planning skills. Andersen et al.

postulate that these skills, knowledge, and ability (SKA) categories must be achieved for graduates to be effective managers in the next decade.

Management Competency Studies Using the Delphi Technique

The Delphi Technique

The Delphi technique is a method for systematic solicitation and collection of judgments on a particular topic through a set of carefully designed sequential questionnaires interspersed with summarized information and feedback on the opinions derived from earlier responses (Helmer, 1967; Duffield, 1993). The Delphi technique has been demonstrated as appropriate in a variety of healthcare settings to establish priorities and predict future trends. Current professional literature includes many examples in which the Delphi technique has been used in forecasting health services-related issues in general, and management competencies in particular.

Delphi Studies on Management Competencies

In a joint study conducted by Arthur Andersen and ACHE (1984), the Delphi technique was employed to obtain a consensus of healthcare experts concerning the future direction of the healthcare system. By surveying 1,000 experts throughout the healthcare industry, researchers believed that, for the first time, a comprehensive assessment of the trends and strategies reshaping healthcare in America was available. That study also reported a shift required in hospital CEOs' skills, which forecasted that in 1995, the top ranked skills of a CEO would be (1) strategic planning, (2) medical staff relations, (3)

financial planning, (4) interpersonal skills, and (5) governing board relations (Arthur Andersen & ACHE, 1984).

Perhaps one of the most important studies using the Delphi technique to forecast management competencies was conducted by Hudak et al. (1993). This seminal study focused on identifying the most important management competencies (termed "domains") in healthcare administration within the next five years. In addition to identifying the major domains, it also identified the supporting SKAs required for each competency. The respondents consisted of a nationwide sample (n = 50) of professional healthcare administrators which was defined by their status as fellows of ACHE.

During the first iteration of the Delphi, 22 (44% return rate) responded—a response rate considered acceptable (Richie, Tagliareni, & Schmitt, 1979). A total of 102 issues were identified, together with 91 corresponding SKAs. All geographical areas of the United States were represented. Analysis of key phrases for issues reduced the number of unique issues to 34, with varying numbers of frequencies for each issue.

To ensure content validity, three ACHE fellow expert panel members were asked to sort the collected issues into a set of meaningful domain categories and to determine an appropriate title for each domain. Panel members were an average of 55 years old, had a total of 86 combined years of healthcare executive experience, and had 29 combined years as ACHE fellows. Collectively, the group held four master's degrees and two doctorates.

After the expert panelists examined the issue key phrases and determined titles for the domains, the experts were asked to rate their judgments in terms of confidence and accuracy. Experts were asked to respond to the following question on a seven-point rating

scale that ranged from 1 = extremely unsure to 7 = extremely confident, "Overall, how do you view your independent issue placement decisions?" A second question asked, "Overall, how do you view the group's revised issue placement decisions?" Confidence ratings increased from an average value of 6.00 for the initial decisions to an average of 6.33 for the group consensus decisions. Likewise, seven-point averages for accuracy increased from an independent average rating of 6.00 to a revised group average rating of 6.33. These results indicated that the expert panel felt confident that the final placement of issues within domain categories was appropriate and reflected a high degree of accuracy. Although some of the issues could be placed in more than one domain, panel members were asked to choose the most representative domain for a particular issue. The nine domains identified, in descending order of importance, were cost/finance, leadership, professional skill interactions, healthcare delivery concepts, accessibility to care, ethics, quality and risk management, technology, and marketing.

In addition to identifying the set of SKAs required for each domain, the study also identified the most important SKAs regardless of domain. The top five SKAs, in descending order, were patience; listening skills and communications; leadership, management, and human relations; strategic thinking and sense of vision; understanding of physician motives, needs, and politics; and conflict management, team-building, and motivational leadership.

In contrast, the five lowest-rated SKAs (in descending order) were nursing knowledge for high-acuity patient care; knowledge of generic drugs, physician education,

and bulk purchasing; understanding of tax-based funding; knowledge of the epidemiology of AIDS; and critical evaluation of current studies of purchasing.

In 1994, Hudak et al. undertook a second study that shifted from the private sector to the public sector. This study focused on CEOs and chief operating officers of 37 hospitals within a U.S. federal healthcare system. Participants were asked to identify the most important issues to the healthcare administration field for the remainder of the 20th century. Participants were also asked to determine the SKAs required by hospital executives to deal successfully with those challenges. An expert healthcare administration panel subsequently divided the issues into nine management domains. The domains, ranked by importance in descending order, were cost/finance, healthcare delivery, access to care, quality and risk management, technology, professional staff relations, leadership, marketing, and ethics. In the second Delphi iteration, these hospital executives determined the necessary SKAs of future leaders. The top five SKAs (in descending order) were patience, listening skills/communications; leadership, management, and human relations; understanding of managed care contracts; conflict management, team building, and motivational leadership; and strategic vision and a sense of vision.

In contrast, the five least important SKAs (in descending order) were knowledge of law and capital development skills, participation in local and state politics, ability to effectively lobby elected officials, understanding of tax-based funding, and, last, understanding of how to assess tax-exempt and taxable markets.

In the next study, Hudak et al. (1997) focused on the ambulatory care settings within the private sector. Specifically, the sample consisted of 320 diverse professionals

and experienced ambulatory healthcare administrators as indicated by their status as fellows of ACMPE. Participants were asked to identify the essential ambulatory healthcare management competencies, and their related SKA requirements, required for successful management performance in ambulatory healthcare delivery settings until 2002. The study consisted of two iterations separated by an expert panel for content analysis. During the first iteration of the Delphi, 138 of 320 executives responded for a response rate of 43%. A total of 686 competency statements were identified, although many competencies were listed more than once.

An expert panel grouped these competencies into six "management domains." These six domains (in descending order) were leadership and strategic management, relationships management, resource management, functional management, stakeholder management, and patient care management.

The same population of respondents (n = 320) was asked to review the group feedback and to make seven-point relative importance scale ratings of the SKAs within each of the healthcare administration domains. The response rate for this iteration was 39%. Demographics were gathered during the second round of the Delphi. Seventy-eight percent of the respondents were male, with an average age of 50 years. Over 68% had a master's degree, evenly split between healthcare-related and nonhealthcare-related fields. Six percent held doctorate degrees. On average, the executives had over 23 years' experience in a healthcare setting, with over 20 of those years of experience as a healthcare administrator.

The subsequent iteration of the Delphi identified the most important SKAs required for successful performance within these domains. These SKAs (in descending order) were ability to listen, hear, and respond; ability to build trust, respect, and integrity; ability and adaptability to change; skill to speak effectively, write with a purpose, and listen attentively; and ability to work with many types of individuals.

The five least important SKAs (in descending order) were sales and marketing skills; knowledge of physician availability and displacement of subspecialties; provision of educational opportunities for patients on how insurance works; use of the Internet and management software; and use of the Internet for communication and ordering supplies, services, and materials (note: lowest rated).

CEOs and chief operating officers within a federal healthcare system were queried by Sentell and Finstuen (1998) to identify the most important job issues and requirements of future healthcare administrators. Consensus was sought regarding the SKAs needed for successful healthcare executive performance in the future naval medical environment.

Subjects in the Sentell and Finstuen (1998) study consisted of senior naval hospital administrators, specifically commanding officers, executive officers, and directors of administration who were in the Navy Medical Service Corps (administrators), Navy Medical Corps (physicians), and Navy Nurse Corps. Participants were exclusively military members of the U.S. Navy serving worldwide in the above-mentioned positions. Demographic and background data gathered showed this group to be 94% male, with an average age of 50.21 years. The average experience in the healthcare setting was 22.38 years, with 16.98 years of executive experience.

The study consisted of two iterations separated by an expert panel for content analysis. During the first iteration of the Delphi, 54 of 87 executives responded for a return rate of 62%. A total of 106 issues were identified, together with 302 corresponding SKAs.

The expert panel then sorted the collected issues into a set of meaningful domain categories resulting in nine domain clusters. Frequencies of the key phrases were summed to arrive at a total domain frequency. Domains were then rank ordered by total frequencies.

The issues obtained from the expert panel were used to operationally define the healthcare administration domains for the executive respondents during the second Delphi round. The same population of respondents was asked to review the group feedback and to make seven-point relative importance scale ratings of the SKAs within each of the healthcare administration domains. Sixty-three or 72.4% responded with completed ratings. Reliability indices ranged from a low of .84 for quality/risk management to a high of .96 for healthcare delivery. These findings indicate that the obtained ratings of SKAs were internally consistent within the executive group and that average values computed for SKAs within each specific healthcare administration domain category were stable.

Results of the Sentell and Finstuen (1998) study indicate that naval hospital administrators identified nine major domains of competencies required for future successful performance (in descending order of priority): leadership, healthcare delivery, cost-finance, technology, accessibility, professional staff relations, quality assurance/risk management, marketing, and ethics. This study also identified the SKAs required to

successfully manage the "domain clusters." The top five SKAs, in descending order of priority, were people skills, team-building, personal responsibility, innovation, and communication skills. The five least important SKAs (in descending order) were home healthcare delivery, procurement regulations, interpretation of laws and regulations, general accounting, and grant writing (note: lowest rated). The rankings of domains by participants in this study were similar to those reported by Hudak et al. (1993).

The private sector was the next focus of a study conducted by Brooke et al (1998). On a national basis, this study queried physician executives in medical groups and other ambulatory settings to determine the most important competencies required through 2003. These physicians, who were members of ACMPE, were unique respondents, due to their roles in both clinical and administrative operations. Thirteen management domains were developed by an expert panel. These domains, in descending priority, were management of healthcare resources to create quality and value; the fundamentals of business and finance; leadership and management competencies; development of vision and strategic planning for healthcare delivery systems; communication/interpersonal skills; human resources and performance management; negotiating and contracting; change management; governance and policy development; defining, servicing, and growing your market; applying electronic communications to medical practice; ethics: medical, business, and legal; and maintaining your competency for the future.

During the second round of decision making, ACMPE physicians were asked to review the feedback and to assign relative importance ratings for the SKAs within each management domain on a 7-point relative bipolar adjective rating scale. The respondents'

demographics were gathered as well. Ninety-three percent of the respondents were male, with an average age of 50 years. More than 29% had a master's degree, evenly split between healthcare-related and nonhealthcare-related fields. About 5% held a doctorate degree. On the average, the executives had more than 23 years of experience in a healthcare setting and nearly 22 years of experience as providers. Further, respondents reported an average of almost 10 years of management experience and, in their various settings and organizations, reported supervising from a few to several hundred employees.

In addition to 13 domains developed by the expert panel, physician executives identified the supporting SKAs for the competencies. The highest rated SKAs, in descending order, were ability to build and maintain trust; ability to be honest when facing hard decisions; ability to articulate a course for the organization; ability to persuade others to work as a team to achieve the group's goal; and ability to look for win-win solutions. The five least important SKAs (in descending order) were knowledge of claims payment under capitation; knowledge of ancillary service agreements; knowledge of statistical quality control at the patient-specific level; knowledge and application of practice valuation techniques; and ability to evaluate billing records software.

Management Competency Studies Using the Cross-Sectional Survey

The Cross-Sectional Survey Method

In addition to the Delphi Technique, several studies have sought to determine the management competencies necessary for successful healthcare management through the use of cross-sectional surveys. A cross-sectional survey collects information, at one point

in time, from a sample drawn from a predetermined population. There are four basic ways to collect data in a survey: "live" to a group, mail, telephone, and face-to-face interviews. Mail surveys have primarily been used to collect information on the perceptions of management competencies. Fraenkel and Wallen (1996) cite several advantages to this approach:

- It is relatively inexpensive and can be accomplished by the researcher alone (or with a few assistants).
- It allows the researcher to have access to samples that might be hard to reach in person or by telephone.
- It permits the respondents to take sufficient time to give thoughtful answers to the questions asked.

Similarly, Fraenkel and Wallen note that cross-sectional surveys have several disadvantages, namely:

- There is less opportunity to encourage the cooperation of the respondents or to provide assistance.
- Mail surveys tend to produce low response rates.
- Mail surveys do not lend themselves well to obtaining information from certain types of samples (such as individuals who are illiterate).

In addition to the above-mentioned considerations for mail surveys, two items are crucial to the method's success: the nature of the questions and the appearance of the instrument. The nature of the questions and the way they are asked are extremely important in survey research; poorly worded questions can doom a survey to failure

(Fraenkel & Wallen, 1996). The appearance of the instrument is also very important to the overall success of the study. It should be attractive and not too long (Dillman, 2000). Finally, surveys are not suitable for all research topics, especially those that require observation of subjects or the manipulation of variables.

Cross-Sectional Surveys on Management Competencies

Onunwah (1987) investigated the competency needs of healthcare administrators in California as perceived by (a) hospital administrators, (b) hospital board members, and (c) faculty of graduate healthcare programs. The study sought to provide answers to three questions: (1) What will be the rank order of importance of 50 preselected competencies when rated on a five-point scale? (2) Will there be significant differences among the groups in their perceptions of the competencies? and (3) Will there be significant rating differences as a function of respondents' highest educational degrees, experience in healthcare administration, experience as hospital board members, and age?

The sample for this study was drawn from all California acute care hospitals with 300 or more beds and from all the graduate programs in healthcare administration in California affiliated with the Association of University Programs in Health Services Administration. The questionnaire, with 50 competency items, was developed and field-tested by the researcher in conjunction with an expert panel. Participants were asked to rate their perceptions of the competencies on a five-point scale. One hundred and thirty-one usable questionnaires (65.5%) were received and analyzed by comparing mean ratings of competency items to determine a rank order listing. Differences among the groups, in

their perceptions of the competencies, were determined using a one-way analysis of variance. Differences and degrees of agreement were analyzed using Scheffe multiple comparison and Spearman's correlation methods.

Results from Onunwah's (1987) study indicated the following statistically significant findings: (1) differences among the three groups in their perceptions of the competencies needed by healthcare administrators; (2) agreements between each pair of the three groups; and (3) differences as a result of educational degrees, years of healthcare administration experience, and years of experience as hospital board members. There were no statistically significant differences when age was used as a variable. The top five competencies that displayed agreements between each pair of the three groups were function and structure of healthcare organizations, medical staff relations, reimbursement systems in healthcare, human resource management, and business and financial management.

Onunwah (1987) clearly stated the purpose of the study, adequately defended the importance of obtaining the information, and supported his research with related literature. Methodologically, the author did not adequately defend his sample frame but did offer evidence of validity and reliability of the survey instrument.

As mentioned previously, Mustard's (1992) work is one of the few studies that sought to elicit the opinions of recent graduates on management competencies learned in their formal health education administration program. Mustard assessed healthcare administrators' opinions of learned management skills in their formal health administration

education program and then compared them to the programs' stated educational objectives for accreditation.

The population for Mustard's (1992) study was 1,882 affiliates or members (nonstudent, nonfaculty) from the 1990 Directory of the American College of Healthcare Executives selected on a simple random sample basis. The study response rate was 62% (n = 1,167). The questionnaire, with 94 competency items and background questions, was developed by the researcher and validated by an expert panel. Participants were asked to rate their perceptions of the competencies on a five-point, Likert-type scale. The researcher did not indicate the type of data analysis used but indicated that a 95% confidence level was established.

The top five competencies reported by Mustard (1992) were new equipment decisions, disciplining physicians, dietary decisions, market research, and labor negotiations. An interesting finding of the study was that 94% (n = 1,097) of the respondents agreed or strongly agreed with the normative statement "More emphasis should be placed on teaching management competencies in formal health administration programs."

Despite Mustard's (1992) effort to survey recent graduates, the study is flawed. Though he clearly stated the purpose of the study, he did not adequately defend the importance of such information, nor did he back it up with prior research to substantiate his study. Methodologically, the author had an adequate sample frame and seems to have validated the survey instrument by establishing content validity through the expert panel; however, the data analysis section was completely lacking, and it is difficult to determine

what statistical analysis techniques were used. Moreover, it is difficult to determine whether descriptive and inferential statistics were used appropriately and whether they were interpreted correctly. Therefore, caution should be used in generalizing the findings of this study to the general population.

Wallace (1994), by contrast, sought to assess the academic preparation, competencies, skills, and experiential learning desired in hiring healthcare graduates as perceived by healthcare executives. To determine the perceptions of executives about hiring these graduates, a questionnaire was developed and distributed to 580 executives working in acute-care hospitals located in Virginia, Maryland, Delaware, North Carolina, West Virginia, Kentucky, and the District of Columbia. These hospitals were listed in the 1991 edition of the AHA's *Guide to the Healthcare Field* (1989) and included teaching and community hospitals in urban, rural, and suburban areas. The survey instrument consisted of 16 items; five were structured background questions and 11 (on a Likert-type scale) sought information regarding the academic background of health services administration graduates and the skills they needed in order to be considered for employment. Prior to the distribution of the questionnaire, a panel of five senior hospital executives was used to review the survey document for comprehensiveness and clarity. These executives were selected because they represented acute-care hospitals located in AHA's Region Three and were similar to other hospital executives in the region. The data were analyzed using descriptive statistics: Spearman Related Correlation Coefficients and a Wilcox-Signed Ranked Test.

Wallace (1994) reported that 51% (300) of the 580 surveys were returned. The data showed a significant correlation (.001) between the responses of the executives regarding a preference for individuals with a master's degree with a health specialty and a preference for individuals with some experiential learning activities. The findings showed that executives ranked decision-making, leadership, controlling costs, and people-management as the highest-priority skills, experience, and knowledge they sought when hiring recent healthcare administration graduates.

Wallace (1994) clearly stated the purpose of the study and adequately defended the importance of obtaining the information. Wallace also offered assumptions as to how results might affect practice and supported his study with relevant research. Methodologically, the author had an adequate sample frame and seems to have validated the survey instrument by establishing content validity through an expert panel. While the author provided a conclusion, no recommendations for future studies were offered.

Synthesis of Findings

The literature seems to support the conclusion that certain management competencies are critical to the successful job performance of healthcare managers. The competency cited most frequently, cost/finance (also called resource management by Wenzel et al. [1995] and Hudak et al. [1997]; controlling costs by Wallace [1994]; financial management by Onunwah [1987]; and fundamentals of business/finance by Brooke et al. [1998]), appears in 9 of the 10 studies. Moreover, it appears in the earliest study (Arthur Andersen & ACHE, 1984) as well as the most recent study, Andersen, et al.

(2000). The competency of cost/finance also spans the spectrum of settings, i.e., it is listed as a competency by participants in inpatient settings, ambulatory settings, and public and private sector settings. Further, cost/finance was listed as a competency across a wide range of career orientations: healthcare executives, physicians, and healthcare administration program directors.

This finding suggests that the competency of cost/finance is essential to successfully managing a variety of healthcare institutions regardless of the institution's setting or what career orientation the healthcare manager has. Not surprisingly, the competency of cost/finance is one of the 10 criteria established by the ACEHSA for graduate program accreditation (ACEHSA, 2001). In one way or another, most modern societal concerns for healthcare relate directly to cost or, in some instances, to issues of access to healthcare, which in turn translates directly to concern for cost. Massive change in healthcare has become a way of life, and dollars are the driver of this change. This sentiment seems to be echoed in the priority placement that cost/finance received in these studies.

The second most observed competency found in the literature was leadership. Leadership was rated among the top three competencies in 6 of the 10 studies. Leadership was also listed as a competency in a seventh study, Hudak et al. (1994), which rated it a distant seventh. As with cost/finance, leadership appears to be a significant competency for a variety of career orientations in a variety of settings. As Horak (1997) notes, leaders must set the tone, model behaviors, and provide incentives to create a productive working environment. Leadership is also a criterion for accreditation required by ACEHSA.

Communication skills appear to be a common theme across most of the studies, with several of the studies rating it in the top five. This theme indicates that successful executives must be able to express themselves to other individuals and teams, be it orally or in writing. Interestingly, it is ranked as the most important competency by program directors and is also a competency required in ACEHSA's criteria for accreditation.

Information systems/technology, called electronic communications by Brooke et al. (1998), was also deemed important by study participants. This competency appeared in 5 of the 10 studies and also spanned a variety of settings and career orientations; however, it was not listed as a competency by medical practice executives (Hudak et al., 1997) and actually ranked near the lowest related SKA in this study. Wallace's study (1994) also did not list it as a competency healthcare executives sought when hiring recent graduates. Perhaps the date of Wallace's study influenced the preferences of the healthcare executives at the time. As with the aforementioned competencies, information systems is also a criterion for accreditation by ACEHSA (termed "managing information resources and collecting, analyzing, and using business and health information in decision making").

The competency of interpersonal relations also was frequently cited as a valuable competency (also called professional skill interaction, professional staff relations, medical staff relations, and relationships management). This competency also spanned time as well as career orientation and setting. The competency of interpersonal skills (called human skills by Katz) is recognized as a crucial component to effective management. As noted by Rakich et al. (1994), all managers use human skills because they accomplish work through

people. The competency of interpersonal skills is also listed as one of the 10 criteria for program accreditation by ACEHSA (it is grouped in the competency with leadership).

Of particular note, no trend of changing competencies emerged in these studies. In fact, even though the studies have different priorities of competencies, overall, the competencies appear to have stayed substantially the same over this 17-year period.

Several inferences may be made from analyzing these studies. Participants consistently suggest that current and aspiring healthcare executives, in various settings and with varying educational backgrounds, should possess a wide variety of skills in order to be a successful healthcare manager. Though the importance of the competencies varied among participants, there seems to be a clear consistency of what the top five competencies should be: cost/finance, leadership, communication, information systems/technology, and interpersonal skills.

These studies also suggest that one's career orientation, perspective, and setting affect the competencies deemed necessary for successful healthcare management. This finding reflects the diverse environment in which healthcare management is practiced. Therefore, "one size does not fit all," and that is the premise of this research study. What size fits recent graduates? We know the competencies for senior healthcare executives; however, the perspective of recent graduates is missing. This study hopes to fill that void. It presents the viewpoint of recent graduates on the management competencies necessary for their career success, on the adequacy of their academic programs, and on the importance of ACEHSA criteria in today's healthcare industry.

Summary

The review of the literature has shown a continuing effort to recognize the changes in the healthcare delivery system and to define the competencies that describe the changing roles and responsibilities of the healthcare manager. The literature has shown considerable effort to define the competencies needed by senior healthcare executives, as well as other professionals, such as physicians, who are working in an administrator capacity. While these studies have shown agreement on the management competencies necessary for success, namely cost/finance and leadership, a void remains in the literature on the identification of recent graduates' perceptions on the management competencies crucial to their advancement. This study seeks to expand knowledge about these matters.

CHAPTER 3

METHODOLOGY

This chapter includes a description of the research design, population and sample frame, dependent and independent variables, instrumentation, data collection, and data analysis

Study Design

The design was a self-administered, cross-sectional mail survey following procedures outlined in *Mail and Internet Surveys* by Don Dillman (2000). Fraenkel and Wallen (1996) state that the survey tool provides the best method to collect information from a group of people in order to find out how the members of a population distribute themselves on one or more variables (for example, age, ethnicity, or attitudes toward school). The method of a mail survey was chosen due to the specific advantages it offers: it is relatively inexpensive and can be accomplished by the researcher alone (or with only a few assistants). Fraenkel and Wallen add that it also allows the researcher to have access to samples that might be hard to reach in person or by telephone, and it permits the respondents to take sufficient time to give thoughtful answers to the questions asked.

The disadvantages of mail surveys are that there is less opportunity to encourage the cooperation of the respondents (through building rapport at the beginning of interviews, for example) or to provide assistance (through answering their questions, clarifying instructions, and so on) (Fraenkel & Wallen, 1996). As a result, mail surveys tend to produce low response rates. There are, however, a range of strategies that can be used to achieve high responses rates (Dillman, 2000), and several have been employed in this study.

Research Questions

1. Which healthcare management competencies do recent graduates rate as most important, and how adequately do they feel prepared for the competencies by their academic program?

   Subsidiary questions:

   a. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' age, experience, gender, and ethnicity?

   b. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' highest educational degree (e.g., baccalaureate versus master's)?

   c. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' type of educational degree (MHA, MHSA, MBA, MPH, and others)?

d. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' type of managerial position (i.e., clinical manager, nonclinical manager)?

e. Are there differences in the relative perceived importance of the competencies and preparation as a function of respondents' type of managerial experience (i.e., clinical manager, nonclinical manager)?

2. Which ACEHSA criteria do recent graduates rate as most important in today's healthcare industry, and how adequately do they feel prepared for each criterion by their academic program?

   a. Are there differences in respondents' perception of the criteria and preparation as a function of their age, experience, gender, and ethnicity?

   b. Are there differences in respondents' perception of the criteria and preparation as a function of their highest educational degree (e.g., baccalaureate versus master's)?

   c. Are there differences in respondents' perception of the criteria and preparation as a function of their type of educational degree (MHA, MHSA, MBA, MPH, and others)?

   d. Are there differences in respondents' perception of the criteria and preparation as a function of their type of managerial position (i.e., clinical manager, nonclinical manager)?

   e. Are there differences in respondents' perception of the criteria and preparation as a function of their type of managerial experience (i.e., clinical manager, nonclinical manager)?

Population and Sample Selection

The population of interest is all healthcare managers who have earned a baccalaureate or master's degree within three years of this study, the exact number is unknown. According to AUPHA (2001) U.S. accredited graduate programs produced more than 25,000 graduates in 2001. However, this number does not take into account graduates of non-accredited programs nor account for recent graduates who earned other types of degrees, such as a master's degree in business administration, who are working in the healthcare administration field. Therefore, the population of healthcare managers who have graduated within three years of completing their master's degree is unknown.

The sampling frame used was the 2001 membership of ACHE. ACHE is an international professional society of nearly 30,000 healthcare executives and is known for its prestigious credentialing and educational programs. ACHE members are identified by status within the organization. Status is determined by a member's educational background, experience, and the credential, if any, earned. Membership in ACHE begins at the "member" level. "Member" status is an entry-level, noncredentialed status. In order to become a member, one must possess a minimum of a bachelor's degree and be currently employed in a healthcare management position. For new graduates, the criteria are slightly different with the requirements being experience and a position requirement (ACHE, 2001).

Most ACHE members were not eligible for the study because they earned their most recent degree more than three years ago or because they were faculty members or

current students, which were not part of the intended population. Members who earned a baccalaureate or master's degree within three years of this study, who were not faculty members and not current students, were eligible for this study.

In order to obtain a sample that represented the population of interest, simple random sampling was employed. This was done through ACHE by a computerized search of their membership directory which randomly selected members who met the criteria stated above. The sample drawn from ACHE represented a microcosm of the organization and was, therefore, reflective of the population desired.

Sample Size

Hudak (1988) noted: "If the sample size is too large, it implies a waste of the researcher's resources. However, if the sample size is too small, the results may be suspect" (p. 65). Therefore, the appropriate sample size is crucial.

To determine the appropriate sample size, Dillman (2000) offers a table that accounts for four factors: (1) how much sampling error can be tolerated, (2) the population size from which the sample is to be drawn, (3) how varied the population is with respect to the characteristic of interest; and (4) the amount of confidence one wishes to have in the estimates made from the sample for the entire population.

Using the most conservative estimates and following the guidelines above, the sample size required was 400. This took into account the population of 2739 active members as of July 12, 2001, who met the above-mentioned criteria; a desired confidence

level of 95%; and the variance of the population (according to Dillman [2000], a more homogeneous split of 80/20 is appropriate for this study).

Operationalization of Variables

As the literature review suggests, the definition of management competencies and the subsequent measurement of the concept are crucial to an accurate study.

Dependent Variables

The dependent variables for research question one are recent graduates' perceptions of the management competencies and how adequately their program prepared them for these competencies.

For question two, the dependent variables are recent graduates' perceptions of how important each of the ACEHSA criteria are in today's healthcare environment and how adequately their program prepared them for the criteria.

Independent Variables

The independent variables in this study are recent graduates' age, experience, ethnicity, highest level of educational degree, type of degree, type of managerial position, and type of managerial experience.

Instrumentation

Although several methods would be appropriate to assess recent graduates' perceptions on the stated research questions, such as focus groups, interviews, or conducting a Delphi study, the survey method was found to be the best alternative to collect data for this study. This is due to three reasons: (1) the survey method is relatively inexpensive, especially when compared with the cost of bringing ACHE members together from all over the world for focus groups or with the cost incurred by the researcher to similarly travel across the world to conduct multiple interviews; (2) a cross-sectional survey is more likely to sustain participants' interest and cooperation than the more lengthy Delphi technique; and (3) the survey method allows for consistency of response across respondents, something that is difficult to obtain with a Delphi study.

The survey is composed of two sections with close-ended and open-ended questions. Close-ended questions asked participants to rate, on a five-point Likert-type scale, the following items: (1) preselected management competencies, (2) the importance of each of ACEHSA's criteria in today's healthcare environment, and (3) how adequately their academic program prepared them for each of the competencies and each of ACEHSA's criteria. Open-ended questions asked participants to identify other competencies or areas not listed on the survey that they felt are important to successfully completing their job requirements. A third section of the survey instrument solicited demographic data. The survey's substance was derived from the following sources: (1) "The Educational Competency Needs of Healthcare Administrators," by Onunwah (1987);

(2) curriculum content areas required by ACEHSA (2001); (3) "Management Competencies for Medical Practice Executives: Skills, Knowledge and Abilities Required for the Future," by Hudak et al. (1997); and (4) "Healthcare Administration in the Year 2000: Practitioners' Views of Future Issues and Job Requirements," by Hudak et al. (1993). The survey instrument can be found in Appendix B.

As mentioned, the survey instrument consisted primarily of close-ended questions using a Likert-type scale. Fraenkel and Wallen (1996) describe the advantages of close-ended questions: (1) they enhance the consistency of response across respondents; (2) they are easier and faster to tabulate; and (3) they are more popular with respondents. Conversely, there are disadvantages: (1) they may limit breadth of responses; (2) they take more time to construct; and (3) they require more questions to cover the research topic. These disadvantages are minimal in this study because it draws heavily on similar studies with different populations (senior healthcare managers, rather than recent graduates). Lastly, the open-ended questions supplemented the close-ended questions by allowing for more freedom of response.

Reliability and Validity

The premise behind the establishment of validity is to determine whether or not the items have measured what they were intended to measure (Soeken, 1985). Validity for this study was established through construct-related validity. According to Fraenkel and Wallen (1996), a common method for construct-related validity is to have someone who can render an intelligent judgment about the adequacy of the instrument look at the

psychological construct and judge whether or not it is appropriate. For this study, the instrument was reviewed by three members of the dissertation committee. Two of the members are experienced healthcare executives who are also faculty of graduate healthcare administration programs and fellows of the ACHE. The third member is an experienced researcher and professor of education at the Graduate School of Education and Human Development within the university. The items were judged likely to provide valid measures of the intended constructs.

In addition, the instrument was field tested with five recent graduates of The George Washington University Health Services Administration Program to eliminate any ambiguities in the questionnaire and procedures. Moreover, this field test also served to offer content-related evidence of validity, which established that the content and format of the instrument were appropriate.

Section I (questions 1-41) of the survey instrument is derived from Hudak et al. (1997), who collected data via two Delphi rounds from 138 respondents who were members of ACMPE. These respondents supplied 668 healthcare administration competency statements. An expert panel sorted the competency statements into six management domains. These domains, in descending number of competencies grouped per domain, were leadership and strategic management, relationships management, resource management, functional management, stakeholder management, and patient care management. Questions 42 to 44 were taken from Hudak et al. (1993), which offers the additional domain of quality and risk management.

Section II of the survey instrument was taken from an existing self-report 50-item questionnaire used to assess the perceptions of management competencies of 131 hospital administrators, hospital board members, and faculty of graduate programs (Onunwah, 1987). That survey was demonstrated to be valid after field testing among nine experts who represented the three groups of respondents. Eight of the nine participants indicated that the list of competencies was complete and that the questions were clear and consistent. No changes were made on the questionnaire as a result of the field test. In addition, that survey was borderline reliable, with a Cronbach's coefficient alpha of 0.69. The low reliability measure was attributed to differences among respondents rather than among the test items themselves (Onunwah, 1987).

Data Collection

Data were collected by means of a written survey containing a list of the management competencies and accreditation criteria. The original mailing included a cover letter describing the purpose of the study (see Appendix A), a copy of the study survey instrument (see Appendix B), and a self-addressed, stamped envelope. Respondent confidentiality was maintained through the following process: as surveys were returned, random numbers were entered into a master list computer file. This master file was used solely for the purpose of tracking which respondents returned the survey and which needed subsequent mailings. Respondents' answers were not linked with individual random numbers. A separate file was maintained for data entry.

As shown in Appendix A, the cover letter included in the first mailing explained the following points:

- The purpose of the study
- The George Washington University Institutional Review Board policy concerning human subjects
- The fact that survey participants' names or other identifiers would not be linked with their completed surveys
- The fact that confidentiality of individual responses would be maintained and survey results reported only as aggregate data
- The fact that a summary of study results would be available to respondents upon request

To obtain a high response rate, two additional letters were mailed five and eight weeks after the original mailing. The second mailing consisted of a replacement survey, a stamped self-addressed return envelope, and a cover letter (see Appendix C). The third mailing consisted of a reminder postcard (see Appendix D) asking participants to complete and return the survey. Participants who may have misplaced their survey were asked to call or e-mail the researcher to receive a replacement survey. These mailings were sent only to respondents who had not returned completed surveys. Data collection took place from September 2001 to November 2001 and yielded a cumulative response rate of 46%. Using Dillman's (2000) procedures, it is not uncommon to obtain response rates of 65% to 70%. This level of response was hoped for in this study however, the literature on management competencies for healthcare executives shows response rates average around

40%. It is not known whether this is due to the fact that the healthcare administration population is less likely to respond, or whether other studies did not use Dillman's methodology to obtain high response rates. Table 1 outlines the response rate for this study from each mailing.

Table 1

Response Rates from Survey Mailings

Mailing date	Surveys received	Cumulative response rate (n = 400)
9/6/01	119	0.30
10/10/01	49	0.42
10/31/01	17	0.46
Total	185	46%

Threats to Internal and External Validity

As noted by Campbell and Stanley (1963), it is essential to be cognizant of the factors that may distort the findings of a study. With this awareness, the researcher should be able to take action to minimize the impact of these factors. As discussed below, this study had threats to both internal and external validity.

Several extraordinary external events occurred during the course of this study that may have influenced the results of the study: (1) the terrorist attacks of September 11, 2001; (2) the dispersion of anthrax through the U.S. Postal Service in early October 2001;

and (3) the launch of a U.S. war against terrorists in Afghanistan. Each of these events profoundly changed American society and may have changed the perceptions of participants or affected the response rate of the study.

The first event, the terrorist attacks of September 11, 2001, had numerous, far-reaching ramifications on American society in general and participants in this study in particular. For example, air travel was temporarily halted and mail was not transported by air for several days; financial markets, schools, universities, and businesses were temporarily closed; and Americans became transfixed on the news for any information about the terrorist attacks and the threat of further attacks. Participants in this study were largely healthcare administrators working in hospitals or other healthcare settings; as a result of these attacks, many hospitals went into emergency operations, which may have kept the participant from responding.

In addition to the upheaval in American society and increased job commitments, participants may have been too stunned to participate in the study. Fraenkel and Wallen (1996) observe that events may occur through the course of the study that can affect the responses of subjects. Fraenkel and Wallen cite a personal example of the day President John F. Kennedy died. The authors' subjects at the time, stunned into shock by the announcement of the president's death, were unable to participate in the study. This is likely to have occurred in this study as well.

Second, early October 2001 saw a new terrorist threat emerge, the spread of anthrax through the U.S. Postal Service. Again, participants in this study may have been affected by the rising national concern over increasing numbers of reported anthrax cases

from New York and New Jersey to Washington, D.C. and Florida. The Postmaster General of the U.S. Postal Service appeared on national television and advised people not to open mail from anyone they did not know. As the surveys in this study were sent through the mail, participants may have been apprehensive about opening them.

The third significant event was the war against terrorism as part of the United States' response to the attacks of September, 11, 2001. Several study participants serve in the U.S. military and are, therefore, affected by the war. Other participants may have been affected by the war and the continuing media coverage. Again, as noted by Fraenkel and Wallen (1996), subjects may have been too stunned to participate in the study.

Threat to Internal Validity. The events mentioned above may have affected respondents' answers in this study. The events that occurred in the fall of 2001 were of such severity that respondents may have changed their outlook on which management competencies they perceive to be important to their job success. In times of crisis, things take on new meaning, and this may well have occurred with respondents' perceptions in this study. The study's results, however, produced no unexpected findings that might possibly have been the result of one or more of the above-mentioned events.

Threat to External Validity. In addition to threats of internal validity, two external threats exist: the lack of population validity and nonresponse bias. The lack of population validity may have been a threat to this study due to the fact that participants in this study were members of ACHE and, therefore, may not be reflective of the entire population of recent graduates. Membership in ACHE requires an application fee and annual dues. Given this, recent graduates may lack the monetary resources to become a member of this

professional society. Moreover, not all graduate programs may promote membership in ACHE to their students. Therefore, a segment of otherwise qualified recent graduates may not be members of ACHE and, therefore, would not be part of the population sample for this study.

The threat of nonresponse bias may also have been present. Members of the sample who did not respond may have differed from respondents with regards to perceptions of importance of the management competencies, adequacy of preparation, and perceptions of the relevancy of ACEHSA's criteria. The crises that occurred during the study probably contributed to the nonresponse rate, but it is difficult to assess how it might have skewed the responses. Given this threat, coupled with the ones mentioned above, care should be used in generalizing the findings of this study to the population of recent graduates.

Data Analysis

SPSS 9.0, a statistical analysis software package, was used to tabulate and analyze survey results. After data were keyed into a SPSS data file, there was 100% verification. The raw data file was again checked for invalid values, inconsistencies, and missing data and was edited as needed.

Research question one was analyzed descriptively, with mean ratings and standard deviations for each competency and adequacy of preparation for each competency in Section I of the questionnaire, and overall means for each domain. Confidence intervals were computed for each competency and perceptions of adequacy of preparation for each

competency. ANOVA was used to compare the ratings across the different demographic characteristics of respondents. The Tamhane's T2 Post Hoc Multiple Comparison Test was used to determine differences among groups. The .05 level of confidence was used for determining statistical significance.

These results were compared with those in the literature from senior-level healthcare managers, specifically studies by Hudak et al. (1993), Hudak et al. (1997), and Sentell and Finstuen (1998). These studies were chosen because they represent the spectrum of organizations where healthcare managers are most likely to work: hospitals, ambulatory settings, and federal healthcare facilities.

Research question two was also analyzed descriptively, with mean ratings and standard deviations for each ACEHSA criterion and perceptions of adequacy of preparation for each criterion in Section II of the questionnaire. Confidence intervals were computed for each criterion and perceptions of adequacy of preparation for each criterion. ANOVA was used to compare the ratings across the different demographic characteristics of respondents. The Tamhane's T2 Post Hoc Multiple Comparison Test was used to determine differences among groups. The .05 level of confidence was used for determining statistical significance.

Protection of Human Subjects

This researcher fully complied with The George Washington University institutional policy regarding the protection of human subjects. Participants were informed

of their right not to participate in the study. Every effort was made to protect the anonymity of the subjects, and participation in the study was voluntary.

As mentioned, all survey forms were coded with a random number to protect the subject's identity. A receipt-control procedure was employed to track outgoing and incoming numbered surveys (i.e., a log was checked "distributed," "received," or "not received." All research data were stored in a locked file cabinet to ensure confidentiality.

Delimitations and Limitations

The findings of this study are based solely on recent graduates' perceptions of the critical management competencies necessary for success, adequacy of their preparation, and the ACEHSA accreditation criteria. No data is presented for supervisors' perceptions of the most important management competencies for recent graduates nor for supervisors' perceptions of adequacy of preparation of recent graduates.

The questionnaire focuses on recent graduates' perceptions of important competencies, adequacies of their preparation, and the ACEHSA accreditation criteria. Perceptions of this group of stakeholders are important, but the perceptions may depart some from reality.

The ACHE membership used as a sampling frame is thought to include a large portion of recent graduate healthcare managers, but certainly not all. It cannot be known how recent graduates who are nonmembers would respond to the questionnaire.

As indicated above, the population of recent graduates working in healthcare management positions is unknown, and the study was limited to those who were members of ACHE.

In an effort to secure a high response rate, respondents were asked to respond to concisely worded competencies such as "leadership." No list of definitions for each of the competencies was provided, therefore, respondents may have subjectively defined the concept differently from one another.

Background variables were dependent upon self-report measures. Study participants responded to a limited set of descriptive statements on a demographic data sheet. Therefore, the study relied on self-report as a direct form of assessment. For example, no objective evidence was obtained to verify that respondents who checked the graduate degree category of education actually had a graduate degree.

The job titles of participants are not known, therefore, the nature of their work is not known. It is safe to presume however, that recent graduates in this study work in a wide range of positions commonly held in healthcare settings.

There is some ambiguity about whether or not recent graduates responded to the competencies in regards to their current position, or were responded for their anticipated career in healthcare management.

Lastly, the events of September 11th, 2001 may have colored the perceptions of recent graduates in their view of the most important management competencies necessary for their success. As these events profoundly shook American society, it is possible that they may have changed the perceptions of participants in this study as well.

Summary

The purpose of this chapter has been to describe the study's research plan. This description included the proposed research design, population and sample frame, dependent and independent variables, instrumentation, data collection, data analysis, protection of human subjects, and delimitations and limitations. This plan enabled the researcher to address the research questions and interpret the results in a systematic and replicable fashion.

CHAPTER 4

RESULTS

The purpose of this chapter is to present the results of the statistical analysis described in the preceding chapter. Results will be presented separately for each research question.

The intent of the study was to determine recent healthcare management graduates' perceptions of needed competencies, adequacy of their preparation, and the importance of ACEHSA's criteria in today's healthcare industry. Questionnaires with usable responses were received from 185 participants for a response rate of 46%. The majority of the respondents were between the age categories of less than 25 years of age and 35 years of age (61.7%); were female (57.3%); were white, non-Hispanic (82.7%); and had zero to five years of experience in healthcare administration (54.2%). Respondents predominantly reported having a master's degree as the highest degree earned (85.4%), with the most frequent type being a master's degree in healthcare administration (31.4% of the total), followed by a master's degree in business administration (23.2%); other related degrees were master of health services administration (12.4%) and master of public health (7.6%). Most participants were currently working in a nonclinical position (96.7%) and described

their previous experience in healthcare administration as nonclinical (85.9%). Additional demographic data can be found in Appendix E.

Findings Related to Research Question One

Importance of Management Competencies

The first research question asked, "Which healthcare management competencies do recent graduates rate as most important, and how adequately do they feel prepared for the competencies by their academic program?" This question was answered with analysis of individual competencies and by domain (clusters) of competencies derived from Hudak et al.'s study (1997). The domains were as follows: leadership and strategic management, relationships management, resource management, functional management, stakeholder management, patient care management, and quality and risk management. Domain ratings were the arithmetic average of the ratings of the skills within that domain. Analyses of variance were then conducted by domain across the eight independent variables.

The importance of the competencies was rated on a five-point scale, from 0 = "not important" to 4 = "extremely important." The full results are shown in Table 2. For the first part of the question, "Which healthcare management competencies do recent graduates rate as most important?" average ratings ranged from 1.83 to 3.77. The highest-rated competency was "communication" ($x = 3.77$). Other very highly rated competencies were "interpersonal skills" ($x = 3.73$) and "people skills" ($x = 3.63$). In contrast, two competencies tied for the lowest rating: "physician compensation" and "knowledge of acquisitions and mergers" ($x = 1.83$).

The highest-rated domain was relationships management ($x = 3.40$), which contained four of the top 10 competencies, including the competency of "communication." The lowest-rated domain, stakeholder management ($x = 2.40$), was rated a full point lower than the top domain. The stakeholder management domain also contained one of the two lowest-rated competencies, "knowledge of acquisitions and mergers." Table 2 depicts the perceived importance of the management competencies and adequacy of preparation for each competency by management domain.

Table 2

Descriptive Statistics Summary for Importance of Management Competencies and Perceptions of Adequacy of Preparation By Domain

	Importance		Adequacy of prep.		
Competency	Mean	SD	Mean	SD	Gap
Leadership and strategic management domain	**3.21**	**(.466)**	**2.38**	**(.697)**	**0.83****
Leadership	3.58	(.680)	2.35	(.915)	1.23**
Strategic planning/management	3.36	(.769)	2.58	(.930)	0.78**
Flexibility	3.40	(.752)	2.30	(1.045)	1.1**
Visionary	3.12	(.922)	2.14	(1.068)	0.98**

Table 2, continued

	Importance		Adequacy of prep.		
Competency	Mean	SD	Mean	SD	Gap
Adapt to changes	3.56	(.659)	2.43	(.928)	1.13**
Critical thinking	3.45	(.684)	2.71	(.995)	0.74**
Manage change	3.52	(.643)	2.33	(.967)	1.19**
Governance	2.63	(.953)	2.11	(1.057)	0.52**
Strategic thinking	3.33	(.748)	2.68	(.982)	0.65**
Decision making	3.52	(.652)	2.53	(.925)	0.99**
Risk management	2.64	(.958)	1.81	(.990)	0.83**
Awareness of the environment	3.02	(.860)	2.36	(1.030)	0.66**
Ethical/values	3.17	(.844)	2.74	(1.006)	0.43**
Executive development	2.93	(1.011)	2.18	(1.046)	0.75**
Relationships management domain	**3.40**	**(.463)**	**2.31**	**(.826)**	**1.09****
Communications	3.77	(.495)	2.74	(1.027)	1.03**
Interpersonal skills	3.73	(.457)	2.49	(1.054)	1.24**
Physician relations	3.12	(1.059)	1.57	(1.06)	1.55**
Human resource management	2.80	(1.005)	2.04	(1.045)	0.76**
Networking	3.09	(.880)	2.29	(1.189)	0.80**
People skills	3.63	(.586)	2.33	(1.101)	1.30**
Team-building skills	3.45	(.722)	2.71	(1.142)	0.74**

Table 2, continued

	Importance		Adequacy of prep.		
Competency	Mean	SD	Mean	SD	Gap
Resource management domain	**2.68**	**(.633)**	**2.07**	**(.731)**	**0.61****
Management information systems	2.83	(.884)	2.01	(1.076)	0.82**
Financial (finance)	3.04	(.902)	2.46	(1.073)	0.58**
Financial management	3.13	(.906)	2.49	(1.064)	0.64**
Capitation and reimbursement	2.58	(1.114)	1.90	(1.162)	0.68**
Cost accounting	2.01	(1.166)	2.01	(1.103)	0.00
Physician compensation	1.83	(1.175)	1.23	(1.095)	0.60**
Computer skills	3.26	(.833)	2.47	(1.058)	0.79**
Cost containment	2.94	(.998)	1.96	(.999)	0.98**
Legal competency	2.39	(1.078)	2.03	(1.029)	0.36**
Information management	2.82	(.930)	2.13	(1.029)	0.69**
Functional management domain	**3.22**	**(.716)**	**2.46**	**(.924)**	**0.76****
Organizational knowledge	3.20	(.711)	2.49	(.997)	0.71**
Operations management	3.13	(.877)	2.43	(.971)	0.70**
Stakeholder management domain	**2.40**	**(.915)**	**1.73**	**(.941)**	**0.67****
Negotiation skills	2.86	(1.074)	1.86	(1.17)	1.00**
Managed care	2.50	(1.169)	2.10	(1.180)	0.40**
Contracting	2.38	(1.151)	1.54	(1.115)	0.84**

Table 2, continued

Competency	Importance Mean	Importance SD	Adequacy of Prep. Mean	Adequacy of Prep. SD	Gap
Knowledge of acquisitions and mergers	1.83	(1.277)	1.40	(1.121)	0.43**
Patient care management domain	**2.69**	**(.971)**	**2.16**	**(1.021)**	**0.53****
Outcomes analysis	2.60	(1.167)	1.92	(1.214)	0.68**
Ethics	2.99	(.989)	2.48	(1.091)	0.51**
Medical ethics	2.60	(1.158)	2.12	(1.219)	0.48*8
Medical and clinical ethics	2.59	(1.191)	2.10	(1.198)	0.49**
Quality and risk mgmt. domain	**2.92**	**(.925)**	**1.90**	**(1.016)**	**1.02****
Maintain standards	3.05	(.925)	1.91	(1.075)	1.14**
Government involvement	2.79	(1.051)	1.89	(1.081)	0.90**

Note. Means are based on *n's* of 183-185.

**Differences in the ratings of importance and adequacy of preparation were statistically significant at the .01 level.

Adequacy of Preparation for the Competencies

The perceptions of adequacy of preparation for the competencies were rated on a five-point scale from 0 = "not prepared" to 4 = "extremely prepared." For the second part of the question, "How adequately do recent graduates feel prepared for the competencies by their academic program?" average ratings ranged from 1.23 to 2.74. The data indicate that participants felt "somewhat prepared" to "prepared" by their academic program for

the management competencies. For example, recent graduates felt most prepared for the competencies of "communication" and "ethics/values," which tied for first (x = 2.74). In comparison, recent graduates felt least prepared for the competency of "physician compensation" (x = 1.23).

Moreover, participants felt most prepared for the management domain of functional management (x = 2.46), which includes the competencies of "organizational knowledge" and "operations management" and least prepared for the domain of stakeholder management (x = 1.73), which includes competencies such as "negotiation skills" and, as previously noted, one of the two lowest-rated competencies, "knowledge of acquisitions and mergers."

Gap Between Perceptions of Importance and Adequacy of Preparation

Although recent graduates indicated they felt "somewhat prepared" to "prepared" for the competencies, there is a substantial and statistically significant difference in most cases between participants' perceptions of importance of most competencies and how adequately they felt prepared for the competency by their academic program. Of the 43 competencies, 42 had statistically significant gaps, and 37 of these were differences of at least .5 on the rating scale of 0 to 4.

For example, the largest gap occurred with the competency "physician relations," which showed a difference of 1.55 between perceptions of importance and adequacy of preparation. "People skills," the third most important competency overall, had the second

largest gap (1.3). In contrast, the competency "cost accounting" showed no gap between perceptions of importance and adequacy of preparation.

Gap Between Top Competencies and Adequacy of Preparation. Overall, recent graduates rated 23 out of the 43 competencies at or above 3.0, which suggests these competencies are perceived to be "very important" for their job success. Of the 23 most important competencies, 11 showed a gap of nearly 1.0 or greater between recent graduates' perceptions of importance and of adequacy of preparation, with the overall average gap for these competencies being .92. As noted previously, the largest gap is the competency of "physician relations," which showed a difference of 1.55. The competency with the smallest gap of the top 23 was "ethics/values," with a difference of .43.

A comparison of the gap between the top 10 most important competencies and the remaining 13 competencies reveals that the gap slightly decreases as perceptions of importance lessen. For instance, the top 10 competencies have an average gap of 1.07; the remaining 13 competencies have an average gap of .80, a difference of over a quarter of a point. Therefore, as competencies are perceived to be less important by recent graduates, the gap slightly closes between their perceptions of importance and adequacy of preparation. Table 3 shows the gap between the ratings of importance and the ratings for adequacy of preparation for competencies rated at or above 3.0.

Table 3

Descriptive Statistics Summary for Perceptions of Importance of the Management Competencies and Adequacy of Preparation for Competencies Rated 3.0 or Greater

	Importance		Adequacy of prep.		
Competency	Mean	SD	Mean	SD	Gap
Communications	3.77	(.495)	2.74	(1.027)	1.03**
Interpersonal skills	3.73	(.457)	2.49	(1.054)	1.24**
People skills	3.63	(.586)	2.33	(1.101)	1.30**
Leadership	3.58	(.680)	2.35	(.915)	1.23**
Adapt to changes	3.56	(.659)	2.43	(.928)	1.13**
Manage change	3.52	(.643)	2.33	(.967)	1.19**
Decision making	3.52	(.652)	2.53	(.925)	0.99**
Team-building skills	3.45	(.722)	2.71	(1.142)	0.74**
Critical thinking	3.45	(.684)	2.71	(.995)	0.74**
Flexibility	3.4	(.752)	2.3	(1.045)	1.10**
Strategic planning/management	3.36	(.769)	2.58	(.930)	0.78**
Strategic thinking	3.33	(.748)	2.68	(.982)	0.65**
Computer skills	3.26	(.833)	2.47	(1.058)	0.79**
Organizational knowledge	3.2	(.711)	2.49	(.997)	0.71**
Ethical/values	3.17	(.844)	2.74	(1.006)	0.43**
Operations management	3.13	(.877)	2.43	(.971)	0.70**

Table 3, continued

Competency	Importance Mean	Importance SD	Adequacy of prep. Mean	Adequacy of prep. SD	Gap
Financial management	3.13	(.906)	2.49	(1.064)	0.64**
Physician relations	3.12	(1.059)	1.57	(1.06)	1.55**
Visionary	3.12	(.922)	2.14	(1.068)	0.98**
Networking	3.09	(.880)	2.29	(1.189)	0.80**
Maintain standards	3.05	(.925)	1.91	(1.075)	1.14**
Financial (finance)	3.04	(.902)	2.46	(1.073)	0.58**
Awareness of the environment	3.02	(.860)	2.36	(1.030)	0.66**
Average	3.33	(.764)	2.41	(1.026)	0.92

Note. Means are based on *n's* of 183-185.

**Differences in the ratings of importance and adequacy of preparation were statistically significant at the .01 level.

Gap Between Domains and Adequacy of Preparation. There were also substantial and statistically significant differences between importance and preparation for all seven management domains. For instance, in the highest-ranked domain in terms of importance, the relationships management domain, a gap of .75 to 1.5 existed between ratings of importance of the competencies and adequacy of preparation. The overall domain difference was 1.09.

In contrast, the patient care management domain exhibited the smallest gap, with a difference of .53. Competencies within this domain are outcomes analysis, ethics, medical

ethics, and medical clinical ethics. Although the gap is small, it is noteworthy that participants consistently rated their perceptions of adequacy of preparation one half point less than their perceptions of the competency's importance.

Subsidiary Questions

The subsidiary questions asked: "Are there differences in the relative perceived importance of the competencies and adequacy of preparation as a function of respondents' age, years of experience, gender, ethnicity, highest educational degree earned, type of educational degree earned, type of managerial position, and type of managerial experience?" To answer these questions, 56 analyses of variance were conducted using the importance mean from each management domain across the eight independent demographic variables, and 56 analyses of variance were conducted using the adequacy of preparation mean from each domain across the eight independent demographic variables. For ratings of importance, there were statistically significant differences for several domains and consistent patterns of nonsignificant differences for other domains across only two of the independent variables, years of experience and type of degree earned. For adequacy of preparation ratings, there were statistically significant differences for several domains and consistent patterns of nonsignificant differences for other domains across only one of the independent variables, ethnicity. These results are explained in more detail below.

Importance by Years of Experience. Generally, ratings of importance increased modestly as years of experience increased. As Table 4 indicates, four of the seven

management domains displayed a statistically significant difference: leadership and strategic management, resource management, stakeholder management, and patient care management. The ANOVA table is included in Appendix F. In five of the seven management domains, there was an increase across every successive "years of experience" category. These domains are leadership and strategic management, relationships management, resource management, stakeholder management, and patient care management. For the other two domains, functional management and quality and risk management, there was some increase across several successive categories but not all. Table 4 depicts the descriptive statistics summary for importance of the management competencies and adequacy of preparation by years of experience.

Table 4

Descriptive Statistics Summary for Importance of Management Competencies by Years of Experience

Domain	Years of experience	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
**Leadership and strategic management	<1	13	3.0147	4788	2.7253	3.3040
	1-5	83	3.1374	.4303	3.0434	3.2313
	6-10	32	3.1912	.5378	2.9973	3.3851
	>10	49	3.3918	.4135	3.2730	3.5106
	Total	177	3.2085	.4626	3.1399	3.2772
Relationships management	<1	13	3.2703	.5823	2.9184	3.6222
	1-5	83	3.3167	.4643	3.2153	3.4181
	6-10	32	3.3929	.4384	3.2348	3.5509
	>10	49	3.4869	.4334	3.3624	3.6114
	Total	177	3.3742	.4632	3.3055	3.4429
*Resource management	<1	13	2.3291	.7774	1.8593	2.7988
	1-5	83	2.6012	.6265	2.4644	2.7380
	6-10	32	2.7438	.5924	2.5302	2.9573

Table 4, continued

Domain	Years of experience	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
	>10	49	2.8617	.5981	2.6899	3.0335
	Total	177	2.6791	.6367	2.5847	2.7736
Functional management	<1	13	2.8462	.8263	2.3469	3.3455
	1-5	83	3.2470	.7423	3.0849	3.4091
	6-10	32	3.2813	.5671	3.0768	3.4857
	>10	48	3.2083	.7497	2.9906	3.4260
	Total	176	3.2131	.7241	3.1053	3.3208
*Stakeholder management	<1	13	1.7500	1.2707	.9821	2.5179
	1-5	83	2.2349	.9414	2.0294	2.4405
	6-10	32	2.7109	.7649	2.4352	2.9867
	>10	49	2.5918	.7139	2.3868	2.7969
	Total	177	2.3842	.9147	2.2485	2.5199
*Patient care management	<1	13	2.4423	1.3037	1.6545	3.2301
	1-5	83	2.5392	.9663	2.3282	2.7501
	6-10	32	2.8047	.8677	2.4918	3.1175
	>10	49	2.9898	.8385	2.7490	3.2306

Table 4, continued

Domain	Years of experience	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
	Total	177	2.7048	.9580	2.5627	2.8469
Quality and risk management	<1	13	2.7692	1.2685	2.0027	3.5357
	1-5	83	2.7590	.9919	2.5424	2.9756
	6-10	31	2.9839	.8415	2.6752	3.2925
	>10	49	3.1837	.7548	2.9669	3.4005
	Total	176	2.9176	.9398	2.7778	3.0574

Note. *$p < .05$.

**$p < .01$.

Importance by Type of Educational Degree Earned. MBA participants generally rated the competencies as more important than did participants with other types of degrees, such as MHA, MHSA, MBA, and MPH degrees. This difference was statistically significant in four of the seven management domains: leadership and strategic management, resource management, stakeholder management, and patient care management. For instance, in the leadership and strategic management domain, MBA respondents rated the importance of the competencies 3.41, while MPH respondents rated the competencies at 3.05. In the patient care management domain, MBA participants rated

the competencies 2.84, and MPH participants rated the competencies 1.88, about a 1.0 difference. In the remaining three domains, similar patterns were observed, although they were not statistically significant. Table 5 depicts these results The analysis of variance table is included in Appendix F.

Table 5

Descriptive Statistics Summary for Importance of Management Competencies by Type of Degree Earned

Domain	Type of degree	N	Mean	SD	95% confidence interval for mean Lower bound	Upper bound
**Leadership and strategic management	MBA	43	3.4119	.4265	3.2807	3.5432
	MHA	58	3.1651	.4377	3.0500	3.2802
	MHSA	23	3.0981	.4729	2.8936	3.3026
	MPH	14	3.0526	.4548	2.7900	3.3152
	Total	138	3.2194	.4574	3.1424	3.2964
Relationships management	MBA	43	3.4219	.4319	3.2890	3.5548
	MHA	58	3.3325	.4584	3.2120	3.4530

Table 5, continued

Domain	Type of degree	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
	MHSA	23	3.2857	.5096	3.0653	3.5061
	MPH	14	3.4082	.4225	3.1642	3.6521
	Total	138	3.3602	.4538	3.2839	3.4366
*Resource management	MBA	43	2.8442	.5624	2.6711	3.0173
	MHA	58	2.6552	.5654	2.5065	2.8038
	MHSA	23	2.7043	.6342	2.4301	2.9786
	MPH	14	2.2786	.7992	1.8171	2.7400
	Total	138	2.6841	.6168	2.5802	2.7879
Functional management	MBA	43	3.2326	.6668	3.0273	3.4378
	MHA	58	3.3448	.6297	3.1793	3.5104
	MHSA	23	3.2826	.5997	3.0233	3.5420
	MPH	14	2.7857	.9347	2.2460	3.3254
	Total	138	3.2428	.6841	3.1276	3.3579
*Stakeholder management	MBA	43	2.6977	.8319	2.4416	2.9537
	MHA	58	2.2974	.8679	2.0692	2.5256
	MHSA	23	2.0870	.8745	1.7088	2.4651

Table 5, continued

Domain	Type of degree	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
	MPH	14	2.1071	1.2470	1.3872	2.8271
	Total	138	2.3678	.9232	2.2123	2.5232
**Patient care management	MBA	43	2.8372	.9803	2.5355	3.1389
	MHA	58	2.6595	.8503	2.4359	2.8831
	MHSA	23	2.7826	1.1163	2.2999	3.2653
	MPH	14	1.8750	1.3893	1.0728	2.6772
	Total	138	2.6558	1.0267	2.4830	2.8286
Quality and risk management	MBA	43	3.0814	.8233	2.8280	3.3348
	MHA	58	2.9655	.8779	2.7347	3.1964
	MHSA	23	2.8696	1.1891	2.3553	3.3838
	MPH	14	2.7500	1.0331	2.1535	3.3465
	Total	138	2.9638	.9313	2.8070	3.1205

Note. *$p < .05$

**$p < 01$.

Adequacy of Preparation by Ethnicity. Nonwhite respondents generally rated their adequacy of preparation as better than did white non-Hispanic participants. This difference

was statistically significant in two of the seven management domains: leadership and strategic management and quality and risk management. For example, in the quality and risk management domain where the largest gap occurs, nonwhite respondents rated their adequacy of preparation 2.30, while white non-Hispanic respondents rated their preparation as 1.81. This gap represents a difference of almost half a point. The domain with the smallest gap is functional management, with a difference of .9. In the remaining five domains, similar patterns were observed, although they were not statistically significant. Table 6 depicts these results. The analysis of variance table is included in Appendix F.

Table 6

Descriptive Statistics Summary for Adequacy of Preparation by Ethnicity

Domain	Ethnicity	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
*Leadership and strategic mgmt.	Nonwhite	29	2.6255	.8006	2.3210	2.9300
	White non-Hispanic	154	2.3287	.6663	2.2226	2.4348

Table 6, continued

Domain	Ethnicity	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
	Total	183	2.3757	.6954	2.2743	2.4772
Relationships mgmt.	Nonwhite	29	2.4877	.8786	2.1535	2.8219
	White non-Hispanic	154	2.2662	.8075	2.1377	2.3948
	Total	183	2.3013	.8206	2.1816	2.4210
Resource mgmt.	Nonwhite	29	2.1483	.8074	1.8412	2.4554
	White non-Hispanic	154	2.0437	.7079	1.9310	2.1564
	Total	183	2.0603	.7232	1.9548	2.1658
Functional mgmt.	Nonwhite	29	2.5345	.8957	2.1938	2.8752
	White non-Hispanic	154	2.4416	.9287	2.2937	2.5894
	Total	183	2.4563	.9218	2.3218	2.5907
Stakeholder mgmt.	Nonwhite	29	2.0345	.9490	1.6735	2.3955
	White non-Hispanic	154	1.6672	.9231	1.5202	1.8142
	Total	183	1.7254	.9344	1.5891	1.8617
Patient care mgmt.	Nonwhite	29	2.3190	1.0751	1.9100	2.7279
	White non-Hispanic	154	2.1104	1.0065	1.9502	2.2706
	Total	183	2.1434	1.0175	1.9950	2.2918

Table 6, continued

Domain	Ethnicity	N	Mean	SD	95% confidence interval for mean: Lower bound	95% confidence interval for mean: Upper bound
*Quality and risk mgmt.	Nonwhite	28	2.3036	1.0123	1.9110	2.6961
	White non-Hispanic	154	1.8084	.9921	1.6505	1.9664
	Total	182	1.8846	1.0085	1.7371	2.0321

Note. *p <. 05.

Other Analyses. One isolated statistically significant finding was found for one domain, leadership and strategic management, across respondents' age; however, no perceivable trend was discernible. The ANOVA for this variable along with the descriptive statistics can be found in Appendix F. Do note, however, with 112 ANOVAs testing for significance at the .05 level, there is a likelihood of falsely finding as many as six by chance. Therefore, no importance should be given to this isolated finding.

Two other demographic variables, type of managerial position and type of managerial experience in healthcare administration, could not be used in the analysis of variance since almost all of the respondents reported nonclinical positions and nonclinical experience. Appendix E presents the descriptive statistics summary for each of these variables.

Findings Related to Research Question Two

Importance of ACEHSA Criteria and Adequacy of Preparation

The second research question asked "Which ACEHSA criteria do recent graduates rate as most important in today's healthcare industry, and how adequately do they feel prepared for each criterion by their academic program?" This question was answered by computing respondents' mean rating of the importance of each ACEHSA criterion and mean rating of adequacy of preparation for each criterion. Analyses of variance were then conducted to see if the mean rating for all 10 criteria varied across the eight independent variables.

The importance of the criteria was rated on a five-point scale from 0 = "not important" to 4 = "extremely important." For the first part of the question, "Which ACEHSA criteria do recent graduates rate as most important in today's healthcare industry?" averages ranged from 2.73 to 3.62. The full results are shown in Table 7.

The accreditation criterion perceived to be most important to recent graduates in today's healthcare environment was "leadership, interpersonal and communications skills in managing human resources and health professionals in diverse organizational environments," with a mean rating of 3.62. The second most important criterion was "the management of information resources and the collection, analysis, and use of business and health information in decision making," with a mean rating of 3.46. The lowest-ranked criterion, "the development, organization, financing, and measurement of performance of health systems in diverse communities, drawing broadly on the social science and behavioral sciences," had a mean rating of 2.73. This rating is still well above the threshold

of 2, which equals an "important" rating. Therefore, recent graduates perceived all the ACEHSA criteria to be meaningful in today's healthcare environment.

The perceptions of adequacy of preparation for the criteria were rated on a five-point scale from 0 = "not prepared" to 4 = "extremely prepared." Average ratings ranged from 1.84 to 2.54. The full results are also shown in Table 7. Participants felt most prepared for the criterion "the use of statistical, quantitative, and economic analysis in decision making," which showed a mean rating of 2.54. The second highest-rated criterion for adequacy of preparation was "the management of information resources and the collection, analysis, and use of business and health information in decision making," with a mean rating of 2.39.

In contrast, participants felt least prepared for the criterion "financial management of health organizations under alternative financing mechanisms," which displayed a mean rating of 1.84. The second lowest-ranked criterion for adequacy of preparation was "the development, organization, financing, and measurement of performance of health systems in diverse communities, drawing broadly on the social science and behavioral sciences," with a mean rating of 1.94. This suggests that participants felt "somewhat prepared" for this criterion.

Table 7

Descriptive Statistics Summary for Importance of ACEHSA's Criteria and Adequacy of Preparation

	Importance		Adequacy of prep.		
Criteria	Mean	SD	Mean	SD	Gap
Leadership, interpersonal and communications skills in managing human resources and health professionals in diverse organizational environments	3.62	(.616)	2.38	(1.023)	1.24**
The management of information resources and the collection, analysis, and use of business and health information in decision making	3.46	(.619)	2.39	(1.038)	1.07**
The structuring and positioning of health organizations to achieve optimum performance	3.42	(.708)	2.19	(.910)	1.23**
Financial management of health organizations under alternative financing mechanisms	3.19	(.881)	1.84	(1.118)	1.35**

Table 7, continued

	Importance		Adequacy of prep.		
Criteria	Mean	SD	Mean	SD	Gap
The measurement of business and health outcomes. The analysis of process/outcome relationships, and methods for process improvement in health organizations	3.12	(.816)	2.17	(1.054)	0.95**
The use of statistical, quantitative, and economic analysis in decision making	3.09	(.830)	2.54	(1.088)	0.55**
The use of legal and ethical analysis in business and clinical decision making	2.96	(.892)	2.31	(.996)	0.65**
Organizational and governmental health policy formulation, implementation, and analysis	2.88	(.909)	2.06	(1.093)	0.82**
The assessment and understanding of the health status of populations, determinants of health and illness, and the managing of health risks and behaviors in diverse populations	2.76	(1.036)	2.24	(1.42)	0.52**

Table 7, continued

	Importance		Adequacy of prep.		
Criteria	Mean	SD	Mean	SD	Gap
The development, organization, financing, and measurement of performance of health systems in diverse communities, drawing broadly on the social science and behavioral sciences	2.73	(.957)	1.94	(1.127)	0.79**
Average	3.12	(.826)	2.21	(1.087)	0.92

Note. Means are based on *n's* of 178-183.

**Differences in the ratings of importance and adequacy of preparation were statistically significant at the .01 level.

Gap Between Perceptions of Importance and Adequacy of Preparation

As with the management competencies and perceptions of adequacy of preparation, a gap existed in recent graduates' perceptions of the importance of ACEHSA's criteria and adequacy of preparation. Of the 10 criteria, all showed statistically significant gaps. Five of the 10 criteria demonstrated a difference of almost a full point on a scale of 0 to 4 in perceptions of the importance of the criteria and adequacy of preparation for the criteria. The remaining five criteria had a difference of at least one half a point.

For example, the top-rated criterion in terms of importance, "leadership, interpersonal and communications . . .," had an importance rating of 3.62 and an adequacy

rating of only 2.38, a difference of one and a quarter points. The criterion with the largest gap, "financial management of health organizations . . .," had an importance rating of 3.19 and an adequacy rating of 1.84, a difference of over one and a quarter points. In contrast, the criterion with the smallest gap, "the assessment and understanding of the health status of populations . . .," had a importance rating of 2.76 and an adequacy rating of 2.24, a difference of .52 or half a point. The overall results suggest that recent graduates perceive the ACEHSA criteria to be important in today's healthcare environment and feel "somewhat prepared" to "prepared" for the criteria.

Subsidiary Questions

The subsidiary questions asked: "Are there differences in respondents' perception of the criteria and adequacy of preparation as a function of their age, experience, gender, ethnicity, highest educational degree earned, type of degree earned, type of managerial position, and type of managerial experience?" To answer these questions, eight analyses of variance were conducted using a mean importance rating for all ACEHSA criteria as the dependent variables and the eight demographic variables as independent variables. In addition, eight more analyses of variance were conducted using a mean adequacy of preparation rating across the eight demographic variables. No statistically significant differences were found in these analyses. Descriptive statistics summaries for each of the independent demographic variables are presented in Appendix G.

Data from Open-Ended Questions

In addition to quantitative data, the study also solicited qualitative data through the open-ended questions on the survey instrument. These questions asked participants (1) What other competencies are important in your job but are not listed here? and (2) How adequately did your program prepare you for these competencies? and provided a comment section.

The qualitative data section was processed by inductive analysis. This approach involved unitizing and categorizing the data. Unitizing was essentially a coding operation that identified information units embedded in the text. In the second subprocess, categorizing, information units derived from the unitizing phase were organized into categories on the basis of similarity in meaning. As the number of categories reached a saturation point, the researcher defined which units of information could be included or excluded from the category. This process is called the "constant comparative method" by Glaser and Strauss (1967). The constant comparative method requires continual revision, modification, and amendment until all new units can be placed into an appropriate category and the inclusion of additional units into a category provides no new information. This process was repeated for each question. Eighty-four participants wrote statements in response to the three above-mentioned questions. Some of the responses fit into more than one category, while others did not fit into any category. The results are presented below.

What Other Competencies Are Important in Your Job but Are Not Listed Here?

Forty-five participants wrote statements in response to this question. Again, some of the responses fit into more than one category while others did not fit into any category. Through inductive analysis, six categories of competencies emerged: personal leadership development skills, human resource management, time management/multitasking, change management, political skills, and community needs assessment.

Personal Leadership Development Skills. The first category, personal leadership development skills, is composed of skills that are often difficult to teach in an academic program. This category, with 25 participants writing comments, contained the most statements from participants of all six categories. One participant captured the essence of this category:

> Some key factors that distinguish outstanding leaders from average leaders are not taught well in an academic setting—such as inspiring excellent performance, fostering open communications, motivating others, managing disagreements. These soft skills were largely missing from my education, but are critical in my daily experience.

Presented below are other select statements and adequacy of preparation that reflect the competencies identified by recent graduates in this category:

- Trust, loyalty, and followership . . . the program did not focus on these areas.
- Communication—self-evaluation/performance; personal organization. Not prepared.
- Managing stress—psychotherapy. Not prepared.

- Building a successful team, stress management. Poorly prepared.
- Work/life balance; this is extremely important and the program only somewhat prepared me.
- Facilitation skills for meetings, retreats, and focus groups. Somewhat prepared.
- Attention to detail, organizational skills. Fairly well prepared.
- Ability to walk away from an issue. Not prepared.
- How to find a job. Excellent preparation.

Human Resource Management. The next category of competencies, human resource management, was listed as a broad management competency on the survey instrument; however, 11 participants indicated specific skills, knowledge, and abilities that they perceive to be important to their success. With one exception, respondents felt these competencies were not adequately covered in their academic program. The statements presented below are indicative of the responses of this category:

- Wage negotiation. No preparation.
- How to incentivize and motivate a work force. Not prepared.
- Staff retention/attraction. Poorly prepared.
- Dealing with physicians. Not very well prepared.
- Dealing with unions, staffing standards and methodology used to obtain adequate staffing. Program did not prepare.
- Diversity training/awareness, i.e., how to integrate cultural knowledge into operational relationships. Poorly prepared.
- Cultural competencies, linguistic competencies. Very prepared.

Time Management/Multitasking. Time management/multitasking, cited by 10 participants, emerged as a third category. Overall, participants felt these are important skills but had varying degrees of academic preparation for them. For example, expressions ranged from "time management, multitasking—prepared" to "multitasking capability and time management—poorly prepared." Others felt they were "not at all prepared" for these skills. Finally, one participant wrote, "Regarding time management . . . on-the-job training was the most valuable instruction."

Change Management Skills. Change management skills were also mentioned as important competencies for recent graduates, with six respondents identifying this competency. Some participants felt "prepared" for this competency as indicated by one participant's statement, "Change management . . . prepared (score of 2)." Others did not indicate their adequacy of preparation. Still others commented: "Ability to initiate change through change management and 'out-of-box' thinking with senior (long-term healthcare administrators) given their fixed 'square' approach. Program failed to teach this process/trait."

Political Skills. In addition to time management and change management skills, political skills were also frequently noted as being important to recent graduates. Five participants identified these skills as being crucial to their job success. Overall, however, participants indicated they were not prepared for this competency by their academic program. One participant noted: "Learning how, when, where, and what to say in important situations (politics of an office) . . . not at all prepared." This sentiment is

echoed by others: "Political skills . . . did not prepare." And finally: "Conflict resolution, navigating through organizational politics . . . not prepared."

Community Needs Assessment. The last category of competencies mentioned were statements that were grouped into the category of community needs assessment. Four participants identified the competency of understanding the health status of populations, or community needs assessment, as being vital to their success. Yet, participants differed on their adequacy of preparation. One participant noted: "More training for all in working with healthcare problems of the elderly/AIDS, as well as other catastrophic illnesses, is needed." Conversely, another participant states: "Community status and demographics. How adequately did my program prepare me for these competencies? Very well prepared." Finally, the importance of this competency and adequacy of preparation were echoed by yet another respondent: "Population-based strategic/facility planning and use of interdisciplinary teams. I felt very prepared—class projects led me to a residency concentrating on the above listed. Residency work led me to my current job."

How Adequately Did Your Program Prepare You for These Competencies?

This question refers to the previous question "What other competencies are important but are not listed here?" Responses to the previous question's competencies are presented with each statement above; however, 12 participants answered this question solely in response to their academic preparation for the management competencies listed on the survey. The replies ranged from barely prepared to very prepared. The 12 responses are presented below:

- Barely.
- I don't feel they truly prepared me.
- Not well at all on theory/assessment.
- No one seemed to understand the real world.
- Fair to not well. Most learned on the fly.
- My program did not prepare me at all for my work. I know great studies have been made in the past.
- What I was taught was dependent on the interests of my professors. . . .
- Only fair. My program was an MBA, not MHA.
- Fair—much is learned from experience and mentoring as far as development of leadership skills, communication and interpersonal skills.
- I feel I was adequately prepared. Nothing can prepare you more than actual experiences—that is why a year-long residency is important.
- Excellent.
- Very prepared.

Comment Section

The last section of the open-ended questions invited participants to write additional thoughts on any topic they wished. Twenty-seven participants wrote comments. Through inductive analysis, two themes emerged that warrant consideration: (1) the value of on-the-job training, residencies, or fellowships; and (2) the differences between MBA and MHA/MPH programs.

The Value of On-the-Job Training, Residencies, or Fellowships. Ten respondents wrote remarks in the comment section that stressed the value of on-the-job training, residencies, or fellowships to learn crucial management competencies. For example, one respondent observed: "The program plus life and work experience enhanced my ability to master critical competencies. The program kept me informed about the latest trends and developments in the healthcare field." This view is supported by other respondents who added:

- The program provided less preparation for most competencies than did experience, mentors, and programs offered by other organizations (e.g., two-day seminars, conferences, etc).
- It was more class projects, field trips and internships (both that I sought out and that my graduate program helped me get) that prepared me the most, versus the classes and lecture.
- Info taught is often years behind present practice taught by professors who may have little to no actual experience in administration. Best teachers are mentors and experience.
- I found that my business experience prepared me for my current position. My "recent" graduate program validated my experience.
- Although school can teach a person a great deal about universal facts, I don't think it is feasible for a school to be capable of teaching culture or many other traits that are solely related to an individual healthcare organization.

- Schools and books can lay the groundwork for the technical components of this job, but I really didn't start learning until I started working. I am lucky that I found a nourishing environment that promotes the continuation of my development.
- Unfortunately you cannot always "teach" ethics, good judgement. However, my program focused on teaching us to be CEOs—that is not a realistic entry point. As a result, more could have been focused on the challenges of managing a diverse work force with limited resources and being a middle manager. More strength on "real" issues—HR, negotiation, communication, management vs. leadership, etc.

In summation, the comments suggest that participants felt that on-the-job training, residencies, fellowships, and mentoring were important to their overall development as healthcare managers. Further, the data indicate that participants viewed their academic program as initial preparation, preparation that is complete only after serving on the job, in a residency, or in a fellowship. One participant summed up the theme of this category: "The key is not the education, it is the employer!"

Differences Between an MBA and MHA/MPH Program. The second theme focused on the differences between an MBA and other healthcare-related degrees, such as an MHA or MPH. Five participants wrote comments addressing this theme. Participants who had one type of degree, for example an MPH, seemed to compensate for the missed competencies not taught in their program by learning them elsewhere. For instance, one respondent wrote:

> My program (MPH) focused mostly on assessment of health populations, outcomes and analysis, leadership, communications, and teamwork [It included]

strong organizational development, behavior of organizations, quality of care, epidemiology, etc. Not enough finance/accounting included in my program. I have since taken additional classes to supplement this defect.

Another participant added:

> XXX [sic] university's graduate program (MHSA) was very poor in finance. Professor X [sic] was incapable of properly preparing students. Finance is so critical a skill that I took classes outside of my program to keep up with other programs.

Conversely, an MBA participant noted: "With an MBA and not MPH, I have a sound foundation in business skills, but lack specific clinical expertise, which I am picking up on the job!" These comments suggest that participants felt inadequately prepared by their academic program for certain competencies that their program lacked, e.g., financial management for an MPH or assessment of health populations for an MBA. The data also indicate that participants sought the necessary competencies elsewhere, be it outside of their program or through on-the-job training, to make up for their deficits.

Summary

In conclusion, this chapter has presented the results of the statistical analysis described in the preceding chapter. Results were presented separately for each research question, subsidiary questions, and open-ended questions. The next chapter will provide interpretations for the differences in perceptions and adequacy of preparation. It will also compare results of this study with those found in the literature.

CHAPTER 5

INTERPRETATION, CONCLUSIONS, AND RECOMMENDATIONS

This chapter briefly summarizes the results presented in Chapter 4, discusses findings, and draws implications for theory, practice, and future research.

Summary of the Analysis of Data

The data were collected and analyzed for the purpose of identifying recent healthcare management graduates' perceptions of the importance of various management competencies, their adequacy of preparation for these competencies, the importance of ACEHSA's criteria in today's healthcare industry, and their adequacy of preparation for the criteria. Those who believe the healthcare industry is poorly managed might be skeptical of the validity of the opinions of junior healthcare mangers. On the other hand, people who are new to an institution often more readily see its shortcomings and needs.

The first research question asked, "Which healthcare management competencies do recent graduates rate as most important, and how adequately do they feel prepared for the competencies by their academic program?" Overall, 23 out of the 43 competencies were rated at or above 3.0, which suggests these competencies are perceived to be "very

important" by recent graduates in order for them to be successful in their jobs. In terms of adequacy of preparation, the data indicate that participants felt "somewhat prepared" to "prepared" by their academic program. Substantial gaps were found between ratings of importance and adequacy of preparation. In 42 out of 43 competencies, adequacy of preparation was rated lower than importance on a comparable five-point scale.

For ratings of importance, there were statistically significant differences for several domains and consistent patterns of nonsignificant differences for other domains across two independent variables: years of experience and type of degree earned. For adequacy of preparation ratings, there were statistically significant differences for several domains and consistent patterns of nonsignificant differences for other domains across one independent variable, ethnicity.

The second research question asked, "Which ACEHSA criteria do recent graduates rate as most important in today's healthcare industry, and how adequately do they feel prepared for each criterion by their academic program?" For importance ratings, mean items ranged from 2.73 to 3.62, which indicates that all 10 criteria are perceived to be important in today's healthcare industry. For adequacy of preparation, mean items ranged from 1.83 to 2.49, which suggests participants felt "somewhat prepared" to "prepared" for the criteria. Substantial gaps were found between ratings of importance and adequacy of preparation. For all 10 criteria, adequacy of preparation was rated lower than importance on a comparable five-point scale. There were no differences in respondents' perceptions of the importance of the ACEHSA criteria and adequacy of preparation as a function of their demographic characteristics.

Additional data were solicited through three open-ended questions: (1) What other competencies are important in your job but are not listed here? (2) How adequately did your program prepare you for these competencies? and (3) a comment section.

Responses to the first question were grouped into six categories: personal leadership development skills, human resource management, time management/ multitasking, change management, political skills, and community needs assessment. The category with the most responses was personal leadership development, with 25 responses. Topics in this category included items such as communication/self-evaluation; managing stress; and trust, loyalty, and followership.

The second question asked respondents their perceptions of adequacy of preparation for the competencies listed in the first open-ended question. Participants indicated they did not feel prepared by their academic program for four of the six categories: personal leadership development skills, human resource management, change management, and political skills. The remaining two categories, time management and community needs assessment, displayed mixed results in respondents' perceptions of adequacy of preparation. In addition, as mentioned previously, several respondents answered this question solely on the basis of their academic preparation for the management competencies listed on the survey. Responses to this question ranged from "barely" prepared to "very prepared," with the bulk of participants indicating they did not feel prepared or were only "fairly" prepared.

The last open-ended question invited participants to write additional thoughts on any topic they wished. Two themes emerged which warrant mention: (1) the value of on-

the-job training, residencies, or fellowships; and (2) the differences between MBA and MHA/MPH programs.

As mentioned previously, several limitations are present in this study which may affect the generalizablity of the findings. These limitations are: the population of recent master's program graduates working in healthcare management positions is unknown, and the study was limited to the largest known sampling frame, that of the ACHE membership; the findings of this study are based solely on recent graduates' perceptions, no data is presented for supervisors' perceptions of the most important management competencies for recent graduates; participants were asked to respond to concisely worded competencies such as "leadership" without accompanying definitions, so there probably were some differences of interpretation; background variables were dependent upon self-report measures; job titles of participants are not known; there is a little ambiguity about whether or not recent graduates were responding to the competencies in regards to their current position or for their anticipated career in healthcare management; and lastly, the events of September 11th, 2001 may have colored the perceptions of recent graduates in their view of the most important management competencies necessary for their success.

Interpretation of Findings

This section interprets the study's findings in light of the theoretical framework suggested by the literature review.

Perceptions of Importance of the Management Competencies

Recent graduates rated broad qualitative skills as being most important, such as communication, interpersonal skills, team building, and critical thinking. In fact, all of the top 10 competencies were qualitative in nature. On the other hand, they tended to rate the quantitative skills lower. For example, cost containment was rated 24th out of 43, capitation and reimbursement was rated 36th out of 43, and cost accounting was rated 41st out of 43. A few quantitative skills, such as computer skills and financial management, were in the mid ranks but not among the top 10.

This finding is contrary to those who would expect that quantitative, i.e., "technical," competencies, as identified within the resource management domain, would be top priority. This is particularly true given the current healthcare industry with its emphasis on cost containment. In fact, the resource management domain ranked sixth in terms of importance out of the seven management domains.

Further, the literature generally presumes that lower and middle managers are engaged in technical skills primarily, and the higher they move up the organizational hierarchy, the more they become engaged in human relations and conceptual skills. However, the results of this study indicate that respondents, predominantly with master's degrees and less than five years of experience—and therefore according to Griffith (1999) most likely junior and middle managers—thought human relations skills and conceptual skills are more important to their job success than technical skills.

In addition, the importance of qualitative skills to recent graduates is consistent with the much of the literature on healthcare CEOs' perceptions of management

competencies necessary for success. For example, "communication," the top-rated competency by recent graduates, was also a top-rated competency in six other studies: Anderson et al. (2000), Brooke et al (1998), Davidson et al. (2000), Hudak et al (1993), Hudak et al. (1997), and Sentell and Finstuen (1998).

Moreover, "interpersonal skills" appears as a top-rated competency in four studies (Anderson et al., 2000; Arthur Andersen & ACHE, 1984; Brooke et al., 1998; and Davidson et al., 2000). Similarly, "people skills" appears as a top-rated competency in two studies (Wallace, 1994; Sentell & Finstuen, 1998).

Not surprisingly, the competency "leadership" is also highly rated by recent graduates and CEOs alike. This competency appears as a top-rated competency in multiple studies: Anderson et al (2000), Brooke et al. (1998), Hudak et al. (1993), Hudak et al. (1994), Hudak et al. (1997), Sentell and Finstuen (1998), Wallace (1994), and Wenzel et al. (1995).

Other competencies rated in the top 10 by recent graduates in this study are also consistent with competencies perceived to be important by healthcare CEOs. For instance, "adapt to changes" was found to be a top competency in the Hudak et al. (1997) study. Wallace (1994) cites "decision making" as a top competency in his study, and "team building" appears in two studies, Hudak et al. (1994) and Sentell and Finstuen (1998). These findings suggest that the level of sophistication required of, and the myriad demands placed upon, recent graduates may be similar to those placed upon top managers in healthcare administration.

The Gap Between Perceptions of Importance and Adequacy of Preparation

Recent graduates consistently indicated a difference in their perceptions of the importance of the management competencies and their perceptions of adequacy of preparation for the competencies. As mentioned previously, this trend was noted in 42 of the 43 competencies. For example, all of the top 10 competencies reflect a gap between perceptions of importance and adequacy of preparation by three quarters of a point to over one and a quarter points. The gap in the two most important qualitative domains, relationships management and leadership and strategic management, were 1.09 and .83, respectively, moderately larger than the .61 gap in the quantitative domain of resource management. This suggests that academic programs should be giving more emphasis to developing qualitative skills.

Through the course of conducting the literature review in preparation for this study, no published research was found that assessed healthcare managers' perceptions of adequacy of preparation. Therefore, the findings of this study about the gap between importance of management competencies and adequacy of preparation cannot be compared with prior studies.

The literature is replete, however, with debate about the focus healthcare administration programs should take. Many graduate degree programs in healthcare administration focus on "business" skills, e.g., financial management, cost containment, and information management. While these skills are certainly important in today's dollar-driven healthcare industry, the data indicate that recent graduates perceive the qualitative skills as more important. In addition, when asked, "What other competencies are

important to your job but not listed here?" respondents overwhelmingly listed qualitative competencies, such as personal development skills, human resource management, time management/multitasking, change management, and political skills. In their responses to these questions, graduates often added parenthetically that they were not well prepared for the skills they cited as important.

These findings have implications for healthcare management education and training programs. Certainly, education programs should address financial management and cost containment; however, the results of this study suggest that more emphasis should be placed on qualitative skills such as communication, interpersonal relations, team building, and verbal and written skill training. These are the competencies that recent graduates view as crucial to their success and as needed immediately upon graduation and throughout one's career.

Differences by Demographic Characteristics

Years of Experience. Perceptions of importance for the management competencies varied with respondents' years of experience in healthcare administration. Therefore, there is the potential that perceived priorities in competency needs may change over a career life-cycle. The effect of experience may also be indicative of the fact that many healthcare managers enter the profession at different points in their professional lives. As Griffith (1999) notes, careers in healthcare management are generally an end in themselves; people come into healthcare management at various ages from various roles much more often than they leave the field for some other activity. Given this fact, participants' years of

experience may have provided more experienced respondents with a greater understanding of the competencies needed for successful healthcare management.

Type of Degree Earned. Respondents with an MBA degree generally rated the management competencies higher than did MHA, MHSA, or MPH graduates. In the two predominantly quantitative domains, resource management and stakeholder management, MBA respondents modestly rated the competencies as more important than respondents with other types of degrees. Surprisingly, however, in the predominantly qualitative domains, MBA respondents also rated the management competencies as more important, albeit the differences in these domains were somewhat smaller. It is not clear why this is the case.

Ethnicity. As the results indicate, nonwhite respondents perceived their adequacy of preparation higher than did non-Hispanic whites by an average of .26. Although this trend consistently appeared in each of the seven management domains, it is not clear whether this is due to better preparation or different perceptions despite similar levels of preparation.

Perceptions of Importance and Adequacy of Preparation for ACEHSA Criteria and the Gap Between

Recent graduates confirmed the importance of ACEHSA's criteria in today's healthcare environment. All 10 criteria were rated as important. The highest-rated criterion in terms of importance, "leadership, interpersonal and communication skills . . . " corresponds with recent graduates' perceptions of the top-rated management

competencies. For example, "communication," "interpersonal skills," and "leadership" were rated first, second, and fourth, respectively. The lowest-rated criterion in terms of importance, "the development, organization, and financing . . . " is also reflective of the level of importance recent graduates view the financial and organizational competencies. Recent graduates, nevertheless, perceived this lowest-rated criterion as "important." In sum, recent graduates view all the ACEHSA criteria to be meaningful in today's healthcare environment.

As with the management competencies and perceptions of adequacy of preparation, a gap exists in recent graduates' perceptions of the importance of ACEHSA's criteria and adequacy of preparation. For example, the top-rated criterion in terms of importance, "leadership, interpersonal and communications . . . " has an importance rating of 3.62 and an adequacy rating of only 2.38, a difference of one and a quarter points. Overall, the average gap was .92. The gap indicates a substantial difference between recent graduates' perceptions of importance of the criteria and their perceptions of adequacy of preparation.

The accredited schools are expected to comply with ACESHA criteria; however, the criteria are very broadly stated, which allows for considerable flexibility and interpretation. The results of this study suggest that recent graduates would perhaps prefer the schools to take the criteria more literally and address them more directly within their instructional programs.

Conclusion and Recommendations

Conclusion

The healthcare industry is in a state of transition. Individuals who have strong management skills and practical experience will do well in managing today's healthcare organizations. Since the healthcare industry has been undergoing continuous change, it is not surprising that the availability of systematic and reliable data has been limited. This information gap reduces the capacity of our universities to provide the most relevant, responsive, and effective education and development programs. Educators of health services leaders and managers are confronted with the opportunity and responsibility to sustain the rich traditions of the past, but, at the same time, to create a more focused approach to curriculum and program planning and evaluation to meet the demands of the industry (Hilberman et al., 2000).

How should we redesign our education programs to adapt to changing workforce demands and needs? In the last decade, Prybil and Warden (1993) recognized that traditional approaches to the basic preparation and continuing education of managers were falling far short of what was actually needed by the healthcare industry, given the accelerating pace of change. The Pew Commission (1993) suggested that our educational programs become "demand-oriented," that education provide students with the knowledge, skills, and abilities necessary for effective practice in industry. With respect to restructuring education, the commission stated, "The new system will favor those institutions that can understand what is in demand by the emerging system and provide

those types of workers and professionals in a timely and cost-effective manner." Therefore, the academic community has the responsibility to consider the "demands" of its students as well as the industry in order to equip future healthcare managers with the skills necessary to effectively perform in today's complex environment.

Recommendations

There is little doubt regarding the rapidity and extent of change taking place in health services financing, organization, and delivery. How should programs alter their curricula in response to these changes to best prepare graduates to work in this turbulent environment? Ideally, they should look to evidence linking curriculum characteristics to successful performance by graduates as measured by their own career achievements, the success of the organizations in which they work, or even the health enhancement of the patients and communities served by the organizations, but there is little such evidence (Anderson et al., 2000).

In the absence of such evidence, perhaps the best alternative is to ask relevant stakeholders what the appropriate curriculum should be. Common practice has been to rely on the judgments of senior stakeholders. An important but often overlooked stakeholder is the recent graduate. In this study, recent graduates clearly indicated that broad qualitative skills are most important to their career success. An innovative aspect of this study was that it also asked recent graduates to assess the quality of their preparation for various management competencies and ACEHSA criteria. On average, they consistently reported that preparation lags behind importance.

Although the recent graduate's perceptions revealed by this study are subjective, and without verification from their supervisors, they are quite consistent with the perceptions of higher level healthcare mangers perceptions about their own job demands. In light of these findings, academic programs might seek to improve preparation in qualitative management skills. There are at least three ways they might do this.

One approach would be to add direct instruction and practice in qualitative skills such as team building, people skills, and communication. This could be done either as a part of new courses or as new modules in existing courses.

A second approach would be to develop the qualitative skills in exercises that are also designed to develop other skills, such as financial management. For example, students may be placed into groups to work on a financial management project. This technique would not only allow students to learn the concepts of financial management, but would also allow students to develop their interpersonal skills through working in a group setting. Moreover, a technique such as this would also prepare students for working in healthcare settings, where much of the decision-making is based upon group and committee meetings.

A third approach would be for national and local professional associations, such as ACHE, or a local healthcare association chapter to assist in developing qualitative skills in training seminars held during conferences and/or at monthly meetings. Moreover, professional associations could establish mentorship programs to link recent graduates with senior healthcare managers. Through this mentorship relationship, recent graduates could refine their management skills.

Recommendations for Future Research

The literature and this study suggest some fruitful avenues for future research. First, a study could assess supervisors' perceptions of importance of the management competencies and adequacy of preparation for recent graduates. This would provide invaluable information for the field. Second, individual academic programs may want to replicate this survey with their recent graduates who have been working in the field for a year or two. This could provide useful information for the guidance of individual programs. Third, research could be undertaken to assess how best to develop and teach qualitative skills. Lastly, differences in perceptions of adequacy of preparation by minority respondents raises an interesting question that might be explored in future research.

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APPENDICIES

APPENDIX A

STUDY SURVEY COVER LETTER

[The George Washington University Letterhead]

(date)

(addressee)

Dear Colleague,

I would appreciate your taking a few minutes to complete the enclosed questionnaire and returning it in the self-addressed, stamped envelope or fax it to 703-922-7671 (Attn: Dawn Erckenbrack). This research, entitled **"Recent Graduates' Perceptions of Critical Management Competencies for Healthcare Administrators,"** is important in order to determine which management competencies are most critical to your successful job performance. Your answers to these questions will provide information to assist in planning curriculums in healthcare administration programs and continuing education courses for healthcare administrators. Therefore, it is imperative to identify which competencies are most important to recent graduates in order for them to be successful in their job. The importance of this study cannot be overstated. It will help identify critical competencies as well as enable our educational programs to educate current and future healthcare managers in the requisite skills, knowledge, and abilities necessary to succeed in today's dynamic healthcare industry.

This study is part of the requirement for the doctorate of education degree at The George Washington University. Your name was obtained from the member listing of the American College of Healthcare Executives. The college, however, has not endorsed or otherwise participated in the study. Your responses will be absolutely confidential. At no time will individual responses be identified. Participation in the study is voluntary and will not affect your job status nor affiliation with ACHE. If you would like a copy of the final executive summary of the study, please enclose a business card.

If you have any questions regarding this study, please call Dawn Erckenbrack at 703-313-7555 or e-mail erccubed@aol.com. Your assistance in this very worthwhile research project is very much appreciated.

Sincerely,
Dawn B. Erckenbrack, MHA, MS, FACHE

APPENDIX B

SURVEY INSTRUMENT

Section I

Instructions: Please circle the appropriate number to indicate how important you perceive the following competencies are in order to be successful in your job and how adequately your academic program prepared you for these competencies. Please circle two numbers for each question.

	How important is this competency in your job?	**How adequately did your program prepare you for this competency?**
0 = not important or not prepared; 4 = extremely important or very well prepared		
Leadership and Strategic Management		
Leadership	0 1 2 3 4	0 1 2 3 4
Strategic Planning /Management	0 1 2 3 4	0 1 2 3 4
Flexibility	0 1 2 3 4	0 1 2 3 4
Visionary	0 1 2 3 4	0 1 2 3 4
Adapt to Changes	0 1 2 3 4	0 1 2 3 4
Manage Change	0 1 2 3 4	0 1 2 3 4
Critical Thinking	0 1 2 3 4	0 1 2 3 4
Governance	0 1 2 3 4	0 1 2 3 4
Strategic Thinking	0 1 2 3 4	0 1 2 3 4
Decision Making	0 1 2 3 4	0 1 2 3 4
Risk Management	0 1 2 3 4	0 1 2 3 4
Awareness of the Environment	0 1 2 3 4	0 1 2 3 4
Ethical/Values	0 1 2 3 4	0 1 2 3 4
Executive Development	0 1 2 3 4	0 1 2 3 4

Relationships Management										
Communications	0	1	2	3	4	0	1	2	3	4
Interpersonal Skills	0	1	2	3	4	0	1	2	3	4
Physician Relations	0	1	2	3	4	0	1	2	3	4
Human Resource Management	0	1	2	3	4	0	1	2	3	4
Networking	0	1	2	3	4	0	1	2	3	4
People Skills	0	1	2	3	4	0	1	2	3	4
Team-Building Skills	0	1	2	3	4	0	1	2	3	4
Resource Management										
Management Information System	0	1	2	3	4	0	1	2	3	4
Financial (Finance)	0	1	2	3	4	0	1	2	3	4
Financial Management	0	1	2	3	4	0	1	2	3	4
Capitation and Reimbursement	0	1	2	3	4	0	1	2	3	4
Cost Accounting	0	1	2	3	4	0	1	2	3	4
Physician Compensation	0	1	2	3	4	0	1	2	3	4
Computer Skills	0	1	2	3	4	0	1	2	3	4
Cost Containment	0	1	2	3	4	0	1	2	3	4
Legal Competency	0	1	2	3	4	0	1	2	3	4
Information Management	0	1	2	3	4	0	1	2	3	4
Functional Management										
Organizational Knowledge	0	1	2	3	4	0	1	2	3	4
Operations Management	0	1	2	3	4	0	1	2	3	4
Stakeholder Management										
Negotiations Skills	0	1	2	3	4	0	1	2	3	4
Managed Care	0	1	2	3	4	0	1	2	3	4
Contracting	0	1	2	3	4	0	1	2	3	4
Knowledge of Acquisitions and Mergers	0	1	2	3	4	0	1	2	3	4
Patient Care Management										
Outcomes Analysis	0	1	2	3	4	0	1	2	3	4
Ethics	0	1	2	3	4	0	1	2	3	4
Medical Ethics	0	1	2	3	4	0	1	2	3	4
Medical and Clinical Ethics	0	1	2	3	4	0	1	2	3	4
Quality and Risk Management										
Maintain Standards	0	1	2	3	4	0	1	2	3	4
Government Involvement	0	1	2	3	4	0	1	2	3	4

Section II

Instructions: Please circle the appropriate number to indicate how important you perceive the following competencies to be in today's healthcare environment and how adequately your academic program prepared you for these competencies.

	How important is this competency in your job?	**How adequately did your program prepare you for this competency?**
	0 = not important or not prepared; 4 = extremely important or very well prepared	
1. The structuring and positioning of health organizations to achieve optimum performance	0 1 2 3 4	0 1 2 3 4
2. Financial management of health organizations under alternative financing mechanisms	0 1 2 3 4	0 1 2 3 4
3. Leadership, interpersonal, and communications skills in managing human resources and health professionals in diverse organizational environments	0 1 2 3 4	0 1 2 3 4
4. The management of information resources and the collection, analysis, and use of business and health information in decision making	0 1 2 3 4	0 1 2 3 4
5. The use of statistical, quantitative, and economic analysis in decision making	0 1 2 3 4	0 1 2 3 4
6. The use of legal and ethical analysis in business and clinical decision making	0 1 2 3 4	0 1 2 3 4
7. Organizational and governmental health policy formulation, implementation, and analysis	0 1 2 3 4	0 1 2 3 4
8. The assessment and understanding of the health status of populations, determinants of health and illness, and the managing of health risks and behaviors in diverse populations	0 1 2 3 4	0 1 2 3 4

9. The development, organization, financing, and measurement of performance of health systems in diverse communities, drawing broadly on the social and behavioral sciences	0 1 2 3 4	0 1 2 3 4
10. The measurement of business and health outcomes. The analysis of process/outcome relationships, and methods for process improvement in health organizations	0 1 2 3 4	0 1 2 3 4

What other competencies are important in your job but are not listed here?

How adequately did your program prepare you for these competencies?

Comments:

Section III
Demographic Data

Please indicate the following information. This information will not be used to personally identify participants but rather to track trends and identify opportunities for improvement in health administration education curricula. Make a check mark as appropriate. Thank you.

Gender: _____Male _____Female

Age:
_____<25
_____ 25-30
_____ 31-35
_____ 36-40
_____ 41-45
_____ 46-50
_____ > 50

Ethnicity:
_____ African American
_____ Asian
_____ Hispanic
_____ Indian
_____ White, non-Hispanic

_____ Other

Educational background (highest degree earned):

_____ High School Diploma
_____ Associate Degree
_____ Bachelor's Degree
_____ Master's Degree
_____ Doctorate Degree
_____ Other

Type of Highest Degree Earned (Check only one):

_____ Bachelor of Arts (BA)
_____ Bachelor of Science (BS)
_____ Bachelor of Science in Nursing (BSN)
_____ Master of Arts (MA)
_____ Master of Business Administration (MBA)
_____ Master of Healthcare Administration (MHA)
_____ Master of Health Services Administration (MHSA)
_____ Master of Science (MS)
_____ Master of Public Health (MPH)
_____ Doctorate Degree/Professional Degree
_____ Other

Years of Experience in Healthcare Administration:

_____ < 1
_____ 1-5
_____ 6-10
_____ >10

Which of the following best describes your experience in healthcare administration? (Check only one.)

_____ (Clinical, e.g., physician, nurse, therapist)
_____ (Nonclinical, e.g., department administrator, human resource management, chief operating officer)

Which of the following best describes your current position in healthcare administration? (Check only one.)

_____ (Clinical, e.g., physician, nurse, therapist)
_____ (Nonclinical, e.g., department administrator, human resource management, chief operating officer)

APPENDIX C

SECOND MAILING COVER LETTER

October 5, 2001

Dear Colleague,

Attached please find a second copy of the **Recent Graduates' Perceptions of Critical Management Competencies for Healthcare Administrators** survey sent to you last month. I would appreciate your taking a few minutes to complete the enclosed questionnaire and returning it in the self-addressed, stamped envelope or fax it to 703-922-7671 (Attn: Dawn Erckenbrack) at your earliest convenience. This research is important in order to determine which management competencies are most critical to your successful job performance. Your answers to these questions will provide information to assist in planning curriculums in healthcare administration programs and continuing education courses for healthcare administrators. The importance of this study cannot be overstated; by your participation, you will help identify critical competencies that will enable our educational programs to educate current and future healthcare managers in the requisite skills, knowledge, and abilities necessary to succeed in today's dynamic healthcare industry.

This study is part of the requirement for the doctorate of education degree at The George Washington University. Your name was obtained from the member listing of the American College of Healthcare Executives. The college, however, has not endorsed or otherwise participated in the study. Your responses will be absolutely confidential. At no time will individual responses be identified. Participation in the study is voluntary and will not affect your job status nor affiliation with ACHE. If you would like a copy of the final executive summary of the study, please enclose a business card.

If you have any questions regarding this study, please call Dawn Erckenbrack at 703-313-7555 or e-mail erccubed@aol.com. Your assistance in this very worthwhile research project is very much appreciated.

Sincerely,
Dawn B. Erckenbrack, MHA, MS, FACHE

1 Enclosure

APPENDIX D

THIRD MAILING POSTCARD

Dear Colleague,

Recently you should have received a survey inviting you to express your opinions on *Recent Graduates' Perceptions of Critical Management Competencies for Healthcare Administrators.* Please take a few moments and complete the survey at your earliest convenience and return it in the self-addressed stamped envelope provided with the survey. If you have lost or discarded the survey, please call me at 703-313-7555 or e-mail me at erccubed@aol.com and I will send you another copy. I can also send you a copy via e-mail or take your answers over the telephone if you would prefer. If you have taken the time to return your completed survey, please accept my sincere thanks.

Your response to this survey is critical. By your participation, you will help identify critical competencies that will enable our educational programs to educate current and future healthcare managers in the requisite skills, knowledge, and abilities necessary to succeed in today's dynamic healthcare industry. This study is part of the requirement for the doctorate of education degree at The George Washington University. Your answers will remain confidential. If you have any questions regarding this study, please call or e-mail me. Thank-you for taking the time to complete this important survey.

Dawn B. Erckenbrack, MHA, MS, FACHE

APPENDIX E

DEMOGRAPHIC DATA

Table 1
Age

	Age group	Frequency	Percent	Valid percent	Cumulative percent
Valid	<25	12	6.6	6.6	6.6
	25-30	65	35.5	35.9	42.5
	31-35	34	18.6	18.8	61.3
	36-40	19	10.4	10.5	71.8
	41-45	19	10.4	10.5	82.3
	46-50	18	9.8	9.9	92.3
	>50	14	7.7	7.7	100.0
	Total	181	98.9	100.0	
Missing	System	2	1.1		
Total		183	100.0		

Table 2
Years of Experience in Healthcare Administration

	Years of experience	Frequency	Percent	Valid percent	Cumulative percent
Valid	<1	13	7.1	7.4	7.4
Valid	<1	13	7.1	7.4	7.4
	1-5	82	44.8	46.9	54.3
	1-5	82	44.8	46.9	54.3
	6-10	32	17.5	18.3	72.6
	6-10	32	17.5	18.3	72.6
	>10	48	26.2	27.4	100.0
	>10	48	26.2	27.4	100.0

	Total	175	95.6	100.0	
Missing	System	8	4.4		
Total		183	100.0		

Table 3
Ethnicity

	Ethnicity	Frequency	Percent	Valid percent	Cumulative percent
Valid	African American	9	4.9	5.0	5.0
	Asian	9	4.9	5.0	9.9
	Hispanic	7	3.8	3.9	13.8
	Indian	1	.5	.6	14.4
	White, non-Hispanic	151	82.5	83.4	97.8
	Other	4	2.2	2.2	100.0
	Total	181	98.9	100.0	
Missing	System	2	1.1		
Total		183	100.0		

Table 4
Gender

	Gender	Frequency	Percent	Valid percent	Cumulative percent
Valid	Male	77	42.1	42.1	42.1
	Female	106	57.9	57.9	100.0
	Total	183	100.0	100.0	

Table 5
Highest Degree Earned

	Type of degree	Frequency	Percent	Valid percent	Cumulative percent
Valid	Bachelor's degree	13	7.1	7.1	7.1
	Master's degree	156	85.2	85.7	92.9
	Doctorate degree	13	7.1	7.1	100.0
	Total	182	99.5	100.0	
Missing	System	1	.5		
Total		183	100.0		

Table 6
Type of Highest Degree Earned

	Type of degree	Frequency	Percent	Valid percent	Cumulative percent
Valid	Bachelor of arts (BA)	1	.5	.5	.5
	Bachelor of science (BS)	12	6.6	6.6	7.1
	Bachelor of science in nursing (BSN)	1	.5	.5	7.7
	Master of arts (MA)	3	1.6	1.6	9.3
	Master of business administration (MBA)	42	23.0	23.1	32.4
	Master of healthcare administration (MHA)	57	31.1	31.3	63.7
	Master of health services administration (MHSA)	23	12.6	12.6	76.4
	Master of science (MS)	8	4.4	4.4	80.8
	Master of science (MS)	8	4.4	4.4	80.8
	Master of public health (MPH)	14	7.7	7.7	88.5
	Master of public health (MPH)	14	7.7	7.7	88.5
	Doctorate degree/professional degree	12	6.6	6.6	95.1
	Doctorate degree/professional degree	12	6.6	6.6	95.1
	Other	9	4.9	4.9	100.0
	Other	9	4.9	4.9	100.0
	Total	182	99.5	100.0	
	Total	182	99.5	100.0	
Missing	System	1	.5		
Missing	System	1	.5		
Total		183	100.0		
Total		183	100.0		

Table 7
Which of the Following Best Describes Your Current Position in Healthcare Administration?

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Nonclinical	176	96.2	96.7	96.7
	Clinical	6	3.3	3.3	100.0
	Total	182	99.5	100.0	
Missing	System	1	.5		
Total		183	100.0		

Table 8
Which of the Following Best Describes Your Experience in Healthcare Administration?

	Type of experience	Frequency	Percent	Valid percent	Cumulative percent
Valid	Nonclinical	156	85.2	85.7	85.7
	Clinical	26	14.2	14.3	100.0
	Total	182	99.5	100.0	
Missing	System	1	.5		
Total		183	100.0		

APPENDIX F

DESCRIPTIVE STATISTICS AND ANALYSIS OF VARIANCE FOR RESEARCH QUESTION ONE

Table 1
Descriptive Statistics Summary for Importance of the Management Competencies by Age.

						95% confidence interval for mean			
Domain	Age	N	Mean	SD	Std. error	Lower bound	Upper bound	Min	Max
Leadership and strategic management	<25	13	3.1410	.4422	.1226	2.8738	3.4082	2.21	3.79
	25-30	65	3.0618	.4252	5.274E-02	2.9564	3.1672	2.00	4.00
	31-35	35	3.2320	.4740	8.012E-02	3.0692	3.3948	1.93	4.00
	36-40	19	3.2437	.5245	.1203	2.9909	3.4965	2.42	4.00
	41-45	19	3.3495	.3531	8.100E-02	3.1794	3.5197	2.79	4.00
	46-50	18	3.3309	.5390	.1270	3.0629	3.5989	2.38	4.00
	>50	14	3.4285	.4429	.1184	3.1727	3.6842	2.07	3.93
	Total	183	3.2033	.4633	3.425E-02	3.1357	3.2708	1.93	4.00
	Total	183	3.2033	.4633	3.425E-02	3.1357	3.2708	1.93	4.00
Relation-ships management	<25	13	3.3692	.4811	.1334	3.0785	3.6600	2.29	4.00
Relation-ships management	<25	13	3.3692	.4811	.1334	3.0785	3.6600	2.29	4.00
	25-30	65	3.3077	.4610	5.718E-02	3.1935	3.4219	2.29	4.00

Domain	Age	N	Mean	SD	Std. error	95% confidence interval for mean Lower bound	Upper bound	Min	Max
							219		
	31-35	35	3.3224	.4535	7.666E-02	3.1667	3.4782	2.43	4.00
	36-40	19	3.2105	.4527	.1039	2.9923	3.4287	2.57	4.00
	41-45	19	3.5714	.3086	7.080E-02	3.4227	3.7202	2.86	4.00
	46-50	18	3.3810	.5232	.1233	3.1208	3.6411	2.57	4.00
	>50	14	3.6122	.4669	.1248	3.3427	3.8818	2.14	4.00
	Total	183	3.3627	.4609	3.407E-02	3.2955	3.4299	2.14	4.00
Resource management	<25	13	2.6906	.7274	.2017	2.2510	3.1302	1.60	3.80
	25-30	65	2.6554	.6154	7.634E-02	2.5029	2.8079	.80	4.00
	31-35	35	2.6486	.7052	.1192	2.4063	2.8908	1.30	3.70
	36-40	19	2.5632	.6048	.1388	2.2717	2.8547	1.70	3.70
	41-45	19	2.6789	.6460	.1482	2.3676	2.9903	1.50	3.80
	46-50	18	2.7778	.6074	.1432	2.4757	3.0798	1.90	3.90
	>50	14	2.9000	.5818	.1555	2.5641	3.2359	1.20	3.50
	Total	183	2.6802	.6353	4.696E-02	2.5875	2.7729	.80	4.00
Functional management	<25	13	3.3462	.6578	.1824	2.9487	3.7437	2.00	4.00
	25-30	65	3.1692	.7086	8.790E-02	2.9936	3.3448	2.00	4.00
	31-35	35	3.1429	.7433	.1256	2.8875	3.3982	1.00	4.00
	36-40	19	3.1316	.8138	.1867	2.7393	3.5238	1.00	4.00
	36-40	19	3.1316	.8138	.1867	2.7393	3.5238	1.00	4.00
	41-45	19	3.4211	.6925	.1589	3.0873	3.7548	2.00	4.00
	41-45	19	3.4211	.6925	.1589	3.0873	3.7548	2.00	4.00
	46-50	18	3.3333	.5941	.1400	3.0379	3.6288	2.50	4.00
	46-50	18	3.3333	.5941	.1400	3.0379	3.6288	2.50	4.00
	>50	14	3.2143	.8254	.2206	2.7377	3.6909	1.00	4.00
	>50	14	3.2143	.8254	.2206	2.7377	3.6909	1.00	4.00
	Total	183	3.2186	.7158	5.292E-02	3.1142	3.3230	1.00	4.00
	Total	183	3.2186	.7158	5.292E-02	3.1142	3.3230	1.00	4.00
Stakeholder management	<25	13	2.8269	1.0020	.2779	2.2214	3.4324	.75	4.00
Stakeholder management	<25	13	2.8269	1.0020	.2779	2.2214	3.4324	.75	4.00
	25-30	65	2.2577	.9540	.1183	2.0213	2.4941	.00	4.00
	25-30	65	2.2577	.9540	.1183	2.0213	2.4941	.00	4.00
	31-35	35	2.3500	.8184	.1383	2.0689	2.6311	.50	3.75
	31-35	35	2.3500	.8184	.1383	2.0689	2.6311	.50	3.75
	36-40	19	2.3026	.9916	.2275	1.8247	2.7805	.00	4.00

Domain	Age	N	Mean 026	SD	Std. error	95% confidence interval for mean Lower bound	Upper bound	Min	Max
	41-45	19	2.3421	.9362	.2148	1.8909	2.7933	.50	3.75
	46-50	18	2.4861	.6152	.1450	2.1802	2.7920	1.50	4.00
	>50	14	2.6786	1.0021	.2678	2.1000	3.2571	.25	3.75
	Total	183	2.3839	.9115	6.738E-02	2.2509	2.5168	.00	4.00
Patient care management	<25	13	2.8077	1.1909	.3303	2.0880	3.5274	.00	4.00
	25-30	65	2.5808	1.0118	.1255	2.3301	2.8315	.00	4.00
	31-35	35	2.5357	.9377	.1585	2.2136	2.8578	.75	4.00
	36-40	19	2.5395	1.0078	.2312	2.0537	3.0252	.00	4.00
	41-45	19	2.7500	.9930	.2278	2.2714	3.2286	.25	4.00
	46-50	18	3.1528	.8834	.2082	2.7135	3.5921	1.25	4.00
	>50	14	2.9107	.5058	.1352	2.6187	3.2028	2.25	4.00
	Total	183	2.6831	.9718	7.183E-02	2.5413	2.8248	.00	4.00
Quality and risk management	<25	13	2.8462	1.2481	.3462	2.0919	3.6004	.00	4.00
	25-30	65	2.7846	.9641	.1196	2.5457	3.0235	.00	4.00
	31-35	35	3.0571	.9531	.1611	2.7297	3.3845	.50	4.00
	36-40	18	2.7222	.6468	.1524	2.4006	3.0438	2.00	4.00
	36-40	18	2.7222	.6468	.1524	2.4006	3.0438	2.00	4.00
	41-45	19	3.1316	.7040	.1615	2.7923	3.4709	1.50	4.00
	41-45	19	3.1316	.7040	.1615	2.7923	3.4709	1.50	4.00
	46-50	18	3.1667	.7859	.1852	2.7758	3.5575	2.00	4.00
	46-50	18	3.1667	.7859	.1852	2.7758	3.5575	2.00	4.00
	>50	14	2.8571	1.0818	.2891	2.2325	3.4818	.00	4.00
	>50	14	2.8571	1.0818	.2891	2.2325	3.4818	.00	4.00
	Total	182	2.9148	.9267	6.869E-02	2.7793	3.0504	.00	4.00
	Total	182	2.9148	.9267	6.869E-02	2.7793	3.0504	.00	4.00

Table 2
Analysis of Variance for Importance of the Management Competencies by Age

Domain		Sum of squares	df	Mean square	F	Sig.
Leadership and strategic management	Between groups	2.678	4	.670	3.275	.013*
	Within groups	36.385	178	.204		
	Total	39.063	182			
Relationships management	Between groups	1.937	4	.484	2.347	.056
	Within groups	36.725	178	.206		
	Total	38.662	182			
Resource management	Between groups	1.053	4	.263	.648	.629
	Within groups	72.395	178	.407		
	Total	73.449	182			
Functional management	Between groups	1.280	4	.320	.619	.649
	Within groups	91.977	178	.517		
	Total	93.257	182			
	Total	93.257	182			
Stakeholder management	Between groups	1.387	4	.347	.412	.800
Stakeholder management	Between groups	1.387	4	.347	.412	.800
	Within groups	149.832	178	.842		
	Within groups	149.832	178	.842		
	Total	151.220	182			
	Total	151.220	182			
Patient care management	Between groups	5.797	4	1.449	1.553	.189
Patient care management	Between groups	5.797	4	1.449	1.553	.189
	Within	166.071	178	.933		

Domain		Sum of squares	df	Mean square	F	Sig.
	groups					
	Total	171.867	182			
Quality and risk management	Between groups	3.825	4	.956	1.117	.350
	Within groups	151.605	177	.857		
	Total	155.430	181			

Note: *p<.05.

Table 3
Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Age.

						95% confidence interval for mean			
Domain	Age category	N	Mean	Std. deviation	Std. error	Upper bound	Lower bound	Min	Max
Leadership and strategic management	<25	13	2.6213	.5875	.1629	2.2663	2.9763	1.36	3.36
	25-30	65	2.4049	.5834	7.237E-02	2.2604	2.5495	1.14	3.57
	31-35	35	2.2622	.7032	.1189	2.0207	2.5038	.79	3.50
	36-40	19	2.3522	.9138	.2096	1.9118	2.7927	.43	4.00
	41-45	19	2.4451	.6230	.1429	2.1448	2.7453	1.00	3.50
	46-50	18	2.5040	.9070	.2138	2.0530	2.9551	1.36	4.00
	46-50	18	2.5040	.9070	.2138	2.0530	2.9551	1.36	4.00
	>50	14	2.1224	.7265	.1942	1.7030	2.5419	.86	3.36
	>50	14	2.1224	.7265	.1942	1.7030	2.5419	.86	3.36
	Total	183	2.3798	.6961	5.146E-02	2.2783	2.4814	.43	4.00
	Total	183	2.3798	.6961	5.146E-02	2.2783	2.4814	.43	4.00
Relationships management	<25	13	2.6813	.5286	.1466	2.3619	3.0008	1.86	3.43
Relationships management	<25	13	2.6813	.5286	.1466	2.3619	3.0008	1.86	3.43
	25-30	65	2.3978	.7087	8.790E-02	2.2222	2.5734	.57	4.00
							5734		

Domain	Age category	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	31-35	35	2.1959	.9849	.1665	1.8576	2.5343	.57	4.00
	36-40	19	2.0977	.9713	.2228	1.6296	2.5659	.43	4.00
	41-45	19	2.1579	.7794	.1788	1.7822	2.5336	.00	3.14
	46-50	18	2.2778	.9264	.2184	1.8171	2.7385	1.14	4.00
	>50	14	2.3469	.8056	.2153	1.8818	2.8121	1.00	3.71
	Total	183	2.3076	.8238	6.089E-02	2.1874	2.4277	.00	4.00
Resource management	<25	13	2.2846	.8194	.2273	1.7895	2.7798	.80	3.50
	25-30	65	2.0733	.6447	7.997E-02	1.9136	2.2331	.70	3.80
	31-35	35	1.8095	.6742	.1140	1.5779	2.0411	.60	3.20
	36-40	19	2.1579	.7967	.1828	1.7739	2.5419	.80	4.00
	41-45	19	2.1579	.7478	.1716	1.7975	2.5183	.80	3.30
	46-50	18	2.2333	.9042	.2131	1.7837	2.6830	1.10	4.00
	>50	14	1.8643	.6857	.1833	1.4684	2.2602	.60	2.80
	Total	183	2.0552	.7260	5.366E-02	1.9493	2.1611	.60	4.00
Functional management	<25	13	2.6538	1.0485	.2908	2.0202	3.2875	1.00	4.00
	25-30	65	2.5154	.8243	.1022	2.3111	2.7196	.50	4.00
	25-30	65	2.5154	.8243	.1022	2.3111	2.7196	.50	4.00
	31-35	35	2.1857	.9400	.1589	1.8628	2.5086	.00	3.50
	31-35	35	2.1857	.9400	.1589	1.8628	2.5086	.00	3.50
	36-40	19	2.2632	1.0457	.2399	1.7591	2.7672	.50	4.00
	36-40	19	2.2632	1.0457	.2399	1.7591	2.7672	.50	4.00
	41-45	19	2.6316	.8635	.1981	2.2154	3.0478	1.00	4.00
	41-45	19	2.6316	.8635	.1981	2.2154	3.0478	1.00	4.00
	46-50	18	2.7778	1.0033	.2365	2.2789	3.2767	1.00	4.00
	46-50	18	2.7778	1.0033	.2365	2.2789	3.2767	1.00	4.00
	>50	14	2.2143	.8926	.2386	1.6989	2.7296	.50	4.00
	>50	14	2.2143	.8926	.2386	1.6989	2.7296	.50	4.00
	Total	183	2.4508	.9215	6.812E-02	2.3164	2.5852	.00	4.00
	Total	183	2.4508	.9215	6.812E-02	2.3164	2.5852	.00	4.00
Stakeholder management	<25	13	2.3846	1.1620	.3223	1.6824	3.0868	.50	4.00

Domain	Age category	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	25-30	65	1.6885	.7807	9.683E-02	1.4950	1.8819	.00	3.50
	31-35	35	1.5571	.9928	.1678	1.2161	1.8982	.00	3.50
	36-40	19	1.6184	.9767	.2241	1.1477	2.0892	.50	4.00
	41-45	19	1.7500	.8660	.1987	1.3326	2.1674	.25	3.00
	46-50	18	1.9444	.8975	.2115	1.4981	2.3908	.75	4.00
	>50	14	1.3393	1.0077	.2693	.7575	1.9211	.00	3.25
	Total	183	1.7104	.9263	6.847E-02	1.5753	1.8455	.00	4.00
Patient care management	<25	13	2.4231	1.1875	.3294	1.7055	3.1407	.00	3.75
	25-30	65	2.3192	.9159	.1136	2.0923	2.5462	.00	4.00
	31-35	35	1.7429	.9972	.1686	1.4003	2.0854	.00	3.75
	36-40	19	2.2105	1.1763	.2699	1.6435	2.7775	.00	4.00
	41-45	19	2.1447	.9440	.2166	1.6898	2.5997	.00	4.00
	46-50	18	2.4444	1.0626	.2505	1.9160	2.9729	.50	4.00
	>50	14	1.7679	1.0582	.2828	1.1569	2.3789	.00	3.50
	Total	183	2.1571	1.0256	7.581E-02	2.0075	2.3067	.00	4.00
Quality and risk management	<25	13	1.9615	1.3301	.3689	1.1578	2.7653	.00	4.00
	25-30	65	1.8308	.8673	.1076	1.6159	2.0457	.00	4.00
	25-30	65	1.8308	.8673	.1076	1.6159	2.0457	.00	4.00
	31-35	35	1.7286	1.0456	.1767	1.3694	2.0877	.00	4.00
	31-35	35	1.7286	1.0456	.1767	1.3694	2.0877	.00	4.00
	36-40	18	2.0278	1.1437	.2696	1.4590	2.5965	.00	4.00
	36-40	18	2.0278	1.1437	.2696	1.4590	2.5965	.00	4.00
	41-45	19	2.1316	.8794	.2018	1.7077	2.5554	1.00	4.00
	41-45	19	2.1316	.8794	.2018	1.7077	2.5554	1.00	4.00
	46-50	18	2.3889	1.1318	.2668	1.8260	2.9517	.00	4.00
	46-50	18	2.3889	1.1318	.2668	1.8260	2.9517	.00	4.00
	>50	14	1.5357	.9086	.2428	1.0111	2.0603	.00	3.00
	>50	14	1.5357	.9086	.2428	1.0111	2.0603	.00	3.00
	Total	182	1.9038	1.0084	7.475E-02	1.7564	2.0513	.00	4.00
	Total	182	1.9038	1.0084	7.475E-02	1.7564	2.0513	.00	4.00

Table 4
Descriptive Statistics Summary for Importance of the Management Competencies by Years of Experience.

Domain	Years of exp.	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic management	<1	13	3.0147	.4788	.1328	2.7253	3.3040	2.21	3.79
	1-5	83	3.1374	.4303	4.723E-02	3.0434	3.2313	2.00	4.00
	6-10	32	3.1912	.5378	9.506E-02	2.9973	3.3851	1.93	4.00
	>10	49	3.3918	.4135	5.907E-02	3.2730	3.5106	2.42	4.00
	Total	177	3.2085	.4626	3.477E-02	3.1399	3.2772	1.93	4.00
Relationships management	<1	13	3.2703	.5823	.1615	2.9184	3.6222	2.57	4.00
	1-5	83	3.3167	.4643	5.096E-02	3.2153	3.4181	2.14	4.00
	6-10	32	3.3929	.4384	7.751E-02	3.2348	3.5509	2.57	4.00
	>10	49	3.4869	.4334	6.192E-02	3.3624	3.6114	2.43	4.00
	>10	49	3.4869	.4334	6.192E-02	3.3624	3.6114	2.43	4.00
	Total	177	3.3742	.4632	3.482E-02	3.3055	3.4429	2.14	4.00
	Total	177	3.3742	.4632	3.482E-02	3.3055	3.4429	2.14	4.00
Resource management	<1	13	2.3291	.7774	.2156	1.8593	2.7988	1.30	3.80
Resource management	<1	13	2.3291	.7774	.2156	1.8593	2.7988	1.30	3.80
	1-5	83	2.6012	.6265	6.877E-02	2.4644	2.7380	.80	4.00
	1-5	83	2.6012	.6265	6.877E-02	2.4644	2.7380	.80	4.00

Domain	Years of exp.	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	6-10	32	2.7438	.5924	.1047	2.5302	2.9573	1.40	3.60
	>10	49	2.8617	.5981	8.544E-02	2.6899	3.0335	1.30	3.90
	Total	177	2.6791	.6367	4.786E-02	2.5847	2.7736	.80	4.00
Functional management	<1	13	2.8462	.8263	.2292	2.3469	3.3455	1.50	4.00
	1-5	83	3.2470	.7423	8.148E-02	3.0849	3.4091	1.00	4.00
	6-10	32	3.2813	.5671	.1002	3.0768	3.4857	2.00	4.00
	>10	48	3.2083	.7497	.1082	2.9906	3.4260	1.00	4.00
	Total	176	3.2131	.7241	5.458E-02	3.1053	3.3208	1.00	4.00
Stakeholder management	<1	13	1.7500	1.2707	.3524	.9821	2.5179	.00	4.00
	1-5	83	2.2349	.9414	.1033	2.0294	2.4405	.25	4.00
	6-10	32	2.7109	.7649	.1352	2.4352	2.9867	.75	3.75
	>10	49	2.5918	.7139	.1020	2.3868	2.7969	1.00	4.00
	Total	177	2.3842	.9147	6.875E-02	2.2485	2.5199	.00	4.00
Patient care management	<1	13	2.4423	1.3037	.3616	1.6545	3.2301	.00	4.00
Patient care management	<1	13	2.4423	1.3037	.3616	1.6545	3.2301	.00	4.00
	1-5	83	2.5392	.9663	.1061	2.3282	2.7501	.00	4.00
	1-5	83	2.5392	.9663	.1061	2.3282	2.7501	.00	4.00
	6-10	32	2.8047	.8677	.1534	2.4918	3.1175	.25	4.00
	6-10	32	2.8047	.8677	.1534	2.4918	3.1175	.25	4.00
	>10	49	2.9898	.8385	.1198	2.7490	3.2306	1.25	4.00
	>10	49	2.9898	.8385	.1198	2.7490	3.2306	1.25	4.00
	Total	177	2.7048	.9580	7.200E-02	2.5627	2.8469	.00	4.00
	Total	177	2.7048	.9580	7.200E-02	2.5627	2.8469	.00	4.00
Quality and risk management	<1	13	2.7692	1.2685	.3518	2.0027	3.5357	.50	4.00
	1-5	83	2.7590	.9919	.1089	2.5424	2.9756	.00	4.00

Domain	Years of exp.	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
							.9756		
	6-10	31	2.9839	.8415	.1511	2.6752	3.2925	.50	4.00
	>10	49	3.1837	.7548	.1078	2.9669	3.4005	2.00	4.00
	Total	176	2.9176	.9398	7.084E-02	2.7778	3.0574	.00	4.00

Table 5
Analysis of Variance for Importance of the Management Competencies by Years of Experience

Domain		Sum of squares	df	Mean square	F	Sig.
Leadership and strategic management	Between groups	2.565	3	.855	4.213	.007**
	Within groups	35.107	173	.203		
	Total	37.671	176			
Relationships management	Between groups	1.048	3	.349	1.646	.181
	Within groups	36.721	173	.212		
	Total	37.769	176			
Resource management	Between groups	3.865	3	1.288	3.302	.022*
	Within groups	67.489	173	.390		
	Total	71.354	176			
Functional management	Between groups	1.995	3	.665	1.275	.285
	Within groups	89.764	172	.522		
	Total	91.760	175			
Stakeholder management	Between groups	12.607	3	4.202	5.399	.001**
	Within groups	134.644	173	.778		
	Total	147.251	176			
Patient care management	Between groups	7.472	3	2.491	2.797	.042*
Patient care management	Between groups	7.472	3	2.491	2.797	.042*
	Within groups	154.041	173	.890		
	Within groups	154.041	173	.890		
	Total	161.513	176			
	Total	161.513	176			
Quality and risk management	Between groups	5.978	3	1.993	2.307	.078
Quality and risk management	Between groups	5.978	3	1.993	2.307	.078
	Within groups	148.577	172	.864		
	Within groups	148.577	172	.864		
	Total	154.555	175			
	Total	154.555	175			

Note: *$p < .05$, ***$p < .01$.

Table 6

Post Hoc Multiple Comparisons of Importance of Management Competencies by Years of Experience

	Dependent variable: (I) years of experience in health-care admin-istration	Dependent variable: (J) years of experience in healthcare administra-tion	Mean difference (I-J)	Std. error	Sig.	95% confidence interval Upper bound	Lower bound
Leadership and strategic management	<1	1-5	-.1227	.1344	.952	-.5484	.3030
		6-10	-.1766	.1482	.872	-.6431	.2900
		>10	-.3772	.1405	.108	-.8093	5.497E-02
	1-5	<1	.1227	.1344	.952	-.3030	.5484
		6-10	-5.3847E-02	9.374E-02	.997	-.3453	.2377
		>10	-.2544*	8.116E-02	.006	-.4573	-5.1595E-02
	6-10	<1	.1766	.1482	.872	-.2900	.6431
		1-5	5.385E-02	9.374E-02	.997	-.2377	.3453
		>10	-.2006	.1024	.388	-.5062	.1050
	>10	<1	.3772	.1405	.108	-5.4971E-02	.8093
		1-5	.2544*	8.116E-02	.006	5.159E-02	.4573
		1-5	.2544*	8.116E-02	.006	5.159E-02	.4573
		6-10	.2006	.1024	.388	-.1050	.5062
		6-10	.2006	.1024	.388	-.1050	.5062
Relation-ships management	<1	1-5	-4.6366E-02	.1374	1.000	-.5615	.4688
Relation-ships management	<1	1-5	-4.6366E-02	.1374	1.000	-.5615	.4688
		6-10	-.1225	.1515	.985	-.6523	.4072
		6-10	-.1225	.1515	.985	-.6523	.4072

	Dependent variable: (I) years of experience in health-care admin-istration	Dependent variable: (J) years of experience in healthcare administra-tion	Mean difference (I-J)	Std. error	Sig.	95% confidence interval	
						Upper bound	Lower bound
		>10	-.2166	.1437	.790	-.7365	.3034
	1-5	<1	4.637E-02	.1374	1.000	-.4688	.5615
		6-10	-7.6162E-02	9.587E-02	.960	-.3286	.1763
		>10	-.1702	8.300E-02	.198	-.3852	4.480E-02
	6-10	<1	.1225	.1515	.985	-.4072	.6523
		1-5	7.616E-02	9.587E-02	.960	-.1763	.3286
		>10	-9.4023E-02	.1047	.922	-.3631	.1751
	>10	<1	.2166	.1437	.790	-.3034	.7365
		1-5	.1702	8.300E-02	.198	-4.4799E-02	.3852
		6-10	9.402E-02	.1047	.922	-.1751	.3631
Resource management	<1	1-5	-.2721	.1863	.820	-.9601	.4158
		6-10	-.4147	.2054	.471	-1.1228	.2934
		>10	-.5327	.1949	.195	-1.2282	.1628
	1-5	<1	.2721	.1863	.820	-.4158	.9601
	1-5	<1	.2721	.1863	.820	-.4158	.9601
		6-10	-.1425	.1300	.836	-.4835	.1984
		6-10	-.1425	.1300	.836	-.4835	.1984
		>10	-.2605	.1125	.111	-.5547	3.360E-02
		>10	-.2605	.1125	.111	-.5547	3.360E-02
	6-10	<1	.4147	.2054	.471	-.2934	1.1228
	6-10	<1	.4147	.2054	.471	-.2934	1.1228
		1-5	.1425	.1300	.836	-.1984	.4835
		1-5	.1425	.1300	.836	-.1984	.4835
		>10	-.1180	.1420	.946	-.4844	.2484
		>10	-.1180	.1420	.946	-.4844	.2484
	>10	<1	.5327	.1949	.195	-.1628	1.2282
	>10	<1	.5327	.1949	.195	-.1628	1.2282
		1-5	.2605	.1125	.111	-3.3598E-02	.5547

	Dependent variable: (I) years of experience in health-care admin-istration	Dependent variable: (J) years of experience in healthcare administra-tion	Mean difference (I-J)	Std. error	Sig.	95% confidence interval	
						Upper bound	Lower bound
		6-10	.1180	.1420	.946	-.2484	.4844
Functional management	<1	1-5	-.4008	.2155	.535	-1.1354	.3337
		6-10	-.4351	.2376	.469	-1.1802	.3100
		>10	-.3622	.2259	.674	-1.1119	.3876
	1-5	<1	.4008	.2155	.535	-.3337	1.1354
		6-10	-3.4262E-02	.1503	1.000	-.3836	.3150
		>10	3 865E-02	.1310	1.000	-.3251	.4024
	6-10	<1	.4351	.2376	.469	-.3100	1.1802
		1-5	3.426E-02	.1503	1.000	-.3150	.3836
		>10	7.292E-02	.1649	.997	-.3255	.4713
	>10	<1	.3622	.2259	.674	-.3876	1.1119
		1-5	-3.8655E-02	.1310	1.000	-.4024	.3251
		6-10	-7.2917E-02	.1649	.997	-.4713	.3255
Stakeholder management	<1	1-5	-.4849	.2631	.753	-1.6063	.6364
		6-10	-.9609	.2902	.124	-2.0960	.1741
		6-10	-.9609	.2902	.124	-2.0960	.1741
		>10	-.8418	.2752	.206	-1.9629	.2792
		>10	-.8418	.2752	.206	-1.9629	.2792
	1-5	<1	.4849	.2631	.753	-.6364	1.6063
	1-5	<1	.4849	.2631	.753	-.6364	1.6063
		6-10	-.4760*	.1836	.039	-.9370	-1.5014E-02
		6-10	-.4760*	.1836	.039	-.9370	-1.5014E-02
		>10	-.3569	.1589	.089	-.7452	3.138E-02
		>10	-.3569	.1589	.089	-.7452	3.138E-02
	6-10	<1	.9609	.2902	.124	-.1741	2.0960
	6-10	<1	.9609	.2902	.124	-.1741	2.0960
		1-5	.4760*	.1836	.039	1.501E-02	.9370

	Dependent variable: (I) years of experience in health-care admin-istration	Dependent variable: (J) years of experience in healthcare administra-tion	Mean difference (I-J)	Std. error	Sig.	95% confidence interval	
						Upper bound	Lower bound
		>10	.1191	.2005	.981	-.3409	.5791
	>10	<1	.8418	.2752	.206	-.2792	1.9629
		1-5	.3569	.1589	.089	-3.1381E-02	.7452
		6-10	-.1191	.2005	.981	-.5791	.3409
Patient care management	<1	1-5	-9.6849E-02	.2815	1.000	-1.2473	1.0536
		6-10	-.3624	.3104	.937	-1.5350	.8103
		>10	-.5475	.2944	.677	-1.7031	.6081
	1-5	<1	9.685E-02	.2815	1.000	-1.0536	1.2473
		6-10	-.2655	.1963	.647	-.7723	.2412
		>10	-.4506*	.1700	.034	-.8791	-2.2159E-02
	6-10	<1	.3624	.3104	.937	-.8103	1.5350
		1-5	.2655	.1963	.647	-.2412	.7723
		>10	-.1851	.2145	.921	-.7133	.3431
	>10	<1	.5475	.2944	.677	-.6081	1.7031
	>10	<1	.5475	.2944	.677	-.6081	1.7031
		1-5	.4506*	.1700	.034	2.216E-02	.8791
		1-5	.4506*	.1700	.034	2.216E-02	.8791
		6-10	.1851	.2145	.921	-.3431	.7133
		6-10	.1851	.2145	.921	-.3431	.7133
Quality and risk management	<1	1-5	1.019E-02	.2772	1.000	-1.1112	1.1315
Quality and risk management	<1	1-5	1.019E-02	.2772	1.000	-1.1112	1.1315
		6-10	-.2146	.3071	.995	-1.3568	.9275
		6-10	-.2146	.3071	.995	-1.3568	.9275
		>10	-.4144	.2900	.859	-1.5356	.7067

Dependent variable: (I) years of experience in health-care admin-istration	Dependent variable: (J) years of experience in healthcare administra-tion	Mean difference (I-J)	Std. error	Sig.	95% confidence interval Upper bound	Lower bound
1-5	<1	-1.0195E-02	.2772	1.000	-1.1315	1.1112
	6-10	-.2248	.1956	.795	-.7308	.2811
	>10	-.4246*	.1674	.038	-.8345	-1.4804E-02
6-10	<1	.2146	.3071	.995	-.9275	1.3568
	1-5	.2248	.1956	.795	-.2811	.7308
	>10	-.1998	.2133	.868	-.7053	.3057
>10	<1	.4144	.2900	.859	-.7067	1.5356
	1-5	.4246*	.1674	.038	1.480E-02	.8345
	6-10	.1998	.2133	.868	-.3057	.7053

Note: * The mean difference is significant at the .05 level.

Table 7
Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Years of Experience

Domain	Years of experience	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic management	<1	13	2.4839	.7106	.1971	2.0545	2.9133	1.36	4.00
Leadership and strategic management	<1	13	2.4839	.7106	.1971	2.0545	2.9133	1.36	4.00
	1-5	83	2.4504	.6255	6.865E-02	2.3139	2.5870	.86	3.57
	1-5	83	2.4504	.6255	6.865E-02	2.3139	2.5870	.86	3.57
	6-10	32	2.3405	.7054	.1247	2.0862	2.5949	.43	4.00
	6-10	32	2.3405	.7054	.1247	2.0862	2.5949	.43	4.00
	>10	49	2.3194	.8029	.1147	2.0888	2.5500	.79	4.00

Domain	Years of experience	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
		9							
	Total	177	2.3968	.6959	5.231E-02	2.2935	2.5000	.43	4.00
Relation-ships management	<1	13	2.6703	.6685	.1854	2.2664	3.0743	1.29	3.86
	1-5	83	2.3838	.8507	9.338E-02	2.1981	2.5696	.00	4.00
	6-10	32	2.2321	.6569	.1161	1.9953	2.4690	1.00	4.00
	>10	49	2.2070	.8907	.1272	1.9511	2.4628	.57	4.00
	Total	177	2.3285	.8221	6.180E-02	2.2065	2.4504	.00	4.00
Resource management	<1	13	2.0615	.7974	.2212	1.5797	2.5434	.80	3.80
	1-5	83	2.0892	.6602	7.247E-02	1.9450	2.2333	.60	3.80
	6-10	32	1.9941	.7388	.1306	1.7277	2.2605	.80	4.00
	>10	49	2.1374	.8455	.1208	1.8946	2.3803	.60	4.00
	Total	177	2.0833	.7347	5.523E-02	1.9743	2.1923	.60	4.00
Functional management	<1	13	2.4615	.8282	.2297	1.9611	2.9620	1.00	4.00
	1-5	83	2.5723	.8342	9.157E-02	2.3901	2.7544	.50	4.00
	6-10	32	2.4531	.8832	.1561	2.1347	2.7715	.50	4.00
	>10	49	2.3878	1.0620	.1517	2.0827	2.6928	.00	4.00
	>10	49	2.3878	1.0620	.1517	2.0827	2.6928	.00	4.00
	Total	177	2.4915	.9068	6.816E-02	2.3570	2.6260	.00	4.00
	Total	177	2.4915	.9068	6.816E-02	2.3570	2.6260	.00	4.00
Stakeholder management	<1	13	1.9808	.8567	.2376	1.4631	2.4985	.50	3.50
Stakeholder management	<1	13	1.9808	.8567	.2376	1.4631	2.4985	.50	3.50
	1-5	83	1.7410	.8847	9.711E-02	1.5478	1.9341	.00	4.00
	1-5	83	1.7410	.8847	9.711E-02	1.5478	1.9341	.00	4.00
	6-10	32	1.6484	.9022	.1595	1.3232	1.9737	.00	4.00
	6-10	32	1.6484	.9022	.1595	1.3232	1.9737	.00	4.00
	>10	49	1.7245	1.0768	.1538	1.4152	2.0338	.00	4.00
	>10	49	1.7245	1.0768	.1538	1.4152	2.0338	.00	4.00
	Total	177	1.7373	.9382	7.052E-02	1.5981	1.8765	.00	4.00
	Total	177	1.7373	.9382	7.052E-02	1.5981	1.8765	.00	4.00

Domain	Years of experience	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Patient care management	<1	13	2.6154	.9277	.2573	2.0548	3.1760	.50	3.75
	1-5	83	2.1898	.9758	.1071	1.9767	2.4028	.00	4.00
	6-10	32	2.0313	1.0487	.1854	1.6531	2.4094	.00	4.00
	>10	49	2.0510	1.0483	.1498	1.7499	2.3521	.00	4.00
	Total	177	2.1540	1.0088	7.583E-02	2.0043	2.3036	.00	4.00
Quality and risk management	<1	13	2.0769	1.2221	.3390	1.3384	2.8154	.00	4.00
	1-5	83	1.9458	.9468	.1039	1.7390	2.1525	.00	4.00
	6-10	31	1.7097	1.0147	.1822	1.3375	2.0819	.00	4.00
	>10	49	1.9694	1.0917	.1560	1.6558	2.2830	.00	4.00
	Total	176	1.9205	1.0181	7.674E-02	1.7690	2.0719	.00	4.00

Table 8

Descriptive Statistics Summary for Importance of the Management Competencies by Gender

Domain	Gender	N	Mean	Std. deviation	Std. error	95% confidence interval for mean: Upper bound	Lower bound	Min	Max
Leadership and strategic management	Male	79	3.2415	.4589	5.163E-02	3.1388	3.3443	2.14	4.00
	Female	106	3.1871	.4720	4.585E-02	3.0962	3.2780	1.93	4.00
	Total	185	3.2103	.4660	3.426E-02	3.1427	3.2779	1.93	4.00
Relation-ships management	Male	79	3.3852	.4473	5.033E-02	3.2850	3.4854	2.29	4.00
	Female	106	3.3580	.4764	4.627E-02	3.2662	3.4497	2.14	4.00
	Total	185	3.3696	.4631	3.405E-02	3.3024	3.4368	2.14	4.00
Resource management	Male	79	2.7446	.6048	6.805E-02	2.6091	2.8801	1.50	4.00
	Female	106	2.6356	.6516	6.329E-02	2.5101	2.7611	.80	3.90
	Total	185	2.6822	.6327	4.652E-02	2.5904	2.7739	.80	4.00
Functional management	Male	78	3.2821	.7234	8.191E-02	3.1189	3.4452	1.00	4.00
	Female	106	3.1651	.7095	6.892E-02	3.0284	3.3017	1.00	4.00
	Total	184	3.2147	.7158	5.277E-02	3.1106	3.3188	1.00	4.00
	Total	184	3.2147	.7158	5.277E-02	3.1106	3.3188	1.00	4.00
Stakeholder management	Male	79	2.5032	.9133	.1028	2.2986	2.7077	.50	4.00
Stakeholder management	Male	79	2.5032	.9133	.1028	2.2986	2.7077	.50	4.00
	Female	106	2.3160	.9131	8.868E-02	2.1402	2.4919	.00	4.00
	Female	106	2.3160	.9131	8.868E-02	2.1402	2.4919	.00	4.00
	Total	185	2.3959	.9154	6.730E-02	2.2632	2.5287	.00	4.00
	Total	185	2.3959	.9154	6.730E-02	2.2632	2.5287	.00	4.00
Patient care management	Male	79	2.6709	1.0012	.1126	2.4466	2.8952	.00	4.00
Patient care management	Male	79	2.6709	1.0012	.1126	2.4466	2.8952	.00	4.00
	Female	106	2.7052	.9529	9.256E-02	2.5217	2.8887	.00	4.00
	Female	106	2.7052	.9529	9.256E-02	2.5217	2.8887	.00	4.00
	Total	185	2.6905	.9713	7.141E-02	2.5496	2.8314	.00	4.00

Domain	Gender	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
							.8314		
Quality and risk management	Male	78	2.8333	.9351	.1059	2.6225	3.0442	.00	4.00
	Female	106	2.9858	.9167	8.903E-02	2.8093	3.1624	.00	4.00
	Total	184	2.9212	.9251	6.820E-02	2.7866	3.0558	.00	4.00

Table 9
Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Gender

Domain	Gender	N	Mean	Std. deviation	Std. Error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic management	Male	79	2.3933	.6697	7.535E-02	2.2433	2.5433	.43	3.54
	Female	106	2.3761	.7200	6.993E-02	2.2374	2.5148	.79	4.00
	Total	185	2.3835	.6971	5.125E-02	2.2823	2.4846	.43	4.00
Relationships management	Male	79	2.3309	.8297	9.335E-02	2.1451	2.5168	.43	4.00
	Female	106	2.2925	.8268	8.030E-02	2.1332	2.4517	.00	4.00
	Total	185	2.3089	.8260	6.073E-02	2.1891	2.4287	.00	4.00
	Total	185	2.3089	.8260	6.073E-02	2.1891	2.4287	.00	4.00
Resource management	Male	79	2.0754	.6674	7.509E-02	1.9259	2.2249	.70	3.80
Resource management	Male	79	2.0754	.6674	7.509E-02	1.9259	2.2249	.70	3.80
	Female	106	2.0611	.7787	7.563E-02	1.9111	2.2111	.60	4.00
	Female	106	2.0611	.7787	7.563E-02	1.9111	2.2111	.60	4.00
	Total	185	2.0672	.7314	5.377E-02	1.9611	2.1733	.60	4.00
	Total	185	2.0672	.7314	5.377E-02	1.9611	2.1733	.60	4.00
Functional management	Male	79	2.4114	.9155	.1030	2.2063	2.6165	.50	4.00

Domain	Gender	N	Mean	Std. deviation	Std. Error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
			2.4114						
	Female	106	2.5000	.9335	9.067E-02	2.3202	2.6798	.00	4.00
	Total	185	2.4622	.9244	6.796E-02	2.3281	2.5963	.00	4.00
Stakeholder management	Male	79	1.6519	1.0003	.1125	1.4278	1.8760	.00	4.00
	Female	106	1.7877	.8950	8.693E-02	1.6154	1.9601	.00	4.00
	Total	185	1.7297	.9412	6.920E-02	1.5932	1.8662	.00	4.00
Patient care management	Male	79	2.1108	1.0360	.1166	1.8787	2.3428	.00	4.00
	Female	106	2.1887	1.0141	9.850E-02	1.9934	2.3840	.00	4.00
	Total	185	2.1554	1.0214	7.510E-02	2.0072	2.3036	.00	4.00
Quality and risk mgmt.	Male	78	1.7564	.9861	.1117	1.5341	1.9787	.00	4.00
	Female	106	2.0047	1.0293	9.998E-02	1.8065	2.2030	.00	4.00
	Total	184	1.8995	1.0160	7.490E-02	1.7517	2.0472	.00	4.00

Table 10
Descriptive Statistics Summary for Importance of the Management Competencies by Ethnicity

Domain	Ethnicity	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic mgmt.	Non-white	29	2.6255	.8006	.1487	2.3210	2.9300	1.00	4.00
	White non-Hispanic	154	2.3287	.6663	5.369E-02	2.2226	2.4348	.43	4.00
	Total	183	2.3757	.6954	5.141E-02	2.2743	2.4772	.43	4.00
Relation-ships mgmt.	Non-white	29	2.4877	.8786	.1631	2.1535	2.8219	.43	4.00
	White non-Hispanic	154	2.2662	.8075	6.507E-02	2.1377	2.3948	.00	4.00
	Total	183	2.3013	.8206	6.066E-02	2.1816	2.4210	.00	4.00
Resource mgmt.	Non-white	29	2.1483	.8074	.1499	1.8412	2.4554	.80	4.00
Resource mgmt.	Non-white	29	2.1483	.8074	.1499	1.8412	2.4554	.80	4.00
	White non-Hispanic	154	2.0437	.7079	5.704E-02	1.9310	2.1564	.60	4.00
	White non-Hispanic	154	2.0437	.7079	5.704E-02	1.9310	2.1564	.60	4.00
	Total	183	2.0603	.7232	5.346E-02	1.9548	2.1658	.60	4.00
	Total	183	2.0603	.7232	5.346E-02	1.9548	2.1658	.60	4.00
Functional mgmt.	Non-white	29	2.5345	.8957	.1663	2.1938	2.8752	1.00	4.00
Functional mgmt.	Non-white	29	2.5345	.8957	.1663	2.1938	2.8752	1.00	4.00

Domain	Ethnicity	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	White non-Hispanic	154	2.4416	.9287	7.484E-02	2.2937	2.5894	.00	4.00
	Total	183	2.4563	.9218	6.814E-02	2.3218	2.5907	.00	4.00
Stake-holder mgmt.	Non-white	29	2.0345	.9490	.1762	1.6735	2.3955	.50	4.00
	White non-Hispanic	154	1.6672	.9231	7.439E-02	1.5202	1.8142	.00	4.00
	Total	183	1.7254	.9344	6.907E-02	1.5891	1.8617	.00	4.00
Patient care mgmt.	Non-white	29	2.3190	1.0751	.1996	1.9100	2.7279	.00	4.00
	White non-Hispanic	154	2.1104	1.0065	8.111E-02	1.9502	2.2706	.00	4.00
	Total	183	2.1434	1.0175	7.522E-02	1.9950	2.2918	.00	4.00
Quality and risk mgmt.	Non-white	28	2.3036	1.0123	.1913	1.9110	2.6961	1.00	4.00
Quality and risk mgmt.	Non-white	28	2.3036	1.0123	.1913	1.9110	2.6961	1.00	4.00
	White non-Hispanic	154	1.8084	.9921	7.995E-02	1.6505	1.9664	.00	4.00
	White non-Hispanic	154	1.8084	.9921	7.995E-02	1.6505	1.9664	.00	4.00
	Total	182	1.8846	1.0085	7.475E-02	1.7371	2.0321	.00	4.00
	Total	182	1.8846	1.0085	7.475E-02	1.7371	2.0321	.00	4.00

Table 11
Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Ethnicity

Domain	Ethnicity	N	Mean	Std. deviation	Std. error	95% confidence interval for mean: Upper bound	95% confidence interval for mean: Lower bound	Min	Max
Leadership and strategic management	Non-white	29	2.6255	.8006	.1487	2.3210	2.9300	1.00	4.00
	White non-Hispanic	154	2.3287	.6663	5.369E-02	2.2226	2.4348	.43	4.00
	Total	183	2.3757	.6954	5.141E-02	2.2743	2.4772	.43	4.00
Relation-ships management	Non-white	29	2.4877	.8786	.1631	2.1535	2.8219	.43	4.00
	White non-Hispanic	154	2.2662	.8075	6.507E-02	2.1377	2.3948	.00	4.00
	Total	183	2.3013	.8206	6.066E-02	2.1816	2.4210	.00	4.00
Resource management	Non-white	29	2.1483	.8074	.1499	1.8412	2.4554	.80	4.00
	White non-Hispanic	154	2.0437	.7079	5.704E-02	1.9310	2.1564	.60	4.00
	White non-Hispanic	154	2.0437	.7079	5.704E-02	1.9310	2.1564	.60	4.00
	Total	183	2.0603	.7232	5.346E-02	1.9548	2.1658	.60	4.00
	Total	183	2.0603	.7232	5.346E-02	1.9548	2.1658	.60	4.00
Functional management	Non-white	29	2.5345	.8957	.1663	2.1938	2.8752	1.00	4.00
Functional management	Non-white	29	2.5345	.8957	.1663	2.1938	2.8752	1.00	4.00
	White non-Hispanic	154	2.4416	.9287	7.484E-02	2.2937	2.5894	.00	4.00
	White non-Hispanic	154	2.4416	.9287	7.484E-02	2.2937	2.5894	.00	4.00

Domain	Ethnicity	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	Total	183	2.4563	.9218	6.814E-02	2.3218	2.5907	.00	4.00
Stakeholder management	Non-white	29	2.0345	.9490	.1762	1.6735	2.3955	.50	4.00
	White non-Hispanic	154	1.6672	.9231	7.439E-02	1.5202	1.8142	.00	4.00
	Total	183	1.7254	.9344	6.907E-02	1.5891	1.8617	.00	4.00
Patient care management	Non-white	29	2.3190	1.0751	.1996	1.9100	2.7279	.00	4.00
	White non-Hispanic	154	2.1104	1.0065	8.111E-02	1.9502	2.2706	.00	4.00
	Total	183	2.1434	1.0175	7.522E-02	1.9950	2.2918	.00	4.00
Quality and risk management	Non-white	28	2.3036	1.0123	.1913	1.9110	2.6961	1.00	4.00
	White non-Hispanic	154	1.8084	.9921	7.995E-02	1.6505	1.9664	.00	4.00
	Total	182	1.8846	1.0085	7.475E-02	1.7371	2.0321	.00	4.00

Table 12
Analysis of Variance for Adequacy of Preparation by Ethnicity

		Sum of squares	df	Mean square	F	Sig.
Leadership and strategic management	Between Groups	2.150	1	2.150	4.533	.035*
	Within Groups	85.862	181	.474		
	Total	88.013	182			
Relationships management	Between Groups	1.197	1	1.197	1.785	.183
	Within Groups	121.371	181	.671		
	Total	122.568	182			
Resource management	Between Groups	.267	1	.267	.509	.477
	Within Groups	94.922	181	.524		
	Total	95.189	182			
Functional management	Between Groups	.211	1	.211	.247	.620
	Within Groups	154.440	181	.853		
	Total	154.650	182			
Stakeholder management	Between Groups	3.292	1	3.292	3.829	.052
	Within Groups	155.597	181	.860		
	Within Groups	155.597	181	.860		
	Total	158.889	182			
	Total	158.889	182			
Patient care management	Between Groups	1.062	1	1.062	1.026	.313
Patient care management	Between Groups	1.062	1	1.062	1.026	.313
	Within Groups	187.360	181	1.035		
	Within Groups	187.360	181	1.035		
	Total	188.422	182			
	Total	188.422	182			
Quality and risk management	Between Groups	5.808	1	5.808	5.865	.016*
Quality and risk management	Between Groups	5.808	1	5.808	5.865	.016*
	Within Groups	178.269	180	.990		
	Within Groups	178.269	180	.990		
	Total	184.077	181			

Note: *$p < .05$.

Table 13

Descriptive Statistics Summary for Importance of the Management Competencies by Highest Educational Degree Earned

Domain	Highest degree earned	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic management	Bachelor's	13	3.1478	.4731	.1312	2.8618	3.4337	2.21	3.86
	Master's	158	3.1907	.4597	3.657E-02	3.1185	3.2629	1.93	4.00
	Doctorate	13	3.4944	.4901	.1359	3.1983	3.7905	2.43	4.00
	Total	184	3.2091	.4670	3.442E-02	3.1412	3.2771	1.93	4.00
Relation-ships management	Bachelor's	13	3.4242	.5492	.1523	3.0923	3.7560	2.43	4.00
	Master's	158	3.3508	.4568	3.634E-02	3.2790	3.4226	2.14	4.00
	Doctorate	13	3.5055	.4578	.1270	3.2289	3.7821	2.57	4.00
	Total	184	3.3669	.4630	3.413E-02	3.2996	3.4343	2.14	4.00
Resource management	Bachelor's	13	2.6906	.7477	.2074	2.2387	3.1425	1.30	3.70
Resource management	Bachelor's	13	2.6906	.7477	.2074	2.2387	3.1425	1.30	3.70
	Master's	158	2.6829	.6311	5.020E-02	2.5837	2.7821	.80	4.00
	Master's	158	2.6829	.6311	5.020E-02	2.5837	2.7821	.80	4.00
	Doctorate	13	2.6481	.6025	.1671	2.2840	3.0121	1.70	3.50
	Doctorate	13	2.6481	.6025	.1671	2.2840	3.0121	1.70	3.50
	Total	184	2.6810	.6342	4.675E-02	2.5887	2.7732	.80	4.00
	Total	184	2.6810	.6342	4.675E-02	2.5887	2.7732	.80	4.00
Functional management	Bachelor's	13	3.1154	.8934	.2478	2.5755	3.6552	1.00	4.00
	Master's	158	3.2247	.7016	5.581E-	3.1144	3.3349	1.00	4.00

Domain	Highest degree earned	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	Doctorate	12	3.2083	.7821	.2258	2.7114	3.7053	2.00	4.00
	Total	183	3.2158	.7176	5.305E-02	3.1112	3.3205	1.00	4.00
Stakeholder management	Bachelor's	13	2.2885	1.0550	.2926	1.6509	2.9260	.00	4.00
	Master's	158	2.3845	.9185	7.307E-02	2.2402	2.5288	.00	4.00
	Doctorate	13	2.5577	.7441	.2064	2.1080	3.0073	1.50	3.75
	Total	184	2.3899	.9142	6.740E-02	2.2570	2.5229	.00	4.00
Patient care management	Bachelor's	13	2.8269	.7026	.1949	2.4024	3.2515	1.75	4.00
	Master's	158	2.6598	1.0143	8.069E-02	2.5004	2.8192	.00	4.00
	Doctorate	13	2.9038	.6498	.1802	2.5112	3.2965	1.75	4.00
	Total	184	2.6889	.9737	7.178E-02	2.5472	2.8305	.00	4.00
Quality and risk management	Bachelor's	13	3.0000	.8898	.2468	2.4623	3.5377	1.00	4.00
	Master's	157	2.9076	.9487	7.572E-02	2.7581	3.0572	.00	4.00
	Master's	157	2.9076	.9487	7.572E-02	2.7581	3.0572	.00	4.00
	Doctorate	13	3.0000	.7360	.2041	2.5553	3.4447	2.00	4.00
	Doctorate	13	3.0000	.7360	.2041	2.5553	3.4447	2.00	4.00
	Total	183	2.9208	.9276	6.857E-02	2.7855	3.0561	.00	4.00
	Total	183	2.9208	.9276	6.857E-02	2.7855	3.0561	.00	4.00

Table 14

Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Highest Educational Degree Earned

Domain	Highest degree earned	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic management	Bachelor's	13	2.5807	.6581	.1825	2.1830	2.9784	1.36	4.00
	Master's	158	2.3551	.6817	5.423E-02	2.2480	2.4622	.79	4.00
	Doctorate	13	2.5495	.9228	.2559	1.9918	3.1071	.43	4.00
	Total	184	2.3848	.6988	5.152E-02	2.2831	2.4864	.43	4.00
Relation-ships management	Bachelor's	13	2.3956	.9762	.2707	1.8057	2.9855	.00	3.86
	Master's	158	2.2875	.8137	6.474E-02	2.1597	2.4154	.43	4.00
	Doctorate	13	2.4835	.8932	.2477	1.9438	3.0233	1.00	4.00
	Total	184	2.3090	.8282	6.106E-02	2.1885	2.4295	.00	4.00
Resource management	Bachelor's	13	2.0615	.9042	.2508	1.5151	2.6079	.80	3.80
	Master's	158	2.0660	.7084	5.636E-02	1.9547	2.1773	.60	4.00
	Master's	158	2.0660	.7084	5.636E-02	1.9547	2.1773	.60	4.00
	Doctorate	13	2.1231	.8927	.2476	1.5836	2.6625	.80	4.00
	Doctorate	13	2.1231	.8927	.2476	1.5836	2.6625	.80	4.00
	Total	184	2.0697	.7325	5.400E-02	1.9632	2.1763	.60	4.00
	Total	184	2.0697	.7325	5.400E-02	1.9632	2.1763	.60	4.00
Functional management	Bachelor's	13	2.4231	1.0175	.2822	1.8082	3.0379	1.00	4.00
Functional management	Bachelor's	13	2.4231	1.0175	.2822	1.8082	3.0379	1.00	4.00
	Master's	158	2.4589	.9186	7.308E-02	2.3145	2.6032	.00	4.00

Domain	Highest degree earned	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	Doctorate	13	2.5000	1.0000	.2774	1.8957	3.1043	.50	4.00
	Total	184	2.4592	.9261	6.827E-02	2.3245	2.5939	.00	4.00
Stakeholder management	Bachelor's	13	1.6538	.7606	.2110	1.1942	2.1135	.50	3.00
	Master's	158	1.7278	.9334	7.426E-02	1.5812	1.8745	.00	4.00
	Doctorate	13	1.9615	1.1358	.3150	1.2752	2.6479	.25	4.00
	Total	184	1.7391	.9350	6.893E-02	1.6031	1.8751	.00	4.00
Patient care management	Bachelor's	13	1.9808	1.0629	.2948	1.3385	2.6231	.00	3.75
	Master's	158	2.1804	1.0102	8.037E-02	2.0216	2.3391	.00	4.00
	Doctorate	13	2.1923	1.0416	.2889	1.5629	2.8217	.00	4.00
	Total	184	2.1671	1.0117	7.458E-02	2.0200	2.3143	.00	4.00
Quality and risk management	Bachelor's	13	2.0385	.9887	.2742	1.4410	2.6359	.00	4.00
	Master's	157	1.8822	1.0050	8.021E-02	1.7237	2.0406	.00	4.00
	Master's	157	1.8822	1.0050	8.021E-02	1.7237	2.0406	.00	4.00
	Doctorate	13	2.1154	1.1209	.3109	1.4380	2.7927	.00	4.00
	Doctorate	13	2.1154	1.1209	.3109	1.4380	2.7927	.00	4.00
	Total	183	1.9098	1.0089	7.458E-02	1.7627	2.0570	.00	4.00
	Total	183	1.9098	1.0089	7.458E-02	1.7627	2.0570	.00	4.00

Table 15
Descriptive Statistics Summary for Importance of the Management Competencies by Type of Degree Earned

Domain	Type of degree	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic management	MBA	43	3.4119	.4265	6.505E-02	3.2807	3.5432	2.64	4.00
	MHA	58	3.1651	.4377	5.747E-02	3.0500	3.2802	2.00	3.93
	MHSA	23	3.0981	.4729	9.861E-02	2.8936	3.3026	2.29	4.00
	MPH	14	3.0526	.4548	.1215	2.7900	3.3152	2.43	4.00
	Total	138	3.2194	.4574	3.894E-02	3.1424	3.2964	2.00	4.00
Relation-ships management	MBA	43	3.4219	.4319	6.587E-02	3.2890	3.5548	2.43	4.00
	MHA	58	3.3325	.4584	6.018E-02	3.2120	3.4530	2.29	4.00
	MHSA	23	3.2857	.5096	.1063	3.0653	3.5061	2.29	4.00
	MPH	14	3.4082	.4225	.1129	3.1642	3.6521	2.57	4.00
	Total	138	3.3602	.4538	3.863E-02	3.2839	3.4366	2.29	4.00
Resource management	MBA	43	2.8442	.5624	8.577E-02	2.6711	3.0173	1.20	3.70
Resource management	MBA	43	2.8442	.5624	8.577E-02	2.6711	3.0173	1.20	3.70
	MHA	58	2.6552	.5654	7.424E-02	2.5065	2.8038	1.30	3.80
	MHA	58	2.6552	.5654	7.424E-02	2.5065	2.8038	1.30	3.80
	MHSA	23	2.7043	.6342	.1322	2.4301	2.9786	1.50	3.90
	MHSA	23	2.7043	.6342	.1322	2.4301	2.9786	1.50	3.90
	MPH	14	2.2786	.7992	.2136	1.8171	2.7400	.80	4.00
	MPH	14	2.2786	.7992	.2136	1.8171	2.7400	.80	4.00
	Total	138	2.6841	.6168	5.251E-02	2.5802	2.7879	.80	4.00
	Total	138	2.6841	.6168	5.251E-02	2.5802	2.7879	.80	4.00
Functional management	MBA	43	3.2326	.6668	.1017	3.0273	3.4378	1.50	4.00
							378		

Domain	Type of degree	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
	MHA	58	3.3448	.6297	8.269E-02	3.1793	3.5104	2.00	4.00
	MHSA	23	3.2826	.5997	.1251	3.0233	3.5420	2.00	4.00
	MPH	14	2.7857	.9347	.2498	2.2460	3.3254	1.00	4.00
	Total	138	3.2428	.6841	5.824E-02	3.1276	3.3579	1.00	4.00
Stakeholder management	MBA	43	2.6977	.8319	.1269	2.4416	2.9537	.50	4.00
	MHA	58	2.2974	.8679	.1140	2.0692	2.5256	.50	4.00
	MHSA	23	2.0870	.8745	.1824	1.7088	2.4651	.50	4.00
	MPH	14	2.1071	1.2470	.3333	1.3872	2.8271	.00	4.00
	Total	138	2.3678	.9232	7.859E-02	2.2123	2.5232	.00	4.00
Patient care management	MBA	43	2.8372	.9803	.1495	2.5355	3.1389	.00	4.00
	MHA	58	2.6595	.8503	.1117	2.4359	2.8831	1.00	4.00
	MHSA	23	2.7826	1.1163	.2328	2.2999	3.2653	.00	4.00
	MPH	14	1.8750	1.3893	.3713	1.0728	2.6772	.00	4.00
	Total	138	2.6558	1.0267	8.739E-02	2.4830	2.8286	.00	4.00
Quality and risk management	MBA	43	3.0814	.8233	.1255	2.8280	3.3348	.50	4.00
Quality and risk management	MBA	43	3.0814	.8233	.1255	2.8280	3.3348	.50	4.00
	MHA	58	2.9655	.8779	.1153	2.7347	3.1964	.50	4.00
	MHA	58	2.9655	.8779	.1153	2.7347	3.1964	.50	4.00
	MHSA	23	2.8696	1.1891	.2480	2.3553	3.3838	.00	4.00
	MHSA	23	2.8696	1.1891	.2480	2.3553	3.3838	.00	4.00
	MPH	14	2.7500	1.0331	.2761	2.1535	3.3465	1.00	4.00
	MPH	14	2.7500	1.0331	.2761	2.1535	3.3465	1.00	4.00
	Total	138	2.9638	.9313	7.928E-02	2.8070	3.1205	.00	4.00
	Total	138	2.9638	.9313	7.928E-02	2.8070	3.1205	.00	4.00

Note: MBA indicates master of business administration; MHA, master of healthcare administration; MHSA, master of health services administration; MPH, master of public health.

Table 16
Analysis of Variance for Importance of the Management Competencies by Type of Degree Earned

Domain		Sum of squares	df	Mean square	F	Sig.
Leadership and strategic management	Between Groups	2.493	3	.831	4.255	.007**
	Within Groups	26.170	134	.195		
	Total	28.662	137			
Relationships management	Between Groups	.368	3	.123	.591	.622
	Within Groups	27.845	134	.208		
	Total	28.213	137			
Resource management	Between Groups	3.462	3	1.154	3.178	.026*
	Within Groups	48.663	134	.363		
	Total	52.125	137			
Functional management	Between Groups	3.570	3	1.190	2.633	.053
	Within Groups	60.548	134	.452		
	Total	64.118	137			
	Total	64.118	137			
Stakeholder management	Between Groups	7.732	3	2.577	3.167	.027*
Stakeholder management	Between Groups	7.732	3	2.577	3.167	.027*
	Within Groups	109.042	134	.814		
	Within Groups	109.042	134	.814		
	Total	116.774	137			
	Total	116.774	137			
Patient care management	Between Groups	10.321	3	3.440	3.438	.019*
Patient care management	Between Groups	10.321	3	3.440	3.438	.019*
	Within Groups	134.080	134	1.001		
	Within Groups	134.080	134	1.001		

Domain		Sum of squares	df	Mean square	F	Sig.
	Total	144.400	137			
Quality and risk management	Between Groups	1.439	3	.480	.548	.651
	Within Groups	117.380	134	.876		
	Total	118.819	137			

Note: *p < .05.
**p < .01.

Table 17
Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Type of Degree Earned

Domain	Type of degree	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	Min	Max
Leadership and strategic mgmt.	MBA	43	2.3621	.6851	.1045	2.1513	2.5730	.86	3.57
	MHA	58	2.3773	.6155	8.082E-02	2.2154	2.5391	.86	3.54
	MHSA	23	2.4424	.7822	.1631	2.1042	2.7807	1.00	4.00
	MPH	14	2.3540	.7455	.1992	1.9236	2.7844	1.00	4.00
	Total	138	2.3811	.6733	5.731E-02	2.2677	2.4944	.86	4.00
Relation-ships mgmt.	MBA	43	2.2259	.7770	.1185	1.9868	2.4650	.43	3.57
Relation-ships mgmt.	MBA	43	2.2259	.7770	.1185	1.9868	2.4650	.43	3.57
	MHA	58	2.3399	.7610	9.993E-02	2.1398	2.5400	1.00	4.00
	MHA	58	2.3399	.7610	9.993E-02	2.1398	2.5400	1.00	4.00
	MHSA	23	2.4845	.9867	.2057	2.0578	2.9111	.43	4.00
	MHSA	23	2.4845	.9867	.2057	2.0578	2.9111	.43	4.00
	MPH	14	2.1837	.7031	.1879	1.7777	2.5896	1.00	3.14
	MPH	14	2.1837	.7031	.1879	1.7777	2.5896	1.00	3.14

Domain	Type of degree	N	Mean	Std. deviation	Std. error	95% confidence interval for mean Upper bound	Lower bound	in	Max
	Total	138	2.3126	.7991	6.803E-02	2.1781	2.4471	.43	4.00
Resource mgmt.	MBA	43	2.1189	.6580	1.9164	2.3214			
	MHA	58	2.2107	.6693	2.0347	2.3867			
	MHSA	23	2.0261	.8308	1.6668	2.3853			
	MPH	14	1.9214	.5964	1.5771	2.2658			
	Total	138	2.1220	.6875	2.0062	2.2377			
Functional mgmt.	MBA	43	2.5349	.8047	2.2872	2.7825			
	MHA	58	2.4052	.9976	2.1429	2.6675			
	MHSA	23	2.6522	.9467	2.2428	3.0616			
	MPH	14	2.3571	.8864	1.8453	2.8689			
	Total	138	2.4819	.9170	2.3275	2.6362			
Stakeholder mgmt.	MBA	43	1.6279	.9688	1.3297	1.9261			
	MHA	58	1.7543	.9194	1.5126	1.9961			
	MHSA	23	1.9674	1.1289	1.4792	2.4556			
	MPH	14	1.6786	.8345	1.1967	2.1604			
	Total	138	1.7428	.9609	1.5810	1.9045			
Patient care mgmt.	MBA	43	1.9360	1.0509	1.6126	2.2595			
Patient care mgmt.	MBA	43	1.9360	1.0509	1.6126	2.2595			
	MHA	58	2.4224	.9298	2.1779	2.6669			
	MHA	58	2.4224	.9298	2.1779	2.6669			
	MHSA	23	2.3370	1.2192	1.8097	2.8642			
	MHSA	23	2.3370	1.2192	1.8097	2.8642			
	MPH	14	1.9821	.9327	1.4436	2.5206			
	MPH	14	1.9821	.9327	1.4436	2.5206			
	Total	138	2.2120	1.0345	2.0378	2.3861			
	Total	138	2.2120	1.0345	2.0378	2.3861			
Quality and risk mgmt.	MBA	43	1.7442	.9782	1.4432	2.0452			
Quality and risk mgmt.	MBA	43	1.7442	.9782	1.4432	2.0452			
	MHA	58	1.8534	1.0000	1.5905	2.1164			
	MHA	58	1.8534	1.0000	1.5905	2.1164			

Domain	Type of degree	N	Mean	Std. deviation	Std. error	95% confidence interval for mean: Upper bound	Lower bound	in	Max
	MHSA	23	2.3043	1.0525	1.8492	2.7595			
	MPH	14	2.2500	.9952	1.6754	2.8246			
	Total	138	1.9348	1.0142	1.7641	2.1055			

Note: MBA indicates master of business administration; MHA, master of healthcare administration; MHSA, master of health services administration; MPH, master of public health.

Table 18

Descriptive Statistics Summary for Importance of the Management Competencies by Type of Managerial Position

Domain	Type of managerial position	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Leadership and strategic management	Nonclinical	178	3.2250	.4643	3.1563	3.2937
	Clinical	6	2.8690	.3818	2.4684	3.2697
	Total	184	3.2134	.4653	3.1457	3.2811
Relationships management	Nonclinical	178	3.3745	.4669	3.3054	3.4435
	Clinical	6	3.3333	.2951	3.0237	3.6430
	Total	184	3.3731	.4618	3.3060	3.4403
Resource mgmt.	Nonclinical	178	2.6938	.6300	2.6007	2.7870
	Clinical	6	2.5000	.6663	1.8007	3.1993
	Total	184	2.6875	.6302	2.5958	2.7792
Functional management	Nonclinical	177	3.2175	.7046	3.1130	3.3220
	Clinical	6	3.4167	.8010	2.5760	4.2573
	Total	183	3.2240	.7064	3.1210	3.3271
Stakeholder management	Nonclinical	178	2.4031	.9202	2.2670	2.5392
	Clinical	6	2.5000	.3536	2.1290	2.8710
	Clinical	6	2.5000	.3536	2.1290	2.8710
	Total	184	2.4063	.9071	2.2743	2.5382
	Total	184	2.4063	.9071	2.2743	2.5382
Patient care management	Nonclinical	178	2.7051	.9692	2.5617	2.8484
Patient care management	Nonclinical	178	2.7051	.9692	2.5617	2.8484
	Clinical	6	2.5833	.8317	1.7106	3.4561
	Clinical	6	2.5833	.8317	1.7106	3.4561
	Total	184	2.7011	.9633	2.5610	2.8412
	Total	184	2.7011	.9633	2.5610	2.8412
Quality and risk management	Nonclinical	177	2.9435	.9153	2.8077	3.0793
Quality and risk management	Nonclinical	177	2.9435	.9153	2.8077	3.0793

Domain	Type of managerial position	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
	Clinical	6	2.6667	.7528	1.8767	3.4567
	Total	183	2.9344	.9100	2.8017	3.0672

Table 19

Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Type of Managerial Position

Domain	Type of managerial position	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Leadership and strategic management	Nonclinical	178	2.3989	.6709	2.2997	2.4982
	Clinical	6	1.8452	1.2449	.5388	3.1517
	Total	184	2.3809	.6982	2.2793	2.4824
Relationships management	Nonclinical	178	2.3299	.8182	2.2088	2.4509
	Clinical	6	1.6190	.8883	.6868	2.5513
	Total	184	2.3067	.8277	2.1863	2.4271
Resource management	Nonclinical	178	2.0760	.7288	1.9682	2.1838
	Clinical	6	1.8167	.8954	.8770	2.7563
	Total	184	2.0676	.7333	1.9609	2.1742
Functional mgmt.	Nonclinical	178	2.4747	.9148	2.3394	2.6100
	Clinical	6	2.1667	1.2910	.8119	3.5215
	Total	184	2.4647	.9263	2.3299	2.5994
Stakeholder management	Nonclinical	178	1.7402	.9442	1.6005	1.8798
	Clinical	6	1.5833	.9037	.6350	2.5317
	Total	184	1.7351	.9409	1.5982	1.8719
	Total	184	1.7351	.9409	1.5982	1.8719
Patient care management	Nonclinical	178	2.1713	1.0096	2.0220	2.3207
Patient care management	Nonclinical	178	2.1713	1.0096	2.0220	2.3207
	Clinical	6	1.7917	1.4354	.2853	3.2980
	Clinical	6	1.7917	1.4354	.2853	3.2980
	Total	184	2.1590	1.0231	2.0102	2.3078
	Total	184	2.1590	1.0231	2.0102	2.3078
Quality and risk management	Nonclinical	177	1.9011	1.0071	1.7517	2.0505
Quality and risk management	Nonclinical	177	1.9011	1.0071	1.7517	2.0505
	Clinical	6	1.9167	1.4289	.4172	3.4162
	Clinical	6	1.9167	1.4289	.4172	3.4162
	Total	183	1.9016	1.0183	1.7531	2.0502

Table 20

Descriptive Statistics Summary for Importance of the Management Competencies by Type of Managerial Experience

Domain	Type of managerial experience	N	Mean	SD	95% confidence interval for mean: Upper bound	95% confidence interval for mean: Lower bound
Leadership and strategic management	Nonclinical	158	3.2056	.4663	3.1323	3.2789
	Clinical	26	3.2253	.4762	3.0329	3.4176
	Total	184	3.2084	.4665	3.1405	3.2762
Relationships management	Nonclinical	158	3.3703	.4554	3.2988	3.4419
	Clinical	26	3.3462	.5161	3.1377	3.5546
	Total	184	3.3669	.4630	3.2996	3.4343
Resource management	Nonclinical	158	2.6817	.6226	2.5838	2.7795
	Clinical	26	2.6769	.7140	2.3885	2.9653
	Total	184	2.6810	.6342	2.5887	2.7732
Functional mgmt.	Nonclinical	157	3.2325	.7151	3.1198	3.3452
	Clinical	26	3.0769	.7168	2.7874	3.3665
	Total	183	3.2104	.7154	3.1060	3.3147
Stakeholder management	Nonclinical	158	2.3703	.9400	2.2225	2.5180
	Clinical	26	2.5385	.7671	2.2286	2.8483
	Total	184	2.3940	.9175	2.2606	2.5275
	Total	184	2.3940	.9175	2.2606	2.5275
Patient care management	Nonclinical	158	2.6630	.9786	2.5092	2.8168
Patient care management	Nonclinical	158	2.6630	.9786	2.5092	2.8168
	Clinical	26	2.8750	.9387	2.4958	3.2542
	Clinical	26	2.8750	.9387	2.4958	3.2542
	Total	184	2.6929	.9734	2.5513	2.8345
	Total	184	2.6929	.9734	2.5513	2.8345
Quality and risk management	Nonclinical	157	2.9013	.9293	2.7548	3.0478
Quality and risk management	Nonclinical	157	2.9013	.9293	2.7548	3.0478
	Clinical	26	3.0000	.9055	2.6342	3.3658
	Clinical	26	3.0000	.9055	2.6342	3.3658
	Total	183	2.9153	.9241	2.7805	3.0501

Table 21
Descriptive Statistics Summary for Perceptions of Adequacy of Preparation by Type of Managerial Experience.

Domain	Type of managerial experience	N	Mean	SD.	95% confidence interval for mean Upper bound	Lower bound
Leadership and strategic management	Nonclinical	158	2.4133	.6545	2.3104	2.5161
	Clinical	26	2.2143	.9207	1.8424	2.5862
	Total	184	2.3852	.6987	2.2835	2.4868
Relationships management	Nonclinical	158	2.3345	.7899	2.2104	2.4587
	Clinical	26	2.1923	1.0214	1.7798	2.6048
	Total	184	2.3144	.8248	2.1945	2.4344
Resource management	Nonclinical	158	2.0730	.7084	1.9617	2.1843
	Clinical	26	2.0462	.8828	1.6896	2.4027
	Total	184	2.0692	.7328	1.9626	2.1758
Functional management	Nonclinical	158	2.4842	.8930	2.3438	2.6245
	Clinical	26	2.3269	1.1220	1.8737	2.7801
	Total	184	2.4620	.9269	2.3271	2.5968
Stakeholder management	Nonclinical	158	1.7199	.9330	1.5733	1.8665
	Clinical	26	1.7981	1.0223	1.3852	2.2110
	Clinical	26	1.7981	1.0223	1.3852	2.2110
	Total	184	1.7310	.9436	1.5937	1.8682
	Total	184	1.7310	.9436	1.5937	1.8682
Patient care management	Nonclinical	158	2.1329	1.0172	1.9731	2.2928
Patient care management	Nonclinical	158	2.1329	1.0172	1.9731	2.2928
	Clinical	26	2.2692	1.0722	1.8362	2.7023
	Clinical	26	2.2692	1.0722	1.8362	2.7023
	Total	184	2.1522	1.0233	2.0033	2.3010
	Total	184	2.1522	1.0233	2.0033	2.3010
Quality and risk management	Nonclinical	157	1.8790	1.0006	1.7212	2.0367
Quality and risk management	Nonclinical	157	1.8790	1.0006	1.7212	2.0367
	Clinical	26	2.0577	1.1165	1.6067	2.5087

				1.6067	
Total	183	1.9044	1.0166	1.7561	2.0526

APPENDIX G

DESCRIPTIVE STATISTICS FOR RESEARCH QUESTION TWO

Table 1
Descriptive Statistics Summary for Importance of ACEHSA Criteria and Adequacy of Preparation by Age

Category	Age	N	Mean	Std. Deviation	95% confidence interval for mean Upper bound	Lower bound
Importance of accreditation criteria	<25	13	3.0154	.9063	2.4677	3.5631
	25-30	65	3.0712	.5009	2.9470	3.1953
	31-35	35	3.0813	.4738	2.9185	3.2440
	36-40	19	3.1368	.4425	2.9236	3.3501
	41-45	19	3.3902	.4273	3.1843	3.5962
	46-50	17	3.0778	.5496	2.7952	3.3603
	>50	14	3.1627	.4196	2.9204	3.4050
	Total	182	3.1169	.5218	3.0406	3.1933
Adequacy of prep for accreditation criteria	<25	13	2.4923	.8077	2.0042	2.9804
Adequacy of prep for accreditation criteria	<25	13	2.4923	.8077	2.0042	2.9804
	25-30	65	2.3029	.6214	2.1489	2.4569
	25-30	65	2.3029	.6214	2.1489	2.4569
	31-35	34	1.9199	.7996	1.6410	2.1989
	31-35	34	1.9199	.7996	1.6410	2.1989
	36-40	19	2.1526	.8396	1.7480	2.5573

41-45	19	2.2925	.7546	1.9288	2.6562
46-50	17	2.1778	.9023	1.7138	2.6417
>50	14	1.9230	.9016	1.4025	2.4436
Total	181	2.1866	.7670	2.0741	2.2991

Table 2

Descriptive Statistics Summary for Importance of ACEHSA Criteria and Adequacy of Preparation by Years of Experience in Healthcare Administration

Category	Years of experience	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Importance of accreditation criteria	<1	13	3.0846	.6466	2.6939	3.4753
	1-5	82	3.0690	.5617	2.9456	3.1924
	6-10	32	3.1640	.4539	3.0003	3.3276
	>10	49	3.1791	.4760	3.0424	3.3159
	Total	176	3.1181	.5254	3.0399	3.1962
Adequacy of prep for accreditation criteria	<1	13	2.2769	.7096	1.8481	2.7058
	1-5	82	2.3154	.6588	2.1707	2.4602
	6-10	31	2.0334	.8427	1.7243	2.3425
	>10	49	2.1501	.8454	1.9073	2.3929
	Total	175	2.2163	.7540	2.1038	2.3288

Table 3

Descriptive Statistics Summary or Importance of ACEHSA Criteria and Adequacy of Preparation by Gender

Category	Gender	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Importance of accreditation criteria	Male	79	3.0727	.5644	2.9463	3.1992
Importance of accreditation criteria	Male	79	3.0727	.5644	2.9463	3.1992
	Female	105	3.1594	.4867	3.0652	3.2536
	Female	105	3.1594	.4867	3.0652	3.2536
	Total	184	3.1222	.5217	3.0463	3.1981
	Total	184	3.1222	.5217	3.0463	3.1981

Adequacy of prep for accreditation criteria	Male	79	2.1215	.7572	1.9519	2.2911
	Female	104	2.2458	.7757	2.0950	2.3967
	Total	183	2.1922	.7682	2.0801	2.3042

Table 4
Descriptive Statistics Summary for Importance of ACEHSA Criteria and Adequacy of Preparation by Ethnicity

Category	Ethnicity	N	Mean	SD	95% confidence interval for mean: Upper bound	95% confidence interval for mean: Lower bound
Importance of accreditation criteria	Nonwhite	29	3.1945	.6505	2.9470	3.4419
	White-non-Hispanic	153	3.1049	.4953	3.0257	3.1840
	Total	182	3.1191	.5221	3.0428	3.1955
Adequacy of prep for accreditation criteria	Nonwhite	29	2.3081	.8086	2.0005	2.6157
	White-non-Hispanic	152	2.1719	.7846	2.0462	2.2977
	Total	181	2.1937	.7878	2.0782	2.3093

Table 5
Descriptive Statistics Summary for Importance of ACEHSA Criteria and Adequacy of Preparation by Highest Degree Earned

Category	Type of degree	N	Mean	SD	95% confidence interval for mean: Upper bound	95% confidence interval for mean: Lower bound
Importance of accreditation criteria	Bachelor's	13	3.4000	.5831	3.0476	3.7524
	Master's	157	3.0891	.5178	3.0074	3.1707
	Master's	157	3.0891	.5178	3.0074	3.1707
	Doctorate	13	3.2308	.4608	2.9523	3.5092
	Doctorate	13	3.2308	.4608	2.9523	3.5092
	Total	183	3.1212	.5230	3.0449	3.1975
	Total	183	3.1212	.5230	3.0449	3.1975
Adequacy of prep for accreditation criteria	Bachelor's	13	1.9692	.7696	1.5042	2.4343
Adequacy of prep for accreditation criteria	Bachelor's	13	1.9692	.7696	1.5042	2.4343
	Master's	156	2.1998	.7456	2.0819	2.3177
	Master's	156	2.1998	.7456	2.0819	2.3177

	Doctorate	13	2.4692	.8606	1.9492	2.9893
	Total	182	2.2026	.7573	2.0918	2.3133

Table 6
Descriptive Statistics Summary for Importance of ACEHSA Criteria by Type of Degree Earned

Category	Type of degree	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Importance of accreditation criteria	Bachelor of arts	1	4.0000	.	.	.
	Bachelor of science	12	3.3500	.5792	2.9820	3.7180
	Bachelor of science in nursing	1	2.8000	.	.	.
	Master of arts	3	2.9333	.4041	1.9294	3.9373
	Master of business administration	43	3.1651	.4613	3.0231	3.3071
	Master of healthcare administration	57	3.0312	.5393	2.8881	3.1743
	Master of health services administration	23	3.1267	.6418	2.8492	3.4042
	Master of science	8	3.1375	.4868	2.7305	3.5445
	Master of public health	14	3.1214	.5951	2.7778	3.4650
	Doctorate degree/professional degree	12	3.2167	.4783	2.9128	3.5206
	Other	9	3.0099	.1874	2.8659	3.1539
	Total	183	3.1207	.5228	3.0444	3.1969
	Total	183	3.1207	.5228	3.0444	3.1969

Table 7
Descriptive Statistics Summary for Adequacy of Preparation by Type of Degree Earned

Category	Type of degree	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Adequacy of prep for accreditation criteria	Bachelor of arts	1	2.9000	.	.	.
	Bachelor of science	12	1.9917	.6973	1.5486	2.4347
	Bachelor of science in nursing	1	1.0000	.	.	.
	Master of arts	3	2.1889	.4550	1.0586	3.3192
	Master of business administration	43	2.0111	.7624	1.7765	2.2457
	Master of healthcare administration	57	2.3316	.7183	2.1410	2.5222
	Master of health services administration	23	2.3334	.8621	1.9606	2.7062
	Master of science	8	2.0750	.9603	1.2722	2.8778
	Master of public health	14	2.1643	.6879	1.7671	2.5615
	Doctorate degree/professional degree	12	2.3917	.8501	1.8515	2.9318
	Other	8	1.8444	.6563	1.2958	2.3931
	Total	182	2.1855	.7650	2.0736	2.2974
	Total	182	2.1855	.7650	2.0736	2.2974

Table 8
Descriptive Statistics Summary for Importance of ACEHSA Criteria and Adequacy of Preparation by Type of Managerial Position

Category	Type of position	N	Mean	SD	95% confidence interval for mean Upper bound	Lower bound
Importance of accreditation criteria	Nonclinical	177	3.1287	.5241	3.0510	3.2065
	Clinical	6	2.9667	.5046	2.4371	3.4963
	Total	183	3.1234	.5229	3.0471	3.1997
Adequacy of prep for accreditation criteria	Nonclinical	176	2.1970	.7705	2.0824	2.3116
	Clinical	6	2.0833	.8232	1.2194	2.9472
	Total	182	2.1932	.7702	2.0806	2.3059

Table 9
Descriptive Statistics Summary for Importance of ACEHSA Criteria and Adequacy of Preparation by Type of Managerial Experience

Category	Type of experience	N	Mean	SD.	95% confidence interval for mean Upper bound	Lower bound
Importance of accreditation criteria	Nonclinical	157	3.1290	.5328	3.0450	3.2130
	Clinical	26	3.0821	.4680	2.8930	3.2711
	Total	183	3.1223	.5232	3.0460	3.1986
Adequacy of prep for accreditation criteria	Nonclinical	156	2.1972	.7657	2.0761	2.3183
Adequacy of prep for accreditation criteria	Nonclinical	156	2.1972	.7657	2.0761	2.3183
	Clinical	26	2.1615	.8119	1.8336	2.4895
	Clinical	26	2.1615	.8119	1.8336	2.4895
	Total	182	2.1921	.7703	2.0795	2.3048
	Total	182	2.1921	.7703	2.0795	2.3048