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RISK IDENTIFICATION SYSTEMS IN
HOSPITALS
IN THE STATE OF CALIFORNIA

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Health Care Administration

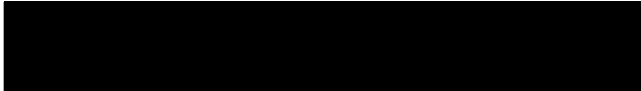
by
B. Jean DeVaney
June 1993

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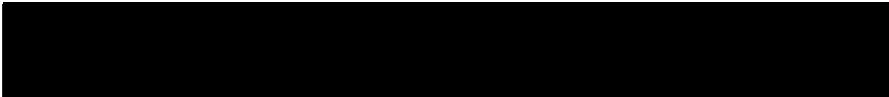
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ABSTRACT

The purpose of this research was to address the extent to which hospitals in the state of California have made changes in their risk identification systems as a result of the 1986 Joint Commission on Accreditation of Healthcare Organizations (JCAHO) mandate for integration of risk management and quality assurance functions. Also, to determine which risk identification systems hospitals use in identifying incidents that require monitoring by risk management and quality assurance functions.

The research addressed issues such as the benefit of one risk identification system over another in accomplishing management objectives in identifying risk management and quality assurance issues. It looked at the costs of maintaining these systems in terms of staff, equipment, etc., and at whether risk identification systems are computerized. Finally, the research discussed whether hospitals have staff dedicated to maintaining their risk identification systems and it looked at the job classifications and responsibilities of those staff.

Data were collected by means of a self-administered questionnaire which was mailed to risk managers in the 247 hospitals throughout the state of California having 150 or more beds.

This research documented that hospitals have not made significant changes in their risk identification systems as a result of the JCAHO mandate. The majority of hospitals surveyed already had systems in place prior to 1986 and had made no modifications to accommodate the JCAHO integration process.

Incident reporting was the most commonly used system, the notification system followed in popularity, then occurrence screening and occurrence reporting. Most of the respondents believed their hospital's system accomplished the primary risk identification objectives of their organization. Those hospitals using occurrence screening systems and notification systems rated their satisfaction with that system accomplishing risk identification objectives somewhat higher, however. And most hospitals had these systems at least partially computerized.

The research was not successful in identifying costs involved in maintaining risk identification systems. It appears that this information is not broken out specifically, therefore was not readily available to respondents.

Staff responsible for maintaining risk identification systems of responding hospitals were varied in job classifications and in the other duties they performed. Most were risk management or quality assurance professionals, but some included infection control, safety,

medical staff, human resources, and patient relations among their responsibilities.

Hospitals long ago recognized the need for established risk identification programs that served the needs of both risk management and quality assurance, and they also recognized the need for these two disciplines to share information from those systems.

Results of this research may help hospital management better understanding risk identifications systems and enable them to make informed decisions for their hospitals.

ACKNOWLEDGMENTS

Support, encouragement and funding by Valley Health System made this study possible. Valley Health System committed staff, expertise, computer resources and educational funding.

Thank you to the family and friends of the author for their patience and understanding. A special thanks to the author's husband for his understanding, but not always his patience.

TABLE OF CONTENTS

Abstract iii

Acknowledgments vi

List of Tables vii

Introduction 1

 Risk Identification Systems 2

 The Need for Risk Identification Systems 4

 Research Problem 5

Review of Related Literature 7

 Incident Reporting System 7

 Incident Report 7

 Notification System 9

 Notification Form 9

 Converting Incident Report for Medical Staff Use . . 10

 Occurrence Reporting System 11

 Informal Risk Identification Systems 11

 Occurrence Screening System 12

 Selecting a Risk Identification System 13

 Research Questions 16

Methodology 18

 Instrument 18

 Field Testing 18

 Study Population 18

 Control (ownership) 19

 Statistics 20

| | |
|---|----|
| Type of Service | 21 |
| Length of Stay | 22 |
| Size of Respondent Hospitals | 23 |
| Summary | 24 |
| Results | 25 |
| Risk Identification Systems | 25 |
| Systems by Ownership | 28 |
| Systems by Bed Size | 29 |
| Implementation | 32 |
| Modifications | 32 |
| Primary Objectives | 33 |
| Computerized Risk Identification Systems | 37 |
| Software | 39 |
| Dedicated Staff | 41 |
| Cost | 43 |
| Determination of System Use | 43 |
| Job Title | 44 |
| Receiving Incident Reports or Notification Forms | 45 |
| Reviewing Incident Reports or Notification Forms | 47 |
| Incident Reports or Notification Forms Trends & Analysis | 48 |
| Claims/lawsuits Management | 48 |
| Departmental Risk Assessment | 48 |
| Quality Assurance Program Responsibilities | 48 |
| Summary and Discussion | 51 |
| Limitations of the Study | 55 |

| | |
|---|----|
| Future Research | 55 |
| Appendix A: Survey of Risk Identification Systems . . . | 57 |
| Appendix B: Code Book | 61 |
| Bibliography | 69 |

LIST OF TABLES

| | | |
|--------------|--|----|
| Table No. 1 | Comparison of Hospitals in the Nation, California and Survey Hospitals 150 Beds +, By Ownership Type | 20 |
| Table No. 2 | Comparison of All California & Survey Hospitals 150 Beds +, By Service | 22 |
| Table No. 3 | National, California & Survey Hospitals, By Bed Size | 24 |
| Table No. 4 | Risk Identification Systems Used | 27 |
| Table No. 5 | Number of Combinations of Risk Identification Systems | 27 |
| Table No. 6 | Percent of Hospitals Citing System Use, By Ownership Category | 30 |
| Table No. 7 | Percent of Hospitals Citing System Use, By Bed Size | 31 |
| Table No. 8 | Whether Primary Objectives Were Met . . . | 35 |
| Table No. 9 | Whether Primary objectives Met, By Type of Service for Hospitals Having System . . . | 36 |
| Table No. 10 | Whether Primary Objectives Met, By Type of System for Hospitals Using Sole System . . | 36 |
| Table No. 11 | Status of Computerized Risk Identification System | 38 |
| Table No. 12 | Risk Identification System Computerized, By Type of System | 38 |
| Table No. 13 | Computerized By Ownership Category | 39 |
| Table No. 14 | Commercial Risk Identification System . . | 40 |
| Table No. 15 | Type of Software Used | 40 |
| Table No. 16 | Staff Dedicated to Maintaining Risk Identification System | 42 |

| | | |
|--------------|--|----|
| Table No. 17 | Dedicated Staff, By Ownership | 42 |
| Table No. 18 | How Determination to Use System Made . . . | 44 |
| Table No. 19 | Job Titles of Respondents | 46 |
| Table No. 20 | Job Titles of Bosses, By Category | 47 |
| Table No. 21 | Responsibilities | 50 |

INTRODUCTION

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is a voluntary accreditation organization which services hospitals throughout the nation through surveys and quality assessment. Although maintaining compliance with JCAHO requirements is costly and time consuming, hospitals do so to affirm their commitment to high quality and to providing an acceptable standard of care for their patients. JCAHO accreditation is recognized by the public, licensing bodies, insurance companies, and by the federal Medicare program, as setting standards of quality. Having JCAHO accreditation status is very important to the community's perception of the hospital and to the hospital's financial well-being. Hospitals that are not accredited may be considered poor providers of care and may be refused insurance reimbursement for services.

Historically, JCAHO has measured quality by looking at the structure and process of the organization. Hospitals were asked to identify problems and correct them. In 1986, JCAHO began discussing its "Agenda for Change" which is a new concept for measuring quality of patient care. JCAHO is adapting its standards through the year 2000 to a concern for quality (Press, 1992). Now, the focus is more "outcome" oriented. Hospitals are asked to develop a management philosophy of Continuous Quality Improvement (CQI) based on

prevention of adverse outcomes to their patients. In other words, hospitals are expected to systematically build quality into the delivery of patient care. The overriding goal is to reduce risk through a coordinated effort in order to improve the quality of care (Deming, 1992).

To assure that all sources of risks to the patient's well-being are identified, JCAHO has mandated that risk management and quality assurance functions be integrated, but gives no specific directions on how this might be accomplished. It projected that by 1992 new standards would be in place that emphasize data-driven quality assurance and include measures of organizational as well as clinical performance (Lee 1990). Hospitals must now show that information on identified risks is being dealt with by both risk management and quality assurance disciplines. One consequence of this mandate might be to cause hospitals to make changes in the risk identification systems being used in order to show this integration.

Risk Identification Systems

Manufacturers of computer software began designing programs to accommodate the integration and have even projected that hospital risk identification systems will have to be computerized in order to comply with JCAHO requirements (Bushelle 1988; Demos 1989; DiBlase 1989; Richman 1987). However, JCAHO has not made this dictum.

Hospitals use risk identification systems to identify incidents (adverse occurrences) or risk situations that may result in loss to the institution. The terms "incident" and "adverse occurrence" are usually synonymous. An incident or adverse occurrence is defined as any event or circumstance not consistent with the normal routine operations of the hospital and its staff or the routine care of the patient (Monagle 1985; Valley Health System 1992). Both the disciplines of risk management and quality assurance are interested in risk identification systems. Both use information from the same source, only their focus is different (Monagle 1988). Risk management is concerned with identifying and eliminating or reducing causes of loss to the organization while quality assurance is dedicated to assuring that patients receive quality care.

Recording and documenting of incidents is important to risk management programs. Risk management must identify immediate or future problems in order to reduce or minimize threat of losses and for prevention of future losses (Head, et al. 1985). Risk management is concerned with eliminating the causes of loss experienced by the hospital and its patients, employees and visitors. The discipline focus is on the safety and security of employees and visitors, hospital property, and the quality of patient care (Furrow et al. 1987). Risk management is focused on financial liability awareness and is defined as the science of

identifying, monitoring, tracking, trending, evaluating, correcting and ensuring against risks that could cause financial loss (Monagle 1988).

Recording and documenting incidents is also important to quality assurance. Quality assurance programs look at trends and patterns of care and consider a wide range of quality concerns. The focus of quality assurance is on continued assessment and improvement of patient care. Hospital committees oversee the quality of various hospital functions, and carry out activities mandated by JCAHO standards, or as regulated by state law. Even though these committees are the most significant tools of hospital quality assurance, an effective and efficient system based on data collection and analysis for reporting adverse occurrences is germane to quality assurance programs just as it is to risk management programs (Furrow et al. 1987; Fagerhaugh, et al. 1987).

The means of identifying potential risks and loss-producing events range from the informal to the formal, and should include a computerized risk-identification system (Bushelle 1988; 1990; Demos 1989; DiBlase, 1989; Richman 1987; Vanagunas 1990).

The Need for Risk Identification Systems

All hospitals use at least one type of formal system of risk identification found either in the risk management department or the quality assurance department.

Risk identification systems are an important component of hospitals' information systems. They are important to financial operations, vital to identifying areas of improvement in quality of care, and are a criterion for JCAHO accreditation. Yet hospital managers have little in the way of specific recommendations for implementation.

Research Problem

This research project addresses the extent to which hospitals have made changes in their risk identification systems as a result of the JCAHO mandate for integration of risk management and quality assurance functions. The study seeks answers to questions about the benefit of one system over another in terms of accomplishing management objectives in identifying risk management and quality assurance issues. It addresses the costs expended by hospitals in maintaining their systems. The project looks at whether risk identification systems are computerized, and, if so, is commercial software used? Also, it addresses the allocation by hospitals of staff dedicated to maintaining systems and asks the job titles and responsibilities of that staff.

The purpose of this research is to determine which system, or combination of systems, hospitals in California use and whether the JCAHO mandate for integration of risk management and quality assurance functions had an influence on those choices.

It is anticipated that results of the research may help hospital management better understand the differences in the various reporting systems. This understanding will enable management to determine how the different systems might benefit their hospital, and whether it is necessary to use more than one type of system. A knowledgeable decision regarding a hospital's risk identification system could result in savings of organizational resources of money and personnel's time, as well as creating a more efficient system focused on the desired outcome.

REVIEW OF RELATED LITERATURE

There are two primary approaches for documenting and recording adverse occurrences, using forms, the incident report form and the notification form. Each is the foundation of a risk identification system. The incident report is used by risk management for identifying problems, and the notification form is often used by quality assurance to identify quality of care issues. In recent years, occurrence screening and occurrence reporting forms have been developed to enhance data gathering for quality assurance activities.

Incident Reporting System

The most common risk identification system in use in hospitals is based on an incident report as a means of documenting and reporting an adverse occurrence that might be a potential risk of loss to an organization (Risk Reporter May-June 1992). An organization can have many exposures to potential loss, financial or otherwise. Examples of financial losses are legal claims or lawsuits that cost money to defend or pay damages on, and loss of or damage to property and equipment that cost money to repair or replace. A loss exposure may also mean loss of reputation or employee morale.

Incident Report. An incident report is an administrative document and is defined as a confidential

communication to the hospital's liability insurance attorney. It is sometimes called a report to attorney (St. Joseph Health System 1990). The incident report form requests general information on individuals involved in an incident (name, age, sex) and asks the writer to describe details of the incident and any follow-up activities conducted.

Commercial insurance companies developed this form of loss notification in the early 1970s and it was adopted for use in the majority of American hospitals (Bird 1982; Vanagunas 1990). The intent of the incident report is to facilitate documentation and early warning of patient injuries, adverse outcomes, or unexpected occurrences (Mansfield and Schoffs 1990; Orlikoff 1981).

An effective risk management program relies heavily on the generation and use of the incident report (Kapp 1986). Incident reports are a flag to risk management that a risk situation has occurred so follow-up activities can be taken to either reduce the magnitude of the loss or prevent further damage from occurring. For example, if risk management is notified that a patient has fallen while in the hospital and fractured a hip. An investigation is conducted to find out if the hospital had any liability for the incident. If there was liability, negotiations can be commenced to determine how payment for additional medical expenses will be handled, or the situation might simply

warrant that public relations measures be implemented. Because an incident report is prepared in anticipation of litigation, it is provided confidential protection via attorney-client work product (CAHHS 1990). In the state of California, an incident report is not discoverable in a lawsuit (Sierra Vista Hospital v. Superior Court). This means that only the hospital and its legal counsel may have access to incident report information which could be very important to the investigation of a lawsuit.

Notification System

Notification systems were developed as an alternative to the incident report (CAHHS 1990). These systems are generally used in the quality assurance discipline. Quality assurance activities are focused on a concern for improving patient care to an optimal level. Notification systems are designed for the ongoing collection of data that can identify adverse trends and patterns so that corrective action can be taken to improve the quality of care patients receive.

Notification Form. The notification form is a tool for the quality assurance function and seeks much the same information as the incident report form. When an incident occurs, a notification form is completed by hospital personnel and is transmitted to the medical staff committee with responsibility for the hospital's quality assurance program. Since this type of report is not prepared for the

hospital's attorney for use in litigation, it is not protected by attorney-client privilege. The notification form and information contained therein is, however, granted confidential protection by Section 1157 of the Evidence Code of the State of California. Section 1157 provides immunity from discovery for both proceedings and records of organized committee activities (as defined in Section 805 of the Business and Professions Code) of hospital medical staffs.

Converting Incident Report for Medical Staff Use

Because the incident report is an administrative document, it cannot be used by a hospital's medical staff committee without risk of loss of the confidential protections afforded by attorney-client privilege. The incident report can, however, be converted to a medical staff document when appropriately designated by hospital and medical staff bylaws and rules and regulations, and still be afforded the confidential protections of Evidence Code 1157 (CAHHS 1990). This means the report can be used in risk management and the same information can be abstracted from the report and used by quality assurance for medical staff peer review activities.

When used for dual purposes, the incident report can assist in identifying deficits in hospital systems and serve as evidence for defense of an actual or potential lawsuit (Devine and McClure 1988). John E. Monagle, Ph.D. (Monagle 1993) speculates that the JCAHO mandate for integration of

risk management and quality assurance strengthens the legal basis for the protection of any information converted for use in quality assurance activities.

Occurrence screening and occurrence reporting are extensions of the incident report and notification systems. These systems seek to obtain the same basic information and utilize that information for quality assurance activities.

Occurrence Reporting System

Hospitals choosing this system can use an incident report form, but reporting is based on clearly established reporting criteria. Occurrence reporting goes hand-in-hand with the occurrence screening process. Hospital staff members are educated so that each employee of the hospital clearly understands what constitutes a reportable occurrence (Vanagunas 1990). Occurrence screening data is recorded on the occurrence reporting form.

The same types of incidents reported through incident reporting and notification systems can also be reported through occurrence screening/reporting systems. Some examples of criteria for reporting might include unexpected cardiac/respiratory arrest, unexpected death, and slip and/or fall (Mansfield and Schoffs, 1990).

Informal Risk Identification Systems

Many risks in the hospital setting are identified by other than formal means. For example, sometimes a staff member has knowledge of a risk situation which he or she

feels uncomfortable about documenting in an incident report. That person might approach the risk manager or quality assurance representative on a personal basis and simply make a verbal report. An investigation of the circumstances could be triggered from that verbal report. If appropriate, a review of the medical record in question could be conducted or referral to a medical staff peer review committee could be initiated.

Occurrence Screening System

Occurrence screening is another tool that can be used to identify adverse hospital incidents. Occurrence screening was developed as a means of formalizing the integrating of risk management and quality assurance functions. A pilot project was undertaken by the University of Wisconsin Hospital and Clinics in early 1986 to achieve this end. Following this pilot, the university implemented occurrence screening as their risk identification system for both risk management and quality assurance (Mansfield and Schoffs 1990).

A California physician, Dr. Joyce Craddick, developed an occurrence screening process, Medical Management Analysis (MMA) that utilizes a clearly defined list of patient occurrences to screen from medical records (Craddick 1987; Scott 1987). One hundred percent of all patient charts are reviewed by quality assurance personnel, both concurrently with the patient's progress in the hospital, then again

retrospectively, after discharge, based upon the screening criteria.

Because occurrence screening is a quality assurance function, a major pitfall is that risk management needs for information must be addressed and a system developed for information flow to the risk manager (Vanagunas 1990). Occurrence screening should feed data into the risk management, quality assurance, and utilization review systems (Katz 1986).

Other informal methods of collecting information, include reviewing minutes of meetings, claims data, and plain old gossip. All qualify as risk identification methods.

Selecting a Risk Identification System

The literature on risk identification systems does not address how to choose the best system for any one hospital. Any of the systems discussed herein could provide a means of successfully gathering information that would identify risk situations. The goal is to obtain accurate and timely data on which to base informed decisions.

The key to a successful system lies with the hospital's management. Sufficient importance must be granted the risk identification system in terms of budget dollars. Management must see that employees are given adequate orientation to assure they understand the procedure to use and are motivated to report adverse occurrences. Management

must also assure that there is professional staff to conduct follow-up activities on those occurrences that require investigation and action and support staff to maintain the risk identification system, whether it be quality assurance or risk management.

When weighing the advantages or disadvantages of the various risk identification systems, ownership of the actual document should be carefully considered. In a system which is based on attorney-client privilege, an incident report form is prepared for the hospital's liability attorney, and, thus, is considered an administrative tool. The incident report can be written upon or reviewed only by employees of the hospital and the hospital's liability attorneys. The incident report is privileged, even from its medical staff members, since they are not employees of the hospital. The document itself is not available to the medical staff for peer review functions. However, as discussed previously, information from the incident report can be converted for use by the medical staff in its peer review functions.

An advantage of this limited access might mean that hospital employees would feel free to report incidents involving controversial issues. A disadvantage is that some physicians feel incident report forms are secret documents written by nurses to discredit them.

Notification forms which are prepared for the medical staff peer review process are provided confidentiality under

Evidence Code 1157. A notification form prepared under this legal protection can not be used by the hospital's liability attorney in the event of litigation. An advantage to a report protected through the Evidence Code is that the actual notification form might be made available to medical staff members to view in their committee settings, depending upon the policy governing its use in each facility. This potential for review by medical staff also brings up the possibility that individual physicians might find out what staff member filed a notification form report which could inhibit employee reporting. For example, under the protection by attorney-client privilege, a nurse might be willing to describe the details of an incident he or she witnessed which involved a physician because the physicians could not have access to that report and could not find out who the reporting nurse was. Under Evidence Code 1157 protection, the report itself is for the use of the medical staff and it could conceivably be available for review by physicians.

Some hospitals might feel it necessary to provide both means of reporting in order to eliminate these controversial issues and provide a broad opportunity for reporting adverse occurrences. Although this is certainly appropriate, it does place an extra burden on employees in considering which reporting mechanism they must use, or, in double reporting.

Literature on risk identification systems does not show

support of any one method of reporting incidents over another. Nor is there anything to indicate that the 1986 JCAHO mandate for integration of risk management and quality assurance functions has caused hospitals to make changes in their systems. Because of the lack of literature in these areas, many questions come to mind about hospitals' choices of systems and the influence JCAHO's mandate might have had.

Research Questions

The following research questions were addressed:

- What type or types of risk identification systems do hospitals use?
- How long have those systems been in place?
- Have modifications been made, and if so, did they come pursuant to the 1986 JCAHO mandate to integrate quality assurance and risk management?
- What are the objectives of each hospital's risk identification system and are these objectives being met?
- Are any of these systems computerized? If so, are commercial software packages being used?
- Do hospitals dedicate staff to maintaining their risk identification systems? If so, how many and what are their classifications?
- What is the annual cost for staffing, equipment, etc.?

- Who in the organization made the determination to use the present risk identification system or systems?
- Finally, who in the organization is responsible for the various aspects of the risk identification system and for quality assurance and risk management activities?

Type of ownership of the hospitals was addressed as was bed size to determine if these characteristics made a difference in the information that was reported.

METHODOLOGY

Instrument

Data were collected by means of a self-administered questionnaire (see Appendix A) which was mailed to risk managers in hospitals throughout the state of California. As questionnaires were returned, the data was entered into a computerized data base program for ease in analysis. A code book was developed for identification of the variables (see Appendix B).

Field Testing

A field test of the survey instrument was conducted prior to mailing. The draft questionnaire was forwarded to risk management staff in two of the hospitals on the mailing list. They were asked to review the form to determine if there was important information not being asked, and if the categories were complete. They were also asked to provide feedback on whether or not questions were understandable. Comments were considered and, whenever possible, incorporated into the final design.

Study Population

The American Hospital Association Guide listed 247 hospitals in the state of California with 150 or more licensed beds. Questionnaires were mailed to risk managers at each of the 247 hospitals. The initial rate of return was 34%, or 84 questionnaires. A follow-up mailing using

the same questionnaire and cover letter with "second notice" in bold print was mailed to non-responding facilities. In all, 120 questionnaires were returned, or 48.5%.

Although the mailing was directed to only those hospitals with 150 or more licensed beds, three responding facilities indicated they had fewer beds. These responses were removed from the study group in order to maintain integrity of the study population.

Control (ownership)

Responding hospitals represented 14 different types of ownership as identified by the AHA Guide...state, county, city, city-county, hospital district, church operated, "other," individual, partnership, corporation, air force, army, navy, and veterans administration. These were placed in categories by major type of ownership (non-government, non-federal, investment owned, and federal government) for ease in presentation. Only 114 of the 117 responding hospitals were identified by ownership.

Table No. 1 displays the percent of hospitals in each of the ownership categories throughout the nation, in the state of California, and in the survey group. The ownership categories of hospitals that returned surveys is highly representative of the ownership categories of all California hospitals. Categories of ownership of survey hospitals also closely represents ownership categories of hospitals throughout the nation except for a slight difference in the

percent of non-government and non-federal government hospitals. There are 6% more non-government hospitals throughout the nation than in the study group and 7% fewer non-federal hospitals.

**TABLE NO. 1
COMPARISON OF HOSPITALS IN THE NATION,
CALIFORNIA AND SURVEY HOSPITALS
150 BEDS +, BY OWNERSHIP TYPE**

| Ownership | National | California | Survey |
|--|-----------------|-------------------|---------------|
| Non-Government (not-for-profit) | 64% | 59% | 58% |
| Non-Federal | 15% | 20% | 22% |
| Investment Owned (for profit) | 15% | 15% | 14% |
| Federal Government | 6% | 6% | 6% |
| Totals | 100% | 100% | 100% |
| N = | 3311 | 244 | 114* |

Sources: American Hospital Association Guide, 1990, pgs. 48-49.

* 114 respondents were identified by ownership type.

Statistics

The questionnaire was designed to elicit information about the numbers of risk identification forms hospitals received within a 90-day time frame, the average daily census, patient days, and patient discharges in order to make statistical comparisons. Few respondents provided this information so there was not sufficient data to warrant any type of analysis. Whenever it was possible to identify a

responding hospital, demographic information from the 1990 edition the AHA Guide was entered into the data base for comparison purposes.

Type of Service

According to demographic information in the AHA Guide, 7 different service classifications were represented by responding hospitals. One hundred six hospitals in the survey group (90%) were general medical and surgical hospitals, 6 (5%) were psychiatric, and there was one each (1%) hospital institution, chronic disease, children's general, and institution for mental retardation. One hospital (1%) was listed as "other specialty."

Table No. 2 shows a comparison of hospitals in the state of California to those in the survey group by type of service provided. Services provided by hospitals in the study group closely match those of hospitals in the general population throughout the state of California.

**TABLE NO. 2
COMPARISON OF ALL CALIFORNIA & SURVEYED HOSPITALS
150 BEDS +, BY SERVICE**

| Service | California | Survey |
|---|-------------------|---------------|
| General Med/Surg | 91% | 90% |
| Psychiatric | 4% | 5% |
| Hospital Institution | 1% | 1% |
| Chronic Disease | 1% | 1% |
| "Other" Specialty | 1% | 1% |
| Childrens | 1% | 1% |
| Institute for Mental Retardation | 1% | 1% |
| Total | 100% | 100% |
| N= | 246 | 117 |

Length of Stay

One hundred nine (93%) of the responding hospitals were classified as short-term according to the AHA definition of acute care hospitals (having an average length of stay for all patients of less than 30 days or over 50% of all patients are admitted to units where average length of stay is less than 30 days). Five hospitals (4%) were classified as long-term (average length of stay for all patients is 30 days or more or over 50% of all patients are admitted to units where average length of stay is 30 days or more).

This information was not available for 3 (3%) of the 117 responding hospitals covered in the analysis (AHA Guide).

Size of Respondent Hospitals

The AHA Guide listed the numbers of licensed beds for each hospital, however it was decided to rely on the information obtained from the respondents on the assumption their information on licensure would be more current.

A comparison of national, California and survey hospitals, by bed size, is presented in Table No. 3. The survey group has a smaller number in the 100-299 bed size because the questionnaire was mailed only to hospitals with 150 or more beds.

It is important to note the AHA Guide shows that 35 (30%) of the responding hospitals had some nursing home beds as well as acute care beds. The questionnaire design did not consider this possibility and did not allow for respondents to indicate whether there was a difference in method of reporting incidents in the acute hospital setting over the nursing home setting.

**TABLE NO. 3
NATIONAL, CALIFORNIA & SURVEY HOSPITALS,
BY BED SIZE**

| Bed Size | National | | California | | Survey | |
|---------------|-------------|-------------|------------|-------------|------------|-------------|
| | Count | Percentage | Count | Percentage | Count | Percentage |
| 100-299 | 2443 | 66% | 236 | 71% | 64 | 56% |
| 300-499 | 763 | 21% | 63 | 19% | 35 | 30% |
| 500 + | 475 | 13% | 32 | 10% | 16 | 14% |
| Totals | 3681 | 100% | 331 | 100% | 115 | 100% |

*115 hospitals identified by bed size.

Summary

Hospitals that responded to the survey are representative of all hospitals in the state of California and throughout the nation in terms of ownership and type of services rendered. When bed size is compared, the survey group represents fewer hospitals in the 100-299 bed category and more in the 300-499 bed category than in hospitals in the state of California or nationally. Fewer respondents in the 100-299 bed size category could be expected because questionnaires were mailed to only those hospitals having 150 or more licensed beds.

RESULTS

Risk Identification Systems

All responding hospitals stated that they utilized a risk identification system that requires employees to report incidents or risk situations that may result in loss to the institution. This is not an unexpected response, as the literature review has indicated that it would be quite unusual for a hospital to not have some formal means of risk identification.

Respondents verified the incident reporting system was used most frequently. Information on the number of hospitals that use the various systems is presented in Table No. 4. Thirty-five of the respondents (30%) indicated their hospital used only the incident report system, and 23 hospitals (20%) used the incident report system in conjunction with another system. The notification system was used exclusively by only 13 (11%) of the responding hospital. Twenty-seven (23%) said they used notification systems in conjunction with some other system. Occurrence reporting was used exclusively by 11 (9%) hospitals, and 2 (2%) used it in conjunction with another system. Only one respondent (1%) reported using occurrence screening exclusively, and 3 (2%) used it in conjunction with another system. Risk identification systems other than those addressed in the survey were reportedly used by 2

respondents (2%). A review of the notes from those hospitals revealed that quality review forms, quality assurance (occurrence screening), or a combination of incident report and occurrence report systems were actually used by these respondents.

Respondents stated they also used verbal reporting, patient/family complaint system, employee injury reporting, variance forms if equipment is involved, a combination of the incident report and occurrence forms, "event report" and problem analysis, safety advisory, work order, security reports, and statement of concern forms, to gain information on risk identification.

A total of 22 different systems and combinations of systems were reported. Some respondents said their hospitals used as many as 4 different systems as reflected in Table 5. Of the 117 responding hospitals, 47% reported using at least 2 and as many as 4 different systems. Fifty-three percent reported using a sole risk identification system.

**TABLE NO. 4
RISK IDENTIFICATION SYSTEMS USED**

| | N | % |
|------------------------------------|------------|-------------|
| Incident Report | 35 | 30% |
| Incident Report with Other(s) | 23 | 20% |
| Notification | 13 | 11% |
| Notification with Other(s) | 27 | 23% |
| Occurrence Report | 11 | 9% |
| Occurrence Report with Other(s) | 2 | 2% |
| Occurrence Screening | 1 | 1% |
| Occurrence Screening with Other(s) | 3 | 2% |
| Other | 2 | 2% |
| Total | 117 | 100% |

**TABLE NO. 5
NUMBER OF COMBINATIONS OF
RISK IDENTIFICATION SYSTEMS**

| No. Combinations of Systems | N | % |
|-----------------------------|------------|-------------|
| 1 System Used | 62 | 53% |
| 2 Systems Used | 33 | 28% |
| 3 Systems Used | 15 | 13% |
| 4 Systems Used | 7 | 6% |
| Totals | 117 | 100% |

Systems by Ownership

Of the 117 responding hospitals, 114 were identified by ownership category. The upper portion of Table No. 6 is a presentation of the percent of hospitals from each ownership category that used a specific system. Although a large percentage of respondents in each of the ownership categories reported using incident reports (68%), it is interesting to note that all federal government facilities stated they used this method of risk identification and 81% of those in the investor owned category. Of further interest is the fact that 74% of hospitals in the federal government category also reported using occurrence screening, while only 25% of hospital in all ownership categories reported using this system.

The middle portion of Table 6 shows the percent of hospitals from each ownership category that used only one risk identification system. Again, the highest percentage of use for each category was incident reporting. In this table it is of interest that neither federal government category respondents nor investor owned category respondents reported using the notification system.

The lower portion of Table 6 shows the percent of hospitals by ownership category that used a single system or a combination of 2, 3, or 4 various systems. This table reflects more than the 114 responses as multiple system use was cited by many hospitals.

Systems by Bed Size

One hundred fifteen of the 117 responding hospitals were identified by bed size. The upper portion of Table No. 7 is a visual presentation of the types of risk identification systems used by hospitals in each bed size category. There are two areas of particular interest in the top portion of this table. One is that the heaviest concentration of hospitals that reported using incident reporting is in the 100-299 bed size category. Seventy-five percent of hospitals in this category used incident reporting. The other area of interest is that only 5% of hospitals in the 500+ category used the notification system of risk identification even though 34% of all hospitals identified by bed size used this system.

The middle portion of Table 7 shows the percent of hospitals from each bed size that used a single risk identification system, and the lower portion shows the percent of hospitals that used a single system or a combination of 2, 3, or 4 systems. This table reflects more than the 115 responses as multiple system used was cited by many hospitals.

**TABLE NO. 6
PERCENT OF HOSPITALS CITING SYSTEM USE, BY
OWNERSHIP CATEGORY**

| | | | Investor | Non-Govt. | All % |
|---|------------|-------------|------------|-----------|---------|
| Ownership Category | Federal | Non-Federal | Owned (for | (not-for | |
| | Government | Government | profit) | profit) | |
| | N = 7 | N = 25 | N = 16 | N = 66 | N =114* |
| System Cited as Percent of Hospital Type | | | | | |
| Notification | 14% | 28% | 31% | 38% | 33% |
| Incident Reporting | 100% | 64% | 81% | 64% | 68% |
| Occurrence Screening | 71% | 32% | 19% | 21% | 25% |
| Occurrence Reporting | 43% | 48% | 38% | 27% | 34% |
| Other | 0% | 16% | 0% | 12% | 11% |
| Sole System as Percent of all Hospitals Citing** | | | | | |
| Notification | 0% | 29% | 0% | 36% | 29% |
| Incident Reporting | 29% | 44% | 38% | 48% | 44% |
| Occurrence Screening | 0% | 0% | 0% | 7% | 3% |
| Occurrence Reporting | 0% | 17% | 33% | 39% | 28% |
| Other | 0% | 0% | 0% | 38% | 25% |
| Number of Different Systems Cited Used by One Hospital | | | | | |
| One System | 29% | 44% | 44% | 61% | 53% |
| Two Systems | 29% | 28% | 44% | 25% | 29% |
| Three Systems | 29% | 28% | 12% | 5% | 12% |
| Four Systems | 13% | 0% | 0% | 9% | 6% |
| Total | 100% | 100% | 100% | 100% | 100% |

* One hundred fourteen respondents; some cite use of multiple systems.

**Denominator used for calculations is total of respondents from corresponding cell in upper portion of table (System Cited as Percent of Hospital Type).

**TABLE NO. 7
PERCENT OF HOSPITALS CITING SYSTEM USE,
BY BED SIZE**

| Bed Size | 100-299 | 300-499 | 500+ | % of All |
|---|-------------|-------------|-------------|-------------|
| | N=64 | N=35 | N=16 | N=115* |
| System Cited as Percent of all Hospitals | | | | |
| Notification | 31% | 34% | 5% | 34% |
| Incident Reporting | 75% | 54% | 56% | 66% |
| Occurrence Screen. | 28% | 20% | 31% | 26% |
| Occurrence Report | 38% | 31% | 25% | 34% |
| Other | 8% | 17% | 6% | 10% |
| Sole System Cited as Percent of all Hospitals Using System Type ** | | | | |
| Notification | 20% | 42% | 50% | 33% |
| Incident Reporting | 42% | 42% | 55% | 43% |
| Occurrence Screen. | 0 | 14% | 0 | 33% |
| Occurrence Report. | 29% | 27% | 25% | 28% |
| Other | 0 | 50% | 0 | 25% |
| Number of Different Systems Cited | | | | |
| One | 48% | 57% | 63% | 53% |
| Two | 31% | 29% | 25% | 29% |
| Three | 13% | 14% | 6% | 12% |
| Four | 8% | 0% | 12% | 6% |
| Total | 100% | 100% | 100% | 100% |

* One hundred fifteen respondents; some cite use of multiple systems.

** Denominator used for calculations is total of respondents from corresponding cell in upper portion of table.

Implementation

The risk identification system in use in any one facility had been in place for some time. Sixty-two (53%) hospitals attempted to give a date of implementation. Fifty-one of those (44% of the survey group) had been using the current system for 5 years or longer, and 11 (9%), for less than 5 years. Fifty-three hospitals (45%) did not know how long their system had been in place.

Modifications

While 59 respondents (50%) stated major modifications had been made to their hospital's reporting systems, 27 of the 59 (23% of total respondents) indicated these modifications were made in response to requirements of the Joint Commission on Accreditation of Health Care Organizations to integrate quality assurance and risk management.

Fifty-four respondents (46%) provided a brief explanation of the modifications made. Some of the reasons reported for making modifications were that changes were needed to accommodate computerization, or that they had changed the reporting form to include such items as safety issues, specialty care problems...obstetrics, for example.

A date of implementation was given by 34 (63%) of the hospitals that reported having made modifications to their risk identification systems. Of those 34, 23 (68%) had been in place five years or longer. Twenty-four (71%) of the

hospitals that gave a date of implementation stated they had made no changes to their systems, and of those 24, 16 (67%) said their systems had been in place five years or longer.

Primary Objectives

All of the respondents agreed that the primary objectives of their institutions' risk identification systems were identification of Quality Assurance issues and potential legal claims. Some indicated their systems were also intended to meet other objectives, such as, serve as a centralized data system, identify employee illness/injury trends, ancillary staff trends, risk financing issues, inter departmental and system problems, equipment failures, and medical staff problems.

Table No. 8 presents data from responses to the question of whether primary objectives of the risk identification systems were being met. Eighty-four respondents (72%) indicated their present system accomplishes the primary objectives, and only 17 respondents (14%) said they did not believe objectives were accomplished. Fourteen (12%) responded "other." Two respondents did not answer this question.

This same information is presented in Table No. 9, but by type of risk identification system. Of the 40 hospitals with notification systems that responded to this question, 80% felt the system accomplished the primary objectives. Of the seventy-eight hospitals using incident reporting that

responded, 72% felt primary objectives were being met. Thirty hospitals with occurrence screening responded, and 86% felt objectives were met. And of the 39 hospitals with occurrence reporting, 72% said objectives were met.

A greater percentage of respondents using occurrence screening (86%) reported they felt the primary objectives of their system were met over those using other types of systems. Eighty percent of those using the notification system believed their primary objectives were being met, and 72% of those using incident reporting and occurrence reporting felt their primary objectives were met. Only 58% of hospitals reporting they use a system other than the ones addressed in the questionnaire felt their hospital's objectives were being met.

Table No. 10 also presents information on whether primary objectives of the hospitals' risk identification systems were being met, but from responses of hospitals reporting using only one risk identification system. Of the 13 respondents that reported using the notification system as their hospital's sole risk identification system, 68% felt it met their primary objectives, 16% felt it did not, and 16% did not respond or gave some other answer. Of the 35 hospitals using only the incident report system, 63% felt it met their primary objectives, 26% did not, and 11% did not respond or gave some other answer. Only one hospital indicated using occurrence screening solely, and that

respondent felt it accomplished the primary objectives. There were 11 respondents who used occurrence reporting exclusively, and 73% indicated primary objectives were met, 9% said they were not met, and 18% either gave no response or gave some other response. Two respondents indicated they used a system other than indicated in the survey. Both felt the primary objectives were met.

**TABLE NO. 8
WHETHER PRIMARY OBJECTIVES WERE MET**

| Objectives Met | N | % |
|-----------------------|------------|-------------|
| Yes | 84 | 72% |
| No | 17 | 14% |
| Other | 14 | 12% |
| N/A | 2 | 2% |
| Totals | 117 | 100% |

**TABLE NO. 9
WHETHER PRIMARY OBJECTIVES MET,
BY TYPE OF SYSTEM FOR
HOSPITALS HAVING SYSTEM**

| | Yes | No | N/A or Other | % | N |
|----------------------|-----|-----|-----------------|------|----|
| Notification | 80% | 10% | 10% | 100% | 40 |
| Incident Reporting | 72% | 15% | 13% | 100% | 78 |
| Occurrence Screening | 86% | 7% | 7% | 100% | 30 |
| Occurrence Reporting | 72% | 13% | 15% | 100% | 39 |
| Other | 58% | 17% | 25% | 100% | 12 |

**TABLE NO. 10
WHETHER PRIMARY OBJECTIVES MET,
BY TYPE OF SYSTEM FOR HOSPITALS
USING SOLE SYSTEM
N = 62**

| | Yes | No | N/A or Other | % | N |
|----------------------|------|-----|-----------------|------|----|
| Notification | 68% | 16% | 16% | 100% | 13 |
| Incident Reporting | 63% | 26% | 11% | 100% | 35 |
| Occurrence Screening | 100% | 0% | 0% | 100% | 1 |
| Occurrence Reporting | 73% | 9% | 18% | 100% | 11 |
| Other | 100% | 0% | 0% | 100% | 2 |

Computerized Risk Identification Systems

Seventy-six hospitals (65%) indicated they used some type of computerized risk identification system (see Table No. 11), however a few admitted to having only part of the process computerized. Of the 30 hospitals (26%) reporting they did not have a computerized system, 6 (2%) said they were in the process of implementing one.

The percentage of responding hospitals that have computerized risk identification systems, by type of system, is shown in Table No. 12. The upper portion of the table shows all of those responding. The lower portion of the table shows only those hospitals responding who reported using a single type of risk identification system. Although the majority of hospitals have their risk identification systems computerized, many do not.

Information on computerization of risk identification systems is presented by ownership category in Table No. 13. It is interesting to note that 80% of the non-government (not-for-profit) hospitals have computerized risk identification systems while only 53% of the investor owned (for profit) hospitals have their systems computerized.

TABLE NO. 11
STATUS OF COMPUTERIZED RISK IDENTIFICATION SYSTEM

| Computerized | N | % |
|--------------|------------|-------------|
| Yes | 76 | 65% |
| No | 24 | 21% |
| Implementing | 6 | 5% |
| No Response | 11 | 9% |
| Total | 117 | 100% |

TABLE NO. 12
RISK IDENTIFICATION SYSTEM COMPUTERIZED,
BY TYPE OF SYSTEM

| | Notif. System | Incident Report | Occurrence Screening | Occurrence Reporting | Other |
|---|------------------|--------------------|-------------------------|-------------------------|-------|
| Yes | 70% | 68% | 28% | 76% | 100% |
| No | 30% | 32% | 72% | 24% | 0% |
| 100% = | 37 | 68 | 75 | 34 | 9 |
| Sole System Cited as Percent of Hospitals Citing | | | | | |
| Yes | 69% | 68% | 100% | 100% | 100% |
| No | 31% | 32% | 0% | 0% | 0% |
| 100% = | 13 | 28 | 1 | 11 | 2 |

**TABLE NO. 13
COMPUTERIZED BY OWNERSHIP CATEGORY**

| | Federal Government | Non-Federal Government | Investor Owned (for Profit) | Non-Govt. (not for profit) |
|--------|--------------------|------------------------|-----------------------------|----------------------------|
| Yes | 67% | 71% | 53% | 80% |
| No | 33% | 29% | 47% | 20% |
| 100% = | 6 | 21 | 15 | 60 |

Software

Forty-one (35%) hospitals stated they used commercial software packages. Products used were PCMS, QA Line, MIDAS, IQARM, Landicorp, Code 3, Risk Master, Paradox, D-Base III, MAXYS, CHAIS, Excel, Systematics, QUEST, Lotus 1-2-3, and CHAMP. Four responses to this inquiry were unreadable. Seventy-six (65%) either did not respond or indicated they did not know the computer software system used in their hospital. Table No. 14 presents this information, and Table No. 15 lists the numbers and percentages of hospitals that reported using specific commercial software packages.

Detailed analysis of the computer systems and software used was not a focus of this project, therefore, the information obtained is presented only as a matter of interest. One observation, however, is that some of the commercial software packages are programs that can be used for various purposes, and were not designed specifically for a risk identification system.

**TABLE NO. 14
COMMERCIAL RISK IDENTIFICATION SYSTEM**

| Commercial | N | % |
|-------------------|-----------|-------------|
| Yes | 37 | 43% |
| No | 45 | 52% |
| Other | 5 | 5% |
| Total | 87 | 100% |

**TABLE NO. 15
TYPE OF SOFTWARE USED**

| Type/Name of Software | N | % |
|------------------------------|-----------|------------|
| PCMS | 6 | 16% |
| QA Line | 5 | 14% |
| MIDAS | 3 | 8% |
| QARM | 3 | 8% |
| Landicorp | 3 | 8% |
| Code 3 | 3 | 8% |
| Risk Master | 2 | 5% |
| Paradox | 2 | 5% |
| D-Base III | 2 | 5% |
| MAXYS | 2 | 5% |
| CH AIS | 1 | 3% |
| Excel | 1 | 3% |
| Systematics | 1 | 3% |
| QUEST | 1 | 3% |
| Lotus 1-2-3 | 1 | 3% |
| CHAMP | 1 | 3% |
| Total | 37 | 100 |

Dedicated Staff

Table No. 16 reflects that sixty-nine respondents (59%) stated their hospitals had staff dedicated primarily to maintaining the risk identification system. Only 37 hospitals (31%) stated they had no dedicated staff.

A review of the numbers of staff members and job classifications reflects that these people listed as primarily dedicated to maintaining the risk identification system perform other functions as well. Their role was not exclusively dedicated to maintaining the risk identification system.

Table No. 17 is a presentation of hospitals, by ownership classification, that have staff dedicated to maintaining their risk identification system. It appears that hospitals operated by the federal government are more likely to have staff dedicated to maintaining their risk identification systems than hospitals in the other ownership categories.

TABLE NO. 16
STAFF DEDICATED TO MAINTAINING RISK
IDENTIFICATION SYSTEM

| | % |
|-------------------------------|---------------------------|
| Yes | 59% |
| No | 31% |
| Other | 10% |
| Total 100% = | 100% 117 |

TABLE NO. 17
DEDICATED STAFF, BY OWNERSHIP

| Ownership | N Yes | % Yes | Total N = 100% |
|-------------------------------|--------------|--------------|---------------------------|
| Non-Government | 39 | 59% | 66 |
| Non-Federal Government | 13 | 52% | 25 |
| Investment Owned | 9 | 56% | 16 |
| Federal Government | 6 | 85% | 7 |
| Total | 67 | 59% | 114 |

Cost

Most of the responding hospitals were unable to estimate costs of maintaining their risk identification systems. Seventy-five respondents (63%) stated they were not able to specify the cost for staff or equipment required to maintain their hospital's risk identification system. Nineteen hospital (16%) made no responses to this question, and 25 (21%) attempted to make some estimates of costs for staff, equipment, or other expenses. Costs reported for staff ranged from \$5,616 up to \$300,000. Only 5 attempted to give figures for equipment which ranged from \$500 to \$5,000, and 6 listed cost of "other" expenses. These ranged from \$500 to \$40,000 and were for reports, supplies, and maintenance.

Determination of System Use

Eighty of the 117 (68%) answered the question on how the determination to use the present risk identification system was made. Twenty-nine of those (36%) stated that management was at least 50% involved in the decision making. Nine (11%) indicated their insurance company had some involvement. Ten (13%) reported involvement of legal staff, and only ten (13%) of those who completed the questionnaires had any involvement themselves in the decision. The remaining 22 (27%) indicated they did not know who was involved in the decision, or gave some other answer. This data is presented in Table No. 18.

Because so many of the facilities indicated their hospital's risk identification system had been in place for several years, it might be assumed that most of those currently responsible for its maintenance were not even employed in that capacity at the time the decision was made.

**TABLE NO. 18
HOW DETERMINATION TO USE SYSTEM MADE**

| | N | % |
|-------------------------------|-----------|-------------|
| Management Decision | 29 | 36% |
| Insurance Requirement | 9 | 11% |
| Legal Recommendation | 10 | 13% |
| Your Personal Decision | 10 | 13% |
| Don't Know/Other | 22 | 27% |
| Total | 80 | 100% |

Job Title

Respondents reported diverse job titles. One hundred fifteen (98%) of those surveyed answered the question as to their job title. Most of them, 57 (50%) used "risk manager" in their title. Twenty-one (18%) of those responding to this question used "quality" in their title, some in conjunction with "risk manager." Respondent job titles included infection control, safety, medical staff, human resources, and patient relations responsibilities.

Job titles of respondents were categorized and are presented in Table No. 19. Associate or assistant

administrators and vice presidents were placed in Category I. Those in director positions were placed in Category II. Managers, in Category III. Officers, analysts, coordinators, etc. were included in Category IV.

The titles of those to whom the person completing the questionnaire reported were just as diverse. One hundred fifteen respondents (98%) furnished the title of the person to whom they reported. Those titles were categorized for easier presentation and are presented in Table No. 20. Titles which seemed to represent responsibility for day-to-day facility operations, chief executive officers, senior vice presidents, vice presidents of operation, and administrators, were placed in Category I. Titles representing the financial function, chief executive officer, vice president of finance, etc. were placed in Category II. Titles for directors of services were placed in Category III. Titles of vice presidents and assistant administrators were placed in Category IV. Titles representing responsibilities for medical staff operations were placed in Category V. Category VI was used for all other titles which included general counsel, personnel, nursing, governing board, patient information system, risk manager, and quality assurance responsibilities.

Receiving Incident Reports or Notification Forms

Ninety-six respondents (82%) stated they had responsibility for receiving the risk identification forms,

either complete responsibility, they shared that responsibility with some other discipline, or they had a consulting type responsibility. Eight (7%) said they did not receive them at all, and thirteen (11%) made no response to this question. Refer to Table No. 21.

| TABLE NO. 19 JOB TITLES OF RESPONDENTS | | |
|---|------------|-------------|
| Category | N | % |
| Category I | 10 | 9% |
| Category II | 48 | 42% |
| Category III | 26 | 22% |
| Category IV | 31 | 27% |
| Total | 115 | 100% |

Refer to text for Category description.

TABLE NO. 20
JOB TITLES OF BOSSES, BY CATEGORY

| Category | N | & |
|---------------|------------|-------------|
| Category I | 34 | 30% |
| Category II | 7 | 6% |
| Category III | 23 | 20% |
| Category IV | 20 | 17% |
| Category V | 21 | 18% |
| Category VI | 10 | 9% |
| Totals | 115 | 100% |

Refer to text for Category description.

Reviewing Incident Reports or Notification Forms

One hundred respondents (86%) stated they had responsibility for reviewing the risk identification forms, either complete responsibility, they shared that responsibility with some other discipline, or a consulting responsibility. Four (3%) stated they had no responsibility, and thirteen hospitals (11%) did not respond to this question. Refer to Table 21.

A review of the job titles of respondents who indicated they had no responsibility for either receiving or reviewing the reports revealed that only one was directly involved as a risk manager. One was a safety director, one a director

of human resources, one was a vice president and one an assistant vice president.

Incident Reports or Notification Forms Trends & Analysis

Ninety-four respondents (80%) said they had responsibility for the trending and analysis of the reports, either complete, shared, or in a consulting relationship. Only ten (9%) said they had no responsibility. Thirteen respondents (11%) did not answer this question. Refer to Table 21.

Claims/lawsuits Management

Seventy-seven respondents (66%) indicated they had some responsibility for managing the claims and lawsuits filed against their hospital. Twenty-seven (23%) stated they had none, and thirteen (11%) made no response.

Departmental Risk Assessment

Eighty-eight respondents (75%) stated they had responsibility for assessing departmental risk, either completely, shared responsibility with another discipline, or a consulting responsibility. Thirteen (14%) indicated they had no responsibility at all, and sixteen (14%) did not respond to this question. Refer to Table 21.

Quality Assurance Program Responsibilities

Sixty respondents (51%) indicated they had some responsibility, either complete or shared, for the Quality Assurance program in their facility. Thirty-four (29%) had

no responsibility at all, and twenty-three (20%) respondents did not answer this question. Refer to Table 21.

Of the 60 who indicated any responsibility for the Quality Assurance program, only 7 (12%) said they had exclusive responsibility. Seventeen (28%) said they shared that responsibility with a Quality Assurance professional, and 11 (18%) said they shared responsibility with some other professional. The remaining 25 (42%) gave no indication as to whether the responsibility was shared.

**TABLE NO. 21
RESPONSIBILITIES**

| RESPONSIBLE FOR RECEIVING FORMS | | |
|---|----------|----------|
| | N | % |
| Yes | 96 | 82% |
| No | 8 | 7% |
| N/A | 13 | 11% |
| REVIEWING REPORTS/FORMS | | |
| Yes | 100 | 86% |
| No | 4 | 3% |
| N/A | 13 | 11% |
| TRENDING AND ANALYZING REPORTS/FORMS | | |
| Yes | 77 | 66% |
| No | 27 | 23% |
| N/A | 13 | 11% |
| MANAGING CLAIMS/LAWSUITS | | |
| Yes | 77 | 66% |
| No | 27 | 23% |
| N/A | 13 | 11% |
| ASSESSING DEPARTMENTAL RISK | | |
| Yes | 88 | 75% |
| No | 13 | 11% |
| N/A | 16 | 14% |
| RESPONSIBLE FOR QUALITY ASSURANCE | | |
| Yes | 60 | 51% |
| No | 34 | 29% |
| N/A | 23 | 20% |
| Total (each section) | 117 | 100% |

SUMMARY AND DISCUSSION

The purpose of this research was to determine which system or combination of systems large hospitals in California use and whether the JCAHO mandate for integration of risk management and quality assurance functions had an influence on those choices.

The research also addressed the extent to which hospitals have or have not made changes in their risk identification systems as a result of the mandate to integrate functions. It solicited answers to questions about the benefit of one system over another in terms of accomplishing management objectives in identifying risk management and quality assurance issues, and which system or combinations of systems were used. It asked whether systems were computerized, and, if so was commercial software used and what ones? It asked if hospitals dedicated staff to maintain these systems and sought to determine costs expended for staff, equipment, etc. Also, it asked how the determination to use a system or combination of systems was made. Finally, the research inquired about job titles and responsibilities of staff members who maintained the systems.

Knowledge gained from this research may help hospital management better understand the differences in the various reporting systems in order to make knowledgeable decisions

about the system or systems they use, resulting in savings of organizational resources of money and personnel's time, as well as creating a more efficient system focused on the desired outcome.

Survey results document that incident reporting is the system most often used. The notification system follows in frequency of use, and occurrence reporting and screening seem to be popular quality assurance tools and are often used in conjunction with other systems, but seldom used as a hospital's only means of identifying risks. While 47% of the hospitals reported using between 2 and 4 different systems, 53% reported they use only one system. Perhaps hospitals with several risk identifications should analyze their systems and determine the outcomes they wish to achieve to see if one system would be sufficient.

Forty-four percent of those surveyed reported their risk identification system or systems had been in place for 5 years or longer, and only 11% had been in place less than 5 years. This seems to indicate hospitals have an over-all satisfaction with their system. Without benefit of the survey results, it might be assumed that the JCAHO mandate for integration of quality assurance and risk management activities had considerable influence on an organization's decision about the type of system or systems. However, survey results show that only 50% of responding hospitals had made major modifications to their reporting systems, and

that only 23% had made those modifications in response to requirements of JCAHO. Perhaps this was because hospitals had themselves realized the need for integrated risk identification programs long before the JCAHO mandate and already had programs in place that worked successfully.

Overall, 72% of the respondents believed their system or systems accomplished the primary objectives of identifying risk management and quality assurance issues. Occurrence screening ranked highest in this category then the notification system, incident reporting, and occurrence reporting. When this data was analyzed by those hospitals reporting a single risk identification system, they ranked in the same order.

Sixty-five percent of hospitals in the survey group reported they had computerized risk identification systems, but only 43% reported using commercial software. Some listed data base programs rather than software programs designed for the risk management and quality assurance data gathering functions. Few hospitals used any one product, but 6 did use the PCMS system and 5 reported using QA Line. Table No. 15 lists the various products.

Fifty-nine percent of the respondents reported their hospitals had staff dedicated primarily to maintaining their risk identification system. This information is very general and it might be more meaningful had the survey question been more specific. For example, the question

could have asked the percent of time staff dedicated to maintaining the risk identification system.

The research project was not successful in identifying costs of staff, equipment, etc. involved in maintaining risk identification systems. An assumption might be that these costs are not tracked specific to the system, but incorporated with other functions.

The question of how the determination to use a hospital's risk identification system or systems was not well answered by the research. Thirty-two percent of the respondents did not even attempt to answer, and of those that did, 27% indicated they did not know, or they gave a response other than outlined in the question. Of the 56% that attempted to answer this question, 36% (25% of the total study group) reported it was a management decision. Only 13% (9% of the study group) of those responding to this question actually had involvement in the decision.

Although the survey was directed to the risk manager in each hospital, analysis of the job titles of those responding reflects that many were not risk management professionals, nor even quality assurance professionals. Management of hospitals' risk identification systems has been assigned to safety officers, medical staff employees, human resource employees, infection control staff, patient relations staff, as well as the traditional quality assurance and risk management personnel.

Limitations of the Study

As analysis of the questionnaire data was begun, it became apparent that there were areas that might have been explored differently. For example, had review of AHA Guide demographic information been conducted prior to mailing the questionnaires, it would have become apparent that many different types of services are rendered by hospitals in the study group. Data might have been more meaningful, and certainly more specific, had the mailing been directed to only general medical and surgical facilities, psychiatric, mental retardation, chronic disease, and other specialty hospitals.

The questionnaire was directed to the risk management personnel in the hospitals surveyed. Would responses have been different had it been directed to the quality assurance personnel? In smaller hospitals, risk management and quality assurance functions are often handled by the same person. But in large hospitals they are not, and a different outcome might be expected to some of the more subjective questions such as those asking an opinion as to whether primary objectives are accomplished.

Future Research

As this study progressed, there were several things that came to mind that could be further explored. One would be to look at the qualifications of the staff responsible for receiving, managing, and analyzing the data retrieved

through the risk identification systems. Those responsible for maintaining the risk identification systems were from many different disciplines within the hospitals...safety, medical staff, patient relations, infection control, etc. It would be interesting to verify their qualifications for the management of the risk identification function in more detail.

Another facet for future study would be the cost impact to hospitals of the JCAHO "Agenda for Change." It might be interesting to address the financial impact to hospitals in terms of staffing, computerization, etc. of this quest for continuing quality improvement.

Appendix A

Survey of Risk Identification Systems

1. Does your institution utilize a risk identification system which requires employees to report incidents or risk situations that may result in loss to the institution?
1 () yes 3 () don't know
2 () no 4 () other _____

If the answer is "no," complete only numbers 18 through 24.

2. If yes, is this a (check all that apply)

- 1 () "Notification" system
2 () "Incident Report" system
3 () "Occurrence Screening" system
4 () "Occurrence Reporting" system
5 () don't know
6 () other, please explain _____

(Use separate sheet if additional space is needed.)

3. When was the present system implemented?

- 1 month _____ year _____
2 () don't know

4. Have there been any major modifications made to that system?

- 1 () yes
2 () no
3 () don't know

5. If the answer is yes, have these modifications been in response to the requirements of the Joint Commission on Accreditation of Health Care Organizations to integrate Quality Assurance and Risk Management?

- 1 () yes
2 () no
3 () don't know
4 () other, please explain _____

(Use separate sheet if additional space is needed.)

6. If the answer to number 4 is "yes," briefly explain the modifications.

(Use separate sheet if additional space is needed.)

7. What are the primary objectives of your institution's risk identification system? (check all that apply)

- 1 () identification of Quality Assurance issues
2 () identification of potential legal claims
3 () don't know
4 () other, please describe _____

(Use separate sheet if additional space is needed.)

15. If possible, estimate the cost (in dollars) per year for maintaining your institution's risk identification system in terms of:
 1 staffing _____
 2 equipment _____
 3 other _____
 4 () unable to determine costs
16. How was the determination to use the present system made?
 (check all that apply and indicate approximate extent of involvement in decision, by percent) % of involvement
 1 () management decision _____
 2 () insurance company requirement _____
 3 () legal counsel recommendation _____
 4 () your personal decision _____
 5 () don't know _____
 6 () other, please describe _____
17. Please provide the following data covering the most recent 90-day time frame:
 1 Number of Incident Reports or Notification forms completed by staff _____
 2 Average daily census _____
 3 Total patient days _____
 4 Total patient discharges _____
18. What is your institution's licensed bed size?
 1 () 1-99
 2 () 100-299
 3 () 300-499
 4 () 500-699
 5 () 700 or more
19. What is your current job title? _____
20. What is the title of the person in your institution to whom you report?

21. Please indicate whether you have responsibility for the activity listed at the left below. If the answer is yes, check the appropriate box to indicate the level of authority you currently have for that activity.
- | If yes, what is your level of authority? | yes | no | complete | shared | consultant |
|---|-----|-----|----------|--------|------------|
| Receiving incident reports or notification forms | () | () | () | () | () |
| Reviewing incident reports or notification forms | () | () | () | () | () |
| Trending and analyzing incident reports or notification forms | () | () | () | () | () |
| Managing claims/lawsuits | () | () | () | () | () |
| Assessing departmental risk | () | () | () | () | () |
| Responsibility for QA program | () | () | () | () | () |
| yours exclusively | () | () | () | () | () |
| shared by you and QA professional | () | () | () | () | () |
| shared by you and another professional | () | () | () | () | () |
| someone else's exclusive responsibility | () | () | () | () | () |
22. Use this space provided to make any additional comments you feel might be of interest to this researcher. (attach additional sheet if necessary)

23. Please attach a copy of your hospital's risk identification form and any policies and procedures which govern its use.

24. If you would like to receive a copy of the survey results, please so indicate.
() Yes () No

Thank you. Please return this questionnaire in the enclosed self-addressed, stamped envelope addressed to Risk Management Department, Hemet Valley Hospital District, 1117 E. Devonshire Ave., Hemet, CA 92543-9849.

Should you have any questions, you may contact Jean DeVaney at the above address or telephone number (714) 925-6377.

11/06/91

Organizations to integrate Quality Assurance and Risk Management?

1. yes
2. no
4. other, please explain
7. don't know
9. N/A

- EXPLAIN 6 If the answer to number 4 is "yes," briefly explain the modifications.
1. yes (see notes)
2. no
9. N/A
- OBJECTV 7 What are the primary objectives of your institution's risk identification system? (Check all that apply.)
- OBJCTMET 8 Do you believe your institution's present system accomplishes the primary objective(s)?
1. yes
2. no
4. other, please describe
7. don't know
- NOTMET 9 If "no," go to question 10. If "yes," please complete:
1. yes (see 9.1)
2. no
- EVIDENC 9.1 What evidence do you see of this? E.g., identification of trends affecting quality of care; identification of potential legal claims.
1. yes
2. no
9. N/A
- COMPUTER 10 Is your hospital's risk identification system computerized?
1. yes
2. no
4. other, please describe
7. don't know
- YES/NO 11 If "no," go to question 13. If "yes," please complete:
1. yes
2. no

- SOFTWARE 11.1 Is the software package being used a commercial package or one designed within your organization?
1. commercial software package
 2. designed within organization
 4. other, please describe
 7. don't know
 9. N/A
- COMMERCL 12 If you use a commercial software package, list the product name.
- 1.
 2. do not use commercial package
 7. don't know
 9. N/A
- STAFF? 13 Does your institution have staff dedicated primarily to maintaining its risk identification system?
1. yes
 2. no
 4. other, please describe
 7. don't know
- NOSTAFF 14 If "no," go to question 15. If "yes," please complete:
1. yes
 2. no
- #OFSTAFF 14.1 Indicate number of staff members and their classifications.
1. staff (see notes)
 9. N/A
- COST 15 If possible, estimate the cost (in dollars) per year for maintaining your institution's risk identification system in terms of:
1. staffing
 2. equipment
 4. other
 7. don't know
 9. N/A
- DECISION 16 How was the determination to use the present system made? (Check all that apply and indicate approximate extent of involvement in decision, by percent.)
1. management decision
 2. insurance company requirement

3. legal counsel recommendation
5. your personal decision
4. other, please describe
7. don't know
9. N/A

- §
- 16.1 Indicate approximate extent of involvement in decision, by percent.
1. management decision
 2. insurance company requirement
 3. legal counsel recommendation
 5. your personal decision
 4. other
 7. don't know
 9. N/A
- STATS
- 17 Please provide the following data covering the most recent 90-day time frame:
1. number of Incident Reports or Notification forms completed by staff
 2. average daily census
 3. total patient days
 4. total patient discharges
 7. don't know
 9. N/A
- BEDSIZE
- 18 What is your institution's licensed bed size?
1. 1-99
 2. 100-299
 3. 300-499
 4. 500-699
 5. 700 or more
- JOBTITLE
- 19 What is your current job title?
- 1.
 9. N/A
- SUPERVISR
- 20 What is the title of the person in your institution to whom you report?
- 1.
 9. N/A
- ACTIVITY
- 21 Please indicate whether you have responsibility for the activity listed at the left below. If the answer is "yes," check the appropriate box to

indicate the level of authority you currently have for that activity.
(Needs no response.)

- RECEIVE 21.1 Receiving incident reports or notification forms
 1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- REVIEW 21.2 Reviewing incident reports or notification forms
 1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- TRENDING 21.3 Trending and analyzing incident reports or notification forms
 1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- CLAIMS 21.4 Managing claims/lawsuits
 1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- RISKASS 21.5 Assessing departmental risk
 1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A

- QA 21.6 Responsibility for QA program
1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- WHOSE? 21.6.1 Yours exclusively
1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- SHAREQA 21.6.2 Shared by you and QA professional
1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- SHARE? 21.6.3 Shared by you and another professional
1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- ANOTHER 21.6.4 Someone else's exclusive responsibility
1. yes
 2. no
 3. complete
 4. shared
 5. consultant
 9. N/A
- COMMENTS 22 Use this space provided to make any additional comments you feel might be of interest to this researcher.
- 1.
 9. N/A

- FORM/P&P 23 Please attach a copy of your hospital's risk identification form and any policies and procedures which govern its use.
1. form attached
 2. policies and procedures attached
 9. N/A
- COPY? 24 If you would like to receive a copy of the survey results, please so indicate.
1. yes
 2. no
 9. N/A
- CLASS 25 Classification Codes from American Hospital Association Guide
- 25.1 Control
- 12 state
 - 13 county
 - 15 city-county
 - 16 hospital district or authority
 - 21 church operated
 - 23 other
 - 31 individual
 - 32 partnership
 - 33 corporation
 - 41 air force
 - 42 army
 - 43 navy
 - 45 veterans administration
- 25.2 Service
- 10 general medical and surgical
 - 11 hospital unit of institution
 - 22 psychiatric
 - 48 chronic disease
 - 49 other specialty
 - 50 children's general
 - 62 institution for mental retardation
- 25.3 Stay
- S short term
 - L long term
- 25.4 Facilities
- 26 Inpatient data from AHA Guide

26.1 beds
26.2 admissions
26.3 census
26.4 occupancy

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