

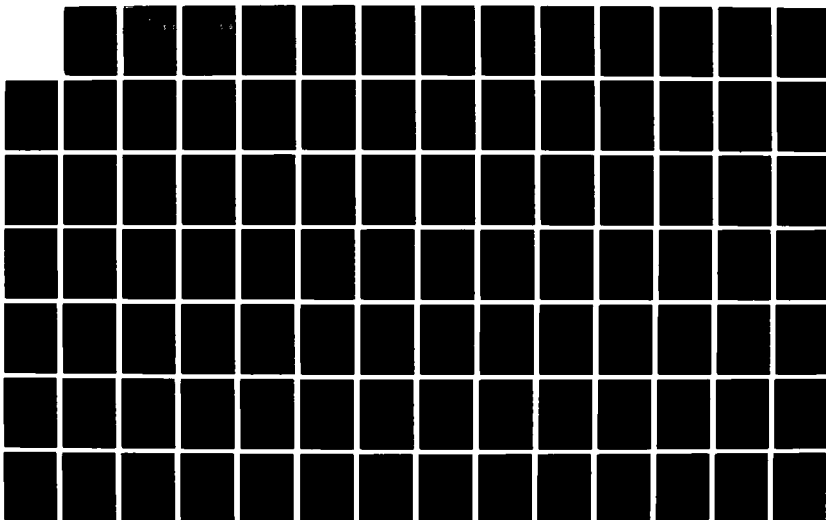
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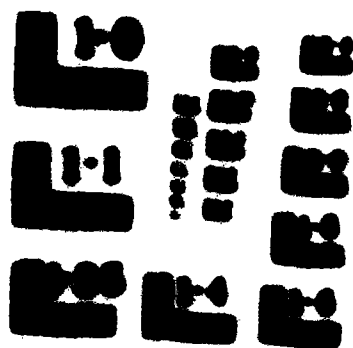
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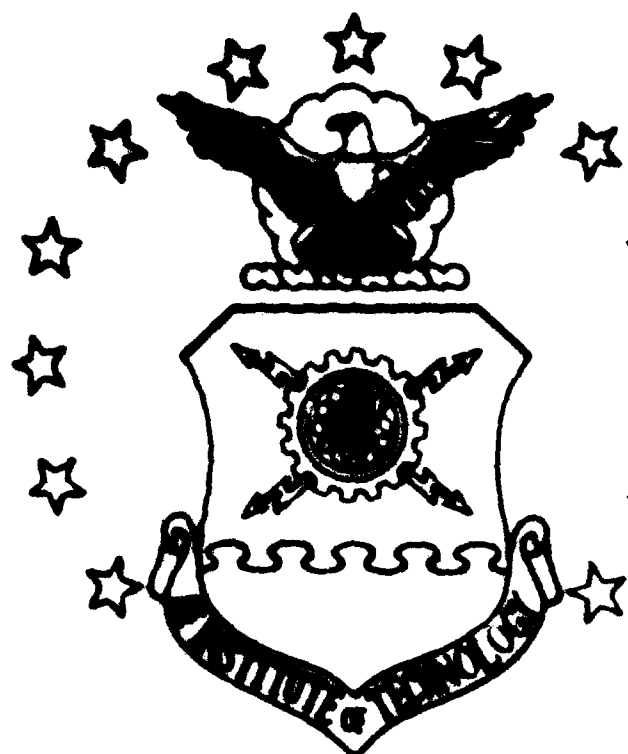
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Questionnaire responses are analyzed as to respondent demographics, frequency distributions of ratings, and difference between ratings by experience levels. Twenty-eight information items are identified as highly valued by respondents. These items are potentially common management indicators for USAF Hospital Administrators.

Finally, recommendations are made as to potential management indicator information items to be included in a management reporting system for Air Force medical facility administrators. Also, recommendations are made as to further research in this area.

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AFIT/GIR/LSY/87D-5

**USAF HOSPITAL ADMINISTRATOR
MANAGEMENT INDICATOR
INFORMATION REQUIREMENTS
THESIS**

**Presented to the Faculty
of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Information Resource Management**

**Carol F. Parker, B.S.
Captain, USAF**

December 1987

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Preface

I am most grateful to my thesis advisor, Captain Thomas Triscari, for his patient advice and guidance throughout this unique learning experience. In large part, my completion of this educational program can be attributed to his support and assistance.

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Carol F. Parker

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Abstract

Hospital administration is a complex and dynamic managerial field. Air Force medical facility administrators face many of the same challenges as their civilian counterparts, especially regarding provision of quality health care in the face of cost containment. As with their civilian counterparts, these managers need timely and accurate information to perform effectively.

One possible method of providing accurate and timely information to Air Force medical facility administrators is a standardized reporting system which can be tailored to individual or facility requirements. With such a system, administrators new to their positions would have access to key indicator information immediately, yet could refine the system as their unique managerial needs developed. Any such system needs to be based on management indicators common to most Air Force medical facility administrators.

A literature-supported questionnaire method is used in this research to determine possibly common key management indicators for USAF Hospital Administrators. The 52 USAF Hospitals surveyed constitute the largest population of Air Force medical facilities with a common size and mission. Questionnaire emphasis is on the four primary administrative areas common to all Air Force medical facilities.

Questionnaire responses are analyzed as to respondent demographics, frequency distributions of ratings, and differences between ratings by experience levels. Twenty-eight information items are identified as highly valued by respondents. These items are potentially common management indicators for USAF Hospital Administrators.

Finally, recommendations are made as to potential management indicator information items to be included in a management reporting system for Air Force medical facility administrators. Also, recommendations are made as to further research in this area.

USAF HOSPITAL ADMINISTRATOR
MANAGEMENT INDICATOR
INFORMATION REQUIREMENTS

I. Introduction

General Issue

Air Force medical facility administrators are confronted with complex environmental issues and inadequate information processing capabilities. Air Force hospital administrators face typical management problems of scarcity of resources, planning for the future in an uncertain environment, and similar managerial issues. In addition, military health care is under increasing scrutiny by Congress and the military community. Officials question the use of expensive health resources and the resulting quality of care. Air Force medical facilities have not been allowed to acquire comprehensive, automated medical information systems due to a pending Department of Defense (DOD) hospital information system project. This project, referred to as the Composite Health Care System (CHCS), will deploy a standardized, integrated hospital information system to all DOD medical facilities by the year 1995 (8:2). In the

meantime, most information systems in use are facility-unique and often reflect individual priorities perhaps not suitable over frequent personnel changes.

The number, size, and mission of USAF Hospitals provide an opportunity for analysis of the information needs of hospital administrators. The majority of Air Force medical facilities are USAF Hospitals, limited in size and mission. USAF Hospitals have four primary administrative functional areas in common: personnel and administrative services, patient affairs, medical logistics management, and medical resource management. In their complex management environment, administrators of USAF Hospitals need timely and accurate information from these administrative functional areas in order to take informed managerial action. In particular, they need information which is indicative of the general managerial health of the organization, or management indicator information. An analysis of the management indicator information requirements of administrators of continental United States (CONUS) USAF Hospitals in the four primary administrative areas is a first step in evaluating the need for a standard management information system for these managers. In addition, if the CHCS project is successful, this analysis may be useful to systems specialists charged with structuring system data for management use.

Specific Research Problem

In the judgment of administrators of USAF Hospitals, what are their management indicator information requirements for the four primary administrative functional areas, and how are these requirements currently being met?

Investigative Questions

1. What is the role of the Hospital Administrator in USAF Hospitals?
2. What are the primary responsibilities of the four administrative functional areas common to all USAF Hospitals?
3. What do administrators of USAF Hospitals consider as their management indicator information requirements from these four administrative areas?
4. How are these administrators of USAF Hospitals currently obtaining this management indicator information?

Definitions

Hospital Administrator. In most civilian medical facilities, the hospital administrator is analagous to the chief executive officer (CEO) or president of the organization. In Air Force medical facilities, the hospital administrator is equivalent to a vice president for administration. The Commander of an Air Force medical facility is equivalent to the CEO and is normally a physician. The hospital administrator works for the Commander, and

his/her role is primarily to provide administrative support to the medical facility patients and staff.

Information System (IS). Any computer-based method for processing inputs and providing outputs of information is an information system, regardless of specific application. This term is generally used to refer to the overall data processing capability of an organization, although it may be used to describe one system application.

Management Indicator. Managers have different measures of effectiveness and efficiency. Most managers have key or indicator items they monitor closely to determine effectiveness and/or efficiency. If these indicators vary from managerial expectations, the manager activates control or corrective actions. Variance measures may range from regulation-prescribed to subjective opinions by the manager.

Management Information System (MIS). A subsystem of the overall organization IS. The MIS consists specifically of the information used by management to make decisions and manage the organization.

Military Health Care. The system of hospitals, clinics, and other medical support facilities funded by Congressional allocation to provide medical support to all DOD-affiliated personnel.

USAF Hospital. Air Force hospitals are categorized according to a hierarchy, based on size and mission of the facility. Size is traditionally measured by number of operating beds and routinely adjusted based on patient

workload. Air Force Medical Centers are at the top of the hierarchy as the largest, most complex facilities, providing specialized care, consultation, and post-graduate medical education. Air Force Regional Hospitals are second in size and provide some specialized care and consultation. USAF Hospitals are next in size and normally have fewer than 100 beds and provide routine medical care to the host Air Force base populace. There are 6 medical centers, 8 regional hospitals, and 52 USAF Hospitals in the CONUS-based Air Force Medical Service (3:2-1 - 2-9).

Scope and Limitations

Surveying current administrators of USAF hospitals will result in a 'snapshot' in time. The survey will reflect the management indicator information requirements of the current hospital administrators, not necessarily providing an accurate indication of information needs of past or future hospital administrators. Also, these administrators may indicate high desireability for information of specific current interest, such as inspection discrepancies. In these cases, after discrepancies are resolved or perhaps others identified, the same administrators may respond differently about their information requirements.

Results of analysis of information requirements for the 52 surveyed hospital administrators may not be applicable to other Air Force medical facility administrators. In particular, since only CONUS USAF Hospitals will be surveyed, the

unique information requirements of overseas Air Force hospitals will not be considered. Although all facilities have the four primary administrative areas, other medical facilities differ in size and mission. In addition, the cognitive make-up of respondees will affect their perceptions of management indicator information requirements. Therefore, care must be taken when drawing inferences about information requirements for facilities other than the sampled population.

II. Literature Review

Introduction

The diverse responsibilities of USAF Hospital administrators indicate a need to carefully consider methods for eliciting their management information requirements. The hospital administrator plays a key role in the management of an Air Force hospital. The administrator is responsible for the four primary administrative functions: personnel and administrative services, patient affairs, medical logistics management, and medical resource management. Administrative support concepts in Air Force hospitals are similar to those in civilian hospitals. Air Force and civilian hospitals also share a complex and dynamic environment. This environment is causing hospital administrators to increasingly rely on information systems for decision making.

The literature on IS development supports decision maker involvement in specifying information requirements for their management information systems. There are several techniques for eliciting information requirements from decision makers. One technique, discussed later, involves selecting key indicators which are then used to determine information requirements. Surveys of decision makers are one useful method for selecting these key management

indicators. The following literature review discusses these topics and presents the views of various sources.

Roles and Responsibilities

A first step in understanding the management indicator information needs of Air Force hospital administrators is an understanding of their responsibilities. Air Force Regulation (AFR) 168-4, Administration of Air Force Medical Facilities, describes the role of a hospital administrator as an executive who performs both as an operating official and as a staff officer in administering health services and the delivery of health care (3:3-3). The regulation goes on to specify the administrator's duties and responsibilities. The first responsibility listed is as follows:

Directs all health services administration and support functions including patient affairs, personnel and administrative services, medical logistics, and resource management programs.
(3:3-3)

These programs represent the four primary administrative areas common in all Air Force hospitals. Other hospital administrator responsibilities include advising the Commander, developing and implementing policies regarding hospital organization and management, and similar duties (3:3-4). The hospital administrator relies on the four primary administrative areas in performing these duties. Therefore, effective management of these areas is crucial to the hospital administrator's success.

A brief description of the responsibilities of each of these functional areas further clarifies the hospital administrator's role. Patient affairs provides administrative support to the medical staff, including maintaining patient medical records, scheduling patient appointments, and stenographic support (3:3-7). Personnel and administrative services provides personnel action and general administrative support to the hospital staff and monitors medical readiness (3:3-4). Primary logistic support to the hospital, including supplies, equipment, vehicles, and facility maintenance is the responsibility of medical logistics (3:3-7). The medical resource management office is responsible for hospital staffing, budgeting, internal inspection, medical systems, and methods improvement actions (3:3-7). All four of these functional areas have equivalent status in the organization and normally an assistant to the hospital administrator is appointed as director for each area.

These administrative areas are similar to those existing in civilian hospitals, although the functional titles and scope of responsibilities may vary. Civilian hospital administration is very similar overall to Air Force hospital administration, therefore literature on civilian hospital administration information systems, which constitutes the majority of literature available on hospital information systems, is relevant.

Decision Support for Hospital Administrators

Air Force hospitals have more than administrative areas in common with civilian medical facilities. Managers in both settings face increasing challenges to their organizations. Changes in technology, societal expectations, reimbursement methods, and legislative controls are severely impacting the way all health care administrators do business. These changes also affect the information needs of hospital administrators. Daniel Morris claims: 'The need for comprehensive information [for hospital administrators] is greater today than at any point in the past' (15:32). Frank Poggio points out:

Information systems are playing a more important role in the operations [sic] and management of today's hospitals. Rapid changes in the health-care environment, such as changes in reimbursement methods, and diversifying programs and services, are placing heavy demands upon hospital data systems...Surviving...will require each hospital to review and fortify its information systems. (19:36)

Air Force hospital administrators are struggling to deal with these pressures. Congress and the military community closely monitor military health care expenditures, demand accountability for resource utilization, and have high expectations for the resulting quality of health care, compounding the pressures.

In this environment, decision support information for hospital administrators is vital. Some authors feel the very existence of a hospital may depend on an IS providing the information required by decision makers (1:67; 27:11). A common observation is that information presented to

decision makers must be appropriate to the decisions to be made, or information value will be questionable. Cunningham and McKenna encourage extracting the information required by decision makers from an existing integrated hospital information system, if available. They point out that determining what information is needed by the decision maker is a major task (1:67).

Determining Information Requirements

How to determine a manager's information requirements is a subject of extensive debate. Simply asking managers to describe what information they need seems to be the easiest way to determine their information requirements. However, Grudnitski questions the ability of decision makers to specify their actual information requirements:

One of the main reasons the benefits derived from an information system can fall short of their promised potential is that the principal users of the information, namely the decision makers, are poor judges of what they really need. On the one hand, decision makers may not be able to specify information that would be of value; on the other hand, these same decision makers often ask for more data than they can realistically hope to use. (9:11)

Ives and Olson also point out the lack of empirical evidence that user involvement is necessary for IS success (13:587).

Although many sources are skeptical of user involvement in system design, most agree that decision makers must be involved in the specification of their information requirements. Rosenberger and Kaiser assert that user involvement contributes to better IS design and further

state 'users have a basic right to influence their own work situations' (22:12). Several sources cite the need for decision maker involvement in determining information requirements to ensure IS acceptability and success (27:20, 26:38; 7:591, 597; 14:287). Gustafson and Thesen contend that not only should decision makers be involved in information requirements analysis, but the organizational IS should be designed specifically to meet the manager's needs (10:52). Others agree that 'information systems should exist only to support decisions' of the managers (12:916). In sum, consulting decision makers to determine their information requirements is commonly practiced in IS design and supported by the literature.

Methods Used

The methods that should be used to consult decision makers as to their information requirements is another subject of debate. Davis and Olson describe four primary strategies for determining information requirements: Asking directly, deriving from an existing information system, synthesizing from characteristics of the utilizing system, and discovering from experimentation with an evolving information system (2:480-488).

The strategy of synthesizing information requirements from characteristics of the utilizing system includes several techniques discussed by Davis and Olson: normative analysis, strategy set transformation, critical factor

analysis, process analysis, sociotechnical analysis, and input-process-output analysis (2:462-467). Discussion of each of these techniques in detail is beyond the scope of this paper, but a variation on critical factors analysis is one possible method of determining the information requirements of Air Force hospital administrators. This method has particular appeal in a complex and dynamic environment, such as hospital administration, where extremely busy managers need specific information routinely.

The 'pure' critical factors analysis technique, also known as critical success factors, calls for a series of interviews with decision makers to determine goals and the resulting factors critical to attainment of these goals. MIS design then centers on providing information to managers which will allow close managerial attention to any areas of activity affecting critical success factors (21:85). Emphasis on determining the key indicators which reflect the 'health' of the organization is a variation on this technique. Exception reporting of key indicators not in line with management's expectations allows appropriate managerial attention and corrective action (21:83).

Identification of management's key indicators for information system design is supported by others. Orr states:

Successful managers select a few key variables, and then monitor them closely. When any of the key indicators vary beyond certain limits, the good manager steps in to determine why. Identification of key variables, then, is the task of management...Using these key variables...the systems definer can work with the manager (17:169).

In general, the management indicator approach is one useful method for determining decision makers' information requirements. In the complex and dynamic hospital administrative environment, a large number of key indicators will mostly likely need monitoring.

There are various methods for determining key management indicators for a decision maker. One method involves discussions with decision makers to identify decision areas, followed by development of models of decision processes for each decision area and determination of key indicators for specific information requirements (14:289-296). Hansen, McKell, and Heitger support such a decision-oriented approach to avoid including irrelevant data or omitting important information (11:225).

Another method involves soliciting information needs by asking decision makers to complete a questionnaire, specifying their present information needs, how they currently receive the information, how frequently, and similar information (20:37). Responses are then used to determine the management indicator information requirements. Others support this use of questionnaires or surveys using preference rankings of information requirements (16:153; 22:16; 18:499). Paul Nutt found decision makers capable of stating their preferences on such a survey independent of their cognitive or other personal attributes (16:152-153). In general, surveying decision

makers to determine their key management indicators of information requirements is acceptable practice, and useful in determining the information requirements of decision makers such as hospital administrators.

Conclusion

Air Force hospital administrators have diverse responsibilities in a complex environment. Their need for IS decision support is reflected in the literature. Hospital administrators should be consulted as to their information requirements. A survey of hospital administrators to determine their key management indicator information requirements is one useful method for determining information to be included in an MIS for these managers.

III. Methodology

Introduction

Several methods are used to address the investigative questions. Methods include regulation research, literature review, personal experience, and a survey questionnaire of administrators of USAF Hospitals. A discussion of these efforts follows.

Bases for Responses to Investigative Questions

The investigative questions are repeated below from Chapter 1.

1. What is the role of the Hospital Administrator in USAF Hospitals?

2. What are the primary responsibilities of the four administrative functional areas common to all USAF Hospitals?

3. What do administrators of USAF Hospitals consider as their management indicator information requirements from these four administrative areas?

4. How are these administrators of USAF Hospitals currently obtaining this management indicator information?

The primary Air Force health administrative regulation, AFR 168-4, along with the author's Air Force health administrative experience, allow formulation of a response to the first investigative question. AFR 168-4 describes the role, duties, and responsibilities of Air Force hospital administrators (3:3-3 - 3-4). In addition, the author has

spent eleven years in Air Force medical facilities--six as an enlisted medical administrative specialist and five as an assistant hospital administrator--and has worked in all four of the primary administrative areas in various size facilities for varying lengths of time and in many capacities.

AFR 168-4 and the author's experience also form the basis for the response to the second investigative question as to the primary responsibilities of the four administrative functional areas common to all USAF Hospitals. Again, AFR 168-4 describes in detail the primary responsibilities of these four areas (3:3-4 - 3-7), while the author's experience details out the material. The role of the hospital administrator and the primary responsibility of the four basic administrative areas provide the basis for the survey design used in addressing investigative questions three and four.

To properly respond to the last two investigative questions, it is necessary to query the administrators themselves. The method of query is a survey by mail. This technique allows a wider variety and number of responses in less time than a personal interview format.

Questionnaire Design

The first step in the survey process is to identify the population to be surveyed. As mentioned in Chapter 2, USAF Hospitals constitute the largest number of Air Force medical

facilities with similar missions. All USAF Hospitals, as well as all Air Force medical facilities of other sizes and missions, include the four primary administrative areas as their administrative core (3:3-3). The results of a survey of the management indicator information requirements of USAF Hospital Administrators should therefore be useful in varying degrees for many Air Force medical facilities.

A current listing of designated USAF Hospitals was also necessary. AFR 168-4 lists all Air Force medical facilities, including USAF Hospitals. Due to the unique missions of overseas medical facilities, only continental United States (CONUS) USAF Hospitals are included in the survey population. Therefore, the names and locations of the 92 CONUS-based USAF Hospitals are from AFR 168-4 (3:2-1 - 2-9) and are listed in Appendix A.

The second stage in the survey process is to develop the survey instrument. The guidance contained in Dillmon's Mail and Telephone Surveys: The Total Design Method was useful in designing the questionnaire. Specifically, the wording and grouping of questions are particularly affected by this guidance to obtain only necessary information and avoid misleading and difficult to answer questions (6:157-174). In addition, the author's experience was instrumental in determining information items to include and grouping of items. A copy of the questionnaire and cover letter is included as Appendix B.

Since the four primary administrative areas are to be addressed, it is logical to arrange the questionnaire accordingly. Demographic information is requested first, followed by the four areas. For information item sections, sequencing of the four administrative areas is random, with personnel and administrative services first, followed by patient affairs, medical logistics management, and medical resource management, respectively. Also, within each area, information items are grouped according to subject. For example, all civilian personnel items are listed together in the Personnel and Administrative Services area.

Demographic information requested includes rank, years of education, facility size as measured by number of operating beds, number of immediate subordinates, experience in current job, and experience as an Air Force hospital administrator. These items are the most indicative of the size and related mission complexity of a medical facility, and provide some unique attributes for each unknown respondent.

In each of the four administrative areas, respondents are presented with a list of potential information items. Information items to be included are based on duties and responsibilities as listed in AFR 168-4, as well as the author's personal experiences working in each area. Items included are also modified slightly as a result of the questionnaire pre-test results (discussed later).

For each questionnaire information item, information value and desired frequency ratings are requested in order to determine the most important and possibly common management indicator information requirements. In addition, a most common method rating allows determination of current methods used to obtain the management indicator information. In sum, for each information item, respondents are asked to rate the value of the information, its desired frequency, and the most common method of obtaining it on three separate Likert scales. Each administrative area includes space at the end for additional information items and/or comments (see questionnaire at Appendix B).

Questionnaire Pre-test and Approval

As previously mentioned, the questionnaire was pre-tested prior to mailing to the 52 USAF Hospital Administrators. The Hospital Administrator at Wright-Patterson Medical Center completed a test questionnaire, along with five assistant administrators on his staff. Several modifications were made as a result of comments from these administrators. For example, a rating of '1=rarely' in the desired frequency column was changed to '1=as required', to reflect the need for some information on an ad hoc, rather than scheduled, basis. Other minor modifications to the questionnaire were made, such as information item wording, and an estimated completion time of 45 minutes established.

Following pre-test results and modifications, the questionnaire was submitted for approval according to the requirements of AFIT LSOI 53-10 (5). As required by LSOI 53-10, the questionnaire was approved by the thesis advisor, the survey coordinator for AFIT School of Systems and Logistics, and the survey coordinator for AFIT, prior to submission to the appropriate office at Headquarters Air Force Military Personnel Center (HQ AFMPC) for final approval. The questionnaire was approved by HQ AFMPC without further modification. The approved questionnaire was then mailed to the 52 USAF Hospital Administrators listed in Appendix A, with return self-addressed and postage paid envelopes provided for responses.

Questionnaire Response Analysis

A total of 30 completed questionnaires were collected over a period of several weeks, for a response rate of 58%. Follow-up telephone calls were made to most of the facilities when the original 10-day response window had passed and response rate was poor. In some cases, the administrator or his/her staff was new and had not seen the questionnaire or simply did not receive it. Note the questionnaire was mailed during June, a high turnover time for military personnel. In several other cases, the administrator simply claimed he/she had not received the questionnaire or had been too busy to complete it. As a result, some questionnaires were mailed twice to those

facilities not receiving the original. Cursory review of completed questionnaires revealed no apparent difficulties, although two respondents commented the questionnaire was too lengthy and only partially completed it. Since respondents were anonymous, it is not possible to clarify responses or request additional information. Comments and added information items are discussed in Appendix C.

The SAS statistical analysis computer program is used to analyze survey results. Due to program familiarity, availability, flexibility, and capability to perform all necessary tests, SAS is a suitable choice. The SAS users' guides are primary references for appropriate tests and interpretations (23; 24).

As a preliminary step, some of the demographic data is formed into groupings relevant for analysis. The demographic categories of rank, years of education, and number of subordinates are not grouped because the number of different responses is limited considering the total range of possible responses. Facility size is grouped as follows: 1 to 20 beds is labeled a 'smaller facility'; 21 to 40 beds is labeled a 'medium facility'; and 41 beds or more is labeled as a 'larger facility'. Experience in current position is grouped as follows: 6 months or less is labeled as 'limited experience'; 7 months to 12 months is labeled as 'some experience'; and more than 12 months experience is labeled as 'extensive experience'. Experience as a hospital administrator is grouped as follows: 12

months or less is labeled as 'limited experience'; 13 months to 36 months is labeled as 'some experience'; and more than 36 months is labeled as 'extensive experience'. These groupings simplify analysis and provide more meaningful terms than straight numbers. The levels for grouping and label terminology are arbitrarily based on logic and the author's experience in Air Force medical facilities.

The primary statistical analysis tools used are descriptive in nature. Sonquist and Dunkelberg point out that 'description is the precursor to explanation and model building' (25:355). Means, frequency distributions, and cross tabulations are the primary techniques used to perform the descriptive analyses. Some inferential techniques are used to compare respondent ratings within reported experience levels. Specific techniques used and the attending results are further explained in the following chapters.

Conclusion

In an effort to respond to the four investigative questions, methods ranged from personal experience to a survey questionnaire. The questionnaire design is based on the four primary administrative areas common to all USAF Hospitals, in addition to various demographic items. Respondents were asked to rate several information items according to the information value, desired frequency, and most common method. The questionnaire was pre-tested.

approved, and mailed. Response analysis is done using the SAS statistical program and primarily descriptive techniques. Specific findings are addressed in Chapter IV.

IV. Analysis of Questionnaire Responses

Introduction

The first step in response analysis is an overall description of respondent demographics. This is followed by description of the reported desirability of automation for the four administrative areas, and a general discussion of the mean value, desired frequency, and most common methods for information items. A comparison of information item value ratings between two respondent group experience levels is followed by an analysis of information item value, frequency, and most common method ratings by respondent demographics. Finally, the highly valued information items are analyzed as to desired frequency, current method, and respondent demographics.

As a reminder, the frequency distributions described in the following analysis are strictly descriptive in nature. No statistical significance is implied nor are inferential methods employed for these distributions. Although chi-square analysis of responses was attempted in several cases, the small number of observations in each rating category produced meaningless results.

Respondent Demographics

The average questionnaire respondent is a major, with 18 years of education, from a medium size facility, with five or six subordinates, and with extensive experience both

in his/her current job and as an Air Force hospital administrator. The frequency breakouts and general discussion for each demographic variable follow.

Rank. The typical questionnaire respondent is a major. The frequency distribution of respondent ranks is as shown in Table 1.

The 31 May 1986 Officer Authorization Listing at the Wright-Patterson Consolidated Base Personnel Office (CBPO) lists the authorized ranks for the Hospital Administrator position (Medical Command AFSC 9016) for the 52 USAF Hospitals in the surveyed population (4). The total authorized ranks for these facilities is shown in Table 2, while a complete listing of the hospital administrator authorized ranks for each of the USAF Hospitals is included as Appendix D.

Table 1. Rank of Respondents

<u>Rank</u>	<u>No. of Responses</u>	<u>Percentage</u>
Captain	2	6.7
Major	16	53.3
Lt Colonel	11	36.7
Colonel	<u>1</u>	<u>3.3</u>
	30	100.0

Table 2. Authorized Ranks for USAF Hospital Administrators

<u>Rank</u>	<u>Number Authorized</u>	<u>Percentage</u>
Major	13	25.0
Lt Colonel	33	63.5
Colonel	<u>6</u>	<u>11.5</u>
	52	100.0

Although the typical authorized rank for USAF Hospital Administrators is Lt Colonel, according to Lt Col Joseph Vocks of AFMPC/SGCCH, it is common for majors to fill these positions as a grooming process for future increased responsibility and/or promotion (28). Also, it is likely that some respondents filling lieutenant colonel positions are selectees for promotion to lieutenant colonel.

Education. The mean for completed years of education for respondents is 18.1. Thus the average respondent reports having completed 18 years of education, roughly equivalent to a master's degree. The frequency breakout of completed years of education for respondents is shown in Table 3.

Table 3. Years of Education for Respondents

<u>Years Education</u>	<u>No. of Responses</u>	<u>Percentage</u>
17	4	13.3
18	22	73.3
19	2	6.7
20	<u>2</u>	<u>6.7</u>
	30	100.0

According to Lt Col Vocks of AFMPC/SGCCH, the typical Air Force hospital administrator has a master's degree. In fact, master's degrees are so common in Air Force hospital administrator ranks that Table 4 represents the percentage of selectees of the most recent hospital administrator promotion boards who possess master's degrees (28).

Table 4. Promotion Board Education Statistics

<u>Promotion Rank</u>	<u>Promotion Board</u>	<u>Percentage of Selectees</u>
Colonel	CY 87	100
Lt Colonel	CY86	100
Major	CY 86A/B	87

In sum, the average educational level of respondents is consistent with Air Force hospital administrator education levels.

Facility Size. Most respondents are from small or medium size facilities, as the frequency breakout in Table 5 demonstrates.

Table 5. Facility Size of Respondents

<u>Facility Size in Beds</u>	<u>No. of Responses</u>	<u>Percentage</u>
Smaller (1-20)	11	37.9
Medium (21-40)	14	48.3
Larger (>40)	<u>4</u>	<u>13.8</u>
	*29	100.0

*One respondent did not answer the facility size question.

Again, the distribution of respondents by facility size is fairly consistent with Air Force data, according to Lt Col Vocks of AFMPC/SGCCH. The actual number of operating beds for the smaller, medium, and larger categorizations of the 52 USAF Hospitals are as shown in Table 6 (28).

Table 6. USAF Hospital Facility Size

<u>Facility Size in Beds</u>	<u>No. of Facilities</u>	<u>Percentage</u>
Smaller (1-20)	17	32.7
Medium (21-40)	25	48.1
Larger (>40)	<u>10</u>	<u>19.2</u>
	52	100.0

Number of Subordinates. The mean number of immediate subordinates for respondents is 5.4. The frequency breakout of number of immediate subordinates for respondents is as shown in Table 7.

Table 7. Number of Subordinates for Respondents

<u>Number of Subordinates</u>	<u>No. of Responses</u>	<u>Percentage</u>
Three	1	3.3
Four	5	16.7
Five	11	36.7
Six	11	36.7
Eight	1	3.3
Nine	<u>1</u>	<u>3.3</u>
	30	100.0

It is common for the assistant hospital administrator in charge of each of the four primary administrative areas to work directly for the hospital administrator. It appears most of the respondents follow this practice, often with one or two additional immediate subordinates.

Current Job Experience. Using the groupings previously discussed, the average respondent has extensive job experience in that he/she has served in their current position for over a year. In the military world of frequent

job transfers, more than a year in a job could be considered extensive experience in many hospital administrative situations. The frequency breakout for current job experience is included in Table 8.

Table 8. Job Experience of Respondents

<u>Current Job Experience in Months</u>	<u>No. of Responses</u>	<u>Percentage</u>
Limited (1-6)	5	16.7
Some (7-12)	7	23.3
Extensive (>12)	<u>18</u>	<u>60.0</u>
	30	100.0

Since more than 83% of the respondents have some or extensive experience in their current position, their reported information needs should be based on experience, rather than supposition.

Experience as Air Force Hospital Administrator. Most respondents have some or extensive experience as an Air Force hospital administrator. The frequency breakout for reported experience as an Air Force hospital administrator is shown in Table 9.

Table 9. Experience as AF Hospital Administrator for Respondents

<u>Hospital Administrator Experience in Months</u>	<u>No. of Responses</u>	<u>Percentage</u>
Limited (1-12)	6	21.4
Some (13-36)	11	39.3
Extensive (>36)	<u>11</u>	<u>39.3</u>
	*28	100.0

*Two respondents did not answer this question.

Again, the reported experience levels of the respondents as Air Force hospital administrators tends to support their ability to realistically assess their management indicator information requirements.

Automation Importance for the Four Primary Administrative Areas

Although respondents report that automation is important for all four primary administrative areas, they appear to rate it especially important for the medical logistics management and medical resource management areas. The mean ratings by area are as shown in Table 10 on a scale of 1=not important, 2=somewhat important, 3=undecided, 4=important, and 5=very important.

Table 10. Automation Importance Mean Values

<u>Area</u>	<u>Mean Rating</u>
Personnel & Administrative Services	4.03
Patient Affairs	4.35
Medical Logistics Management	4.76
Medical Resource Management	4.93

Assigning the letters A, B, C, and D to the areas in the sequence listed above, the frequency breakout for automation importance ratings is as shown in Table 11. Note these letter assignments to the four administrative areas are used consistently throughout this analysis. Unused rating categories are not shown in Table 11, where SI=somewhat important, U=undecided, I=important, and VI=very important.

Table 11. Automation Importance Frequencies

Area	# SI	%	# U	%	# I	%	# VI	%	Total #	Total %
A	2	6.9	4	13.8	14	48.3	9	31.0	29	100.0
B			3	10.4	13	44.8	13	44.8	29	100.0
C	1	3.4			4	13.8	24	82.8	29	100.0
D					2	6.9	27	93.1	29	100.0

*One respondent did not rate importance of automation for the four areas.

In sum, importance of automation apparently is perceived by respondents to be high for all four primary administrative areas. However, respondents appear to consider automation as especially important for medical logistics management and medical resource management.

Synopsis of Information Item Ratings

The 129 information items are synopsized in Tables 12 through 14 as to mean value of information ratings, and the most commonly reported desired frequency and most common method ratings. A more comprehensive synopsis is included in Appendices E through H. The information value rating scale can be considered as continuous where 1=none, 2=limited, 3=moderate, 4=high, and 5=very high information value. Therefore, a computed mean is useful in assessing reported value. However, the desired frequency scale where 1=as required, 2=quarterly, 3=monthly, 4=weekly, and 5=daily, can be considered a discrete scale, as can the most common method rating scale where 1=none, 2=in person, 3=telephone, 4>manual

report, and 5=automated report. In these two ratings categories, the most commonly reported rating and the percentage reporting this rating are meaningful, while the computed mean is not.

Note percentage breakouts of ratings throughout this analysis (including appendices) are computed by dividing the total number of possible responses, less the number of missing answers, into the number of responses in the category being computed. For example, to compute desired frequency rating percentages for area A in the 'as required' rating category, the following process is used: Total possible responses = 27 information items for area A times 30 respondents = 810; missing answers for these information items = 16; $810 - 16 = 794$ possible responses; actual 'as required' ratings for area A = 334; 334 ratings divided by 794 possible ratings = 42.1%.

The number of missing answers is less than 10% of total possible responses in all respondent majority categories except where a higher percentage of missing answers is indicated.

Value of Information. Average mean value of information by area is shown in Table 12. The overall range is from a low of 2.00 to a high of 4.61 for mean value ratings, and the overall average mean value is 3.54. (See Appendices E through H for individual information item mean value ratings.)

Table 12. Synopsis of Mean Value of Information Items

<u>Area</u>	<u>Number of Info Items</u>	<u>Low Mean Rating</u>	<u>High Mean Rating</u>	<u>Average mean</u>
A	27	2.62	4.55	3.52
B	35	2.00	4.57	3.47
C	38	2.05	4.61	3.53
D	<u>29</u>	2.00	4.50	3.64

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The average means for information item value indicate that respondents apparently rate all areas highly overall for information value.

Desired Frequency. Percentage breakouts for desired frequency ratings are included in Table 13, where AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

It appears respondents perceive a fairly high need for information on an ad hoc (as required) basis in all four of the primary administrative areas. This is substantiated by the more in depth analysis of ratings in Appendices E through H. Information items are also reportedly often needed on a monthly basis. In the patient affairs area, the need for information items on a daily or weekly basis appears to be higher than in the other three areas. This is most likely due to the nature of their business of handling the administrative aspects of direct patient care. Appendices E through H include more specific data regarding desired frequency ratings by respondents for the 129 information items.

Table 13. Synopsis of Desired Frequency Ratings

<u>Area</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
A	42.1	15.5	31.7	6.7	4.0	100.0
B	42.1	3.9	19.9	12.2	21.9	100.0
C	37.7	9.9	38.8	8.1	5.5	100.0
D	38.5	17.2	39.0	2.9	2.4	100.0

Most Common Method. The percentage breakout of most common method ratings by area is calculated in the same way as the desired frequency percentage ratings above. Rating categories are N=none (no common method), I=in person, T=telephone, MR=manual report, and A=automated report. Percentage ratings are as shown in Table 14.

Table 14. Synopsis of Most Common Method Ratings

<u>Area</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
A	8.1	26.9	1.6	50.8	12.6	100.0
B	15.7	29.2	5.2	37.6	12.3	100.0
C	12.8	26.4	2.8	33.9	24.1	100.0
D	9.6	18.5	1.9	49.5	20.5	100.0

Manual reporting appears to be the most commonly reported method of obtaining the information items in all areas. Again, this is substantiated by the more in depth analysis in Appendices E through H. In most cases, in person seems to be the second most commonly reported method. Automated reports are apparently a fairly common method of obtaining information items, especially in the medical resource management and medical logistics management areas. This is consistent with the previously discussed importance of automation ratings given these areas. Telephone reporting

is apparently the least common method of obtaining information for the respondents overall. Appendices E through H include more specific data regarding most common method ratings for the 129 individual information items.

Write-in Information Items. There are eight information item write-ins on completed questionnaires. In all cases, only one respondent feels the item is significant enough to add to the questionnaire, tending to validate the survey design. The eight items, along with their single value ratings, are listed in Appendix C. Also, any questionnaire comments are summarized in this appendix.

Comparison of Respondent Ratings by Experience Level

In order to determine whether more experienced USAF Hospital Administrators rate information item value differently than their less experienced peers, a rating comparison is performed. First, the respondents are grouped according to their responses to the job experience and experience as an Air Force hospital administrator questions. This grouping is depicted in Figure 1 with total number of respondents shown in each cell. Note two respondents failed to answer experience-related questions. Cell numbers are represented in Roman numerals in the upper left hand corner of the cell, while the number of respondents meeting the cell criteria is represented by Arabic numerals in the center of the cell.

		AF Hosp Admin Experience (months)		
		1 - 12	13 - 36	> 36
Job Exper- ience (months)	1 - 6	I 2	II 2	III 1
	7 - 12	IV 4	V 1	VI 2
	> 12	VII 8	VIII 8	IX 8

Figure 1. Experience of Respondents

For purposes of comparison, the information value ratings of the eight respondents in cell IX are compared to the ratings of respondents in cells I, II, and IV inclusively. The mean value ratings for each of the 129 information items are computed for the two groups and a t-test performed to determine whether the two groups differed significantly in their ratings. Appendix I is a complete listing of the mean value ratings for the "experienced" and "less experienced" groups for all 129 items, along with the t-test and probability results.

Using a .05 significance level, approximately 6 ($129 \times .05 = 6.45$) information item mean value ratings can be expected to differ between the two groups by chance alone. From Appendix I it is clear that eight information items meet the significant difference criteria. These items are listed in Table 15, where EXP=experienced and IXP=less experienced to denote respondent groups.

Table 15. Differing Mean Value Items

<u>Area & Item #</u>	<u>Item</u>	<u>EXP Mean Value</u>	<u>IXP Mean Value</u>	<u>T-test</u>	<u>Prob</u>
A5	OJT training	4.125	3.250	2.263	.040
A8	Evaluation reports	4.500	3.375	2.679	.018
A9	Military decorations	3.875	2.750	2.393	.031
A22	EEO actions	3.875	2.625	2.620	.020
A24	Civilian positions	3.750	2.625	3.631	.003
B11	Hosp staff patients	3.875	4.625	2.160	.049
C10	Local purchase rqsts	3.875	3.000	3.862	.002
C31	Fire drills	4.286	3.142	2.954	.012

Overall, the number of significantly differing items (eight) is fairly close to that expected to occur by chance (approximately six) using the .05 significance criteria. It is interesting that for seven of the eight significantly different items, the more experienced administrators rate information value higher than their less experienced counterparts. Also, five of the eight differing items are from the personnel and administrative services area (A), while only one is from patient affairs, two are from medical logistics management, and none are from the medical resource management area.

In sum, this comparison of information item mean value ratings by experience levels of respondents seems to indicate no significant difference between the two groups. Therefore, the sample used in this study apparently can be treated as homogenous in terms of the respondents' management indicator information requirements.

Information Item Ratings by Demographic Data

The mean value, desired frequency, and most common method ratings for information items is assessed by demographic data of respondents in the following section. In this analysis, the 129 information items are considered in totality rather than by area.

Value of Information by Demographics. Percentage breakouts of value of information item ratings by demographic data for the 129 information items are shown in Tables 16 through 21. Rating categories are N=none, L=limited, M=moderate, H=high, VH=very high.

Value of Information by Rank. Table 16 depicts the percentage breakout of value of information ratings by rank of the respondents.

Table 16. Value of Information by Rank

<u>Rank</u>	<u># of Resp</u>	<u>N</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Captain	2	0.0	10.4	40.6	42.6	6.4	100.0
Major	16	2.8	12.2	33.9	32.8	18.3	100.0
*Lt Col	11	1.5	10.0	29.6	40.2	18.7	100.0
Colonel	1	3.1	20.2	46.5	27.9	2.3	100.0

*Missing answers equal 10.9% of total possible responses.

Majors and Lt Colonels constitute the majority of respondents. In general, Lt Colonels seem to rate the value of information slightly higher than majors. The colonel and two captains appear to rate the value of information lower than the majority.

Value of Information by Education. Table 17 shows the percentage breakout for value of information ratings by education in years for respondents. Most respondents fall in the 18 years of education category. The two respondents with 20 years of education appear to rate information value slightly lower, while the two respondents with 19 years of education appear to rate information value slightly higher than the majority. The four respondents in the 17 years of education category seem to rate information value very similarly to the majority.

Table 17. Value of Information by Education

<u>Education</u>	<u># of Resp</u>	<u>N</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
17	4	1.0	1.1	39.7	45.6	12.6	100.0
18	22	2.7	13.7	32.6	33.5	17.5	100.0
19	2	0.4	9.3	26.7	37.2	26.4	100.0
20	2	0.0	8.5	37.3	47.9	6.3	100.0

Value of Information by Facility Size. Table 18 shows the percentage breakout of value of information ratings by reported facility size of respondents.

Table 18. Value of Information by Facility Size

<u>Facility Size</u>	<u># of Resp</u>	<u>N</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Smaller	11	3.8	9.2	33.5	33.0	20.5	100.0
Medium	14	1.3	14.3	33.1	37.3	14.0	100.0
Larger	4	2.5	9.3	36.8	38.6	12.8	100.0
Nonrespondent	1	5.0	3.0	18.0	39.0	35.0	100.0

Information item value ratings appear to be fairly consistent across facility size categories, although the smaller facility respondents appear to rate information item value slightly higher than the medium and larger facilities.

Value of Information by Number of Subordinates.

Table 19 shows the percentage breakout of information value ratings by number of immediate subordinates of respondents.

Table 19. Value of Information by No. of Subordinates

<u>No. of Subordinates</u>	<u>* of Resp</u>	<u>N</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Three	1	1.6	3.1	33.6	36.7	25.0	100.0
Four	5	0.5	15.2	31.7	32.7	19.9	100.0
*Five	11	3.4	12.0	34.8	33.7	16.1	100.0
Six	11	2.2	9.1	30.4	40.1	18.2	100.0
Eight	1	0.0	14.7	42.6	36.4	6.3	100.0
Nine	1	3.1	20.2	46.5	27.9	2.3	100.0

*Missing answers equal 11.1% of total possible responses.

The majority of respondents fall in the four, five, and six immediate subordinates categories. Among these three categories, information item value ratings appear to be fairly consistent.

Information Value by Job Experience. Table 20

depicts the percentage breakout of value of information ratings by the job experience of respondents.

Table 20. Value of Information by Job Experience

<u>Experience</u>	<u>* of Resp</u>	<u>N</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Limited	5	0.4	10.9	28.9	32.6	27.2	100.0
Some	7	4.5	18.6	38.4	25.7	12.8	100.0
Extensive	18	1.9	9.0	32.4	40.4	16.3	100.0

In general, the five respondents with limited job experience seem to rate information item value higher than the majority of respondents with some or extensive experience. This is most likely due to their overall greater need for information while learning their new duties.

Value of Information by Experience as an Air Force Hospital Administrator. Table 21 shows the percentage breakout of value of information ratings by experience as an Air Force hospital administrator.

Table 21. Value of Information by AF Hospital Administrator Experience

<u>Experience</u>	<u>* of Resp</u>	<u>N</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Limited	6	4.6	12.1	33.2	29.6	20.5	100.0
Some	11	1.1	12.1	30.8	36.0	20.0	100.0
*Extensive	11	2.8	11.5	30.8	40.4	14.5	100.0
Nonresp	2	0.0	7.4	58.5	30.6	3.5	100.0

*Missing answers equal 10.4% of total possible responses.

In general, respondents appear to rate information item value fairly consistently across the experience as an Air Force hospital administrator categories.

Desired Frequency by Demographics. Percentage breakouts of desired frequency ratings by demographic data for the 129 information items are included in Tables 22 through 27. Rating categories are AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

Desired Frequency by Rank. Table 22 depicts the percentage breakout of desired frequency ratings by rank of respondents. The majority of respondents--majors and

lieutenant colonels--appear to be consistent in their preference for information on an ad hoc (as required) or monthly basis. The two captain respondents seem to report an even higher preference for ad hoc reporting frequency, while the colonel respondent appears to prefer more routine reporting on a monthly, weekly, or daily basis. Quarterly and weekly are apparently the least desired frequencies by the respondents.

Table 22. Desired Frequency by Rank

<u>Rank</u>	<u>* of Resp</u>	<u>AB</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Captain	2	67.8	7.4	20.7	1.2	2.9	100.0
Major	16	34.3	12.2	34.8	8.8	9.9	100.0
*Lt Colonel	11	45.0	10.9	29.9	6.6	7.6	100.0
Colonel	1	25.5	3.1	35.7	16.3	19.4	100.0

*Missing answers equal 11.8% of total possible responses.

Desired Frequency by Years of Education. Table 23 shows the percentage breakout of desired frequency ratings by years of completed education for respondents.

Table 23. Desired Frequency by Education

<u>Education</u>	<u>* of Resp</u>	<u>AB</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
17	4	31.8	8.5	38.1	9.0	12.6	100.0
18	22	41.1	11.4	31.9	7.5	8.1	100.0
19	2	35.3	14.9	28.6	11.8	9.4	100.0
20	2	54.2	6.3	24.7	2.1	12.7	100.0

The majority of respondents, i.e., those with 18 years of education, appear to report a preference for information on an ad hoc basis, followed closely by a preference for

monthly reporting. This is true for the two respondents in both the 19 and 20 years of education categories, although those with 20 years of education seem to have a slightly higher preference for ad hoc reporting. On the other hand, the four respondents with 17 years of education seem to prefer monthly reporting, followed closely by ad hoc frequency.

Desired Frequency by Facility Size. Table 24 shows the percentage breakout of desired frequency ratings by reported facility size for respondents. The majority of respondents, i.e., those in the smaller or medium facility categories, seem to prefer ad hoc information reporting, followed by monthly reporting, although those from medium facilities appear to have a slightly higher preference for ad hoc. Respondents from larger facilities appear to have similar preferences, as does the one nonrespondent to the facility size question.

Table 24. Desired Frequency by Facility Size

<u>Facility Size</u>	<u>#of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Smaller	11	39.6	8.1	34.6	8.0	9.7	100.0
Medium	14	37.8	14.6	31.0	8.1	8.5	100.0
Larger	4	47.2	8.6	27.3	8.6	8.3	100.0
Nonresp	1	45.7	1.1	38.0	7.6	7.6	100.0

Desired Frequency by Number of Immediate Subordinates. Table 25 includes the percentage breakout of desired frequency ratings by number of immediate subordinates for respondents. The majority of respondents

appear to prefer ad hoc information reporting, followed by monthly reporting. However, the single respondents in the eight and nine subordinate categories seem to prefer more routine information reporting on a monthly basis, and to have a higher overall preference for daily reporting also.

Table 25. Desired Frequency by No. of Subordinates

<u>No. of Subordinates</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Three	1	42.1	14.1	35.2	4.7	3.9	100.0
Four	5	49.3	11.3	25.4	7.3	6.7	100.0
*Five	11	42.1	7.7	35.3	5.5	9.4	100.0
Six	11	36.5	14.7	30.9	9.6	8.3	100.0
Eight	1	21.2	9.3	42.4	9.3	17.8	100.0
Nine	1	25.5	3.1	35.7	16.3	19.4	100.0

*Missing answers equal 12.2% of total possible answers.

Desired Frequency by Job Experience. Table 26

depicts the percentage breakout for desired frequency ratings by job experience of respondents.

Table 26. Desired Frequency by Job Experience

<u>Experience</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Limited	5	54.4	6.6	24.6	9.9	9.5	100.0
Some	7	28.9	19.1	31.6	10.9	9.5	100.0
Extensive	18	40.8	9.1	34.1	7.3	8.7	100.0

Respondents with limited and extensive job experience seem to report a preference for ad hoc information reporting, followed by monthly reporting as a second most common choice. However, the seven respondents with some

experience appear to slightly prefer monthly and other scheduled information reporting over ad hoc.

Desired Frequency by Experience as an Air Force Hospital Administrator. Table 27 depicts the percentage breakout of desired frequency ratings by experience as an Air Force hospital administrator for respondents.

Table 27. Desired Frequency by AF Hospital Administrator Experience

<u>Experience</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Limited	6	40.4	18.4	26.7	7.0	7.5	100.0
Some	11	47.1	6.3	32.7	7.3	6.6	100.0
*Extensive	11	37.1	9.8	34.9	8.1	10.1	100.0
Nonresp	2	13.8	8.5	44.9	11.7	21.1	100.0

*Missing answers equal 11.3% of total possible responses.

Again, the majority of respondents appear to prefer ad hoc information reporting overall, followed by monthly reporting as a second most common choice.

Most Common Method by Demographics. Percentage breakouts by demographic data of respondent ratings for most common method of obtaining information for the 129 information items is shown in Tables 28 through 33. Rating categories are N=None, I=in person, T=telephone, MR>manual report, and A=automated report.

Most Common Method by Rank. Table 28 shows the percentage breakout of most common method ratings by rank of respondents. Respondents in the captain, major, and lieutenant colonel rank categories (the majority) appear to

currently obtain most of their information items by manual report and in person methods.

Table 28. Most Common Method by Rank

<u>Rank</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Captain	2	13.8	33.7	4.9	39.1	8.5	100.0
Major	16	12.3	23.7	1.8	41.5	20.7	100.0
*Lt Colonel	11	7.3	29.5	4.8	43.7	14.7	100.0
Colonel	1	7.3	0.0	0.0	38.0	14.7	100.0

*Missing answers equal 11.6% of total possible responses.

Most Common Method by Years of Education. Table

29 shows the percentage breakout of most common method ratings by completed years of education for respondents.

Table 29. Most Common Method by Education

<u>Education</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
17	4	10.5	7.3	1.7	45.4	35.1	100.0
18	22	13.3	26.2	3.4	41.8	15.3	100.0
19	2	3.1	39.6	2.7	42.0	12.6	100.0
20	2	4.3	48.2	0.0	33.3	14.2	100.0

Respondents with 17, 18, and 19 completed years of education seem to report manual reporting as their most common method of obtaining information items. The majority, i.e., respondents with 18 and 19 years of education, appear to report the in person method as their second most common choice, while the one respondent with 17 years of education apparently uses automated reports as his/her second most common method. The two respondents with 20 years of

education apparently use in person reporting most commonly, followed by manual reporting.

Most Common Method by Facility Size. Table 30 shows the percentage breakout of most common method ratings by reported facility size for respondents.

Table 30. Most Common Method by Facility Size

<u>Facility Size</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Smaller	11	9.0	23.2	2.4	42.0	23.4	100.0
Medium	14	13.3	29.3	4.1	40.4	12.9	100.0
Larger	4	18.5	23.8	1.0	40.0	16.7	100.0
Nonresp	1	0.0	0.0	0.0	78.3	21.7	100.0

All respondent groups by facility size appear to use manual reporting as their most common overall method. In most cases, in person is apparently the second most common method of obtaining information items. The smaller facility respondents and the nonrespondent to the facility size question seem to use automated reports more often than their counterparts from the medium and larger facilities.

Most Common Method by Number of Immediate Subordinates. Table 31 depicts the percentage breakout of most common method ratings by number of immediate subordinates for respondents. The majority of respondents, i.e., those with five or six immediate subordinates, apparently use manual reporting as their most common method of obtaining the information items, while those with four subordinates report in person as their most common method. Respondents with five subordinates appear to use their

second most common choice, automated reports, slightly more often than in person, while those with four or six subordinates seem to use in person reporting as their second most common method.

Table 31. Most Common Method by No. of Subordinates

<u>Number of Subordinates</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Three	1	0.0	30.5	3.9	50.8	14.8	100.0
Four	5	11.1	38.2	2.5	35.0	13.2	100.0
*Five	11	10.5	21.1	3.8	42.6	22.0	100.0
Six	11	11.4	26.9	2.2	42.5	17.0	100.0
Eight	1	10.0	13.3	7.5	60.9	8.3	100.0
Nine	1	47.3	0.0	0.0	38.0	14.7	100.0

*Missing answers equal 12% of total possible responses.

Most Common Method by Job Experience. Table 32

shows the percentage breakout of most common method ratings by job experience of respondents.

Table 32. Most Common Method by Job Experience

<u>Experience</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Limited	5	12.8	26.7	3.2	35.9	21.4	100.0
Some	7	23.7	22.7	0.8	42.0	10.8	100.0
Extensive	18	7.1	26.4	3.8	43.4	19.3	100.0

Respondents in all job experience categories appear to rate manual reporting as the most common method overall, followed by in person as the second most common method. Those with limited experience seem to have a slightly higher use for automated reports, while those with some experience appear to report no method for a number of items.

Most Common Method by Experience as an Air Force Hospital Administrator. Table 33 includes the percentage breakout of most common method ratings by experience as an Air Force hospital administrator for respondents.

Table 33. Most Common Method by AF Hospital Administrator Experience

<u>Experience</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Limited	6	16.1	21.8	2.7	41.8	17.6	100.0
Some	11	8.9	34.2	2.7	39.3	14.9	100.0
*Extensive	11	14.1	21.6	3.4	45.4	15.5	100.0
Nonresp	2	4.8	8.0	3.6	40.2	43.4	100.0

*Missing answers equal 11.1% of total possible responses.

Respondents in all categories of experience as an Air Force hospital administrator, with the exception of the two nonrespondents to this question, apparently use manual reporting as their most common method of obtaining information items, followed by in person. The two nonrespondents appear to use automated reports as their second most common method.

Highly Valued Items

The most highly valued information items must be determined in order to formulate a response to investigative question three regarding the management indicator information requirements from the four administrative areas for Air Force hospital administrators. The previously discussed method of calculating percentages is also used throughout this portion of the analysis.

Criteria and Listing of Highly Valued Information

Items. An arbitrary cutoff of 4.0 and higher for the mean value of information rating is used to determine the information items highly valued by respondents. An additional sub-category of most highly valued items is created by using an arbitrary cutoff of 4.5 and higher for the mean value of information. The items meeting this criteria are described in Table 34, again using letters A, B, C, and D to refer to the four primary administrative areas. The most highly valued items are listed first, followed by the other highly valued items.

Discussion of Highly Valued Information Items. Five information items appear to be most highly valued (≥ 4.5 mean value rating) by respondents. The total numbers of most highly valued items in each of the A, B, C, and D areas are shown in Table 35.

Table 35. Most Highly Valued by Area

<u>Area</u>	<u>Number</u>
A	2
B	1
C	1
D	<u>1</u>
	5

Respondents appear to report that medical readiness training and reporting information is most highly valued for area A, personnel and administrative services. For patient affairs, area B, information on reportable hospital incidents

Table 34. Highly Valued Information Items

<u>Area</u>	<u>Item #</u>	<u>Description</u>	<u>Mean Value Rating</u>
Most Highly Valued:			
A	25	Medical readiness training	4.52
A	27	SORTS reporting	4.55
B	34	Hospital incident reports	4.57
C	29	Hospital injuries	4.61
D	2	Funding shortfalls and actions	4.50
Highly Valued:			
A	8	Evaluation reports	4.07
A	19	Suspensing actions	4.21
A	26	Mobility actions	4.48
B	3	Bed occupancy data	4.10
B	4	Patient deaths	4.18
B	7	VIP patients	4.10
B	11	Hospital staff who are patients	4.10
B	18	Backlog of outpatient record filing	4.00
B	19	Appointment waiting lists	4.24
B	27	Patient complaints	4.28
B	35	Personnel Reliability Program	4.21
C	5	Overdue/critical backorders	4.17
C	22	Customer complaints about support	4.18
C	23	Facility projects status	4.25
C	27	Security violations	4.29
C	28	Safety hazard reports	4.36
C	34	WRM Program percentages	4.07
D	15	Manpower priceouts	4.26
D	16	Increased manpower requests	4.00
D	19	Productivity of providers	4.46
D	21	Internal inspection discrepancies	4.11
D	22	Overdue internal inspections	4.26
D	23	Other agency inspections	4.44

is apparently most highly valued, while for medical logistics management, area C, information on injuries to hospital patients and staff appears to be most highly valued. Information on budget shortfalls and actions to resolve shortages is reportedly the most highly valued information for area D, medical resource management.

A total of 23 information items are appear to be highly valued (4.0 to 4.49 mean value rating) by respondents. Table 36 shows the number of highly valued items for areas A, B, C, and D.

Table 36. Highly Valued by Area

<u>Area</u>	<u>Number</u>
A	3
B	8
C	6
D	<u>6</u>
	23

Although a fairly wide variety of information items are reportedly of high value, the readiness emphasis appears to be consistent with the high value of items concerning mobility actions, War Readiness Materiel (WRM) programs and Personnel Reliability Program (PRP). Other information items apparently highly valued by respondents deal with backlogs, complaints, bed occupancy, facility projects, security, safety manpower and inspection data.

Desired Frequency of Highly Valued Items The percentage breakout of desired frequency ratings for most highly valued and highly valued information items is depicted in Table 37. Rating categories are AR-as required, Q=quarterly, M=monthly, W-weekly, and D-daily.

Table 37. Desired Frequency of Highly Valued Items

<u>Items</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Most Highly Valued	25.4	4.2	50.0	5.6	14.8	100.0
Highly Valued	35.2	6.7	31.1	9.6	17.4	100.0

On the average, respondents appear to report a monthly desired frequency for the most highly valued information items, followed by ad hoc frequency as a second most common desired frequency. However, respondents seem to slightly prefer ad hoc reporting for the highly valued information items, followed closely by monthly reporting as a second choice. See Appendix J for specific frequencies and percentages of ratings in each category for each information item.

Most Common Method for Highly Valued Items. The percentage breakout of most common method ratings by most highly valued and highly valued information items is included in Table 38. Rating categories are N=none, I=in person, T=telephone, M=manual report and A=automated report.

Table 38. Most Common Method for Highly Valued Items

<u>Items</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>M</u>	<u>A</u>	<u>Total</u>
Most Highly Valued	2	22.5	1.4	53.6	20.4	100.0
Highly Valued	6.4	31	5.0	36.9	17.6	100.0

Overall, respondents apparently use manual reporting as the most common method of obtaining highly valued information. This is followed by in person and automated reporting respectively. The use of manual reporting appears to be especially prevalent for the most highly valued information.

items. The telephone is apparently the least commonly used method of obtaining highly valued information items overall. This is consistent with the reported use of the telephone as a most common method over all 129 information items, as shown in Table 14. See Appendix K for specific frequencies and percentages of ratings in each category for each highly valued information item.

Highly Valued Information Items by Demographics. The percentage breakouts of value of information, desired frequency, and most common method ratings by demographic data of the respondents for the 28 highly valued information items are shown in Tables 39 through 56.

Value of Information by Demographics for Highly Valued Items. Percentage breakouts for value of information ratings by demographic data of respondents for the 28 highly valued information items are included in Tables 39 through 44. Rating categories are L=limited, M=moderate, H=high, and VH=very high. Note the "none" rating category is not included in these tables due to the absence of ratings in this category. This is consistent with the high value respondents report for these information items.

Value of Information by Rank for Highly Valued Items. Table 39 shows the percentage breakout of value of information ratings by rank of respondents for the 28 highly valued information items.

Table 39. Value of Info by Rank for Highly Valued

<u>Rank</u>	<u># of Resp</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Captain	2	0.0	14.3	64.3	21.4	100.0
Major	16	2.3	12.9	40.6	44.2	100.0
*Lt Colonel	11	0.4	8.4	43.2	48.0	100.0
Colonel	1	3.6	42.9	46.4	7.1	100.0

*Missing answers equal 11.4% of total possible responses.

On the whole, lieutenant colonels appear to rate the information value for the highly valued information items slightly higher than the other rank categories. The one colonel respondent seems to rate these items lower overall than the other 29 respondents. These ratings are consistent with the ratings breakout for the entire 129 information items, as shown in Table 16.

Value of Information by Years of Education for Highly Valued Items. Table 40 shows the percentage breakout of value of information ratings by completed years of education for respondents for the 28 highly valued information items.

Table 40. Value of Info by Education for Highly Valued

<u>Education</u>	<u># of Resp</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
17	4	0.0	15.2	51.4	33.4	100.0
18	22	1.8	12.8	42.0	43.4	100.0
19	2	1.8	8.9	26.8	62.5	100.0
20	2	0.0	3.4	75.9	20.7	100.0

The majority of respondents in the years of education categories are consistent in their value ratings of the highly valued information items. However, the two respondents in the

19 years of education category tend to rate the information value slightly higher, while the two respondents in the 20 years of education category rank the value slightly lower than the average respondents. This analysis is consistent with the value of information ratings for all 129 information items as depicted in Table 17.

Value of Information by Facility Size for Highly Valued Items. Table 41 shows the percentage breakout of value of information ratings by facility size reported by respondents for the 28 highly valued information items. On the whole, respondents in the three facility size categories appear to be fairly consistent in their information value ratings for the highly valued information items. The one nonrespondent to the facility size question is an exception in that he/she appears to rate the information value higher than the other respondents. This analysis is consistent with the value of information ratings by facility size for all 129 information items, as shown in Table 18.

Table 41. Value of Info by Facility Size for Highly Valued

<u>Facility Size</u>	<u># of Resp</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Smaller	11	1.0	12.1	37.1	49.8	100.0
Medium	14	2.1	12.2	49.7	36.0	100.0
Larger	4	1.2	19.0	44.0	35.8	100.0
Nonrespondent	1	0.0	0.0	19.0	81.0	100.0

Value of Information by Number of Immediate Subordinates for Highly Valued Items. Table 42 includes the

percentage breakout of value of information ratings by the number of immediate subordinates reported by respondents for the 28 highly valued information items.

Table 42. Value of Info by No. of Subordinates for Highly Valued

<u>Number of Subordinates</u>	<u># of Resp</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Three	1	0.0	3.6	32.1	64.3	100.0
Four	5	1.4	13.6	35.0	50.0	100.0
*Five	11	0.4	13.2	43.6	42.8	100.0
Six	11	2.4	9.9	45.7	42.0	100.0
Eight	1	3.6	7.1	67.9	21.4	100.0
Nine	1	3.6	42.9	46.4	7.1	100.0

*Missing answers equal 11.4% of total possible responses.

The majority of respondents, i.e., those in the four, five, and six immediate subordinate categories, appear to be fairly consistent in their value ratings for the highly valued information items. This analysis is consistent with that for the value of information ratings for all 129 information items, as shown in Table 19.

Value of Information by Job Experience for Highly Valued Items. Table 43 shows the percentage breakout for value of information ratings by job experience of respondents for the 28 highly valued information items.

Table 43. Value of Info by Job Experience for Highly Valued

<u>Experience</u>	<u># of Resp</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Limited	5	0.9	5.3	23.0	70.8	100.0
Some	7	3.9	19.3	43.1	33.7	100.0
Extensive	18	0.8	11.7	48.2	39.3	100.0

The majority of respondents, i.e., those in the some and extensive job experience categories, appear to be fairly consistent in their information value ratings for the highly valued information items. The five limited job experience respondents seem to rate this information item value slightly higher, most likely due to their greater need for information as they learn their new duties. This analysis is consistent with that for the value of information ratings by job experience for all 129 information items, as reported in Table 20.

Value of Information by Experience as an Air Force Hospital Administrator for Highly Valued Items. The percentage breakout of value of information ratings by experience as an Air Force Hospital Administrator for the 28 highly valued information items is included in Table 44.

Table 44. Value of Info by AF Hosp Admin Experience for Highly Valued

<u>Experience</u>	<u># of Resp</u>	<u>L</u>	<u>M</u>	<u>H</u>	<u>VH</u>	<u>Total</u>
Limited	6	3.3	8.8	34.8	53.1	100.0
Some	11	1.1	9.3	41.4	48.2	100.0
*Extensive	11	0.7	15.0	48.4	35.9	100.0
Nonrespondents	2	1.8	28.6	57.1	12.5	100.0

*Missing answers equal 11.4% of total possible responses.

Most respondents in the three categories of experience as an Air Force hospital administrator seem to be fairly consistent in their information value ratings for the highly valued information items. Respondents with limited experience

appear to rate this information value slightly higher. The two nonrespondents to this demographic question apparently rate this information value lower than the majority of respondents. This analysis is consistent with that for the value of information by experience as an Air Force hospital administrator for all 129 information items, as reflected in Table 21.

Desired Frequency by Demographics for Highly Valued Items. The percentage breakouts for desired frequency ratings by demographic data of respondents for the 28 highly valued information items are included in Tables 45 through 50. Categories are AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

Desired Frequency by Rank for Highly Valued Items. Table 45 shows the percentage breakout for desired frequency ratings by rank of respondents for the 28 highly valued information items.

Table 45. Desired Frequency by Rank for Highly Valued

<u>Rank</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Captain	2	60.6	3.6	28.6	3.6	3.6	100.0
Major	16	26.1	7.6	37.7	9.7	18.9	100.0
*Lt Colonel	11	42.4	4.1	31.2	7.8	14.5	100.0
Colonel	1	21.4	7.1	25.0	14.3	32.2	100.0

*Missing answers equal 12.7% of total possible responses.

The majority of respondents appear to report an overall preference for monthly or ad hoc reporting over other possible

frequencies. The lieutenant colonels seem to slightly prefer ad hoc reporting while the majors apparently slightly prefer monthly. The two captain respondents seem to report a heavy preference for ad hoc reporting, while the one colonel respondent seems to report a higher than average daily reporting preference. Quarterly and weekly are apparently the least preferred frequencies by the respondents. These percentages are consistent with the desired frequency by rank analysis over all 129 information items included as Table 22.

Desired Frequency by Years of Education for Highly Valued Items. Table 46 includes the percentage breakout of desired frequency ratings by completed years of education for respondents for the 28 highly valued information items.

Table 46. Desired Frequency by Education
for Highly Valued

<u>Education</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
17	4	24.3	5.8	43.7	6.8	19.4	100.0
18	22	35.2	6.7	33.0	9.0	16.1	100.0
19	2	40.7	1.9	29.6	13.0	14.8	100.0
20	2	31.0	3.4	38.0	3.4	24.2	100.0

The majority of respondents, i.e., those with 18 years of education, seem to report an overall slight preference for ad hoc reporting over their second most common desired frequency--monthly reporting. The four respondents with 17 years of education appear to prefer monthly reporting, followed by ad hoc as a second most common choice, as do the two respondents with 20 years of education. The two respondents with 19 years

of education seem to prefer ad hoc reporting, followed by monthly as a second choice overall. The analysis of desired frequency by years of education of respondents for the entire 129 items (Table 23) shows a slightly higher preference overall for ad hoc reporting than the analysis in Table 46 for the 28 highly valued information items only. Otherwise, the analyses are comparable.

Desired Frequency by Facility Size for Highly Valued Items. The percentage breakout of desired frequency ratings by facility size for respondents for the 28 highly valued information items is shown in Table 47. On the average, respondents in the majority categories of smaller and medium facility sizes seem to be consistent in reporting a desired frequency of monthly reporting for the highly valued information items, followed closely by ad hoc reporting as the second most desired frequency. The four respondents from larger facilities apparently prefer ad hoc reporting over monthly, while the nonrespondent to the years of education question seems to prefer monthly over ad hoc reporting. The seemingly consistently lower number of desired frequency ratings for quarterly and weekly reporting continues. This analysis of desired frequency ratings by facility size for the 28 highly valued items seems to show a higher preference for monthly reporting, as compared to the comparable analysis for all 129 information items included in Table 24.

Table 47. Desired Frequency by Facility Size for Highly Valued

<u>Facility Size</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Smaller	11	33.1	4.2	37.0	8.4	17.3	100.0
Medium	14	32.0	8.3	33.6	9.1	17.0	100.0
Larger	4	47.6	4.8	23.8	9.5	14.3	100.0
Nonrespondent	1	26.3	0.0	52.6	5.3	15.8	100.0

Desired Frequency by Number of Immediate

Subordinates for Highly Valued Items. Table 48 includes the percentage breakout of desired frequency ratings by the number of immediate subordinates of respondents for the 28 highly valued information items.

The one three-subordinate and five four-subordinate respondents apparently prefer ad hoc reporting with monthly as a second most common desired frequency.

Table 48. Desired Frequency by No. of Subordinates for Highly Valued

<u>Number of Subordinates</u>	<u># of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Three	1	57.1	14.3	17.9	7.1	3.6	100.0
Four	5	42.8	4.3	28.3	12.3	12.3	100.0
*Five	11	34.9	2.9	36.4	7.4	18.4	100.0
Six	11	29.7	9.6	37.2	7.8	15.7	100.0
Eight	1	14.8	0.0	40.7	11.1	33.4	100.0
Nine	1	21.4	7.1	25.0	14.3	32.2	100.0

*Missing answers equal 11.7% of total possible responses.

The majority of respondents, as represented in the five- and six-subordinate categories, seem to report a slight preference for monthly reporting, followed closely by ad hoc reporting as the second most common desired frequency for

highly valued information items. This analysis is fairly consistent with the comparable analysis for all 129 information items included as Table 25, although there is a slightly higher preference for monthly reporting for the 28 highly valued information items.

Desired Frequency by Job Experience for Highly Valued Items. The percentage breakout of desired frequency ratings by job experience of respondents for highly valued information items is shown in Table 49. The five respondents with limited experience seem to report a preference for ad hoc reporting, followed by monthly and daily reporting for the highly valued information items. Those with some job experience and the majority in the extensive experience category appear to prefer monthly reporting, with ad hoc reporting a second most common desired frequency. Again this analysis shows a slightly higher preference for monthly reporting of highly valued items as compared to the similar analysis in Table 26 for all 129 information items.

Table 49. Desired Frequency by Job Experience for Highly Valued

<u>Experience</u>	<u>* of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Limited	5	40.7	5.3	22.1	12.4	19.5	100.0
Some	7	24.7	12.1	31.9	11.0	20.3	100.0
Extensive	18	35.8	4.1	38.1	7.1	14.9	100.0

Desired Frequency by Experience as an Air Force Hospital Administrator for Highly Valued Items. Table 50 depicts the percentage breakout of desired frequency ratings

by experience as an Air Force hospital administrator of respondents for the 28 highly valued information items.

Table 50. Desired Frequency by AF Hosp Admin Experience for Highly Valued

<u>Experience</u>	<u>* of Resp</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>	<u>Total</u>
Limited	6	29.1	9.9	32.4	11.0	17.6	100.0
Some	11	43.2	5.4	32.0	8.3	11.1	100.0
*Extensive	11	32.5	5.5	36.2	7.7	18.1	100.0
Nonresp	2	7.3	0.0	43.6	10.9	38.2	100.0

*Missing answers equal 12% of total possible responses.

Respondents with some experience as an Air Force hospital administrator appear to report an overall preference for ad hoc reporting for the highly valued information items, followed by monthly reporting as the second most common desired frequency. Those with limited or extensive experience apparently report an overall preference for monthly reporting, with ad hoc as the second most common choice. Once again, this analysis shows a slightly higher preference for monthly reporting for the highly valued information items, as compared to the similar analysis in Table 27 for all 129 information items.

Most Common Method by Demographics for Highly Valued Items. The percentage breakouts for most common method of obtaining highly valued information items by demographic data of respondents are included in Tables 51 through 56. Rating categories are N=none, I=in person, T=telephone, MR=manual report, and A=automated report.

Most Common Method by Rank for Highly Valued

Items. Table 51 depicts the percentage breakout of most common method ratings by rank of respondents for the 28 highly valued information items.

Table 51. Most Common Method by Rank for
Highly Valued

<u>Rank</u>	<u>* of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Captain	2	1.8	41.1	5.4	42.9	8.8	100.0
Major	16	5.5	26.1	2.5	43.5	22.4	100.0
*Lt Colonel	11	1.9	35.7	7.1	40.5	14.8	100.0
Colonel	1	46.4	0.0	0.0	39.3	14.3	100.0

*Missing answers equal 12.7% of total possible responses.

The majority of respondents in the rank categories seem to report their most common method overall for obtaining the highly valued information items is by manual report, followed by in person as a second most common method. Telephone reporting apparently is not a frequently reported method of obtaining these information items. This analysis is comparable with that shown in Table 28 for all 129 information items.

Most Common Method by Years of Education for

Highly Valued Items. The percentage breakout of most common method ratings by years of education of respondents for the 28 highly valued information items is included in Table 52. The four respondents with 17 years of education appear to report manual reporting as their most common method overall for the highly valued information items, followed by automated reporting as the second most common method. The majority of

respondents, as represented by the 18 years of education category, seem to report a higher use overall of manual reporting, followed by in person reporting. The two education and 20 years of education respondents appear to report that the most common method overall is in person reporting, followed by a second most common method of manual reporting. This analysis is consistent with the similar one for all 128 information items in Table 29.

Table 52. Most Common Method by Education for Highly Valued

<u>Education</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>ME</u>	<u>A</u>	<u>Total</u>
17	4	5.0	6.7	1.9	50.0	35.6	100.0
18	22	6.0	30.8	4.7	42.3	16.1	100.0
19	2	0.0	51.0	5.6	29.6	12.9	100.0
20	2	3.6	42.9	0.0	36.7	17.8	100.0

Most Common Method by Facility Size for Highly Valued Items. Table 53 depicts the percentage breakout of most common method ratings by facility size reported by respondents for the 28 highly valued information items

Table 53. Most Common Method by Facility Size for Highly Valued

<u>Facility Size</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>ME</u>	<u>A</u>	<u>Total</u>
Smaller	11	2.3	26.6	3.6	43.2	24.3	100.0
Medium	14	6.1	32.6	5.9	41.0	14.4	100.0
*Larger	4	15.5	33.3	0.0	33.3	17.9	100.0
Nonresp	1	0.0	0.0	0.0	90.0	10.0	100.0

*Missing answers equal 25% of total possible responses

The majority of respondents seem to report that the most common method of obtaining the highly valued information items is by manual report. Most respondents appeared to use it person as their second most common method, while the smaller majority respondents reported higher level and automated reporting also. This analysis is consistent with that shown in Table 3 for all the information items.

Most Common Method by Number of Immediate Subordinates for Highly Valued Items Table 54 shows the percentage breakdown of most common method by range of number of immediate subordinates of respondents for the 20 highly valued information items.

Table 54. Most Common Method by Number of Subordinates for Highly Valued

Number of Subordinates	% of Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Three			20.0	10.0	30.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Four			50.0	10.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
*Five			20.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Six			30.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Eight			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Nine	40.0																				

*Missing answers equal 40.0% of possible responses.

Overall, the majority of respondents in the number subordinates categories seem to report manual reporting as their most common method of obtaining the highly valued information items, with person and automated reporting as second and third most common methods, respectively. The non-subordinate respondents appeared to report person as the

most common method, followed by manual reporting. This analysis is comparable to that for the 129 information items as shown in Table 31.

Most Common Method by Job Experience for Highly Valued Items. The percentage breakout of most common method ratings by job experience of respondents for the highly valued information items is included in Table 55.

Table 55 Most Common Method by Job Experience for Highly Valued

<u>Experience</u>	<u># of</u> <u>Resp</u>	<u>I</u>	<u>I</u>	<u>I</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Limited	5	1 6	35.4	5.3	37.2	20.3	100.0
Some	7	14 6	28.6	1.1	45.1	10.4	100.0
Extensive	16	2 9	28.5	5.1	42.4	21.1	100.0

Respondents in all three job experience categories seem to use manual reporting as their most common method of obtaining the highly valued information items, followed by in person reporting as their second most common method. This analysis is consistent with the comparable analysis for all 129 information items as depicted in Table 32.

Most Common Method by Experience as an Air Force Hospital Administrator for Highly Valued Items. Table 56 depicts the percentage breakout of most common method ratings by experience as an Air Force hospital administrator of respondents for the 26 highly valued information items.

Table 56. Most Common Method by AF Hosp Admin
Experience for Highly Valued

<u>Experience</u>	<u># of Resp</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>MR</u>	<u>A</u>	<u>Total</u>
Limited	6	6.6	25.3	3.8	44.0	20.3	100.0
Some	11	2.2	38.6	4.3	38.7	16.2	100.0
*Extensive	11	8.5	27.6	4.4	44.1	15.4	100.0
Nonresp	2	3.6	7.3	3.6	45.5	40.0	100.0

*Missing answers equal 11.7% of total possible responses.

Respondents in the limited and extensive categories of experience as an Air Force hospital administrator seem to report manual reporting as their overall most common method of obtaining the highly valued information items, followed by in person reporting as their second most common method. Respondents with some experience appear to use manual reporting and in person methods fairly equally for these information items. Once again, this analysis is consistent with that shown in Table 33 for all 129 information items.

Summary

The typical questionnaire respondent is a major with 18 years of education, from a medium size facility, with five or six subordinates, and with extensive experience both in his/her current job and as an Air Force hospital administrator. The typical respondent appears to consider automation important for all four primary administrative areas, and seems to slightly prefer ad hoc reporting as a desired frequency over monthly reporting. The average respondent also reports receiving most

of his/her information by manual or in person reporting methods.

Comparison of value ratings for eight experienced vs. less experienced respondents shows no significant difference overall in their mean value ratings for the information items. Although only eight information item ratings differ significantly, the more experienced administrators tend to rate these items higher, and most of those differing are from the personnel and administrative services area.

There are 28 total information items from the four administrative areas which appear to be highly valued by the typical respondent. The reporting frequency and method for these highly valued items apparently is not substantially different than that for the majority of information items, although monthly reporting appears to be slightly preferred, rather than ad hoc reporting, overall. Chapter V presents some general findings, recommendations, and conclusions.

V. SUMMARY OF FINDINGS, RECOMMENDATIONS, AND CONCLUSIONS

Summary of Findings

The need for management indicator information for USAF Hospital Administrators is growing, along with pressures for cost containment in conjunction with high quality care. Most of these administrators--especially those new to their roles--must determine what their key management indicators are and hopefully establish some sort of reporting mechanism for these indicators quickly, or risk unsatisfactory performance. The literature supports consulting these managers via survey as to their information requirements. This study used a questionnaire format to determine what USAF Hospital Administrators judge to be their management indicator information requirements, and how these requirements are currently being met. In formulating an answer to this problem, several investigative questions are addressed:

1. What is the role of the Hospital Administrator in USAF Hospitals?
2. What are the primary responsibilities of the four administrative functional areas common to all USAF Hospitals?
3. What do administrators of USAF Hospitals consider as their management indicator information requirements from these four administrative areas?

4. How are these administrators of USAF Hospitals currently obtaining this management indicator information?

Investigative Question One. As discussed in Chapter II, the USAF Hospital Administrator is charged with directing all the administrative activities in the USAF Hospital, with particular emphasis in the four primary administrative areas (3). These four areas are common to all Air Force medical facilities and comprise the bulk of the hospital's administration.

Investigative Question Two. Again as detailed in Chapter II, the four primary administrative areas are personnel and administrative services, patient affairs, medical logistics management, and medical resource management. Personnel and administrative services provides general administrative support to the hospital staff. Patient affairs handles all patient care and medical staff related administration. Medical logistics management provides supplies, equipment, and services to the medical facility. Medical resource management insures adequate funds, staffing, and management support programs for the facility (3). USAF Hospital Administrators need timely and accurate information from these four areas to properly administer their facilities.

Investigative Question Three. USAF Hospital Administrators in the CONUS were surveyed as to their management indicator information requirements for the four primary administrative areas. A comparison of information

item value ratings by experienced vs. less experienced respondents provides insufficient statistical evidence to justify examining only the most experienced administrators. Thus, the subjects are treated as relatively homogenous in terms of their management indicator information requirements. However, of the eight items which do show significantly different (.05 or better) mean value ratings for the two groups, five items are from personnel and administrative services and seven are rated higher by the experienced respondents.

Based on high mean value ratings, 28 of 129 information items are identified from the 30 respondents as potentially common management indicators for USAF Hospital Administrators. These items are detailed in Table 34 in Chapter IV. Overall, items concerning medical readiness, incidents, injuries, and budget shortfalls appear to be most highly valued. Other apparently highly valued items include information on backlogs, complaints, staff evaluations, patient data such as bed occupancy, deaths, and 'VIP' patients, and inspection data. Their methods of obtaining this information are another matter of interest.

Investigative Question Four. Manual and in person appear to be the primary methods used by USAF Hospital Administrators to obtain the 28 reportedly common management indicator information items. Although automated reports are apparently used frequently for certain information items, overall the use of automated reports does not appear to be

widespread. Also, the use of the telephone to obtain information is apparently insignificant.

Analyses of findings by demographic data for all 129 information items and for the 28 highly valued information items (i.e. common management indicators) appear to be consistent with overall analyses for information item value, desired frequency, and most common method. In particular, the demographic analyses do not reveal any significant findings that might lead to any other grouping for further analysis, and also lending support to treating the group as homogenous. With this overall assessment of the investigative question findings, some general recommendations can be made.

Recommendations

To insure the USAF Hospital Administrator receives the information most important to him/her, a routine reporting mechanism should be established. Although every administrator will have his/her preferred reporting routines and mechanisms, a basic, pre-established but flexible report may be helpful for both new and experienced administrators. In any case, any standard Air Force medical facility management information system (MIS) should insure any potentially common management indicator information requirements are met. Also it appears automation of information is desirable from the viewpoint of many hospital administrators. Based on the results of this

study, the primary information item candidates for inclusion in a management reporting system for USAF Hospital Administrators are described below.

Personnel and Administrative Services. The first priority should be to include medical readiness issues such as SORTS reporting, mobility actions, and medical readiness training data in any management reporting system. This information should be provided on a monthly basis. The administrator should also find data on personnel evaluation reports and suspending actions useful on a monthly or ad hoc basis. Many administrators currently obtain this information through manual reports. The routine nature of the desired frequency for these items lends itself well to the possibility of automation.

Patient Affairs. A management reporting system should include daily or ad hoc reporting of information regarding hospital incident reports, bed occupancy data, patient deaths, "VIP" patients, and hospital staff who are patients. Information regarding backlog of outpatient record filing, appointment waiting lists, patient complaints, and personnel reliability program should be provided on a routine weekly or monthly basis. Except for the highly automated bed occupancy data, the other information items are presently obtained by the administrator through in person or manual reports. Automation of this reporting process may relieve some of the demand on the administrator's time.

Medical Logistics Management. Any contemplated management reporting system should include data on injury reports, security violations, and safety hazards on an ad hoc basis. Also, more routine monthly or weekly reporting of information regarding overdue/critical backorders, customer complaints, facility projects status, and WRM percentages should be included. With the exception of WRM percentages and, to some extent, overdue/critical backorders, most of this information is currently obtained by the administrator in person, with some use of manual reports. Automation of these reports could relieve demands on the administrator's valuable time.

Medical Resource Management. At least monthly reports on funding shortfalls and actions, provider productivity, and internal inspection program data should be included in any management reporting system for USAF Hospital Administrators. Ad hoc reporting on manpower priceouts, increased manpower requests, and other agency inspections should also be included in such a system. The majority of this information is now obtained by administrators through manual reports. If feasible, automated reporting of these information items may alleviate workloads.

Conclusions

Any recurring management indicator report for USAF Hospital Administrators, regardless of frequency or method, should include the management indicator information

specified above. However, in this age of advances in automation, a computerized management reporting system which includes these basic information items, yet is tailored to the individual administrator's information needs, is feasible and should be seriously considered.

Since all Air Force medical facilities include the four primary administrative areas detailed in this study, any management reporting system designed to satisfy the commonly reported management indicators should be useful as a core system in many facilities. As with any piece of research exploring new ground, further study and analysis is necessary to further validate the inclusion of the management indicator information items detailed above in a management reporting system for Air Force medical facility administrators. In particular, the personnel and administrative services area should be more carefully analyzed as to common management indicators, since this area seems to have the most discrepancies in perceived value of information. Ideally another questionnaire survey of USAF Hospital Administrators should help ascertain whether the management indicators listed above are indeed valid for most USAF Hospital Administrators.

Appendix A: USAF Hospitals

Alphabetical listing of the Air Force Base locations of the
52 USAF Hospitals included in AFR 168-4:

Altus OK	Langley VA
Barksdale LA	Laughlin TX
Beale CA	Little Rock AR
Bergstrom TX	Loring ME
Blythville AR	Luke AZ
Cannon NM	Malmstrom MT
Castle CA	Mather CA
Chanute IL	McConnell KS
Columbus MS	Moody GA
Davis-Monthan AZ	Mountain Home ID
Dover DE	Myrtle Beach SC
Dyess TX	Nellis NV
Edwards CA	Patrick FL
Ellsworth SD	Pease NH
England LA	Plattsburgh NY
F.E. Warren WY	Reese TX
Fairchild WA	Robins GA
George CA	Seymour Johnson NC
Grand Forks ND	Shaw SC
Griffiss NY	Tinker OK
Grissom IN	Tyndall FL
Hill UT	USAF Academy CO
Holloman NM	Vandenburg CA
Homestead FL	Whiteman MO
K.I. Sawyer MI	Williams AZ
Kirtland NM	Wurtsmith MI



Appendix B: Questionnaire Cover Letter
and Questionnaire

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO
ATTN OF LSG (Capt Parker)

18 JUN 1987

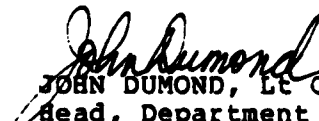
SUBJECT Questionnaire

TO Respondent

1. Please take the time to complete the attached questionnaire and return it to Capt Parker in the enclosed envelope within 10 days.

2. The questionnaire measures your perceptions and attitudes about your management indicator information requirements as an Air Force hospital administrator. The data gathered will become part of an AFIT research project and may influence the future design of information system support for Air Force health care administrators. In particular, the information will be shared with the TRIMIS Program Office handling development of the Composite Health Care System (CHCS).

3. Your individual responses will be combined with others and will not be attributed to you personally. Participation is completely voluntary, but we would certainly appreciate your help. For further information, contact Capt Carol Parker, AUTOVON 785-4437, or Capt Thomas Triscari, AUTOVON 785-3355.


JOHN DUMOND, Lt Col, USAF
Head, Department of System
Acquisition Management
School of Systems and Logistics

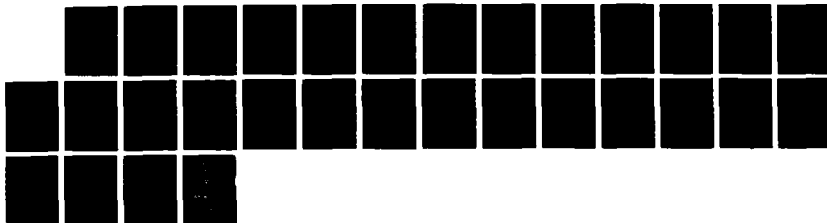
AD-A188 849

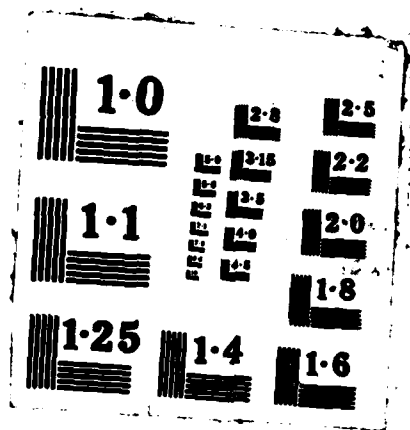
USAF HOSPITAL ADMINISTRATOR MANAGEMENT INDICATOR
INFORMATION REQUIREMENTS(U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. C F PARKER
DEC 87 AFIT/GIR/LSY/87D-5 F/G 5/2

2/2

UNCLASSIFIED

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USAF HOSPITAL ADMINISTRATOR MANAGEMENT INDICATOR

INFORMATION REQUIREMENTS QUESTIONNAIRE

I. Instructions: This questionnaire is designed to assess the management indicator information requirements of USAF Hospital Administrators with respect to the four common primary administrative areas: Personnel and Administrative Services, Patient Affairs, Medical Logistics Management, and Medical Resource Management.

Please complete the demographic and other information section, then rate each information item according to perceived value for managerial effectiveness (ranging from no value to very high value), desired frequency (from as required to daily), and method currently used to obtain the information (personal contact, telephone, etc.) Information items are organized into the four primary administrative areas. At the end of each area, space is available for you to list any additional information items or comments. Also, space is provided at the end of the questionnaire for additional comments.

It should take approximately 45 minutes to complete the questionnaire. Please ensure you have circled the appropriate rating for all three scales for each information item statement. Thank you for sharing your experience in this effort to assist in the future design of Air Force hospital information systems.

II. Demographic and Other Information:

1. Rank _____
2. Education Level (in years) _____
3. Number of operating beds at your facility _____
4. Number of immediate subordinates _____
5. Experience: (specify years and months)
 - a. In current position _____
 - b. As an Air Force Hospital Administrator _____

6. Automations: Indicate your perceived importance of an automated management information/decision support system for each of the four following areas by circling the appropriate number. (Note: 1 = not important, 2 = somewhat important, 3 = undecided, 4 = important, and 5 = very important)

	Not Important			Very Important	
	1	2	3	4	5
Personnel & Administrative Services					
Patient Affairs					
Medical Logistics Management					
Medical Resource Management Office					

Atch Pg 1

III. Personnel and Administrative Services

Information Items:	Value of Information	Desired Frequency	Most Common Method
	1=none 2=limited 3=moderate 4=high 5=very high	1=as required 2=quarterly 3=monthly 4=weekly 5=daily	1=none 2=in person 3=telephone 4=manual report 5=automated rpt
1. Section staffing	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2. Hospital staff arrivals & departures	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3. Sponsor program data	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
4. Personnel action discrepancies (AF FM 209X)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
5. On-the-job training	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
6. Physical fitness program	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
7. Disciplinary actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
8. Evaluation reports (OERs and APRs)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
9. Military decorations	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
10. Military leaves	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
11. Dependent care responsibility program	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
12. Commander's calls	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
13. Overdue official photos	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
14. TDY requests	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
15. Medical Library inventory	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
16. Telephone abuse reports	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
17. Publications & forms support	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
18. Telecommunications (message) support	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Atch Pgr 2

Information Items:	Value of Information	Desired Frequency	Most Common Method
	1=none 2=limited 3=moderate 4=high 5=very high	1=as required 2=quarterly 3=monthly 4=weekly 5=daily	1=none 2=in person 3=telephone 4>manual report 5=automated rpt
19. Suspending actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
20. Security program	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
21. Civilian awards	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
22. EEO actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
23. Civilian grievances	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
24. Civilian position actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
25. Medical readiness training	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
26. Mobility actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
27. SORTS (UNITREP) reporting	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
28. Additional items: (please specify)			
	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
IV. Patient Affairs			
1. Section staffing	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2. Inpatient dispositions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3. Bed occupancy data	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
4. Patient deaths	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
5. In-house births	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
6. Very Seriously, Seriously Ill & Incapacitating Illness patients	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Atch Pa 3

Information Items:	Value of Information	Desired Frequency	Most Common Method
	1=none 2=limited 3=moderate 4=high 5=very high	1=as required 2=quarterly 3=monthly 4=weekly 5=daily	1=none - 2=in person 3=telephone 4>manual report 5=automated rpt
7. VIP patients	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
8. Backlog of inpatient filing & coding	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
9. Overdue narrative summaries	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
10. Patient leaves/passes	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
11. Hospital staff who are patients	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
12. Patients admitted after Emergency Room visit	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
13. Readmissions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
14. Contagious disease patients	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
15. Aeromedical evacuations	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
16. Patients transferred (other than air evac)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
17. Civilian (paying) patients	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
18. Backlog of outpatient record filing	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
19. Appointment waiting lists	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
20. Overdue charged-out health records	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
21. Emergency patients	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
22. Backlog of medical transcription	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
23. Incomplete health records referred to providers	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Atch Pg 4

Information Items:	Value of Information	Desired Frequency	Most Common Method
	1=none 2=limited 3=moderate 4=high 5=very high	1=as required 2=quarterly 3=monthly 4=weekly 5=daily	1=none 2=in person 3=telephone 4>manual report 5=automated rpt
24. Health records transferred/retired	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
25. Health records committee proceedings	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
26. Requests for release of medical information	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
27. Patient complaints	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
28. Medical board actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
29. Nonavailability statements	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
30. CHAMPUS claims	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
31. Tumor registry actions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
32. Third party liability notifications	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
33. Line of duty determinations	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
34. Hospital incident reports	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
35. Personnel Reliability Program reporting	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
36. Additional items: (please specify)			
	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Atch Pg 5

V. Medical Logistics Management

Information Items:	Value of Information					Desired Frequency					Most Common Method				
	1=none	2=limited	3=moderate	4=high	5=very high	1=as required	2=quarterly	3=monthly	4=weekly	5=daily	1=none	2=in person	3=telephone	4>manual report	5=automated rpt
1. Section staffing	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Medical-Dental Stock Fund (MDSF) fill rates	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. MDSF inventory adjustments	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Inventory turnover	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Overdue/critical backorders	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6. Out-of-stock conditions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7. Receipts vs. sales (MDSF)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
8. Emergency requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
9. High dollar item requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
10. Local purchase requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11. Petty cash fund actions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
12. Expense equipment status	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
13. Investment equipment status	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
14. Backlog of equipment repair requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
15. Spare parts inventory	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
16. Sales by functional area	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
17. Product recalls, suspensions and alerts	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Atch Pg 6

Information Items:	Value of Information					Desired Frequency					Most Common Method				
	1=none	2=limited	3=moderate	4=high	5=very high	1=as required	2=quarterly	3=monthly	4=weekly	5=daily	1=none	2=in person	3=telephone	4>manual report	5=automated rpt
18. Reports of discrepancies in shipment	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
19. Support to nonmedical organizations	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
20. Base data processing support difficulties	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
21. Linen supply inventory	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
22. Customer complaints about support	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
23. Facility projects status	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
24. Housekeeping contract discrepancies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
25. Other service contract discrepancies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
26. Service contract awards	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
27. Security violations	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
28. Safety hazard reports	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
29. Hospital injuries (staff and patients)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
30. Backlog of Civil Engineering work orders	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
31. Fire drills	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
32. Vehicle discrepancies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
33. Vehicle replacement actions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
34. War Readiness Materiel (WRM) program percentages	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Atch Pg 7

Information Items:	Value of Information					Desired Frequency					Most Common Method				
	1=none	2=limited	3=moderate	4=high	5=very high	1=as required	2=quarterly	3=monthly	4=weekly	5=daily	1=none	2=in person	3=telephone	4>manual report	5=automated rpt
35. WRM funding and orders placed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
36. *Food service inventory adjustments	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
37. *Meals served/rations earned	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
38. *Medical food costs	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
39. Additional items: (please specify)															
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

(*applies only to facilities with food service and no assigned dietitian)

VI. Medical Resource Management Office

1. Section staffing	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Funding shortfalls and actions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Analysis of cost variations	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Overspending by functional areas	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Future budget preparations	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Medical Expense and Performance Reports (MEPR)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7. Cost audits	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Cost containment initiatives	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Atch Pg 9

Information Items:	Value of Information					Desired Frequency					Most Common Method				
	1=none	2=limited	3=moderate	4=high	5=very high	1=as required	2=quarterly	3=monthly	4=weekly	5=daily	1=none	2=in person	3=telephone	4>manual report	5=automated rpt
9. Patient payments for services	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
10. Delinquent patient accounts transferred out	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11. Medical Service Account discrepancies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
12. Military admitted to other facilities	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
13. Payments for civilian treatment of military members	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
14. Fees collected for medical record searches	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
15. Manpower priceouts	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
16. Increased manpower requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
17. Workload data by cost center	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
18. Workload audits	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
19. Productivity of providers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
20. Unit Personnel Management Roster discrepancies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
21. Internal inspection discrepancies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
22. Overdue internal inspections	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
23. Other agency inspections (e.g. HSMI & SAV)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
24. Suggestion Program data	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

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Information Items:	Value of Information					Desired Frequency					Most Common Method				
	1=none	2=limited	3=moderate	4=high	5=very high	1=as required	2=quarterly	3=monthly	4=weekly	5=daily	1=none	2=in person	3=telephone	4>manual report	5=automated rpt
25. Unit goals & objectives	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
26. Status of special studies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
27. *Status of medical systems projects	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
28. *Data automation requests	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
29. *Data processing difficulties (e.g. downtime)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
30. Additional items: (please specify)															
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

(*applies only to facilities without separate medical systems office)

ADDITIONAL COMMENTS:

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Appendix C: Questionnaire Write-ins and Comments

INFORMATION ITEM WRITE-INS: Any information item added by respondents was only mentioned by one respondent. Using the categories A=personnel and administrative services, B=patient affairs, C=medical logistics management, and D=medical resource management, the write-in information items are listed below by area. In addition, the information value rating given the write-in item by the respondent is provided.

<u>Area</u>	<u>Write-In Item Title</u>	<u>Value Rating</u>
A	Dormitory inspections	Moderate
B	DEERS checks	High
B	Patient travel orders	Moderate
B	Health care finder participation	High
C	Patient satisfaction	High
C	Sanitary inspections	High
C	Excess materiel	Moderate
C	Economic retention	Moderate

RESPONDENT COMMENTS:

One respondent commented that the manpower to implement any management reporting system should also be considered. Two respondents commented that the questionnaire was too lengthy. One respondent commented he/she felt automation was important for all types of information reporting.

**Appendix D: USAF Hospital Administrator
Rank Authorizations**

Listing of USAF Hospital Administrator rank authorizations, alphabetically by USAF Hospital base locations included in AFR 168-4.

<u>BASE LOCATION</u>	<u>AUTH RANK</u>	<u>BASE LOCATION</u>	<u>AUTH RANK</u>
Altus OK	LtCol	Langley VA	Col
Barksdale LA	LtCol	Laughlin TX	LtCol
Beale CA	LtCol	Little Rock AR	LtCol
Bergstrom TX	LtCol	Loring ME	Maj
Blytheville AR	Maj	Luke AZ	Col
Cannon NM	LtCol	Malmstrom MT	Maj
Castle CA	LtCol	Mather CA	Col
Chanute IL	LtCol	McConnell KS	Maj
Columbus MS	Maj	Moody GA	LtCol
Davis-Monthan AZ	Col	Mountain Home ID	Maj
Dover DE	LtCol	Myrtle Beach SC	Maj
Dyess TX	LtCol	Nellis NV	LtCol
Edwards CA	LtCol	Patrick FL	LtCol
Ellsworth SD	LtCol	Pease NH	LtCol
England LA	Maj	Plattsburgh NY	Maj
F.E. Warren WY	LtCol	Reese TX	LtCol
Fairchild WA	LtCol	Robins GA	LtCol
George CA	LtCol	Seymour Johnson	LtCol
Grand Forks ND	LtCol	Shaw SC	LtCol
Griffiss NY	LtCol	Tinker OK	LtCol
Grissom IN	Maj	Tyndall FL	LtCol
Hill UT	LtCol	USAF Academy CO	Col
Holloman NM	LtCol	Vandenburg CA	LtCol
Homestead FL	Col	Whiteman MO	Maj
KI Sawyer MI	Maj	Williams AZ	LtCol
Kirtland NM	LtCol	Wurtsmith	Maj

Note: Col=colonel; LtCol=lieutenant colonel; and Maj=major

**Appendix E: Synopsis of Information Item Ratings for
Personnel and Administrative Services**

Information items are numbered sequentially to correspond with their numbering on the survey questionnaire, with an abbreviated description of the item title included (see Appendix B for complete information item titles). For desired frequency and most common method, if the most common rating represents less than 50% of respondents and/or if there is a tie between two or more rating categories, the tied or second most common rating category is also shown after a slash (/). Synopsis of information item ratings:

<u>Item #</u>	<u>Description</u>	<u>Value Mean</u>	<u>Freq- uency*</u>	<u>%</u>	<u>Method**</u>	<u>%</u>
1	P&A staffing	3.87	M	53.3	M/A	43.3/ 30.0
2	Hosp turnover	3.80	M	66.7	M	56.7
3	Sponsor program	3.13	AR/M	43.3/ 36.7	M	53.3
4	209X discrep	3.00	AR	56.7	I/M	44.8/ 41.4
5	OJT training	3.63	M/Q	46.7/ 33.3	M	56.7
6	Physical fitness	3.10	Q/M	36.7/ 36.7	M	75.9
7	Discip actions	3.77	AR/M	41.4/ 31.0	M/I	48.3/ 44.8
8	Evaluations	4.07	M/AR	41.4/ 31.0	M	75.9
9	Mil decorations	3.47	AR/M	43.3/ 36.7	M	60.0
10	Military leaves	3.27	AR/M	40.0/ 23.3	M	56.7
11	Dep care program	3.07	Q/AR	44.8/ 37.9	M	55.2
12	Commanders call	3.40	Q/M	46.7/ 43.3	I	53.3
13	Overdue photos	2.87	AR	50.0	A/M/N	33.3/ 26.7/ 26.7
14	TDY requests	3.50	AR	63.3	M	66.7
15	Med library	3.10	AR	73.3	M	70.0
16	Telephone abuse	2.62	AR	65.5	M/N/I	44.8/ 20.7 20.7
17	Pubs & forms	3.40	AR/M	46.7/ 26.7	M	53.3
18	Telecomm	3.33	AR	73.3	M/I	36.7/ 30.0
19	Suspensing	4.21	D/AR	44.8/ 27.6	M	58.6
20	Security program	3.64	AR/Q	35.7/ 35.7	M/I	48.3/ 37.9

21	Civilian awards	3.41	AR	51.7	M	58.6
22	EEO actions	3.24	AR	82.8	I	58.6
23	Civ grievances	3.38	AR	89.3	I	64.3
24	Civ positions	3.35	AR	69.0	M	55.2
25	Med readiness	4.52	M	79.3	M/A	44.8/ 37.9
26	Mobility actions	4.48	M	64.3	M	50.0
27	SORTS reporting	4.55	M	86.2	M	58.6

*AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

**N=none, I=in person, T=telephone, M=manual report, and
A=automated report.

NOTES:

Value of Information: The overall mean value of information in this area is reported in Table 10 in Chapter IV.

Desired Frequency: For 16 of the 27 information items, information appears to be desired on an as required (ad hoc) basis, and in 3 cases ad hoc is a close second choice to another most commonly desired frequency. Monthly seems to be the second most common desired frequency, being reported in 7 cases as the most desireable, tying with another frequency as most desireable in another case, and being a close second choice as most desired frequency in another 6 cases.

Most Common Method: For 22 information items, manual report apparently is the most common method of obtaining the information, and for 2 items manual reporting is a close second to the most commonly reported method. In person seems to be the second most common method, being chosen as the most common method in four cases and a close second to the most commonly reported method for three other information items.

Appendix F: Synopsis of Information Item Ratings for Patient Affairs

Information items are numbered sequentially to correspond with their numbering on the survey questionnaire, with an abbreviated description of the item title included (see Appendix B for complete information titles). For desired frequency and most common method, if the most common ratings represents less than 50% of respondents and/or if there is a tie between two or more rating categories, the tied or second most common rating category is also shown after a slash (/). Synopsis of information item ratings:

<u>Item #</u>	<u>Description</u>	<u>Value Mean</u>	<u>Freq- uency*</u>	<u>%</u>	<u>Method**</u>	<u>%</u>
1	Section staffing	3.72	M/AR	42.9/ 39.3	M	53.6
2	Dispositions	3.59	D	65.5	A	79.3
3	Bed occupancy	4.10	D	65.5	A	58.6
4	Patient deaths	4.18	AR	60.7	I/T	42.9/ 35.7
5	Inhouse births	3.44	D/M	48.1/ 22.2	A	51.9
6	VSI, SI, III	3.96	AR	50.0	I/T	48.1/ 29.6
7	VIP patients	4.10	AR	58.6	I	53.6
8	Inpt file backlog	3.97	W/AR	41.4/ 24.1	M/I	44.8/ 37.9
9	Narr summaries	3.93	W/AR	44.8/ 31.0	M/I	48.3/ 27.6
10	Patient leaves	2.48	AR	72.4	M/N	44.8/ 34.5
11	Hosp staff pts	4.10	D	51.7	I	62.1
12	ER admissions	3.38	D	51.7	M/I	34.5 31.0
13	Readmissions	3.52	AR	51.7	M/I	31.0/ 27.6
14	Contagious dis	3.35	AR	59.3	I/M	48.1/ 25.9
15	Aeromed evacs	3.18	AR	57.1	M/I	42.9/ 35.7
16	Pts transferred	3.07	AR	64.3	I/M	46.4/ 25.0
17	Civilian patients	2.66	AR	53.6	N/I/M	32.1/ 28.6/ 28.6
18	Out file backlog	4.00	M/W	35.7/ 35.7	I	60.7
19	Appt waiting list	4.24	W/AR	39.3/ 25.0	M	62.1
20	Overdue records	3.14	AR/M/W	42.9/ 25.0 25.0	N/I	34.5/ 34.5
21	Emergency pts	3.54	D	71.4	M	60.7

22	Trans backlog	3.52	W/AR	41.4/ 34.5	I/M	37.9/ 37.9
23	Incompl records	3.39	W/AR	42.9/ 32.1	M/I	39.3/ 25.0
24	Records transf	2.00	AR	84.0	N	53.8
25	Records committee	3.31	M	71.4	M	71.4
26	Med info rqsts	2.59	AR	74.1	N/I/M	37.0/ 25.9/ 25.9
27	Pt complaints	4.29	M/AR	42.9/ 28.6	M	53.6
28	Med board actions	3.21	AR	50.0	M/I	48.1/ 22.2
29	Nonavail stmts	3.24	M	57.1	M	82.1
30	CHAMPUS claims	2.64	AR/M	36.0/ 32.0	M/I	34.6/ 26.9
31	Tumor registry	2.86	M	50.0	M/N	42.9/ 35.7
32	3rd party liab	3.03	AR/M	46.4/ 35.7	M/N	44.8/ 27.6
33	LOD determin	2.97	AR	67.9	N/I	41.4/ 27.6
34	Hosp incidents	4.57	D/AR	46.4/ 39.3	M	67.9
35	PRP reporting	4.21	AR/D	41.4/ 27.6	M/I	41.4/ 31.0

*AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

**N=none, I=in person, T=telephone, M=manual report, and
A=automated report.

NOTES:

Value of Information: The overall mean value of information in this area is reported in Table 10 in Chapter IV.

Desired Frequency: For 18 of the 35 information items, information apparently is most commonly desired on an ad hoc (as required) basis. This frequency is also second most commonly reported frequency for seven of the information items. For 6 of the 35 items, information appears to be most commonly desired on a monthly basis, and in 5 cases monthly is the second most commonly reported frequency.

Most Common Method: For 18 of the 35 information items, manual reporting is the most commonly reported method of obtaining information items, and is the second most commonly reported method for 5 items. In person appears to be the second most common method, being reported as the most common method for 8 items and the second most common method for 13 items.

**Appendix G: Synopsis of Information Item Ratings for
Medical Logistics Management**

Information items are numbered sequentially to correspond with their numbering on the survey questionnaire, with an abbreviated description of the item title included (see Appendix B for complete information item titles). For desired frequency and most common method, if the most common rating represents less than 50% of respondents and/or if there is a tie between two or more rating categories, the tied or second most common rating category is also shown after a slash (/). Synopsis of information item ratings:

<u>Item #</u>	<u>Description</u>	<u>Value Mean</u>	<u>Freq- uency*</u>	<u>%</u>	<u>Method</u>	<u>%</u>
1	Section staffing	3.69	M/AR	41.4/ 37.9	M/I	44.8/ 31.0
2	MDSF fill rates	3.48	M	93.1	A	58.6
3	MDSF inventory	3.45	AR	71.4	A	60.7
4	Inven turnover	3.14	M	53.6	A	50.0
5	Crit backorders	4.17	AR/W	34.5/ 27.6	A/I	34.5/ 31.0
6	Out of stock	3.83	AR/M/W	48.3/ 20.7 20.7	A/I	34.5/ 31.0
7	Receipts vs sales	3.17	M	55.2	A	51.7
8	Emergency rqsts	3.86	AR/D	44.8/ 31.0	I/N	37.9/ 20.7
9	High dollar items	3.41	M/AR/Q	31.0/ 27.6 27.6	A	62.1
10	Local purchase	3.41	M/AR	41.4/ 27.6	M/A	48.3/ 31.0
11	Petty cash	2.05	AR	68.4	N	60.0
12	Expense equip	3.97	M	86.2	M	65.5
13	Investment equip	3.97	M	86.2	M	65.5
14	Equip repairs	3.59	M	51.7	M/A	27.6/ 27.6
15	Spare parts	2.72	AR	55.2	A/N	41.4/ 34.5
16	Sales by area	3.07	M	58.6	A	62.1
17	Product recalls	3.97	AR	58.6	M	50.0
18	Ship discrep	2.72	AR	75.0	N/I	39.3/ 28.6
19	Nonmed support	2.57	AR	57.1	N/A	46.4/ 21.4
20	Base DP support	3.74	AR	74.1	I	63.0
21	Linen supply	2.86	AR	53.6	N/M	28.6/ 28.6
22	Cust complaints	4.18	AR	57.1	I	64.3
23	Facility projects	4.25	M	67.9	M/A	46.4/ 28.6
24	Hskpg contract	3.50	AR/M	46.4/ 21.4	I/M	46.4/ 39.3

25	Contract discrep	3.39	AR	53.6	I/M	46.4/ 32.1
26	Contract awards	3.48	AR	82.1	I	59.3
27	Security viol	4.29	AR	64.3	I	60.7
28	Safety hazards	4.36	AR/D	46.4/ 25.0	I	53.6
29	Hosp injuries	4.61	AR	53.6	I	50.0
30	CE workorders	3.75	M	67.9	M/I	42.9/ 28.6
31	Fire drills	3.74	M/Q	48.1/ 37.0	M	55.6
32	Vehicle discrep	3.54	AR/M	39.3/ 28.6	I	51.9
33	Vehicle replace	3.18	AR	67.9	I/M	35.7/ 28.6
34	WRM percentages	4.07	M	78.6	A	60.7
35	WRM funds	3.68	M/AR	46.4/ 35.7	I/A	39.3/ 28.6
36	Food service	3.21	M	60.9	M	70.8
37	Meals served	3.04	M	78.3	M	75.0
38	Food costs	3.00	M	73.9	M	70.8

*AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

**N=none, I=in person, T=telephone, M=manual report, and
A=automated report.

NOTES:

Value of Information: The overall mean value of information in this area is reported in Table 10 in Chapter IV.

Desired Frequency: For 20 of the 38 items, ad hoc (as required) frequency appears to be the most commonly desired frequency and is the second choice for 4 items. Monthly reporting is another very commonly desired frequency, being the most commonly reported frequency for 18 of the 38 items, and the second frequency choice for 3 items.

Most Common Method: In person and manual reporting are tied for the most commonly reported method of obtaining information, both rating categories being chosen as the most commonly reported method for 12 information items. Automated reporting appears to be used very frequently also, as reflected in this method being chosen as the most common for 10 of the 38 items.

**Appendix H: Synopsis of Information Item Ratings for
Medical Resource Management**

Information items are numbered sequentially to correspond with their numbering on the survey questionnaire, with an abbreviated description of the item title included (see Appendix B for complete information item titles). For desired frequency and most common method, if the most common rating represents less than 50% of respondents and/or if there is a tie between two or more rating categories, the tied or second most common rating category is also shown after a slash (/). Synopsis of information item ratings:

<u>Item #</u>	<u>Description</u>	<u>Value Mean</u>	<u>Freq- uency*</u>	<u>%</u>	<u>Method**</u>	<u>%</u>
1	Section staffing	3.68	M	63.0	I/M	39.3/ 39.3
2	Fund shortfalls	4.50	M	53.6	M	53.6
3	Cost variations	3.79	M	53.6	M	60.7
4	Overspending	3.79	M	67.9	A/M	39.3/ 32.1
5	Future budget	3.96	AR	70.4	M	57.1
6	MEPR reports	3.33	M/Q	48.1/ 40.7	A	92.6
7	Cost audits	3.50	AR/Q	34.6/ 34.6	A	53.8
8	Cost containment	3.82	AR	57.1	M	63.0
9	Patient payments	2.71	AR/M	46.4/ 39.3	M	59.3
10	Delinquent accounts	2.89	AR/Q	40.7/ 37.0	M	59.3
11	MSA discrepancies	3.89	M	51.9	M	59.3
12	Admissions other	3.59	AR	59.3	M/I	33.3/ 25.9
13	Other payments	3.59	AR	50.0	M	56.0
14	Search fees	2.00	AR	66.7	N	51.9
15	Manpower priceouts	4.26	AR	63.0	M	59.3
16	Manpower requests	4.00	AR	84.6	M	50.0
17	Workload data	3.74	M	70.4	M	63.0
18	Workload audits	3.37	M	55.6	M	66.7
19	Provider produc	4.46	M	88.9	M	51.9
20	UPMR discrep	2.96	M/AR	48.1/ 44.4	A/M	33.3/ 25.9
21	Int insp discrep	4.11	M	55.6	M	51.9
22	Overdue int insp	4.26	M	55.6	M/I	40.7/ 25.9
23	Other agency insp	4.44	AR	55.6	M	70.4
24	Suggestion program	2.67	Q/AR/M	38.5/ 30.8/ 30.8	M	61.5
25	Unit goals	3.89	Q	55.6	M	81.5
26	Special studies	3.63	M	59.3	M	77.8

27	Med sys projects	3.65	AR/Q/M	42.3/ 26.9/ 26.9	I/M	42.3/ 34.6
28	Automation rqsts	3.27	AR	57.7	M/I	38.5/ 23.1
29	DP difficulties	3.65	AR	73.1	I	61.5

*AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

**N=none, I=in person, T=telephone, M=manual report, and
A=automated report.

NOTES:

Value of Information: The overall mean value of information in this area is reported in Table 10 in Chapter IV.

Desired Frequency: For 14 of the 29 items, the most commonly reported desired frequency appears to be ad hoc (as required), and this frequency is the second most common choice for 2 items. Monthly is also a very commonly reported desired frequency, being the most common for 13 of the 29 information items, and second most common for 3 items.

Most Common Method: Manual reporting seems to be the most commonly reported method of obtaining information, being identified as most common for 21 of the 29 information items, and a second most commonly reported method for 4 items.

**Appendix I: Mean Value Ratings Analysis
by Experience Groups**

Results of t-tests on mean value ratings for experienced and less experienced respondent groups, for 129 information items. See questionnaire in Appendix B for item descriptions. Also see Chapter IV for further discussion and definition of groupings. Exp=experienced and Ixp=less experienced, and Prob=probability significance level.

<u>Area & Item #</u>	<u>Exp Mean Value</u>	<u>Ixp Mean Value</u>	<u>T-test</u>	<u>Prob</u>
A1	3.875	3.750	.2659	.7942
A2	3.875	3.375	1.7168	.1080
A3	3.000	3.000	0.0000	1.0000
A4	3.125	2.625	1.1412	.2729
A5	4.125	3.250	2.2626	.0401*
A6	3.500	2.875	1.3035	.2134
A7	3.875	3.750	.2182	.8301
A8	4.500	3.375	2.6790	.0180*
A9	3.875	2.750	2.3932	.0313*
A10	3.750	3.000	1.5275	.1489
A11	3.375	2.857	1.1013	.2908
A12	3.250	3.500	.4035	.6927
A13	2.750	2.750	0.0000	1.0000
A14	3.750	3.250	.9075	.3795
A15	3.000	3.125	.2277	.8232
A16	2.250	2.625	.8321	.4193
A17	3.750	3.500	.4035	.6927
A18	3.625	3.500	.2000	.8444
A19	4.500	4.500	0.0000	1.0000
A20	3.875	3.571	.5960	.5614
A21	3.625	3.250	1.0333	.3190
A22	3.875	2.625	2.6197	.0202*
A23	3.875	3.000	1.5072	.1540
A24	3.750	2.625	3.6313	.0027*
A25	4.875	4.375	1.7168	.1080
A26	4.625	4.375	.7802	.4483
A27	4.750	4.500	1.0000	.3343
B1	3.750	3.625	.3444	.7356
B2	3.625	3.125	.9142	.3761
B3	4.000	4.375	1.4256	.1759
B4	4.000	4.375	.7014	.4954
B5	3.143	3.625	.9413	.3637
B6	3.571	4.250	1.3005	.2160
B7	3.875	4.000	.2277	.8232
B8	4.000	4.125	.2837	.7808
B9	3.875	4.125	.5458	.5938
B10	2.125	2.250	.2659	.7942
B11	3.875	4.625	2.1602	.0486
B12	3.625	3.000	1.1739	.2600

B13	4.000	3.000	1.8708	.0824
B14	3.250	3.375	.1726	.8654
B15	3.429	3.000	.9579	.3556
B16	3.143	3.250	.2319	.8202
B17	2.750	2.500	.3859	.7054
B18	4.250	4.250	0.0000	1.0000
B19	4.375	4.375	0.0000	1.0000
B20	3.571	2.875	1.3674	.1947
B21	3.375	3.429	.1205	.9059
B22	3.625	3.625	0.0000	1.0000
B23	3.625	3.286	.7749	.4522
B24	1.875	2.000	.2837	.7808
B25	3.250	3.250	0.0000	1.0000
B26	2.750	2.750	0.0000	1.0000
B27	4.125	4.375	.6325	.5373
B28	3.250	2.875	.6547	.5233
B29	3.500	3.250	1.0000	.3343
B30	2.250	3.000	1.5408	.1474
B31	3.250	2.500	1.0000	.3343
B32	3.250	3.000	.4472	.6616
B33	3.125	2.750	.5681	.5788
B34	4.750	4.857	.4862	.6349
B35	4.250	4.125	.2467	.8087
C1	3.750	3.500	.6070	.5536
C2	3.750	3.250	1.4142	.1792
C3	3.500	3.375	.3333	.7438
C4	3.125	3.000	.3568	.7266
C5	4.250	4.250	0.0000	1.0000
C6	4.000	3.750	.6831	.5057
C7	3.250	3.000	.6070	.5536
C8	4.125	3.625	1.1412	.2729
C9	3.625	3.250	.8321	.4193
C10	3.875	3.000	3.8617	.0017*
C11	2.000	2.000	0.0000	1.0000
C12	4.000	4.125	1.0000	.3343
C13	4.000	4.125	1.0000	.3343
C14	3.750	3.375	.8321	.4193
C15	2.875	2.500	.6831	.5057
C16	3.500	2.875	1.5700	.1387
C17	4.250	3.875	.6217	.5441
C18	3.000	2.625	.7043	.4928
C19	2.500	2.571	.1792	.8606
C20	3.714	4.000	.6030	.5577
C21	2.875	2.714	.3885	.7039
C22	4.000	4.429	1.0750	.3019
C23	4.250	4.429	.6939	.5000
C24	3.625	3.429	.5788	.5726
C25	3.500	3.289	.5477	.5932
C26	3.714	3.289	k.9333	.3691
C27	4.625	4.286	.7749	.4522
C28	4.250	4.286	.0945	.9261
C29	4.375	4.714	1.3005	.2160
C30	3.875	3.429	1.9328	.0753
C31	4.286	3.142	2.9542	.0120*

C32	3.875	3.286	1.4247	.1778
C33	3.375	3.429	.1579	.8770
C34	4.000	4.286	.7303	.4782
C35	3.750	4.000	.5651	.5817
C36	3.714	3.429	.6124	.5517
C37	3.571	3.143	.9487	.3615
C38	3.571	3.000	1.1882	.2577
D1	3.500	3.714	.6407	.5320
D2	4.500	4.714	.8062	.4346
D3	4.000	3.857	.4516	.6590
D4	4.000	4.000	0.0000	1.0000
D5	3.875	4.286	1.1396	.2750
D6	3.571	3.429	.5000	.6261
D7	3.714	3.429	1.0445	.3169
D8	3.857	3.857	0.0000	1.0000
D9	2.875	2.857	.0267	.9791
D10	3.125	3.286	.2960	.7719
D11	3.857	3.714	.2887	.7778
D12	3.714	3.857	.3693	.7184
D13	3.857	3.714	.3693	.7184
D14	1.857	1.857	0.0000	1.0000
D15	4.286	4.286	0.0000	1.0000
D16	4.000	4.286	.7310	.4800
D17	3.714	3.571	.4082	.6903
D18	3.571	3.143	1.2990	.2183
D19	4.429	4.667	.8131	.4334
D20	3.143	2.714	.6882	.5044
D21	4.286	4.429	.5222	.6110
D22	4.286	4.714	1.6432	.1263
D23	4.571	4.714	.5222	.6110
D24	3.143	3.000	.5477	.5939
D25	3.714	4.143	.9649	.3536
D26	3.857	3.571	.8660	.4035
D27	3.714	3.857	.3693	.7181
D28	3.429	3.429	0.0000	1.0000
D29	3.714	3.714	0.0000	1.0000

*Significant difference at the .05 significance level.
See Chapter IV for discussion.

Appendix J: Desired Frequencies for Highly Valued Information Items

The 28 highly valued information items are listed below by area, separated into the most highly valued and highly valued categories. The number of ratings in the desired frequency categories are shown below for each item. The number of ratings is followed by a slash (/) and then the percentage of total responses this number represents. See the listing of highly valued items in Table 34 in Chapter IV or the questionnaire in Appendix B for item descriptions. AR=as required, Q=quarterly, M=monthly, W=weekly, and D=daily.

<u>Area</u>	<u>Item #</u>	<u>AR</u>	<u>Q</u>	<u>M</u>	<u>W</u>	<u>D</u>
Most Highly Valued:						
A	25		4/13.8	23/79.3	2/ 6.9	
A	27	2/ 6.9	1/ 3.4	25/86.2	1/ 3.4	
B	34	11/39.3		3/10.7	1/ 3.6	13/46.4
C	29	15/53.6		5/17.9		8/28.6
D	2	8/28.6	1/ 3.6	15/53.6	4/14.3	
Highly Valued:						
A	8	9/31.0	2/ 6.9	12/41.4	4/13.8	2/ 6.9
A	19	8/27.6		3/10.3	5/17.2	13/44.8
A	26	5/17.9	3/10.7	18/64.3	2/ 7.1	
B	3	1/ 3.4	1/ 3.4	6/20.7	2/ 6.9	19/65.5
B	4	17/60.7	1/ 3.6	1/ 3.6		9/32.1
B	7	17/58.6	1/ 3.4			11/37.9
B	11	14/48.3				15/51.7
B	18	7/25.0		10/35.7	10/35.7	1/ 3.6
B	19	7/25.0		5/17.9	11/39.3	5/17.9
B	27	8/28.6	1/ 3.6	12/42.9	2/ 7.1	5/17.9
B	35	12/41.4	1/ 3.4	5/17.2	3/10.3	8/27.6
C	5	10/34.5		7/24.1	8/27.6	4/13.8
C	22	16/57.1	1/ 3.6	4/14.3	4/14.3	3/10.7
C	27	18/64.3	2/ 7.1	1/ 3.6		7/25.0
C	28	13/46.4	1/ 3.6	6/21.4	1/ 3.6	7/25.0
C	34		6/21.4	22/78.6		
D	15	17/63.0	6/22.2	4/14.8		
D	16	22/84.6	1/ 3.8	2/ 7.7	1/ 3.8	
D	19			24/88.9	2/ 7.4	1/ 3.7
D	21	5/18.5	7/25.9	15/55.6		
D	22	8/29.6	2/ 7.4	15/55.6	2/ 7.4	
D	23	15/55.6	4/14.8	8/29.6		

Appendix K: Most Common Method for Highly Valued Information Items

The 28 highly valued information items are listed below by area, separated into the most highly valued and highly valued categories. The number of ratings in the most common method categories are shown below for each item. The number of ratings is followed by a slash (/) and then the percentage of total responses this number represents. See the listing of highly valued items in Table 34 in Chapter IV or the questionnaire in Appendix B for item descriptions. N=none, I=in person, T=telephone, M=manual report, and A=automated report.

<u>Area</u>	<u>Item #</u>	<u>N</u>	<u>I</u>	<u>T</u>	<u>M</u>	<u>A</u>
Most Highly Valued:						
A	25	1/ 3.4	4/13.8		13/44.8	11/37.9
A	27	1/ 3.4	4/13.8		17/58.6	7/24.1
B	34	1/ 3.6	5/17.9		19/67.9	3/10.7
C	29		14/50.0	1/3.6	12/42.9	1/ 3.6
D	2		5/17.9	1/3.6	15/53.6	7/25.0
Highly Valued:						
A	8	1/ 3.4	3/10.3		22/75.9	3/10.3
A	19	2/ 6.9	9/31.0		17/58.6	1/ 3.4
A	26	1/ 3.6	6/21.4		14/50.0	7/25.0
B	3		6/20.7		6/20.7	17/58.6
B	4		12/42.9	10/35.7	2/ 7.1	4/14.3
B	7	3/10.7	15/53.6	6/21.4	3/10.7	1/ 3.6
B	11		18/62.1	3/10.3	8/27.6	
B	18	3/10.7	17/60.7		8/28.6	
B	19	5/17.2	6/20.7		18/62.1	
B	27	1/ 3.6	10/35.7	1/ 3.6	15/53.6	1/ 3.6
B	35	6/20.7	9/31.0	1/ 3.4	12/41.4	1/ 3.4
C	5	5/17.2	9/31.0	1/ 3.4	4/13.8	10/34.5
C	22	3/10.7	18/64.3	3/10.7	3/10.7	1/ 3.6
C	23	1/ 3.6	5/17.9	1/ 3.6	13/46.4	8/28.6
C	27	3/10.7	17/60.7	1/ 3.6	6/21.4	1/ 3.6
C	28		15/53.6	2/ 7.1	9/32.1	2/ 7.1
C	34		2/ 7.1		9/32.1	17/60.7
D	15		3/11.1		16/59.3	8/29.6
D	16	3/11.5	7/26.9	1/ 3.8	13/50.0	2/ 7.7
D	19				14/51.9	13/48.1
D	21		3/11.1		14/51.9	10/37.0
D	22	3/11.1	7/25.9	1/ 3.7	11/40.7	5/18.5
D	23		3/11.1		19/70.4	5/18.5

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Vita

Captain Carol F. Parker was born on 27 September 1955 in Lancaster, Wisconsin. She graduated from West Grant High School in Patch Grove, Wisconsin in 1973 and attended the University of Wisconsin-Platteville for one semester. In April 1975 she enlisted in the United States Air Force as a medical administrative specialist. She served tours in that capacity at Incirlik, Turkey, RAF Upper Heyford, England, and Cannon AFB, New Mexico from 1975 to 1981. She attended college part-time during these years, and obtained a Bachelor of Science degree in Business and Management from the University of Maryland in 1981, and was commissioned in the Air Force Medical Service Corps that same year. She has since been assigned to McGuire AFB, New Jersey and Travis AFB, California in varying hospital administrative roles. She entered the School of Systems and Logistics, Air Force Institute of Technology, in May 1986.

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