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The purpose of this study is to determine if there is a dominant, effective human resource system configuration within the Army Medical Department. The final study sample size (n) included 36 Army medical treatment facilities of various care levels. Independent and dependent variables included patient satisfaction, executive satisfaction, financial performance, and human resource organization type. The data sources for this study were direct queries to individual facility Deputy Commanders for Administration and department chiefs, M2, and the Army Medical Command Command Management System (CMS). The results of the study revealed an strong prevalence of combined civilian and military human resource (HR) organizations (22 of 36) over separate civilian military human resource organizations (14 of 36). The distribution among survey respondents demonstrated a similar trend with combined HR accounting for 17 of 29 facilities and separate HR accounting for 12 of 29 facilities. However, human resource organization type comparisons failed to yield statistically significant correlations. The study is significant because of the increased pressure for Army medical treatment facilities to prove their competitive equivalence with the civilian sector and there is a growing body of literature that links successful human resource management practices and positive organizational outcomes such as profitability, patient satisfaction, and employee satisfaction.

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Army-Baylor University

Graduate Program in Health and Business Administration

Graduate Management Project:

Is there a dominant, effective HR organizational structure within

Army Medical Treatment Facilities?

Presented to MAJ Lee Bewley, PHD, FACHE

In partial fulfillment of the requirements for

HCA 5661 – Administrative Residency

By

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Abstract

The purpose of this study is to determine if there is a dominant, effective human resource system configuration within the Army Medical Department. The final study sample size (n) included 36 Army medical treatment facilities of various care levels. Independent and dependent variables included patient satisfaction, executive satisfaction, financial performance, and human resource organization type. The data sources for this study were direct queries to individual facility Deputy Commanders for Administration and department chiefs, M2, and the Army Medical Command Command Management System (CMS). The results of the study revealed an strong prevalence of combined civilian and military human resource (HR) organizations (22 of 36) over separate civilian military human resource organizations (14 of 36). The distribution among survey respondents demonstrated a similar trend with combined HR accounting for 17 of 29 facilities and separate HR accounting for 12 of 29 facilities. However, human resource organization type comparisons failed to yield statistically significant correlations. The study is significant because of the increased pressure for Army medical treatment facilities to prove their competitive equivalence with the civilian sector and there is a growing body of literature that links successful human resource management practices and positive organizational outcomes such as profitability, patient satisfaction, and employee satisfaction.

Disclaimer

The opinions or assertions expressed in this paper are those of the author and are not to be construed as reflecting the official policy or position of Baylor University, Dwight D. Eisenhower Army Medical Center, U.S. Army Medical Command, Department of the Army, Department of Defense, or the U.S. Government.

Ethical Considerations

No personal identifying information was used during this study. The author declares no conflict of interest or financial interest in any product or service mentioned in this paper. The confidentiality of individual members of the study population was protected at all times throughout the study.

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Introduction

History of Dwight D. Eisenhower Army Medical Center

Over Dwight D. Eisenhower Army Medical Center's (DDEAMC) history, its mission and capacity has varied with little change in its human resource management practices. The current system has resulted in a bloated personnel budget and is not flexible enough to competitively adapt to the dynamic healthcare environment in which it now competes.

DDEAMC was originally built as the Camp Gordon Station Hospital in 1941 to provide care for World War II casualties (Eisenhower Army Medical Center, 2006). The station hospital reached a peak capacity of 1600 inpatients during World War II. The post-World War II draw down did not require such a robust facility and it was closed in August 1946. The hospital reopened with the threat of the Cold War, and fluctuated in size during the Korean and Viet Nam Wars. During the Korean and Vietnam hostilities, Army officials recognized the hospital had outlived its intended use and initiated plans to replace the facility. The plans included expanding the facility's mission beyond patient care to include teaching and research capabilities. Construction began on April 23, 1971. The facility was dedicated on April 24, 1975, but it would not be ready for its first patient until April of the next year (Eisenhower Army Medical Center, 2006).

DDEAMC shares a common mission with all Army medical facilities: supporting the readiness and health care of our active duty forces and providing quality health care to eligible beneficiaries in the Southeastern Region (Eisenhower Army Medical Center, 2006). Additionally, DDEAMC embraces a mission unique to the seven other medical centers within the Army Medical Department, Graduate Medical Education.

Approximately 115 residents and interns are currently training at DDEAMC. The Graduate Medical Education department at DDEAMC includes programs in family practice, internal medicine, general surgery, oral and maxillofacial surgery, orthopedic surgery, transitional internship, clinical pastoral education, surgical podiatry, health care administration, and nurse anesthesia (Graduate Medical Education Office, 2006).

DDEAMC is also the training site for several technical specialties for enlisted soldiers, such as the 68WM6 program, the physicians assistant program, and laboratory and x-ray technologists (Graduate Medical Education Office, 2006). Students from the Health Professional Scholarship Program and the Uniformed Services University of Health Sciences also train at DDEAMC.

DDEAMC has a current capacity of 150 inpatient beds and encompasses 28 different specialty clinics that provide care to a population of over one million beneficiaries from eight states and Puerto Rico (Eisenhower Army Medical Center, 2006). In 2005, the average daily workload consisted of 60 inpatients, 12 admissions, 1305 outpatient visits, 18 surgical procedures, and filling over 3031 prescriptions. In 2005, DDEAMC was awarded the Army Surgeon General's Medical Treatment Facility of the Year Award.

Conditions that prompted the Study

The United States' civilian health care system is under incredibly intense pressure to reduce costs. United States' health care expenditures rose 9.7% a year from 1988 to 1993. Despite a brief slowdown in growth from 1993 to 2000, healthcare costs surged 8.5% in 2001, 9.3% in 2002, and 7.7% in 2003. The sectors that account for the largest portion of cost growth are prescription drugs and administrative costs (Bodenherimer, 2005). Outgoing Centers for Medicaid and Medicare Services (CMS) Director Mark McCellan said "the best thing we can do" for the health care system "is to take further steps to improve the efficiency in the way that it works, of getting more for the dollars we spend"(Christian Science Monitor, 10 October 2006). The military health system is under comparable pressure as evidenced/reflected in the budgeting and performance evaluation model implemented in FY 2003. Army medical treatment facilities must demonstrate fiscal value and efficiency in the systemic delivery and direct provision of quality patient care. Accordingly, medical treatment facility commanders are seeking methods to increase productivity or reduce costs. With human resource expenditures accounting for 65-80% of the average healthcare organization's operating budget, a logical point for efficiency initiatives lies in the management of human resources (Khatri, 2006).

During the strategic planning conference in FY06, Dwight D. Eisenhower Army Medical Center's (DDEAMC) leadership identified the need to reengineer the institution's human resource management system to allow for increased flexibility in workforce shaping and incorporate sustainable professional development of its civilian workforce. The Secretary of Defense recognition of a similar trend across the

Department of Defense sponsored the generation/ creation of National Security Personnel System (NSPS) and the Military Health System's development of Defense Medical Human Resources System - internet (DMHRSi). The institution's organizational approach to managing its human resources has not changed significantly and has been judged as inadequate to adapt to or proactively identify changes in health care demand. Accordingly, the organization needed to identify or create a human resource management system that would facilitate the development and implementation of strategic goals that develop the competitive advantage or capability required to maintain DDEAMC's position as a viable provider of quality health care and graduate medical education.

Statement of the problem or question

Directly the research question posited by this study was: Is there a dominant, effective HR organizational structure within Army Medical Treatment facilities? The premise is if such an organization existed, it could prove to serve as a model or template for DDEAMC to begin its reengineering efforts. The study is significant because of the increased pressure for Army medical treatment facilities to prove their competitive equivalence with the civilian sector. Furthermore, there is a growing body of literature that links successful human resource management practices and positive organizational outcomes such as profitability, patient satisfaction, and employee satisfaction. The objective of the study is to determine the existence of a statistically dominant, effective human resource management model. Additionally, this study intends to provide Department of Defense medical treatment commanders and policy

makers a quantifiable evaluation of the strategic capability of current human resource management practices. Identification of successful strategic human resource management practices can provide a template for leaders to engage in business practices that will enhance the financial and workload performance of their institution, increase employee satisfaction, and overall quality of care. The population for this study was limited to Army medical treatment facilities of various sizes based on the presence of a United States Army Human Resources Command centrally selected Deputy Commander for Administration. The final study sample included a combination of Army Medical Centers, Army Community Hospitals, or Army Health Clinics resulting in 37 facilities. Facilities with missing data that could not be estimated were excluded.

Literature Review

A comprehensive literature review, predominantly focused on online academic literature data base was conducted. During the course of the literature review, there was not a study found that specifically investigated the organizational components of strategic human resource management within the Department of Defense medical health system. Accordingly, the literature review for this study focused on establishing a clear definition of human resource management, why strategic human resource management is a valuable investment, why use the organization as the unit of analysis, determine if strategic human resource management applies to the healthcare industry, and review the current state of human resource management within the healthcare industry.

What is Human Resource Management?

Human resource management has been described as creating an organizational climate that is conducive to flexibility, practicality, and participation (Ellis, 1982). Corporate human resource executives are beginning to recognize human resource management as a potential change catalyst that creates a sustainable supply of profitability enhancing talent that supports future growth into markets. Human resource management has the unique potential to help create positive business outcomes through programs for talent planning, development and management and by working to create a culture of performance (Executive Roundtable Series, 2005). Price (1996) draws on the definition of human resource management as “strategic approach to the acquisition, motivation, development and management of the organization’s human resources”. Arnold (2005) identifies the essential components of human resource management as human resource planning, employee selection and placement, training, development, and appraisal; compensation, and employee relations.

The Joint Commission for Accreditation of Healthcare Organizations in its *Complete Accreditation Manual for Hospitals* (2004) states that “the goal of the human resources function is to ensure that the hospital determines the qualifications and competencies for all staff positions based on its mission, populations(s), and care, treatment and services. The organization must provide the right number of competent staff to meet patients’ needs.” In order to meet this goal, the hospital must provide the following processes and activities:

- Providing an adequate number of staff
- Providing competent staff

- Orienting, training, and educating staff
- Assessing, maintaining, and improving staff competence

Human resource management within the Army Medical Department is fragmentally assembled. MEDCOM Regulation 10-1, Organization and Functions (2000), does not identify a human resource division. Searching for the functions associated with human resource management directs one to several non-associated institutional bodies. It identifies a Personnel Division with the responsibility for providing the personnel administration services for military and civilian personnel of the command. The civilian support includes a liaison with the supporting civilian personnel office or advisory center. Additionally, the Personnel Division is assigned the responsibility of monitoring the basic and advanced skills education program for the activity. A draft MEDCOM Regulation 10-1 (2006) does identify a human resource division, but the content reflected an organization title change not responsibility and purpose shift. During the course of the study, the responsibility for monitoring basic and advanced skills education was seldom found with the Personnel Division.

Predominantly, this responsibility is achieved through the combined effort of a Hospital Education and Training, or facility equivalent, and Plans, Operations, and Training, or facility equivalent. The recruiting and planning and analysis functions suggested by JCAHO (2004) and Griffith and White (2002) are often assigned to the Resource Management Division reflecting a cost based philosophy of human resource management vice a competitive advantage philosophy.

Griffith and White (2002) present a similar concept of the human resource

management function as JCAHO and suggest that the purpose of a human resource system is to plan, acquire, and maintain the skills, quality, and motivation of members consistent with the fulfillment of the organization's mission. Table 1 identifies essential functions of human resources according to Griffith and White.

Human Resource Functions

A corollary to the functional components presented by Griffith and White is supported by several internal fit studies (Baird & Meshoulam, 1988; Baird, Meshoulam, & DeGive, 1983; Galbraith & Nathanson, 1978) which identify six strategic components of human resource management: management awareness, management of the function, portfolio of programs, personnel skills, information technology, and awareness of the environment. Lado and Wilson define a human resource system as a set of distinct but interrelated activities, functions, and process that are directed at attracting, developing, and maintaining (or disposing of) a firm's human resources(1994).

Operational definition for paper

The literature presents three distinct practice types for workforce management: personnel administration, human resource management, and strategic human resource management. However, delineations between the three types are unclear and inconsistently applied, especially when establishing an operational distinction between the practices of human resource management and strategic human resource management. Frequently, the literature will attribute one function to the practice of

human resource management and the attribute the same function to the practice to strategic human resource management.

Table 1

Functions of Human Resources

Function	Description
Workforce Planning	Development of employment needs by job category. Identification of strategic responses in recruitment, downsizing, training, compensation
Workforce maintenance	Recruitment Selection Diversity Management Orientation Training Retention Records Reduction
Management education	Programs of supervisory training, human relations skills, continuous improvement skills
Compensation management	Market surveys of base pay, benefits allowance, and incentives Record of hours worked, earnings, benefits eligibility, use, and cost. Design and administration of benefits
Collective bargaining	Response to organizing drives, contract negotiation, and administration
Continuous improvement and budgeting	Analysis of employment markets, benefit trends, and work conditions, and worker loyalty Development of improvement proposals for general working conditions Development of department budget and budget for employment benefits

For clarification, a compilation definition of human resource management is the systems and processes required to develop, acquire, compensate, and train a talent pool capable of meeting the firm's mission. A definition of strategic human resource management is proactively, integrating the systems and processes required to develop,

acquire, compensate and train a talent pool capable of meeting the firm's mission into the firm's current and future strategic goals that translates to a competitive advantage.

Why invest in human resource management?

The value of human resource management is not universally accepted. Some scholars and business personnel have argued that human resource departments are bureaucratic wastelands and should be done away with (Stewart, 1996). However, it has long been proposed and widely accepted that people are the preeminent organizational resource and the key to achieving outstanding performance (Peters & Waterman, 1982; Pfeffer, 1994). Multiple scholars propose the resource based view of human resource management which posits human resource systems have the potential to provide a sustained competitive advantage by stimulating the development of competencies that are unique to the firm, produce binding, complex social relationships; are entrenched in the firm's culture and history, and generate tacit organizational knowledge (Barney, 1992; Reed & DeFillippi, 1990; Wright & McMahan, 1992; Lado & Wilson, 1994). As a counterpoint, it has been argued that human resource systems that inhibit the mobilization of new competencies or destroy existing advantageous competencies, ultimately contribute to an organizations vulnerability and competitive disadvantage (Lado & Wilson, 1994). The literature is rich with quantifiable and theoretical studies linking human resource management practices and firm performance (Arnold & Feldman, 1982; Baysinger & Mobley, 1983; Weitzman & Kruse, 1990; Cascio, 1991; and Flamholtz, 1985). In fact, three academic journals have dedicated special issues to research establishing the link between human resource services and financial

impact (Rogers & Wright, 1998). Since the early 1990s, more than 30 studies have been conducted in the United States and the United Kingdom which identify a strong positive correlation between people management and business performance. The studies also indicate that the effects of good human resource practices are cumulative (CIPD, 2001). While some researchers stress that the examination of human resource management and organizational performance is in its infancy and question the foundation of some of the claims made about the connection between human resource management strategy and organizational performance, they recognize that the results from the existing bodies of research is extremely positive (Guest, 2001). Categorically, the studies can be segregated into factors that affect employee turnover, productivity, and corporate financial performance (Huselid, 1995). A list of 13 "High Performance Work Characteristics" which included formal information sharing, formal job analysis, staff participation, in Quality of Work Life programs, workforce receives formal performance appraisal, and promotion based on merit were developed as a proposed best practice checklist (Buchan, 2004). Huselid tested the hypothesis that these practices would reduce staff turnover, increase productivity and improve corporate financial performance (1995). Based on data from 968 US companies, Huselid reported that the implementation of high performance work practices led to better firm performance, a significant reduction in staff turnover, higher dollar of sales per employee, a higher employee increase in market value and an increase in per employee contribution to profits.

Perspectives of Strategic Human Resource Management

Strategic human resource management expands the discipline of human resource management by challenging the manager to tie human resource management practices with organizational outcomes (Colbert, 2004). Notably, how does the organization ensure its human resources are: (1) aligned to support current strategies, adaptable to new strategies, are able to influence new strategic directions and (2) actively built and renewed to fuel competitive advantage. There are several perspectives that address differing dimensions of the Resource Based theory: Contingency Perspective, Universalistic Perspective, and Configurational Perspective (Delery & Doty, 1996).

Why organizational versus person unit of analysis?

The unit of analysis for human resource management and strategic human resource management studies has varied as firm or corporation, business unit, or plant (Huselid, Jackson, & Schuler, 1997). Human resource management systems, rather than individual practices, are the appropriate level of analysis when an estimate of the firm-level effect of human resource management practices is desired (Delaney & Huselid, 1996). Becker and Gerhart (1996) argued that they chose to emphasize the link between high performance work systems and corporate financial performance, not because it is the only appropriate level of analysis or that it is without methodological challenges, but that it is the ultimate reason for a strategic human resource management role in a firm. Recent conceptual work has also argued that complementarities, or synergies, both among a firm's human resource management

practices and between a firm's human resource management practices and its competitive strategy, can have an additional and positive effect on firm performance (Baird & Meshoulam, 1988; Milgrom & Roberts, 1995). This body of work reinforces the appropriateness of a corporate or organizational unit of analysis.

Is Human Resource theory applicable to healthcare?

"In recent years it has been increasingly recognized that getting HR policy and management "right" has to be at the core of any sustainable solution to health system performance" (Dussault & Dubois, 2003; Diallo, Gupta, Da Pol, 2003). Buchan suggests that because health is very labor-intensive, the proportion of the total spent on staff is much higher in health than in most manufacturing industries and in many service industries that the opportunities for improvement through successful human resource management are even greater (2004). "A well-motivated and appropriately skilled and deployed workforce is crucial to the success of health system delivery" (Buchan, 2004). Orzano, Tallia Nutting, Scott-Cawiezell, and Crabtree highlight that an expanding volume of academic research and scientific evidence indicates there is a positive association between optimal organizational performance and quality health outcomes (2005).

Current State of Healthcare Human Resource Management Affairs

Buchan (2004) suggests that recognition of the importance of human resource management and its strategic potential to effecting the success or failure of health system performance has been generally overlooked. A limited number of studies

related to high performance human resource management and healthcare have been conducted. Eaton (2000) and Rondeau and Wagner (2001) studied the impact of human resource management practices in nursing homes within the United States and Canada. Both studies concluded that the quality outcomes of nursing homes were high or improved with the implementation of human resource management practices. The lack of substantive, outcomes oriented review of human resource management practices within health care may be a major constraint in achieving the objectives of health sector reform.

Purpose

The purpose of this paper is to apply the resource based, best practice model to the United States Army Medical Department and determine if a dominant, effective human resource system exists within the Army Medical Command. These dependent variables include Deputy Commander for Administration assessment of human resource management effectiveness, and financial performance. Independent variables include human resource organization type and treatment facility type. A secondary purpose of the study was not to identify a prescriptive, policy founding organizational type, but to assess areas of opportunity for further research similar to Rogers and Wright's (1998) work in establishing human resource performance measures and control variables.

Definition of terms and variables

The dependent and independent variables are operationally defined in Table 2.

Methods and Procedures

Overview

The experimental design for this study was a cross sectional study based on direct queries to Army medical treatment facilities with Department of the Army selected Deputy Commander's for Administration from September 2006 and December 2006, data pulls from M2 data warehouse, and Army Medical Department Command Management System. Data from M2 and the Army

Table 2

Operational Definitions

Human Resource Organization Type	HR _{TYPE}	a dichotomous variable that categorizes institutional structure as 0=separate and 1=combined .
Executive Satisfaction	HR _{EFF}	a nominal variable that measures Deputy Commander for Administration satisfaction with their facility's human resource management service as measured on a 5 point Likert scale.
Financial Performance	FP	a continuous percentage based on the proxy value of performed relative value units and target relative value units for FY 2005.
Treatment Facility Type	TMT	a categorical variable indicating a treatment facility as 1 = Army Medical Center, 2 = Army Community Hospital, 3 = Army Health Clinic
Patient Satisfaction	PS	a continuous variable measuring the percent of patients satisfied with the care received

Medical Department Command Management System was pulled from FY2005 to give one full year of trend information with facilities organized per their current human resource management configuration. This time period was used because of availability of data, necessity to capture the occurrence of practices at one point in time and

eliminate data corruption due to facilities reorganizing their human resource systems during the period of study.

Hypotheses

Hypothesis 1: Human Resource organizational type is positively associated with Human Resource Effectiveness.

$$HR_{TYPE} = HR_{EFF}$$

Hypothesis 2: Financial Performance is positively associated with Human Resource Effectiveness.

$$FP = HR_{EFF}$$

Hypothesis 3: Human Resource organizational type is positively associated with Treatment Facility Type.

$$TMT = HR_{TYPE}$$

Sampling procedures and means of gathering data

A study of this type presents a number of data collection challenges and requires a diverse assortment of data gathering methodologies. Data concerning organizational type, staffing levels and support levels was obtained through direct correspondence with

facility points of contact in Resource Management Divisions, Personnel or Human Resource Management Divisions, and Troop Commands. Data for financial performance and patient satisfaction were obtained through a centralized Army Medical Department Database titled Command Management System. Finally, facility-level data for executive perception of human resource system effectiveness was obtained through a survey administered to the Deputy Commanders for Administration at 37 Army Medical Treatment Facilities. Deputy Commanders for Administration represent a panel of healthcare administration experts individually selected by an Army Human Resource Command selection board based on demonstrated skills, knowledge and attributes. Due to the limited scope of this study, Army Medical Treatment facilities, the entire population of facilities with Deputy Commander's for Administration was included in the study. The survey instrument is founded in the survey tool developed by Huselid, Jackson, and Schuler's 1997 study entitled Technical and Strategic Human Resource Management Effectiveness as Determinants of Firm Performance. The tool is designed to evaluate four human resource management domains that have been demonstrated as essential to human resource management to have a positive strategic impact on an organizations performance.

Survey Measures

The measures developed by Huselid, Jackson, and Schuler (1997) were selected to assess HRM effectiveness and the capabilities of an organizations human resource staff. The measures designed to assess HRM effectiveness asked respondents to indicate their level of satisfaction with human resource results using a 5 point Likert

scale with 1 indicating highly satisfied and 5 indicating very dissatisfied. The measures designed to assess HRM capabilities asked respondents to indicate the extent that human resource staff possess the skills identified on a 5 point Likert scale with 1 indicating applies to most and 5 indicating applies to very few. As with the original Huselid, Jackson, and Schuler study, responses were recoded so that higher values would indicate higher levels of perceived capability and effectiveness.

“The use of perceptual data does introduce limitations through increased measurement error and the potential for monomethod bias, it is not unprecedented to use such measures. Research has found measures of perceived organizational performance to correlate positively (with moderate to strong associations) with objective measures of firm performance” (Dollinger & Golden, 1992; Powell, 1992).

Missing data was estimated utilizing standard quantitative analysis techniques whenever possible. In the event that data cannot be estimated, the subject in question was discarded.

Validity and Reliability

Validity of a study is a description of the extent to which the study is measuring what it is supposed to measure. Subcategories of validity include: internal, external, content, construct, criterion-related, and face-validity. Internal validity is the extent to which one can draw valid conclusions about the causal effects of one variable on another. The internal validity of the results of the study is supported through the use of

prior research to generate and administer the survey tool. The external validity, or generalizability, of a study is the extent to which the findings of a study are relevant to subjects and settings beyond those in the study. The generalizability of the study across the Army Medical Department and the Department of Defense is supported by sampling from the range of facility types and by using ratios to enable enterprise wide comparisons.

Content validity is maintained when a measure accurately represents the concept being measured. It is not a statistical property, but a matter of expert judgment. Content validity, like internal validity, is supported through the use of prior research to generate and administer the survey tool. Face-validity is logical or conceptual validity. Measures possess face validity when they appear to make sense. The measures and collection techniques possess face-validity since they are based on enterprise standard performance metrics.

Reliability of a study is the consistency or stability of a measure or test from one application to the next. It identifies freedom from measurement or random error. Reliability of this study will be maintained by consulting with facility human resource points of contact to verify assessment of human resource organization type, using assistants to evaluate consistent interpretation of organization type, and drawing from institution approved or sponsored data sources for secondary data sources. Reliability of the survey instrument will be assessed through Cronbach's Alpha for each of the four domain question sets. Cronbach's Alpha is a measure of internal reliability of items in an instrument. It is a measure of the intercorrelation of the items and estimates the proportion of variance in all the items that is accounted for by a common factor. It

ranges from 0 to 1.0 and scores toward the high end of that range, greater than .70, suggest that items in the index are consistently measuring the same concept.

Statistical tools

The data analysis techniques of this study included combination of descriptive and inferential statistics. Descriptive statistics are useful for summarizing, organizing, and describing quantitative information. Descriptive statistics of central tendency, dispersion, and distribution were used to better describe the independent and dependent variables. Additionally, frequency distributions were used to highlight the composition of the sample population and respondent characteristics. Inferential statistics are used to make conclusions from the data. The inferential technique used in this study is logistic regression. The purpose of this study is to determine the likelihood of the independent variable being associated with the dependent variable. The dependent and independent variables will have more than two categories or multinomial. Accordingly, logistic regression analysis is the selected analytical method. Logistic regression analysis is used for predicting whether something will happen or not. Ordinary least squares regression can be used when the independent variables are dichotomous or categorical, but is not a good practice when the dependent variable is also dichotomous or categorical. In contrast to linear regression which uses the straight line to best approximate the data, logistic regression uses the logarithmic curve that best approximates it and estimates parameters using maximum likelihood estimations. A logistic regression coefficient represents the effect of a one-unit change in an independent variable on a dependent variable.

Significance of the results of logistic regression will be assessed using and Wald statistic test. The Wald statistic is an alternative test which is commonly used to test the significance of individual logistic regression coefficients for each independent variable (that is, to test the null hypothesis in logistic regression that a particular logit (effect) coefficient is zero). For dichotomous independents, the Wald statistic is the squared ratio of the unstandardized logit coefficient to its standard error.

Results

Data

The sample includes only those medical treatment facilities with complete data sets from direct correspondence with a variety of human resource, financial resource, and senior management from the 36 Army medical treatment facilities with board selected Deputy Commanders for Administration. Facilities that did not respond to the human resources effectiveness survey were included in the descriptive analysis for human resource organization type and facility type to highlight the composition of the initial sampling pool. However, similar descriptive statistics are portrayed for the final sample set and only facilities with complete data sets were used for the inferential analysis. In other words, facilities with missing organizational type data were ultimately excluded. Several of the returned surveys had blanks or double entries. The technique used to resolve these discrepancies was to substitute the individual survey domain average for the missing or duplicate data. The data for this study is primary and secondary in nature. Primary data was obtained through direct correspondence with medical treatment facility subject matter experts to determine human resource

organizational type and to verify overall facility type. Additionally, the data for human resource management effectiveness is primary in nature and was captured through the administration of a survey instrument developed by Huselid (1997) with minor alterations to address characteristics of the military health system. The secondary data obtained for this study were captured from the Army Medical Department's Command Management System and included the data for productivity and patient satisfaction. The sample size for the data included responses for 29 ($n = 29$) Army Medical Department treatment facilities. Surveys and queries were sent to 37 treatment facilities. Queries to determine human resource organization type yielded responses from 36 facilities or a 97 % response rate. Human Resource Effectiveness survey responses from 29 of 36 resulted in an 81% response rate.

Statistical power of a study depends on the type of test, sample size, effect size and alpha level. The power of a study gives an indication of the potential for not making a type I or II error, or the probability of correctly rejecting the null and accepting the alternate hypotheses when they should be. For the purposes of this study, an effect size of .3 was selected with an alpha of .05. In order to obtain a power of .8 or greater, the recommended sample size is 84. However, the sample selection criterion restricts sample size to 37. The intent of this study is to serve as pilot study for follow on research. Therefore, increasing the power of the study by increasing the sample size was not pursued.

After compiling the data into one coherent database, a physical inspection of the data was conducted to identify any potential superficial, yet significant, data trends.

This inspection primarily identified missing data. No additional abnormal or unexpected data trends were detected.

Descriptive Statistics

The initial investigation to determine facility human resource organizational type yielded six human resource organizational structures: combined military and civilian personnel under a human resource division (CHR), combined military and civilian personnel under resource management (CRM), combined military and civilian personnel under business management (CBM), separate military, civilian, and resource management divisions (SEP), separate military and civilian divisions under business management division (SBM), and separate military and civilian personnel divisions with civilian personnel aligned under resource management (SRM). The distribution found is reflected in Figure 1. Accepting that combining military and civilian personnel under one department recognized a realization that unifying these two functions increased efficiency, the multiple combined organizational types were merged into a single category (SHR). Under these criteria, 22 of 37 facilities, or 59%, of the initial sample population operate human resource operations that combine military and civilian personnel in some fashion, 4 of 36 facilities maintain separate human

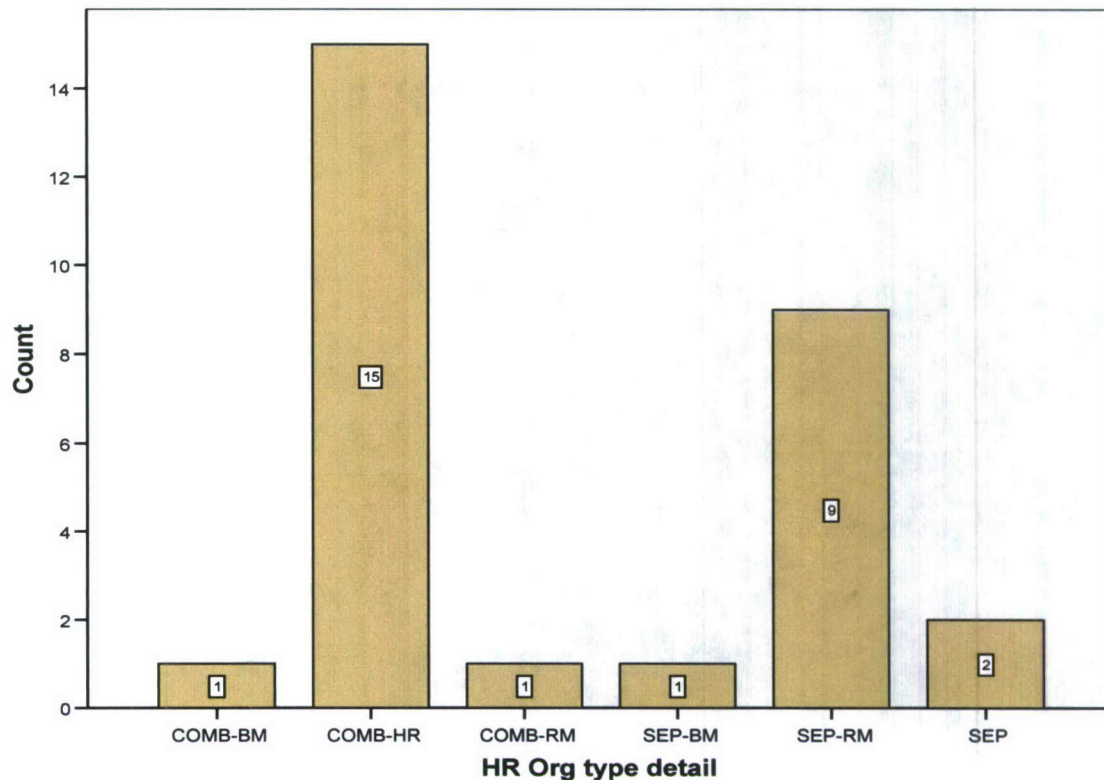


Figure 1. Frequency chart of detailed category review of human resource organization type distribution.

resource operations, or 11%, and 10 of 36, or 28%, operate separate military and civilian operations with the civilian personnel operation under the supervision of resource management. Figure 1 presents the distribution of human resource organizational type of the final sample population. The two most prevalent human resource organizational types discovered were combined military and civilian personnel under a human resource division (15) and separate military and civilian personnel divisions with civilian personnel operationally aligned with the Resource Management Division (9). Figure 2 illustrates the same distribution, but categorized by medical treatment facility type. The relative frequency of combined civilian and military

personnel organizations appears more prevalent in Army Medical Clinics and Army Community Hospitals than in Army Medical Centers.

Accepting in the final sample population that combining military and

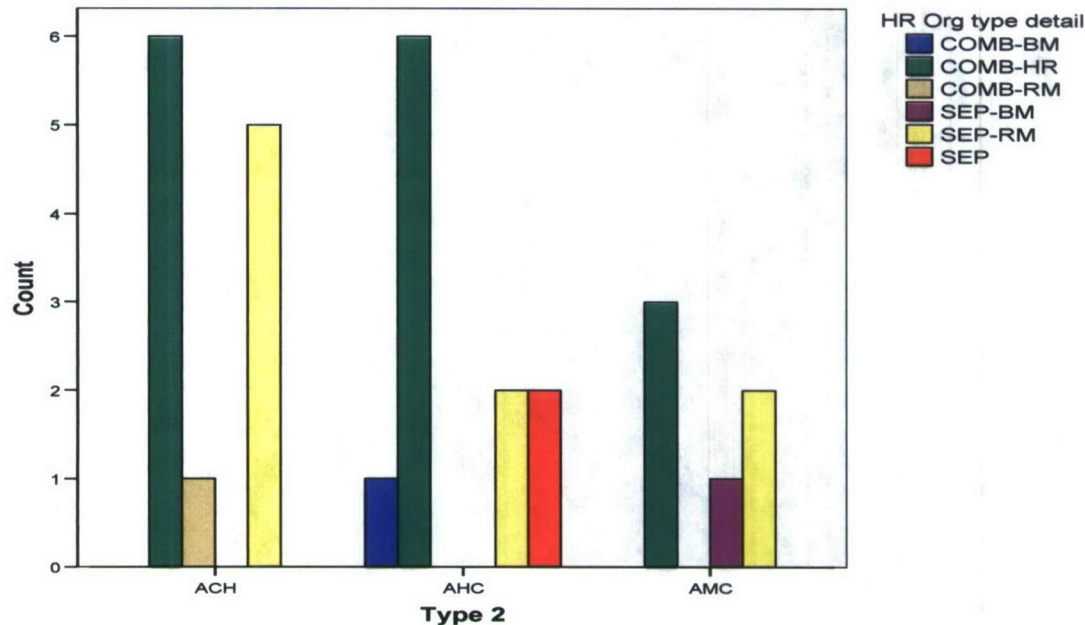


Figure 2. Frequency chart of detailed category review of human resource organization type distribution in relation to medical treatment facility type.

civilian personnel under one department recognized a realization that unifying these two functions increased efficiency, the multiple combined organizational types were merged into a single category (COMB) and the multiple separate organizational types were merged into a single category (SEP). Figure 3 graphically depicts the distribution of human resource organization types categorized by medical treatment facility type.

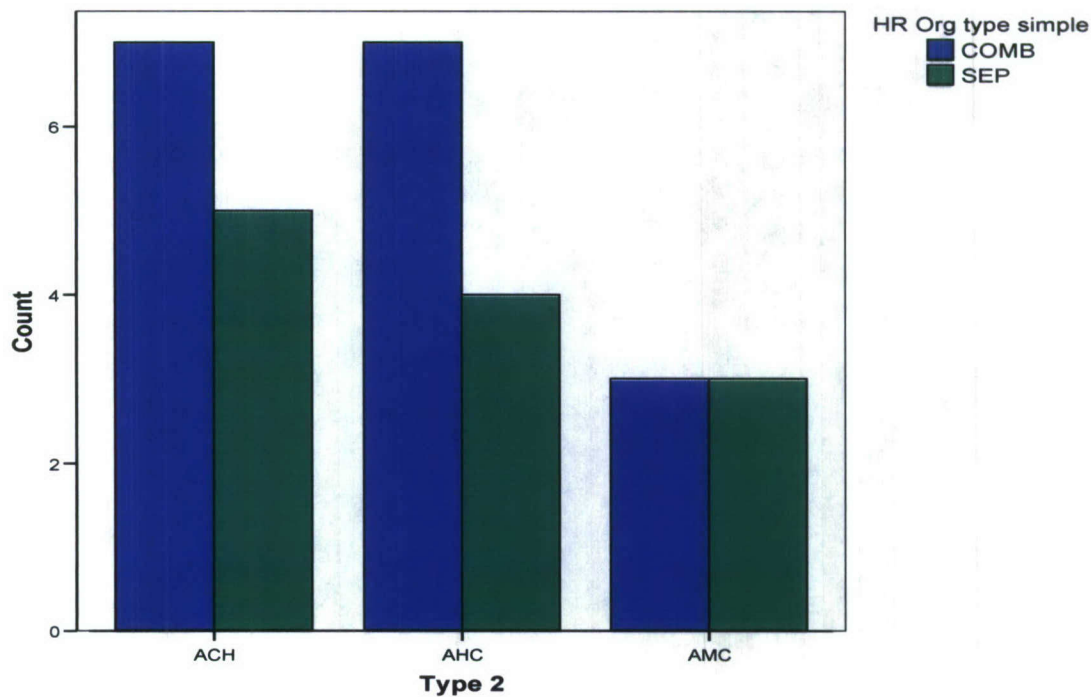


Figure 3. Frequency chart of simple category review of human resource organization type distribution in relation to medical treatment facility type.

The distribution of human resource organizational type by medical treatment facility against executive overall satisfaction is portrayed in Figure 4. Initial review of the distribution suggests a trend, which may or may not be statistically significant, towards increased overall satisfaction with human resource

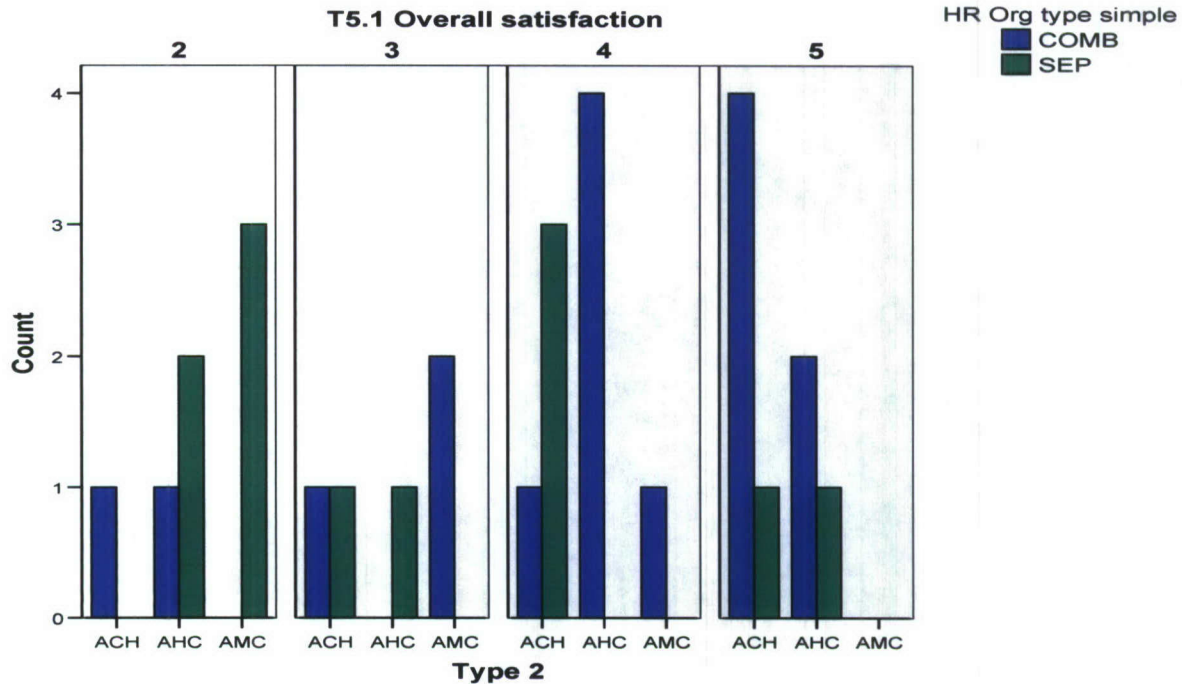


Figure 4. Frequency chart of simple category review of human resource organization type distribution in relation to medical treatment facility type and overall executive satisfaction.

organization performance for combined human resource organization types. This trend appears more pronounced when one considers those organizations that received a maximum effectiveness score (5).

Descriptive statistics for the respondents to the survey are displayed in tables 3 - 5.

Table 3

Survey respondent rank distribution

		Frequency	Percent
Valid	COL	4	13.8
	LTC	21	72.4
	MAJ	4	13.8
	Total	29	100.0

*note n=29

Table 4

Descriptive results for survey respondents for demographic questions 2 through 4

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Kurtosis Statistic	Std. Error
D.02 How many years of service?	16.0	25.0	20.103	2.3467	-.070	.845
D.03 How many years in current position?	.50	3.50	1.3624	.76806	.422	.845
D.04 How many DC positions held?	1	3	1.69	.850	-1.284	.845

*note n=29

As the table 5 shows, all respondents possess a graduate or higher degree which is to be expected given the rank requirements for the positions surveyed. Interestingly, an overwhelming majority obtained at least one of their graduate degrees from the same institution.

Table 5

Frequency distribution for number and source of graduate degree attained by survey respondents

	Frequency	Percent
D.05 Possess a graduate or post graduate degree?	29	100.00%
Institution:		
Baylor	23	79.31%
Other	6	20.69%

*note n=29

Descriptive statistics for the responses to the survey are listed in table 6 through 8.

The standard deviation for all responses is less than one half of the mean.

Table 6.

Descriptive results for survey strategic human resource effectiveness domain.

	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
T1.1 facilitates teamwork	2	5	3.57	1.127	-1.334	.845
T1.2 facilitates communication	1	5	3.45	1.121	-.754	.845
T1.3 facilitates employee participation and empowerment	2	5	3.57	.942	-.638	.845
T1.4 facilitates workforce planning	1	5	3.34	1.111	-.872	.845
T1.5 facilitates workforce productivity	2	5	3.09	.952	-.717	.845
T1.6 facilitates management and executive development	1	5	3.45	1.031	-.279	.845
T1.7 facilitates succession and development planning for managers	1	4	3.14	.915	-.838	.845
T1.8 facilitates strategic studies	1	5	2.79	1.013	-.681	.845
T1.9 facilitates employee and manager communication	1	5	3.69	1.072	-.035	.845
T1.10 facilitates work/family programs	2	5	3.24	.872	-.095	.845

Table 7

Descriptive results for survey technical human resource effectiveness and human resource management business capabilities domain.

	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
T2.1 Benefits and services	2	5	4.10	.772	.552	.845
T2.2 Compensation	2	5	3.90	.976	-.157	.845
T2.3 Recruiting and Training	1	5	3.24	1.023	-.725	.845
T2.4 Safety and Health	2	5	4.00	.845	-.574	.845
T2.5 Employee education and training	1	5	3.55	1.088	-.374	.845
T2.6 Retirement strategies	1	5	3.38	.979	-.021	.845
T2.7 Employee/industrial relations	1	5	3.37	.897	.841	.845
T2.8 Social responsibility programs	2	5	3.41	.780	.045	.845
T2.9 EEO	3	5	4.34	.769	-.913	.845
T2.10 Management of labor costs	2	5	3.62	.970	-.673	.845
T2.11 Selection testing	1	5	3.10	.924	-.172	.845
T2.12 Performance appraisal	1	5	3.83	1.104	.126	.845
T2.13 Human resource information systems	1	5	3.45	.948	.307	.845
T2.14 Assessing employee attitudes	1	4	2.99	.995	-1.034	.845
T3.1 Experience in other key business areas	1	4	2.52	.986	-.945	.845
T3.2 HR-career oriented	1	5	3.48	1.090	-.529	.845

Table 8

Descriptive results for survey professional human resource capabilities domain.

	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
T4.1 Anticipates effect of changes	1	5	3.07	1.033	-.175	.845
T4.2 Exhibits leadership	1	5	3.14	1.026	-.530	.845
T4.3 Demonstrates financial impact	1	5	3.27	1.252	-1.063	.845
T4.4 Defines and communicates HR vision	1	5	2.76	1.154	-.863	.845
T4.5 Educates and influences line managers on HR issues	2	5	3.59	.983	-.843	.845
T4.6 Takes appropriate risk	1	5	3.33	.983	.607	.845
T4.7 Broad knowledge of many HR functions	1	5	3.45	1.121	-.115	.845
T4.8 Knowledgeable about competitors' HR practices	1	4	2.52	1.243	-1.645	.845
T4.9 Focuses on the quality of HR services	1	5	3.55	1.121	.135	.845
T4.10 Influences peers in other MTFs	1	4	2.31	.967	-.494	.845
T4.11 Significant external customer contact	1	5	3.07	1.334	-1.202	.845
T4.12 Foreign language capability	1	4	1.76	.988	.626	.845
T4.13 Computer literacy	2	5	4.21	.861	-.170	.845
T4.14 Highly specialized knowledge of a few HR functions	1	5	3.42	1.148	.113	.845
T5.1 Overall satisfaction	2	5	3.62	1.147	-1.350	.845
Valid N (listwise)						

Reliability Analysis

In order to assess the reliability of the tool to effectively measure the same trait by domain type, Cronbach's α for each domain set was tabulated. The results, listed in Table 9, indicate a Cronbach's $\alpha = .924$ for the strategic human resource effectiveness domain, $\alpha = .860$ for the technical human resource effectiveness domain, $\alpha = .685$ for

Table 9

Reliability analysis of human resource effectiveness survey domains.

Domain	N	α	Mean
Strategic effectiveness	10	.924	3.34
Technical effectiveness	14	.860	3.59
Business capabilities	2	.685	3.00
Professional capabilities	14	.925	3.10

human resource business related capabilities domain, and $\alpha=.925$ for the professional human resource management capabilities domain. The widely-accepted social science cut-off is that alpha should be .70 or higher for a set of items to be considered a scale, but some use .75 or .80 while others are as lenient as .60. Cronbach's alpha is the most common estimate of internal consistency of items in a scale. Three of the four domains from the survey, exceed the standard .70 threshold and therefore it is appropriate to assess the survey tool as reliable for those domains. The one domain that fails to meet the .70 threshold, human resource business related capabilities, does so marginally. However, the utility of the information from this domain should be used cautiously.

Inferential Statistics

Hypothesis 1: Human Resource organizational type is positively associated with Human Resource Effectiveness.

$$HR_{TYPE} = HR_{EFF}$$

Hypothesis 1 was tested using binary logistic regression. A tentative significance level, $p = .05$, was selected. The model tested expressed in functional form is:

$$HR_{TYPE} = f(HR_{EFF}) + f(MEDCEN) + f(MEDDAC) + f(Clinic)$$

MEDCEN, MEDDAC, and Clinic were dummy variables introduced into the model in order to control for the potential influence of medical treatment facility type. Contrary to expectations, Human Resource organizational type was not positively associated with Human Resource effectiveness. The logistic regression results are listed in table 10. Accordingly, the alternate hypothesis, or no difference

Table 10

Human resource effectiveness and human resource organization type regression results.

Variables in the Equation						
		B	S.E.	Wald	df	Sig.
Step 1	T5.1Overallsatisfaction	.770	.427	3.263	1	.071
	MEDCEN	.107	1.142	.009	1	.925
	MEDDAC	-.635	.963	.435	1	.509
	Constant	-2.152	1.614	1.778	1	.182

a. Variable(s) entered on step 1: T5.1Overallsatisfaction, MEDCEN, MEDDAC.

model, could not be rejected which suggests that there is no appreciable difference in human resource organization type associated with human resource effectiveness.

Hypothesis 2: Financial Performance is positively associated with Human Resource Effectiveness.

$$FP = HR_{EFF}$$

Hypothesis 2 was tested using binary logistic regression. A tentative significance level, $p = .05$, was selected. The model tested expressed in functional form is:

$$FP = f(HR_{EFF}) + f(MEDCEN) + f(MEDDAC) + f(Clinic)$$

Consistent with the model to evaluate Hypothesis 1, MEDCEN, MEDDAC, and Clinic were dummy variables introduced into the model in order to control for the potential influence of medical treatment facility type. Contrary to expectations, Financial Performance lacked a significant, positive association with Human Resource effectiveness. Table 11 presents the logistic regression results. Accordingly, the alternate hypothesis, or no difference model, could not be rejected which suggests that there is no appreciable difference in financial performance of medical facilities associated with human resource effectiveness.

Table 11

Financial performance and human resource effectiveness results.

Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	FY05Percentageof TargetRVUs	-.012	.037	.099	1	.753	.988
	MEDCEN	-.575	1.032	.311	1	.577	.563
	MEDDAC	-.212	.860	.061	1	.805	.809
	Constant	1.664	3.569	.217	1	.641	5.282

a. Variable(s) entered on step 1: FY05PercentageofTargetRVUs, MEDCEN, MEDDAC.

Hypothesis 3: Human Resource organizational type is positively associated with Patient Satisfaction.

$$PS = HR_{TYPE}$$

Hypothesis 3 was tested using binary logistic regression. A tentative significance level, $p = .05$, was selected. The model tested expressed in functional form is:

$$PS = f(HR_{TYPE}) + f(MEDCEN) + f(MEDDAC) + f(Clinic)$$

Consistent with the model to evaluate Hypothesis 1, MEDCEN, MEDDAC, and Clinic were dummy variables introduced into the model in order to control for the potential influence of medical treatment facility type. Contrary to expectations, Patient Satisfaction lacked a significant, positive association with Human Resource organization type. Table 12 presents the logistic regression results. Accordingly, the alternate hypothesis, or no difference model, could not be rejected which suggests that there is

no appreciable difference in patient satisfaction levels with medical facilities associated with human resource organization type.

Table 12

Patient satisfaction and human resource organization type results.

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	FY05PatSat	-.273	.184	2.203	1	.138	.761
	MEDCEN	.757	1.120	.457	1	.499	2.132
	MEDDAC	.244	.959	.065	1	.799	1.276
	Constant	23.064	16.058	2.063	1	.151	10393110 746.533

a Variable(s) entered on step 1: FY05PatSat, MEDCEN, MEDDAC.

Discussion

From a sample of U.S. Army medical treatment facilities of a range of capabilities and services with Department of the Army board selected Deputy Commanders of Administration, the respondents in this study described their facility's technical human resource management activities as more effective than their facility's strategic human resource management activities ($x = 3.59$ vs. 3.34) which corresponds to the findings of Huselid, Jackson, and Schuler's study (1997). The conclusion they reached for this observation was that the results indicate the degree that technical human resource management activities have become institutionalized, but counter with the argument that institutionalized activities are inadequate as means of creating differentiation with competitors and are weak tools for developing a competitive advantage. However the relative effectiveness of the respondent facility's business related capabilities and professional capabilities did not follow magnitude of the trend in the original study ($x = 3.1$ vs. 3.0 compared to $x = 2.98$ vs. 2.09). This suggests that the capabilities of human

resource personnel within the military health system are different from those evaluated in Huselid, Jackson, and Schuler's study. Or, more likely, the evaluation of human resource management along domains with characteristics historically not associated with human resource management created sufficient uncertainty within the respondent to prevent accurate assessment along these two domains.

The lack of statistical significance between the relationships proposed in this study is surprising, particularly given the demonstrated association between financial performance and human resource effectiveness in earlier research. However, this researcher is encouraged by the positive and nearly significant association between human resource organization type and human resource effectiveness (Wald = 3.263, $df=1$, $p = .071$). Coupled with the relative percentage of human resource organization types, these facts suggest that experienced leaders recognize some component in organizational alignment that adds performance value to the medical treatment facility it supports. These results suggest an exploratory level of positive association between the factors involved. The lack of significant correlation between human resource effectiveness and facility financial performance is not completely surprising. The demonstration of comparable economic value for care delivered by the military health system is evolving as leaders develop business practices that simultaneously account for workload and services while balancing the unique productivity distracters inherent to the military health provider team. Controlling for the productivity variation introduced by continuous health provider team instability due to permanent changes of station, training, and deployments coupled with the imposed profit generation and distribution limitations severely limits the development of a robust financial performance metric.

During the course of the study, there was limited feedback from the field which ranged from positive to skeptical. A majority of the skeptical responses fit into the category that the military health system does not think of human resources along the dimensions measured in the survey. One comment implied that facility level human resource managers are powerless to significantly influence the functions and performance of their HR organizations and are limited to simply filling spaces. This skepticism may have impacted the complete and accurate participation of that respondent and others in the survey, resulting in potentially skewed data. This limitation was recognized during the development of the study. However, a secondary purpose of this study was to challenge senior leaders to think of human resources along new dimensions, dimensions that had quantifiable evidence to link essential human resource practices with enhanced organizational performance. This researcher does not intend to challenge the position that many of the functions and capabilities identified in the survey are traditionally not sought within the human resource realm under the prevailing concept of human resource management within the military health system. Instead, this researcher suggests that if leaders within the military health system wish to elevate human resource management to a true strategic asset, perhaps the military health system needs to alter its perception and expectations of human resource managers and systems. The first stage of this change must begin with incorporating modern strategic human resource management concepts into Army institutional training programs for military and civilian human resource personnel. Professional development of the existing human resource workforce should include membership in standing HR professional organizations. Positive comments generally conveyed interest in the

study's findings based on expressed dissatisfaction with the constraints and effectiveness of human resource services to timely provide the appropriate talent pool required to rival the efficiency of the civilian health care system and flexibly adapt to changing market conditions with hope that this study would sponsor additional studies along this topic leading to a reengineering of corporate human resource systems.

Possible explanations for failing to reveal statistically significant relationships include responder bias, measure validity, and constraints of the overarching human resource systems for the Department of Defense. Despite efforts to control for responder bias by providing anonymity, the fact that the majority of respondents are ultimately responsible for the performance of human resource management may have influenced their willingness to be overly critical of those organizations. While the unique qualifications and experience of this population provides valuable insight required to accurately assess the performance of these organizations, expansion of the sample pool to include all executive leaders within medical treatment facilities may eliminate the affects of this potential bias and reveal statistically significant relationships. The observation that an overwhelming majority of the respondents received their graduate education could be construed as a potential source of respondent bias. Given the continued accreditation of the Army-Baylor program, this conclusion is unlikely. The variable to measure financial performance, percent of target RVUs, was derived from enterprise level benchmarks. However, the methodology used to determine target RVUs is not known. It is possible that the target RVU level is based on a historical performance level plus an expected annual gain in performance due to increased efficiency instead of expected output due to productivity capacity based on staffing

levels. Accordingly, RVU goal may have limited utility as an indicator of true productivity potential. If this is the case, then financial performance is not a differential measure of overall performance potential, but simply a relative performance measure compared to historical workload. The statistically insignificant correlations between human resource organization, human resource effectiveness, patient satisfaction, and financial performance may be a result that ultimately all the organizations surveyed belong to to the same human resource system with identical procedures, guidelines and restrictions.

Conclusion and Recommendation

The results of this study suggest there is a dominant human resource organizational type within the Army Medical Department, namely combining military and civilian human resources under one division. However, organizational type does not significantly correlate with financial performance, patient satisfaction or human resource effectiveness. The relationship between human resource organizational type and human resource effectiveness is positive and significant at the exploratory level. Subsequent studies on this topic should expand the sample population to include all senior leaders within medical treatment facilities. Additionally, leaders within the military and Department of Defense community should consider developing human resource management expectations in the field and in training programs to correspond to the capabilities presented in Huselid, Jackson, and Schuler's (1997) study if they honestly desire to elevate human resources to the level that it truly enhances strategic success. Simply put, if things are done as they always have been, the results one gets will be similar to those one always has achieved. The military health system is seeking to

achieve greater results than it ever has and definitively prove that it can not only provide superior battlefield health care, but that it can demonstrate its capability at providing quality, effective health care at a comparable economic value to the civilian sector.

It is the judgment of this researcher that a human resource discipline standard definition for the concepts of personnel administration, human resource management, and strategic human resource management is essential in developing a standardized lexicon suggested by Bacharach (1999) that will facilitate the theoretical development and practical study of this vital business dimension.

An opportunity for further research involves developing a more robust survey tool designed to assess locality specific human resource management along Buchanan's (2004) high performance work practices may reveal productivity enhancing programs that are successful within the confines of the current global civilian and military human resource systems. The utility of such a study lies in identifying local human resource management practices that have positively impacted the organization's performance within the constraints of the Department of Defense corporate human resource system. Additionally, the practices highlighted by such a study would point senior leaders toward innovations for the corporate management system which could further reduce the perceived barriers of the current system which impede the military health system's ability to rapidly meet the changing health care landscape.

Finally, the positive and near significant association between human resource organization type and human resource effectiveness, despite the limited sample size and confounders mentioned earlier, found during the course of this study demonstrates there is value in examining the Air Force and the Navy for dominant and effective

human resource practices as the Department of the Defense jointly faces the constant pressure to prove its competitive value in the delivery of health care services. The current movement towards joint operation and command and control is expected to only gain momentum. Capitalizing on successful human resource management practices from across the services will be essential to driving the successful strategic performance of the organization that emerges.

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Appendix A Data Table

Type 2	HR Org type simple	HR Org type detail	FY 05 Pat Sat	FY05 Reported RVUs	FY05 AMEDD Target RVUs	FY05% of Target RVUs	FY05 Quartile	D.01 What is your current rank
AMC	SEP	SEP-RM	88.58	38411.65	40450	94.96%	2	COL
AMC	COMB	COMB-HR	90.96	51657.49	59373	87.01%	4	COL
ACH	COMB	COMB-HR	90.93	32341.39	32937	98.19%	1	LTC
ACH	SEP	SEP-RM	87.5	41665.07	45471	91.63%	3	LTC
AHC	COMB	COMB-HR	83.11	7510.11	9017	83.29%	4	MAJ
ACH	COMB	COMB-RM	85.94	5754.03	6284	91.57%	3	MAJ
AHC	COMB	COMB-HR	89.6	16961.61	16759	101.21%	1	LTC
AHC	COMB	COMB-HR	86.65	13569.25	15245	89.01%	4	LTC
AMC	COMB	COMB-HR	87.13	57146.72	63667	89.76%	4	COL
ACH	SEP	SEP-RM	84.38	12858.65	10393	123.72%	1	LTC
AHC	SEP	SEP	88.91	4264.98	4650	91.72%	2	LTC
AHC	COMB	COMB-BM	92.18	3741.12	3937	95.02%	2	LTC
AHC	SEP	SEP-RM	85.87	3950.67	4775	82.74%	4	LTC
AHC	COMB	COMB-HR	84.87	3048.24	3348	91.05%	3	LTC
ACH	COMB	COMB-HR	88.2	31015.92	34237	90.59%	3	LTC
ACH	SEP	SEP-RM	84.09	17190.56	23396	73.48%	4	LTC
AHC	SEP	SEP-RM	0	4380.21	4283	102.27%	1	MAJ
AMC	SEP	SEP-BM	84.55	61105.75	58388	104.65%	1	COL
ACH	COMB	COMB-HR	83.61	23299.32	25379	91.81%	2	LTC
AHC	COMB	COMB-HR	88.65	6554.96	5513	118.90%	1	MAJ
AMC	SEP	SEP-RM	86.8	25982.61	28396	91.50%	3	LTC
ACH	COMB	COMB-HR	86.39	27931.57	25164	111.00%	1	LTC
AMC	COMB	COMB-HR	85.07	61803.34	67982	90.91%	3	LTC
ACH	SEP	SEP-RM	84.27	19607.29	20765	94.42%	2	LTC
ACH	SEP	SEP-RM	86.97	6129.1	6751	90.79%	3	LTC
ACH	COMB	COMB-HR	88.28	20499.59	22255	92.11%	2	LTC
AHC	SEP	SEP	87.04	5671.85	5697	99.56%	1	LTC
AHC	COMB	COMB-HR	92.07	8929.59	10847	82.32%	4	LTC
ACH	COMB	COMB-HR	88.92	34581.22	36723	94.17%	2	LTC

Appendix A
Data Table (continued)

D.02 How many years of service?	D.03 How many years in current position?	D.04 How many DC posns held?	D.05 Do you have a graduate or post graduate degree?	D.05a if yes, in what?	D.05b if yes, from where	1.1 facilitates teamwork
25.0	0.75	3	Yes	Experimental Psychology & MHA	Western Illinois Univ & Baylor	4
25.0	2.00	2	Yes	MHA	Baylor	3
19.0	1.00	3	Yes	MHA	Baylor	1
21.5	1.50	3	Yes	MHA	Baylor	4
16.0	1.50	1	Yes	MHA	Baylor	4
19.0	0.75	1	Yes	MHA	Baylor	1
18.0	0.67	1	Yes	MHA	Baylor	2
21.0	0.67	1	Yes	Master of Aeronautical Science	Embry Riddle Aeronautical Univ	2
22.0	0.75	3	Yes	MHA	Baylor	2
17.0	1.00	1	Yes	MHA	Baylor	2
18.0	0.50	1	Yes	MHA	Baylor	
18.0	1.00	1	Yes	Health Services Management	LaSalle	1
22.0	2.00	2	Yes	Ph. D in Administration-Health Services / MBA	Univ of Alabama @ Birmingham/ Troy (State University)	1
19.5	2.50	1	Yes	Master of Science in Administration & MHA	Central Michigan University and Baylor	3
21.0	1.00	1	Yes	MHA	Univ of Mass	4
21.0	1.00	1	Yes	MHA	Baylor	2
16.0	2.50	1	Yes	MHA	Baylor	1
22.0	1.00	1	Yes	MHA	Baylor	2
22.0	1.00	1	Yes	MPA	Central Michigan University	1
16.0	2.00	1	Yes	MHA	Baylor	2
22.0	0.50	3	Yes	MHA	Baylor	4
21.0	3.50	2	Yes	MHA	Baylor	3
21.0	0.50	3	Yes	MHA	Baylor	3
20.0	2.00	1	Yes	MHA	Baylor	2
20.0	1.75	2	Yes	MHA	Central Michigan University	2
21.0	2.00	2	Yes	MHA	Baylor	4
18.0	1.00	1	Yes	MHA	Baylor	4
20.0	2.50	2	Yes	MHA	Baylor	1
21.0	0.67	3	Yes	MHA	Baylor	2

Appendix A
Data Table (continued)

1.2 facilitates communication	1.3 facilitates employee participation and empowerment	1.4 facilitates workforce planning	1.5 facilitates workforce productivity	1.6 facilitates management and executive development
4	4	4	4	4
4	3	4	4	3
1	1	2	double	double
4	4	4	4	4
4	4	4	3	4
2	2	2	4	3
2	2	3	2	2
3	2	2	3	2
2	3	3	3	2
3	2	3	2	2
3	3	3	4	4
1	3	1	3	1
1	blank	2	4	3
2	3	3	3	2
2	4	2	4	2
2	1	1	2	1
1	1	2	1	2
4	2	2	3	2
1	1	1	1	2
3	2	2	3	3
3	3	4	4	4
3	2	3	3	double
2	2	2	3	1
2	2	1	2	blank
2	2	4	2	2
4	2	5	4	5
5	4	4	3	2
2	2	2	2	3
2	2	2	3	3

Appendix A
Data Table (continued)

1.7 facilitates succession and development planning for managers	1.8 facilitates strategic studies	1.9 facilitates employee and manager communication	1.10 facilitates work/family programs	2.1 Benefits and services	2.2 Compensation
4	4	4	3	4	4
4	5	3	3	2	1
2	2	1	1	1	1
4	4	4	3	3	2
4	4	2	3	2	2
3	2	2	4	2	2
2	3	2	3	2	2
2	2	3	2	2	2
3	2	2	2	2	2
3	4	3	3	2	2
3	4	3	3	3	3
3	1	1	3	2	2
4	4	1	1	1	1
2	3	2	3	1	1
4	4	2	4	2	2
2	2	2	2	1	1
2	2	1	2	1	1
2	4	3	3	3	4
2	2	1	2	2	2
3	3	3	3	2	2
4	4	4	4	3	4
2	3	1	2	2	1
2	3	2	3	2	3
3	3	2	3	1	1
3	4	2	3	2	4
5	5	5	4	1	2
2	4	3	1	1	3
2	3	1	3	1	2
2	3	2	4	2	2

Appendix A
Data Table (continued)

2.3 Recruiting and Training	2.4 Safety and Health	2.5 Employee education and training	2.6 Retirement strategies	2.7 Employee/industrial relations	2.8 Social responsibility programs	2.9 EEO
4	4	4	4	4	3	3
3	3	4	3	3	3	3
1	1	1	1	2	1	1
4	2	4	4	2	4	2
2	2	3	2	2	3	2
2	3	2	2	3	4	2
2	2	2	4	3	1	1
3	2	2	2	2	2	2
3	1	3	2	2	2	1
3	1	2	3	3	3	2
3	3	3	3	3	3	3
2	3	1	3	1	3	1
4	1	4	1	1	1	1
3	3	2	3	3	3	3
4	1	4	5	4	3	1
1	2	1	2	1	2	2
2	1	2	3	3	2	1
5	2	2	2	2	3	2
4	1	2	2	3	3	2
2	2	2	2	2	2	1
4	2	3	3	3	3	3
2	2	1	2	2	2	1
2	3	1	4	3	3	1
2	2	2	3	3	3	2
2	2	2	3	blank	2	1
3	2	5	3	5	2	1
2	1	2	2	3	3	1
2	1	2	1	3	3	1
4	3	3	2	3	3	1

Appendix A
Data Table (continued)

2.10 Management of labor costs	2.11 Selection testing	2.12 Performance appraisal	2.13 Human resource information systems	2.14 Assessing employee attitudes
4	4	4	4	4
2	4	3	4	4
2	double	1	2	2
2	4	1	2	2
3	3	2	2	3
double	3	2	2	2
4	2	2	2	2
2	2	2	2	2
2	double	3	3	blank
3	3	3	3	4
double	3	3	3	3
1	3	1	1	3
1	5	5	1	4
2	3	1	3	3
2	3	2	5	5
1	1	1	2	2
1	3	1	2	2
4	3	3	blank	4
2	4	4	2	2
3	blank	1	2	2
2	double	4	4	4
2	2	1	2	2
double	4	2	2	4
1	2	1	3	3
2	blank	2	2	4
4	3	2	4	5
4	4	2	2	3
3	3	2	3	3
2	2	2	2	2

Appendix A
Data Table (continued)

3.1 Experience in other key business areas	3.2 HR-career oriented	4.1 Anticipates effect of changes	4.2 Exhibits leadership	4.3 Demonstrates financial impact
5	4	5	5	3
5	3	3	4	2
2	2	2	1	1
2	2	2	2	1
5	2	5	3	5
2	1	2	2	2
4	3	4	4	4
4	2	3	4	4
4	4	4	4	4
4	1	3	2	4
4	2	3	3	3
2	2	2	2	2
4	4	1	2	1
4	4	2	2	2
3	4	5	5	5
2	1	2	2	1
3	2	2	3	1
3	3	3	2	3
3	2	3	3	4
3	2	2	2	2
4	3	3	4	3
4	2	2	2	1
4	3	2	2	blank
3	2	3	3	2
3	3	3	2	3
5	5	3	3	2
4	1	4	3	4
2	1	3	3	3
4	3	4	4	4

Appendix A
Data Table (continued)

4.4 Defines and communicates HR vision	4.5 Educates and influences line managers on HR issues	4.6 Takes appropriate risk	4.7 Broad knowledge of many HR functions
5	4	5	5
3	3	3	3
2	2	1	2
2	2	2	2
4	4	5	5
2	2	2	2
3	2	3	3
4	2	2	2
4	4	3	3
3	2	3	2
4	3	blank	3
2	1	2	1
1	1	2	1
3	2	2	1
5	4	4	3
2	1	2	1
2	2	2	2
4	3	2	2
4	3	3	2
2	2	2	2
4	4	3	4
4	1	3	2
1	3	2	3
4	3	4	3
4	2	2	3
5	2	3	4
4	1	3	1
4	2	1	3
3	3	3	4

Appendix A
Data Table (continued)

4.8 Knowledgeable about competitors' HR practices	4.9 Focuses on the quality of HR services	4.10 Influences peers in other MTFs	4.11 Significant external customer contact	4.12 Foreign language capability
5	5	5	5	5
3	3	4	4	4
2	1	2	1	2
2	3	4	2	4
5	3	5	4	5
2	2	4	2	5
5	3	4	4	5
2	2	3	2	5
4	3	4	4	4
3	double	4	1	5
5	4	4	4	5
3	2	4	3	4
2	1	4	4	2
2	2	3	3	3
5	5	5	4	5
2	1	2	1	4
5	1	3	3	5
2	2	2	1	3
2	2	3	3	4
3	2	2	3	4
4	4	4	5	5
4	1	4	1	5
4	double	5	5	4
3	3	4	4	5
5	3	5	3	5
4	2	2	2	2
5	2	4	1	4
3	1	4	2	5
5	2	4	4	5

Appendix A
Data Table (continued)

4.13 Computer literacy	4.14 Highly specialized knowledge of a few HR functions	5.1 Overall satisfaction	T1.1 facilitates teamwork	T1.2 facilitates communication	T1.3 facilitates employee participation and empowerment	T1.4 facilitates workforce planning	T1.5 facilitates workforce productivity
4	5	4	2	2	2	2	2
3	4	3	3	2	3	2	2
1	2	1	5	5	5	4	4.63
1	2	3	2	2	2	2	2
1	2	4	2	2	2	2	3
1	2	1	5	4	4	4	2
2	2	2	4	4	4	3	4
1	blank	2	4	3	4	4	3
3	4	3	4	4	3	3	3
2	2	2	4	3	4	3	4
2	2	3	2.67	3	3	3	2
1	2	2	5	5	3	5	3
1	1	4	5	5	3.67	4	2
2	2	2	3	4	3	3	3
1	5	4	2	4	2	4	2
1	3	1	4	4	5	5	4
1	3	1	5	5	5	4	5
2	1	4	4	2	4	4	3
2	1	1	5	5	5	5	5
2	2	1	4	3	4	4	3
2	3	4	2	3	3	2	2
1	2	1	3	3	4	3	3
2	5	2	3	4	4	4	3
3	3	2	4	4	4	5	4
2	2	2	4	4	4	2	4
3	4	3	2	2	4	1	2
1	2	4	2	1	2	2	3
1	2	1	5	4	4	4	4
3	2	2	4	4	4	4	3

Appendix A
Data Table (continued)

T1.6 facilitates management and executive development	T1.7 facilitates succession and development planning for managers	T1.8 facilitates strategic studies	T1.9 facilitates employee and manager communication	T1.10 facilitates work/family programs	T2.1 Benefits and services	T2.2 Compensation	T2.3 Recruiting and Training	T2.4 Safety and Health
2	2	2	2	3	2	2	2	2
3	2	1	3	3	4	5	3	3
4.63	4	4	5	5	5	5	5	5
2	2	2	2	3	3	4	2	4
2	2	2	4	3	4	4	4	4
3	3	4	4	2	4	4	4	3
4	4	3	4	3	4	4	4	4
4	4	4	3	4	4	4	3	4
4	3	4	4	4	4	4	3	5
4	3	2	3	3	4	4	3	5
2	3	2	3	3	3	3	3	3
5	3	5	5	3	4	4	4	3
3	2	2	5	5	5	5	2	5
4	4	3	4	3	5	5	3	3
4	2	2	4	2	4	4	2	5
5	4	4	4	4	5	5	5	4
4	4	4	5	4	5	5	4	5
4	4	2	3	3	3	2	1	4
4	4	4	5	4	4	4	2	5
3	3	3	3	3	4	4	4	4
2	2	2	2	2	3	2	2	4
3.56	4	3	5	4	4	5	4	4
5	4	3	4	3	4	3	4	3
3.78	3	3	4	3	5	5	4	4
4	3	2	4	3	4	2	4	4
1	1	1	1	2	5	4	3	4
4	4	2	3	5	5	3	4	5
3	4	3	5	3	5	4	4	5
3	4	3	4	2	4	4	2	3

Appendix A
Data Table (continued)

T2.5 Employee education and training	T2.6 Retirement strategies	T2.7 Employee/industrial relations	T2.8 Social responsibility programs	T2.9 EEO	T2.10 Management of labor costs	T2.11 Selection testing	T2.12 Performance appraisal	T2.13 Human resource information systems
2	2	2	3	3	2	2	2	2
2	3	3	3	3	4	2	3	2
5	5	4	5	5	4	4.69	5	4
2	2	4	2	4	4	2	5	4
3	4	4	3	4	3	3	4	4
4	4	3	2	4	3.62	3	4	4
4	2	3	5	5	2	4	4	4
4	4	4	4	4	4	4	4	4
3	4	4	4	5	4	3.83	3	3
4	3	3	3	4	3	3	3	3
3	3	3	3	3	3	3	3	3
5	3	5	3	5	5	3	5	5
2	5	5	5	5	5	1	1	5
4	3	3	3	3	4	3	5	3
2	1	2	3	5	4	3	4	1
5	4	5	4	4	5	5	5	4
4	3	3	4	5	5	3	5	4
4	4	4	3	4	2	3	3	3
4	4	3	3	4	4	2	2	4
4	4	4	4	5	3	4.08	5	4
3	3	3	3	3	4	2.77	2	2
5	4	4	4	5	4	4	5	4
5	2	3	3	5	3.38	2	4	4
4	3	3	3	4	5	4	5	3
4	3	3.67	4	5	4	3.67	4	4
1	3	1	4	5	2	3	4	2
4	4	3	3	5	2	2	4	4
4	5	3	3	5	3	3	4	3
3	4	3	3	5	4	4	4	4

Appendix A
Data Table (continued)

T2.14 Assessing employee attitudes	T3.1 Experience in other key business areas	T3.2 HR- career oriented	T4.1 Anticipates effect of changes	T4.2 Exhibits leadership	T4.3 Demonstrates financial impact	T4.4 Defines and communicates HR vision	T4.5 Educates and influences line managers on HR issues	T4.6 Takes appropriate risk
2	1	2	1	1	3	1	2	1
2	1	3	3	2	4	3	3	3
4	4	4	4	5	5	4	4	5
4	4	4	4	4	5	4	4	4
3	1	4	1	3	1	2	2	1
4	4	5	4	4	4	4	4	4
4	2	3	2	2	2	3	4	3
4	2	4	3	2	2	2	4	4
3.83	2	2	2	2	2	2	2	3
2	2	5	3	4	2	3	4	3
3	2	4	3	3	3	2	3	2.54
3	4	4	4	4	4	4	5	4
2	2	2	5	4	5	5	5	4
3	2	2	4	4	4	3	4	4
1	3	2	1	1	1	1	2	2
4	4	5	4	4	5	4	5	4
4	3	4	4	3	5	4	4	4
2	3	3	3	4	3	2	3	4
4	3	4	3	3	2	2	3	3
4	3	4	4	4	4	4	4	4
2	2	3	3	2	3	2	2	3
4	2	4	4	4	5	2	5	3
2	2	3	4	4	2.83	5	3	4
3	3	4	3	3	4	2	3	2
2	3	3	3	4	3	2	4	4
1	1	1	3	3	4	1	4	3
3	2	5	2	3	2	2	5	3
3	4	5	3	3	3	2	4	5
4	2	3	2	2	2	3	3	3

Appendix A
Data Table (continued)

T4.7 Broad knowledge of many HR functions	T4.8 Knowledgeable about competitors' HR practices	T4.9 Focuses on the quality of HR services	T4.10 Influences peers in other MTFs	T4.11 Significant external customer contact	T4.12 Foreign language capability	T4.13 Computer literacy	T4.14 Highly specialized knowledge of a few HR functions	T5.1 Overall satisfaction
1	1	1	1	1	1	2	1	2
3	3	3	2	2	2	3	2	3
4	4	5	4	5	4	5	4	5
4	4	3	2	4	2	5	4	3
1	1	3	1	2	1	5	4	2
4	4	4	2	4	1	5	4	5
3	1	3	2	2	1	4	4	4
4	4	4	3	4	1	5	3.23	4
3	2	3	2	2	2	3	2	3
4	3	3.23	2	5	1	4	4	4
3	1	2	2	2	1	4	4	3
5	3	4	2	3	2	5	4	4
5	4	5	2	2	4	5	5	2
5	4	4	3	3	3	4	4	4
3	1	1	1	2	1	5	1	2
5	4	5	4	5	2	5	3	5
4	1	5	3	3	1	5	3	5
4	4	4	4	5	3	4	5	2
4	4	4	3	3	2	4	5	5
4	3	4	4	3	2	4	4	5
2	2	2	2	1	1	4	3	2
4	2	5	2	5	1	5	4	5
3	2	2.83	1	1	2	4	1	4
3	3	3	2	2	1	3	3	4
3	1	3	1	3	1	4	4	4
2	2	4	4	4	4	3	2	3
5	1	4	2	5	2	5	4	2
3	3	5	2	4	1	5	4	5
2	1	4	2	2	1	3	4	4

Appendix B Survey Instrument based on Huselid (1997) study

Human Resource Management Effectiveness and Capability Survey

Demographic information

What is your current rank? ☐ COL ☐ LTC ☐ MAJ ☐ CPT
 How many years in service do you have?
 How many years have you held your current position?
 How many Deputy Commander positions have you held? ☐ 1 ☐ 2 ☐ 3+
 Do you possess a graduate or post graduate degree? ☐ Yes ☐ No
 If yes, in what area?
 If yes, from which institution?

Human Resource Management effectiveness

Strategic Dimension: describes perceptions of how well the Human Resource Management function develops your facility's employees to support its business needs

Indicate how satisfied with the results currently being achieved using a scale ranging from 1 (highly satisfied) to 5 (very dissatisfied)

	Highly Satisfied	Somewh at Satisfied	Neither Satisfied or Dissatisfied	Somewhat Dissatisfied	Highly Dissatisfie d
1. facilitates teamwork	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2. facilitates communication	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3. facilitates employee participation and empowerment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4. facilitates workforce planning—flexibility and deployment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5. facilitates workforce productivity and quality of output	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6. facilitates management and executive development (military and civilian personnel)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7. facilitates succession and development planning for managers	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8. facilitates advance issue identification/strategic studies	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9. facilitates employee and manager communications	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10. facilitates work/family programs	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Technical Dimension: describes perceptions of how well the Human Resource Management function performed activities traditionally associated with personnel management, including recruitment, selection, training, performance appraisal and compensation administration.

	Highly Satisfied	Somewh at Satisfied	Neither Satisfied or Dissatisfied	Somewhat Dissatisfied	Highly Dissatisfie d
11. Benefits and services	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12. Compensation	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13. Recruiting and training	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
14. Safety and health	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
15. Employee education and training	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
16. Retirement strategies	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
17. Employee/industrial relations	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
18. Social responsibility programs	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
19. EEO	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
20. Management of labor costs	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
21. Selection testing	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
22. Performance appraisal	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
23. Human resource information systems	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
24. Assessing employee attitudes	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Appendix B
Survey Instrument based on Huselid (1997) study (continued)

Human Resource Management Capabilities

Indicate the extent to which HRM staff currently possesses the capabilities and attributes listed using a scale ranging from 1 (applies to most) to 5 (applies to very few).

Business-related capabilities: describes the amount of business experience Human Resource Management staff members outside the functional specialty.

	Almost all	Most	Half	Few	Very Few
25. Experience in other key business areas	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
26. Human Resource career oriented	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Professional HRM capabilities: describes the expertise and skill relevant to performing excellently within a traditional Human Resource Management functional department.

	Almost all	Most	Half	Few	Very Few
27. Anticipates the effect of internal and external changes	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
28. Exhibits leadership for the function and corporation	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
29. Demonstrates the financial impact of Human Resource activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
30. Defines and communicates Human Resource vision for the future	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
31. Educates and influences line managers on Human Resource issues	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
32. Takes appropriate risk to accomplish objectives	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
33. Broad knowledge of many Human Resource functions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
34. Knowledgeable about competitors' Human Resource practices	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
35. Focuses on the quality of Human Resource services	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
36. Influences peers in other medical treatment facilities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
37. Significant external customer contact	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
38. Foreign language capability	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
39. Computer literacy	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
40. Highly specialized knowledge of a few Human Resource functions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	Highly Satisfied	Somewh at Satisfied	Neither Satisfied or Dissatisfied	Somewhat Dissatisfied	Highly Dissatisfie d
Overall:					
41. How satisfied are you with your facility's Human Resource functions?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5