Emergency Triage
Telephone triage and advice
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It is now 20 years since a group of senior emergency physicians and emergency nurses first met to consider solutions to the muddle that was triage in Manchester, UK. We had no expectation that the solution to our local problems would be robust enough (and timely enough) to become the triage solution for the whole United Kingdom. Never in our wildest dreams did we imagine that the Manchester Triage System (MTS) would be generic enough to be adopted around the world. Much to our surprise, however, both of these fantastic ideas came about, and the MTS continues to be used in many languages to triage tens of millions of Emergency Department attenders each year.

Clinical decisions made by telephone have always been an area of concern for clinicians because not only is the patient not present and it may be difficult to obtain correct information but many of the tools and indicators that we use for decision making are simply not available. It is therefore an inherently more risky process than face-to-face triage.

Quite early on in the implementation of MTS in Manchester, departments began to use a simplified version as a structure for telephone conversations. This was superseded by national algorithm-based telephone helplines and its use in the Emergency Department diminished.

Our colleagues in the Greater Manchester Ambulance Service (GMAS) felt that there was a gap in their resources for undertaking telephone decision making. We have discussed ways of developing tools based on the MTS, with its significant evidence base and good safety record which would embed safety and quality into their telephone decision systems.

A huge amount of work has been done by the now North West Ambulance Service (NWAS) along with MTS to test and audit a robust Telephone Triage tool. It has also been piloted in diverse settings, with ambulance services in the Azores and New Zealand, as well as other services in the United Kingdom using it for the whole or part of their day to day work. It has been tested and refined and has a superb audit trail and safety record associated with it.

The basic principles that drive the MTS (recognition of the presentation and reductive discriminator identification) are unchanging – but changes have been made to reflect the difficulties of assessment by telephone. The outcomes of decisions are condensed into ‘face-to-face now’, ‘face-to-face soon’ and ‘face-to-face later’ with a self-care outcome. Information and advice is suggested alongside
every outcome. The advice ranges from life-saving interventions which can be carried out until health care arrives, to self-care advice.

We recognise the diversity of health care settings and the need for appropriate information and advice; therefore, the information and advice sections of the Telephone Triage tool can be customised by the user to reflect different health economies while retaining the core which is MTS.

Clinical prioritisation (whether called triage or anything else) remains a central plank of clinical risk management in all emergency care settings. This telephone iteration of a triage system which prioritises millions of patients each year provides a robust, safe, evidence-based system for managing the risk inherent in patients who are at a distance from health care providers.

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CHAPTER 1

Introduction

Triage is a system of clinical risk management employed in Emergency Departments worldwide to manage patient flow safely when clinical need exceeds capacity. Systems are intended to ensure care is defined according to patient need and in a timely manner. Early Emergency Department triage was intuitive rather than methodological and was therefore neither reproducible between practitioners nor auditable.

The Manchester Triage Group was set up in November 1994 with the aim of establishing consensus amongst senior emergency physicians and emergency nurses about triage standards. It soon became apparent that the Group’s aims could be set out under five headings.
1. Development of common nomenclature
2. Development of common definitions
3. Development of robust triage methodology
4. Development of training package
5. Development of audit guide for triage

Nomenclature and definitions

A review of the triage nomenclature and definitions that were in use at the time revealed considerable differences. A representative sample of these is summarised in Table 1.1.

Despite this enormous variation, it was also apparent that there were a number of common themes running through the different triage systems; these are highlighted in Table 1.2.
Once the common themes of triage had been highlighted, it became possible to quickly agree on a new common nomenclature and definition system. Each of the new categories was given a number, a colour and a name and was defined in terms of ideal maximum time to first contact with the treating clinician. At meetings between representatives of Emergency Nursing and Emergency Medicine nationally, this work informed the derivation of the United Kingdom triage scale as shown in Table 1.3.

As practice has developed over the past 20 years, five-part triage scales have been established around the world. The target times themselves are locally set, being influenced by politics as much as medicine, particularly at lower priorities, but the concept of varying clinical priority remains current.
The development of Telephone Triage

After a period where all Emergency Departments in the Manchester area were using ‘Manchester Triage’ and using it on the telephone to triage callers to the ED (prior to NHS Direct), it became apparent that although all Emergency Department staff were using the same language of triage, the interface with paramedic colleagues still faced a language barrier. Key collaborators within the ambulance service recognised that applications of the Manchester Triage method would be extremely useful within the ambulance service and a further group of clinicians across acute care settings and the ambulance service was set up to explore this. Telephone Triage emerged as one of the products of this collaboration and had been used successfully for both secondary triage (since 2006) and latterly primary triage (2012) of those patients accessing care by telephoning ambulance services in a number of ambulance services across the United Kingdom and internationally.

Triage methodology

In general terms, a triage method can try and provide the practitioner with the diagnosis, disposal or clinical priority. ‘Manchester Triage’ is designed to allocate a clinical priority. This decision was based on three major tenets. First, the aim of the triage encounter is to aid clinical management of the individual patient, and this is best achieved by accurate allocation of a clinical priority. Second, the length of the triage encounter is such that any attempts to accurately diagnose a patient are doomed to fail. Third, it is apparent that diagnosis is not accurately linked to clinical priority. The latter reflects a number of aspects of the particular patient’s presentation as well as the diagnosis; for example patients with a final diagnosis of ankle sprain may present with severe or no pain and their clinical priority must reflect this. In Telephone Triage, the allocation of this clinical priority is inherently linked to a place of definitive clinical care, and in the highest priority, a mode of emergency transport to this care.

In outline, the triage method put forward in this book requires practitioners to select from a range of presentations and then to seek a limited number of signs and symptoms at each level of clinical priority. The signs and symptoms that discriminate between the clinical priorities are termed discriminators and they are set out in the form of flow charts for each presentation – the presentational flow charts. Discriminators that indicate higher levels of priority are sought first, and to a large degree, patients who are allocated to the standard clinical priority are selected by default. In this way, it reflects the effective face to face triage methodology taught by the Manchester Triage Group. The clinical priority is inherently linked to a disposal: where does the patient obtain the definitive care which they require and what is the timescale within which this must be obtained for optimum
outcomes. The possible outcomes of Telephone Triage are simplified from the five categories system as there are fewer options available to the Telephone Triage practitioner.

The decisions which must be made are as follows:
- Does the patient need immediate and urgent care? (FtF Now)
- Do they need to be seen face to face by a clinician soon, but not immediately? (FtF Soon)
- Can medical or other care be delayed? (FtF Later)
- Can an ‘advice only’ route be followed, where the problem can be managed by giving self-care advice?

Face to face triage practitioners will note differences between the discriminators seen within face to face triage and those in the Telephone Triage method. For some discriminators used in face to face triage, it is impossible to ascertain without actually having the patient in front of the triage practitioner, whether the discriminator is fulfilled or not. Those discriminators are therefore not used in Telephone Triage. Slight changes are made to other discriminators in order for them to be more appropriate in a Telephone Triage setting.

**Advice**

Advice is presented on the charts at each level and is to highlight issues which can be discussed by the practitioner with the patient or caller. It is important that interim advice is given and that, if the patient is triaged to ‘advice only’, comprehensive advice is given and understanding is checked. The patient must know what to do should the situation change. A key premise of the advice in these charts is that it is general and may be adapted for use in specific settings. The algorithms, as in the case of the face to face algorithms, are evidence based and validated and must not be modified.

The decision making process is discussed in Chapter 2 and the triage method itself is explained in detail in Chapter 3.

**Presentation priority matrix**

Patients who are in the ‘FtF Now’ category are best served by the Emergency Ambulance Service and Emergency Departments, whatever their locations. Those requiring ‘FtF Soon’ or ‘FtF Later’ may have care delivered in a number of locations and by various providers. Thus the time to care in the ‘FtF Soon’ category will vary, depending upon those services available in that health economy. A mapping exercise should be undertaken locally to agree the appropriate dispositions arising from the triage decision (see Chapter 4). It is essential that the practitioner undertaking Telephone Triage is able to use up-to-date details about current local services such as dental emergency arrangements, telephone numbers of primary care facilities and the location of pharmacy provision.
Training for triage

This book and the accompanying course attempt to provide the training necessary to allow introduction of a standard triage method. It is not envisaged that reading the book and attending a course can produce instant expertise in triage. Rather this process will introduce the method and allow practitioners to develop competence at using the material available. This is the first step towards competence in using the system and must be followed up by audit and evaluation of the system in use.

Triage audit

The Triage Group spent considerable time trying to pin down ‘sentinel diagnoses’, that is diagnoses that could be identified retrospectively and which could be used as markers of accurate triage. For the reasons outlined above, it soon became apparent that even retrospective diagnosis could not accurately predict actual clinical priority at presentation.

Successful introduction of a robust audit method is essential to the future of any standard methodology, since reproducibility between individual practitioners and departments must be shown to exist. This is discussed in more detail in chapter 5.

Summary

Triage is a fundamental part of clinical risk management in all areas of urgent and emergency care when clinical load exceeds clinical availability. Emergency Triage promulgates a system that delivers a teachable, auditable method of assigning clinical priority in emergency settings. It is not designed to judge whether patients are appropriately in the emergency setting, but to ensure that those who need care receive it appropriately quickly. It can be used to monitor care and to signpost streams of care – these will be determined by local provision and actual availability.
CHAPTER 2

The decision making process and Telephone Triage

Introduction

Decision making is an essential and integral part of nursing and medical practice. Sound clinical judgement in relation to patient care requires both knowledge and experience. Many practitioners argue that critical decision making is only about ‘common sense’ and ‘problem solving’ and to a certain extent they are correct. It is, however, more than this and requires a high level of skill. Within the decision making process, clinicians are expected to

| Interpret |
| Discriminate |
| Evaluate |

the information they gather about patients and critically appraise their actions following that decision. Without a framework of reference on which to base these decisions, they will be unstructured, haphazard and potentially unsafe. The ability to make sound decisions is essential for safe and effective patient management.

Early triage systems structured the interview but gave no guidance about the action following a decision. Thus the outcome of the triage process was not based on a sound methodology. Triage decisions were unique to each nurse and inherently part of their own decision making process and such decisions are likely to be fundamentally flawed without a framework of reference. To overcome this problem, a framework of reference (methodology) for the process of triage and a method by which practitioners can acquire the necessary skills for its implementation are required.
The development of expertise

A relationship between experience and skill acquisition has been described in which there are five stages of development as shown below.

<table>
<thead>
<tr>
<th>Novice</th>
<th>Advance beginner</th>
<th>Competent</th>
<th>Proficient</th>
<th>Expert</th>
</tr>
</thead>
</table>

As practitioners develop along this continuum, they acquire skills and learn from their experiences in practice, and it is expected that their decision-making ability alters and improves. The process can be facilitated by providing a system based upon a common framework that is methodologically sound, on which decisions can be based and their effectiveness evaluated.

Decision-making strategies

A number of strategies are used in the decision-making process. They are as follows.

- Reasoning
- Pattern recognition
- Repetitive hypothesising
- Mental representation
- Intuition

Reasoning

There are essentially two types of reasoning involved in critical thinking: inductive and deductive.

Inductive reasoning is the ability to consider all possibilities and is particularly useful for the less experienced. It involves a time-consuming process of considering all patient information collected in order to reach a sound decision about the care they require.

Deductive reasoning is the simultaneous ‘weeding out’ of possible solutions whilst actively collecting patient information. This strategy is often unknown or unrecognised and becomes part of expert practice. It allows the practitioner to rapidly sort relevant from irrelevant information to reach a decision.
**Pattern recognition**  
This is the strategy most commonly used by clinicians and is particularly important when making rapid decisions based on limited information that are necessary during triage. Pattern recognition is a method of piecing information together in an analytical sense. Clinicians interpret the pattern of the patient signs and symptoms by comparison with relationships and conditions from previous cases. This leads them to a decision about the patient’s well-being or a potential diagnosis. The ability to use this decision making skill develops with experience and often appears to be intuition. Novice, proficient or competent practitioners may need to use conscious problem solving to reach a solution, while their more experienced colleagues can employ pattern recognition.

**Repetitive hypothesising**  
Repetitive hypothesising is used by clinicians to test diagnostic reasoning. By gathering data to confirm or eliminate a hypothesis, a decision can be made. Depending on the level of expertise, this method can be either inductive or deductive.

**Mental representation**  
Mental representation is a method of simplifying the situation to provide a general picture and allow focusing on relevant information. This strategy is often used when a problem is highly complex or overwhelming. The use of analogies helps the clinician visualise the situation by simplifying the problem and allowing a different perspective. Triage decisions need to be rapid and this method has limited use at this stage in the patient’s pathway.

**Intuition**  
Intuition is inextricably linked with expertise and is commonly seen as the ability of practitioners to solve problems with relatively little data. Intuition rarely involves conscious analysis and is often expressed as ‘gut feeling’ or ‘strong hunch’. Expert practitioners view situations holistically and draw on past experience. Much of their knowledge is embedded in practice and referred to as tacit, where effective decisions are made by combining knowledge with decision-making theories and intuitive thought. Many expert clinicians are unaware of the mental processes they employ in the assessment and management of patients. Although intuition has remained unmeasurable, the value to clinical practice is acknowledged and well documented.

**Decision-making during triage**  
Despite all the theories, decision making is quite simply a series of steps to reach a conclusion and consists of three main phases: identification of a problem, determination of the alternatives and selection of the most appropriate alternative.
An approach to making critical decisions has been described which uses the following five steps.

1. **Identify the problem**
2. **Gather and analyse information related to the solution**
3. **Consider all the alternatives and select one for implementation**
4. **Implement the selected alternative**
5. **Monitor the implementation and evaluate outcomes**

This approach incorporates a number of theories and methods. When applied to triage, the decisions are formed as follows.

**Identify the problem**
This is done by obtaining information from the patients or whoever is calling. Every effort should be made to talk to the patient. This phase allows the relevant presentational flow chart to be identified.

**Gather and analyse information related to the solution**
Once a flow chart has been identified, this phase is facilitated since discriminators can be sought at each level. The charts facilitate rapid assessment by suggesting structured questions. Pattern recognition also plays a part at this stage.

**Consider all alternatives and select one for implementation**
Clinicians collect significant amounts of data about the patients they deal with which is collated into their own mental database and stored in compartments for easy recall. Use of this stored information is most effective when linked to an assessment or organisational framework. The presentational flow charts provide the organisational framework to order the thought process during triage. The flow charts aid decision making by providing a structure and, importantly, support junior staff as they acquire decision-making skills.

**Implement the selected alternative**
There are four levels of priority (as discussed in Chapter 1) and the triage practitioner tests the discriminators against the patient’s presentation and allocates priority at the highest level of positive discriminator. The priority therefore depends upon the urgency of the patient’s condition and once the priority is allocated the appropriate pathway of care begins.

**Monitor the implementation and evaluate outcomes**
The method of triage outlined in this book ensures that the decision is predetermined if the correct process has been followed. The triage practitioner will therefore be able to identify how and why they reached the initial outcome.