

EMS-INITIATED REFUSAL AND ALTERNATIVE METHODS OF TRANSPORT

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survey: weak
reliability; poor
stats

Objectives. 1) To describe characteristics of patient transport protocols in those U.S. cities that sanction EMS-initiated refusal of transport; and 2) to describe the frequency and type of alternatives to emergency ambulance transport. **Methods.** EMS systems in every one of the 200 largest cities in the United States were surveyed by telephone regarding EMS-initiated refusal policies, involvement of physicians in the decision-making process, and the presence or absence of alternatives to EMS transport. **Results.** 100% of the target population responded to the telephone survey. Only 34 (17%) EMS systems have written protocols that allow EMS providers to refuse emergency ambulance transport for patients judged to have minor illness or injury after examination. Twenty-one (62%) of these EMS systems do not require on-line physician approval for EMS-initiated refusals. Seven (21%) EMS systems that allow refusal of transport also have a formalized alternative transport program in place. Nationwide, only 19 (10%) cities surveyed offer some type of alternative to ambulance transport, most commonly taxi and minivan. **Conclusion.** The authors report the first national survey of EMS-initiated refusal practices. Few urban EMS systems have implemented this policy to decrease utilization by persons with low-acuity illness or injury. This may be related to the fact that few EMS systems currently have alternatives to emergency ambulance transport. **Key words:** emergency medical services; patient transportation; refusal of treatment; ambulance.

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Access to emergency medical services (EMS) and appropriate utilization of medical resources are at the forefront of the health care debate today. These two issues are quite evident in urban U.S. EMS systems, which have been plagued with very high utilization by patients with low-acuity illness or injury.^{1,2} Needless 911 calls contribute to depletion of already scarce resources, to the use of inappropriate and potentially dangerous

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"lights and siren" travel, and to longer ambulance response times for patients with true emergencies. Many patients deemed to have unnecessarily requested emergency ambulance transportation admit that they do so because there are no alternative transport modalities.³

Ultimately, misuse of 911 resources is a public health problem that cannot be solved by the EMS community alone. Urban EMS medical directors may want to consider new strategies to cope with the large volumes of noncritical patients who access the EMS system on a daily basis. A few U.S. EMS systems currently deny emergency ambulance transport to patients who are found to have low-acuity illness or injury at the scene, while others have developed alternative methods of transport for this population.⁴ A MEDLINE search was conducted through the medical school library of the primary author's academic institution in the summer of 1996 to identify pertinent peer-reviewed journal articles concerning EMS refusal practices and patient transport modalities. American medical journals from 1984 to the present time were searched for specific key words, including *treatment refusal*, *emergency medical service*, *ambulance*, *paramedic*, and *transport*. This detailed review of the emergency medicine literature failed to disclose the prevalence of both EMS-initiated refusal and alternative patient transport in the United States. Also absent is any hypothesis that links the success of an EMS-initiated refusal policy with alternative methods of transport for emergency health care needs.

We undertook a study to determine the prevalence of large EMS jurisdictions that formally allow EMS providers to decline ambulance transport to patients. We hypothesized that there may be common protocol elements that contribute to the success of such an initiative. Additionally, we attempted to identify the frequency and type of alternatives to emergency ambulance transport for the select group of patients who are found not to be seriously ill during on-scene evaluation.

METHODS

Study Design

We performed a prospective, cross-sectional survey of urban EMS systems to characterize patient refusal protocol elements in those cities in which EMS-initiated refusal is permitted. Additionally, we attempted to determine the presence and frequency of alternative methods of transport for patients with low-acuity injury or illness. This study was submitted to the primary author's IRB and was granted exemption from review.

Population

This study group was composed of the primary EMS providers for the 200 most populated cities in the United States.⁵ The *JEMS* 200-city survey contains names, addresses, and phone numbers for the principal EMS providers in each city. Population figures are based on the 1990 U.S. census.⁶

This population was chosen based on precedence in other large EMS surveys.⁷⁻¹⁰ Of note, several jurisdictions had experienced changes in primary EMS provider (public vs private) in the period since the *JEMS* list had been published. In rare instances, EMS providers listed by *JEMS* were no longer in existence. Current providers were tracked through telephone referral in these cases.

Survey and Administration

A request for patient refusal protocols was distributed by mail to EMS medical directors of all agencies in October 1995. Approximately 20% of these agencies responded to the mailing. A closed-ended survey questionnaire was formulated based on information gathered from this data collection pilot. Survey participants were queried concerning the existence of the following protocol elements: EMS-initiated refusal policy, necessity of base station contact for ambulance refusal, provision of medical instruction sheets, retrospective patient care report (PCR) review, and alternative methods of transport.

Two of the authors (DJ, EJ) administered the survey by structured telephone interview of representatives from all 200 EMS systems over the next four months. The participants were asked to provide information that would be valid as of January 1, 1996. Most respondents

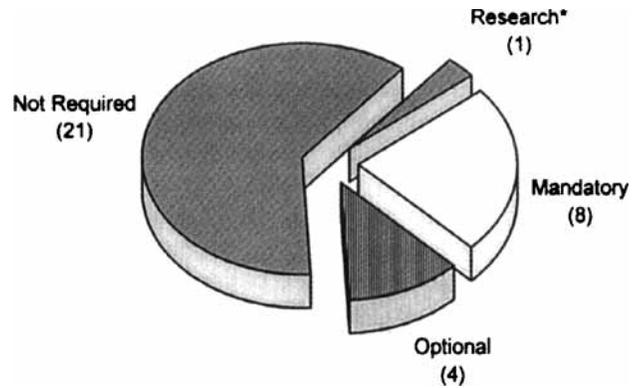


FIGURE 2. Necessity of base station contact in EMS systems that deny emergency transport (n = 34).

were officers within the operations, training, or quality assurance divisions of their departments. Less commonly, the medical directors themselves provided the necessary information.

Data Analysis

The data were analyzed using Microsoft Excel 4.0 (Microsoft Corporation, Seattle, WA). No inferential statistical methods were employed in this survey due to its descriptive nature and the fact that data were obtained from the entire population of interest.

RESULTS

Only 34 of the 200 (17%) EMS systems surveyed sanction EMS-initiated refusal (Fig. 1). This is defined as denial of emergency ambulance transport after identification of nonurgent illness or injury by EMS providers. Twenty-four of the 200 (13%) agencies refuse to transport patients via emergency ambulance on a routine basis. EMS-initiated refusal occurs rarely in nine (5%) jurisdictions. The term "rarely" was not clearly defined in the survey instrument. However, the respondents who chose this answer indicated that this practice may occur in certain circumstances or under the base station direction of particular emergency physicians. One (1%) EMS system was conducting a field trial of EMS-initiated refusal at the time of the survey.

The authority to allow EMS-initiated refusal originates from protocol in 21 of 34 (62%) systems (Fig. 2). Thus, the EMS providers themselves can refuse transport without base station (physician or surrogate) consult. Base station contact was also unnecessary in the one (1%) EMS system researching the feasibility of an EMS-initiated refusal policy. In eight (24%) jurisdictions the base station must be contacted for every case in which EMS providers believe that denial of transport is warranted. Four (12%) EMS systems indicated that base station contact is required only occasionally or for special circumstances. The term "occasionally"

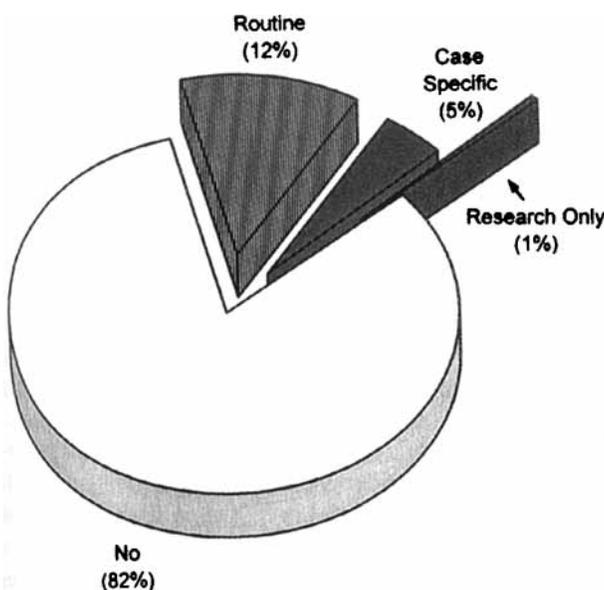


FIGURE 1. Percentage of EMS systems in the 200 most populated cities in the United States that sanction EMS-initiated refusal. One city had implemented this protocol on a trial basis at the time of the study.

was not specifically defined, although the respondents indicated that this category may apply to patients with unusual complaints or those under the age of 18.

Four (12%) agencies provide formal medical instruction sheets for patients who are refused emergency ambulance transport. This information is similar to emergency department release instructions. They differ slightly with regard to the information they contain, but all clearly inform the patient to call the primary EMS provider back if the medical condition changes in any way.

Survey participants were asked whether they retrospectively reviewed PCRs of both patient refusals and EMS refusals (if applicable) for quality assurance purposes. For cities in which EMS-initiated refusal occurs, nine (26%) EMS agencies review 100% of all PCRs and ten (29%) perform a random chart review. Three (8%) EMS systems indicated that they do not perform any chart review. It is unknown what percentage of PCRs are reviewed in 12 (35%) of the EMS systems that allow EMS-initiated refusal.

Very few jurisdictions maintain any type of alternative to EMS transport, even those that routinely refuse emergency ambulance transport to patients. Seven of the 34 (21%) cities that can refuse emergency transport to low-acuity patients have some type of formal alternative transport system in place. Nationwide, only 19 (10%) of the 200 cities surveyed report a formal planned non-emergency transport program that provides another method of access to health care needs (Fig. 3). The most common forms of nonemergency vehicle utilized for low-acuity transport to the hospital are passenger vans and taxicabs.

DISCUSSION

Patients who refuse ambulance transport (patient refusal) or are refused transport (EMS refusal) in the pre-hospital setting may account for a significant percentage of urban EMS calls.⁷ Collectively termed nontransports, these EMS runs have been the subject of scant original research in the emergency medicine literature. Many of the peer-reviewed articles about nontransports concern either litigation against EMS systems¹¹⁻¹⁴ or complications from patient refusals.¹⁵⁻²⁰ Only recently have studies identified some of the prehospital variables that are associated with worse outcomes and the likelihood of hospital admission.²¹

We explored the elements of EMS-initiated refusal protocols to determine how frequently this policy is utilized to minimize ambulance misuse. We hypothesized that common elements would be found in protocols and procedures of EMS agencies that allowed EMS-initiated refusal. We further anticipated that these elements would ensure success of the program by reducing the chances of litigation.

The results of this survey do not suggest a uniform

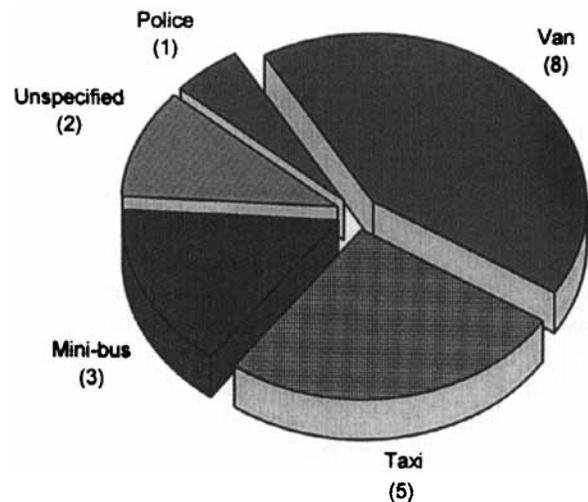


FIGURE 3. Formalized alternative transport modalities in the United States as of January 1, 1996 ($n = 19$).

and conservative approach to EMS-initiated refusals in the United States. Few EMS systems require base station contact for authorization to refuse ambulance transport, despite the medical "backup" and concurrent quality assurance that mandatory base station contact offers. Only a fraction of EMS systems provide patients who are refused transport with the medical instructions they may need prior to receiving alternative care or alternative transport.

Quality assurance with regard to EMS-initiated refusal of transport is generally suboptimal. To complete the risk management quality loop, an ideal retrospective chart review process would include all EMS refusal cases to uncover any potential errors in the administration of the protocol. Most cities perform some type of chart review to detect patients who might have been wrongfully denied transport, but fewer than one third examine all cases of EMS refusal.

Last, one could infer that a reasonable attempt to provide a cost-effective method of alternative transportation to the hospital would reduce the chances of morbidity and mortality in any patients who might have been inappropriately refused ambulance transportation. This argument appears to be especially germane in the urban setting, which could certainly generate the necessary patient volume to support such a project. Interestingly, few EMS systems that are currently refusing emergency ambulance transport to selected patients have any form of alternative transportation in place. Cost is unlikely to be an issue, since the modalities currently in use are inexpensive methods of transit. Although resource conservation is the primary reason for implementation of alternative transport programs, the political and legal repercussions of EMS-initiated refusal without provision of other options cannot be ignored.

Few authors have examined the EMS-initiated re-

fusal issue, possibly because it is a rare practice. The extraordinarily negative connotations attached to this practice may contribute to its scarcity. Clawson has strongly advocated that triage to no EMS response at the point of dispatch (call screening) is unethical and legally dangerous.²² Other authors have suggested that failure to transport a patient who has requested EMS constitutes abandonment or failure to act.²³ There have also been studies showing that a large percentage of patient complaints concerning EMS are related to decisions not to transport a patient to the hospital.^{10,24} These may be valid considering that additional research has shown that nontransports may incur increased morbidity and mortality.^{17,18}

Refusal initiated by EMS may also be unusual in the United States because privately contracted EMS is becoming more common in moderately-sized cities, especially on the west coast. Several private EMS services replied that there was a clause disallowing EMS-initiated refusal in their contracts. Finally, the feeling that it would simply be political "suicide" to advocate EMS refusal of transport may explain why this policy exists in so few EMS systems. Not surprisingly, the general consensus in the literature favors unlimited patient transport, unless the medical control physician is willing to incur the risk by allowing EMS refusal. This appears to be confirmed by the 83% of EMS systems surveyed that do not permit EMS-initiated refusal.

LIMITATIONS AND FUTURE QUESTIONS

There are several limitations of our study. It is possible that persons who answered our survey were misinformed concerning their responses, although the majority of participants were veteran officers in their departments. We must also note that while the JEMS list covers the nation's largest cities, it does not actually represent all of the largest EMS systems. County-based or regional-based entities would not be included in this list since they are not considered a "city." However, this study represents most of the urban EMS systems in the United States.

We did not define the terms "nonemergent" or "low-acuity" within our telephone survey. If asked to clarify this point, the survey administrators stated that these patients would have to be medically screened on the scene by EMS providers to the satisfaction of either the local refusal protocol or the on-line base station physician. Similarly, we did not attempt to isolate the requirements for a medical screening examination that would qualify a patient for nontransport status.

Concerning alternative transport options, we did not inquire whether these modalities were operational 24 hours a day and by whom they were operated. It is unknown whether patients transported by unconventional methods were taken to locations other than an

emergency department. Additionally, our survey did not capture how often 911 callers in cities around the country are triaged at the point of dispatch to a non-EMS response category; i.e., vehicles other than an ambulance are sent to the patient.

Finally, we do not attempt to provide any answers to the problems of overuse of EMS in the United States. Our survey was simply designed to identify those cities in which EMS-initiated refusal occurs and to identify which protocol elements are shared by others around the country.

Our survey instrument raises two important questions that will need to be answered before an EMS-initiated refusal policy becomes widespread. First, what are the necessary criteria to implement an EMS-initiated refusal protocol? Clearly, prospective studies are necessary to establish and validate the optimal criteria for implementation of this type of protocol. We believe that conservative criteria should prevail to protect patients' rights, ensure correct decisionmaking by EMS providers, and minimize the possibility of litigation for unnecessary mistakes in protocol administration.

Second, are alternative transport programs feasible in this country and will they help solve the problems of ambulance misuse? If so, why are there so few of these programs in place in the United States? We believe that both alternative transport strategies and transport destination policies should be examined seriously in urban areas. Furthermore, the federal government should encourage the investigation of nonconventional medical transport modalities to determine whether they truly contribute to more efficient and effective delivery of nonscheduled health care.

CONCLUSION

We report the first national survey of EMS-initiated refusal practices. Currently, only 34 of the 200 (17%) largest EMS systems in the United States allow their EMS providers to selectively refuse emergency ambulance transport to patients with nonurgent medical needs. Almost two-thirds of these systems do not require on-line physician involvement to make this decision. Prospective studies should be undertaken to ascertain the safety and effectiveness of this policy.

Fewer than 10% of these EMS systems have developed the capacity for alternative medical transport for 911 callers. There appears to be no requirement for alternative transport modalities in cities in which EMS-initiated refusal is permitted by medical protocol. However, alternative transport programs and transport destination policies should be examined further to determine whether these are viable options to manage ambulance demand in urban EMS systems.

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