

## ORIGINAL ARTICLES

## Misuse of the London ambulance service: how much and why?

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### Abstract

**Objectives**—To assess the degree of inappropriate use of the London Ambulance Service and analyse the reasons for misuse.

**Design**—An immediate assessment of the appropriateness of the “999” call by the ambulanceperson and casualty senior house officer followed by a retrospective review of each case by the accident and emergency (A&E) consultant.

**Setting**—A busy inner London A&E department.

**Methods**—Three hundred consecutive emergency ambulance arrivals to the A&E department underwent assessment as to the appropriateness of the call.

**Results**—Overall 53.7% of patients were considered justified in their call, 15.7% of calls were inappropriate, and in 19.0% of cases a unanimous decision was not reached. Eleven per cent of all forms were incompletely filled.

**Conclusions**—Almost 16% of emergency ambulance calls were considered unanimously to be inappropriate. This suggests that 75 000 emergency calls per year to the London Ambulance Service are not necessary. The commonest reason for inappropriately calling an ambulance was that the caller felt that they had a serious or life threatening condition. The need for public education and deterrents of ambulance abuse are discussed. The further introduction of a nursing led triage “hot line” to appropriately dispatch ambulances according to clinical needs of the patient, and other alternatives to this are discussed.

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Inappropriate use of ambulances is probably operationally one of the biggest problems within London and other metropolitan areas. The London Ambulance Service receives approximately 500 000 emergency calls per year.<sup>1</sup> One in every 24 people in the Greater London area will call an ambulance each year. Three previous papers have addressed the question of unnecessary ambulance use in the

UK. Gardner<sup>2</sup> and Morris and Cross<sup>3</sup> concluded that between 38.0% and 51.7% of emergency calls are not medically warranted. In Gardner's paper the appropriateness of the call was assessed by one doctor, usually of junior rank. Morris and Cross concentrated mainly on the analysis of patients by medical specialty and their overall outcome. Recently, Mann and Guly concluded that although the number of “999” calls in the UK has been increasing yearly,<sup>4</sup> this has been paralleled by a proportionately increased number of admissions, concluding that there has been no increase in the amount of apparent misuse of this service.

The data for this study were collected using a prospective three level assessment of ambulance misuse and produce the most reliable information to date. For the first time the patient has been asked to state their reason for calling an ambulance. Almost 54% of calls were appropriate, which compares similarly with other authors.<sup>2-3</sup> The inappropriate rate is considerably lower, possibly reflecting a more accurate method of review, namely at three independent levels. Patients' motives for calling the ambulance suggest a poor understanding of the severity of symptoms and illness as well as disregard for the consequences of abuse of a public service.

### Methods

Three hundred consecutive emergency ambulance arrivals were considered. For each arrival the ambulanceperson attending the 999 call and the junior doctor receiving the patient indicated on a form whether in their view the emergency ambulance use was justified. The junior doctors made their opinion with the benefit of further clinical assessment and investigations obtained in the accident and emergency (A&E) department. Later the A&E consultant used the case notes to make an independent assessment. All assessments were made by the same consultant who was not aware of the conclusions of the previous two opinions.

If all three parties agreed then the call was deemed to be either appropriate or inappropriate. Where the decision was not unanimous a “split decision” was recorded. If the person who called the ambulance was present in the

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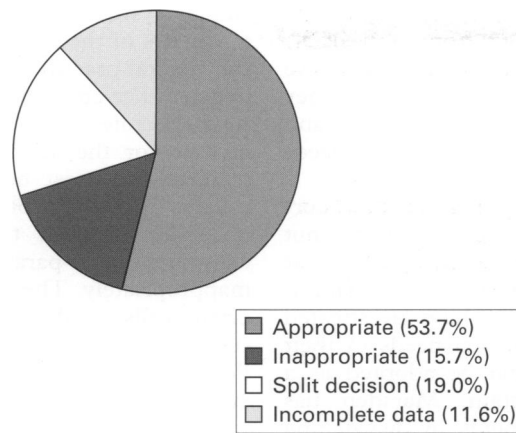


Figure 1 Ambulance use.

A&E department, they were invited to state their reason for doing so.

### Results

Of the 300 ambulance arrivals considered, 161 (53.7%) were appropriate. Forty seven (15.7%) were inappropriate. In fifty seven (19.0%) cases unanimity was not reached (fig 1). Of the 47 inappropriate calls 25 (53.2%) stated their motives for the call. In 15 of these (60% of inappropriate callers that filled the form) the reason for calling an ambulance was that they thought that they had a serious or life threatening condition. Four (16.0%) wrote that they were unaware that an emergency general practitioner service was available and another four (16.0%) stated that they had no other means of reaching the hospital. Finally two (8.0%) of the inappropriate group gave as their reason for calling an ambulance that they wished to avoid the long wait to see the A&E doctor.

### Discussion

The area of inappropriate use of ambulances is operationally a cause for concern within London and other metropolitan areas. In smaller towns the problem is undoubtedly also present but to a lesser degree. Gardner<sup>2</sup> and Morris and Cross<sup>3</sup> have previously addressed the question of unnecessary ambulance use in the UK. They concluded that between 38.0% and 51.7% of emergency calls are not medically warranted. In Gardner's paper the appropriateness of the call was assessed by one doctor, usually of junior rank. Morris and Cross concentrated mainly on the analysis of patients by medical specialty and their overall outcome. Both papers were retrospective.

Recently, Mann and Guly suggested that there has not been any increase in potential abuse of the service, because there has been a proportionate increase in the number of admissions from A&E, in line with the increased number of 999 calls.<sup>4</sup> Again however, these data are retrospective, and the only outcome measure for misuse of the service has been admission to hospital.

We suggest that there are no recognised criteria for assessing the appropriateness of an emergency ambulance call out. The factors to be considered go beyond clinical pathology alone. There are patients who are discharged

from the A&E department after assessment, whose reasons for calling 999 were appropriate, and therefore admission to hospital as a means of evaluating misuse, is not accurate.

The inherent subjectivity of the assessment can only be diluted by increasing the number of independent assessors of the appropriateness of each case. Our study is unique in attempting to eliminate bias as far as possible. We have viewed the issue at three levels, by the use of three independent assessors, each with a different perspective on emergency care. The ambulanceperson at the scene of pick up, the senior house officer or registrar in the A&E department, and the consultant with experience and hindsight each offer a different but complementary view in the global assessment of the problem of ambulance call appropriateness. Although the three independent assessors were all members of the respective parts of the service that are subjected to apparent misuse, the figure of 15.7%, representing inappropriate calls, is a lower figure than any other previously demonstrated. Therefore, if there has been any bias, it has been in favour of the non-abuse of the service.

Although the inappropriate call out rate in our study remains considerably lower than previous studies, our split decision group has allowed for a grey area in this subject. The review of 300 cases going through our department may represent a fairly unique picture that should not necessarily be judged as typical throughout the UK.

The London Ambulance Service deals with 500 000 emergency calls per year.<sup>1</sup> An inappropriate call out rate of 15.7% suggests that 75 000 ambulance journeys are not required. This clearly represents a large waste of resources. Almost one fifth of calls (19.0%) did not clearly fit in the appropriate or inappropriate group and represent a large grey area. Some of these patients may indeed require a trip to hospital but not necessarily in an ambulance manned by highly skilled paramedics with expensive resuscitation and monitoring equipment on board.

The London Ambulance Service sets itself the target of reaching the patient within 14 minutes in at least 95% of cases,<sup>5</sup> in line with the 1974 performance measuring system "ORCON" (after the Operational Research Consultancy who proposed the system). At present, this target is achieved in 75% of cases. Unnecessary calls compound the problem of late ambulance arrivals and add to low morale.

The fact that 60% of inappropriate calls were due to poor judgment of the medical condition suggests that a void exists in public education and possibly indicates the need for more effective triage especially within large metropolitan areas. Equally, more awareness of the out of hours medical services available and guidelines for ambulance call outs could reduce the problem.

The French have addressed this issue by the implementation of the SAMU system (Service D'Aide Medical Urgente).<sup>6</sup> This system utilises a central control with a senior medical presence who acts as a reference point in triag-

ing calls. Responses are selected from the hierarchy available that range from a basically equipped ambulance to an mobile intensive care facility manned by an anaesthetist. They also have access to general practitioners and other responses in accordance with the needs of the patient.

The government white paper, however, currently recommends that a nurse led triage "hot line" be established nationally by the year 2000. This has been addressed by the American health management, who have investigated the need to triage the clinical needs of their population, and this could be adopted as a possible model for Britain. Marsden has outlined recent developments in dispatching ambulances according to the clinical needs of the patient.<sup>5</sup> Criteria based dispatch (CBD) uses accurate and effective interrogation of the caller, with reference to clinically approved guidelines, to ensure that the appropriate level of ambulance support is deployed. His data seem to suggest that by redirecting the existing level of resource, according to the CBD system, delivery of ambulances to patients can be achieved more equitably and on a fairer clinical basis.

Fee charging for ambulance call out or inappropriate call outs has long been politically sensitive but may become less so given that a

similar system has recently been introduced into parts of the fire service. A fee for visiting the general practitioner is also currently being debated. Fee charging would act as a deterrent for deliberate abuse as well as generating an income for the service. However this could penalise the most needy and deter genuine callers. In the light of the results of this study action is required to prevent sophisticated equipment and paramedic skills being used inappropriately. The cost of 75 000 inappropriate calls in the London area alone also suggests a grave waste of limited resources. Political sensitivities may have been a reason to avoid change, but it would seem this, together with medical ignorance, are to be evaluated and changed as we all approach the next millennium.

- 1 Cocks R, Glucksman E. What does London need from its ambulance service? *BMJ* 1993;306:1428-9.
- 2 Gardner GJ. The use and abuse of the emergency ambulance service: some of the factors affecting the decision whether to call an emergency ambulance. *Arch Emerg Med* 1990;7:81-9.
- 3 Morris DL, Cross AB. Is the emergency service abused? *BMJ* 1980;281:121-3.
- 4 Mann C, Guly G. Is the emergency (999) service being mis-used? Retrospective analysis. *BMJ* 1998;316:437-8.
- 5 Marsden AK. Getting the right ambulance to the right patient at the right time. *Accident and Emergency Nursing* 1995;3:177-83.
- 6 Fletcher SB. A different approach to accident and emergency services—the French experience. *Hospital and Health Service Review* 1978;May:152-6.