

Access to Care: A Review of the Emergency Medicine Literature

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Abstract. The authors review the evolution of the emergency medicine literature regarding emergency department (ED) use and access to care over the past 20 years. They discuss the impact of cost containment and the emergence of managed care on prevailing views of ED utilization. In the 1980s, the characterization of “nonurgent ED visits” as “inappropriate” and high ED charges led to the targeting of non-emergency ED care as a potential source of savings. During the 1990s the literature reveals multiple attempts to identify “inappropriate” ED visits and to develop strategies to triage these visits away from the ED. By the late 1990s, demonstration of the risks of

denying emergency care and more sophisticated analyses of actual costs led to reconsideration of initiatives to limit access to ED care and renewed focus on the critical role of the ED as a safety net provider. In recent years, “de facto” denials of emergency care due to long ED waiting times and other adverse consequences of ED crowding have begun to dominate the emergency medicine health services literature. **Key words:** access to care; safety net; emergency department utilization; health services access; health services research. *ACADEMIC EMERGENCY MEDICINE* 2001; 8:1030–1036

THE emergency department (ED) is a unique practice setting in two respects. The first is its capacity to deliver a full range of medical services to acutely ill or injured patients, regardless of the nature of the presenting complaint. The other defining characteristic of the ED is its singular accessibility; 24 hours per day, seven days per week, the ED provides care to all who seek it, regardless of their ability to pay. Access to emergency care is ensured not only by the professional and ethical standards of emergency physicians (EPs), but also by federal law.¹ Either or both of these two defining characteristics may influence a patient's decision to use the ED.

As every EP knows, our health care system has failed to provide timely and effective access to health care for all individuals. For many people, the lack of access is due to their lack of insurance.² For many others, barriers to care exist because of inadequate coverage, because of educational, cultural, linguistic, logistical, psychosocial, environmental, or institutional factors, or because of the nature of their health problems.^{2–5} For vulnerable and disenfranchised populations, the ED may be the only accessible source of health care. We treat all persons who come to us seeking care, regardless

of their income, race, ethnicity, insurance status, or special needs.⁶ We are the ultimate safety net for those whom other providers turn away.

Because of the unique position of the ED within the health care system, the use of the ED is a function of: 1) the nature, acuity, and severity of the presenting complaint; and 2) the patient's experience with and access to other health care settings prior to the ED visit. Analyzing and interpreting patterns of ED utilization gives valuable information about the other health care services available in the community, as well as information regarding the health status of the population. Many health services researchers who are interested in access have looked at ED utilization. The ED is used disproportionately by patients without insurance, patients with Medicaid, patients without primary care physicians, members of racial and ethnic minorities, and other “vulnerable populations.”^{7–14}

We review the emergency medicine (EM) literature on access over the past 20 years, examining the impact of cost containment and the emergence of managed care on prevailing views of ED utilization. We discuss the role of the ED as a safety net provider, and review the literature on ED crowding in light of growing pressures on all safety net providers due to the increasing number of uninsured, the changing managed care market, and decreasing funding and reimbursement for uncompensated care.²

ED VISITS FOR NONEMERGENCY CARE

During the latter part of the 1970s and the 1980s,

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decades of concern about the rising costs of health care began to stimulate new strategies to contain costs. The previous mechanisms, which relied primarily on controlling charges, were supplanted by a new focus on controlling utilization of health care services. Managed care began to gain favor as a method of organizing care that prevented the unnecessary use of costly services. The relatively high charges for emergency care (reported to be up to five times that of the average charge for a clinic or physician's office in the same community^{10,15}), resulted in a great deal of attention to the use of the ED for problems that are not medical emergencies.

It is certainly true that some portion of ED visits are for problems that are neither emergent nor urgent, and that could competently be handled in another setting. However, the characterization and quantification of these "nonurgent emergency visits" have been problematic. The literature in this area is distinguished by a remarkable lack of precision and widespread confusion between retrospective and prospective judgments on the acuity of the presenting problem. As early as 1980, published articles describing ED visits on the basis of urgency began to appear in the EM and public health literature.¹⁶⁻¹⁸ Over the next two decades, many authors published estimates of the proportion of ED visits that are for nonurgent problems;

some for individual institutions, some for specific populations, each using its own definition of "non-urgent".^{11-13,17,19-26}

Several governmental reports addressing this topic were issued; and analysts examined the limited data on ED visits available in national databases from surveys such as the National Health Interview Survey (NHIS) and the National Medical Care Utilization and Expenditures Survey.^{9,10,15,27} In 1992, data collection was begun for the National Hospital Ambulatory Medical Care Survey (NHAMCS) providing, for the first time, comprehensive national data on emergency visits.²⁸⁻³² Unfortunately, the definition of a "nonurgent emergency visit" varies from source to source; there are no standard criteria and no uniform categorization methodology. Some of the most commonly quoted references on the proportion of "nonurgent ED visits" are described in Table 1.

Although "nonurgent ED visits" have yet to be uniformly defined and methods to validly and reliably quantify them have yet to be developed, a consensus developed among government officials, policymakers, insurers, and managed care organizations that the "the use of the emergency department for non-emergency care is frequent and costly."³³ In the early 1990s, concern about the high cost of emergency care crystallized into the widespread belief that diverting these "inappropri-

TABLE 1. Estimates of Nonurgent Emergency Department (ED) Visits

1990: 43% of ED visits are nonurgent. U.S. General Accounting Office. *Emergency Departments: Unevenly Affected by Growth and Change in Patient Use*. Publication No. B-251319. Washington, DC, Jan 1993.

A survey of 1,025 nonfederal hospitals conducted by the GAO. Data source was the opinion of the hospital official who responded to the survey; this was in some cases an administrator and in others the ED medical director. Visits were classified as emergent, urgent, or nonurgent. Nonurgent was defined as "not life or limb threatening or did not require immediate care and probably could have been treated in a doctor's office or clinic."

1992: 55% of ED visits are nonurgent. McCaig LF. *National Hospital Ambulatory Medical Care Survey: 1992 Emergency Department Summary; advance data from Vital and Health Statistics*. Hyattsville, MD: National Center for Health Statistics, 1994; 245:1-12.

A national probability survey of visits to nonfederal hospital EDs and outpatient departments conducted by the National Center for Health Statistics. The 1992 data were collected from 437 EDs; data source was a patient record form completed by hospital staff at the selected hospitals during a four-week reporting period in 1992. Visits were classified as urgent or nonurgent. Nonurgent visit defined as "those made by patients who did not require immediate attention or attention within a few hours."

1994: 37% of ED visits are nonurgent. Young, GP, Wagner MB, Kellermann AL, Ellis J, Bouley D. *Ambulatory visits to hospital emergency departments. Patterns and reasons for use. 24 Hours in the ED Study Group*. JAMA. 1996; 276:460-5.

An observational study of 6,187 patients arriving in 56 hospital EDs across the United States during a single 24-hour period. Data source was the triage classification assigned to the patient by a nurse upon arrival in the ED. Each hospital used its own institutional triage criteria. The percent of nonurgent ED visits reported by individual hospitals ranged from 23% to 72% of ED visits.

1997: 9.7% of ED visits are nonurgent. Nourjah P. *National Hospital Ambulatory Medical Care Survey: 1997 Emergency Department Summary (advance data)*. Hyattsville, MD: National Center for Health Statistics, 1999; 304:1-12.

A national probability survey of visits to nonfederal hospital EDs and outpatient departments conducted by the National Center for Health Statistics. The 1997 data were collected from 392 EDs; data source was a patient record form completed by hospital staff at the selected hospitals during a four-week reporting period in 1997. The 1997 NHAMCS contained a new data element to assess the immediacy with which a patient should be seen; this was assigned upon arrival in the ED by triage staff. The ED visits were classified as emergent (should be seen within 15 minutes of arrival), urgent (15-60 minutes), semiurgent (1-2 hours), or nonurgent (2-24 hours). In the 1997 data, 21% were emergent, 32% were urgent, 15.4% were semiurgent, 9.7% were nonurgent, and 21.9% were "unknown or no triage."

ate ED visits" to physician offices or other primary care settings would result in substantial savings.^{34,35} Third-party payers began to deny payment for emergency services based on retrospective determinations of appropriateness based on ED diagnosis, and some managed care organizations began to require preauthorization for emergency visits.^{36,37}

Several authors cautioned that the characterization of "nonurgent ED visits" as "inappropriate ED visits" might be inappropriate.^{11,38,39} The view of the patient regarding "appropriateness" may diverge significantly from that of the provider; the perspective of the EP diverges from that of the insurer, and opinions among physicians vary with their training and experience.⁴⁰⁻⁴² In the presence of existing financial, temporal, and institutional barriers to appropriate primary care, the decision by a patient to forgo an ED visit for a nonurgent problem may lead to the later occurrence of a life-threatening problem that necessitates an emergent ED visit.^{43,44} From the perspective of an individual with limited resources, for whom an ED visit may be the only available source of health care, a nonurgent ED visit may be far more appropriate than seeking no care at all.^{4,39}

Despite these cautionary voices, cost-conscious gatekeepers began to erect financial and administrative barriers to emergency care. Believing the ED to be "the most expensive place of all" (so described by President Bill Clinton in his televised address to the joint session of Congress in September 1993), "nonurgent ED visits" became a target for cost reduction. Policymakers sought to develop strategies to delay or deny emergency care; researchers attempted to develop criteria to determine who should receive emergency care and who should not.

DENYING CARE IN THE ED

Almost every ED in the country uses a triage system to prioritize patients' need for care. Many researchers began to look at triage as a possible mechanism to limit nonemergency ED care. Criteria similar to those used to determine which patients need to be seen first in the ED were evaluated for utility in determining who needs to be seen at all. A review of the EM literature during the last decade reveals multiple attempts to develop a reliable method to prospectively determine the necessity for emergency care. Investigators used a variety of methods including specific clinical criteria, computer-driven algorithms, individual expert assessment, and multidisciplinary physician-panel-developed screening exams.⁴⁵⁻⁵⁴

In 1989, Berman et al. used a retrospective audit of 98,086 charts to evaluate the effectiveness of

computerized algorithm-directed triage to direct patients away from the ED to the acute care clinic at Brooke Army Medical Center.⁴⁵ Seven hundred thirty-three patients (1.2%) of the 58,282 patients triaged away were sent back to the ED for care. Based on these data, it was concluded that computerized algorithm-directed triage, using minimally trained personnel, was an effective system for separating "walk-in" patients from emergency patients. The author did not suggest that the system was an acceptable method to identify patients who could safely be refused care.

In 1990, Derlet and Nishio from University of California, Davis (UC Davis), reported their experience with a policy of refusing care to patients who presented to the ED after an extensive medical screening examination performed by specially trained triage nurses.⁴⁷ Using a protocol reviewed and approved by the institution's legal counsel, 19% (4,186) of the 22,390 patients who presented to the ambulatory triage area between July and December 1988 were determined to have nonemergencies; these patients were given a list of clinics (on site and off site) or referred to their personal physicians. Follow-up consisted of identifying patients who returned to the authors' ED within 48 hours and a survey (via letters or telephone call) of the clinics to which patients had been referred regarding "adverse effects."

Derlet and Nishio's conclusion that patients could safely be turned away from the ED sparked a major controversy among EM academicians. Critics challenged the lack of adequate outcome data: patients were not individually tracked and specific patient health outcomes, rehospitalization rates, morbidity/mortality rates, or rates of patient subsequent presentation to another ED after referral to clinics, were not measured. Nevertheless, UC Davis continued its policy of denying care to "nonemergencies" in their ED; in 1992 Derlet et al. published data for three years, reporting a subsequent hospitalization rate of 0.02% among those patients who were refused ED care.⁵⁵

Both Birnbaum et al. and Lowe et al., in separate studies, were unable to replicate Derlet et al.'s findings.^{46,48} In a historical cohort study, Lowe et al. identified 496 patients who presented to the ED at San Francisco General Hospital in July 1990 who met the inclusion criteria used by the Derlet study; 106 of these patients would have been refused care by the Derlet triage guidelines.⁴⁸ Using two separate definitions of "appropriate," one based on explicit clinical criteria, the second on expert opinion, 33% (35) were deemed to be "appropriate" visits by both definitions; and 3.8% (4) were hospitalized.

In a prospective, observational, cohort study, Birnbaum et al. used the Derlet published criteria

for refusal of care to identify a convenience sample of 534 adults who presented to Bronx Municipal Hospital Center ED in New York from July to mid-October 1992.⁴⁶ The study endpoint was ED disposition; no patient was lost to follow-up. Of the 534 patients who met the Derlet criteria for refusal of care, 1.1% ($n = 6$, 95% CI = 0.4% to 2.4%) were hospitalized; this was more than 50 times the 0.02% hospitalization rate reported by Derlet and colleagues.

Both of these studies, Lowe et al. and Birnbaum et al., challenged the safety of using the Derlet triage guidelines to refuse ED patient care. In addition to the lack of sensitivity of such guidelines for predicting important medical outcomes, these authors point out that refusing care to patients presenting to an ED can be challenged on ethical, financial, and legal grounds. Both cautioned institutions that might be considering the implementation of triage guidelines to refuse care to ED patients.

Despite these studies repudiating the Derlet model, efforts to develop a system to safely assess the need for emergency care continued. Waldrop et al. attempted to determine the sensitivity and specificity for predicting admission of an assigned triage acuity of "nonemergency" in an established ED triage system at an urban hospital in Baton Rouge, Louisiana.⁵⁰ Their findings were limited by the loss to follow-up of 8.25% of their cohort. Brillman et al. used a randomized partial crossover design to compare triage assessments by computer, nurses, and physicians in 5,106 consecutive patients presenting to a university teaching hospital in June and July 1992.⁵⁴ None of the three triage methods performed well in predicting which patients required admission. The authors concluded that "Until triage methods are standardized and validated, triage decisions should not be used to determine the timeliness of access to emergency care."

In 1997, O'Brien et al. used chart reviews of 892 ED visits to compare a predetermined list of nonurgent complaints, triage assessment by internists, and triage assessment by EPs to identify patients who "could have been taken care of within 24 hours by a primary care physician without harm to the patient"; this study found only moderate rates of agreement ($\kappa = 0.47$).⁴² In 1998, Wuerz et al. had 87 participants, emergency medical technicians (EMTs) and ED nurses, rate scripted patient scenarios for severity, urgency, likely disposition, and medical resource utilization; poor interrater agreement and intrarater incongruities led the authors to question the reliability of current ED triage practice.⁵³

As recently as 2000, Washington et al. published a set of clinical criteria for deferred care from a 17-member multidisciplinary physician

panel; they used a cohort of 1,187 consecutive adult walk-in ED patients at the Los Angeles Veterans Affairs Medical Center with selected complaints to prospectively assess the criteria's utility to avoid hospitalization within seven days, and death within 30 days.⁵¹ Two hundred six (19%) patients met screening criteria for deferred care; there was no hospitalization or death within the study period. The study's limitations included small sample size, idiosyncratic criteria, and limited outcome measures.

During the past 20 years, no valid and reliable definition of what constitutes an "appropriate ED visit" has emerged from the literature. Lowe and Bindman warn that "limiting patients' access to the emergency department without the aid of such a definition could result in barriers to needed care and harm to patients' health."⁵⁶ The failure to develop accepted criteria to determine the need for emergency care, fueled by growing concern about increasingly stringent Emergency Medical Treatment and Labor Act (EMTALA) regulations led many to question whether patients could safely be refused care in the ED.¹ Other authors have challenged the assertion that decreasing "nonurgent ED visits," even if it could be done safely, would in fact save money.^{57,58}

THE COST OF ED CARE

The perception that ED overuse is an important cause of high medical care costs arose because of the markedly higher charges of EDs relative to clinic or physician office charges.³⁵ In 1996, using 1991–1993 cost data for hospital and physicians' services from six community hospitals in Michigan, Williams reported a detailed analysis of ED costs relative to physician office costs, demonstrating that an accurate comparison can be made only by examining the actual costs of services in the two different settings, rather than simply comparing the charges.³⁴ Because the ED functions 24 hours per day, seven days per week, it has high fixed costs (those costs that are not dependent on volume) for medical staff, ancillary services, supplies, overhead, and administration; and very low marginal costs (the additional cost for one additional visit). Based on these data, Williams concluded that "the potential savings from a diversion of nonurgent visits to private physicians' offices may be much less than is widely believed."

Furthermore, it has been suggested that redirection of "nonurgent ED visits" from EDs to other practice settings would require that such settings be similarly equipped and staffed, and immediately available at all hours; total costs to the system would actually increase by creating 24-hour-per-day walk-in capacity in primary care centers.⁴

For example, the cost of seeing an additional patient at 4 PM may be slightly lower in a physician's office than in the ED. The cost of seeing that patient at 4 AM when the physician's office is not open is much greater; the marginal cost of caring for this patient in the ED at 4 AM is very low.³⁴

Also in 1996, Tyrance et al. looked at data released by the National Medical Expenditure Survey (NMES) of 35,000 persons in 14,000 households representative of the U.S. civilian, noninstitutionalized population.⁵⁷ Emergency department expenditures accounted for only 1.9% of the total national health expenditures. Thus, ED use accounts for a small share of U.S. medical care costs. The authors concluded that limiting ED use cannot generate substantial savings and may instead target the poor, who receive much of their outpatient care in the ED.

In still another 1996 article, Selby et al. demonstrated that requiring a copayment for using the ED resulted in a decrease in ED visits after controlling for age, sex, socioeconomic status, and previous level of ED use.³³ Although the authors concluded that instituting a copayment "can safely reduce inappropriate use of the emergency department," the data revealed that the copayment significantly reduced visits for presenting conditions that were classified as "often an emergency" or "sometimes not an emergency" as well as those that were classified as "often not an emergency."

In an earlier paper, Young pointed out that delays in the care of patients with emergency conditions may result in increased morbidity and mortality.³⁷ He suggested that comparisons between ED costs and primary care office or clinic costs should factor in time lost from work as patients make daytime appointments. The ED, with its 24-hour availability and concentration of diagnostic and therapeutic resources, may be the most cost-effective way to deliver acute care, regardless of the type of health care delivery system.^{37,58}

With the myth of substantial savings from the control of ED use dispelled, and with more vigorous enforcement of EMTALA regulations by the Health Care Financing Administration (HCFA), enthusiasm for refusing care to patients who present to the ED had waned substantially by the end of the last decade. The federal EMTALA statute mandates a medical screening examination for all who seek emergency care, yet the U.S. government has never assumed financial responsibility for this service.¹ As Williams pointed out in a March 2000 editorial, under our market-driven multipayer system, there is a strong role for the government to guarantee access for uninsured individuals.⁵⁸ However funding of the "health care safety net" remains problematic. Currently only 50% of all emergency care is compensated.⁵⁹

CROWDING IN THE ED

Throughout the 1990s, ED visits steadily increased, while the number of hospital EDs decreased.^{60,61} The increase in ED visits has been attributed to the growing number of uninsured and underinsured individuals, aggressive gatekeeping by managed care primary care providers, the aging of our population, and declining access to primary care during this period. The number of uninsured is now estimated to be more than 44 million, 18% of the nonelder U.S. population.^{2,62} Despite this growing burden of uncompensated care, pressures to reduce health care costs have resulted in decreased direct and indirect funding for uncompensated care.^{63–65}

In 2000, the Institute of Medicine (IOM) issued a report describing the forces that threaten the future survival of safety net providers, providers who care for the uninsured and other vulnerable populations.² The ED, the ultimate safety net provider, is being adversely impacted by many of these forces.⁶⁶ The unprecedented growth of ED visits, in the face of decreasing primary care capacity and decreasing hospital bed capacity, has resulted in dangerously crowded EDs in various parts of the country.^{67–70} It is ironic that as attempts to triage patients away from the ED are being largely abandoned, ED crowding is resulting in a form of "de-facto" triage of patients out of the ED, also limiting patient access to health care.^{37,71,72}

In an observational cohort study, Bindman et al. surveyed 700 patients who were not referred by triage for immediate care in the San Francisco General Hospital ED waiting area in July 1990, comparing the responses of patients who left without being seen by a physician with the responses of those who were seen by a physician.⁷¹ Patients were contacted again seven and 14 days later; medical record information from all hospitals and neighborhood clinics in San Francisco was reviewed and deaths during the study period were tracked via the San Francisco County Vital Statistics Registry. The ED waiting times and the changes in patients' self-reported health were measured. Patients were more likely to leave as waiting times increased, and those who left without being seen were twice as likely to report worsening of their presenting problems; 4% of those who left the ED without seeing a physician required subsequent hospitalization and 27% returned to an ED. The authors concluded that the health of some patients may be jeopardized by long waits for emergency care.

Baker et al. conducted a prospective study of 186 patients who left the Harbor-UCLA Medical Center ED during a two-week block in 1990 with follow-up at seven days, comparing them with

a random sample of 211 patients who waited to be seen by a physician during the same time period.⁷² Forty-six percent of those patients who left were judged to need immediate medical attention by the triage nurse and 29% were assessed as needing care within 24–48 hours; 11% of those who left were hospitalized within the next week, and three individuals required emergency surgery. The cohort of patients who left did not differ significantly from those who stayed with respect to measures of illness acuity. The authors concluded that ED overcrowding in fact restricts access to needed ambulatory care.

In recent years, articles focusing on the scope and severity of ED crowding have begun to dominate the EM health services literature. In 1999, Graff et al. labeled ED crowding as an “international symptom of health care system failure.”⁶⁹ In 2000, Derlet and Richards, having ended the practice of denying ED care described in earlier publications, authored an article entitled: “Overcrowding in the nation’s emergency departments: complex causes and disturbing effects.”⁶⁸

CONCLUSIONS

A review of the EM literature regarding ED use and access to care over the past 20 years reveals significant evolution. In the 1980s, pressure to reduce costs through controlling utilization led to scrutiny of the use of highly priced EDs for non-emergency care. “Nonurgent ED visits” were regarded as “inappropriate” and targeted as a potential source of savings. This led to multiple attempts in the 1990s to identify those visits that were “non-urgent” or “inappropriate” and to develop strategies to triage these “inappropriate visits” away from the ED.

Demonstration of the risks of denying emergency care and more sophisticated analyses of the actual cost of providing nonemergency care in the ED led to reconsideration of initiatives to deny emergency care. The unprecedented growth in the number of uninsured, in the face of continued efforts to reduce health care costs, has heightened the critical role of EDs as safety net providers. In recent years, ED crowding has been shown to restrict access to needed care. Current literature is focused on the dangers of patient overcrowding in our nation’s EDs.

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