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ORIGINAL RESEARCH

Patients' vs. Physicians' Assessments of Emergencies: The Prudent Layperson Standard

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ABSTRACT

Objective: To compare perception of the need for emergency care by emergency department (ED) patients vs. emergency physicians (EPs). **Methods:** Mailed survey to EPs and a convenience sample of ED patients. Survey rated urgency of acute sore throat, ankle injury, abdominal pain, and hemiparesis, as well as the best definition of "emergency." Responses were compared with chi-square ($p < .05$). **Results:** 119/140 (85%) of EPs and 1453 ED patients responded. EPs were more likely to judge acute abdominal pain (79.8% vs. 43.4%, $p < 0.001$, odds ratio (OR) 5.16, 95% confidence interval (CI) 3.19-8.40) and hemiparesis (100% vs. 82.6%, $p < 0.001$, OR 24.9, 95% CI 3.75-94.4)

as an emergency. Similar proportions of ED patients and EPs considered sore throat (12.2% vs. 7.6%, $p = 0.18$, OR 0.59, CI 0.27-1.23) and ankle injury (46.9% vs. 38.6%, $p = 0.10$, OR 0.71, CI 0.48-1.06) an emergency. EPs (35%) and ED patients (40%) agreed to a similar degree with the "prudent layperson" definition, "a condition that may result in death, permanent disability, or severe pain." ($p = .36$, OR 1.22, CI 0.81-1.84). EPs were more likely to add, "the condition prevented work," (27% vs. 16%, $p = 0.003$, OR 0.51, CI 0.33-0.81). Patients more often added, "occurred outside business hours" (15% vs. 4%, $p = 0.002$, OR 4.0, CI = 1.5-11.3). **Conclusion:** For serious complaints, ED patients' thresholds for seeking care are higher than judged appropriate by EPs. Stroke is not uniformly recognized as an emergency. Absent consensus for the "correct" threshold, the prudent layperson standard is appropriate.

KEY WORDS

EMTALA, prudent layperson, emergency physician, emergency department

INTRODUCTION

The definition of an "emergency" remains controversial among health care providers, patients, and managed care organizations. The Emergency Medicine Transfer and Labor Act (EMTALA), defines an emergency medical condition as:

A medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain, psychiatric disturbances, or symptoms of substance abuse) such that the absence of immediate medical attention could reasonably be expected to result in A) placing the health of the individual in serious jeopardy; B) serious impairment of bodily functions; or C) serious dysfunction of any bodily organ or part.¹

METHODS

Approval of the university's Institutional Review Board was obtained prior to the study. The study ED was a level I trauma center in a university hospital with

45,000 annual visits, and a mixture of public and private patients. ED patients were of the following insurance categories: 45% Medicaid (mostly managed), 25% self-pay, 15% commercial managed care, 10% Medicare, and 5% traditional indemnity. Forty percent of ED patients spoke Spanish as their primary language, while an additional 10% spoke Asian languages (mostly Vietnamese). Twenty percent of ED patients were children (<14 years of age).

Research personnel surveyed a convenience sample of ED patients in three languages (English, Spanish and Vietnamese) over a three-month period in 2001, between 8 AM and 12 midnight, seven days a week. A priori, we assessed demographic factors of insurance, primary language, whether the patient lived in the county or reported having a primary care physician, and patient age, sex and ethnicity (African American, Hispanic, Caucasian, Vietnamese, other). We mailed an identical survey to practicing EPs who were members of the Society of Orange County Emergency Physicians and who were board certified by the American Board (or Osteopathic Board) of Emergency Medicine. Orange County, California is a mixture of urban and suburban areas, with a population of 2.8 million persons. Patients and physicians were both asked to rate the urgency of evaluation of four clinical scenarios on a five-point Likert scale (strongly agree, agree, undecided, disagree, strongly disagree). The survey scenarios were exactly as follows:

1. A 36-year-old man with sore throat for one day. Mild cough but no fever.
2. A 40-year-old man who walked into the emergency room with a sore ankle after twisting it while playing football.
3. A 63-year-old female with weakness and numbness of her left arm and leg for two hours. No pain or other complaints.
4. An 18-year-old woman with stomach pains on and off for one day and vomited once today. No fever or diarrhea.

Surveys also asked the responders to choose the best definition of "emergency." The four options were:

1. A condition that may result in death, permanent disability, or severe pain.
2. A condition that may result in death, permanent disability, or severe pain, or occurred outside business hours.
3. A condition that may result in death, permanent disability, or severe pain, or the condition prevented work.
4. Any condition at any time, as determined by the patient.

Parents of ED patients < 16 years of age completed the surveys. Comparisons between the EP and ED patient responses used Pearson's chi-square test with $p < 0.05$, and calculated odds ratios, combining "agree" and "strongly agree" together, vs. "disagree" and "strongly disagree." For analyses of the threshold for seeking ED care vs. payer class, we assigned the agreement categories to a numerical scale from 1 (strongly agree) to 5 (strongly disagree), and used a Student's t-test to compare the means.

We sent a second survey to non-responding EPs. We made no attempt to characterize non-responders, or compare them to responders. Responses were anonymous except as needed to re-mail the survey. We used True Epistat (version 5.0, Richardson, Texas) for chi-square comparisons of categorical data and SPSS, version 11.0 for two-sample t-tests and Cochran's test of linear trend.

RESULTS

The EP response rate to the mailed survey was 119/140 (85%). We received 1453 surveys, or approximately 18.4% of the 7875 eligible ED patients during this period. Ninety-nine percent of those surveyed (1437/1453) provided responses to the case scenarios regarding the need for emergency evaluation, as shown in Table 1.

There were no significant differences between patient responses to the four clinical scenarios by ethnicity,

Table 1. Percentage of respondents who agree that each case *is* an emergency.

Case Scenario	ED patients n = 1437	EPs n =119	p-value	Odds Ratio(95% CI)
Sore Throat	12.2%	7.6 %	0.18 (NS)	0.59(0.27-1.23)
Twisted Ankle	46.9%	38.6 %	0.10 (NS)	0.71(0.48-1.06)
Hemiparesis	82.6%	100%	< 0.001	24.9(3.75-94.4)
Abdominal Pain	43.4%	79.8 %	< 0.001	5.16(3.19-8.40)

NS = not significant

primary language, age, county of residence, or access to a primary care physician.

As shown in Table 2, an equal proportion of EPs (35%) and ED patients (40%) agreed with the standard EMTALA definition of an emergency, “a condition that may result in death, permanent disability, or severe pain,” the most restrictive of the four choices (p = 0.36, OR 1.22, CI 0.81-1.84). A similar proportion of responders from each group agreed with the most inclusive definition, “any condition at any time, as determined by the patient” (34% vs. 29%, p = 0.34, OR 0.81, CI 0.53-1.22). However, ED patients were more likely to expand the basic definition to include “occurred outside business hours” (15% vs. 4% for EPs, p = 0.002, OR 4.0, CI 1.5-11.3), while EPs were more likely to include the modifier, “the condition prevented work” (27% vs. 16% for patients, p = 0.003, OR 0.51, CI 0.33-0.81).

In the two scenarios judged by the EPs as not generally appropriate for an ED visit (sore throat and sprained ankle), there was a significantly lower threshold for seeking ED care among under-funded ED patients. Those with Medicaid were more likely to seek care for a sore throat (4.3 vs. 3.6 on the 5-point agreement scale) vs. those with indemnity insurance, and patients with Medicaid were likewise more likely to seek care for a sprained ankle (3.3 vs. 2.8) than were those with managed care insurance. The other comparisons between insurance status and threshold to seek care did not meet statistical significance. The effect size in these two significant comparisons was quite small, and may have occurred by chance. Medicaid patients, however, are well known in managed care circles as being high utilizers of emergency services, and these data are consistent with this observation.¹²

Table 2. Comparison between ED patients and EPs regarding best definition of “prudent layperson.”

Survey Definition Choices	ED Patient	EPs (n = 1453)	p-value (n = 119)	Odds Ratio (95% CI)
EMTALA Definition	40%	35%	0.36 (NS)	1.22 (0.81-1.84)
EMTALA plus Condition that Prevents Work	16%	27%	0.003	0.51 (0.33-0.81)
EMTALA plus Any Condition Outside of Business Hours	15%	4%	0.002	4.0(1.5-11.3)
Any Condition at Any Time	29%	34%	0.34 (NS)	.81 (0.53-1.22)
Total	100%	100%		

NS = not significant

DISCUSSION

Policy makers and clinicians have debated the role of the ED as a clinical safety net for almost three decades. Patient-dumping to municipal hospitals received widespread attention, and led to the passage of the EMTALA statute in 1986. This statute, and its subsequent interpretations, mandates a medical screening examination for every patient who presents to a hospital or ED and requests one. Failure to screen or stabilize prior to transfer carries a civil penalty of \$50,000 per occurrence.

Enforcement and fines to hospitals and physicians have been increasing over the past decade, from a total of \$130,000 nationwide in 1988 to more than \$1 million in fines each of the past three years. A public citizen watchdog group reported that 527 US hospitals in 46 states were fined for violations of the EMTALA regulations during 1997-1999. Of those accused of a violation, the Health Care Finance Administration (HCFA—now called Center for Medicare and Medicaid Services) has historically assessed fines in 26.7% of cases, with the average fine of \$29,671 and a maximum fine of \$175,000.¹³

On the physician side, there were thirteen physicians who paid fines ranging from \$5,000 to \$45,000 from 1997-2000. These fines are generally not covered by professional liability policies. The definition of an emergency medical condition, therefore, becomes of paramount importance in determining the types of patients to whom the EMTALA statute applies.¹³

The Clinton administration adopted a HCFA policy in 2000 that mandated payment from federal programs for ED visits that met a “prudent layperson” standard. However, this standard remains ill-defined, and, prior to this study, had not been tested by either the criterion reference of board-certified EPs, nor by any group of ED patients.

Therefore, increasing EMTALA enforcement, coupled with the notion that an “emergency medical condition” defines which patients are subject to EMTALA, has led to significant anxiety among EPs and hospital administrators. The definition itself is the genesis from which all other discussion ensues.

This paper is the first to quantitate ED patients’ perceptions regarding the emergent nature of specific case scenarios. On the “over-triage” side, 12% of surveyed ED patients feel an ED visit is appropriate for a sore throat, while 47% feel an ED visit was appropriate for a minor sprained ankle (vs. 8%, $p = 0.18$, OR 0.59, CI 0.27-1.23, and 39%, $p = 0.10$, OR 0.71, CI 0.48-1.06, respectively, of EPs). On the “under-triage” side, 43% of surveyed ED patients reported that emergency care is appropriate for acute abdominal pain and 83% believe an ED visit is appropriate for acute stroke symptoms (vs. 80%, $p < 0.001$, OR 5.16, CI 3.19-8.40, and 100%, $p < 0.001$, OR 24.9, CI 3.75-94.4, of EPs). This suggests, at least in this sample, that ED patients may lack sufficient education and judgment to determine when to seek emergency care. In particular, the results highlight the need for better patient education regarding stroke symptoms, and the need to seek immediate care.

Tables 3 and 4 compare the current study to a similar one by Derlet in 1999. Table 3 compares our ED patients’ to Derlet’s laypersons’ opinions, while Table 4 compares our EPs to Derlet’s non-ED health care workers.¹⁰ We found that EPs embraced the concept of seeking care in the ED for any reason at the patient’s discretion, as much as the patients did (34% vs. 29%, $p = 0.34$, OR 0.81, CI 0.53-1.22). On the contrary, Derlet’s survey of shopping mall patrons and non-EP health care workers found that laypersons were more likely to seek care at any time for any reason than health care workers thought appropriate. The medical practice climate in the county surveyed here may explain this mindset. While inner city ED overcrowding often reaches crisis proportions, the EDs in this county, while busy, are not routinely overwhelmed. This in turn could give rise to a mindset that embraces all patients who present for care.

We found that lay responders from both surveys chose the official EMTALA definition, “a condition that may result in death, permanent disability, or severe pain,” most often over the other three choices. Shopping mall patrons were, in fact, more likely to choose this official definition than ED patients (48.6% vs. 40.0%,

Table 3. Comparison between patients in current study and Derlet’s laypeople regarding definitions of “emergency medical condition.”¹⁰

Survey Definition Choices	ED Patients (Current Study) (n=1453)	Laypeople’s Opinion (Derlet ¹⁰) (n=1018)	p-value	Odds Ratio (95% CI)
EMTALA Definition	40.0%	48.6%	<0.001	0.70(0.60-0.83)
EMTALA plus Condition that Prevents Work	16.4%	3.1%	<0.001	5.85(3.95-8.71)
EMTALA plus Any Condition Outside of Business Hours	14.6%	16.6%	0.31 (NS)	1.13(0.90-1.41)
Any Condition at Any Time	29.0%	31.6%	0.17 (NS)	1.13(0.95-1.35)
Total	100%	100%		

NS = not significant

p < 0.001, OR 0.70, CI 0.60-0.83). However, ED patients were more likely than shopping mall patrons to add a provision for “a condition that prevents work.” Shopping mall responders may be less likely to work than a population of ED patients, and hence may choose this option less often. Conversely, ED patients may be more likely to respond that their absence from work during their ED visit was justified. Responses to other definitions would not be expected to vary in any particular direction.

It is understandable why the Derlet study excluded ED personnel because of “conflict of interest.” Much

literature which highlights overcrowding has come from that very ED. Derlet suggests, however, that ED workers would be the most qualified to judge the urgency of a patient’s complaint. Hence we used just such a criterion reference, and extended it even further to board-certified EPs. EPs were significantly more likely than non-ED health care workers to qualify the generally accepted definition of an emergency medical condition to take work (27% vs. 0%) or time of day (4% vs. 0%) into consideration. However, the general proportion of responders who believed the converse, that it is appropriate to seek or provide ED care any time for any reason, was similar (34%

Table 4. Comparison of EPs vs. Derlet’s non-ED health care workers regarding definitions of “emergency medical condition.”¹⁰

Survey Definition Choices	EPs (Current Study) (n = 119)	Non-ED Health Care Workers (Derlet ¹⁰)(n = 126)	p-value	Odds Ratio (95% CI)
EMTALA Definition	35%	71.4%	<0.001	4.58(2.58-8.16)
EMTALA plus Condition that Prevents Work	27%	0%	N/A	N/A
EMTALA plus Any Condition Outside of Business Hours	4%	0%	N/A	N/A
Any Condition at Any Time	34%	27.0%	0.32 (NS)	0.73(0.41-1.31)
Total	100%	98.4%		

NS = not significant

for EPs vs. 27% for non-ED health care workers, $p = .32$, OR 0.73, CI 0.41-1.31). In general, then, approximately two-thirds of responders to both surveys endorsed the EMTALA concept, while a third rejected it in favor of total patient choice.

We believe our brief case scenarios were sufficient to give both EPs and ED patients a reasonable data set upon which to determine urgency. Previous studies, which used only chief complaints, gave the responder too little information.^{4,10} We included duration, severity, and location of pain, as well as associated symptoms to better describe a theoretical patient. In addition, the survey said specifically, “[p]lease interpret these scenarios as straightforward without any intention to hide information.” The surveyed ED patients were afflicted with some sort of medical complaint, a closer approximation of a patient’s state of mind than previous studies of lay people who were not sick.

This study was limited by convenience sampling of ED patients. Patients with more acute illnesses were likely excluded, and we did not survey patients at night. The scenarios were brief and may not have communicated nuances of presentation that might have affected the judgment of the EPs and ED patients. Regarding subject biases, just as shopping mall patrons are not necessarily representative of ED patients, neither are ED patients necessarily representative of the population as a whole.

Given an 85% response for the EPs, we did not survey non-responders, as they had similar practice settings. We could think of no reason why non-responders would have replied differently.

Our five-point Likert scale had a neutral choice for both EPs and ED patients. Analysis was confined to those who declared a positive or negative opinion. Hence, those undecided about the case scenarios were omitted from the odds ratios calculations. Patients were more likely to respond “undecided” (14.7%) than EPs (7.6%) ($p = 0.044$, OR 2.11, CI 1.02-4.53). This would be expected based on the EPs’ sophisticated experience with these complaints. There is a clear disconnect between the 15-year-old federal mandate to see all patients and the lack of any

guarantee of reimbursement. No other specialty in medicine, or other profession, is subject to this discrepancy. Municipalities provide fire and police protection as a public right, but are funded by taxpayers. Emergency medical care is inadequately funded. For those covered by government programs, reimbursement often does not cover costs, and the 47 million uninsured provide little or no reimbursement for care. Because of this, ACEP adopted a resolution calling emergency care an “essential public service” in 2001.¹⁴ Furthermore, the First Mediterranean Emergency Medicine Congress adopted a similar resolution in 2001, which calls on member governments to provide “unrestricted access to diagnosis and treatment for emergency health conditions” as “a human right” to all their citizens.¹⁵ A more precise understanding of the attitudes of real, prudent laypeople (i.e., ED patients) can help define the optimum scope of access to this increasingly recognized essential public service.

It is evident from this study that patients and physicians agree neither on the definition of an emergency, nor on the proper threshold to seek emergency care. MCOs’ assessments further cloud the picture. Shesser determined that, for one inner-city ED, EPs agreed that 78.8% of visits met the prudent layperson standard versus 53% of cases adjudicated by a local MCO.¹⁶ This discrepancy highlights the subjective nature of the decision to seek emergency care. In our study, EPs disagreed with patients for the two more serious complaints. Clearly then, if patients, EPs, and insurers cannot agree on this issue, we must fall back on what is safe. We believe the patient should ultimately decide when to seek care. This is the root of the EMTALA mandate that every patient be evaluated. Absent consensus regarding the “correct” threshold, the prudent layperson definition stands as the best, albeit imperfect, standard.

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