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Feature

Judging a patient's decision to seek emergency healthcare: clues for managing increasing patient demand

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Abstract

Objective. In recent years, the concept of an 'inappropriate' emergency department or ambulance user has arisen. This discussion paper explores definition and measurement of inappropriate emergency healthcare utilisation, and the effect on demand.

Method. A comprehensive literature review of published articles was conducted.

Results. Exploration of the definitions of 'inappropriate' emergency healthcare utilisation identified two patient cohorts; emergency healthcare utilisation by those who are not experiencing a health emergency, and those who do not seek emergency healthcare who should. Several position papers from Australian and international sources emphasised the patient's right to access emergency healthcare when they feel the need, and the responsibility of emergency healthcare workers to provide treatment to all patients. Differences between medical classifications of urgency based on physiological measures are contrasted with patient-based determination of urgency, which is defined by psychosocial factors.

Conclusions. This literature review raises questions about patients' understanding of the role of emergency healthcare services in an emergency. This has implications for determining the patient's point of access to the health system in an acute health event, and offers an opportunity to selectively educate patients and carers to change help-seeking behaviours to suit the health system resources and moderate patient demand.

What is known about the topic? There is a public health issue where some patients seek emergency healthcare when they are not acutely unwell (inappropriate health service users) and some patients who fail to seek emergency healthcare when they are acutely unwell (patients who 'delay' or avoid using emergency health services). There is a difference in understanding between health professionals and patients about what a health emergency is and when it is appropriate to seek emergency healthcare. There is an increasing demand for emergency health services both nationally and internationally.

What does this paper add? This paper provides a review of Australian and international rates of 'inappropriate' healthcare utilisation. This paper identifies the limitations on the ability to determine whether patients were appropriate or inappropriate, and instead identifies what motivates patients to seek emergency healthcare for non-acute events and fail to seek healthcare for acute events.

What are the implications for practitioners? There is a high demand for health services, which is increasing, and understanding patient motivations to seek healthcare may assist the development of demand management strategies. This paper will enhance practitioner understanding of patient motivation to seek emergency healthcare. This paper concludes with educational information that practitioners can use to change patient healthcare utilisation patterns.

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Introduction

In the current climate of increased demand for healthcare, and increasing patient expectations, discussion has arisen in the literature about 'inappropriate' utilisers of emergency health services, which declares that some patients attend the hospital emergency department (ED) without experiencing a medical emergency.[1,2] An inappropriate patient could simply be defined as a diagnosis of exclusion based upon their clinical problem

falling outside of the boundaries of what is usually defined by health professionals as a medical emergency. However, as there is no universally accepted definition of what constitutes a health emergency, investigations into inappropriate utilisation of emergency health services have limited comparability or generalisability.[3]

Aim

This review aims to explore the definition of a health emergency to further the debate about appropriate and inappropriate use of emergency health services in Australia.

Method

A search strategy was developed to facilitate a comprehensive literature search. Due to the combined medical and psychosocial nature of the research, information from a range of sources was included. A prehospital search strategy developed by the Cochrane Collaboration's Prehospital and Emergency Cochrane Field[4] was also utilised to identify articles with a prehospital focus, however, the search was not limited to prehospital-based research.

Terms used to search the databases were: health service, ambulance, ED, hospital, decision, delay, emergency, patient, help-seeking, behaviour, response, decision-making, acute, time critical, appropriate, inappropriate, abuse, misuse.

These search terms were also combined and subject definition notes searched for related topics and Medical Subject Headings (MeSH terms). All search terms were 'exploded' to include related fields. Relevant articles in a language other than English were obtained and translated.

The electronic databases searched were:

(1) AMI/Meditext (1968–present), Australasian Medical Index, includes journals not indexed in Medline;
(2) APAIS-Health (1978–present), Australian Public Affairs Information Service for health and medicine in Australia;
(3) CINAHL (1982–present), Cumulative Index of Nursing and Allied Health Literature;
(4) Cochrane Database of Systematic Reviews (1993–present), includes comprehensive meta-analyses of controlled trials;
(5) Health and Society (1980–present), source of information on Australian health policy, services, social, psychological, legal and ethical issues;
(6) Index Medicus (Medline) (1966–present), an index to medicine and related health science journals.

These searches yielded 746 potential articles, of which the title and abstract were screened for relevance to the topic and context. Of the initial 746 articles, ~164 complete articles were read to inform this literature review. This review presents a summary of the most contextually relevant and methodologically rigorous articles directly related to this topic.

Results

A recent review of definitions of inappropriate attendees[5] found that definitions depended on subjective judgement to determine appropriateness of health service use, and that what is 'appropriate' differs depending on perspective: whether this judgement is made at a community level, by health professionals or by the patient. Even within health professions, there is a lack of agreement regarding the definition of inappropriateness of health service use.[6,7] The literature review provided a comprehensive review of rates of inappropriate ED use, which ranged from 6 to 80%. Of the studies included in the review process, the determination of appropriateness was conducted by a variety of health professionals (nurses, doctors, specialists) using a range of criteria (admittance to hospital, triage category) and methods (case review, patient interview, presentation symptoms). The review emphasised a lack of correlation between health professionals' and patients' definitions of a health emergency, which was also identified in Australian research.[8] The author of the review concludes that patients access emergency health services based on a logical decision-making process, which is affected by their perceptions of the role and purpose of health facilities, and by the advice of layperson bystanders.

Professional's perspectives of a health emergency and service use

A review of medical literature to define inappropriate ED use[9] identified three categories of inappropriateness; non-accidents or non-emergencies, those with symptoms existing for 24–48 h, and conditions suitable for treatment by a general practitioner (GP) or other primary care services, which do not require hospitalisation. The research explored the health professional's perspectives, and found that health professionals believe inappropriate ED attendees are a waste of time and resources, and 87% of nurses stated that the patient's inadequate assessment of their own medical condition contributed to inappropriate attendance; however, 85% also agreed that the majority of patients believed they had attended appropriately. The review also concluded that patient demographics don't predict inappropriateness of attendance.

A discussion paper on mental health emergencies emphasised the effect of de-institutionalisation of mental healthcare, and its effects on emergency health service use.[10] This article asserts that ED care is being utilised more often due to the time of presentation and the availability and skill levels of GPs when dealing with psychiatric emergencies. The effect on the ED is great, with 90% of ED staff reporting difficulty dealing with psychiatric patients, and many ED staff harbouring punitive attitudes towards psychiatric patients and demonstrating little sympathy towards patients with suicidal behaviour. Emergency mental healthcare is an evolving contentious issue, and there seems to be confusion about whose job it is to manage patients with acute mental health needs and how to triage mental health cases.

A paper that aimed to determine the appropriateness of ambulance transport of paediatric patients[11] defined cases as an emergency only if the medical record revealed any of the following criteria: (1) requiring cardiopulmonary resuscitation; (2) respiratory distress; (3) altered mental status or seizure; (4) requiring immobilisation; (5) inability to walk; (6) admission to intensive care; (7) ambulance use by medical personnel; (8) motor vehicle collision; or (9) parents not on scene. Using these criteria, 28% of patients who arrived by ambulance were judged to have used the ambulance service unnecessarily. The most common reason for appropriate ambulance use was seizure activity; the most common reason for inappropriate use was fever.

A similar Scottish study[12] evaluating users of ambulance services determined that the following list of conditions were emergencies: cardiac arrest, chest pain, shortness of breath, altered mental state or seizure, abdominal/loin pain >65 years old, vomiting fresh blood, fall >2 m, stabbing or major burns. A chart review showed that 44% of patients transported to the ED via ambulance meeting these criteria were admitted, and 52% of patients transported by ambulance were admitted overall. The authors conclude that their results indicate a need for priority ambulance dispatch, but acknowledge that this list of conditions was not comprehensive.

Layperson and patient's perspective of a health emergency and service use

Laypersons demonstrate an awareness of the potential for inappropriate use of emergency health services, and several studies have identified a reluctance for patients to utilise ambulance services that comes from a reluctance to burden the service unnecessarily.[13,14] A study of 228 male and 85 female acute myocardial infarction (AMI) patients found that the ambulance service was called as the medical service of first contact in 25% of cases, and a GP was called first in 55% of cases, with patients stating that they did not believe that their symptoms were bad enough to warrant calling for an ambulance.[15]

Laypersons also decide on which health service is appropriate based on their perceptions of what each health service provides. One study into patient perception of ED services[9] reports that patients attend the ED rather than GP because they want quick and unhampered access to medical care. Many patients were unaware that their GP could provide suturing, and many patients anticipated the need for an X-ray or sutures and believed they could not access these through a GP. This was demonstrated in a study that investigated the reasons 200 people attended the ED for injuries, which found that people went to the ED rather than a GP for convenience, being told to attend the ED by others, beliefs that the ED would provide better injury care or was more appropriate than their GP, perceived time criticality, and pain. Correlations were found between pain and anxiety and time taken to attend the ED.[16]

Research has shown that people experiencing acute psychological symptoms would rather access their case worker or primary care professional than attend an ED, but end up accessing an ED and seeking ambulance service assistance due to difficulty gaining timely access to this help.[17] Similarly, interviews of patients who attended the ED frequently over a 12-month period revealed that social isolation and their perception of pain or of their illness as a threat to life contributed to their repeated attendance. Patients reported attending ED as a last resort.[18]

Retrospective v. *prospective case definition and analysis*

The classification of urgency and identification of cases as 'inappropriate' can vary depending on whether urgency is determined using presenting symptoms (prospectively) or using diagnosis (retrospectively). Community-based emergency health systems (usually ambulance services and the ED, but also GP services) depend on layperson patients or bystanders to recognise an urgent health problem based on presenting symptoms, and then to seek appropriate help. The evaluation of appropriateness therefore depends on a layperson's interpretation of symptoms, and whether they should reasonably have interpreted their symptoms as an emergency. It is this concept that had led to the development of the 'prudent layperson standard' in the US, which promotes the symptom-based determination of urgency. The prudent layperson standard was developed by listing common symptoms and conducting a large scale survey to determine if a 'prudent layperson' would reasonably interpret them as an emergency.

The prudent layperson standard has been criticised as a danger to patients.[19,20] An evaluation of the implementation of this standard revealed diagnosis-based classification of urgency identified 46% of ED cases were emergencies, and 54% were classified as non-urgent. Using this same standard, health insurance review outcomes for payment reported that 53% were approved, 18% were denied and 29% sent for manual review. In further investigations into this disagreement about level of urgency and insurance coverage, ED physicians used the symptom-based prudent layperson standard on the same cases to determine that 61% could be classified as emergencies, and using the insurance company's diagnosis lists of approvals, 79% should be approved and 21% should be denied. These results show that, even with a prospective standard, there is still disagreement over the classification of a health emergency, which is evident in other research,[21] and that the standard itself is open to interpretation, as shown by the differences in interpretation between medical and insurance assessors.

Another factor affecting the retrospective method of determining urgency is that if the patient is transported to hospital by ambulance, the treatment provided by paramedics may have improved the patient's condition before arrival at the ED, and therefore these cases will be at a lower triage level on arrival than they were at the time of symptom presentation.[22] Similarly, the evaluation of patient adherence to telephone triage recommendations in Western Australia[23] identified that adherence is dependent on symptom presentation.

Are inappropriate patients suitable for GP services?

There has been some suggestion in the literature that people who use emergency health resources frequently may be classified as inappropriate or lack primary care management,[24] and some studies have identified inappropriateness as 'conditions suitable for GP management'.[9] However, this definition of appropriate emergency health service use based on conditions suitable for GP treatment should be taking into account the facilities offered by GPs to determine whether GPs are a suitable alternative source of urgent healthcare.

A Queensland study[25] found that introduction of GP services within 1 km of a hospital ED made no difference to ED use, despite increased GP consultations and bulk billing availability. This suggests that even with improved access to GP resources, many patients will still use ED services.

A landmark Melbourne study[26] reviewed 500 frequent ED attendees, and identified that they were not suitable for GP practice. Each patient presented an average of 26 times over 5 years. The reasons they were not suitable for GP services was because they were; Australian Triage Score (ATS) category 1, were homeless, or were experiencing acute psychiatric episodes or drug-related illnesses. Almost 20% of patients included in this

sample died during the study period, indicating that repeated ED attendance is not a predictor of inappropriateness.

Prevalence of inappropriate healthcare utilisation and non-utilisation: Australian data

The national figures for ambulance service utilisation[27] show that Australian ambulance services attended 2.88 million cases annually, of which 39.4% were considered to be emergency incidents. The remaining cases were non-emergency (33%) and urgent (27.2%). Unfortunately, no explicit definition was provided for each of these categories.

The figures show variation in the proportion of cases that are classified as 'non-emergency'. Whether these figures include routine non-emergency transfers provided by ambulance services was not able to be determined from the report. Rates of utilisation are also quite variable, and may be reflected in the marketing strategies and patient education of each state, which are discussed later in this paper.

Australian research has identified that only half of ATS category 1 and 2 patients arrive at the ED by ambulance,[28] and only 20% of ED attendees use ambulance services at all. Use of ambulance services decreased proportionally to national triage score, ranging from 90% of ATS category 1 patients arriving by ambulance to 3% of ATS category 5 patients utilising ambulance services. A Western Australian based study identified 10–12% of ED attendees as 'low acuity' patients, which was determined via referral to GP services.

A study into Acute Myocardial Infarction (AMI) delay[29] identified that, on average, AMI patients waited 6.4 h before seeking help for chest pain. Delay was increased in patients with fewer years of education, lower income and transportation to the hospital by private car rather than via ambulance. Delay was also increased by several cognitive and emotional processes, such as waiting to see if symptoms would go away, being too embarrassed to ask for assistance, and not recognising the importance of symptoms. Delay was increased with heartburn, breathlessness or intermittent symptoms and decreased with sweating and dizziness. Independent predictors of increased delay were fewer than 10 years of education, not wanting to trouble anyone, failing to recognise the seriousness of symptoms, and the intermittent nature of symptoms. Ambulance service use in this study indicated that only 61% of AMI patients used ambulance services. In all cases, AMI survival rates were higher for patients transported by ambulance services, a finding that is also consistent with other international studies.[30]

The prevalence of inappropriate use of ambulances varied, and differences in measurement made comparisons and interpretations difficult. The effect of the role and perception of ambulance services was difficult to gauge, as there was no real research identified where the public opinion about ambulances was analysed. Although there are consumer satisfaction statistics available, these include only those who used the system, rather than gauging the beliefs and perceptions of the role and skills of ambulance paramedics in the general community. The role of the ambulance services within the health system was also ill-defined and poorly reported. The perceptions and beliefs about ambulance services reported by other health professionals demonstrate a need for medical professional education about the role and skills of the ambulance paramedics and the benefits of their utilisation within the health system. Education campaigns were mainly focussed on increasing ambulance use for AMI, and reported varying efficacy. Some smaller, focussed education campaigns, which utilised paramedics as educators, created a big effect on utilisation and understanding of the role of ambulances. Interstate perspectives revealed a surprising deficit of publicly available information on inappropriate use, and reported few education campaigns. This identified a lack of published information in some areas of prehospital health education, and identified many areas for future patient and medical professional education.

Conclusions

The definition of inappropriate health service use is hard to delineate. A variety of definitions of inappropriate were identified, including lists of symptoms or conditions, legal definitions, but the interpretation of these was largely subjective and usually retrospective. Although the definition of inappropriate use using physiological criteria is less ambiguous, the criteria used to determine levels of urgency, patient complaint or inappropriateness of emergency health service use is still varied and ill-defined. Also, the issue of whose responsibility it is to determine inappropriateness, and for what purposes (such as resource allocation purposes compared with patient education purposes) was rarely considered when deciding on a system of classification, and these different systems identified different patient cohorts.

Definitions of inappropriateness must take into account that the decision to use these services is being made by laypersons without medical training. The word inappropriate implies that there is an intention to deliberately misuse the emergency health services, yet the evidence suggests that many patients are actually reluctant to use emergency health services, even when use is appropriate. In a climate of increasing demand, improved nomenclature is needed to assist in the development of patient demand management strategies and patient education.

This review has identified a role for better education of both laypeople and health professionals. The lack of knowledge about the roles, skills and services offered by providers of community-based emergency health services is evident, and could be improved via careful education strategies. Education strategies would need to focus on reducing delay seeking help when needed, what services are provided by GPs, ambulance services and EDs, and guidance about the clinical urgency of symptoms and the most appropriate source of care for managing these.

The issue of who should be responsible for determining inappropriateness, and for what purposes (such as resource allocation purposes compared with patient education purposes) needs to be considered when deciding on a system of classification, as different systems will identify different patient cohorts. Community-based emergency health is the interface between primary care and emergency hospital care, where there are differing levels of urgency and it is important to determine and define these.

As a result of the lack of definition, the rates of inappropriate use in Australia are essentially unknown, and before any quantification of rates of inappropriate use can be conducted, an agreed definition needs to be developed, to allow for comparison,

continuous analysis and emergency health service demand planning.

Competing interests

The authors declare that no conflicts of interest exist.

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