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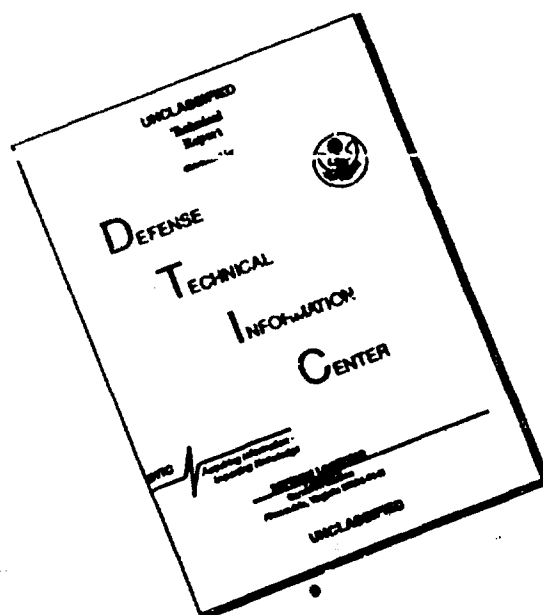
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ABSTRACT

ROLE, FUNCTION, AND UTILIZATION OF
THE TRIAGE NURSE

by

John D. Maynard, R.N., B.S.N.

Master of Science in Nursing

IUPUI

Indianapolis, Indiana 1980

Martha Wittenauer, R.N., M.S.N., Chairperson

Problem.—A continued need for increase in emergency services by a consumer conscious public has resulted in marked increases in emergency services being given. The resultant increases in service have led to both role expansion and extension for the nurse working in emergency services. Many subspecialties have developed within the specialty of emergency nursing leading to much confusion as to what some of the roles of the nurse actually are. One such expanded/extended role that suffers from such confusion is that of the triage nurse. This study investigated what role triage nurses were actually performing and compared the role to a model role developed from the literature.

Subjects. Fifty-five nurses (fifty nurses and five supervisors) selected as a convenience sample participated in the study. The study was limited to five hospitals having over a 300-bed capacity in one metropolitan city in a mid-western state.

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Design of the Study. The data investigated in this study were obtained by demographic questionnaire. The demographic variables selected for investigation were age, sex, years of experience as a nurse, years experience in the emergency department, basic nursing preparation, and whether or not the nurse was working toward a higher degree.

Also utilized was the researcher's self-designed Likert-type questionnaire utilizing the first module of the Emergency Department Nurses' Association Curriculum for Continuing Education. The statistical treatment of the data included the use of the frequency distribution and percentage, mean comparison, and one-way analysis of variance.

Results. Eleven hypotheses were postulated in the alternative form. All eleven of these hypotheses were rejected. Results from the questionnaire indicated that triage nurses were generally performing roles that were nursing skills oriented (i.e., health history, vital signs, observation) and were not performing roles that were physician skills oriented (i.e., chest sounds, palpation, breath sounds, percussion). All of these skills had been suggested by the EDNA Curriculum as appropriate assessment and triage skills.

It was found that the typical triage nurse working in the emergency department today was female, less than 30 years of age, with less than four years experience as an R.N., and less than four years experience in the emergency department. The basic education of this nurse is probably an Associate of Arts degree and she is not working toward a higher degree. The nurse is not aware of the EDNA Curriculum nor of the ANA Standards for Emergency Nursing Practice.

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Civilian Institution Programs

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1. Thesis/Dissertation
2. AFIT Research Assessment

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ROLE, FUNCTION, AND UTILIZATION OF
THE TRIAGE NURSE

A Master's Thesis

Submitted to Indiana University School of Nursing
in partial fulfillment of the requirements
for the degree
Master of Science in Nursing

Major Subject: Nursing Administration

Minor Subject: Medical-Surgical Nursing

by

John D. Maynard, R.N., B.S.N.

December, 1979

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"Role, Function, and Utilization of the Triage Nurse," a thesis written by John D. Maynard in partial fulfillment of the degree Master of Science in Nursing, has been approved and accepted by the following:

Dean of the School of Nursing

Chairperson of the Thesis Committee

Committee Member

Committee Member

Date

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Chapter 1

INTRODUCTION

For many years, the emergency service has been the most neglected and often the weakest department in the hospital. Administrators look upon it as a drain of resources; physicians debate the proper staffing. Increased use, however, has created pressures on the hospital and medical staff to provide a more adequate service.¹

The concept of emergency medical service which has evolved through the years in America finds itself in challenging and troubled times. The importance of emergency services should not be underestimated. They constitute a vital link in the chain of health care and medical cure. This vital link is often the difference between life and death, and often serves as the point of transition from public to hospital environments.

Public demand for care in emergency departments in general hospitals has increased tremendously in recent years. Some studies cite increases as much as 600 percent since World War II.² As this patient load increases, the need for evaluation and expansion of the nurse's role in the emergency department becomes more acute. Effective utilization of health professionals in emergency departments is an absolute must in today's cost-conscious economy.

The emergency nurses of today are ever striving to define their role. This role definition is an attempt not only at providing

¹American Medical Association, Emergency Department - Handbook for the Medical Staff, Chicago: American Medical Association, 1966, p. 5.

²Kathryn McLeod, "Learning to Take the Trauma Out of Triage," RN, July, 1975, p. 24.

quality care, but also at establishing a professional identity that has financial compensation and increased job satisfaction to go along with it.³ Emergency nurses are expected to expand their skills and knowledge, yet are sometimes asked to take lesser roles in the delivery of care. They are sometimes in competition, both for skills and money, with lesser trained and educated paraprofessionals, such as emergency medical technicians and paramedics.⁴ In some areas, these paraprofessionals are being hired to replace nurses to staff the emergency department.⁵ Some nurses have become paramedics or left the field of nursing entirely in an effort to cope with situations like these. All of this has led to role confusion for the emergency nurse.

Specialization requires extensive education and time, yet the nurses who prepare themselves for this specialization (expanded/extended roles) are not compensated for it.⁶ Many institutions simply will not allow the specially trained nurse to perform in an expanded/extended role.⁷ If this happens, and it frequently is the case, job satisfaction may be reduced, nursing productivity maybe reduced, and utilization maybe ineffective.

³Karen Frissel, "Emergency Nursing in Limbo: The Problem of Role Definition," Journal of Emergency Nursing, 2:43, (September-October, 1976), p. 43.

⁴Ibid.

⁵Ibid.

⁶L. S. Linn, "Expectation vs. Realization in the Nurse Practitioner Role," Nursing Outlook, 23:168, 1975.

⁷L. Holgrem, "Wilted Goals," Point of View, 1:5, 1974.

Statement of the Problem

Within the specialty of emergency nursing, many subspecialties have developed. These range from the "nurse scribe", to the "emergency nurse practitioner."^{8,9} Much confusion exists as to what the actual role of the nurse is in the emergency department. Part of this confusion may be attributed to the perception of others (i.e., hospital administration, physicians, other nurses). Many of the other healthcare providers do not have a clear understanding of the role or expectations of the emergency nurse.¹⁰ Confusion which is further complicated by the fact that nurses themselves have doubts about their role and function.¹¹

The problem seems to be one of role definition, role perception, and resultant utilization of the emergency nurse. The purpose of the study is limited to looking at only one expanded/extended role of the emergency nurse, that of the triage nurse, how she views her role, how others view her role, and how she is utilized. The study will help clarify what triage nurses are currently doing. Many emergency nurses are being reported as working in an expanded/extended role. The study will attempt to find out if this is, in fact, the

⁸ R. C. Witt and D. R. Haedtler, "Nurse Scribe System Saves Time in the ED," Journal of Emergency Nursing, 1:23-24, 1975.

⁹ John Roglieri, "Multiple Expanded Roles for Nurses in Urban Emergency Rooms," Archives of Internal Medicine 135:1401, 1975.

¹⁰ Frissel, op. cit., p. 44.

¹¹ Ibid.

case in this population. Information gained may effect better utilization of these health professionals by redefining and delineating job descriptions and performance standards, and by showing existing utilization patterns.

Delimitations of the Study

The study will survey only emergency departments in one metropolitan city, in one geographic area, and therefore is not generalizable to all emergency departments. The emergency nurses surveyed will be from a convenience sample.

There is no instrument presently available nor specifically designed to determine if triage nurses are being utilized effectively. Nor is there any common agreement as to the exact role of the triage nurse. The tool, designed by the researcher, is basically derived from the first module of the Emergency Department Nurses' Association (EDNA) Curriculum for Continuing Education,¹² the description of which will be found in Chapter 3.

Assumptions

There are some basic assumptions made for this study. First, it is assumed that each emergency department visited will have a position of triage nurse. Secondly, it is assumed that the respondents to the questionnaire will respond honestly and accurately.

¹²Emergency Nursing Curriculum for Continuing Education, published by the Emergency Department Nurses' Association, Lansing, Michigan, 1975, pp. 1-179.

Hypotheses

This study will look at how triage nurses are currently being utilized in several large metropolitan emergency departments. Eleven hypotheses are suggested to give direction to the study. These hypotheses are expressed in the alternative form.

- H:1 Triage nurses are currently functioning in the model role as outlined by the EDNA curriculum.
- H:2 There is a significant variation as to how the role of the triage nurse is perceived between selected metropolitan hospitals.
- H:3 Triage nurses are aware of the model role as outlined by the EDNA curriculum.
- H:4 There will be a difference of at least 1.0 between the perception of the model role by the nurse and the perception of the model role by the ED supervisor.
- H:5 There will be a significant difference between emergency departments functioning under direction of nursing service and those functioning under direction of other services, (i.e., contract service by physicians).
- H:6 There will be a significant difference in the perception of the triage role based on age of the triage nurse.
- H:7 There will be a significant difference in the perception of the triage role based on the years of experience as a registered nurse.
- H:8 There will be a significant difference in the perception of the triage role based on the sex of the triage nurse.
- H:9 There will be a significant difference in the perception of the triage role based on continuing education experiences of the triage nurse.
- H:10 There will be a significant difference in the perception of the triage role based on continuing education experiences of the triage nurse.

H:11 There will be a significant difference in the perception of the triage role based on the level of experience in the emergency department of the triage nurse.

Definition of Terms

In order to assist the reader to interpret the study with a high degree of understanding, some terms basic to the study need to be clarified.

Triage - A French word meaning "to sort", it has been applied generally only in the military mass casualty situations, or civic disasters. When large numbers of wounded are sorted according to priority of treatment and expectancy for survival. In this study, triage will be used to mean sorting for expedience of care, by assessing the patient's problem and the referral to areas of care based on this problem, and the need for specific types of service, (i.e., clinic).

Triage Nurse - The health professional, generally a registered nurse, assigned the function of triage during a tour of duty within the emergency department.

Metropolitan Hospital - This hospital will have at least 300 beds and have an emergency department designated as a "general" emergency department by the Indiana Emergency Medical Services Commission.¹³

General Emergency Department - As classified by the Indiana Emergency Medical Services Commission, is one in which a physician is on call for the emergency department, and other considerations.¹⁴

¹³ Approved Guidelines for Categorization of Hospital EMS Capabilities. Indiana Emergency Medical Service Commission, State of Indiana, Indianapolis, Indiana, June, 1977, p. 8.

¹⁴ Ibid., p. 8.

Emergency Department Nurse Administrator - The registered nurse given the administrative position of responsibility and authority for nursing functions within the emergency department. (May be referred to as supervisor)

Role - the configuration of norms or rules particular to a person or group. In this study, the group will be triage nurses.

Extended Role - Carrying out the same functions in protracted contexts.

Function - Refers to the acts normally performed in the emergency department.

Utilization - Defined by Webster as "to put to use for a certain purpose." It will be assumed to be further described in this study by the word effective, or "put to use for a certain purpose for the good of all concerned, the individual and the organization."¹⁵ Operationally, this term could be defined in terms of man-hours, nursing care hours, job satisfaction, turnover, and absenteeism. This study operationally defines effective utilization as the amount of congruency between actual role and function and desired role and function outlined in the EDNA curriculum.

¹⁵ Webster's New World Dictionary, College Edition, (New York: The World Publishing Co., 1966), p. 1605.

Chapter 2

REVIEW OF LITERATURE

Theoretical Framework

Much has been written about the new role of the nurse in the emergency department and the developing opportunities that are being opened as a result of this expanded role. The terms, role and function, are used frequently in the literature by nurses, yet there is rarely reference or definition.

Talcott Parsons defined role in a way useful for nursing. He described it in terms of the actions and expectations of individual members of society.¹ As the norms or convictions of appropriate behavior become mutually shared, society differentiates the role holders into specialized groups. Particular rights, duties, and obligations then accrue to the role, and these must be controlled to assure predictability and reliability to role behavior.² Turner talks about how roles are played and created by the individual. He says that role taking is role making. In an attempt to make the role more explicit, the actor is creating and modifying the role, as well as merely bringing it to light.

¹Talcott Parsons, "Definition of Health and Illness in the Light of American Values and Social Structure," in E. Gartly Jaco, Ed., Patients, Physicians, and Illness, (New York: The Free Press, 1958), pp. 165-187.

²Ibid.

Role conceptions become creative compromises, and may not be identified unless in interaction with relevant others.³ Role then is seen as ever-changing in relation to society and others.⁴

Function is not as complex as role, and generally is thought of as a set of normal characteristic actions. These actions are defined by the system, and are based on the role.⁵ Role extension and expansion are viewed as two different terms. Murphy distinguishes the two analytically. She suggests that role extension is a lengthening process, carrying out "the same functions in protracted contexts, or elongating specific already assumed functions."⁶ The authority base for the new role would also extend from the original role. Role expansion, on the other hand, means multidirectional change, or a projection of new components into the health system.⁷ Murphy sees the expanded role as including broader theoretical knowledge.⁸

Background Support

Increases in the number of emergency department visits in the

³ R. H. Turner, "Role Taking: Process vs. Conformity," in Human Behavior and Social Processes, 1962, p. 22.

⁴ Ibid.

⁵ M. L. Shetland, "An Approach to Role Expansion - The Elaborate Network," American Journal of Public Health, 19:1959, October, 1971.

⁶ Juanita F. Murphy, "Role Expansion or Role Extension," Nursing Forum, 19:91, January, 1970.

⁷ Ibid.

⁸ Ibid.

past two decades have been well documented.^{9,10,11,12,13} Although several people, (lay and professional), still refer to the emergency department as the "emergency room", this generally could not be further from the truth. No longer is the emergency department just a way station for evaluation and treatment of acute injuries and illnesses. The public views it as a community center for the treatment of a variety of medical and surgical problems, expecting prompt, courteous attention at any time of the day or night.¹⁴ In a study by Weinerman, 25 percent of the interviewed sample considered the emergency department their usual and primary source of medical care.¹⁵ However, the statistics can be misleading if the impression is given that the true "emergency" patient has been overlooked due to the provision of care to persons who use the services for reasons other than sudden illness or injury. The key word is still

⁹Catherine O'Boyle, "A New Era in Emergency Services," American Journal of Nursing, 12:1392, August, 1972.

¹⁰Emergency Room Care, Ed. by Charles Eckert, 3rd Ed., (Boston: Little Brown and Co., 1976), p. XIX.

¹¹McLeod, op. cit., p. 24.

¹²Roglieri, op. cit., p. 1401.

¹³Irene Horashak, "Upgrading Skills and Status," RN, August, 1975, p. 35.

¹⁴Mickey Pool, "Triage Nursing as Problem Solving," Journal of Emergency Nursing, 2:25, November-December, 1976.

¹⁵E. R. Weinerman, S. R. Rutzen, and D. Pearson, "Effects of Medical Triage in a Hospital Emergency Service," Public Health Reporter 80:389, 1965.

"emergency" and that remains the primary function of the emergency department, to care for the suddenly ill or injured patient. Regardless of this fact, the growing number of non-emergency patients is changing the outlook of many emergency departments. Non-emergency patients are now creating, and will increasingly create in the future, a great demand for outpatient services in emergency departments, and the facilities and organization must be available to render these services.

Several factors may be responsible for the influx of patients into emergency departments for something other than true emergency conditions. There is a reported shortage of family physicians making it difficult for some to have a family doctor to care for minor illnesses.¹⁶ There is an increased awareness by the public that medical care is available in the emergency department when the family physician is not available. There is a rising accident rate in the United States. There is a greater concentration of lower class indigent populations in close proximity to general hospitals.¹⁷

The increased number of patients to be seen, may make it impossible to render adequate service without the expansion of both personnel and physical facilities.¹⁸ Basically, the problem is one of supply and

¹⁶Ibid., p. 389.

¹⁷Roglieri, op. cit., p. 1401.

¹⁸Emergency Room Care, op. cit., p. xx.

demand. There is an inadequate supply to meet the increased demand. The rapidly growing demand for quality emergency services is not being completely fulfilled because the capacities of emergency services to render such care have not sufficiently increased. Periodic lags between increased demands for services and the ability to provide these services may be disastrous. Time lags in such service may cause reduced efficiency of patient care and subsequent criticism by the public. Prolonged waits to see a physician, delays in obtaining X-rays, or impressions that other patients are being given priority treatment are likely to create a poor image to the public.^{19,20,21} It is of vital importance for hospital administration to recognize where inadequacies and inefficiencies exist and to remedy them promptly in order to provide faster and better service to the public.^{22,23,24}

In a simplistic sense, emergency services have two main goals: the first is to render high-level professional medical care to all persons

¹⁹ Ibid., p. xix.

²⁰ Ann Bliss, Lila Decker, and Wayne Southwick, "The Emergency Room Nurse Orders X-rays of Distal Limbs in Orthopedic Trauma," Nursing Research, 20:440, September-October, 1971.

²¹ Susan Albin, et. al., "Evaluation of Emergency Room Triage Performed by Nurses," American Journal of Public Health, 65:1063, October, 1975.

²² Emergency Room Care, op. cit., p. xix.

²³ Roglieri, op. cit., p. 1401.

²⁴ Weinerman, op. cit., p. 389.

who require treatment; the second goal is to obtain optimum utilization of all resources used in the operation of emergency services, including staffing, personnel, equipment, and supplies.²⁵

Hospital emergency service resources in the form of staff, equipment, facilities and supplies are expensive and physically and economically scarce. It is the responsibility of medical facilities to use these resources wisely. All efforts must be made to distribute resources in a coordinated manner in order to achieve more effective utilization. More effective utilization should result in minimization of financial loss, improved quality of patient care, and an increased overall effectiveness of the health-care system.

The need for more effective utilization factors have necessitated substantial changes in the staffing, financing, and administration of metropolitan hospitals. Roglieri points out that the increase in emergency room usage has had tremendous impact on medical-school-affiliated hospitals, where the burden of the increased patients has been on house staff. He maintains that clinical inexperience of junior house officers leads to "overtesting", leading to increased expense, still longer waiting periods, and further resultant inefficiencies.²⁶ Roglieri further contends that this young intern is overworked and undersupervised and as a result is "turned off" to ambulatory medicine, general medicine, and primary medicine.

²⁵Emergency Services in Iowa: Toward More Effective Utilization of Resources and Provision of Care, William D. Stoddard, Health Care Research Series, No. 15, University of Iowa, 1970, p. 4.

²⁶Roglieri, op. cit., p. 1401.

Rendering primary care in an emergency department setting is more costly in terms of equipment and personnel.²⁷ Also, the resultant overload of non-emergency cases may result in increases and unacceptable delays in rendering prompt care to true emergencies. The system of emergency department triage, which has been in use for some time in large, busy hospitals is a possible solution for dealing with these problems. Triage, traditionally a physician's decision, is now being performed by many nurses.²⁸

As patients' selection of sites for care changed and technologic and specialized resources increased, health professionals responded by modifying their roles and innovating mechanisms for role performance. In nursing, the concept of the "triage nurse" emerged as a direct outgrowth of shifting patterns of medical and health care.²⁹

Literature Review

Literature concerning emergency nursing deals primarily with role expansion and training of the nurse in a specialty area. Studies point to increased usage and demand for emergency services, increasing consumerism in health care delivery and increased specialization within the field of emergency nursing. As the patient load increases, the need

²⁷Weinerman, op. cit., p. 389.

²⁸Albin, et. al., op. cit., p. 1063.

²⁹O'Boyle, op. cit., p. 1393.

to expand and evaluate the role of the nurse in the emergency department becomes more acute.

Challenged by the demands of increasingly sophisticated consumers, today's emergency-oriented professionals, helped by national legislation have turned emergency care into one of the fastest growing specialities^{30,31,32} in the health care field. The challenge is especially true in the nursing profession where a great deal of the burden for delivery^{33,34,35} of health care rests.

The American College of Emergency Physicians (ACEP) defines the role of the emergency nurse and dedicates an entire chapter in their³⁶ book on Emergency Department Management. In this chapter, ACEP eludes to some of the qualifications of the emergency nurse such as a background in the pathophysiology of trauma and other emergency conditions and the ability to set treatment priorities. Additionally, the nurse should have the ability to assess the patient, assist the physician and initiate innovative nursing diagnosis and plans.³⁷

³⁰Emergency Room Care, op. cit., p. xx.

³¹McLeod, op. cit., p. 24.

³²Horashak, op. cit., p. 35.

³³O'Boyle, op. cit., p. 1392.

³⁴Horashak, loc. cit.

³⁵Frissel, op. cit., p. 44.

³⁶Emergency Department Organization and Management, Ed. by A. L. Jenkins, (St. Louis: C. V. Mosby Co., 1975), pp. 27-39.

³⁷Ibid., p. 27.

According to Frissel, emergency nurses are striving to define their roles in a way that will permit them to provide quality care and establish a professional identity, coupled with financial compensation and job satisfaction.³⁸ The field of emergency nursing is a rapidly changing one. Emergency nurses are assuming roles from "emergency nurse scribe,"³⁹ to "emergency nurse practitioner."⁴⁰ There are many different roles between these two. In many areas, nurses are performing functions previously performed only by the physicians, such as the ordering of distal limb X-rays.⁴¹

A key force in the fast growing movement to upgrade knowledge and skills has been the Emergency Department Nurses' Association (EDNA). This organization doubled its membership in the first year, and has shown a steady increase in membership since then.⁴² In 1975, EDNA published a continuing education curriculum, consisting of 25 separate modules. The purpose of this curriculum was "an attempt to document, reinforce, and advance specialty status through serious efforts at defining the realm of emergency nursing and the establishment of a standardized educational program."⁴³ This curriculum is one of the

³⁸ Ibid., p. 43.

³⁹ R. C. Witt, D. R. Haedtler, "Nurse Scribe System Saves Time in the E.D.," Journal of Emergency Nursing, 1:23-24, January, 1975.

⁴⁰ Roglieri, op. cit., p. 1402.

⁴¹ Bliss, Decker, and Southwick, op. cit., p. 440.

⁴² Horashak, op. cit., p. 35.

⁴³ Emergency Department Nurses' Association, EDNA Continuing Education Curriculum, published by Emergency Department Nurses' Association, East Lansing, Michigan, 1975, 179 pp.

first steps in gaining certification as an emergency nurse. It has been endorsed by the American Nurses' Association, Division of Medical/Surgical Nursing.

Frissel maintains that emergency nursing is in limbo.⁴⁴

Emergency nurses are expected to expand and upgrade their skills, yet are relegated to positions of low authority in the emergency department. In some instances, paraprofessionals with lesser training and education are hired to staff emergency departments instead of nurses.⁴⁵ There are legal ramifications to this, as the nurse is legally responsible for care given to the patient, but this care is often given by paraprofessional personnel who often possess authority that is out of proportion to their education and experience.⁴⁶

Once again ACEP has spoken to the problem. The physicians, as a professional group, feel that the emergency nurse is not practicing at her highest potential.⁴⁷ There must be a re-examination of the roles in nursing practice, with new definitions. Emergency nursing, like emergency medicine, takes some facts of nursing from all fields, yet, the whole is more than the sum of its parts.⁴⁸

Slater, in a study of the emergency department at Children's

⁴⁴Frissel, op. cit., p. 44.

⁴⁵Ibid.

⁴⁶Ibid.

⁴⁷Emergency Department Organization and Management, W. L. Jenkins, Ed., American College of Emergency Physicians, C. V. Mosby Co., St. Louis, 1975, p. 32.

Hospital of Los Angeles discussed the role of the triage nurse.⁴⁹

Prior to the establishment of a triage area, there was considerable congestion in the screening and emergency clinics. Since a physician could not be made available for this position, it was decided to use a registered nurse to perform this task. The triage nurse's duties included: determining if a medical record exists, taking a brief history, directing the patient to the area she judges most appropriate, and providing immediate assistance to those requiring it.⁵⁰ When the effectiveness of the program was assessed, the most immediate result was the lessening of congestion in both the screening and emergency clinics.⁵¹

Basic requirements of the emergency nurse, as outlined by the ACEP include, but are not limited, to the following triage functions: ability to elicit and record a history, ability to take and interpret EKG's, capacity to recognize signs and symptoms of possible serious complications in pediatrics, obstetrics, for example, and sufficient skill in understanding the ordering of X-ray films, lab tests, and so on.⁵²

⁴⁹Rita Slater, "Triage Nurse in the Emergency Department," American Journal of Nursing 70:127-219, January, 1970.

⁵⁰Ibid.

⁵¹Ibid.

⁵²Emergency Department Organization and Management, W. L. Jenkins, Ed., American College of Emergency Physicians, C. V. Mosby Co., St. Louis, 1975, p. 34.

McLeod relates the experiences of Parkland Memorial Hospital in Dallas where President Kennedy was taken in 1963. In this article, she focuses on many of the stress-producing factors of triage: physical isolation, the triage process itself, problems of communication, distressed visitors, and the burden of paperwork.⁵³

Several studies reported the effectiveness of the expanded role of the emergency nurse. In one emergency setting, nurses examined and evaluated patients and referred them to the emergency area, screening clinic, outpatient department, or an outside facility. These nurse practitioners were reported as effectively and efficiently handling the walk-in triage patients.⁵⁴

In a study by Bliss, Decker, and Southwick, it was reported that emergency nurses were allowed to order X-rays of distal limbs in orthopedic trauma.⁵⁵ The nurses were compared in their work to the physicians as an evaluation. Signs and symptoms were recorded in 80 percent of the cases for the nurses; compared to only 38 percent for the physicians. The physicians made provisional diagnosis on only 70 percent of the patients they saw; whereas the nurse did this on 90 percent of the patients. When comparing provisional diagnosis to radiological diagnosis, the nurses agreed 38 percent of the time; compared to 40 percent for the physicians. There was some concern that the nurses were ordering more

⁵³McLeod, op. cit., p. 24.

⁵⁴Roglieri, op. cit., p. 1402.

⁵⁵Bliss, Decker, Southwick, op. cit., p. 440.

X-rays; however, this proved not to be true. X-rays turned out negative 50 percent of the time regardless of who ordered them. Time lapse from time of registration and X-ray was cut from 40 minutes for physicians, to 25 minutes for nurses.⁵⁶

Nurses in another area were taught to triage patients according to an evaluation of his or her presenting complaint. The referral was then made to the emergency department, outpatient department, or clinic. A study completed to evaluate the effectiveness of nurses in the triage, found that 80 percent of the patients were triaged correctly. Seventeen percent were up triaged and only 3 percent were mistriaged.⁵⁷ A study from San Francisco General Hospital reported a 98 percent accuracy rate for triage of patients by nurses.⁵⁸

There are reports of nurses not being allowed to function in expanded roles. The time spent in nursing and non-nursing functions was the subject of a study conducted at a large hospital in Florida.⁵⁹ A time and function study showed that nurses were spending 78 percent of their time in non-nursing functions, (24% secretarial, 42% nurses aides, 6% orderly, and 6% other). They spent only 22 percent of their time in actual nursing functions.⁶⁰ Such common functions as giving

⁵⁶Bliss, Decker, and Southwick, op. cit., p. 444.

⁵⁷Albin, et. al., op. cit., p. 1065.

⁵⁸John Mills, et. al., "Effectiveness of Nurse Triage in the Emergency Department of an Urban County Hospital," Journal of American College of Emergency Physicians, 5:877, November, 1976.

⁵⁹Valerie Gray, "How Much Nursing Do Nurses Really Do?", Journal of Emergency Nursing 2:24-27, May-June, 1976.

⁶⁰Ibid.

medications, participation in resuscitation of cardiac victims, applying bandages, and taking vital signs were identified as nursing functions. Several tasks were identified as not currently being performed, but were desirable. Those included drawing blood gases, and endotracheal intubation. There was some disagreement as to whether auscultation of lungs, auscultation of heart sounds, and preliminary abdominal examination were nursing functions.⁶¹

In a report to the Department of Health, Education, and Welfare on extending the role of the nurse, it was reported that nurses may not be prepared to assume the extended role, and were reluctant to accept it.⁶² Yet, the Secretary of HEW stated the same year that nurses are recognized as being one of the most effective deliverers of comprehensive screening, assessment, primary care, and management of both acute and chronic illness in the ambulatory care setting.⁶³

The Trauma Committee of the American College of Surgeons, in 1967, felt that the emergency nurse must be assisted by post-graduate education, increasing the nurse-physician relationship to a more advanced level and removing the traditional and legal barriers that now hinder the nurses' active participation in medical care of the patient.⁶⁴

⁶¹Gray, op. cit., pp. 24-27.

⁶²Report to the Secretary of Health, Education, and Welfare, "Extending the Scope of Nursing Practice," Nursing Outlook, 20:47, January, 1972.

⁶³E. L. Richardson, Statement by the Secretary of Health, Education, and Welfare. (Washington, D.C.: U.S. Government Printing Office, Publication No. 724-500/113, 1972).

⁶⁴Emergency Medical Services, (Westport, Connecticut: John Camden Technomic Publishing Co., 1972), p. 165.

It is a well-known fact that despite what the law might be, the emergency department nurse, in cases of dire emergency, is often forced to practice medicine without physician consultation simply because the physician is unavailable and the consequences are too grave not to do something.

George says that the beginnings of the expanded role for nurses comes from four places. These are: the physician assistant's movement, the feminist's movement, increased public demand for services not presently being supplied by physicians and a realization that nurses have been functioning in expanded roles for years with a minimum of problems.⁶⁵

Roglieri identifies different arguments for the use of nurses over non-nurses in the assumption of what he calls "physician's tasks". He states that nurses are known and readily accepted by patients.

Summary

The literature dealing with emergency room nursing is primarily interested in more efficient use of nurses for emergency patient care. Emergency nurses were reported functioning in many expanded/extended roles. The wealth of literature on expanded roles was countered somewhat by an article that said that nurses really did not do much nursing care. Most of the articles reviewed suggested that effective utilization of the emergency nurse in some type of an expanded/extended role

⁶⁵James E. George, "The Legal Limit," Journal of Emergency Nursing, 2:25-32, January, 1976.

produced outputs which were efficient and effective. There was also identified an increased job satisfaction and motivation in these roles.

Chapter 3

METHODOLOGY

Introduction

This descriptive study attempted to discover whether or not the triage role, as it is suggested by the EDNA core curriculum, was being practiced anywhere in large mid-western city hospitals. Several large metropolitan emergency departments were surveyed by questionnaire to discover the opinions of nurses and their supervisors working in these emergency departments. The results of the questionnaires from the nurses and their supervisors were compared, contrasted, and analyzed for significance using the eleven hypotheses outlined previously as a basis for analysis.

The objectives of the study were to relate meaningful data to the hypothesis and show the utilization of the EDNA curriculum in the triage function.

Subjects

The sample used in this study consisted of 75 registered nurses currently functioning in the emergency departments of five metropolitan hospitals in central Indiana. These nurses worked all three shifts and had varying degrees of education and experience. Additionally, emergency department supervisors, five registered nurses, one in each facility, were surveyed. The sampling technique used was one of convenience.

Subjects - Hospitals

Five hospitals in a large metropolitan midwest city were used in this study. These hospitals are referred to throughout the analysis of data by number. The hospitals are numbered as follows:

Hospital #1. This hospital is a large private non-profit hospital located near the inner city. The hospital has over 1200 beds and is the largest hospital in the area. The hospital is affiliated with a large midwestern university which has medical, nursing, dental, and allied health schools. The hospitals provides some phases of clinical education for this university as do most of the other hospitals in this study. Triage is performed by a RN or LPN initially to determine if the patient can go to registration or needs prompt attention. No physical assessment is done.

Hospital #2. A private non-profit hospital located in primarily residential and rapidly growing suburban area. This hospital has 850 beds. The people served by this hospital generally have higher levels of education, white collar jobs, achieve higher income levels and have¹ above average insurance coverage. There is an affiliation with the same university. As a triage function the patient is seen by registration personnel first. If acute, the patient sees a nurse for physical assessment.

Hospital #3. This is a governmental, non-federal (county) hospital, located in an inner city location near a medical center complex. This hospital has 640 beds and is affiliated with a large midwestern

¹Community Hospital of Indianapolis, Brochure, pp. 9-10.

university with medical, nursing, dental, and other allied health schools. As a triage function, the patient is seen by an RN and a physical assessment is made prior to patient seeing registration or if prompt attention is needed, the patient is seen immediately.

Hospital #4. This is a private Catholic hospital with 499 beds located in the northern suburbs of the city. This hospital is also located in a higher socio-economic population as was hospital #2. The hospital moved from an inner city location five years ago and still gets some of its patients from that area. This hospital also has some affiliation with the university. As a triage function, the patient is seen by a nurse, who determines if the patient goes first to registration or is seen in the emergency room. This function is performed through a window and no physical assessment is made.

Hospital #5. This is a private Catholic hospital with approximately 650 beds. It is located in the southern suburbs of the city. This hospital has gone through rapid expansion projects in the past few years. The population served is predominately middle class. This hospital also has some affiliation with the university to provide some phases of clinical education. As a triage function the patient is initially seen by a non-professional person trained to do rapid triage. The patient is then either sent to the register or to see a nurse for more indepth assessment.

Data Collection

A questionnaire was devised utilizing basically Module I of the EDNA Continuing Education Curriculum.² The first module of this curriculum is assessment and triage. From this module, fourteen questions were selected which were directly related to the triage function. There is content validity to doing this because it is taken from the EDNA curriculum, and EDNA is the professional organization dedicated to emergency nursing and a recognized authority in the field of emergency nursing. The president of EDNA stated, upon the release of the curriculum, that "each module could stand independently and on its own".³ Pulling one module out of context, therefore, should not affect the validity. Further, construct validity was checked by administering the questionnaire to several faculty members involved in teaching emergency nursing in two separate nursing programs.

Reliability was established by administering the questionnaire to five registered nurses not connected with the study hospitals. Retest was accomplished in a one week period of time with virtually the same results. No redesign of the questionnaire was identified as being necessary.

Two questions were added at the end of the questionnaire in

²Emergency Department Nurses' Association, Continuing Education Curriculum, published by EDNA, East Lansing, Michigan, 1975, 179 pp.

³Horshak, Irene, "Upgrading Skills and Status," RN, August, 1975, p. 35.

an attempt to elicit responses that would show an awareness of the EDNA curriculum and also an awareness of the Standards of Emergency Nursing Practice as published by the American Nurses' Association (ANA).⁴ Answers to these questions were a simple "yes, no" or "don't know". A "yes" implicating awareness, a "no" or "don't know" indicating non-awareness of these two milestones in emergency nursing.

The first 14 questions (19 variables) dealing with triage functions had a Likert-type rating scale from five to one. Five being "always", four "most of the time", three "sometimes", two "rarely", and one being "never". Respondents were asked to circle the number following the question or statement that corresponded best with what they actually did in every day practice. Supervisors, on the other hand, were assumed not to practice clinically and were asked to circle the number that best reflected how they perceived the nurses in their emergency department functioning.

The directors of nursing in each institution were contacted by personal letter explaining briefly what the researcher proposed to do (see Appendix A). This letter was followed in one week by a phone call and personal appointment so the director could appraise the proposal and questionnaire. In all cases, the researcher was referred to another person more directly related to the emergency department. In some cases, this was a clinical nursing director and in others this person was an

⁴American Nurses' Association, Division on Medical-Surgical Nursing Practice, Standards of Emergency Nursing Practice, New York, 1975, 9 pp.

administrative manager. Regardless, permission was gained from the five hospitals solicited and agreements were made to share results of the study with the participating hospitals.

The questionnaires were numbered for hospital and questionnaire number and then placed in large manila envelopes along with a letter of introduction, instructions, and a self-addressed, stamped envelope for return. A packet was delivered to each emergency department supervisor, who, in turn, distributed the questionnaires to his/her personnel. In the letter of introduction each respondent was asked to volunteer for the study and each had the opportunity not to participate in the study. Respondents were given only a very vague idea as to the purpose of the study so that the results could be assumed to approximate true reactions.

Treatment of the Data

The entire questionnaire was coded for computer input prior to administration to the respondents. Coding was accomplished for ease of data entry into the computer.

A frequency distribution was completed on all demographic data of all subjects in the questionnaire. Demographic data included age, sex, years experience as registered nurse, years experience in the emergency department, basic nursing education program, and whether or not the respondent was pursuing a higher degree. The responses to the questions, ranked on a Likert-type scale, were also reported and statistically compared. All data obtained was reported.

Means were reported for each individual question. Agreement criteria, that criteria chosen for functioning according to the model

role was established at 80 percent of maximum (4.0) for these questions. Eighty percent was understood to be a mean of four (4.0) out of a possible five (5.0) of the Likert-type scale. Means of questionnaire scores were reported according to age, registered nurse experience, and emergency department experience. Means of items were also reported by the emergency department supervisor score, by hospital, by pursuit of a higher degree, by sex, and by basic education. Analysis of variance (ANOVA) was utilized to compare years of emergency care experience, years of nursing experience, education, age, and whether or not the nurse was working toward a higher degree.

All analysis of data was performed at the Wrubel Computing Center, Indiana University, Bloomington, Indiana, using the Statistical Package for the Social Sciences, version 7.0, June 27, 1977.⁵

⁵Nie, Norma, et. al., Statistical Package for the Social Sciences (2nd edition, New York: McGraw-Hill Book Company, 1970).

Chapter 4

RESULTS AND DISCUSSION OF RESULTS

This chapter is designed to report the statistical results of the study. A tool was designed utilizing the Emergency Department Nurses' Association (EDNA) Continuing Education Curriculum, Module I Assessment and Triage.¹ This tool was assumed to be the model role for the triage nurse for this study. The tool was used to elicit responses that were either consistent or not consistent with this model role of the triage nurse.

Analysis of the Data

Data for this study was obtained from the return of mailed questionnaires. Seventy-five (75) questionnaire packets (15 for each hospital) were delivered to the participating hospitals for distribution to the emergency department nurses by their supervisors. A total of 55 questionnaires were returned for a rate of 73 percent. Included in the 75 questionnaires were 5 questionnaires designated for the supervisor or emergency department administrator. Of these 5 questionnaires, 100 percent were returned. Of the 55 questionnaires returned (73%), all were judged to be acceptable for inclusion in this study. A breakdown of returns by hospital is shown in Table 1.

¹ EDNA, op. cit., pp. 1-35.

Table 1

Return of Questionnaires by Frequencies and Percentages

Hospital	No. Returned	Percent Returned from Institution	Relative Frequency (PCT)
1	7	46	12.0
2	11	73	20.0
3	12	80	22.0
4	14	93	26.0
5	11	73	20.0
Total	55	73	100.0

The largest return was from hospital #4, which returned 14 of 15 questionnaires (93%). Hospital #1 returned slightly less than half of their questionnaires (46%).

Table 2 shows the type of management (i.e., hospital management, physician corporation) that the emergency departments were under during the study. Table 2 also shows whether nurses were under the department of nursing, administration, or directly under the physician.

Table 2
Types of Management Used by Emergency
Departments by Hospital

Hospital	Type of Management	Nurses Under
1	Physician-Corporation	Nurse Manager-responsible to physician
2	Physician-Corporation	Nurse Manager-responsible to physician
3	Hospital-Service	Department of Nursing
4	Hospital-Service	Nurse Manager-responsible to physician
5	Hospital-Service	Administrative Manager responsible to administration

It is noted that in only one hospital, hospital #3, are emergency nurses under nursing services. In all other hospitals, emergency nurses are separate from nursing and report to non-nursing managements. In three of the hospitals, the nurses report to physicians.

Analysis of Demographic Data

Demographic data collected included age, sex, number of years' experience as registered nurse, number of years' experience in the emergency department, basic nursing education, and whether or not a higher degree was presently being sought. The results from the summary of demographic factors using a frequency distribution are summarized in Tables 3 through 8.

Table 3 shows the respondents' age by frequency and percentages.

Table 3
Distribution of Respondents by Age
(Excludes Supervisors)
by Frequency and Percentages

Age	Frequency	Percentage	Cumulative Percentage
21	1	2.0	2.0
22	1	2.0	4.0
23	3	6.0	10.0
24	5	10.0	20.0
25	5	10.0	30.0
26	8	16.0	46.0
27	2	4.0	50.0
28	2	4.0	54.0
29	3	6.0	60.0
31	5	10.0	70.0
33	2	4.0	74.0
34	1	2.0	76.0
35	1	2.0	78.0
37	3	6.0	84.0
39	2	4.0	88.0
40	2	4.0	92.0
41	1	2.0	94.0
42	1	2.0	96.0
44	1	2.0	98.0
58	1	2.0	100.0
Total	50	100.0	

Mean 30.12

Std. Err 1.024

Median 27.5

Mode 26.0

Std. Dev. 7.244

Range 37.0

The mean age was 30.1 with a range of 21 to 58 years. Exactly half (50%) of the nurses were 28 years or over and half (50%) were 27 years or under.

Table 4 depicts the frequency and percentage of the distribution of respondents by sex.

Table 4
Distribution of Respondents by
Frequency and Percentage

Sex	Frequency	Percentage
Male	5	10
Female	45	90
Total	50	100

Five of the respondents were male (10%) and 45 were female (90%). This varies from the national average of registered nurses which reports less than 5 percent of the nurses are male.

Table 5 depicts by frequency and percentage the distribution of respondents by years of experience as a registered nurse.

Table 5
 Distribution of Respondents by Years of Experience
 as a Registered Nurse by Frequency and Percentages
 (Excludes Supervisors)

Years of Experience	Frequency	Percentage	Cumulative Percentage
1	5	10.0	10.0
2	3	6.0	16.0
3	6	12.0	28.0
4	7	14.0	42.0
5	9	18.0	60.0
6	4	8.0	68.0
8	3	6.0	74.0
10	4	8.0	82.0
12	1	2.0	84.0
15	2	4.0	88.0
16	1	2.0	90.0
18	2	4.0	94.0
20	2	4.0	98.0
23	1	2.0	100.0
Total	50	100.0	
Mean 6.94	Std. Err .799	Median 4.944	
Mode 5.0	Std. Dev. 5.648	Range 22.00	

The majority (60%) of the nurses had five years or less experience

as a registered nurse. Approximately one third (28%) had from one to three years experience, one third (40%) had four to six years experience and the remainder (32%) had from 8 to 23 years experience as a registered nurse. Five years experience was the most frequently reported number of years (18%). This data excludes supervisors.

The nurses' total number of years' experience in the emergency department are reported in Table 6.

Table 6

Distribution of Respondents by Years of Experience
in the Emergency Department by Frequency and Percentage
(Excludes Supervisors)

Years of Experience	Frequency	Percentage	Cumulative Percentage
1	17	34.0	34.0
2	6	12.0	46.0
3	3	6.0	52.0
4	4	8.0	60.0
5	7	14.0	74.0
6	3	6.0	80.0
7	1	2.0	82.0
8	2	4.0	86.0
9	2	4.0	90.0
10	2	4.0	94.0
12	1	2.0	96.0
15	1	2.0	98.0
18	1	2.0	100.0
Total	50	100.0	
Mean 4.26	Std. Err .549	Median 3.167	
Mode 1.00	Std. Dev 3.885	Range 17.00	

A majority (60%) of the nurses had four years or less experience in the emergency department. The most frequently reported figure was

one year experience (34%), while only five nurses (10%) reported over 10 years' experience. This data excludes supervisors.

This low amount of experience in the ED, reflects the amount of turnover and retention evident in large emergency departments today. The area is considered one of high stress for the nurse and takes its toll as reflected in years' experience reported.

Basic educational level of the nurse is reported in Table 7.

Table 7

Distribution of Respondents by Basic Nursing Preparation
by Frequency and Percentage
(Excludes Supervisors)

Basic Preparation	Frequency	Percentage
Associate of Arts	21	42
Diploma	17	34
Baccalaureate	12	24
Total	50	100

The majority (42%) of the respondents had an associate degree in nursing as their basic degree. Nurses with a baccalaureate degree comprised the smallest number (24%) of the respondents. This data excludes supervisors.

Table 8 reports the frequency and percentage of those pursuing a higher degree.

Table 8
Frequency and Percentage of Respondents Working Toward
Higher Degree by Frequency and Percentage

Working Toward Higher Degree	Frequency	Percentage
Yes	19	38
No	31	62
Total	50	100

A majority (62%) of those responding were not presently working toward a higher degree, which was defined as an AA or diploma graduate working toward a baccalaureate, or a baccalaureate working toward a master's degree. This data exclude supervisors.

Analysis of Questionnaire Data

The questionnaire consisted of 16 questions, 14 of which were ranked by Likert-type scaling from five to one. The 14 questions actually contained 19 variables, as two of the questions had four parts to them.

The nurses were assumed to be practicing in the model role when their responses indicated they were practicing the role 80 percent of the time. Eighty percent was scored by a mean of 4.0 on any item or a total questionnaire mean of 4.0 or higher. Questions 15 and 16 had simple "yes" or "no" answers and indicated awareness of the EDNA Continuing

Education Curriculum or ANA Standards of Emergency Nursing Practice.

The mean responses of all nurses for the 14 questions are reported in Table 9. This data exclude the supervisors' responses. Responses that are marked with an asterisk* are considered being in the model role.

Table 9
 Respondents' Scores by Main Category
 by Mean and Standard Deviation
 (Excluding Supervisors)

Main Category from Questionnaire	Mean	Std. Dev.	Model Role
1. Triage by chief complaint	4.04	.450	*
2. Does general overview (vital signs)	4.52	.614	*
3. Physical Assessment based on:			
a. palpitation	3.52	1.147	
b. observation	4.86	.535	*
c. auscultation	3.14	1.010	
d. percussion	2.80	.944	
4. Does health history	4.24	1.001	*
5. Knows/records difference normal/abnormal health history	3.70	1.266	
6. Recognize gross normal parameters:			
a. chest sounds	3.58	1.052	
b. bowel sounds	3.16	1.283	
c. symmetry	3.72	1.283	
7. Recognize normal lab values	4.34	.557	*
8. Recognize normal x-ray findings	3.40	.857	
9. Identifies stress factors influencing patient problem	3.98	.622	
10. Defines/records patient problems	3.58	1.311	
11. Defines patient care priorities	4.04	.989	*
12. Communicate assessment data	4.00	.756	*
13. Seeks follow-up of triage decisions	3.62	.752	
14. Uses suggestions to modify triage decisions	3.70	.707	

*Indicates responses correspond to EDNA curriculum.

Note that the responses marked are those that involve skills generally attributed to the nurse (observation, general overview and health history), while the skills generally recognized as more physician type skills are not being performed by nurses (palpation, auscultation, percussion, chest sounds, bowel sounds, and defining patient's problems). The data seem to indicate (mean of total responses was 3.74) that as a general rule the nurses are not functioning in the model triage role and are not using the skills that would have made their assessment of the patient of more value.

The collective mean scores of all the nurses, by hospital, are shown in Table 10.

Table 10
Mean Scores and Standard Deviation
for Nurses by Hospitals

Hospital	Mean	Std. Dev.
1	3.579	.277
2	3.711	.354
3	3.770	.491
4	3.729	.531
5	3.889	.415
Total	3.748	.434

The nurses in hospital 5 indicate closest agreement to the model role, as indicated by a mean score of 3.889, while hospital #1 nurses are the farthest from the model role, as indicated by a mean of 3.579. None of the hospitals achieved a mean of 4.0, that was required to be assumed to be in the model role.

The supervisors responses are summarized in Table 11.

Table 11
Mean Score and Standard Deviation for
Supervisors by Hospitals

Hospital	Mean	Std. Dev.*
1	3.632	.000
2	3.421	.000
3	3.947	.000
4	2.737	.000
5	3.737	.000
Total	3.495	.464

*Std. Dev. reports as .000 because by one supervisor scored.

The supervisors seem to feel that even less is being done in the triage role than do the nurses. Note that the supervisors from hospital #3 indicated a close relationship (mean 3.947) with the model role, while the supervisor from hospital four indicated the least agreement (mean 2.737).

These results are from the supervisors' scores and show some interesting comparisons. (See Table 12)

Table 12 shows the mean scores of nurses and their respective supervisors for each hospital.

Table 12
Mean Scores and Standard Deviation for Super-
visors and Nurses by Hospitals

Hospital	Supervisors Mean	Std. Dev.	Nurses Mean	Std. Dev.
1	3.632	.000	3.579	.277
2	3.421	.000	3.711	.354
3	3.947	.000	3.770	.491
4	2.737	.000	3.729	.531
5	3.737	.000	3.839	.415
Total	3.495	.464	3.748	.434

Although statistical analysis was not performed because of the unevenness of the numbers in the groups, visual comparison indicates close agreements among all hospitals with the exception of hospital 4. Hospital 4 shows a wide disagreement (.992) between the nurses and the supervisors' mean score.

Mean scores of the nurses according to age categories are reported in Table 13.

Table 13
Mean Scores and Standard Deviation
By Age Category of Nurses
(excluding supervisors)

Age Category	Mean Score	Std. Dev.
21-25	3.670	.321
26-30	3.498	.460
31-58	3.518	.448

The age groups of the nurses were divided into three groups to provide relatively equal numbers for statistical analysis. The younger age group (21 to 25 years of age) had the highest mean score (3.670). The middle of the age groups (26 to 30 years of age) had the lowest mean score (3.498).

Table 14 shows the analysis of variance (ANOVA) of the age categories.

Table 14
Analysis of Variance Mean Scores by Age

Category of Nurses					
ANOVA	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.3007	.1504	.7899	.4598
Within Groups	47	8.9474	.1904		
Total	49	9.2481			

Age was not a significant factor ($F = .4598$) Once again, demographic data frequencies exclude the supervisors and only include responses of the nurses.

Table 15 shows the mean scores on the questionnaire by sex of the respondents.

Table 15
Mean Scores and Standard Deviation
by Sex of Nurses

Sex (N)	Mean	Std. Dev.
Male (5)	3.989	.458
Female (45)	3.722	.429

Since the groups were not equal, statistical analysis was carried no further. Males (mean 3.989) indicated closer relationship to the model role than females (mean 3.722).

Experience as a registered nurse and mean score on questionnaire items are reported in Table 16.

Table 16
Mean Score and Standard Deviation by
Years' Experience of Nurse

Years' Experience	N	Mean	Std. Dev.
1-3	15	3.959	.373
4-6	20	3.695	.391
7-20	15	3.639	.509

The years of experience were divided into three categories for equalization of the groups and statistical analysis. The youngest age group indicates the closest relationship to the model role (mean 3.959).

Table 17 shows the analysis of variance between the groups based on years of experience as a nurse.

Table 17
Analysis of Variance, Mean Score by
Years Experience of Nurses

ANOVA	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.8563	.4281	2.3610	.1857
Within Groups	47	8.3415	.1813		
Total	49	9.1978			

Analysis of variance between the groups shows no significant difference ($F=.1857$).

Table 18 shows the mean of questionnaire scores according to the nurses' present amount of emergency department experience.

Table 18
Mean Scores and Standard Deviation by Emergency
Department Experience of Nurses

Experience (N)	Mean	Std. Dev.
0-1 year (17)	3.780	.382
2-4 years (13)	3.907	.411
5-18 years (20)	3.618	.517

The experience was categorized into three groups to provide equal groups for statistical analysis. The group of nurses with between two to four years experience indicated the closes relationship (mean 3.907) with the model role.

Table 19 shows the analysis of variance among the groups based on emergency department experience.

Table 19
Analysis of Variance by Emergency

Department Experience					
ANOVA	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.6816	.3408	1.8697	.1655
Within Groups	47	8.5666	.1823		
Total	49	9.2481			

Analysis of variance showed no significant variance among the three groups ($F=.1655$).

Basic educational level of the respondents and the corresponding mean scores are shown in Table 20.

Table 20
Mean and Standard Deviation Score by Basic
Nursing Education of Nurse

Basic Education (N)		Mean	Std. Dev.
A.A.	(21)	3.754	.459
Dip.	(17)	3.706	.475
Bacc.	(12)	3.798	.352

The baccalaureate graduate indicated closer relationship with the model role (mean 3.798), than the other two categories.

Analysis of variance between the score of the different educational programs is shown in Table 21.

Table 21
Analysis of Variance by Basic Nursing
Education of Nurses

ANOVA	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.0748	.0374	.1996	.8197
Within Groups	47	8.8074	.1874		
Total	49	8.8822			

Analysis of variance between the three groups showed no significance ($F=.8197$).

Mean scores for whether the nurses were working towards a higher degree or not are reported in Table 22.

Table 22
Mean and Standard Deviation Scores of Pursuance
of Higher Degree by Nurses

Pursuing Higher Degree (N)	Mean	Std. Dev.
Yes (19)	3.875	.463
No (31)	3.671	.404

The nurses working towards a higher degree had a closer relationship to the model (mean 3.875), than those nurses not working toward a higher degree.

Table 23 shows the analysis of variance between the groups pursuing and not pursuing a higher degree.

Table 23
Analysis of Variance by Pursuance of Higher
Degree of Nurses

ANOVA	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.2058	.2058	1.1571	.2874
Within Groups	48	8.5349	.1778		
Total	49	8.7407			

Analysis of variance between the groups showed no significance ($F=.2874$).

Table 24 shows the results of the answers to questions 15 and 16, which were designed to discover if nurses were aware of the EDNA Curriculum for Continuing Education or the ANA Standards of Emergency Nursing Practice.

Table 24
Nurses Awareness of EDNA Curriculum and ANA Standards
of Practice by Frequency and Percentages

Awareness	Frequency	Percentage
EDNA Curriculum		
Yes	20	40
No	30	60
ANA Standards		
Yes	9	18
No	41	82

The majority (60%) of the emergency nurses were unaware of the EDNA Curriculum. This figure was surpassed by the astounding unawareness of the ANA Standards of Emergency Nursing Practice, (82%).

Testing of the Hypotheses

The results of testing the eleven hypotheses are outlined below. All hypotheses were rejected, as there were no statistically significant data to support any hypothesis. The data collected and compared did

not provide evidence for the acceptance of the following hypotheses:

1. Triage nurses are currently functioning in the model role as outlined by the EDNA curriculum.
2. There is a significant variation as to how the role of the triage nurse is perceived between selected metropolitan hospitals.
3. Triage nurses are unaware of the model role as outlined by the EDNA Curriculum.
4. There will be a difference of at least 1.0 between the perception by the nurses of the model role and the perception by the E.D. supervisor of the model role.
5. There will be a significant difference between emergency departments functioning under the direction of nursing services and those functioning under the direction of other services, (i.e., contract service by physicians.
6. There will be a significant difference in the perception of the triage role based on the age of the triage nurse.
7. There will be a significant difference in the perception of the triage role based on the experience level as a registered nurse.
8. There will be a significant difference in the perception of the triage role based on the sex of the triage nurse.
9. There will be a significant difference in the perception of the triage role based on the basic nursing preparation of the triage nurse.
10. There will be a significant difference in the perception of the triage role based on continued education experiences of the triage nurse.

11. There will be a significant difference in the perception of the triage role based on the amount of experience in the emergency department of the triage nurse.

Discussion of the Results

All eleven hypotheses were rejected. Some discussion of these results should ensue, however, as that fact may in itself be significant. Several reasons for not obtaining statistically significant results could be postulated. These may include the small sample size, non-random sampling, restriction to one geographic area and other less tangible variables.

Hypothesis one stated that nurses "are currently functioning in the model role". Data to support this lacked the necessary 80 percent agreement criteria (mean 4.0) and fell short with a mean of 3.748. Nurses, therefore, generally speaking, are not functioning in the model role.

Hypothesis two dealt with variations among hospitals. This also was not borne out, as there were no significant variations among hospitals about the perceived role of the triage nurse. This result was somewhat surprising because of the difference in the way the triage nurses function at the different hospitals (see Hospital descriptions). The results are less surprising when one looks at Table 9 and sees the more traditional roles of the nurse being consistently performed by all nurses in all hospitals.

Hypothesis three dealt with whether or not the nurses were aware of their model role as outlined by the EDNA curriculum. Because EDNA is the professional organization specifically designed for emergency

nurses, one would assume that emergency nurses in large metropolitan, university associated, emergency departments, would be aware of that curriculum. They were not. In fact, 60 percent of the nurses indicated they were not aware of the curriculum. To take the awareness of curriculum a step further, a question was designed to find out if the nurses were aware of the ANA Standards of Emergency Nursing Practice. This result was even more revealing, in that, an overwhelming 82 percent indicated they were aware of no such standards. In this day and age of peer review, patient care evaluation, and audits, this is a surprising statistic. Comparable to this statistic is the number of Associate of Art nurses (21) and Diploma (17) graduates contained in this sample. These numbers together with such comments on the questionnaire as "I know nothing of the ANA because of their stand on diploma nurses", suggests some reasons for the results. It is possible that some of these nurses may have alienated themselves sufficiently from the ANA because of its stand on non-baccalaureate nurses, to the point of accepting nothing from this organization.

Hypothesis five dealt with a difference in perception between emergency departments whose nurses were under nursing services and those functioning under other administrative structures (i.e., contract physicians who hire their own nurses). Once again, there was no significant difference between the hospitals. This essentially deflates the argument that nursing service thwarts the independence and autonomy of nurses functioning in the emergency department due to their restrictions on nurses in other areas of the hospital. Contrarily,

some nurses argue that under physician or administrative management, they "can do more" than nurses in other areas of the hospital. This does not appear to be true, at least of triage nurses in this study.

Hypothesis six dealt with a difference in perception based on age of the triage nurse. There was no significant difference among categories. It is noted that the majority of nurses (60%) were less than 30 years of age. This is not inconsistent with the general impression that critical care areas are stressful, fast paced, and generally staffed by the younger nurses.

Hypothesis seven dealt with differences in perception based on the number of years experience as a registered nurse. Again, there were no significant differences between the categories, although this area came the closest with an F Probability of .1857 and the under 3 years group having a close relationship mean of 3.959. It is also noted that 60 percent of the nurses have less than five years experience as a registered nurse.

Hypothesis eight dealt with differences in perception based on sex of the triage nurse. Statistical testing (t test) was not conducted on these results because of the uneven numbers in the groups. It is noted, however, that the males indicated close relationship (mean 3.989) to the model role. The number of males responding (10%) was higher than the national ratio of male nurses to female nurses, but it is not known if this is a sampling error due to non-random sampling, or whether there is a higher percentage of male nurses working in emergency departments.

Hypothesis nine dealt with a difference in the perception of the triage role based on the basic nursing preparation of the triage nurse. Again, there was no statistical evidence to support this. By far the minority of the emergency department nurses are baccalaureate graduates (24%). Hospital 3 had the highest percentage of baccalaureate graduates of this sample (46%).

Hypothesis ten dealt with a difference in perception of the triage nurse based on the pursuit of a higher degree. This was not significant in the data, but did reveal that 38 percent of the nurses pursuing a higher degree.

Hypothesis eleven dealt with a difference in the perception of the triage nurse based on the amount of experience in the emergency departments. Once again, the probability approached significance, but fell short ($F=.1655$). It is noted that the experience level of 2 to 4 years indicated a very close relationship with the model role ($\text{mean}=3.907$) and then dropped off in the 5 to 18 year group ($\text{mean}=3.618$). One might assume, based on logic, that the more experience the nurse has in the emergency department, the closer the association with a model role. This however, was not the case in this study.

All hypotheses were expressed in the alternative form. It was the researcher's intent to support each of these statements with statistical evidence. However, evidence was produced to permit rejection of all eleven hypotheses.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was an investigation of the role, function, and utilization of triage nurses in the emergency department, utilizing one module of the EDNA Curriculum for Continuing Education, the curriculum placed into the format of a questionnaire. The study investigated the agreement with a model role, as suggested by the EDNA curriculum, of the nurses in several emergency departments in a large midwestern city. The relationship between the questionnaire results and several demographic variables were studied.

Summary

The study was accomplished by means of a questionnaire which examined the agreement with a model role, as suggested by the EDNA curriculum. Subjects were 55 registered nurses (50 nurses, 5 supervisors) obtained by a non-random sampling technique. The 55 nurses (50 nurses, 5 supervisors) represented 73 percent of the nurses requested to participate in the study. The nurses were selected non-randomly, as a convenience sample, from five hospitals in a large midwestern city in the summer of 1979.

The questionnaire was checked for validity by administering it to several faculty members teaching emergency nursing in two different nursing programs, one a baccalaureate, one a diploma. Reliability

was checked by a test-retest method eliciting the same responses from the same group after one week.

Frequency distribution, mean comparison and analysis of variance were conducted on the data. The frequency distribution was conducted on the demographic variables of age, sex, years of experience as a registered nurse, years of experience in the emergency department, basic nursing preparation and whether or not the nurses were working toward a higher degree. Mean scores were reported for each question on the questionnaire. Means were also reported for the total scores of nurses for each hospital, the scores of the supervisors for each hospital, scores by age, sex, registered nurse experience, emergency experience, basic nursing education, and working toward higher degree. Analysis of variance for between group and within groups was reported on the mean scores by age, registered nurse experience, emergency experience, basic nursing education, and working toward higher degree. In addition, frequency and simple percentages were reported for awareness of the EDNA Curriculum for Continuing Education and the ANA Standards for Emergency Nursing Practice.

For statistical analysis, eleven alternative hypothesis were tested. Agreement criteria to indicate performance in the model role was set at 80 percent, or a mean score of 4.0. For those hypotheses tested utilizing analysis of variance, the level of significance was set at .05. All of the following hypothesis were rejected.

1. Triage nurses are currently functioning in the model role as outlined by the EDNA Curriculum.

2. There is a significant variation as to how the role of the triage nurse is perceived between selected metropolitan hospitals.

3. Triage nurses are aware of the model role as outlined by the EDNA Curriculum.

4. There will be a difference of at least 1.0 between the perception by the nurses of the model role, and the perception by the ED supervisor of the model role.

5. There will be a significant difference between emergency departments functioning under the direction of nursing services and those functioning under the direction of nursing services and those functioning under direction of other services (i.e., contract service by physician).

6. There will be a significant difference in the perception of the triage role based on the age of the triage nurse.

7. There will be a significant difference in the perception of the triage role based on the experience level as a registered nurse or the triage nurse.

8. There will be a significant difference in the perception of the triage role based on the sex of the triage nurse.

9. There will be a significant difference in the perception of the triage role based on the basic nursing preparation of the triage nurse.

10. There will be a significant difference in the perception of the triage role based on continued educational experiences of the triage nurse.

11. There will be a significant difference in the perception of the triage role based on the amount of experience in the emergency department of the triage nurse.

Conclusions

The delimitations and assumptions as stated in Chapter 1 should be considered when formulating the conclusions. These delimitations and assumptions were:

Delimitations - This study was limited to emergency departments in one metropolitan city, therefore, it is not generalizable to all emergency departments. The sample was one of convenience and not randomly chosen. Fifty-five nurses (50 staff, 5 supervisors) participated in the study. There was not a tool designed to specifically determine if triage nurses were being effectively utilized. Reasonable attempts were made to test validity and reliability of the tool designed.

Assumptions - It was assumed that every emergency department surveyed had a position of triage nurse. This assumption is now questionable, although the function of triage was performed in some fashion by nurses in each emergency department. Secondly, it was assumed that the respondents would respond honestly and accurately.

Although the small sample size and lack of statistically significant data limits drawing general conclusions, based on the findings of this study, the following conclusions are presented:

1. The typical triage nurse working in the emergency department today is less than 30 years of age, female, and has less than five years

experience as an RN and less than four years in the emergency department. The basic education of this nurse is probably an Associate of Arts degree and she may be working toward a higher degree.

2. The triage nurse is not functioning in the model role as suggested by the EDNA curriculum and, in fact, is not even aware that there is such a curriculum. The triage nurse is functioning in some parts of the model role much more than other parts. These more frequent functions being accomplished are skills normally associated with nursing, (general overview, health history, observation, recognizes normal lab values, and communication with other health team members). The skills the nurses are not doing are the ones generally associated with a physician (palpation, auscultation, percussion, chest sounds, and bowel sounds). The triage nurse does not follow up her triage decisions nor does she modify her decisions based on suggestions from other health professionals.

3. There is no real difference in the way the triage nurses perceive their role among the different hospitals, based on age, sex, level of experience, basic preparation, or continuing education.

4. Triage nurses are not being effectively utilized according to the EDNA curriculum, unless one considers using the associate degree nurse exclusively as they are schooled, (i.e., more in the task areas). Triage nurses are not doing skills that they are both capable of and willing to do. They are not doing skills that might effectively expedite the emergency patient through the system with more direct professional care. In some instances, patients

are not seen by a professional person until they have been in the system for some time, or the contact is brief and triage decisions are made on observation and intuition rather than on physical assessment and skill. These factors might also have direct impact on the motivation and satisfaction of the nurses' utilized in these positions.

Recommendations

The present study suggested areas for further research. Therefore, the following recommendations are suggested:

1. That the tool used in this study be further studied for future use and development.
2. That the Emergency Department Nurses' Association conduct a similar study to determine the utilization of their published curriculum. This study should be conducted on a state or regional basis and compared to various areas of the country.
3. That the study be conducted on a larger scale, for example, the entire state or district.
4. That a similar study be conducted on all phases of emergency nursing to discover the utilization of this health professional, utilizing the other modules of the curriculum designed by EDNA.
5. That emergency department nurses be made aware of the existence of the EDNA curriculum and the ANA guidelines by the proper channels.
6. Since baccalaureate graduates have the highest mean (although not much higher), recommend that directors of nursing consider this in their hiring practices for the emergency department.

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APPENDIXES

Dear Colleague,

My name is John Maynard, and I am a graduate student at Indiana University School of Nursing. I am requesting your assistance in gathering data about the current role of nurses in metropolitan emergency departments. I'm requesting that you complete the attached questionnaire, giving responses that reflect the role that you are currently performing in the emergency department. Your responses will be held in confidence and the results will be group scored to maintain anonymity. There will be no way to identify your specific responses. You may refuse to participate if you wish, and may withdraw from the survey at anytime.

The questionnaire should take less than fifteen minutes to complete. When complete, please place it in the self-addressed, stamped envelope which has been provided and drop it in a mailbox. The results will be made available to your organization and may be used in re-evaluation of job descriptions, roles, and functions.

There is no risk to you as an individual. If you have any questions, you may contact me at home (839-6414).

Sincerely,



John Maynard, R.N., B.S.N.
Indiana University
School of Nursing
Graduate Student

Appendix B
Demographic Data Sheet

72

		I.D. No.			
Col					
1	Hosp. No. (1-5)				
2-4	Questionnaire				
5-6	Age	_____			
7	Sex	M	F		
8,9	Years Exp. in Nursing	Actual No.			
10,11	in E.R.				
12	Basic Preparation	A.A.	1	_____	
		Dip.	2	_____	
		Bacc.	3	_____	
13	Working toward higher degree		1 Yes	2 No	
14					

QUESTIONNAIRE

CIRCLE THE NUMBER THAT CORRESPONDS BEST WITH YOUR ANSWER BASED ON THE FOLLOWING CATEGORIES. YOU MAY MAKE ANY GENERAL COMMENTS ON THIS QUESTIONNAIRE THAT YOU FEEL NECESSARY. YOUR RESPONSE WILL BE HELD IN COMPLETE CONFIDENCE.

	5 - ALWAYS						
	4 - MOST OF THE TIME						
	3 - SOMETIMES						
	2 - RARELY						
	1 - NEVER						
		Always	Most of Time	Sometimes	Rarely	Never	Col
1.	I triage patients based on their chief complaint.	5	4	3	2	1	15
2.	I do a general overview based on the patient's chief complaint. (Vital signs, signs of distress, color of skin, etc.)	5	4	3	2	1	16
3.	I do a physical assessment of the patient using the principles and techniques of:						17
	a. palpitation	5	4	3	2	1	18
	b. observation	5	4	3	2	1	19
	c. auscultation	5	4	3	2	1	20
	d. percussion	5	4	3	2	1	21
4.	I do a health history on the patient for the purpose of triage, (to include: onset, current status, pre-existing conditions, medications, family health history)	5	4	3	2	1	22
5.	I differentiate (and record) between normal and abnormal findings on the health history.	5	4	3	2	1	23
6.	I recognize gross normal parameters to include						
	a. chest sounds	5	4	3	2	1	24
	b. bowel sounds	5	4	3	2	1	25
	c. symmetry	5	4	3	2	1	26

	Always	Most of Time	Sometimes	Rarely	Never	Col
					74	
7. I recognize normal findings and the purpose of laboratory studies (CBC, blood gases, electrolytes, BUN, glucose, spinal fluids, urinalysis)	5	4	3	2	1	27
8. I recognize the normal findings and the purpose of X-ray studies (densities, presence of air or fluid, bone, tissue, and foreign bodies).	5	4	3	2	1	28
9. I identify the stress factors influencing the response of the patient (culture, anxiety, socio-economic factors, age, religion, etc.).	5	4	3	2	1	29
10. I define the patient's problem based on the assessment data I have collected, and state this on the patient's record.	5	4	3	2	1	30
11. I define the care priorities according to the patient's problem and available resources.	5	4	3	2	1	31
12. I communicate my assessment data on each patient to other health team members.	5	4	3	2	1	32
13. I try to "follow-up" each of my triage decisions to receive feedback from other health team members.	5	4	3	2	1	33
14. I use the suggestions from other health team members to modify my triage decisions.	5	4	3	2	1	34
15. The Emergency Department Nurses' Association has published a curriculum for continuing education of emergency nurses.	Yes	No	Don't know.			35
16. The American Nurses' Association has published <u>Standards for the Practice of Emergency Nurses.</u>	Yes	No	Don't know.			36