A Survey of Emergency Department Triage Systems

By

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A Master's Research Project

Presented to
Oregon Health Sciences University
School of Nursing
in partial fulfillment of
the requirements for the degree of
Master of Science

September 1994

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Author Notes

This author would like to express gratitude to the Emergency Department Triage Nurses and Nurse Managers of:

Oregon Health Sciences University

Emanuel Hospital

St. Vincent Hospital

Portland Adventist Hospital

Woodland Park Hospital

Mt. Hood Medical Center

whose cooperation has made this study possible.

I would also like to acknowledge and thank Maureen Harrahill RN, MS, Jan Loomis RN, BSN and Penny Stevens RN, MS who gave their time to examine the instrument and give their expert opinion.

Lastly and most importantly is to acknowledge and express much gratitude to my advisor, Donna Jensen RN, Ph.D. and readers Deborah Loewer RN, MSN and Kristi Vaughn RN, MN who showed much patience and tenacity with this project.

ABSTRACT

TITLE: A Survey of Emergency Department Triage Systems

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The purpose of this study is to explore the characteristics of and influences on existing triage systems. A convenience sample of triaging staffs in six hospital emergency departments (EDs) of Multnomah County, Oregon is surveyed. A new instrument is used to elicit triage characteristics and influences from institutional, departmental and individual levels. Similarities in these characteristics include: nursing experience, orientation to triage, triage responsibilities, skills, clinical judgment influences and the staffs' opinions of triage. Differences in triage include: the triage system and setting, educational preparation of staff, education to and evaluation of triage, and the existence of fast track.

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Introduction

Borrowing from US military experience dating back to WW I, triage has been utilized in this country's emergency departments (EDs) since the 1950s. Responding to increased utilization for non emergency care, EDs have begun to organize their patient flow through triaging, or sorting out, patients by priority of emergent, urgent or non urgent care (Rambler, 1990). This form of prioritization offers quick treatment to those in most need and improved patient flow through the ED. According to the Emergency Nurses Association (ENA), triage is a vital nursing function in EDs. Thus the ENA is continuing to develop and revise comprehensive triage standards with outcome criteria (ENA, 1989). The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is also addressing a system for the evaluation and prioritization of patients in their guidelines (JCAHO, 1993). The literature recommends that institutions develop their own form of triage to satisfy their specific needs. Only one study is found describing existing triage systems and that study is limited to five Mid-Atlantic states (Purnell, 1991). Many articles discuss topics such as: the importance of triage to ED function, increased satisfaction to ED patients, and the qualities a triage nurse must possess. Few studies examine how triage functions, how the physical setting and triage responsibilities vary and what factors influence the triage decision process.

The purpose of this study is to describe the existing triage systems in Multnomah County, Oregon and to explore factors that may influence triage. Describing the triage characteristics that exist now allows for exploration of factors that may influence triage clinical judgments within similar settings in the future. The benefit of this study could be: (1) system wide, e.g., the discovery of an optimal system based on institutional characteristics, or (2) within the system, i.e., support for factors which enhance the triage process, either structural or educational.

Literature Review

Definition

The word "triage" is attributed to the French word "trier" meaning to pick or to sort out (Mezza, 1992). Historically its meaning has changed in context, but still involves a selection or classification process. In nursing literature, the definition of triage remains unchanged. Baldridge (1966) defines triage as the process of sorting out to: (a) determine the nature and urgency of the problem, (b) determine how soon the patient must be seen, and (c) assigning patients to the appropriate treatment area. Sheehy & Barber (1985) define triage as the process of deciding priorities for the therapeutic intervention of a given individual and the place where these interventions should occur (p. 86). For the purpose of this paper, triage is defined as the process by which an individual is assessed, assigned a priority and the area for treatment is determined. Because various factors can influence assessment, the triage process will be broken into two parts: (a) the assessment and (b) the decision of priority and treatment area assignment.

Goal

Within hospitals, the triage process continues to evolve due to increased patient volume and acuity. Reports of emergency department (ED) visits across the country rose from 18 million in 1958 to 81 million in 1988 (Mezza, 1992). Individual hospitals report a 50% to almost 300% increase in ED visits that further

enhanced efforts to develop effective triage systems (Slater, 1970; Vayda, Gent & Paisley, 1970). Articles referring to a need for triage itemize the problems of organizing patient flow, overcrowding, frustration and the desire for more efficient use of staff and facilities (Bland, 1988; Estrada, 1979; Mezza, 1992; Shields, 1976; Slater, 1970). The goals of triage are to: increase efficiency, decrease patient waiting time, expedite patient flow by means of rapid assessment, classification and referral to appropriate treatment area, insure that all potentially acutely ill patients get seen quickly, provide reassurances to family and visitors, aid in public relations, and use the position as an opportunity for teaching (Bland, 1988; Nelson, 1973; Shields, 1976; Read, George, Williams, Glasgow & Potter, 1992; Williams, 1992).

Patient Prioritization

To facilitate the triaging process, three classifications have been developed (Estrada, 1981; Rambler, 1990). These classifications include: emergent, urgent and non-urgent care. Emergent (I) is defined as a life threatening injury that requires immediate intervention. Urgent (II) is a condition that requires attention within 20 minutes to a few hours. Non-urgent (III) is a stable condition that could wait four to six hours for treatment without patient compromise. Some authors have added a fourth rating (IV) which includes conditions with no significant problems that may be referred to a clinic the following day (Estrada, 1979; Estrada, 1981; Nelson, 1973; and Sheehy & Barber, 1985). These classifications

are common and widely used when a formal rating is issued.

Triage Systems

Estrada (1981) suggests all EDs, with patients waiting more than twenty minutes to be seen, should institute a triage system. There are different types, or systems, of triage in use. Differences in triage types address how and when the triage data is acquired and who makes the triage decision. These types of triage include: nonprofessional, basic, advanced, physician, team and two tiered.

1. Nonprofessional triage is performed by a clerk or receptionist who also obtains registration information (Estrada, 1979). The Emergency Nurses Association (ENA) considers this a Traffic Director, or Non-nurse, type of triage. ENA states that nonprofessional triage complies with the 1990 COBRA (Consolidation Omnibus Budget Reconciliation Act) amendment which states that financial information may not be obtained prior to medical screening (1992, p. 4). A pediatric study done in 1977 (Read et al., 1992) reports that trained receptionists are more cost effective, but demonstrate an 11% error in triaging in comparison to 6% error with pediatric nurse practitioners. A study in 1976 by the Brooke Army Medical Center reports results of nonmedical personnel triage. Corpsmen strictly adhering to standing orders (70 algorithms written by physicians employed at the Center) report 1.2% "mistriaged" patients with medical problems. The same Center reports continued support for triaging trauma with personnel

having more expertise (Estrada, 1979; Mezza, 1992). This study is unique to its setting (military), patient population and "strict adherence" to algorithms and therefore, these results cannot be generalized to the public at large. Not all hospitals have had such statistics with their institution of nonprofessional triage. Henry Ford Hospital hired a non-professional "medical coordinator" when first developing their triaging system. This is reported to have created so many problems that they placed a nurse at triage which met with much more success (Shields, 1976).

2. Basic triage is performed by a Licensed Practical Nurse (LPN) or Registered Nurse (RN) who assesses the patient, determines the priority and assigns them to a treatment area. This type of triage is comparable to Spot-Check triage as defined by the Emergency Nurses Association (ENA), except that ENA states this triage should be performed by a registered nurse or physician (1992). Reevaluation of the patient's condition is done upon request. Some basic triage systems allow patients to be referred away from the emergency department (ED) to a clinic or prearranged outside resource. A log book is kept to record the patient complaint and designated treatment area. A study conducted in 1972 and 1973 at the Bronx Municipal Hospital Center is the first study found to evaluate this type of triage in comparison to physician triage. Nurses with emergency department experience are studied, but their educational background is not stated.

The results reveal that 80% of the patients are assigned the same priority between nurses and physicians. The report also states that the nurses triaged 17% of the patients to a higher priority and 3% to a lower priority in comparison to the physicians (Albin, Wassertheil-Smoller, Jacobson & Bell, 1975). Beach (1981) reports use of Emergency Medical Technicians (EMTs) or LPNs as assistants to triage under the guidance of an RN. However, no studies have been found in regards to the accuracy or differences in EMT or LPN triage in the ED.

3. Advanced nursing triage is a comprehensive system of triage performed by RNs only and includes initial problem assessment, limited physical exams (when applicable), initiation of diagnostic procedures, documentation to support intervention and assignment to an appropriate treatment area (Estrada, 1981; Rambler, 1990; ENA, 1992). The triage nurse is responsible for re-evaluation of triaged patients awaiting treatment. It is reported that in 1964 the New York Hospital instituted a pilot project to test the effectiveness of nursing triage (Baldridge, 1966). The evaluation of this project reports improved patient flow, decreased length of stay and decreased patient complaints with little change in assignment patterns (Mezza, 1992). Further studies have supported RNs in the triage role and, by 1968, nursing triage had become the national trend in EDs (Estrada, 1981; Mezza, 1992; Shields, 1976).

4. Physician triage uses physicians as triage officers. Physicians are the

first group of health care professionals to perform triage both in military and civilian hospitals (Zwicke, Bobzien & Wagner, 1982). The first ED physician triage system study is reported in 1963 by Yale-New Haven Hospital. They report that physician triage improved the quality and convenience of services to patients (Mezza, 1992). However, for reasons unknown, Yale-New Haven Hospital currently use nurses for triage (Estrada, 1981).

5. Team triage is defined as physicians and nurses triaging together. No studies have been found supporting team triage.

6. Two tiered triage is a new developing system which involves one RN as a "screener" and another RN as the "assessment" nurse (ENA, 1992). The "screener" greets the patient, obtains the chief complaint, assesses briefly and takes the urgent and emergent patients directly to the treatment area. The "assessment" nurse assesses the non-urgent patients, documenting the assessment and initiates treatment as necessary before sending the patient on to registration. The ENA (1992) suggests this system offers a check and balance for triage decisions, but is also more difficult for the two nurses to control flow. No studies evaluating the two tiered triage system have been found.

Current Trend

At present, most EDs use RNs in the triage role. Advanced nursing triage is the type most favored in the literature. ENA (1992) supports exclusive use of

specially educated RNs in the role of triage. Purnell (1991) documents in his survey of five Mid-Atlantic States that 79.5% of ED triaging is done by RNs only and the other 20.5% is done by an RN with an LPN, EMT or other as an assistant. In a study comparing nurses' and physicians' initial clinical impressions of patients with chest discomfort, Bonnono, Hedges, Peterson and Collings (1992) suggest that the ED registered nurse assessment may influence clinical medical decisions. Lupfer, Altieri, Sheridan & Lilly (1991) report that efficient and accurate triage by the RN aids in managing patient care and overall department flow. Shields (1976) reports a 50% decrease in ED treatment time by utilizing advanced nursing triage. A study of nurses' clinical judgment is reported by Rausch & Rund (1981) and compares initial nursing impression to the opinion of three physician raters. They report 76% agreement in ordering x-rays, 90% agreement on final disposition of the patient and 98% agreement on obtaining an EKG (Rausch & Rund, 1981). In three other independent studies, authors report similar results in comparing RN triage classification or priority rating to that of physicians (Albin et al., 1975; Willis, 1979; Zwicke et al., 1982). All three studies report a minimum of 80% concurrence and conclude that nurses demonstrate safe triage in accuracy and priority designation.

Influences on Triage

The process of triage is influenced by the institution (hospital), department

and individual. The requirements of each aspect influence the requirements of the others. Thus the triage process ties together the institution's philosophy with the department's attempt to operationalize the philosophy with the individual's ability to work within the two. Each aspect brings with it abilities, biases and expectations.

Institutional influence.

The triage nurse is the institution's first representative to the public and thus reflects its philosophy and determines the first impression of the institution. The institution's commitment to triage is reflected in its liaison with community resources. Factors that may influence the triage system are the institution's characteristics (i.e. size, bed capacity and specialties) and its setting within the community.

The institution must conform to the laws governing health care which are reflected in triage decisions. Legal considerations include the COBRA (Consolidation Omnibus Budget Reconciliation Act) and JCAHO (Joint Commission on Accreditation of Healthcare Organizations) requirements. COBRA states that individuals seeking emergency care cannot be refused care or transferred without receiving appropriate care (ENA, 1992, p.47-49). JCAHO standards state that those seeking emergency care are given priority according to preapproved guidelines (JCAHO, 1993, p. 19), and that the facility provides

"medical screening, evaluation, stabilization, evaluation and permanent documentation" of the person's visit (ENA, 1992, p. 50).

Departmental influence.

Departmental influences on triage begins with the physical space, setting and triage system used. A well lit, equipped and separate triage area at the front door of the emergency department is recommended throughout the literature. Most authors suggest that the waiting room is situated within view of the triage nurse (for continual assessment of patients awaiting treatment). These authors also suggest the waiting rooms and triage areas are separated with glass or partitioning to promote patient privacy (e.g., disclosing personal medical history). Triage areas are typically designed in private, semi-private or open settings. The setting needs to be conducive to the type of triage system used. Private settings are enclosed and allow privacy for the triage nurse to perform physical assessments. Semi-private settings allow for limited physical assessments and first aid treatments. Open settings allow for interviewing and possibly vital signs. There is flexibility between the setting and the type of triage performed, but it is optimal to have a setting which promotes the desired type of triage (i.e. basic, advanced nursing).

Fast tracks are a newly developed triage option which fills a role within the ED similar to some urgent care centers outside the hospital. Patients presenting

with complaints that meet the department's criteria are directed to a treatment area designed to treat and discharge patients quickly. These patients are typically classified as non-urgent without multisystem involvement.

Throughout the literature, nurses are the designated persons filling the triage role. Still, it is the responsibility of the department to provide an orientation to triage or to waive such requirements in respect to the nurses previous experience. Often emergency departments require previous ED experience before triaging is permitted. This requirement is suggested and supported by the ENA (1992). A variety of experiences implies refined assessment skills. Emergency departments (EDs) usually require nurses to be certified in Advanced Cardiac Life Support (ACLS) and encourage them to be Certified Emergency Nurses (CENs) before triaging, to assure an adequate knowledge base. Institutional and departmental policies, procedures and standards are ideally available to the triage nurse. Some hospitals have developed algorithms (step by step instructions), others have standing orders (preapproved treatments), but most use some kind of guidelines (directing treatment and flow) to insure a level of consistency in triage assessment and decisions (Rambler, 1990). Orientation to triage is strongly recommended in the literature. Some authors describe didactic classes and preceptorships lasting six weeks or totaling 40 hours (ENA, 1992; Estrada, 1979; Estrada, 1981; McLeod, 1975; Rambler, 1990; Sheehy & Barber, 1985; Shields,

1976). The educational program helps refine assessment and communication skills, enhances the general knowledge base, provides practice in dealing with legal or political issues and generally broadens the awareness of the nurse's position in this role. The program is intended to delineate the function, parameters and expectations of the triage role. An avenue for continued evaluation of each nurse's triage practice is strongly recommended.

Responsibilities and skills that the triage nurse performs found in the literature pertain to assessment (primary and secondary survey), interviewing, assigning acuity and documentation. It is difficult to find documentation of the specific responsibilities being juggled by triage nurses. A study by Purnell (1991, p. 405) reports that some triage nurses initiate EKGs (electrocardiograms), oxygen therapy, laboratory studies (cultures and arterial blood gases), order x-rays and administer tetanus injections. Telephone advice calls are often a responsibility of ED triage nurses. According to the ENA (1992, p. 51) these calls are to: help the caller determine the urgency of their situation, recommend how to access medical care, provide instruction for CPR (cardiopulmonary resuscitation) and emergency childbirth, or further explain the instructions given to recently discharged ED patients. The ENA (1992) recommends that advice calls are documented and not used to diagnose the caller's symptoms. Follow-up calls, or call backs, are also often a triage responsibility. The purpose of call backs is to contact patients

discharged from the ED and assess how they are recovering. Typically EDs set their own guidelines concerning when and which patients are contacted either by diagnosis (e.g., abdominal pain), by time limit (e.g., within 48 hours) or both.

Physical separation from the treatment areas and communication problems are two departmental factors that influence the triage nurse. Making and receiving telephone calls and pages, receiving ambulance patients, interacting with families, monitoring persons in the waiting room, monitoring patient flow, initiating treatments and keeping the rest of the staff informed of the activity at triage are typical responsibilities for the triage nurse and are factors which may cause interruptions in the triage process. Geraci and Geraci (1994), in an observational study of the triage nursing role in one ED, note that telephone functions (nursing and non-nursing) are frequently performed by the triage nurses. The arrival of patients is episodic in nature and the triage nurse may need help triaging, especially if the department has a time frame in which each patient must be seen. Time limitations and the availability of help when overloaded are additional departmental factors that influence the triage process.

Individual influence.

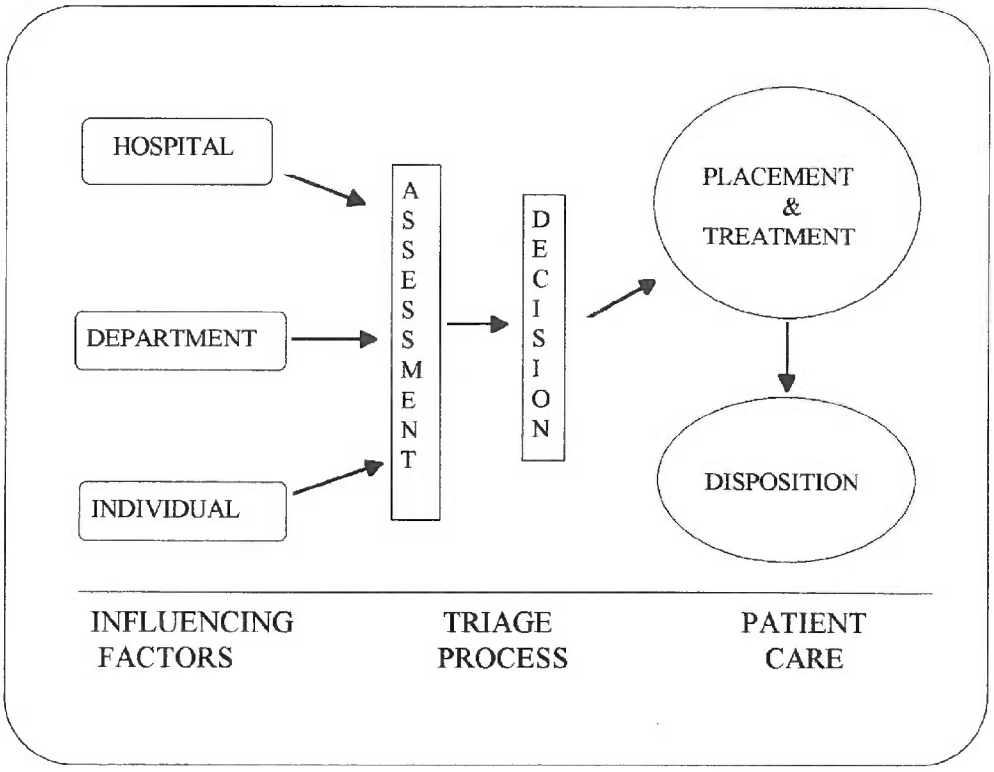
An individual's ability to triage is not a skill developed within basic nursing educational programs. It is an art blending communication and assessment skills with decision making confidence. This developed role encompasses many

qualities. The basis of nursing triage qualities are the possession of a broad knowledge base for maladies and common presentations to the ED and an understanding of the internal organization of the particular institution (Cahill & Lee, 1986; Green & Buschiazzo, 1987; Sheehy & Barber, 1985; Shields, 1976). Additional qualities that enhance a triage nurse's performance include: the ability to function under stress, good organizational skills with the ability to plan for potential occurrences, crisis intervention abilities, experience in patient education, clear and concise documentation habits, patience and an open, non-judgmental attitude (Estrada, 1979; Green & Buschiazzo, 1987; Rambler, 1990; Sheehy & Barber, 1985).

The departmental influence overlaps with the individual influence. For example, assessment is part of the triage process, but is influenced by the type of triage expected by the department. For example, a department that requires a full physical assessment or in depth interview must allow the triage nurse to take more time with each patient and have an alternative plan for triaging if patients begin to wait for longer periods of time than desired. Other departments may require a quick assessment that does not initiate treatment, but gives the triage nurse an idea of the array of patients waiting to be brought to the treatment area. Many nurses prefer to triage for partial shifts due to the stress involved. Other factors which influence the triage nurse include: physical location (isolated from the rest of the

staff, amid a crowded lobby), the triage process (rapid assessment and accurate decisions with interruptions), problems with communication (non-English speaking, hysterical, belligerent, or altered mental status patients), distressed visitors and families, and the burdens of paperwork. (McLeod, 1975).

Conceptual Framework



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Research Questions

1. What are the characteristics of the existing triage systems used in six emergency departments of Multnomah County in Oregon?

2. What are some of the factors influencing the triage process from the institutional (hospital), departmental and individual level?

Method

This pilot study is a descriptive survey and describes the existing triage systems in six Multnomah County settings. Potential factors which influence triage from institutional (hospital), departmental and individual levels are explored.

Setting

Six hospital Emergency Departments (EDs) in Multnomah County are the settings for this survey.

Sample

This study surveys a convenient sample of triaging staffs from six hospital EDs including two Level I trauma centers, two urban hospitals, and two rural hospitals. Hospitals with Level I trauma designation are required to have adequate resources reserved for the treatment of trauma patients (nurses and beds available in the ED, OR and SICU at all times and availability of a surgeon, anesthesiologist and neurosurgeon within the hospital 24 hours). There are four trauma level designations in Oregon, but no other hospitals have chosen a trauma level designation in Multnomah County. The urban hospitals are representative of typical urban hospitals according to their size, anticipated census and close proximity to heavily populated areas. The rural hospitals demonstrate rural service resources and function, that are more community based. Because this study is focusing on RN triage, another rural ED (using EMTs and Paramedics exclusively

at triage) is not included in the sample selection. This sample provides a broad picture of ED triage systems in Multnomah County.

Subjects

This study surveys hospital ED triaging staffs and their Nurse Managers. Most of the results are from the staffs, the information on hospital demographics are from the Nurse Managers.

Protection of Human Subjects

This study is classified as exempt from the Human Research Committee review because it follows survey procedures of collecting existing data and is anonymous to the individual (see Appendix A for exempt status notification).

Instrument

A 38 item pilot questionnaire (fixed alternative and open-ended questions) is the instrument used in this study (see Appendix B). The instrument is composed of factors (i.e. responsibilities, issues) relating to triage and is roughly divided into questions pertaining to the hospital's (institution), the department's and the individual's characteristics and influences. The instrument is credited with face and consensual validity after review by three emergency nurse experts. The estimated time for completion is ten minutes.

Data Collection

The process of data collection is as follows: (a) Nurse Managers are

contacted by phone and requested to address their staff during a staff meeting, (b) if a staff meeting is not scheduled, visits to the EDs are made and the study is explained to individuals staff members, (c) a packet of questionnaires is left with the Nurse Manager to be completed and collected in one week, (d) the collection envelopes typically are left at triage as a central location, (e) the completed questionnaires are collected.

Data Analysis

The hospitals are identified as H1 - H6. "Yes - No" responses are registered by response with the greatest percentage. The Likert scale responses are numbered 1 - 5 and labeled as: Never = 1, Seldom = 2, Sometimes = 3, Often = 4, and Always = 5. The statistical analysis is primarily descriptive. The data are entered and verified before any statistical manipulation is performed. Responses for each hospital are listed and a mean is calculated. If the mean is .5 or greater, the response is rounded up. Frequency distributions are obtained for the characteristics and influencing factors. Using an average from all the nurses combined, the responses are ranked. Tables (1-11) and Appendixes (C-L) list the responses with the highest frequency and not the responses to every question. Where comments are requested, the responses are condensed into common terms, listed and ranked according to frequency. All comments (see Appendix L) are written in responses of at least two nurses from that institution. The exception is

an urban/private hospital (H4) that is a small sample and singular responses are included.

Results

This chapter presents results describing the characteristics of triage in the context of institutional, departmental and individual factors. Generalizations are stated but similarities and differences are delineated in the discussion chapter. The survey returns represent 28 - 80% completion (see Appendix C).

Institutional Factors

Hospital type and size.

The institutional influencing factors are a combination of the Nurse Manager's survey responses and those of the nursing staff's surveys. All the hospitals report twenty-four hour coverage by their Staff Physician. The Level I Trauma Center hospitals (H1 and H2) are also Public and Teaching hospitals. Their average hospital bed capacity is 425 beds and their Emergency Departments (EDs) average 17.5 beds each. The two additional Urban hospitals (H3 and H4) are Private hospitals without a specialty. They report bed capacities averaging 350 per hospital and 26.5 beds per ED. Of the Rural hospitals, H5 is a Private and H6 is a Community hospital. Both rural hospitals report no specialty and average 103 beds per hospital with 9 ED beds each (see Table 1). The trauma/public hospitals are closest to hospitals of equal size. The urban/private hospitals (H3 and H4) are the larger hospitals in their vicinity. The two rural hospitals (H5 and H6) are closest to hospitals larger than themselves.

Table 1 *
Institutional Factors of Hospitals by Type, Specialty, Bed Capacity and Closest Hospital

	H1	H2	H3	H4	H5	H6
Type	Public	Public	Private	Private	Private	Com
Specialty	Tch	Tch	None	None	None	None
Bed capacity	350	500	400	300	100	107
Closest hospital (miles)	< 1	2	5	2	1.5	6
n=	19	13	13	4	11	13

* KEY: Com = Community; Tch = Teaching

Legal issues.

Legal issues are a frequent consideration for triage nurses. COBRA laws are specifically named in the nurses' comments. Only one ED, a trauma/public (H1), reports the ability to triage away from the ED but within the hospital. All nursing staffs deny the ability to triage patients away from the ED and into the community except an urban/private hospital (H4). There, 50% of the nurses report that patients can be triaged into the community. All nurses report that the availability of alternative treatment sites has some influence on their triaging. Comments reflect a desire to triage non-urgent patients to alternative treatment sites (see Appendix D). The financial status of the patient is reported as never or seldom influencing the triage RN at any of the hospitals.

Public visibility.

The triage nurse provides the first impression of the hospital to the patients. The nurses from four hospitals (one trauma [H1], both urban [H3 and H4] and one rural [H6]) state that the first impression (providing immediate reassurance) or public relations (greeting patients) are elements they like best about triage. Conversely, nurses from a trauma/public ED (H4) state that public relations is one of the worst elements of triage (see Appendix L).

Departmental Factors

Patient volume and triage settings.

Departmental influences on triage include: the physical setting and department flow. Reporting average patient census in 24 hours, the trauma/public EDs (H1 and H2) average 88 patients each, the urban/private (H3 and H4) 109 patients each and the rural (H5 and H6) 57 patients each (see Table 2).

All of the EDs have a designated triage area. One urban/private ED (H3) reports a private triage setting (allowing patient to undress for assessment) that is located near the entrance. A rural EDs (H6) reports a semi-private triage setting (allowing limited physical assessment and first aid) that is located in the waiting room. An urban/private ED (H4) reports an open setting but is observed to have a semi-private setting located in the waiting room. The other EDs report an open triage setting (allowing interview and possibly vital signs) with the trauma/public

EDs (H1 and H2) triage areas located near the entrance and the rural (H5) triage area located in the waiting room. Of the open triage settings, one urban (H4) and one rural (H5) have the capacity to take blood pressures.

Table 2 *
Department Factors by Beds, Census, Triage Setting and Location.

	H1	H2	H3	H4	H5	H6
ED capacity +	16	19	41	12	9	9
ED 24 hour census +	76	100	125	83	45	69
Physical setting +	Open	Open	Priv	Open	Open	Semi
Triage location +	NE	NE	NE	In WR	In WR	In WR
Hours triage is open	21.5	18	18.1	16.25	24	11.7
When closed, pt met by	RN	Adm	Adm	Adm	RN	Adm

* KEY: Priv = Private; Semi = Semiprivate; NE = Near Entrance;
WR = Waiting Room; Adm = Admitting staff
+ = Information supplied by the Nurse Managers

Triaging personnel and system.

In all EDs, RNs are the sole triaging personnel 92% of the time and a combination of a RN with another unspecified person triages the other 8%. Both rural EDs (H5 and H6) and one urban/private ED (H3) report using RNs only at triage. The nurses of a trauma/public ED (H1) report using EMTs/Paramedics as the other person at triage. The other trauma/public ED (H2) and an urban/private ED (H4) do not specify who the other person is at triage. One urban/private ED (H4) uses only five nurses from their ED staff to triage.

All EDs but a rural (H5) have a nurse dedicated to the triage area. The nurses at the rural (H5) ED are notified by the admitting clerks when a new patient arrives and any nurse available in the treatment area goes out to meet them. One trauma/public ED (H2) and one rural ED (H5) use most elements of the basic, or spot-check, system of triage with minimal documentation. The others, whether the setting is open, semi-private or private, use primarily an advanced nursing triage system. One urban/private (H3) uses a two tiered triage system. The urban/private EDs (H3 and H4) report that they use a fast track system whereas both the rural EDs (H5 and H6) do not. The trauma/public EDs (H1 and H2) report no fast track system is presently in operation, but plan to institute one this year. H2 is currently redesigning their triage setting and role, but the survey information reflects their triage as it is at present.

Triage hours and estimated times.

The hours that the triage area is open ranges from 12 - 24 hours (see Table 5). When the triage area is closed, most EDs defer to the admitting staff to greet the patients. The rural ED (H5) never closes triage and its patients are always seen by a nurse first. One trauma/public (H1) closes it's triage area but patients are asked to ring a bell upon arrival and are then greeted by a nurse.

The estimated triage time is longer (3.9 - 5.25 minutes) for the private or semi-private settings found in both urban/private EDs (H3 and H4) and one rural

ED ([H6] [see Table 3]). The open settings of the trauma/public EDs (H1 and H2) and a rural ED (H5) have estimated triage times ranging from 2.15 - 2.9 minutes. One trauma/public ED staff (H2) report that they cannot get help from the other nurses when it is busy at triage. The urban/private EDs (H3 and H4) and rural EDs (H5 and H6) estimate the shortest waiting room times of 19 - 26.6 minutes (see Table 3). The trauma/public EDs (H1 and H2) estimate longer waiting times of 32.9 - 34.7 minutes. Departmental influences upon triage are seen in Appendixes E - I.

Table 3
Average Estimated Time

	H1	H2	H3	H4	H5	H6
To triage a pt (min.)	2.57	2.9	3.9	5.25	2.15	4.3
Pt in waiting room (min.)	34.7	32.9	20.5	26.6	19	22.2
n=	19	13	13	4	11	13

Certification, experience and guidelines.

All nursing staffs report that Advanced Cardiac Life Support (ACLS) is required to triage, but no department requires Certified Emergency Nurse (CEN). The nurses of all hospitals report that previous Emergency Department (ED) experience (in any ED) is required to triage except a trauma/public ED (H1). Nurses from an urban/private ED (H4) and a rural ED (H5) report that current

experience their own department is not required for triaging. The other four EDs require the nurses to have worked within their ED (ranging from 5 - 11 months) before functioning in the triage role (see Table 4). All nurses agree that knowledge of the hospital's policy and procedure is an expectation before assuming the triage role. This knowledge is the highest averaging influence at triage (see Appendix I). Formal guidelines for triaging are reportedly present at four of the six EDs. A trauma/public ED (H2) and a rural ED (H5) report they have no triage guidelines and use a basic triage system rather than the advanced nursing system used at the other EDs.

Table 4
Experience and Guidelines

	H1	H2	H3	H4	H5	H6
Formal guidelines	Yes	No	Yes	Yes	No	Yes
Months employed in ED before triaging	6	11	5	0	0	7
n=	19	13	13	4	11	13

Education, orientation and evaluation.

Three ED nursing staffs, one from each group (H1, H3 and H6), report inservices as the most common form of education to triage. One urban/private ED (H4) reports videos or reading materials as the major part of their triage education. ED staffs H2 and H5 report, besides the lack of guidelines, that the majority of

their nurses receive no education to triage (see Table 5). Only a rural staff (H6) reports that a majority of the nurses receive no orientation to triage. The other EDs (H1- H5) report the "observe and observed" method is the most common form of orientation. Chart audits and peer review are found to be the trend for triage evaluation especially by the urban and public ED staffs. A majority of the rural staffs (H5 and H6) report that they do not receive an evaluation of their triage. Table 5 is an illustration of triage education, orientation and evaluation.

Table 5 *
Triage Education, Orientation and Evaluation

	H1	H2	H3	H4	H5	H6
TRIAGE EDUCATION:						
Formal class	5%	0	25%	25%	0	15%
Inservice	47%	30%	84%	25%	18%	46%
Video or readings	0	8%	42%	50%	9%	23%
None	42%	62%	8%	25%	82%	38%
TRIAGE ORIENTATION:						
Observe and observed	63%	69%	77%	50%	56%	15%
Observe only	5%	8%	8%	0	11%	0
None	32%	23%	15%	50%	33%	85%
TRIAGE EVALUATION:						
Case review	11%	0	0	0	0	8%
Annual review	11%	30%	17%	50%	9%	8%
Chart audits	61%	8%	58%	50%	18%	15%
Post-orientation exam	0	0	25%	0	0	0
Peer review	50%	69%	50%	75%	27%	46%
None	11%	15%	33%	0	64%	54%
n=	19	13	13	4	11	13

* NOTE: Some totals > 100% (questions not limited to single response)

Triage responsibilities.

The most frequently reported triage responsibilities include: assigning acuity, monitoring the waiting room patients, monitoring the waiting room activity, recording medications and allergies, recording past medical histories, and

performing a primary survey. Though often or always done by most ED staffs, monitoring the waiting room (patients or activity) is seldom done by a rural triaging staff ([H5] [see Table 6]). Similarly, recording medications and past medical history is seldom done by a trauma/public hospital ED triaging staff (H2), but is often or always done by the other five. Other responsibilities that rank as sometimes to often performed include: monitoring patient flow, recording admitting information, performing a limited physical assessment, calling an interpreter, making call backs (phoning a patient the day after their visit to ascertain how they are doing), performing a focused interview, taking vital signs and providing visitor information or directions. Calling within the hospital for information and paging MDs or clinics varies as a triage responsibility. The nurses of the trauma/public hospitals (H1 and H2) assume the most of this responsibility. Frequent triage responsibilities cited by nurses from all EDs, but not asked in the survey include: reviewing charts, traffic control, checking for test results, keeping a triage log, dispensing medications, providing information about ED patients to families and getting patients in and out of cars.

Table 6 *
Triage Responsibilities

	H1	H2	H3	H4	H5	H6	All
Assign acuity	Alw	Alw	Alw	Alw	Oft	Alw	4.7
Monitor pts in waiting room	Alw	Oft	Alw	Alw	Sel	Alw	4.3
Monitor activity in waiting room	Alw	Oft	Alw	Alw	Sel	Alw	4.15
Record meds/allergies	Alw	Sel	Alw	Alw	Oft	Alw	4.13
Record past medical history	Alw	Sel	Alw	Alw	Oft	Alw	4
Primary survey	St	St	Oft	Oft	Alw	Oft	3.94
Monitor patient flow	Alw	St	Alw	Oft	St	St	3.78
Record admitting info	Alw	Oft	Alw	Sel	Nev	St	3.73
Limited physical assessment	St	St	Alw	Alw	St	Oft	3.62
Call an interpreter	Oft	Oft	St	St	St	St	3.49
Make call-back calls	St	St	Alw	Alw	St	Alw	3.41
Focused interview	St	St	Oft	Oft	Oft	Oft	3.31
Take vital signs	Sel	Sel	Alw	Alw	Sel	Alw	3.25
Call other hospital units or admitting for visitor info, giving directions	Oft	Oft	St	Oft	Sel	St	3.2
Contacting primary MD/clinic	Oft	St	Sel	Sel	Sel	Sel	2.47
n=	19	13	13	4	11	13	73

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom; Nev = Never

Triage skills.

The triage skills are similar between all the triaging ED staffs (see Appendix H). Application of ice, dressings and splints are the most common skills performed at triage in each Emergency Department (ED). An urban/private ED triaging staff (H 4) is the only one to report ordering x-rays and laboratory work.

Skills not included in this study but that are offered by the nurses include: paperwork (dog bite reports, ordering old charts and discharging patients), giving clinic information (i.e. hours, location), communicating with other nursing staff, application of cervical collars, removal of rings and performing emergency deliveries.

Disruptions and interruptions.

The department controls the degree of disruption and interruption the triage nurse experiences by its expectation over what and how the triage nurse functions. All nurses report that they are often or always disrupted at triage by: attending to the patient's family and friends, answering phones, occurrences in the waiting room and helping other staff members (see Table 7). One trauma/public staff (H1) reports responding to over head pages and answering Paramedic radio (HEAR) reports cause frequent disruptions to triage. The nurses from both trauma/public EDs (H1 and H2) report receiving ambulance patients disrupts their triage. Disruptions, not included in the survey, that the nurses offer include: providing directions, violence, out of control children in the waiting room, and activity in the treatment area. Nurses from a trauma/public (H1) and an urban/private (H3) ED comment that these disruptions are "just part of the job" even if frequent.

Table 7 *
Disruptions of Triage

	H1	H2	H3	H4	H5	H6	All
Dealing with family/friends	Oft	Oft	Oft	Alw	St	Oft	4.05
Answer phones	Oft	Oft	St	Alw	Sel	St	3.6
Occurrences in the waiting room	Oft	Oft	Oft	Oft	St	St	3.49
Helping other staff	St	St	St	Oft	St	St	3.1
Receiving ambulance patients	Oft	Oft	Nev	Nev	Sel	Nev	2.44
Responding to overhead pages	Oft	Sel	Sel	Nev	Nev	Nev	2.17
Answering radio calls	Oft	Sel	Nev	Nev	Nev	Nev	1.98
n=	19	13	13	4	11	13	73

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom; Nev = Never

Factors that are reported as sometimes influencing triage include: the hospital protocols and standards, activity in the department and the amount of privacy at triage (see Appendix I). Additional factors that influence triage include: COBRA laws, stress, language barriers, criticism from other nurses, lack of help, family members (angry, demanding) and patient activity (moaning, vomiting).

Individual Factors

Demographics and education.

All the triaging staffs in this study are RNs. The average age of the nurses is 39.5 years with 16.1 years in nursing and 10.9 years in emergency nursing. The nurses reflect a varied educational history, in addition to being a RN, which

includes: LPN, EMT, Paramedic, ADN, Diploma, BSN, MSN, and BA, BS or Masters in other fields. The percentage of BSN nurses range from 30-63% (see Table 8). All nurses report being ACLS certified and 52% are CEN certified. A rural ED staff (H6) is the lowest percentage (31%) of CEN nurses. An urban/private ED (H3) reports a majority of the staff (77%) works part- time (< 36 hours per week) but the others report a majority of the staff works full-time (53% - 75%). Most triage nurses think their hospital supports their clinical judgment (54% - 100%).

Table 8
Individual Demographics

	H1	H2	H3	H4	H5	H6	All
Age (years)	37	36.3	40.8	39.5	40.4	44.5	39.5
Years in nursing	14.25	14.4	17.9	14.5	19.2	17.1	16.1
Years in emergency department	10.7	8.9	9.7	11.75	11.9	13.5	10.9
% with BSN degree	63	30	39	50	36	31	42
Feels hospital supports clinical judgment (% "yes")	84	54	100	100	89	92	84
n=	19	13	13	4	11	13	73

Influences on triage.

The average triage shift is eight hours. The number of hours at triage is not reported as an influence. All nurses, except a rural ED (H5), report that their triage is sometimes to often influenced by information offered by the families and

the number of patients waiting to be triaged. The rural ED (H5) staff is seldom influenced by the number of patients waiting to be triaged. The appropriateness of the visit is an influence to a trauma/public (H1) and both urban/private (H3 and H4) triaging nurses. The mode of transportation taken by the patient to the ED is an influence to one uraban/private (H4) and both rural (H5 and H6) nurses (see Table 9).

Table 9 *
Individual Influences

	H1	H2	H3	H4	H5	H6	All
Information offered by family	St	Oft	Oft	Oft	Oft	Oft	3.6
Number waiting to be triaged	St	Oft	St	Oft	Sel	Oft	3.3
Appropriateness of visit	St	Sel	St	St	Sel	Sel	2.63
Mode of transportation	Sel	Sel	Sel	St	St	St	2.45
n=	19	13	13	4	11	13	73

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom; Nev = Never

Influences on clinical judgment.

The cues that the nurses report as often or always influencing their triage clinical judgment include: what they hear (e.g., wheezing, cough), the patient complaint, their own experience with similar presentations, the pattern of symptoms, what they smell (e.g., fruity breath, alcohol), the patient's general appearance, their intuition, the emotional presentation and the patient's past

medical history (see Table 10). The nurses from an urban/private ED (H4) rate intuition as only sometimes influencing their clinical judgment. Cues that rate often influencing the triage nurse's clinical judgment include: the nurse's diagnosis, what is felt when touching the patient, vital signs and the patient's medications and allergies. One exception is that nurses from an urban/private ED (H4) report their clinical judgment is always influenced by what they feel when touching the patient. Another exception comes from a trauma/public ED (H2) who report their clinical judgment is only sometimes influenced by vital signs and the patient's medications and allergies.

Table 10 *
Clinical Judgment Influences

	H1	H2	H3	H4	H5	H6	All
What I hear	Alw	Oft	Oft	Alw	Alw	Oft	4.54
Patient complaint	Alw	Alw	Oft	Alw	Oft	Oft	4.33
Experience with similar presentations	Oft	Oft	Oft	Oft	Alw	Oft	4.29
Pattern of symptoms	Oft	Oft	Oft	Oft	Alw	Oft	4.28
What I smell	Oft	Oft	Oft	Alw	Alw	Oft	4.15
General appearance	Oft	Oft	Oft	Oft	Oft	Oft	4.12
Intuition	Oft	Oft	Oft	St	Alw	Oft	4.11
Emotional presentation	Oft	Oft	Oft	Oft	Alw	Oft	4.07
Past medical history	Oft	Oft	Oft	Oft	Alw	Oft	4
My diagnosis	Oft	Oft	Oft	Oft	Oft	Oft	3.92
What I feel when I touch	Oft	Oft	Oft	Alw	Oft	Oft	3.89
Vital signs	Oft	St	Oft	Oft	Oft	Oft	3.67
Patient's medications and allergies	Oft	St	Oft	Oft	Oft	Oft	3.61
n=	19	13	13	4	11	13	73

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom; Nev = Never

Likes, dislikes and suggested changes.

The majority of nurses from each ED state they enjoy triaging (63% - 100%). Elements of triage they enjoy are: the diversity, challenge (autonomy, decision making, meeting more than one need at the same time and use of assessment skills) and offering the first impression ([public relations] [see Table 11]). All nurses rank a part of challenge as an element they like about triage.

Nurses from a rural ED (H5) report the smallest percentage who enjoy triage (63%), but state they like getting the emergent patients to treatment quickly. The nurses from a trauma/public (H1), both urban/private (H3 and H4) and a rural (H6) ED report they like the first impression aspect of triage. The term first impression is defined as: the first to help, to allaying fears, offer reassurance and public relations (greeting patients). Diversity is mentioned by both trauma/public (H1 and H2) and an urban/private (H4) ED as an element of triage they enjoy.

Table 11
Individual Likes, Dislikes and Suggested Changes for Triage

	% Like	Elements Liked	Elements Disliked	Elements to Change
H1	84	Challenging Department flow Diversity First impression	Chaos Long waits Staff resentment Interruptions Disruptions Full waiting room	Physical structure Increase privacy Decrease phone responsibilities
H2	73	Challenging Diversity	Interruptions Disruptions	System Physical layout Increase assessment guidelines
H3	92	Challenge Quick turn over Public relations	Disruptions Long waits Non-urgent patients Sometimes slow	Guidelines Decrease waiting time
H4	100	Assessment Diversity First impression	Interruptions Overwhelming Disruptions Public relations	Staff attitudes Decrease advice calls/call backs
H5	63	Emergent patients get seen quickly Triage every day	Physical setting Interrupts treatment	Physical setting Increase privacy
H6	75	First impression Know all patients in department Challenging	Call backs Isolated from staff Boring	Physical setting

The elements about triage that the nurses report disliking include: disruptions (threats, violence or verbal abuse from patient's family or friends), interruptions (telephone calls, general information questions, giving directions), chaos (overwhelming) and isolation. Public relations is disliked by an urban/private ED (H4). Disruptions and interruptions are elements that nurses from both trauma/public (H1 and H2) and an urban/private (H4) EDs dislike about triage. The other urban/private ED (H3) report disruptions as the only element they dislike. Long waiting times and resentment or isolation from the rest of the nursing staff are disliked elements mentioned by EDs from each group (H1, H3 and H6). "Chaos" and "overwhelming" are feelings experienced at triage that the nurses from a trauma/public (H1) and an urban/private (H4) dislike. The terms "slow" and "boring" are used by the other urban/private (H3) and a rural (H6) EDs when discussing their triage dislikes. Nurses from a rural (H5) ED dislike triage because: 1) it interrupts treatment of those patients in the treatment area and 2) because of the physical setting of their triage area. A rural ED (H6) reports disliking call-backs.

Elements of triage that nurses want to change at triage include: the physical setting, decreasing phone responsibilities and changing the guidelines. Nurses from both trauma/public (H1 and H2) and both rural (H5 and H6) EDs state that they would like to change the physical structure/setting of their triage area. This

change of setting is tied to issues of increasing patient privacy, altering the design or pattern of patient flow and allowing increased use of assessment skills. The urban/privated EDs (H3 and H4) want to change the triage guidelines. Generally less phone responsibility is desired by the nurses of a trauma/public ED (H1). Specifically, an urban/private ED (H4) would like to decrease the call back and advice calls responsibility.

Discussion

Triage is an essential role in the Emergency Department (ED). Each of the hospitals in this study have a triage system in place. The results of this study show that departments have individualized triage to meet its own needs. The research questions ask what are the characteristics of existing triage systems and what are some of the influences (institutional, departmental and individual) on triage. The characteristics of triage (in terms of similarities and differences) and the influences on the triage process are the topics of this discussion.

Institutional Influences

The hospital size, number of beds and distance to the next closest hospital do not seem to influence triage. Structured triage systems are found in the private /urban EDs and a rural/community ED. Structured triage systems are helpful when the patient volume exceeds the number of beds and when there is a high volume of non-urgent patients. A structured triage system allows the ED more flexibility in care which can facilitate patient flow through the department and enhance patient and staff satisfaction.

The first impression of the hospital to the patient is made at the triage desk. The nurses report that they enjoy offering the first impression and providing reassurance to patients and families. A dedicated triage nurse with public relations skills can impact patient satisfaction and community image by conveying a feeling

of interest and concern to the patients.

Legal issues are a common concern between all the EDs. COBRA laws are specifically mentioned by the nurses because it is not a triage option to refer patients to an office or clinic outside the hospital. COBRA prevents triage nurses from referring patients to non-urgent treatment areas without a medical screening exam. Alternative fast track sites within the domain of the ED provide more options of care for the non-urgent patients. Managed health care will further impact EDs in the late 90's. Many managed health care plans require prior authorization before a patient's ED bill will be paid by the plan. This puts the triage nurse in a precarious situation. If the patient is refused treatment, the hospital and ED physician could be fined $50,000 each. If the ED admits the patient, there is a potential that the ED would not be reimbursed for care rendered. Without strong assessment skills and knowledge of health care legal issues, the triage nurse can have a devastating impact on patient care and reimbursement. It is essential that specially educated nurses are at triage and that they are provided continuing education, particularly in legal and managed care issues.

Departmental Influences

The departmental influence sets the standard for the practice of triage including the setting, education, responsibilities and skills required.

Setting and Systems of Triage.

In the EDs surveyed, triage is considered open when a nurse is dedicated to the area. Triage areas typically close at night when census and staff are at lowest levels. When the triage area is closed, the patients are met by either a nurse or member of the admitting staff. If the admitting person routinely registers a patient before notifying nursing, critical patients may experience unnecessary delays in their treatment. Activity in the treatment area and miscommunications can also lead to delays. Not only is treatment potentially impaired, but delays, perceived or real, can decrease patient satisfaction. Although it is common practice for the triage areas to be closed during some night hours, continued reassessment of patient's time to treatment is needed to ensure this is still the best practice.

The structured settings practice advanced nursing triage and always take vital signs which might explain why slightly longer triage times are noted for these EDs than those with more open settings. The EDs with longer triage times also report shorter time spent in the waiting room. These times are estimates by the staff and in one case waiting room times were found to be estimated longer than the actual time. However, perceptions are also valid and the point from which patients view their waiting time. If it can be determined that triage times decrease the waiting room times, triage times may also prove to effect total treatment times. The number of physicians and available nurses in the treatment areas also impact

the waiting time for the patient. Triage decisions must be accurate to get the most critically ill patients to treatment quickly, but the department must also have adequate resources to treat these patients quickly and efficiently. All EDs are interested in decreasing the time patients spend waiting and this study suggests that advanced nursing triage may at least effect the patient's waiting room time.

Guidelines

It is thought that the use of guidelines maintains a level of consistency to triage decisions. The EDs that practice advanced nursing triage have guidelines available to them. Guidelines are used to direct questions for assessment and to aid in standardization of care while allowing the nurse to use discretion and clinical judgment. Algorithms have been found to suppress the use of clinical judgment and therefore have limited use with professionals in a decision making role. Consistency in decision making affords the nurse an opportunity to explain the assessment and anticipated treatment to the patient. Patients appreciate knowing what to expect and feel comforted when the expected is realized. Therefore guidelines can make the patients feel that good care is being provided and will be more inclined to return to the ED in the future.

Education, orientation and evaluation to triage.

An education of and orientation to triage, strongly recommended in the literature, helps refine the nursing skills of the ED staff. From the data it is

apparent that a variety of educational opportunities are available to nurses. What is also apparent is the fact that there is no standard practice that cuts across the boundaries of these varied types of EDs. The triage role makes many demands on nurses that are not found in other nursing areas. It is my opinion that a strong educational program is necessary for effective triaging regardless of previous experience. The need for accurate triage decisions cannot be underestimated in its impact to patient care. The implications of delay in patients' treatments must be fully understood by the triage nurse to set priorities and facilitate patient flow. Hospital's protocols and standards are reported as one of the biggest influences to the nurses' triaging. It is in the ED's best interest to have some information (i.e., guidelines, standards) specifically addressed as policies vary between hospitals and because it is the ED that will eventually be held accountable for the triage nurse's decisions in the eyes of the public.

Orientation by "observe and observed" is recommended in the literature, but not to the exclusion of all education to triage. Orientation provides an opportunity for nurses with other ED experience to learn the differences at the present ED. Experiential knowledge of the ED guidelines and the hospitals' policies and procedures are modeled during orientation. This study emphasizes the perceived importance of orientation that is a logical extension to how many nurses learned nursing (see Table 5).

Evaluation of triage is important for the individual nurses and department as a means of insuring the standards of and discovering problems with the triage process. Evaluations function as feed back for the nurses by positively or negatively reinforcing their triage decisions. Ambivalence is noted in the reporting of evaluation and it is unclear whether triage evaluation is specifically addressed with the staff in any of the reported forms (chart audits, peer review or annual review). If this study is repeated, the nurse managers should also be surveyed as the perceptions of the staff and management are likely to differ.

In addition to the inconsistent reporting of nurses toward their education, orientation and evaluation, the majority of the nurses report that their hospital supports their clinical judgment in varying degrees. Lack of confidence in institutional support may detract from the triage nurse's own confidence in decision making. This lack of confidence might reflect a hesitancy in the triage nurses and elicit apprehension in the patient. Patient's confidence in the treating facility promotes patient satisfaction. Hence it is important through the education to triage that the nurses clearly understand what is expected of them and, if followed, they will have the support of the institution.

Triage responsibilities.

The specific ED prescribes the responsibilities of and the skills used by the triage nurse. This study demonstrates that assigning acuity is the responsibility

most often performed by the triage nurses of all EDs. It is unclear how formally acuity is assigned particularly in the two EDs that practice minimal documentation. It is common, in my experience, for the triage nurse to determine and act upon the acuity simultaneously, but it is important that the acuity of the patient gets communicated to the rest of the staff. The patient's treatment must reflect the acuity or the assignment is unnecessary. Triage can decrease the time patients wait for treatment by assigning acuity and using it as a tool for prioritization. Triaged patients can understand when critically ill patients are taken to treatment before them and may even be relieved to see that the triage nurse makes these decisions and does not base care on a "first come, first serve" policy.

Monitoring patients and visitors in the waiting room, performing primary surveys, monitoring patient flow, performing limited physical assessments, calling for interpreters, making call backs and performing focused interviews are responsibilities reported by all the nurses and offer a general impression of what is expected of the triage nurses at each hospital. The fact that they all report these responsibilities gives credence to the basic form of triage and demonstrates common role functions. Documentation of triage assessments is a characteristic of advanced nursing triage and eases communication between the triage and treatment nurses. Increased communication facilitates patient flow through the department and increases patient satisfaction. Therefore these triage

responsibilities can impact both patient care and satisfaction. Because triage responsibilities are so varied, it seems documentation would be desired and stressed by the department.

Call backs.

The EDs with more structured triage settings and systems always make call backs. They are also the triage nurses that always take vital signs and perform limited physical assessments. Do these EDs function from an all encompassing view or, being private, are they more aware of marketing and factors that enhance patient satisfaction? Although considered good for public relations, call backs also provide reassurance that the patient's condition is improving thus saving them time (getting to and waiting in the ED) and cost, or providing them the encouragement to return to the ED for re-evaluation. Whether the triage nurse is the optimal nurse to make these calls is yet to be studied and determined.

Vital signs.

Obtaining vital signs at triage varies among the nurses from different EDs. Nurses from private and semi-private settings always obtain vital signs while triaging patients unlike the nurses from the open settings. This factor may explain the longer triage times of these EDs. This study did not obtain actual triage times nor total length of stay (LOS) times. Further study is needed to determine if longer triage times alters the LOS time. Still, all nurses state that vital signs

influence their clinical judgment. It is unclear how this influence of vital signs occurs when only half of the EDs report always obtaining them. The impact of vital signs as a clinical judgment tool of the triage process is another topic for future studies.

Visitor information and directions.

Calling within the hospital for visitor information and giving directions are reported as often the responsibility of the triage nurses (see Table 6) and an area of triage that some nurses would like to change (see Appendix L). Although good for public relations, this activity interrupts the triage process. It distracts the nurse from the patients at triage or makes the number of patients waiting artificially inflated. Nurses report being influenced by the number of patients waiting and may give individual patients less time at triage because of the number of people waiting. This study did not determine if time effects the accuracy of triage decisions, but did determine that advanced nursing triage takes more triage time. Patients deserve a period of the nurse's undivided attention at triage. As triage is presently practiced in these EDs, every person waiting for the triage nurse must be viewed as a potential patient. Is it possible to use a greeter to provide phone numbers, directions and parking information to visitors at the door instead of waiting for the triage nurse? The use of a greeter would let the triage nurse know the true number of patients waiting to be seen and triage accordingly. This topic could be studied

as an adjunct to the telephone responsibilities, waiting room security and patient satisfaction.

Triage skills.

First aid skills are consistently performed by all the triage nurses. Application of ice, splints and dressings allows patients to feel reassured and entered into the system. These performed skills help create the patient's first impression and facilitate assessment for the nurse. Initiating orders is one avenue suggested by the literature to aid the rapid treatment of patients. EDs are investigating this added responsibility to the triage role in terms of time efficiency, cost effectiveness and the potential disruption to the triage process. These may increase triage times but be another factor that can decrease the patient's total length of stay in the ED. It appears to be a potential secondary function of the triage nurse but must be balanced with the possible delay it may cause in triaging other patients.

Disruptions to triage.

Families are increasingly becoming involved with its member's health care. Some nurses appreciate the opportunity to provide reassurance, but family members are also reported as a disruption to triage (see Table 7). "Threatening", "angry" and "violent" are the terms used by the nurses in describing how family members and visitors disrupt triage. It is not known when or how the families

cross the line of helping to provide information about the patient to becoming disruptive. Are the triage nurses busy and unable to keep up communication? Do the families get bored or impatient with unexpected delays and vent their frustration on the triage nurse? This study did not explore the topic of security or what measures are taken for the safety of the triage nurse when feeling threatened. Is there a place for a volunteer to keep families calm and children occupied? Could safety measures also include this person?

The triage area is often used as a communication center because the nurse knows most of the patients in the department. Answering telephone calls is the second largest reported disruption of triage. This type of interruption can impact the patient's impression of the ED and cause a delay in their treatment. The patients may feel unimportant and would decrease the satisfaction of their care. Most calls can be handled by the triage nurse, but there may be a role for a back-up person to take calls when the nurse is with a patient. Telephone responsibilities are a concern of the nurses that triage and deserve further study.

One difference between the trauma/public EDs and the others are the disruptions at triage caused by responding to over head pages, answering the Paramedic (HEAR) radio and receiving ambulance patients. These disruptions may relate more to their physical structure than their trauma status. The Paramedic (HEAR) radio is located in the triage area of H1 and these reports often

compete for the nurse's attention with the patients at triage. However, these HEAR reports aid in the preparation of patients arriving by ambulance and decrease the triage time once the patients arrive. This is a disruption that the triage nurses have had to integrate into their routine. Many newer triage areas are near the entrance, but not close to the area that receives ambulance patients. If ambulance patients are brought in by another entrance, the triage nurse is unaware of all the patients and activities in the department. Good communication or a proximity between the triage and treatment areas are needed for the triage nurse to keep aware of department activity and patient flow.

ED activity.

All nurses report their triaging is influenced by the degree of activity in the department (see Appendix I). Longer waiting times, shorter triage times per patient, the nurse assuming more responsibilities in helping the other staff or some other rearrangement of the triage process are all potential adjustments made in response to this activity. The flexibility of the triage role is shown by nurses helping each other (at triage or in treatment) during busy periods. Departmental support is needed for this cross functioning, but the physical setting dictates whether the triage or treatment nurses know the activity outside their areas. Safe guards are also necessary that the triage area is not left unattended for long periods. Patients expect to be met when they enter the ED.

Privacy at triage.

Nurses report the amount of patient privacy is an influence to triage. Open settings afford little privacy for patients to respond to personal questions. The nurses using semiprivate or private settings can ask more in depth history questions, but also have more privacy for limited exams. It is reasonable that the better the history and assessment, the more accurate the triage decision. Offering the patient a private area to disclose information can increase their comfort and satisfaction of confidentiality. It is not surprising, then, that the nurses of the open settings wish to increase the privacy at their triage area whereas the nurses of more private settings have other issues they wish to change (see Appendix L).

Individual Influences

Experience.

How the individual influences the triaging process is seen through the demographics and experience of the nurses and through the cues and skill they use in decision making. The years of nursing and ED experience supports an experiential knowledge base that helps the triage nurse to make clinical decisions within the department's framework. For example, the nurses of a rural ED (H5) have the most years in nursing, second most years in emergency nursing, report no education to, evaluation of or guidelines for triage and use intuition as a top clinical judgment cue. Do they use intuition, or has their own experience become

so integrated that they can make prompt (the fastest) triage decisions? This study does not validate the accuracy of triage decision, but does this ED demonstrate the same level of accuracy as the other EDs, or more accuracy, or less? Further study is needed in the decision making process of nurses, novice through expert, to understand how experience is involved.

Clinical judgment cues.

The nurses generally agree on the top clinical judgment cues they use in making triage decisions. These cues are a mix of knowledge and education with assessment. Unarguably, the patient's complaint and blatant physical abnormalities give direction to all other assessments and aid in acuity assignment. Nurses demonstrate a confidence in their own knowledge base by using their past experience with similar presentations and the pattern of symptoms as clinical judgment cues. Nurses can also incorporate the wider implications of past medical history, medications and allergies in their patient assessments and concur that they use these cues. I believe that it is this broader scope of knowledge that makes RNs necessary in the triage role.

Objective assessment tools are also present in the cues frequently used by the nurses as seen in the elements of primary survey. Objective findings help support impressions given by experience and intuition but also provide information to exercise discretion and judgment. Use of clinical judgments necessary for triage

decisions support the use of specially educated and experienced nurses at triage.

The ranked order of influences on triage clinical judgment helps in understanding how different types of triage settings work in different EDs. There is a noted parallel in the assessment information required by the EDs (see Table 6) and needed by the nurses of this study (see Table 10) to make triage decisions. Obtaining assessment information is easier and faster with closer proximity of the nurse to patient (as in private or semi private settings), but still are possible in open triage settings. Those practicing advanced nursing triage are in agreement with what influences their clinical judgment despite the different settings.

What is liked about triage.

The characteristics of triage that are liked and disliked demonstrate the individual nurse's perceived rewards and negatives of the triage role. A majority of nurses enjoy triaging and cite the challenge and diversity as large reasons. Emergency staffs are known for their attraction to diversity. Viewing every new patient with a sense of challenge would keep the triage nurse actively engaged with the patient. This attention is detected and interpreted by the patient many different ways. The engaged interest of the triage nurse must make the patients feel that they are taken seriously and increase their satisfaction with the ED in general. Accepting the challenge of triage is a useful awareness for the nurses to keep the enjoyment in the triage role fresh.

What is disliked about triage.

The feelings of being "overwhelmed" and "chaos" are disliked by some of the triage nurses. Lack of control is substantiated as a stressor of triage in the literature (McLeod, 1975). These feelings of being rushed or harried is conveyed to the patients as a poorly functioning area. The triage nurse is expected to be calm and convey confidence to the patients. The ability to appear calm in chaos is a quality that many can appreciate if not emulate. However, further studies are needed to investigate how reduce the stress felt by the triage nurse while maintaining a high level of efficiency.

Violence at triage and in the waiting room is mentioned by the nurses and is becoming an increasingly important topic to ED triage nationally. Security plans must be in place for the staff to feel safe, but not so apparent that the patients feel threatened. Patients do not want to have to worry about safety when they are seeking health care, but they also want that safety insured. Neither should triage nurses fear close proximity with patients or their visitors. This topic is very controversial but I believe that patients would feel better knowing that safety is an issue taken seriously by the hospital rather than an impediment to care or reflection of the hospitals patient population. By stating that violence is a concern, the nurses are showing that they do not feel adequately protected which may be reflected in a guarded or distant impression given to the patients and their families.

The impact of security guards and bullet proof glass can be minimized by a triage nurse with good public relations skills. A sense of personal safety can allow the triage nurse to extend that feeling of caring and safety to the patients and families.

Because the triage settings are separated from the treatment areas, the triage nurses feel isolated from the other staff. They miss the camaraderie and sometimes feel opposition to their triage decisions. This can create a feeling of resentment in the triage nurse that is inadvertently conveyed to the patients or visitors. It is not always possible to make changes in a physical layout, but continual assessment of the staffs likes and dislikes can keep the option of change open. Staff satisfaction impacts the patient's impression of the ED and their own satisfaction with the care provided.

Desired changes at triage.

The most common elements triaging nurses want changed are the triage setting and phone responsibilities. Changing the physical setting, or flow pattern, and increasing privacy are suggested by nurses from open settings. The change in flow pattern is to let the patients find the triage area easier or to minimize the distance to the treatment area. Patients need clear directions and want services readily available.

Phone responsibilities require flexibility of the triage nurse but are a topic for change desired by the nurses. Advice calls and call backs are an important and

growing function that the triage nurse currently performs. Each ED decides how much responsibility is carried by triage nurses. Further study is needed of triage telephone responsibilities to delineate the nursing and non-nursing parts, determine which nurse should perform these tasks and how advice calls and call backs effect patient satisfaction.

The results of this study demonstrate that hospitals, departments and nurses impact the triage process and share similar triage requirements, responsibilities and concerns. All EDs operate a triage system that is generally appreciated by its nurses. ED triage appears to be an essential role that, in this study, is filled by nurses. The role of triage is evolving as the needs of hospitals, departments and nurses change.

Limitations of this Study

This study is limited by the small sample surveyed and orientation to nursing triage. A broader, state or nation wide study looking at all triage systems would provide a greater view of triage as it is practiced. Although this study helps determine influences on triage, it is limited by a descriptive design and does not determine why or how these influences effect triage. Some responses produce inconsistencies unable to be clarified. The questions need to be single response and a mechanism for validating the nurse's perceptions inserted. Patient impressions of triage and outcome satisfactions are two topics not addressed

which also limit this study. If this study is repeated, the nurses' comments (additional responsibilities and skills, etc.) should be incorporated into the survey. As a pilot study, these results can be used to compare the triage systems, educational preparation, responsibilities and assessment skills used by triaging staff at other hospitals. This study can serve as a basis to isolate topics for further study.

Research Potentials

A description of existing triage systems must be obtained to document how triage is practiced and detect prevailing similarities and differences. The information that is gained may aid similarly matched hospitals with suggestions to increase the efficiency of their facility. Identification of influencing factors that enhance or inhibit the triaging process is one such avenue. Cost-benefit studies can measure the benefit of increasing the initiation of diagnostic tests ordered by the triage nurse. Time studies can delineate how triage nurses function. Finally, but most importantly, studies are needed to inspect how nursing triage decisions are made. Further investigations relating to clinical judgment and assessment cues are needed to identify and clarify the triage process but also can aid nurses in a variety of clinical settings. In few places outside the ED are nurses frequently expected to make critical decisions with so little available information. The need for accurate decision making is imperative and the more we can learn how this

process is accomplished, the closer we can get to measuring patient outcomes.

Specific questions for further study might include:

1. How much time is spent in which responsibilities and activities at triage?
2. How do triage nurses work with patients' families to maintain communication without interfering with the triage process?
3. How do nurses actually make their triage decisions? What influences their clinical judgment?
4. What influence do vital signs have on the triage assessment? How often do they change a triage decision? Are these changes significant? Are they an effective assessment tool to recommend as a standard triage responsibility?
5. What are the telephone responsibilities in the triage role? Do these responsibilities impinge on the triage process? What is the effectiveness of advice calls in respect to medical-legal concerns? Do call backs increase patient satisfaction?
6. What are the differences between RN, Paramedic and/or LPN triage decisions and role functions?
7. Could time be spent more efficiently by increasing the tests ordered at triage without unnecessarily increasing patient costs?
8. How does time spent at triage affect the total treatment time of the patient? Does increase time at triage decrease the waiting time spent in the waiting

room, and if so, why? Does triage change patient satisfaction?

9. Do guidelines, protocols or standards lead to more consistent triage decisions? Do they inhibit or guide clinical decision making?
10. How important is a formal education to triage? Does it make a difference in triage efficiency, function or decisions?
11. How important is an orientation to triage? Does it augment or replace an education to triage?
12. How can the practice of triage be altered to increase efficiency and decrease stress felt by the staff?
13. How safe is the triage setting? How can the triage nurse be protected from violence yet allow for patient privacy and observation of the waiting room?
14. What is the effect on patient satisfaction with the use of greeters to provide information, coffee or activities for family members in the waiting room? Is it cost effective? Does the greeter significantly relieve the triage nurse of "non-nursing" functions?
15. How does managed health care impact triage and will it change the nursing role at triage?

Conclusion

This pilot study demonstrates influences of institutions (hospitals), departments and individuals upon the triage process from a population of six hospital emergency departments (EDs). Characteristics of existing triage systems are documented and similarities and differences are discussed.

Institutional influences on triage pertain to legal issues such as COBRA laws and JCAHO regulations. The size, specialty and type of hospital are not found to influence triage except with a few responsibilities.

The department creates the confines in which the triage nurse must operate. Departmental influences on triage are seen through the similarities and differences between the EDs. Such similarities are: using nurses at triage, the orientation to triage, the common triage responsibilities and skills and staff perceived disruptions and influences. Differences in the EDs' triage are: the triage setting and systems used, estimated triage and waiting times, education to and evaluation of triage, the presence of a fast track option, and some responsibilities (taking advice calls, making call backs and taking vital signs) of the triage nurse.

The triage nurses report a sense of challenge and autonomy that reflects the creative and individualist way they function within the requirements of the hospitals and EDs. Similarities in the triage nurses include: ED experience, clinical judgment cues, influences on their clinical judgment and elements which they like,

dislike and would change at triage. Differences between the triage nurses include: educational preparation, education to and evaluation of triage, and the degree to which they feel that institution supports their clinical judgment.

Implications to Nursing

The importance of this study for nursing is to document the responsibilities, skills, cues and influences that define the triage role. As nurses typically work at triage, it is important to know what is involved in the role so that new nurses can be educationally prepared. This study begins to investigate what information nurses use to make triage decisions that can be incorporated into the knowledge of nursing assessment and clinical judgment. Clarifying the activities performed at triage, helps nurses look at this role and take an active part in making it as functional and satisfying as possible. Triage is a complex and diverse role. More studies are needed to prove that nurses are necessary at triage.

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Appendix A

Committee on Human Research Exemption

OREGON
HEALTH SCIENCES UNIVERSITY
3181 S.W. Sam Jackson Park Road, Portland, OR 97201-3098
Mail Code L106, (503) 494-7887 Fax (503) 494-7787
Institutional Review Board/Committee on Human Research

DATE: January 10, 1994

TO: Margaret Sherer, BSN UHN 54 Emergency Medicine
Dr. Donna Jensen

FROM: Nancy White, Admin. Asst.
Committee on Human Research L-106

SUBJECT: Project entitled "A Survey of Emergency Department Triage Systems."

It is my understanding that this project involves survey procedures and will not include minors as subjects. As we discussed, this study would fit exemption category #2 of the federal regulations (45 CFR Part 46.101 (b)) and is considered to be exempt from review by the Committee on Human Research. This study has been put into our exempt files, and you will receive no further communication from the Committee concerning this study. However, if the involvement of human subjects in this study changes, you must contact the Committee on Human Research to find out whether or not these changes should be reviewed. If possible, please notify the Committee when this project has been completed.

If you have any questions regarding the status of this study, please call me at 494-7887.

Appendix B

Instrument: Emergency Department Triage Systems

Name of Hospital _____

Nurse Manager: Please circle the appropriate answer for the following

1. My hospital is
   Private Public Community Other (please specify) ____

2. My hospital is
   Specialty Teaching Neither

3. The closest hospital to my hospital is (estimated in miles) _____

4. The closest hospital to mine is:
   the same size smaller larger

5. My hospital's bed capacity is _____ (beds)

6. My Emergency Department's bed capacity is _____ (beds)

7. My Emergency Department's daily census averages (patients/day) _____

8. In a 24 hour period, my emergency department is staffed by an Attending Physician for _____ (hours)

9. Our physical setting for triage is
   private (allowing the patient to undress for assessment)
   semiprivate (allowing for limited assessment and first aid treatment)
   open (allowing for interview and possibly vital signs)

10. Our triage area is located
    near the entrance of the ED in the waiting room
    in the treatment area other (specify) _____

11. Our Emergency Department has a fast track system
    Yes No

Jan. 1994

Dear ED Staff member;

I am a graduate nursing student studying the types of triage which exist in our local Emergency Departments. As an Emergency Nurse myself, I am interested in the different types of triage and the factors which influence our triage decisions. These surveys will be noted according to the hospital, but otherwise you will remain anonymous. The survey should only take you about 10 minutes to fill out. Although completely voluntary, the more responses I receive, the better we all may understand the triage process and how it affects us. I will give a copy of my findings to your department when I have finished. Please feel free to add comments to any question, especially if any seem unclear.

Thank you for your participation,

Margaret Sherer

Name of Hospital _____

Please fill in or circle the appropriate answer for the following

1. My age is _____ (years)

2. All of the following apply to my education
   LPN EMT Paramedic ADN Diploma BSN MN/MSN
   BA or BS in another field Masters in another field

3. I have been in nursing for _____ (years)

4. I have been in emergency nursing for _____ (years)

5. I am currently ACLS certified
   Yes No

6. I am currently CEN certified
   Yes No

7. My work status is
   Part time (< 36 hours/week) Full time (> 36 hours/week)

8. Personnel who work at our triage include
   RN only EMT/Paramedic LPN ED Tech (training other
   RN and other (please specify) Other _____ than EMT/PM)

9. Our triage area is covered by
   assigned staff member anyone who is available

10. When I triage, I do it for _____ hours (entire shift?)

11. I triage
   when assigned exclusively

12. The number of hours our triage area is open in a 24 hour period is _____ (hours)

13. When our triage area is closed, the patient is met by
   ED staff Admitting Clerk

14. The average time it takes me to triage a patient is _____ (minutes)

15. When I am busy at triage, I can get help from others
   Yes No

16. I have the option to triage patients to a clinic or MD offices within the hospital
    Yes No

17. I have the option to triage patients to resources outside the hospital i.e. Public Health Department Clinics
    Yes No

18. I think my hospital supports my individual clinical judgment
    Yes No

19. After the patient is triaged, the average time they wait in our waiting room is _____ (minutes)

20. My department has formal triage algorithms or guidelines that are used regularly at triage
    Yes No

21. ACLS certification is required to triage at my hospital
    Yes No

22. CEN certification is required to triage at my hospital
    Yes No

23. Previous Emergency Department experience is required to triage at my hospital
    Yes No

24. I am expected to know the hospital policies and procedures before assuming the triage role
    Yes No

25. A new employee must work in my department for _____ (months) before triaging

26. My education to triage consisted of
    formal classes or course inservice video or reading materials none

27. My orientation to triage consisted of
    observing and being observed by experienced staff
    observation by experienced staff only
    none was given

28. The number of shifts, if any, for my orientation to triage was _____ (shifts)

29. Evaluation of my triage is conducted by
    case review chart audits peer review no evaluation
    annual review post orientation exam other (specify) _____

Indicate which of the following best describes your activities at triage by circling the number which corresponds to your answer

	Never	Seldom	Sometimes	Often	Always
30. My responsibilities at triage consist of::					
Answering phone calls	1	2	3	4	5
Answering advice calls	1	2	3	4	5
Answering the EMS radio	1	2	3	4	5
Admitting ambulance patients	1	2	3	4	5
Calling other hospital units or admitting for visitor information, giving directions	1	2	3	4	5
Calling for a translator	1	2	3	4	5
Making patient call backs/follow-up calls	1	2	3	4	5
Recording admitting information (name, DOB)	1	2	3	4	5
Recording past medical history	1	2	3	4	5
Recording medications and allergies	1	2	3	4	5
Taking vital signs (one or more)	1	2	3	4	5
Taking an oxygen saturation	1	2	3	4	5
Performing primary survey	1	2	3	4	5
Performing focused interview	1	2	3	4	5
Performing a limited physical assessment	1	2	3	4	5
Performing a full physical assessment	1	2	3	4	5
Assigning priority/acuity status (emergent, urgent or nonurgent/stable)	1	2	3	4	5
Paging/calling the primary MD/clinic	1	2	3	4	5
Monitoring activity in the waiting room	1	2	3	4	5
Monitoring the patients waiting to be triaged	1	2	3	4	5
Monitoring patient flow through the department	1	2	3	4	5
Other responsibilities include _____					

31. I use the following skills at triage:					
Ordering or obtaining:					
EKGs	1	2	3	4	5
ABGs	1	2	3	4	5
X-rays	1	2	3	4	5
Labs	1	2	3	4	5

	Never	Seldom	Sometimes	Often	Always
Cultures	1	2	3	4	5
Administration of:					
DT or tetanus toxoid	1	2	3	4	5
Application of:					
Oxygen	1	2	3	4	5
Ice	1	2	3	4	5
Splints	1	2	3	4	5
Dressings	1	2	3	4	5
Steri-strips	1	2	3	4	5
Sutures	1	2	3	4	5
Cast	1	2	3	4	5
Removal of:					
Sutures	1	2	3	4	5
Staples	1	2	3	4	5
Cast	1	2	3	4	5

Other skills I performed at triage include: _____

32. Disruptions I experience at triage include:

Answering phone calls	1	2	3	4	5
Answering radio calls	1	2	3	4	5
Receiving ambulance patients	1	2	3	4	5
Responding to overhead pages	1	2	3	4	5
Dealing with family members/friends	1	2	3	4	5
Occurrences in the waiting room	1	2	3	4	5
Helping other staff members	1	2	3	4	5

Other disruptions I experience include: _____

33. Factors that influence me at triage include:

Patient's financial status	1	2	3	4	5
Patient's mode of transportation to the ED	1	2	3	4	5
Appropriateness of the visit	1	2	3	4	5
Availability of alternative treatment sites	1	2	3	4	5
My hospital's protocols and standards for the patient's presentation	1	2	3	4	5

	Never	Seldom	Sometimes	Often	Always
Number of patients waiting to be triaged	1	2	3	4	5
Activity in the department	1	2	3	4	5
The number of hours into my shift	1	2	3	4	5
Amount of privacy available	1	2	3	4	5
Legal issues	1	2	3	4	5
Information offered by family members/friends	1	2	3	4	5

Other factors that influence me at triage include: _____

34. Factors that influence my clinical judgment include:

Patient's general appearance	1	2	3	4	5
Patient complaint	1	2	3	4	5
What I feel when touching the patient	1	2	3	4	5
What characteristics I smell (ETOH, fruity, etc.)	1	2	3	4	5
What I hear (wheezes, cough, etc.)	1	2	3	4	5
Patient's emotional presentation	1	2	3	4	5
Patient's PMH	1	2	3	4	5
Patient's medications and allergies	1	2	3	4	5
Pattern of symptoms presented	1	2	3	4	5
My previous experience with similar presentations	1	2	3	4	5
My differential diagnosis (nursing dx or other)	1	2	3	4	5
Vital signs	1	2	3	4	5
The feeling I get from the patient (intuition)	1	2	3	4	5

Other factors include: _____

35. I like to, or get satisfaction from, triage

Yes No

36. The best thing about triage is _____

37. The worse thing about triage is _____

38. What would help me most at triage is to change _____

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY !

Appendixes C - L
Selected Survey Results

Appendix C
Return Rate for Surveys

	H1	H2	H3	H4	H5	H6
Distributed	27	20	45	5	16	20
Returned	19	13	13	4	11	13
% Surveyed	70%	65%	28%	80%	68%	65%

Appendix D *
Institutional Factors

	H1	H2	H3	H4	H5	H6
HOSPITAL:						
Type	Public	Public	Private	Private	Private	Com
Specialty	Tch	Tch	None	None	None	None
Bed capacity	350	500	400	300	100	107
Closest hospital (miles)	< 1	2	5	2	1.5	6
Comparative size	Same	Same	Smaller	Smaller	Larger	Larger
TRIAGE RESPONSIBILITIES:						
Legal issues as influence	St	Oft	St	St	St	St
Alternative treatment Sites as an influence	Sel	St	St	St	Sel	Sel
Call other dept.(s) for info	Oft	Oft	St	Oft	Sel	St
Page priv. MD or clinic	Oft	St	Sel	Sel	Sel	Sel

* KEY: Com = Community; Tch = Teaching; Oft = Often; St = Sometimes; Sel = Seldom

Appendix E *
Department Factors

	H1	H2	H3	H4	H5	H6
ED capacity +	16	19	41	12	9	9
ED 24 hour census +	76	100	125	83	45	69
Physical setting +	Open	Open	Priv	Open	Open	Semi
Triage location +	NE	NE	NE	In WR	In WR	In WR
Fast Track +	No	No	Yes	Yes	No	No
Hours triage is open	21.5	18	18.1	16.25	24	11.7
When closed, pt met by	RN	Adm	Adm	Adm	RN	Adm
AVERAGE ESTIMATED TIME :						
To triage a pt (min.)	2.57	2.9	3.9	5.25	2.15	4.3
Pt in waiting room (min.)	34.7	32.9	20.5	26.6	19	22.2

* KEY: Priv = Private; Semi = Semiprivate; NE = Near Entrance;
WR = Waiting Room; Adm = Admitting staff
+ = Information provided by the Nurse Manager

Appendix F
Triage Education, Orientation and Evaluation

	H1	H2	H3	H4	H5	H6
Formal guidelines	Yes	No	Yes	Yes	No	Yes
Months employed in ED before triaging	6	11	5	0	0	7
TRIAGE EDUCATION:						
Formal class	5%	0	25%	25%	0	15%
Inservice	47%	30%	84%	25%	18%	46%
Video or readings	0	8%	42%	50%	9%	23%
None	42%	62%	8%	25%	82%	38%
TRIAGE ORIENTATION:						
Observe and observed	63%	69%	77%	50%	56%	15%
Observe only	5%	8%	8%	0	11%	0
None	32%	23%	15%	50%	33%	85%
TRIAGE EVALUATION:						
Case review	11%	0	0	0	0	8%
Annual review	11%	30%	17%	50%	9%	8%
Chart audits	61%	8%	58%	50%	18%	15%
Post-orientation exam	0	0	25%	0	0	0
Peer review	50%	69%	50%	75%	27%	46%
None	11%	15%	33%	0	64%	54%

Appendix G *
Triage Responsibilities

	H1	H2	H3	H4	H5	H6	All
Assign acuity	Alw	Alw	Alw	Alw	Oft	Alw	4.7
Monitor pts in waiting room	Alw	Oft	Alw	Alw	Sel	Alw	4.3
Monitor activity in waiting room	Alw	Oft	Alw	Alw	Sel	Alw	4.15
Record meds/allergies	Alw	Sel	Alw	Alw	Oft	Alw	4.13
Record past medical history	Alw	Sel	Alw	Alw	Oft	Alw	4
Primary survey	St	St	Oft	Oft	Alw	Oft	3.94
Monitor patient flow	Alw	St	Alw	Oft	St	St	3.78
Record admitting info	Alw	Oft	Alw	Sel	Nev	St	3.73
Limited physical assessment	St	St	Alw	Alw	St	Oft	3.62
Call an interpreter	Oft	Oft	St	St	St	St	3.49
Make call-back calls	St	St	Alw	Alw	St	Alw	3.41
Focused interview	St	St	Oft	Oft	Oft	Oft	3.31
Take vital signs	Sel	Sel	Alw	Alw	Sel	Alw	3.25
Call other hospital units or admitting for visitor info, giving directions	Oft	Oft	St	Oft	Sel	St	3.2
Contacting primary MD/clinic	Oft	St	Sel	Sel	Sel	Sel	2.47

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom; Nev = Never

Appendix H *
Triage Skills

	H1	H2	H3	H4	H5	H6	All
Apply ice	St	Oft	Oft	Alw	St	Oft	3.75
Apply dressing	St	St	Oft	Oft	St	St	3.08
Apply splint	St	St	St	Oft	St	St	2.8
Order x-ray	St	Nev	Sel	Alw	Sel	St	2.47
Order lab work	Sel	Nev	Nev	Oft	Sel	Sel	2.11

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom;
Nev = Never

Appendix I *
Disruptions and Other Influences

	H1	H2	H3	H4	H5	H6	All
DISRUPTIONS:							
Dealing with family/friends	Oft	Oft	Oft	Alw	St	Oft	4.05
Answer phones	Oft	Oft	St	Alw	Sel	St	3.6
Occurrences in the waiting room	Oft	Oft	Oft	Oft	St	St	3.49
Helping other staff	St	St	St	Oft	St	St	3.1
Receiving ambulance patients	Oft	Oft	Nev	Nev	Sel	Nev	2.44
Responding to overhead pages	Oft	Sel	Sel	Nev	Nev	Nev	2.17
Answering radio calls	Oft	Sel	Nev	Nev	Nev	Nev	1.98
INFLUENCES:							
Hospital protocols and standards	Oft	Oft	Oft	Alw	St	Oft	3.95
Activity in department	St	Oft	Oft	Oft	St	St	3.5
Amount of privacy	St	St	St	St	St	St	3.05

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom; Nev = Never

Appendix J *
Individual Demographics

	H1	H2	H3	H4	H5	H6	All
Age (years)	37	36.3	40.8	39.5	40.4	44.5	39.5
Years in nursing	14.25	14.4	17.9	14.5	19.2	17.1	16.1
Years in emergency department	10.7	8.9	9.7	11.75	11.9	13.5	10.9
% with BSN degree	63	30	39	50	36	31	42
Average triage shift (hours)	9.4	7.8	9.8	8	NA	4.7	7.9
Feels hospital supports clinical judgment (% "yes")	84	54	100	100	89	92	84

* KEY: NA = Not Applicable

Appendix K *
Individual and Clinical Judgment Influences

	H1	H2	H3	H4	H5	H6	All
TRIAGE INFLUENCED BY:							
Information offered by family	St	Oft	Oft	Oft	Oft	Oft	3.6
Number waiting to be triaged	St	Oft	St	Oft	Sel	Oft	3.3
Appropriateness of visit	St	Sel	St	St	Sel	Sel	2.63
Mode of transportation	Sel	Sel	Sel	St	St	St	2.45
CLINICAL JUDGMENT INFLUENCED BY:							
What I hear	Alw	Oft	Oft	Alw	Alw	Oft	4.54
Patient complaint	Alw	Alw	Oft	Alw	Oft	Oft	4.33
Experience with similar presentations	Oft	Oft	Oft	Oft	Alw	Oft	4.29
Pattern of symptoms	Oft	Oft	Oft	Oft	Alw	Oft	4.28
What I smell	Oft	Oft	Oft	Alw	Alw	Oft	4.15
General appearance	Oft	Oft	Oft	Oft	Oft	Oft	4.12
Intuition	Oft	Oft	Oft	St	Alw	Oft	4.11
Emotional presentation	Oft	Oft	Oft	Oft	Alw	Oft	4.07
Past medical history	Oft	Oft	Oft	Oft	Alw	Oft	4
My diagnosis	Oft	Oft	Oft	Oft	Oft	Oft	3.92
What I feel when I touch	Oft	Oft	Oft	Alw	Oft	Oft	3.89
Vital signs	Oft	St	Oft	Oft	Oft	Oft	3.67
Patient's medications and allergies	Oft	St	Oft	Oft	Oft	Oft	3.61

* KEY: Alw = Always; Oft = Often; St = Sometimes; Sel = Seldom;
Nev = Never

Appendix L *

Individual Likes, Dislikes and Suggested Changes for Triage

	% Like	Elements Liked	Elements Disliked	Elements to Change
H1	84	Challenging Department flow Diversity First impression	Chaos Long waits Staff resentment Interruptions Disruptions Full waiting room	Physical structure Increase privacy Decrease phone responsibilities
H2	73	Challenging Diversity	Interruptions Disruptions	System Physical layout Increase assessment guidelines
H3	92	Challenge Quick turn over Public relations	Disruptions Long waits Non-urgent patients Sometimes slow	Guidelines Decrease waiting time
H4	100	Assessment Diversity First impression	Interruptions Overwhelming Disruptions Public relations	Staff attitudes Decrease advice calls/call backs
H5	63	Emergent patients get seen quickly Triage every day	Physical setting Interrupts treatment	Physical setting Increase privacy
H6	75	First impression Know all patients in department Challenging	Call backs Isolated from staff Boring	Physical setting

***KEY**:

Challenging = use of assessment skills, using knowledge, decision-making, clinical

judgment, autonomy and meeting many needs at once.

Department flow = using organizational skills and monitoring the department.

Diversity = a different work option, a change from patient care.

First impression = first to help, allay fears, offer reassurance and public relations (greeting patients).

Call backs = follow-up calls to patients seen and released to check how they are feeling.

Disruptions = threats, violence or verbal abuse from patients, family members or visitors.

Long waits = refers to the time required to get the patient into the treatment area.

Interruptions = refers to stopping to take telephone calls, answering general information questions or giving directions.

Guidelines = the ability to screen and refer non-urgent patients to a non-emergent care facility.

Physical setting = refers to the space desired to function at triage, the basic design and flow, and the amount of privacy.