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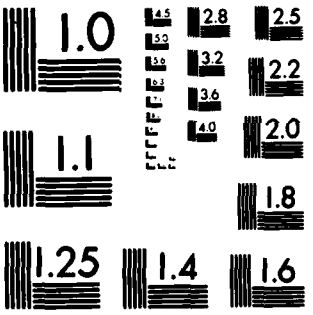

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Historically, the emergency medical technician (EMT) has been the primary nonphysician provider of emergency care in Air Force Emergency Departments. This practice is currently being reevaluated due to increased emphasis in quality assurance and risk management. Selected Air Force medical facilities have placed professional nurses in their emergency departments to supervise EMT practice and ensure maintenance of professional standards. The purpose of this study was to determine if professional nurses influence the quality of EMT documentation (as one parameter in evaluating quality of care) as well as provide empirical evidence of this influence to the Air Force Nurse Corps.

This comparative descriptive study was conducted using a convenience sample of 100 emergency records from each of four Air Force hospitals. Two of the hospitals had at least one professional nurse assigned to the emergency department; the other two did not have direct nurse supervision. EMT documentation was evaluated using an audit tool developed for this study using the standard form "Emergency Care and Treatment Record" (SF 558) used throughout the Air Force to document emergency care.

The t-test for independent samples and one-way ANOVA was used to determine whether there was a significant difference between supervised and nonsupervised EMT documentation. The results indicated that there was no significant difference between supervised and nonsupervised EMTs when total scores were compared. However, when documentation items were separated by site into noncritical and critical subscores, significant

difference was found between the two groups. The ANOVA also indicated significant difference between the two supervised groups; this was not a significant finding between the nonsupervised group. A chi square test for independence indicated that the four low-scoring items under 'critical assessment data' were not chance events.

It was concluded that though documentation practices were similar overall, differences did exist depending on the type of supervision. These differences were both practically and statistically significant as they contribute to the quality of critical assessment data which in turn contributes to the initial judgments and clinical assessments of the examining physician. It is further concluded that the differences between the supervised groups of EMTs offer supportive evidence that professional nurses exert a positive influence in EMT performance.

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May 12, 1986
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A STUDY OF AIR FORCE EMERGENCY MEDICAL TECHNICIAN DOCUMENTATION: DOES DIRECT NURSING SUPERVISION MAKE A DIFFERENCE

by

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A thesis submitted in partial fulfillment of the
requirements of the degree of Master of Science
in the College of Nursing in
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The opinions or assertions herein are the private views of the author and are not to be construed as official or as reflecting the views of the Department of the Air Force or the Department of Defense.

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CHAPTER I

INTRODUCTION

This study is introduced by presenting the role of the Air Force emergency medical technician (EMT) and the recent trend of placing professional nurses in Air Force emergency departments. The purpose of this study was to determine whether professional nurses influence EMT performance by comparing documentation practices of directly supervised EMTs and indirectly supervised EMTs. The problem was delineated by two research questions and relevant terms were defined for the purposes of this study.

Historically, the primary source of emergency patient care in Air Force emergency departments was by the qualified emergency medical technician (EMT). Their scope of practice was determined by Department of the Air Force and local (hospital and base) regulations, as well as, individual abilities. Though EMTs are members of Nursing Service, they were viewed as an agent of the on-duty physician; Nursing Service functioned in a staffing or consultative/problem solving capacity. The recent Air Force emphasis on quality assurance and risk management has forced a reevaluation of this practice.

This investigator was involved in the current trend adopted by selected Air Force medical facilities of placing professional nurses in the emergency department to establish credible professional standards of practice. In this position, the nurse directly supervises the care

rendered by the qualified EMT to ensure quality care is provided according to established guidelines. At this time, few Air Force medical facilities have a professional nurse assigned to their emergency department due to lack of authorized staffing. Those facilities that have placed nurses in their emergency department, have often done so at the expense of depleting an authorized position.

Investigation of the professional nurse role within Air Force emergency departments was a suggested topic in the Nurse Corps' "Compendium of Research Topics (1983-1984)". Therefore, the rationale for this study, to determine if direct nursing supervision influences the quality of emergency care as demonstrated by EMT documentation, serves dual purposes. First, it will empirically validate or refute whether professional nurses provide a necessary influence in Air Force emergency care. Secondly, this study will also provide the Air Force Nurse Corps with initial evidence of the professional nurses' role in influencing one facet of care rendered by Air Force EMTs as evidenced by their documentation.

Statement of the Problem

The problem to be studied is the documentation practices of Air Force EMTs to determine if a difference exists whether they are directly supervised by a professional nurse or not. The research questions are:

1. Is there a difference in the emergency record documentation practices between directly supervised EMTs and indirectly supervised EMTs?

2. Is there a difference in the documentation of critical assessment data between directly supervised EMTs and indirectly supervised EMTs.

Definition of Terms

The following terms have been operationally defined for the purposes of this study:

Critical Assessment Data: Objective and subjective data which provides an initial clinical picture from which further clinical assessment or judgement can be made. It includes: current medications, currency of tetanus immunization, allergies, chief complaint (including symptoms and duration), vital signs, category of treatment, and additional vital sign assessment.

Emergency Department: A designated area where an unscheduled ill or injured person can be assessed for the criticality of their complaint, and, as indicated, be treated, referred to a specialist or transferred to an appropriate facility.

Qualified Emergency Medical Technician (EMT): An Air Force medical technician who has completed the basic 81 hour U.S. Department of Transportation training program and works in a fixed area such as an emergency room, CCU, ICU, recovery room. This person has a minimum of six months experience in an emergency department and has both ambulance and fixed unit responsibilities.

Nursing Audit: A systematic review of the quality of care as it is reflected in the patient care record.

Record: Documented evidence of health care received.

Professional Nurse: An individual who holds current licensure as a registered professional nurse in at least one of 50 states and has six months clinical experience in an emergency department.

CHAPTER II

REVIEW OF LITERATURE

Air Force practices have placed the EMT as the primary nonphysician provider of patient care within their emergency departments. As a member of Nursing Service, their care reflects favorably or unfavorably on the Department of Nursing. The civilian community is also faced with the role of the EMT as an emergency patient care provider under Nursing Service. This recent trend has sparked controversy as to the EMTs ability in this role as well as their effect on the quality of emergency patient care. This controversy, plus professional and personal interest, provided the impetus for this study as an attempt to quantify and qualify the EMT role/performance in providing emergency patient care within the emergency department. Therefore, this review looks at: the role of the EMT as an inhospital patient care provider; the nursing audit as one method of evaluating EMT performance; and the role of the professional nurse in influencing the behavior of subordinates.

Emergency Medical Technician

In 1966, the EMT role emerged from a National Research Council report "Accidental Death and Disability: The Neglected Disease of Modern Society" (Rockwood, Mann, Farrington, Hampton, & Motley, 1976 and McKay, 1983). This report states, "There were no accepted standards for the competence or training of civilian ambulance attendants in comparison with armed service medics" (McKay, 1983, p. 27). Rockwood, et

al. (1976), McKay (1983) and Miller (1983) report that prior to the development of the Emergency Medical Service, ambulance services were sparse, poorly attended and consisted only of transferring patients--not the assessment and treatment of life threatening injuries and illnesses.

In 1969 the U.S. Department of Transportation developed the Basic Training Course for EMTs. In 1970 the National Registry for Emergency Medical Technicians was organized to unify the education, examination and certification of EMTs on a national level. In 1975 the EMT role gained significant status when the American Medical Association Committee on Health Manpower accepted and approved the role of the EMT-Paramedic as a "bonafide emerging health occupation" (McKay, 1983). Though the initial intent of the role of the EMT was as a pre-hospital emergency care provider, the National Registry defined the role to include performance within a fixed medical facility (Rockwood, et al., 1976). Suffixes "A" for ambulance and "P" for paramedic are added to their certification with additional education and qualification.

The Air Force has acknowledged the EMT as an alternative to professional nurses in providing patient care within Air Force emergency departments. However, it has only been recently that nurses in the civilian community have had to face the emerging role of the EMT within their domain. Their concern is reflected in recent opinion articles and 'letters to the editor' addressing the trend of employing EMTs as auxillary nursing personnel within civilian emergency departments. By definition and Joint Commission and Accreditation of Hospitals (JCAH) standards, this is acceptable practice (Rockwood, et al., 1976; AMH, 1984). The Emergency Department Nurses Association (EDNA), the Occupational Health Nurses (OHN), and Flynn are on record supporting the

role of the EMT in emergency department nursing care (JEN, 1, 1975; OHN, 30, 1983; Flynn, 1982). The Nurses Associations of Pennsylvania, Ohio, and Iowa have denounced this practice as a serious threat to professional emergency nursing care and job security (RN, 46, 1983; AJN, 2, 1983; Haney, Peterson, Wagenknecht, and Butler, 1984).

The pervasive use of EMTs working in emergency departments is reflected in a national survey conducted by Allerman, McKay and Dinsdale (1985). It is the only study found that addresses the incidence and performance of EMTs within an emergency department. A questionnaire was sent to emergency department nursing supervisors and consisted of three parts: incidence of EMTs in hospital emergency departments, the patient care activities this group was performing, and whether the EMTs were performing nursing behaviors. No reliability or validity data for the questionnaire was provided. It did elicit a 50% (2719) return rate, of which 27% (730) represented hospitals that employ EMTs in their emergency department. Incidence of employment was presented in frequency distribution tables for: emergency department level (per JCAH), training level (EMT, EMT-A, EMT-P), positions eliminated with the hiring of EMTs, and incidence of performance in specific separate nursing behaviors such as patient advocate, patient care coordinator and chart auditing.

The results of this study indicated that EMTs were employed, or planned to be employed, in every state except Delaware even though 13 states restrict EMT practice to prehospital care. The majority (59.5%) of EMTs were employed in JCAH classification Level II emergency departments where a physician is available on a 24 hour basis. The most frequently cited reason for hiring EMTs was to supplement the nursing staff, however, numerous nursing positions were eliminated with the

hiring of EMTs. The majority of EMTs (90%) were supervised by professional nurses. Allerman, et al., reported that EMTs were performing behaviors ascribed to professional nursing practice. Careful reevaluation of the data revealed that the incidence of EMTs versus nurses performing these behaviors is significant: serves as patient advocate (45%), debrides burns (40%), provides emotional support (52%), reviews discharge instructions with the patient (50%), inserts foley catheters (53%), and intervenes in crisis situations (45%). EMT performance was lowest in administration of blood and blood products (10%) and intravenous antibiotic administration (14%). This study only presents the incidence of EMTs performing nursing behaviors, a nursing audit could evaluate how well those behaviors were performed.

Nursing Audit

Standards of care are the foundation of the nursing audit. They identify the levels of performance expected for quality patient care to occur--and have been established to guide the expected performance within the emergency department. These standards are categorized as structural and process. JCAH Emergency Services Standards provide structure, while the ANA's (1975) and EDNA's (1983) Standards of Emergency Nursing Practice guide process. To date, normative standards for EMT performance have not been established (Shrauger and Kimball, 1981).

If standards are the foundation of the nursing audit, then criteria are the framework. It is from standards that criteria are developed so that the standard can be measured. The actual measurement of the standard is the nursing audit.

The term, nursing audit, was first defined by Sister Blanch in 1955

as "an evaluation of care through the evaluation of nursing notes" (McGinnis, 1975). Early literature substantiates that the auditing of records has significantly improved the documentation of patient care (Sister Agnes, 1960; Phaneuf, 1964 and 1969; Donabedian, 1969). The assumption that the nursing audit reflects quality of care is widely debated by some who feel that the nursing audit only reflects the quality of documentation and that the nursing audit is an ineffective evaluator of care.

The nursing audit gained acceptance and popularity in the early 1970s under the assumption that it evaluated the quality of care via documentation. This trend was fostered by two key documents. The first was the 1972 Amendment to the Social Security Act which mandated Professional Standards Review Organizations (PSROs) be established to evaluate the quality of health care when health care is reimbursed through Medicare, Medicaid, or Maternal/Child Assistance. This act further mandated peer review of physicians and indirect review of nonphysician health care providers (ANA Guide, 1976). The second key document was Phaneuf's The Nursing Audit--Profile of Excellence published in 1972. In this publication, Phaneuf proposed that the nursing audit was one means of providing professional accountability through self-regulation and accountability of actions (Phaneuf, 1976). The nursing audit continues to be one method of obtaining evidence in the assessment of quality care. Unfortunately, however, the nursing audit only measures how well the standards of care are adhered to. How well the standards are accepted and adhered to is often the result of the influence exerted by a nurse in a leadership role.

Influence

Nursing Leadership Theory helps one to understand the effect direct nursing supervision plays in affecting the behavior of subordinates. Leadership was characterized by three concepts--authority, power and influence. Moloney reports that Bennis differentiates between these concepts by proposing that authority is the "legitimate right to reward, punish and control the attitudes and behavior of others"; power is the "actual ability to control the behavior of others"; and influence is the "process by which an agent induces a subordinate to behave in a desired manner" (Maloney, 1979, p. 70). Marriner (1984) more succinctly differentiates the concepts by stating that authority is derived power while influence is power without authority. Of the three concepts, influence has the most relavency to this study and will be presented further.

Influence is defined by Duncan as an "interpersonal relationship devoid of power and authority and in which the behavior of one person affects that of another" (Yura, Ozimek & Walsh, 1976, p. 61). Stogill believes it is an implied reciprocal relationship between a leader and a follower (Yura et. al., 1976). Shurr supports this premise by stating it is a "shared operation" and involves the control of attitudes as well as actions of others (Maloney, 1979). Douglas and Bevis propose that influence is either a direct or indirect relationship in which "the behavior of an individual or group is affected by another" (Douglas & Bevis, 1983, p. 340, 341). They cite the role expectations of the position as an example of direct influence, whereas indirect influences are more subtle, i.e., suggestion, advice, role modeling.

Theoretical Framework

The theoretical framework for this study is based on the belief that professional nurses, when in a direct supervisory position, can exert a positive influence over EMT performance and that the performance can be measured. Documentation of the emergency record is one dimension of performance that can be objectively evaluated. The nursing audit is one method to measure this performance as it provides a relatively simple and objective measurement of documentation performance. By comparing two populations of EMTs, one directly supervised by nurses and one not, it can be determined whether professional nurses influence the documentation behavior of EMTs.

The review of the literature addressed three specific areas. The first area was that of the intentional and evolving role of the EMT. The second area focused on the nursing audit as a method of measuring performance once standards have been established. The last area addressed was the concept of influence from Nursing Leadership Theory. Influence provided the necessary connection with the other two areas for formulation of the theoretical framework.

CHAPTER III

METHODOLOGY

This chapter details the methodology used to determine whether there was a difference in EMT documentation depending on whether or not the EMT was supervised by a professional nurse. Several assumptions were made in the design of this study and are delineated. The instrument used was developed by this investigator and analyzed using the t-test for independent samples, ANOVA, and the chi square test for independence. The results present the statistical significance of the applied tests.

Study Design

To answer the research questions this comparative descriptive study was proposed to determine whether a difference existed in the documentation practices of Air Force EMTs, whether they are directly or indirectly supervised by professional nurses. To answer the first research question, documentation of 20 items on the Emergency Care and Treatment record used throughout the Air Force was compared for two groups. The second research question was answered by additional comparison to realize whether a difference existed between the two groups' documentation on critical assessment data of the treatment record.

Before proceeding further, four assumptions were made. The first assumption was that Air Force emergency departments were similar as they were guided by the same standards. The second assumption was that the care rendered in Air Force emergency departments was also similar. The

third assumption was that the population served by Air force emergency departments in this study were similar. The population seeking emergency treatment were either active duty military personnel, retired service members or dependents of active duty or retired personnel. The fourth assumption, that Air Force EMT performance was similar, was based on the similarity of their training, job description and expected standards of performance.

Instrumentation

A Standard for Air Force Emergency Record Nursing Audit with accompanying criteria (Appendix 1) was written before the audit instrument was developed. This standard was based on the standard Form 558 (SF 558) "Emergency Care and Treatment" record (Appendix 2); Air Force Regulation 164-7; JCAH Emergency Service standards; and a review of the literature. Air Force regulation states that an SF 558 will be completed on all patients seen in the emergency room. This form was developed for use throughout the Armed Services and included structural and process criteria mandated by JCAH Standard VII, as well as, additional information necessary for the identification, assessment and treatment of patients seeking emergency medical care.

The SF 558 is a self explanatory form with labeled boxes to be completed by different levels of health care providers. If the emergency situation allows, the EMT is responsible for obtaining administrative and initial assessment data before the patient is seen by a physician. There are ten items of administrative data required: log number, arrival date and time, mode of transportation to the hospital, who provided the history, home address and telephone number, sex, age, and identification (name and Social Security Account Number). This data was categorized as

noncritical since it does not directly affect the outcome of treatment.

Other items required at time of admission and that affect treatment are: current medications, currency of tetanus immunization, allergies, chief complaint to include symptoms and duration, vital signs, category of treatment and additional vital signs. These were categorized as critical assessment data since they contribute to the initial clinical assessment and treatment of the presenting emergency by the physician.

The audit instrument developed was a checklist with the noncritical and critical assessment items listed horizontally and the sample record number listed vertically (Appendix 3). The items are listed sequentially according to when they are usually recorded during admission to the emergency department. To ease scoring, the critical assessment items were "starred" (*) and enclosed in bold column lines. There was also an additional column for the total score of each record audited.

Sample

To provide reasonable access to the EMT groups studied, four Air Force hospitals within the same geographic area were selected. Two of the facilities had a charge nurse assigned to the emergency department on a permanent basis and two did not. Written permission to perform the nursing audit on the emergency department's copy of the SF 558 was obtained prior to sample selection. To insure anonymity of the medical facilities used, these letters were not included in this study.

A convenience sample of 400 Emergency Care and Treatment Records were selected from four Air Force hospitals located in the southeast United States. One hundred records were selected from each facility. All records were selected from the emergency room copy of the SF 558 for weekday visits that occurred during the hours of 8 a.m. and 4 p.m. for

the month of February, 1985.

One hospital selected as a source of nonsupervised EMTs had a nurse temporarily assigned to their emergency department in April, 1985. Selection of February controlled for contamination of this nonsupervised group. Additionally, selecting weekdays between 8 a.m. to 4 p.m. controlled for the time when charge nurses are on duty, thus potentially exerting their greatest influence.

The records were selected by the investigator then screened for time limitation, adult status, and non-trauma complaints. Traumatic injuries and pediatric patients were not included in this record sample as Air Force emergency departments may specify different assessment needs for these patients. Controlling for audit status and non-traumatic complaints insured that the maximum number of critical assessment items should be recorded.

Analysis

In order to analyze the data, Polit and Hungler (1983) recommend converting the raw data into a meaningful scale of measurement. The interval level of measurement was used which allowed the responses to be summed. The level of significance was set at .05 which Polit and Hungler state to be the minimum acceptable level for scientific research.

Measurement

Each record was first summed to obtain a "documentation score" between 1-20. These scores were then averaged to obtain a mean documentation score for each independent and paired EMT group (Table 1). Then, each occurrence of item documentation by site was summed to obtain: 1) total item documentation (total items) (Table 1) for each independent and paired EMT group; 2) noncritical assessment subscore

TABLE 1

Mean Documentation and Total Item Documentation Scores

	Nonsupervised			Supervised		
	Hosp A	Hosp C	Group	Hosp B	Hosp D	Group
Mean Documentation Score (0-20)	17.5	16.8	17.16	17.8	18.2	18.17
Total Item Documentation	1749	1682	3431	1776	1857	3633
$\overline{X}$			.858			.908

Totals based on 100 records/hospital

(Table 2); 3) 8-item critical assessment subscore (Table 3); and 4) 10-item critical assessment subscore (Table 3). A range from 0-100 for each independent EMT group or 1-200 for each paired group, could be obtained under the summed item documentation by site score.

Two critical assessment subscores were required because two items, category and additional vital signs were not required by all of the emergency departments studied. Category was segregated as "B" emergency department did not require its EMTs to categorize the emergency nature of a patient seeking treatment. The second item, additional vital signs, was also treated separately. Additional vital signs is a critical assessment item that EMTs could provide, but there is no requirement for this assessment to be accomplished.

Organizing the data into meaningful summated scores facilitated prudent analysis of the research sample. This arrangement was imperative for answering both research questions using three statistical tests.

T-Test for Independent Samples

The t-test for independent samples was used to determine whether there was a difference in the mean documentation scores between supervised and nonsupervised EMTs. This statistical test was also used to compare the 8-item critical assessment subscore for each independent and paired EMT group to determine whether there was a difference in critical assessment documentation of EMTs by level of supervision.

ANOVA

The ANOVA is similar to the t-test in that it also compares differences between means. However, unlike the t-test, the ANOVA allows for more than two means to be compared at one time. It also considers the variences within and between group data. It was used to analyze

TABLE 2

NonCritical Assessment Sub Scores

	Nonsupervised			Supervised		
	Hosp A	Hosp C	Group	Hosp B	Hosp D	Group
Log Registry	100	100	200	100	100	200
Date of Arrival	100	100	200	100	100	200
Time of Arrival	100	100	200	100	100	200
Mode of Transportation	96	99	195	98	100	198
History Obtained From	95	98	193	99	100	200
Address/Duty Station	100	98	198	100	100	200
Telephone Number	99	98	197	100	100	200
Sex	100	100	200	100	100	200
Age	99	100	199	100	100	200
Identification	99	100	199	100	100	200
Ten Item Total	988	993	1981	997	1000	1997

Based on 100 records audited at each hospital

TABLE 3

Distribution of Scores: Critical Assessment Item Documentation

	Nonsupervised			Supervised		
	Hosp A	Hosp C	Group	Hosp B	Hosp D	Group
Current Medications	94	93	187	87	100	187
Tetanus Immunization	100	100	200	100	100	200
Allergies	100	94	194	100	100	200
Chief Complaint	100	100	200	99	100	199
Symptoms	37	35	72	61	69	130
Duration	37	19	56	57	76	133
TPR	98	99	188	98	95	193
B/P	99	99	198	100	100	200
Eight Item Total	655	630	1295	702	740	1442
Category	76	57	133	47	97	144
Additional Vital Signs	20	2	22	30	20	50
Ten Item Total	761	689	1450	779	857	1636

Based on 100 records audited at each hospital

total item by site documentation scores and the 8-item critical assessment subscore to determine whether a difference in documentation was significant between and within the two EMT groups.

Chi Square

A chi square test for independence was performed on the four lowest item by site scores under critical assessment data. These items were: symptoms, duration, category and additional vital signs. The chi square was applied to determine whether these scores occurred by chance.

In summary, this chapter presented the methodology used to answer the proposed research questions. Four assumptions were presented to provide rationale for the study's design and selection of the research sample. The research instrument was developed to coincide with the emergency record audited. An interval-scale of measurement was used which allowed the data to be summated. The summated scores were separated into four categories: mean document scores, total item occurrence by site (total item) score, noncritical assessment subscore, 8-item assessment subscore, and the 10-item critical assessment subscore. Analysis of these scores using three statistical tests of significance provided the means to determine whether there was a difference in EMT documentation depending on the level of supervision. The results and findings of this analysis is presented in the next chapter.

CHAPTER IV

RESULTS, FINDINGS, DISCUSSION AND LIMITATIONS

This chapter identifies the significance found from analyzing the data. The results answer the research questions from a statistical standpoint. Discussion of these findings identify their significance to nursing while the limitations identify restrictions in their generality.

Results

The results of this study are presented by answering the research questions using three statistical tests. The IBM-PC version of "Statistics" (1982) by Business Software Systems, Inc. was used to perform the statistical computations.

Research Question 1

Is there a difference in the emergency record documentation practices between directly supervised EMTs and indirectly supervised EMTs? No significant difference was found between the two groups using the t-test for independent samples on the mean documentation scores ($t=2.714$, $df=2$) or total item documentation scores ($t=0.67$, $df=38$). Additionally, no significant difference was found using the one way ANOVA on the total item documentation scores ($F=.524$, $df=3/19$).

Research Question 2

Is there a difference in the documentation of critical assessment data between directly supervised EMTs and indirectly supervised EMTs? The t-test for independent samples was used to compare the 8-item

critical assessment subscores. Significant difference was found between the indirectly and supervised EMT groups (t=4.003, df=14, p .001) between the two directly supervised EMT groups.

A one-way ANOVA demonstrated that there was significant difference (F=17.4, df-7/24, p .001) between the four EMT groups on the 8-item critical assessment subscore. The 8-item critical assessment subscores were then compared for significance between nonsupervised and supervised EMT group. A significant difference was found (F=7.08, df=7/8, p .01).

The chi square test for independence resulted in a less than .01 probability that the four lowest scored critical assessment items occurred by chance.

Findings and Discussion

The assumptions regarding similar standards, populations and EMT performance were supported by the findings. No overall significant difference was found between the emergency record documentation of Air Force EMTs who were directly supervised by a professional nurse and those who were not.

The premise that professional nurse supervision influences EMT performance as measured by documentation was supported by the research findings. Statistical significance was found when the 8-item critical assessment subscores for nonsupervised and supervised EMTs were compared. The same subscore was used to compare independent EMT groups. No significant difference was found between the two nonsupervised EMT group's subscores, however, there was significant difference between the two supervised group's subscores. It was inferred from these findings that different levels of performance were the result of different degrees of professional nurse influence.

From a practical standpoint, the findings are also significant. The amount of critical assessment data obtained may affect the initial clinical assessment and decisions the physician makes in treating the emergency patient.

All of the low-scoring critical assessment items, except additional vital signs, provide essential data related to the critical nature of the emergency. Under direct nursing supervision, there was a higher incidence of EMT documentation. This increase was 1.8 to 2.3 times that of nonsupervised EMTs for the items: symptoms, duration and additional vital signs. The slight increase (0.9) in the documentation of treatment category was limited as one supervised EMT group was not required to annotate this item.

The statistical significance, along with the practical significance of these findings, further strengthens the premise that professional nurses influence EMT performance as evidenced by critical assessment item documentation.

Limitations

The primary limitation of this study evolves from its purpose. The purpose was to determine if there was a difference in documentation practices of Air Force EMTs whether they were directly supervised by professional nurses or not. Thus, the emergency record sample was limited to that used in Air Force emergency departments. Also, the EMT groups studied were also limited to those in the Air Force.

The use of four Air Force hospitals within one geographic area may also limit the ability to generalize the results. Different geographic locations, with a potentially different population mix, i.e., less retired personnel, and different mission (Air Force) emphasis may produce

different results.

Specifically, the findings cannot be generalized to the civilian community. Within the Air Force, the EMT's role is well established and accepted for its paraprofessional contribution to patient care delivery. Within the civilian community, the EMT role as an emergency department patient care provider has not been clearly defined.

In summary, no statistical significance was found for mean scores or total item documentation between nonsupervised and supervised EMTs. Conversely, results of the subscore analysis for critical assessment data demonstrated significant difference not only between the nonsupervised and supervised EMT groups, but also between the two supervised EMT groups. These findings supported the premise that professional nurses influence EMT performance. The purpose of this study limited the findings to applications within the Air Force. Their implications for nursing, discussed next, are not as restricted.

CHAPTER V

SUMMARY

The purpose of this study, to determine whether there was a difference in Air Force EMT documentation depending on level of supervision, was supported by the research findings. The inferred premise, that professional nurse supervision has a positive influence on EMT performance, was also supported by the findings. The implications of these findings and recommendations for action and future study summarize this study.

Implications for Nursing

This study focused on Air Force EMTs and the influence that professional nurses had on EMT documentation. With the exception that not all Air Force EMTs are directly supervised by professional nurses, this study can be generalized to the civilian community. The implication that not all Air Force EMTs are directly supervised by professional nurses allows for a significant variability in the critical assessment data obtained during admission to the emergency department. This variability can have quality assurance/risk management implications for Nursing Service as well as effect the initial clinical assessment and treatment of emergency patients.

The lack of normative standards for EMT performance is a serious implication for all of nursing. EMTs are performing nursing behaviors (Allerman, et al., 1985) and initial patient assessment without expected

levels of performance being defined. Additionally, the lack of empirical evidence regarding the performance of hospital-based EMTs offers no support for why this group is allowed to provide emergency patient care. Not only does nursing need to assist in the development of EMT standards, but also retain professional discretion over behaviors that require the education, experience and judgement of professional nurses.

The final implication is in the area of influence. It was demonstrated that under the influence of a professional nurse, there was a significant difference in the documentation of critical assessment data. The premise that the influence of professional nursing can be measured is an important implication for nursing.

Recommendations

From the findings of this study, the following recommendations are proposed:

1. The Standard for Air Force Emergency Record Nursing Audit be adopted and used throughout the Air Force in performing emergency department nursing audits.

2. Establishment of normative standards for EMT performance be developed and used throughout Air Force Emergency Services.

3. Careful review of this study be accomplished by the Chief Nurse, Air Force Nurse Corps.

4. Air Force replication of this study be conducted using a different geographic area to obtain additional evidence of the generalizability of this study's findings.

5. An authorized charge nurse position be established in every Air Force hospital's emergency department.

6. The civilian community should become aware of the role EMTs can

perform in the delivery of patient care, with the added challenge of establishing EMT performance standards.

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APPENDIXES

APPENDIX 1

Standard for Air Force Emergency Record Nursing Audit

All adult patients seeking care in an Air Force emergency room will have care documented on the SF 558. EMTs are responsible for insuring identification and initial assessment data is complete and that the patient is registered on the emergency room log.

The following criteria will be used to assess the quality of nursing services responsibility in the initial assessment and admission of patients into the emergency room. The SF 558, Emergency Care and Treatment Record will be used to audit documentation compliance to these criteria. No item will be left blank; if not applicable, then N/A is the acceptable recording. Each adult patient admitted into the emergency room will have the following documented on their Emergency Care and Treatment Record.

1. ER log number
2. Date and time of arrival
3. Mode of transportation to hospital
4. Current medications
5. Tetanus (if injury)
6. History obtained from
7. Allergies
8. Home address/Duty station
9. Home telephone number

10. Chief complain (symptoms and duration)

11. Sex

12. Age

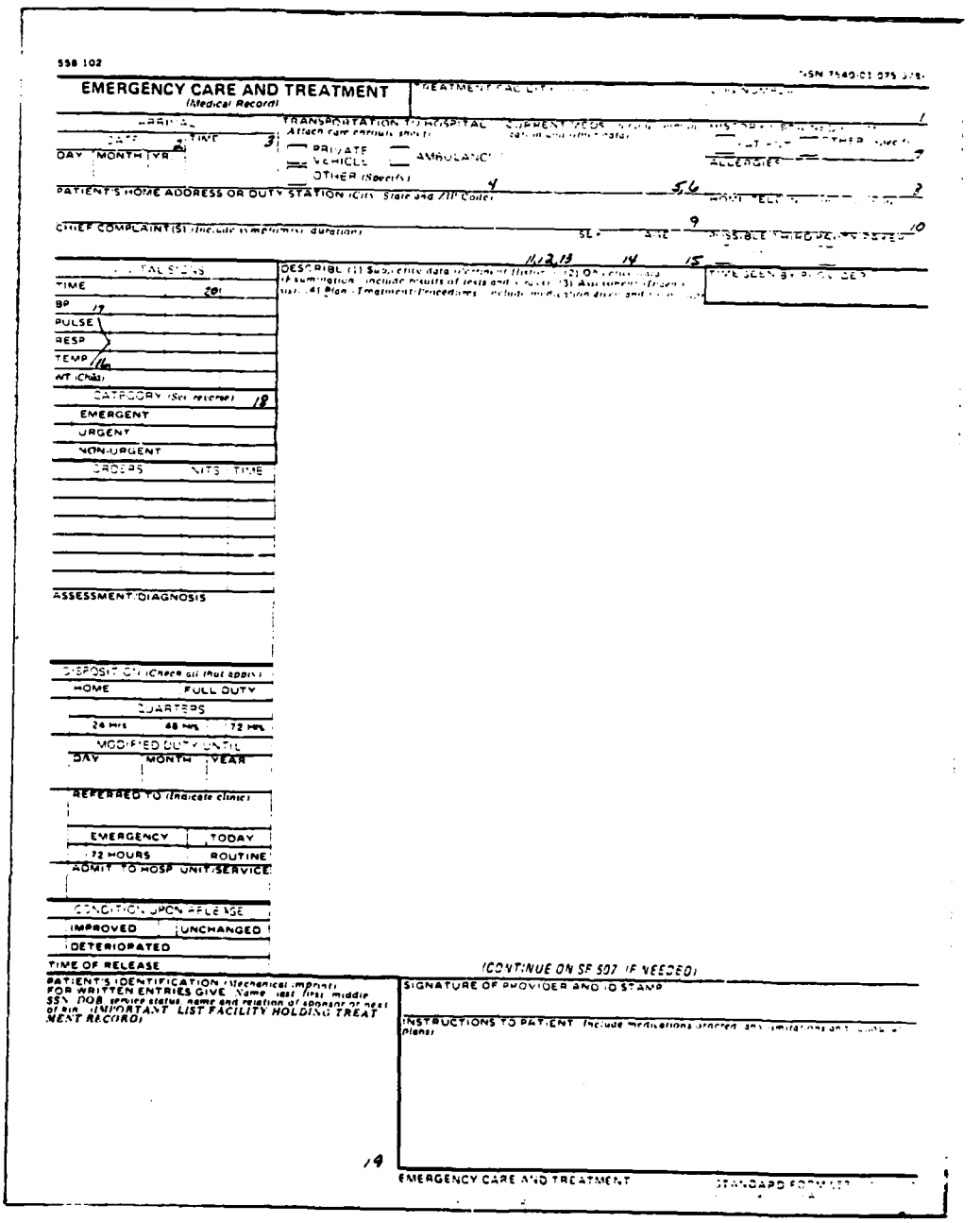
13. Vital signs

14. Category (emergent/urgent/non-urgent)

15. Patient's identification (name, SSAN, status [active duty, dependent, retired]).

APPENDIX 2

Emergency Care and Treatment



558 102

EMERGENCY CARE AND TREATMENT
(Medical Record)

TRANSPORTATION TO HOSPITAL (If ambulance used, indicate name)
PRIVATE VEHICLE — AMBULANCE — OTHER (Specify)

PATIENT'S HOME ADDRESS OR DUTY STATION (City, State and ZIP Code)

CHIEF COMPLAINT (Include symptoms, duration)

VITAL SIGNS
TIME
BP
PULSE
RESP
TEMP
WT (Child)

CATEGORY (See reverse)
EMERGENCY
URGENT
NON-URGENT

ORDERS | INITS | TIME

ASSESSMENT/DIAGNOSIS

DISPOSITION (Check all that apply)
HOME — FULL DUTY
QUARTERS
24 HRS | 48 HRS | 72 HRS
MODIFIED DUTY UNTIL
DAY | MONTH | YEAR

REFERRED TO (Indicate clinic)
EMERGENCY | TODAY
72 HOURS | ROUTINE
ADMIT TO HOSP UNIT/SERVICE

CONDITION UPON RELEASE
IMPROVED | UNCHANGED
DETERIORATED
TIME OF RELEASE

DESCRIBE (1) Subjective data (symptoms, history) (2) Objective data (findings) (3) Assessment (diagnosis) (4) Plan (Treatment, procedures, medication, disposition)

TIME SEEN BY PHYSICIAN

(CONTINUE ON SF 507 IF NEEDED)

PATIENT'S IDENTIFICATION (Mechanical imprint) FOR WRITTEN ENTRIES GIVE: Name (last, first, middle) SSN, DOB, service status, name and relation of sponsor or next of kin. (IMPORTANT: LIST FACILITY HOLDING TREATMENT RECORD)

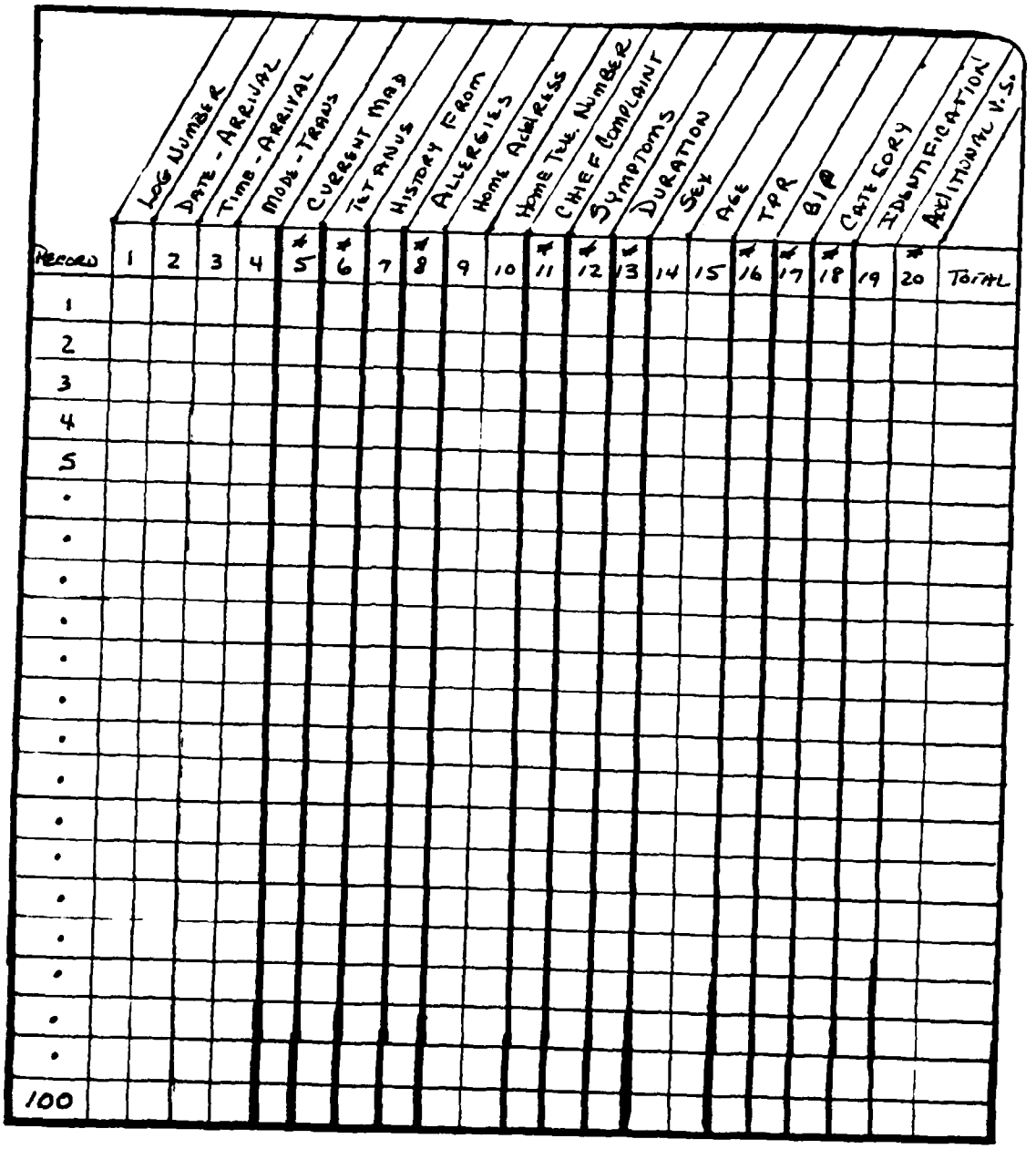
SIGNATURE OF PROVIDER AND ID STAMP

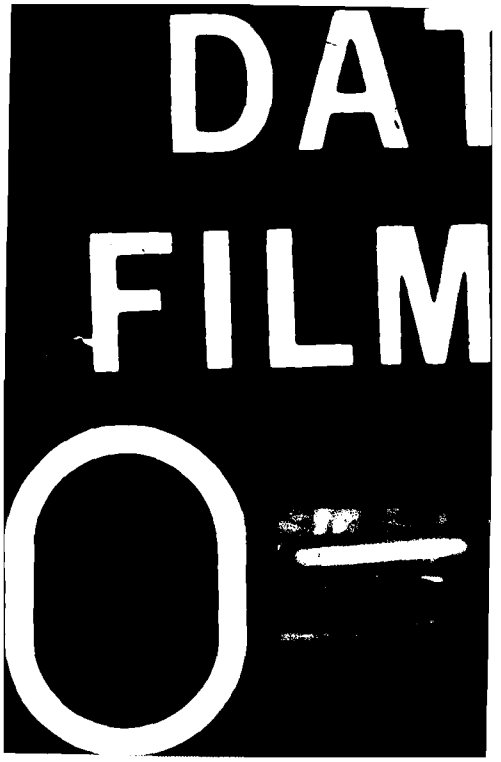
INSTRUCTIONS TO PATIENT (Include medications prescribed, any limitations and time of follow-up)

EMERGENCY CARE AND TREATMENT — STANDARD FORM

APPENDIX 3

Audit Checklist

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