

Consistency of Triage in Victoria's
Emergency Departments

Education and Quality Report

July 2001

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Foreword

The Consistency of Triage in Victoria's Emergency Departments Project was funded by the Victorian Department of Human Services and conducted by the Monash Institute of Health Services Research during 2000-2001.

The project was overseen by a steering committee with representation from the Department of Human Services, the Australasian College for Emergency Medicine, the Emergency Nurses Association, the Australian Nursing Federation and Victorian hospitals and universities. The members of the steering committee were:

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The report detailing the project has been presented in five separate documents being:

- The Literature Review;
- The Triage Consistency Report;
- The Education and Quality Report;
- The Guidelines for Triage Education and Practice; and
- The Summary Report.

This report is the third in the series and reports the current practices for quality improvement within emergency departments including education preparation of triage nurses and the development of the triage education package.

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Terminology

ACLS	Advanced Cardiac Life Support
ACEM	Australasian College for Emergency Medicine
ACHS	Australian Council on Healthcare Standards
ANUM	Associate Nurse Unit Manager
ATS	Australasian Triage Scale (formerly the National Triage Scale)
CNE	Clinical Nurse Educator
CNS	Clinical Nurse Specialist
DHS	Department of Human Services (Victoria)
CQI	Continuous Quality Improvement
ED	Emergency Department
ENA	Emergency Nurses' Association of Victoria (Incorporated)
EQulP	Evaluation and Quality Improvement Program
GCS	Glasgow Coma Scale
KPI	Key Performance Indicator
NTS	National Triage Scale for Australasian Emergency Departments
NUM	Nurse Unit Manager
RN	Registered Nurse
SD	Standard Deviation
TQI	Total Quality Improvement
VEMD	Victorian Emergency Minimum Dataset

1 Introduction

There is an increasing requirement for health services to demonstrate and improve the quality of healthcare delivery¹. Various terminologies have been attached to quality activities, such as CQI (Continuous Quality Improvement), and TQI (Total Quality Improvement). There is a paucity of literature regarding quality measures and triage, particularly the evaluation of triage decisions or application of triage scales such as the Australasian Triage Scale (ATS). Woolwich suggests that maintenance of quality standards can be ensured by audits of the triage system².

This component of the project focused upon identifying quality improvement strategies used by emergency departments (EDs) to improve the consistency of triage, including the educational preparation of nurses who practice in the triage role. Following identification of the quality and education processes currently in place, an education package "*Guidelines for Triage Education and Practice*" was developed to prepare nurses for the triage role. In addition to this, a triage audit tool was developed to assist hospitals to assess and evaluate the implementation of the education package and monitor and improve the quality of triage.

1.1 Aims

The aims of this component of the project were to identify and recommend a quality approach that:

- Enhances the consistency of triage;
- Is simple and user friendly; and
- Is department based and owned by the staff.

1.2 Project steps

The steps for this component of the project included:

- Survey of EDs to establish current quality improvement and education strategies;
- Consultation with key stakeholders regarding appropriate quality and education strategies;
- Development of a triage education package; and
- Development of an assessment and evaluation strategy.

2 Survey of Emergency Departments

2.1 Overview

The project team undertook a survey of EDs to investigate the following areas:

Activities that were consistent with a multi-modal learning package and conformed with the Evaluation and Quality Improvement Program (EquIP) of the Australian Council on Healthcare Standards (ACHS);

Processes used by management to assess complaints and critical incidents generated from triage;

Methods of auditing triage categories and consistency; and

Quality improvement activities that could be offered “on-line” as an ongoing support mechanism for EDs.

The information gained from the survey was used to assess the current mechanisms for quality improvement relating to triage, including educational strategies. The information obtained was used to inform the development of an educational package and an easily implemented process to assess and improve the quality of triage within individual EDs.

2.2 Method

Nurse Unit Managers (NUMs) from twenty-eight hospitals were contacted by telephone and surveyed to collect the following information:

1. The criteria used to designate a triage nurse (experience, competencies, qualifications);
2. Training requirements for nurses to undertake triage (including tools & training undertaken);
3. Guidelines / protocols used to assist the triage decision making process (such as sentinel diagnoses, physiological parameters, descriptors or scenarios);
4. Mechanisms for assessing and improving the quality of triage.

2.3 Hospital groups

For the purposes of this component of the project, participating hospitals were aggregated according to hospital type. Group A1 hospitals (*teaching hospital, large*), Group A2 hospitals (*teaching hospital, other*) and Group B hospitals (*larger regional base and suburban hospital*) as represented in Table 2.1.

Table 2.1. Hospital groupings

Group A1 Hospitals	Group A2 Hospitals	Group B Hospitals
Austin & Repatriation Medical Centre	Barwon Health	Angliss Health Services
Monash Medical Centre, Clayton	Box Hill Hospital	Ballarat Health Services
St. Vincent's Hospital	Dandenong Hospital	Bendigo Health Care Group
Royal Children's Hospital	Frankston Hospital	Echuca Regional Health
Royal Melbourne Hospital	Mercy Hospital for Women	Goulburn Valley Health
The Alfred Hospital	Royal Women's Hospital	Latrobe Regional Hospital
	Sunshine Hospital	Maroondah Hospital
	The Northern Hospital	Mildura Base Hospital
	Werribee Mercy	South West Healthcare (Warrnambool)
	Western Hospital	Wangaratta Hospital
		Williamstown Hospital
		Wimmera Health Care Group

All of these hospitals have gained accreditation with ACHS using the EQuIP standards.

2.4 Results

2.4.1 Demographics of respondents

Contact was made with each ED of the participating hospitals and information was obtained by surveying senior members of nursing staff. Table 2.2 displays the staff category of the respondents.

Table 2.2. Demographics of respondents

Staff category	Number	Percentage
Nurse Unit Manager (NUM)	21	75%
Acting Nurse Unit Manager	2	7%
Associate Nurse Unit Manager (ANUM)	1	3.5%
Clinical Nurse Educator (CNE)	3	11%
Registered Nurse (RN)	1	3.5%
Total	28	100%

2.4.2 Demographics of emergency departments

The mean (\pm Standard Deviation [SD]) number of patients presenting to EDs per month, the mean (\pm SD) number of nurses working within the ED and the mean (\pm SD) number of nurses engaged in the triage role, by hospital group as reported by the staff respondents is displayed in Table 2.3.

Table 2.3. Demographics of emergency departments

Hospital Group	Presentations per month		ED nurses		Triage nurses	
	n	n	\pm SD	n	\pm SD	n (\pm SD)
A1	7	3,550	\pm 921	56.14	\pm 17.7	39.7 \pm 14.7
A2	9	2,384	\pm 1192	38.9	\pm 21.5	24.6 \pm 9.6
B	12	2,034	\pm 753	25.3	\pm 10.4	16.7 \pm 5.8
Total	28	2,526	\pm 11.7	37	\pm 20	25 \pm 13

2.4.3 Eligibility to undertake the triage role

The EDs used varying criteria to determine eligibility of nurses to undertake the triage role. These criteria included years of nursing experience, years of ED experience, ED competencies, postgraduate qualifications, and a number of other criteria. Most nurses were assessed according to a combination of these criteria, for example, one ED required nurses to have 12 months general nursing experience, 12 months ED experience and competency in all areas of the ED.

2.4.3.1 Years of nursing experience

Twenty-six respondents indicated that “years of general nursing experience” was not used as a selection criterion for nurses to undertake the triage role. Two respondents identified “years of general nursing experience” as being a criteria with the requirement that the nurse had at least six months or twelve months nursing experience, prior to undertaking the triage role.

2.4.3.2 Years of ED experience

Fifteen (54%) respondents indicated that nurses were required to have twelve months of ED experience prior to undertaking the triage role. One respondent indicated six months experience and another indicated twenty-four months experience was required. Whilst, ten (36%) respondents did not identify that there was a requirement for nurses to have prior ED experience.

2.4.3.3 ED Competencies

Fifty-seven percent of respondents reported competencies were important selection criteria for undertaking the triage role. Eleven (39%) respondents stated competencies in all areas of the ED were essential. One respondent required competency in acute care and resuscitation, another required post ACLS (advanced cardiac life support), another respondent indicated there were mandatory competencies that needed to be achieved and another required nurses to complete a learning package prior to being eligible to undertake the triage role.

2.4.3.4 Post graduate qualifications

Six respondents indicated that the nurses required a Graduate Diploma in Critical Care or Emergency prior to undertaking the role of triage. One respondent indicated the requirement for a postgraduate qualification in ED, two respondents required midwifery qualifications and another respondent cited a postgraduate degree was required.

2.4.3.5 Other criteria

Other types of criteria used to assess eligibility to undertake the triage role included; prolonged ED experience (1), senior staff (1) or individual assessment (1).

2.4.4 Educational preparation

Table 2.4 displays the educational preparation required by EDs for nurses to be eligible to undertake the triage role, by hospital group. Twenty (83.3%) EDs required nurses to have undertaken some form of triage education. Four departments did not provide response to the question.

Table 2.4. Triage education preparation requirements

Table 2-4. Triage education preparation requirements						
Hospital Group	Was triage education a requirement?				Total	
	Yes		No			
A1	6	100%			6	100%
A2	8	88.9%	1	11.1%	9	100%
A3	6	66.7%	3	33.3%	9	100%
Total	20	83.3%	4	16.7%	24	100%

The requirements for educational preparation varied across EDs. Twelve respondents reported that written material was utilised, these being pre-reading, learning packages, information books or workbooks. Six EDs reported that a combination of written material and supernumerary practice was used to prepare nurses for the triage role.

Resources used by EDs to provide triage education to eligible nurses taking on the triage role was also varied, these are displayed in Table 2.5.

Table 2.5. Providers of triage education

Resource	n	%
Clinical Nurse Educator	16	57%
CNS / Senior Staff	21	75%
Continuing Education Unit	1	4%
University	1	4%
External Providers	1	4%

Predominantly the EDs utilise CNS/Senior staff (75%) and Clinical Nurse Educators (57%) to provide triage education. However three departments also identified they might use the continuing education unit, university or an external providers to provide triage education to eligible nurses. A number of departments use more than one type of resource. For example, a number of metropolitan hospitals will use CNS/Senior staff and Clinical Nurse Educators to provide triage education.

Methods of delivery of triage education also varied. Supported practice was the most frequently cited type of education used by EDs. However, the mode of implementation differed. Seven respondents did not identify how supported practice was implemented, six used Clinical Educators and senior nurses as support persons, and one ED used an informal supernumerary approach. Other EDs identified the use of reflection journals, informal question / discussion sessions and one ED ensured that nurses undertaking the triage role were knowledgeable of the ENA Position Statements and had an understanding of the triage scale. The methods of delivery of triage education are displayed in Table 2.6.

Table 2.6. *Methods of delivery of triage education*

Method of delivery of education	The methods of delivery of triage education used?				
	Yes		No		Total
Supported practice	24	85.7%	4	14.3%	100%
Workbooks	22	78.6%	6	21.4%	100%
Scenarios	17	60.7%	11	39.3%	100%
Competency assessment	13	46.4%	15	53.6%	100%
Inservice education	11	39.3%	17	60.7%	100%
Video	3	10.7%	25	89.3%	100%

The methods of delivery of triage education varied both within departments and between departments. There was no one mode of delivery exclusively used by a department. Most respondents identified their department used supported practice (85.7%), workbooks were the second most cited method (78.6%) followed by scenarios (60.7%).

2.4.5 Quality improvement strategies

Table 2.7 displays the distribution of quality mechanisms in place in EDs to assess the quality of triage, by hospital group. Thirty-six percent (10) of EDs reported having quality mechanisms in place to assess triage practices.

Table 2.7. *Mechanisms in place to assess the quality of triage*

Hospital Group	Mechanisms in place to assess the quality of triage?				
	Yes		No		Total
A1	3	50%	3	50%	6
A2	4	40%	6	60%	10
A3	3	25%	9	75%	12
Total	10	36%	18	64%	28

The most frequently used mechanism to assess the quality of triage was case reviews, which were used by eight EDs on an occasional basis. Six EDs used medical record audit; one on a monthly basis, one every six months, two occasionally and two as required. Another mechanism identified was triage practice observation. Eleven EDs used this method but did not specify how frequently observations were carried out. One ED identified this method was used daily and another used this method as required.

Other types of quality mechanisms in use included:

Review complaints (2 EDs);

Peer Review (3 EDs);

Examine ACHS waiting times (1 ED); and

Audit scenarios used for education (1 ED).

Table 2.8 displays the distribution mechanisms in place to improve quality of triage in EDs, by hospital group. Forty-six percent stated “yes” that they had mechanisms in place in the ED to improve the quality of triage. However ten department respondents could not identify what those mechanisms were and three departments stated informal education and supported practice were in use and two departments used performance management to improve the quality of triage.

Table 2.8. Mechanisms in place to improve the quality of triage

Table 2.6: Mechanisms in place to improve the quality of triage						
Hospital Group	Mechanisms in place to improve the quality of triage?				Total	
	Yes		No			
A1	2	33%	4	67%	6	100%
A2	5	50%	5	50%	10	100%
A3	6	50%	6	50%	12	100%
Total	13	46%	15	54%	28	100%

2.4.6 Use of guidelines / protocols

Sixty-four percent (18) of EDs used some type of guidelines or protocols to assist the triage process. Eight EDs identified the type of guidelines that were in use and two EDs stated they used protocols. Eight EDs used both guidelines and protocols. Nine EDs (32%) identified they had very specific departmental rules / protocols, three (10.7%) used diagnostic groups, and nineteen (67.9%) used physiological parameters. Types of guidelines and protocols reported in use included:

Pregnancy guidelines (2 EDs);

Children never categorised as Triage Category 5 (1 ED);

Neonates triaged to Category 3 or above (1 ED);

Resuscitation patients triaged to Category 1 or 2 (1 ED); and

Febrile / Neutropenic patients triaged to Category 2 (1 ED).

3 Triage Education Strategy

3.1 Overview

The project team conducted a review of available triage education tools, both international and national. The review revealed that a validated triage education tool did not currently exist. Following the review of the literature and consultation with key personnel (ENA Triage Working Party, Consistency of Triage in Emergency Departments Project Steering Committee), the use of physiological discriminators was deemed to be the most objective and clinically acceptable basis for triage education. The project team undertook the task of developing a triage education strategy, *Guidelines for Triage Education and Practice*, and used a variety of resources to inform its development. These resources included:

The literature review (Report 1 – Literature Review);

Results of the Consistency of Triage component of the project (Report 2 – Consistency of Triage);

- Triage scenarios

- Dual triage

ED survey (Section 2 of this report)

Literature published by ENA

Literature published by Australasian College for Emergency Medicine (ACEM)

Consultation with clinicians (triage nurses), managers (ED NUMs) and educators (ED CNEs / lecturers)

In Victoria, the Emergency Nurses Association of Victoria (Incorporated) is the professional body representing emergency nurses and has a current membership of approximately one hundred and seventy. It was the vision of the project team to ultimately have the triage education strategy endorsed by ENA for these reasons. Whilst ENA has written position statements on “Triage” and “Educational Preparation of Triage Nurses”, given the recency of their publication, these position statements have never been subject to formal and widespread review^{3,4}.

The project team, in consultation with the steering committee, decided that these documents would form the basis of the triage education strategy and also be informed by works from other sources. Permission was formally sought and granted from ENA to use these documents.

3.2 Consultation

The project team was cognisant of the fact that for the education strategy to be successful, it had to be supported by clinicians, managers and educators, who had a vested interest in triage education.

A series of forums were held across Victoria. These forums were held for multiple reasons:

To enable the project team to give feedback about the progress of the project and present preliminary results (scenario data, dual triage data and ED survey);

To present the content of the ENA Position Statements for critique and comment; and

To present physiological discriminators, adult and paediatric for critique and comment.

The forums were held at five venues:

Ballarat Health Services, Base Hospital Site;

Dandenong Hospital;

St Vincent's Hospital, Melbourne;

University of Melbourne - Shepparton Campus; and

Western Hospital.

These venues were selected to facilitate attendance of representatives from all of the twenty-nine participating hospitals.

Invitations to attend the forum were extended to the NUMs from the participating hospitals including one to two triage nurses from each hospital, members of the ENA Triage Working Party and all ED CNEs and university lecturers in emergency nursing. A total of seventy-three invitations were distributed and this resulted in seventy attendees from twenty-eight of the participating EDs at the forums as displayed in Table 3.1.

Table 3.1. *Invitees & attendees to triage forums*

Staff Category	Invitees	Attendees
ED NUM	29	17
ED CNE	10	17
Lecturers	25	
Members of ENA Triage Working Party	9	2
Triage Nurses		34
	73	70

The forums were conducted as an informal presentation and discussion. The three Project Triage Nurses were interspersed throughout the room and recorded notes of the discussions. At the end of each forum, these notes were collated and once all the forums were completed, the feedback was arranged on a thematic basis. The Project Coordinator presented the feedback to the ENA Triage Working Party.

3.3 Content

The education strategy was designed with the assumption that triage nurses "...are competent and able to function independently in all aspects of emergency nursing prior to undertaking the triage role..." as set out in the ENA Position Statement: Educational Preparation of Triage Nurses³. Implicit in this assumption is that novice triage nurses are competent emergency nurses and therefore have some level of knowledge about emergency nursing practice, therefore the education strategy is very focused on triage and does not attempt to encompass, in detail, other aspects of emergency nursing.

The suggested content as outlined in the ENA Position Statement formed the framework for the education strategy. A summary of this content is as follows:

Objectives;

Principles of triage;

Australasian Triage Scale;

Triage decisions;

- Primary triage decisions;
- Secondary triage decisions;

Documentation;

Risk management; and

Organisational and community resources⁴.

Where possible, the content of the education strategy was based on the results of research or informed by recent literature on triage. Where research and literature was lacking, the content was informed by the results of the triage forums. A draft copy of the education strategy content was then distributed to the Consistency of Triage in Emergency Departments Project Steering Committee, members of the ENA Triage Working Party and members of ENA Council for critique and comment.

A large component of the education strategy is a detailed discussion of physiological data and how these relate to each of the ATS categories. This discussion follows a primary survey approach as follows:

Airway;

Breathing;

Circulation;

Disability;

- Conscious state;
- Pain;
- Neurovascular status;

Mental health emergencies;

Ophthalmic emergencies; and

Risk factors for serious illness or injury.

The format was based on that of the “Adult Discriminators for National Triage Scale Categories” contained in the ENA Position Statement: Educational Preparation of Triage Nurses⁴.

The education package includes a summary of the physiological discriminators and a series of practice triage scenarios with comprehensive answers relating the scenario content to the physiological discriminators.

3.4 Format

The education strategy has been produced in two formats; paper based and on line. The paper based format is in the form of a written learning package. The online format is planned to be available in pdf format on the Department of Human Services web site - www.dhs.vic.gov.au/pdpd/edcg.

3.5 Implementation

A package was forwarded to each NUM and CNE from the 29 participating hospitals, university lecturers teaching emergency nursing and members of the ENA Triage Working Party. The package contained:

- A letter announcing the completion of the education strategy;
- A copy of the *Guidelines for Triage Education and Practice*; and
- Details of how to access the online education strategy.

3.6 Ongoing evaluation

The project team considered ENA, particularly, the ENA Triage Working Party, the most appropriate avenue for ongoing evaluation of triage education.

4 Assessment and Evaluation of Triage

4.1 Overview

There is a paucity of literature regarding quality measures and triage, particularly the evaluation of triage decisions or application of triage scales such as the ATS. Even so, it is suggested that the use of key performance indicators (KPIs) would be an effective tool to audit the environmental standards required for performing the role of triage. These KPIs could ensure that both patient and staff satisfaction be identified and best practice achieved. As KPIs assist organisations to assess current performance levels they therefore provide a supportive framework for almost all levels of best practice.

The literature cites, waiting times, admission rates, sentinel diagnoses and retrospective chart audits as being mechanisms to rate performance, however these measures have limitations.

Currently, the ACEM recommends the measurement of waiting times and has set a “performance indicator threshold” for each triage category that represents the percentage of patients in each category who actually receive medical assessment and treatment within the time designated by their triage category⁵. The ACEM considers waiting times of greater than two hours clinically and ethically unacceptable and views prolonged waiting times as a failure of both access and quality⁵.

The ACEM also cite the measurement of admission rates per triage category as a means of triage decision validation. For example, low admission rates for Category 1 patients is indicative of over-triage of patients to this triage category^{6,7}. It is acknowledged however that variation in admission rates occurs between health care institutions and is noted to be as great as 35% in tertiary referral hospitals^{6,7}.

The project team identified the need to develop a method of assessing and improving the consistency of triage. Consequently, they developed a simple audit tool reflecting the physiological parameters found in the triage education package. The audit tool can be used to assess the consistency of triage category allocation in several ways.

1. As a method of evaluating the implementation of the triage education package, assessing the pre and post learning situation, as per Figure 4.1.

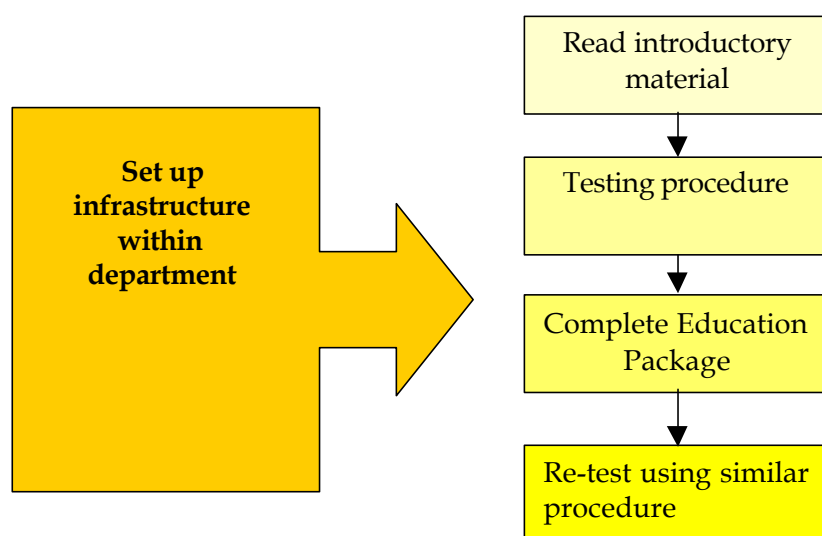


Figure 4.1. Triage audit tool process for assessing effectiveness of education

2. The audit tool can also be used as a method of ensuring that best practice is occurring by monitoring the consistency of triage through retrospective chart audits. For every 1,000 episodes of triage, it is suggested that 20 episodes be examined for a statistically significant result. Therefore this process could be quite easily incorporated into practice. Figure 4.2 displays a flow chart demonstrating this process. The findings of the retrospective chart audit can be summarised using the Quality Improvement Framework provided in Section 4.5. This provides a means of tracking performance, setting benchmarks and key performance indicators and planning ongoing education to improve the consistency of triage.

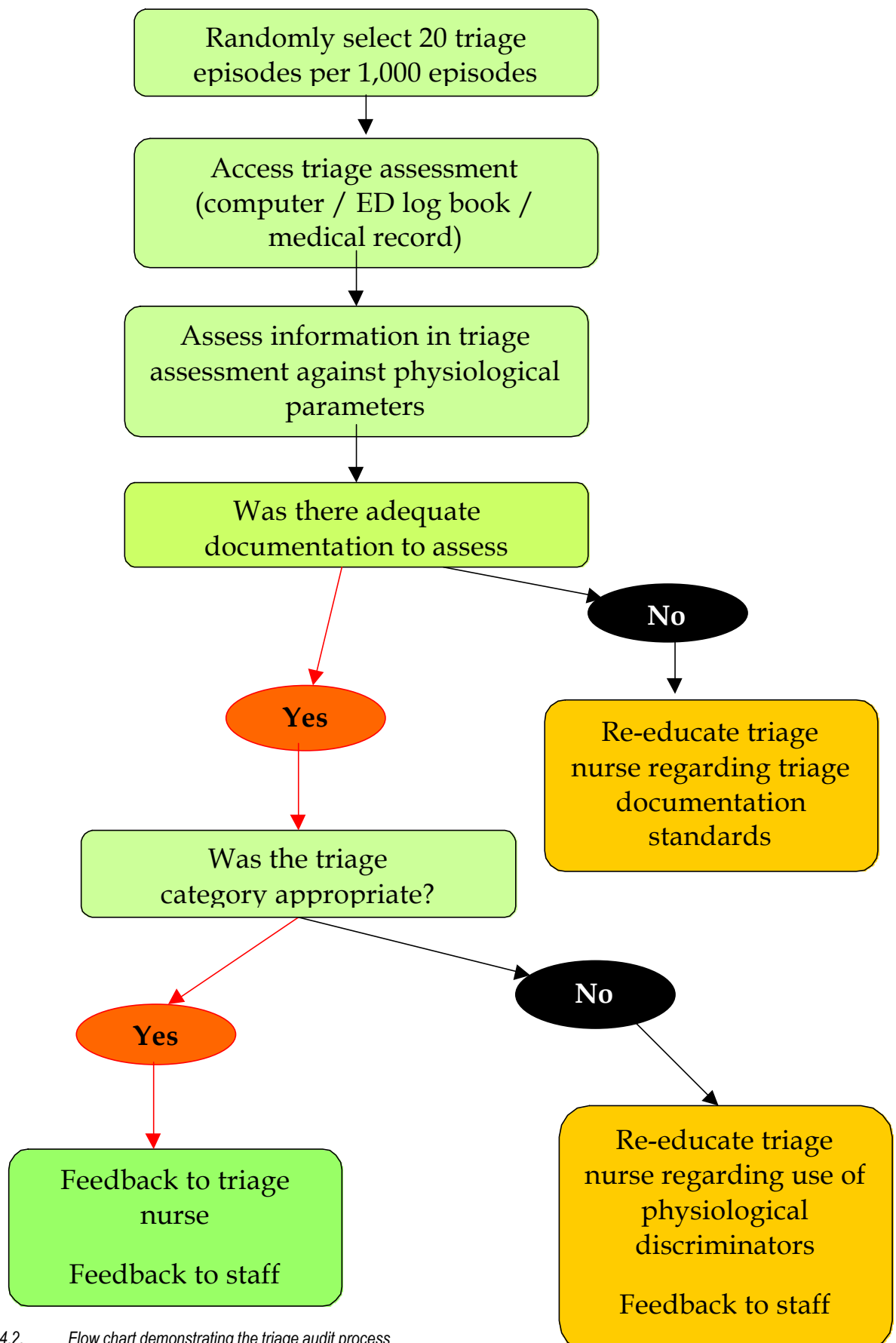


Figure 4.2. Flow chart demonstrating the triage audit process

4.2 Instructions for triage audit tool

The following is a suggested process to follow to audit triage category allocation using the audit tools provided in Sections 4.2, 4.3 and 4.4. There are three audit tools - one for adult presentations, one for paediatric presentations and one specifically for mental health or ophthalmic emergencies. An Excel file has also been created for use with these audit tools that can be downloaded from the [website www.dhs.vic.gov.au/pdpc/edcg](http://www.dhs.vic.gov.au/pdpc/edcg).

1. Randomly select 20 triage episodes per 1000 triage episodes. For example, if your ED sees 2500 patients per month, you will need to audit 50 triage episodes per month. This process is more valuable and requires less effort if small numbers are audited more often. To examine, for example, 13 triage episodes, a number of sample cases are illustrated below.
 - a) Generate 13 random UR numbers from the computer; or
 - b) Randomly select one day and pick the first / last 13 patients; or
 - c) Randomly select a day and time and pick the first 13 patients presenting after that time; or
 - d) As a self-audit tool use methods 'b or c' illustrated above.
2. Access historical triage episode details (this might be triage episodes recorded 6 – 12mths previously). You will need to know the patients' UR numbers, date and time of the triage episodes, details of the triage assessment and triage category. You may access this information in a variety of ways depending on your EDs processes
 - a) Computer; or
 - b) ED log book / ED cards / medical record.
3. Complete the details at the top of the audit tool.
4. Examine the triage assessment and using the audit tool tick the boxes applicable to the information in the triage assessment.
5. Complete the information at the bottom of the audit tool:
 - a) Was the triage documentation adequate to determine the appropriateness of triage category allocation?
 - b) Was the triage category appropriate to the patient's physiological status?

Report the results to the appropriate person in your ED, for example, NUM / CNE / CNS or RN with triage education portfolio. This is an opportunity to provide constructive and objective aggregate feedback to the triage nurses in your ED or to undertake self-assessment of your triage decisions.

6. The outcomes of the triage audit can be summarised using the Triage Quality Framework provided in Section 4.5. This framework summarises KPIs including the outcome of the audit process and enables the setting of benchmarks and refinement of KPIs to guide ongoing improvement strategies.

4.3 Triage audit tool (adult)

Audit details:

Date _____
 Time _____
 Name of auditor _____

Triage episode details:

Date _____ Patient UR number _____
 Time _____ Triage category _____

	<i>Category 1</i>	<i>Category 2</i>	<i>Category 3</i>	<i>Category 4</i>	<i>Category 5</i>
Airway					
<input type="checkbox"/> Obstructed		<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway
<input type="checkbox"/> Partially obstructed					
Breathing					
<input type="checkbox"/> Absent respirations or hypoventilation		<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present
<input type="checkbox"/> Severe respiratory distress		<input type="checkbox"/> Moderate respiratory distress	<input type="checkbox"/> Mild respiratory distress	<input type="checkbox"/> No respiratory distress	<input type="checkbox"/> No respiratory distress
Circulation					
<input type="checkbox"/> Absent circulation		<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present
<input type="checkbox"/> Severe haemodynamic compromise		<input type="checkbox"/> Moderate haemodynamic compromise	<input type="checkbox"/> Mild haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise
<input type="checkbox"/> Uncontrolled haemorrhage					
Disability					
<input type="checkbox"/> GCS < 8		<input type="checkbox"/> GCS 9 - 12	<input type="checkbox"/> GCS > 13	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)
		<input type="checkbox"/> Severe pain	<input type="checkbox"/> Moderate pain	<input type="checkbox"/> Mild pain	<input type="checkbox"/> Mild pain
		<input type="checkbox"/> Severe neurovascular compromise	<input type="checkbox"/> Moderate neurovascular compromise	<input type="checkbox"/> Mild neurovascular compromise	<input type="checkbox"/> No neurovascular compromise
Risk Factors					
<input type="checkbox"/> Mechanism of injury	<input type="checkbox"/> Co-morbidity	<input type="checkbox"/> Age	<input type="checkbox"/> Historical variables	<input type="checkbox"/> Cardiac risk factors	<input type="checkbox"/> Victim of violence
			<input type="checkbox"/> Other		
Was triage documentation adequate to assess appropriateness of triage?			<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Was triage category appropriate to the patient's physiological status?			<input type="checkbox"/> Yes	<input type="checkbox"/> No	→ <input type="checkbox"/> Undertriage <input type="checkbox"/> Overtriage

4.4 Triage audit tool (paediatric)

Audit details:

Date _____
 Time _____
 Name of auditor _____

Triage episode details:

Date _____ Patient UR number _____
 Time _____ Triage category _____

<i>Category 1</i>		<i>Category 2</i>		<i>Category 3</i>		<i>Category 4</i>		<i>Category 5</i>	
Airway									
<input type="checkbox"/> Obstructed	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway	<input type="checkbox"/> Patent airway
<input type="checkbox"/> Partially obstructed with severe respiratory distress	<input type="checkbox"/> Partially obstructed with moderate resp distress	<input type="checkbox"/> Partially obstructed with moderate resp distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress	<input type="checkbox"/> Partially obstructed with mild respiratory distress
Breathing									
<input type="checkbox"/> Absent respirations or hypoventilation	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present	<input type="checkbox"/> Respiration present
<input type="checkbox"/> Severe respiratory distress	<input type="checkbox"/> Moderate respiratory distress	<input type="checkbox"/> Moderate respiratory distress	<input type="checkbox"/> Mild respiratory distress	<input type="checkbox"/> Mild respiratory distress	<input type="checkbox"/> No respiratory distress	<input type="checkbox"/> No respiratory distress	<input type="checkbox"/> No respiratory distress	<input type="checkbox"/> No respiratory distress	<input type="checkbox"/> No respiratory distress
Circulation									
<input type="checkbox"/> Absent circulation or significant bradycardia	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present	<input type="checkbox"/> Circulation present
<input type="checkbox"/> Severe haemodynamic compromise	<input type="checkbox"/> Moderate haemodynamic compromise	<input type="checkbox"/> Moderate haemodynamic compromise	<input type="checkbox"/> Mild haemodynamic compromise	<input type="checkbox"/> Mild haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise	<input type="checkbox"/> No haemodynamic compromise
<input type="checkbox"/> Uncontrolled haemorrhage	<input type="checkbox"/> > 6 s/s dehydration	<input type="checkbox"/> > 6 s/s dehydration	<input type="checkbox"/> 3 - 6 s/s dehydration	<input type="checkbox"/> 3 - 6 s/s dehydration	<input type="checkbox"/> < 3 s/s dehydration	<input type="checkbox"/> < 3 s/s dehydration	<input type="checkbox"/> < 3 s/s dehydration	<input type="checkbox"/> < 3 s/s dehydration	<input type="checkbox"/> < 3 s/s dehydration
Disability									
<input type="checkbox"/> GCS < 8	<input type="checkbox"/> GCS 9 - 12	<input type="checkbox"/> GCS 9 - 12	<input type="checkbox"/> GCS > 13	<input type="checkbox"/> GCS > 13	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)	<input type="checkbox"/> Normal GCS (or no acute change to usual GCS)
	<input type="checkbox"/> Severe pain	<input type="checkbox"/> Severe pain	<input type="checkbox"/> Moderate pain	<input type="checkbox"/> Moderate pain	<input type="checkbox"/> Mild pain	<input type="checkbox"/> Mild pain	<input type="checkbox"/> Mild pain	<input type="checkbox"/> Mild pain	<input type="checkbox"/> Mild pain
	<input type="checkbox"/> Severe neurovascular compromise	<input type="checkbox"/> Severe neurovascular compromise	<input type="checkbox"/> Moderate neurovascular compromise	<input type="checkbox"/> Moderate neurovascular compromise	<input type="checkbox"/> Mild neurovascular compromise	<input type="checkbox"/> Mild neurovascular compromise	<input type="checkbox"/> Mild neurovascular compromise	<input type="checkbox"/> Mild neurovascular compromise	<input type="checkbox"/> Mild neurovascular compromise
Risk Factors									
<input type="checkbox"/> Mechanism of injury	<input type="checkbox"/> Co-morbidity	<input type="checkbox"/> Age	<input type="checkbox"/> Victim of violence	<input type="checkbox"/> Parental concern	<input type="checkbox"/> Historical variables	<input type="checkbox"/> Historical variables	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other
Was triage documentation adequate to assess appropriateness of triage?			<input type="checkbox"/> Yes	<input type="checkbox"/> No					
Was triage category appropriate to the patient's physiological status?			<input type="checkbox"/> Yes	<input type="checkbox"/> No	→	<input type="checkbox"/> Undertriage	<input type="checkbox"/> Overtriage		

** used with permission from South Eastern Sydney Area Health Service

Tobin D, Chen, L, Scott, E. 1999. Development and Implementation of Mental Health Triage Guidelines for Emergency Departments. South Eastern Sydney Area Health Service

4.5 Triage audit tool (mental health / ophthalmic emergencies - adult or paediatric)

Audit details:

Date _____
 Time _____
 Name of auditor _____

Triage episode details:

Date _____ Patient UR number _____
 Time _____ Triage category _____

	<i>Category 1</i>	<i>Category 2</i>	<i>Category 3</i>	<i>Category 4</i>	<i>Category 5</i>
Mental health**					
<input type="checkbox"/> Definite danger to life - self or others	<input type="checkbox"/> Probable danger to life - self or others	<input type="checkbox"/> Possible danger to life - self or others	<input type="checkbox"/> Moderate distress	<input type="checkbox"/> No danger to life - self or others	
	<input type="checkbox"/> Severe behavioural disturbance	<input type="checkbox"/> Severe distress		<input type="checkbox"/> No behavioural disturbance	
	<input type="checkbox"/> Requires restraint	<input type="checkbox"/> Moderate behavioural disturbance		<input type="checkbox"/> No acute distress	
		<input type="checkbox"/> Psychotic symptoms			
		<input type="checkbox"/> Affective disturbance			
Eye emergencies					
	<input type="checkbox"/> Penetrating injury - actual or potential	<input type="checkbox"/> Sudden abnormal vision	<input type="checkbox"/> Normal vision	<input type="checkbox"/> Normal vision	
	<input type="checkbox"/> Chemical injury	<input type="checkbox"/> Moderate eye pain	<input type="checkbox"/> Mild eye pain	<input type="checkbox"/> No eye pain	
	<input type="checkbox"/> Sudden loss of vision				
	<input type="checkbox"/> Sudden onset eye pain				
Was triage documentation adequate to assess appropriateness of triage?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Was triage category appropriate to the patient's physiological status?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	→	<input type="checkbox"/> Undertriage	<input type="checkbox"/> Overtriage

4.6 Triage quality improvement framework

Date _____ Month of Data Collection _____ Name of Auditor: _____

No.	Key Performance Area	Count	Actual	Current Month	Previous Month	Variance	YTD
1	Triage Nurse Education: the percentage of triage nurses who have undertaken specific study in preparation of the triage role, eg: used the "Guidelines for Triage Education and Practice" (<i>Count = Number of triage nurses; Actual = those who have undertaken study</i>).			%	%	+/-%	%
2	Waiting Times: the percentage of patients in each triage category who actually receive medical assessment and treatment within the time designated by their triage category (<i>Count = Number of Presentations; Actual = those who receive medical assessment and treatment within the time designated</i>).						
	• Category 1 – Immediate (Target 100%)			%	%	+/-%	%
	• Category 2 – Minutes (< 10 minutes) (Target 80%)			%	%	+/-%	%
	• Category 3 – Half Hour (Target 75%)			%	%	+/-%	%
	• Category 4 – One Hour (Target 70%)			%	%	+/-%	%
	• Category 5 – Two Hours (Target 70%)			%	%	+/-%	%
3	Admission Rates: the rate of hospital admissions associated with triage category (<i>Count = Number of Presentations; Actual = Number of Admissions</i>)						
	Category 1 (Target 75-90%)			%	%	+/-%	%
	Category 2 (Target 60-70%)			%	%	+/-%	%
	Category 3 (Target 50-60%)			%	%	+/-%	%
	Category 4 (Target 20-30%)			%	%	+/-%	%
	Category 5 (Target 5-10%)			%	%	+/-%	%

No.	Key Performance Area	Count	Actual	Current Month	Previous Month	Variance	YTD	
4	Retrospective Chart Audit to assess the consistency of triage category allocation (Count = Number of Presentations; Actual = Number of Records Audited 2%)			%	%	+/-%	%	
4a	Was triage documentation adequate to assess appropriateness of triage? (Count = Number of Records Audited; Actual = those with adequate documentation)			%	%	+/-%	%	
4b	Was triage appropriate to the patient's physiological status? (Count = the Number of Audited Records by Triage Category)		Appropriateness of Triage					YTD
			Appropriate	Under	Over		Appropriate	
	• All Categories			%		%		%
	• Category 1			%		%		%
	• Category 2			%		%		%
	• Category 3			%		%		%
	• Category 4			%		%		%
	• Category 5			%		%		%

Recommendations for Ongoing Education Program:

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Appendix 1: Contributors

The project team wish to acknowledge efforts of the contributors and triage forum attendees in the development of the triage education strategy:

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