

Triage in NSW rural and remote Emergency Departments with **no on-site doctors**

Review and recommendations of the
NSW Rural Critical Care Committee



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Acknowledgments

These guidelines for the triage and management of patients in rural and remote Emergency Departments where there are **no on-site doctors** was developed by the Rural Critical Care Committee in collaboration with Statewide Services Development Branch between 2003 and 2004.

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Summary

1

The NSW Rural Critical Care Committee has developed these guidelines in order to improve triage practices, enhance patient care and improve clinical outcomes for patients presenting to rural and remote Emergency Departments (EDs). The guidelines give an account of the current clinical role and practices in rural and remote EDs and reflect recent developments in the use of triage tools and scales to safely and effectively prioritise patient care based on the degree of urgency.

The guidelines make a number of recommendations in relation to the use of the *Australasian Triage Scale*, the adoption of a standardised data collection system and the development of standardised local guidelines, policies and procedures to manage patients in rural and remote EDs.

The recommendations include:

That NSW rural Area Health Services ensure that for each of their rural and remote Emergency Departments where there are **no on-site doctors**:

1. Standardised Emergency Management Guidelines are introduced for use by nurses who manage patients in those EDs.
2. Standing orders, policies, procedures and phone advice procedures, for the care of ED patients, are developed with input from local doctors and nurses. They should include mechanisms for adequate documentation and take into consideration the difficult circumstances in which rural doctors and nurses deliver healthcare.
3. The Australasian Triage Scale (ATS) is introduced to replace the National Triage Scale. The introduction of the ATS should be accompanied by:
 - the use of standardised and simplified guidelines for triage number allocation (such as those in Appendix I)
 - a uniform and appropriate education package, the delivery of which will be facilitated by the Clinical Nurse Consultant, Critical Care, in each rural critical care network.
4. Local guidelines and procedures are developed and implemented so that all triage category 1, 2 and 3 patients are assessed by a doctor. It is recognised that triage category 1, 2 and 3 patients will sometimes present to remote EDs in towns or areas where there is no doctor, but the management of these patients will still require input from a doctor, eg by phone consultation.
5. Local guidelines and procedures are developed and implemented for the safe care and follow-up of triage category 4 and 5 patients who are not assessed or treated by a doctor at that time.
6. A simple, standardised, and computerised data collection system, which fulfils all the identified requirements is introduced.
7. A data extract, based on the minimum dataset, is submitted to NSW Health on a quarterly basis.
8. NSW Health, in conjunction with the NSW Rural Critical Care Committee, be responsible for the collation and monitoring of information generated by this data collection system.

2 Background

In rural and remote NSW there are approximately 100 Emergency Departments (EDs) where there are **no on-site doctors**. The casemix, case numbers and work practices in these EDs can be quite different to those in larger metropolitan EDs. The nurses working in these EDs often have extended roles and are expected to be multiskilled.

Fundamental to the safe and effective management of patients presenting to these EDs is effective triage, that is, the sorting of these patients and the prioritising of their care based on the degree of urgency and complexity.

Triage scales are clinical tools which have been developed to aid this process. The National Triage Scale (NTS) was first published in 1993 by the Australasian College for Emergency Medicine (ACEM). The ACEM also developed performance benchmarks to be used in conjunction with this scale in Emergency Departments with on-site doctors.

Following the introduction of the NTS across all NSW Emergency Departments, the suitability of using this scale and its performance benchmarks in rural and remote Emergency Departments which have **no on-site doctor**, was acknowledged as inappropriate. As a first step towards addressing this issue NSW Health convened a participatory workshop in February 2000. A broad range of participants attended the workshop.

Following this workshop a draft paper entitled *Triage in New South Wales Rural Hospital Emergency Departments* was developed and circulated for comment and feedback. This document included a proposal for a modified 'Rural Triage Scale', which was developed to overcome some of the perceived shortcomings of using the NTS and its performance benchmarks in rural and remote EDs.

At the same time as these developments were occurring, the ACEM was undertaking a process of refinement of the NTS. Subsequently the ACEM modified and updated the NTS and called it the Australasian Triage Scale (ATS). The ATS and its performance benchmarks are regarded as being more 'rural friendly' than its predecessor and its development has obviated the need for a separate Rural Triage Scale.

This document gives an account of the current clinical role and clinical practices in NSW rural and remote EDs where there are **no on-site doctors** and also of the developments and issues relating to patient triage as described above. The document makes a number of recommendations regarding patient triage and patient management in these EDs. These recommendations are designed to improve triage practices, patient care, and hence the outcomes for patients presenting to these EDs. The recommendations are also designed to help address some of the difficulties rural doctors and nurses encounter in their professional lives.

It is noted that the ACEM, under its current definitions and guidelines, regards rural and remote Emergency Departments, to be 'Emergency Services' rather than 'Emergency Departments'. However, rural communities, rural Area Health Services and the NSW Health Department all currently regard these Emergency Services as Emergency Departments and so for the purposes of this document these terms will be used synonymously. It should also be noted that the definitions below and the scope of this document do not include NSW rural base hospital EDs.

Rural and remote Emergency Departments

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NSW rural Emergency Departments

These are EDs which do not have on site doctors but:

- have VMO general practitioners on call to attend Emergency Department patients
- are open 24 hours a day, 7 days a week
- have the facilities and equipment available for resuscitating and treating seriously ill or injured patients
- accept emergency cases via ambulance
- have Registered Nurses (RNs) on site 24 hours to receive and assess patients and initiate clinical management.

NSW remote Emergency Departments

This is a group of non-homogenous facilities, which offer a level of emergency service below that described for rural EDs. Some 'rural' EDs will at times function at a 'remote ED' level and vice-versa and this generally depends on the availability of a doctor to attend the ED.

Some remote EDs function as first aid posts and rely exclusively on patient assessment by RNs. This may or may not be followed by phone advice from a doctor at a distant site. The Royal Flying Doctor Service has been involved with this type of practice in the far west of NSW for many years.

There are 153 EDs across the NSW health system. There are 53 EDs in the metropolitan and major regional centres of NSW all of which have on-site doctors and have access to the Emergency Department Information System (EDIS). There are approximately 100 EDs in NSW that fit the definitions for rural or remote EDs as described above. The vast majority of these are 'rural' but it is uncertain as to the exact ratio of remote to rural EDs and this ratio probably fluctuates from time to time with changes in the availability of doctors.

4 Rural and remote Emergency Departments: staff

The doctors who service NSW rural and remote Emergency Departments are usually rural general practitioners. These doctors deliver emergency care in an environment which is very challenging professionally. These challenges include:

- clinical isolation
- lack of on-site specialist back up
- an expectation that rural GPs be multiskilled
- difficulties in maintaining and updating emergency skills and knowledge
- chronic shortage of doctor numbers in most rural areas.

The registered nurses who service NSW rural and remote Emergency Departments face similar challenges.

Rural and remote Emergency Departments: role and clinical practice

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It is difficult to comprehensively quantify the number of presentations to rural and remote EDs across NSW. Data collection at these sites is not uniform, is often inconsistent, and sometimes inadequate. Many of these EDs do not have computerised data collection and do not submit data for analysis to any centralised collection point. It is also recognised that some rural and remote EDs serve an additional role as general outpatients departments. However, it is not possible to quantify this practice given the current data collection methods.

NSW Health uses DOHRS (Department of Health Reporting System) adjusted figures to estimate the number of ED presentations to these hospitals. Current data indicate that the 100 rural and remote EDs see over 400,000 presentations per year representing 22.72% of the total ED presentations in NSW per annum. A local survey carried out in the New England Area Health Service in 1992 suggested that the DOHRS adjusted figures in that Area underestimate rural and remote ED attendance figures by as much as 50%.

Due to the lack of appropriate data collection it is difficult to quantify the level of patient acuity in rural and remote EDs although there is a generally held perception that rural EDs have a less acute casemix than base hospitals or metropolitan hospitals. It is acknowledged that some rural and remote EDs provide multiple functions including outpatient services and this influences their overall casemix.

The New England Area Health Service survey found that 40% of the total number of Triage Category 1 patients in the area were presenting to the rural EDs where there are **no on-site doctors**. Even with the acknowledged limitations of the data collection techniques and the uncertain triage practices this would suggest that rural EDs and rural general practitioners play a more significant role in the care of the emergency patients of NSW than is generally recognised.

6 Rural and remote Emergency Departments: triage practices

A preliminary survey conducted in NSW rural areas in 2000 suggests that nursing triage practices and triage category allocation are different in rural and remote EDs when compared to metropolitan and base hospital EDs. The survey found that there was a 50% inter-rater concordance for triage category allocation. This compares with an approximate rate of 75% in metropolitan and base hospitals. While the reasons for this variation have not been studied it has been argued that the variation may be due to factors such as:

- the smaller number of patient presentations to the rural and remote EDs which means that there are skill maintenance issues for the RNs performing triage and triage number allocation in these facilities
- RNs working in many rural and remote EDs multi-tasking and working in the ED and other parts of the hospital simultaneously.

An inter-rater concordance rate of only 50% would significantly limit the usefulness of any triage scale in rural EDs. The ACEM suggest that the concordance rate should be at least 60% for the ATS to be a useful tool. Accordingly, the NSW Rural Critical Care Committee has recommended that standardised and simplified guidelines for triaging and triage number allocation, as well as a uniform and appropriate education package be introduced to rural and remote EDs.

Clinical work practices where there are no on-site doctors

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There are a number of work practices which have developed in response to local circumstances including the following:

The extended role of RNs in rural and remote Emergency Departments

In the case of patients with life-threatening emergencies some RNs in rural and remote EDs are trained to initiate patient management while the doctor on call is proceeding to the ED or, in the case of remote EDs, while a doctor is being contacted by phone. Some NSW Rural Critical Care Networks have developed Emergency Nursing Intervention Guidelines to assist RNs in these circumstances.

Some rural EDs also see a number of patients with minor problems who have nursing interventions performed under instruction from their local doctors but the doctor does not attend the ED to see the patient at that time. These patients are usually referred back to see the doctor at a later time. This may be for such procedures as blood pressure checks, wound dressings and tetanus immunisations. In small rural centres this practice forms an important part of the relationship that exists between rural GPs and hospital EDs.

It is also the case that in some remote area EDs where there is no doctor in the area, RNs are responsible for the overall management of ED patients. This practice relies on the assessment, skills, experience and training of these isolated on-site RNs as well as the existence of practices involving standing orders, clinical guidelines, and, when necessary, phone advice from a doctor.

Local arrangements between rural GPs, ambulance services, and Emergency Departments

When seriously ill or injured patients are being transferred to rural EDs the NSW Ambulance Service often gives prior warning to rural GPs so that the GP can attend the ED before the patient arrives, thus compensating for the fact that there is no doctor on site.

Triage referral practices

Some rural EDs have an arrangement with their local GPs on call whereby patients who are assessed as having non-urgent problems are asked to return at a later time. This practice relies heavily on the assessment, skills, judgment and experience of the on-site nursing staff. Some rural and remote EDs have developed local standing orders and clinical guidelines for such situations, but this tends to be the exception rather than the rule.

Recommendations

That NSW rural Area Health Services ensure that for each of their rural and remote Emergency Departments where there are **no on-site doctors**:

1. Standardised Emergency Management Guidelines are introduced for use by nurses who manage patients in those EDs.
2. Standing orders, policies, procedures and phone advice procedures, for the care of ED patients, are developed with input from local doctors and nurses. They should include mechanisms for adequate documentation and take into consideration the difficult circumstances in which rural doctors and nurses deliver healthcare.

8

Triage scales for rural and remote Emergency Departments

Like any Emergency Department, rural and remote EDs need a triage scale to be used as:

- a clinical tool to help prioritise patient care. Some rural EDs see more than 10,000 patients per year; there will inevitably be clusters of patients who present for treatment and an appropriate tool for prioritising their care is needed
- a quality assurance tool to measure and benchmark waiting times, admission rates and patient outcomes for each triage category and to benchmark the work practices of the RNs and doctors in rural EDs
- a data collection tool to study workload and casemix
- a potential basis for fair and equitable distribution of resources – this may be relevant if the resource distribution model for these rural and remote EDs changes in the future.

The National Triage Scale (NTS) with its accompanying performance benchmarks was designed by the Australasian College of Emergency Medicine (ACEM) in 1993 for use in EDs with on-site medical staff. The ACEM did not design the scale and performance benchmarks for use in Emergency Departments where there are no on-site medical staff. This resulted in the problem of using a triage scale and its performance benchmarks in rural and remote EDs where it did not appropriately reflect the clinical practice.

If there was **no on-site doctor**, for non-urgent cases in particular, benchmarks were unreasonable and unrealistic. For example, if a patient presented to a rural or remote ED with a minor problem at 3am, it is neither achievable nor desirable that a solo rural GP should see the patient within 2 hours. It is also accepted clinical practice that on-call rural GPs do not always physically see non-urgent patients but instead provide advice and suggest interventions by phone. This approach might be used for a patient with a simple, undisplaced and uncomplicated wrist fracture who presents late at night.

The doctor may be telephoned by the RN and the doctor may prescribe, based on pre-existing standing orders and clinical guidelines, appropriate interventions such as analgesia, a backslab, periodic limb circulation observations, admission to hospital overnight and review by the doctor in the morning.

In rural and remote EDs there are nurses on site who perform valuable and important interventions while waiting for the doctor to attend and/or provide advice. This practice is more common than in metropolitan and base hospitals and it is one of the hallmarks, which distinguish work practices in rural and remote EDs. The NTS has no specific performance benchmarks for these nursing interventions and, therefore, there is no accountability or measure of the quality and timeliness of these nursing interventions.

In 2001, the ACEM published a modified and updated version of the National Triage Scale (NTS). This new scale, the Australasian Triage Scale (ATS) was accompanied by a clarification and broadening of the definition of 'waiting time'. The ATS is outlined in Appendix II.

Subsequently, NSW Health notified Area Health Services that it was acceptable to use the 'seen by nurse' time as a 'waiting time' measure. This effectively recognises and sanctions nursing interventions as the beginning of the patient treatment process, and meant that the ATS can now be used to benchmark nursing interventions in rural and remote EDs.

Recommendations

That NSW rural Area Health Services ensure that for each of their rural and remote Emergency Departments where there are **no on-site doctors**:

3. The Australasian Triage Scale (ATS) is introduced to replace the National Triage Scale. The introduction of the ATS should be accompanied by:
 - the use of standardised and simplified guidelines for triage number allocation (such as those in Appendix I)
 - a uniform and appropriate education package, the delivery of which will be facilitated by the Clinical Nurse Consultant, Critical Care, in each rural critical care network.
4. Local guidelines and procedures are developed and implemented so that all triage category 1, 2 and 3 patients are assessed by a doctor. It is recognised that triage category 1, 2 and 3 patients will sometimes present to remote EDs in towns or areas where there is no doctor, but the management of these patients will still require input from a doctor, eg by phone consultation.
5. Local guidelines and procedures are developed and implemented for the safe care and follow-up of triage category 4 and 5 patients who are not assessed or treated by a doctor at that time.

9 Standardised data collection in rural and remote Emergency Departments

Data collection in rural and remote EDs is currently not uniform, is often inconsistent, and sometimes inadequate. Many of these EDs do not have computerised data collection and do not have a computer readily available for staff to use 24 hours a day. Those that do collect data often do not submit this data for analysis to any centralised collection point. This has resulted in the uncertainties of workload and casemix which exist for rural and remote EDs. There is a need for a simple, standardised computer database to be introduced in these EDs.

It is recognised that some rural Area Health Services already have such systems in place. It is also recognised that NSW Health is developing a cut down version of the existing HASS EDIS database which may meet the needs of rural and remote sites. This project is being undertaken under the auspices of the Emergency Department Information Management Group (EDIMG) and it is anticipated that the program will be rolled out in 2004/05.

Regardless of which system is introduced it will require that rural area health services make computers accessible 24 hours a day to ED staff if they are to enter the data in 'real time'. It is also important that the following characteristics and capabilities are considered:

- can be used on standard PCs
- collects data which satisfies the NSW Health 'minimum data set' (see Appendix III)
- has the capability to collect data and generate useful and relevant reports locally to assist planning and management, and allow studies/research by relevant stakeholders. This would require standardised print formats in each network
- has capacity to record and distinguish between ED presentations and pre-booked outpatient attendances
- has the capacity to generate reports on ED attendances alone, without including data from attendances, which are recognised as being pre-booked outpatient attendances

- has the facility for data being entered retrospectively by non-medical and non-nursing staff if necessary
- reports generated involving the ATS benchmarks have the option of using either 'time to seen by doctor' or 'time to seen by nurse' when analysing patient waiting times
- the data collected can be extracted and pooled to allow collation and reporting from the minimum dataset on statewide basis.

The introduction of such a database would require both initial and ongoing local IT support and training. Introduction may also need to be accompanied by:

- standardised paper documentation across the critical care network, eg non-inpatient registers and progress notes. Non-inpatient registers or the equivalent will have to collect enough information manually so that data can be entered onto the computer database retrospectively if required
- an abbreviated and user-friendly set of ICD9 or ICD10 diagnostic and procedural codes standardised across the network
- a manual of definitions for the various fields on the computer program standardised across the network.

Rural Area Health Services will be required to submit group data to NSW Health on a quarterly basis.

Recommendations

That NSW rural Area Health Services ensure that for each of their rural and remote Emergency Departments where there are **no on-site doctors**:

6. A simple, standardised, and computerised data collection system, which fulfils all the identified requirements, is introduced.
7. A data extract, based on the minimum dataset, is submitted to NSW Health on a quarterly basis.
8. NSW Health, in conjunction with the NSW Rural Critical Care Committee, be responsible for the collation and monitoring of information generated by this data collection system.

Recommendations: summary

10

That NSW rural Area Health Services ensure that for each of their rural and remote Emergency Departments where there are **no on-site doctors**:

1. Standardised Emergency Management Guidelines are introduced for use by nurses who manage patients in those EDs.
2. Standing orders, policies, procedures and phone advice procedures, for the care of ED patients, are developed with input from local doctors and nurses. They should include mechanisms for adequate documentation and take into consideration the difficult circumstances in which rural doctors and nurses deliver healthcare.
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Guidelines for triage category allocation

	Category 1	Category 2	Category 3	Category 4	Category 5
Airway	Obstructed/partially obstructed	Potential obstruction, eg airway burns			
Cervical Spine		High-risk mechanism with neurological deficit	High index of suspicion High-risk mechanism of injury No neurological deficit		Low index of suspicion. Low-risk mechanism.
Breathing	Respiratory arrest Extreme respiratory distress: – Unable to speak – Extensive use of accessory muscle Respiratory rate <10/min		Moderate respiratory distress: – Can speak in words – Moderate use of accessory muscles	Mild respiratory distress: – Can speak in short sentences – Minimal use of accessory muscles	
Circulation	Cardiac arrest BP <80 (adult) Severely shocked child or infant Major blood loss	Heart rate <50 >150 (adult) Hypotensive Cardiac chest pain BSL <2mmol/l	Severe hypertension BSL >16 Severe dehydration		
Disability	GCS <8 Ongoing/prolonged seizure	GCS 9-12 Lethargy with fever	GCS > 13-15 Seizure (now alert)		
Pain		Severe pain >8/10	Moderate pain 8/10	Mild pain 3-7/10	No pain

	Category 1	Category 2	Category 3	Category 4	Category 5
Trauma	Major multi trauma	High-risk mechanism of injury: <ul style="list-style-type: none"> – Fall > 3m, MVC > 60kph, MVC /cyclist – Pedestrian, ejection, rollover – Death of occupant in same car Severe localised trauma – major fracture amputation penetrating trauma to torso or neck	Moderate limb injury (deformity, severe laceration, crush), altered sensation, absent pulse	Minor limb trauma	Minor wounds
Psychiatric Emergencies	Extreme behavioural disturbance with immediate threat of dangerous violence	Violent, aggressive, agitated patient with danger to self/others	Psychotic patient, likely to become aggressive Danger to self/others Suicidal patient Situational crisis	Long-standing mental health disorder Support person necessary (family, community mental health nurse)	Long-standing non-acute mental health disorder No support person necessary Social crisis

* Modified from the ATS descriptors

Appendix II

The Australasian Triage Scale

ATC category	Treatment acuity (maximum waiting time)	Performance indicator threshold
ATS 1	Immediate	100%
ATS 2	10 minutes	80%
ATS 3	30 minutes	75%
ATS 4	60 minutes	70%
ATS 5	120 minutes	70%

Appendix III

Rural Emergency Department Minimum Dataset

Core items

Person identifier (MRN)
Establishment identifier (hospital code number)
Indigenous status
Date of birth (to derive age)
Gender
Country of birth

Source items for derived times

Date/time patient presents
Date/time of triage
Date/time of nursing service event
Date/time of medical service event
Actual departure time

Rural ED specific items

Mode of arrival
Triage category
Source of referral
Type of visit
Principal diagnosis
Departure status (departure destination)
Referred to

Appendix IV

NSW Rural Critical Care Committee membership 2003/2004

Dr Philip Hungerford (Chair)

Dr Chris Gavaghan

Sharene Pascoe

Dr Alan Tankel

Karyn O'Reilly

Dr John Roberts

Dr Martin Rowley

Phillip Way

Dr Andrew Bezzina

Ron Wilson

Dr Trish Saccasan Whelan

Joanne Dungey

Kim Fletcher

Narelle Boyd

A/Prof Drew Richardson

Dr Paul Curtis

Anne Hawkins

Dr Malcolm Robertson

Dr Chris Cain

Audas Grant

Dr Andy Mather

Rod Peadon

Dr Geoff Hardacre

Keith Park

Marianne Gaul

Dr Jon McKeon

Dr Tony Burrell

Marianne Goodwin

Dr Tony O'Connell

Dennis Willis

Jamie Vernon

Dr Paul MacDonald

Denise Harris

Brett Abbenbroek

