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# A Possible Solution to the Cost Explosion of the Emergency Department

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*Once considered a source of care for major injuries and life-threatening medical conditions, the emergency department has become part primary care physician and part social worker to many Americans. This article looks at the problem of emergency room overutilization and poses some solutions to stem the rising cost of urgent care.*

Hospital emergency departments play multiple roles in the American health care system. In recent years, as cost saving measures are becoming more important, emergency departments have become the target of cost evaluation. This puts physicians, traditionally trained to help and to heal, in the difficult position of trying to contain costs while also meeting the medical screening examination and stabilization requirements of EMTALA. This federally mandated requirement imposes penalties up to fifty-thousand dollars for participating hospitals violating these requirements. As managed care is reaching the Hawaiian Islands, the cost-effectiveness of medical services, especially the emergency department, is becoming more and more important.

Once considered a source of care for major injuries and life-threatening medical conditions, the emergency department has become part primary care physician and part social worker to many Americans. As early as the 1950s, it was noted that the number of emergency department visits in the United States was rising dramatically and that many of these visits were for conditions that did not require emergency treatment. Analysts attributed this phenomenon, at least in part, to the ascendancy of hospital-based subspecialists and the dwindling foundation of community-based general practitioners in the United States. More recently, overcrowding of hospital emergency departments in the inner cities has reached desperate proportions.<sup>1</sup> A recently published report of the consequences of over-crowding at the ED at San Francisco General Hospital<sup>1</sup> showed that patients with non-critical conditions faced waiting times as long

as 17 hours, and 15% of the patients left without ever seeing a physician. When contacted 1 to 2 weeks after their emergency department visit, patients who left without seeing a physician were twice as likely as patients who did see a physician to report deterioration of their health status.

Although use of ED for non-emergency conditions has become ubiquitous, this pattern of utilization is especially prominent among patients who are poor, non-white and without a regular source of primary care. In San Francisco, although there is a relatively extensive "safety net" of hospital- and community-based primary care clinics, these facilities have proved insufficient to meet the demand for primary care services. For example, appointment waiting times for patients new to the hospital-based family practice and general medicine clinics at San Francisco General Hospital average 2 months. Although many of the primary care clinics have same-day appointments to accommodate the acute care needs of those who are established clinic patients, such appointments are often unavailable for patients without established clinic relationships.

The problem of public hospital emergency department overcrowding invites a number of possible policy responses. Among these possibilities are augmenting ED resources and/or productivity, expediting transfer to inpatient beds for patients requiring hospitalization, developing urgent care clinics near emergency departments for rapid treatment of low-acuity problems, instituting patient cost-sharing, refusing emergency department services to patients with non-emergency conditions, and allowing the ED queue itself to continue to play a triage<sup>4,5</sup> role by imposing a high "time price" on patients for the use of the ED. A different approach, however, would be to increase access to alternative primary care services that offer continuity of care for a full spectrum of acute and chronic care needs - in effect, to reverse the trends and to replace emergency room doctors with a large number of family practitioners. This strategy would require a) identification of patients who use the ED for routine health care needs because of barriers to primary care services, b) timely referral of these patients to appointments at primary care facilities, and c) enhancement of the capacity of the primary care system to accommodate additional indigent patients. Increasing access to primary care services as an alternative to the emergency department could potentially reduce public emergency department overcrowding, provide indigent patients a less costly form of care for their immediate needs, and establish a regular source of care for those patients with ongoing health care needs.

For a long time, the cost explosion caused by overutilization of the emergency department has created and still contributes to the cost inflation of the American health care system. Since emergency department (ED) visits generate higher charges than comparable

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visits to physicians, roughly four to five times the cost of an office visit, "inappropriate" use of the ED has been cited as a major contributor to the increasing costs of health care. Americans will visit hospital EDs more than 90 million times this year. Growth in ED visits has been particularly pronounced among Medicaid and Medicare recipients and uninsured patients. Although many patients seek emergency care for problems that are life-threatening, most have less serious conditions. Use of the ED for non-urgent care has become so widespread that it is commonly cited as a major contributor to increasing health care costs.<sup>2</sup>

Federal reports estimate that between 40% and 55% of all ED visits involve non-urgent problems. Because care of minor illness or injuries in the ED generates greater charges, on average, than comparable care in a physician's office or outpatient clinic, various administrative and financial strategies have been proposed to divert patients from the ED.

While some studies suggest that the marginal cost of non-urgent care in the ED is relatively low,<sup>21</sup> other studies indicate that the cost of an ED visit is significantly higher than a regular office visit. Because of the problem of allocating fixed costs to specific services, as well as the wide variation of treatment provided in emergency departments, it is difficult to estimate a meaningful cost for emergency services. In a recently published article, Williams<sup>2</sup> evaluates the cost of visits to EDs in six community hospitals in Michigan, analyzing more than 24,000 patient visits. He concludes that the average charge for an ED visit was \$383, and the majority of ED visits (58%) were classified as non-urgent. This shows clearly that ED visits are roughly four to five times more expensive than office-based physician visits, and this data show that the majority of ED visits are not life threatening.

A possible solution to these rising costs could be to impose stricter and more vigorously exercised "triage" procedures. The word triage is derived from the French verb *trier*, meaning to sort, sift, or cull.<sup>3</sup> The first application of "triage" into the concept of medicine was on the military battlefield where triage involved the rapid assessment of the priority in the often-limited medical resources.<sup>4</sup> Injured soldiers were assigned different priorities for treatment, and implementing this concept into a more vigorous application by limiting the access to the ED could help to decrease the often-inappropriate use of the ED. While access to emergency services as such should not be limited, patients who habitually use ED services for non-urgent problems, should be made aware that sometimes their visit to the ED will not be covered by their health insurance plan. However, these patients should have the option to "still be seen" as patients in another treatment setting. I know that in certain parts of the country, this policy is already being implemented, but I think that a stronger development of this "triage" procedure will prove to be helpful.

The effective management of an emergency department requires an ordering of priority for emergency medical care, and identification of patients who require treatment on a priority basis in an area that cannot practice medicine on a first-come, first-served basis. Consequently, queuing orders based on triage decisions are now routinely made in the evaluation and care of the 96 million patients who visit hospital EDs in the United States each year.<sup>5</sup> This has been necessitated by the unpredictable arrival of large volumes of patients within a short period of time, variable acuity of medical problems, and limited personnel, equipment, and patient capacity in busy

emergency centers.<sup>6</sup>

To get a more clear understanding of the scope of this problem, I reviewed several recent articles dealing with the inappropriateness of ED use by patients. Gill and Riley<sup>7</sup> surveyed 268 patients in an urban area. These patients were classified as non-urgent by the ED triage nurse. Using structured interviews, the authors determined patient's perceptions about the urgency of their medical condition, whether they had a regular source of medical care, and the reasons for choosing the ED for care. The authors determined that having a non-regular source of care was associated with patient rated non-urgent utilization. Eighty-two percent of the patients rated their condition as urgent. Patient rated urgency was not associated with having a regular source of care. The most common reason for seeking care in the ED was expediency. Furthermore, the authors concluded that a large majority of ED patients perceived the problems for which they seek care at an ED as urgent even if they are assessed as non-urgent by health care professionals. Lack of regular source of care had no significant impact on ED utilization for problems that patients perceived as non-urgent. Simply providing patients with a regular source of care is unlikely to have a significant impact on non-urgent ED utilization without efforts to manage utilization and ensure adequate access to primary care. This article shows that, especially in urban areas, patients are more likely to seek medical care at an ED because it seems sometimes difficult to get an appointment with a primary care physician, and "after hours" coverage, even in urban areas, is not optimal. The result of this study, indicating that approximately 82% of patients were classified as non-urgent by health care professionals, concurs with my professional experience as an emergency room physician, where I have perceived the majority of cases as non-urgent.

Burnett and Grover<sup>8</sup> studied 200 patients for non-urgent care during regular business hours. Only five percent of the patients stated that they were in extreme pain. Seventy percent were aware of alternative care options, however, 60% felt that the ED was the best place to receive care. Seventy-seven percent of the patients were referred to the ED by a health care professional (by physician referral, fifty-seven percent). The authors concluded that most patients are aware of alternatives to the emergency department for the care of non-urgent medical problems; nevertheless, a large number of the patients seeking care in the ED during regular business hours are by referral of other health care professionals. Many physicians, especially those with busy private practices, tend to refer patients quite frequently to the ED if the patient presents without an appointment, or after business hours, or with slightly more complex problems than usual. It is interesting that only five percent of the patients studied were in extreme pain, which would justify the visit to the ED, and although seventy percent of the patients were aware of alternative care options, they still choose the ED as a place of choice. It appears that all across the country it has become common perception that the ED is a place to obtain quick and efficient care. Many times this trend is being facilitated by other health care professionals, who see the ED as a place of referral.

Afilalo, et al.<sup>9</sup> investigated 849 patients according to three different categories of severity of medical condition. Overall they found that 69 % of the patients investigated in this study could have been seen only in the ED, 15% of patients were classified as inappropriate users and should have been seen at an outpatient facility. The

remaining 16% of patients represented "gray-zone" patients and could have been seen in an outpatient clinic or the ED. An interview conducted among the non-urgent cases revealed that the main reasons for choosing the ED were lack of awareness of availability of other facilities, perceived seriousness of the condition, trust in the ED staff, or proximity of the ED. Furthermore, the authors concluded that misusers represent only a small portion of the ED caseload. However, as this study came from McGill University in Montreal, Canada, which is a major tertiary care facility, the study may be more representative of a facility serving a different patient population. In addition, the fact that this study is based from Canada, with an essentially socialized health care system, the surprisingly different outcome of the study may not be applicable to U.S. emergency department usage.

Dales, et al.<sup>10</sup> investigated 448 patients with asthma for recurrent visits to the ED. It is well known that patients with asthma who visit the ED have lost control over their disease, have significant airway obstruction and frequently require admission to the hospital. The authors further investigated patients with at least three visits per year and concluded that "under medication" was apparent in most of these cases. Furthermore, use of the ED correlated with work and school absenteeism, frequent visits to a regular physician, and frequent admissions to the hospital. The researchers found that the visits were not related to psychological health, environmental irritants, and lack of perceived asthma severity. The authors concluded that, apparently, the recommendations of asthma therapy are not reaching the frequent users of the ED for asthma. The findings of this paper indicate that patients with severe asthma frequently require hospitalization not only for more severe disease activity, but also many times for lack of appropriate care.

My review of these studies indicates that while "inappropriate" use of the ED is widespread, for the most part, no viable solutions to the problem, such as the use of triage, were offered. In most instances, triage is performed by an experienced nurse and involves a) obtaining a directed history that focuses on the chief complaint, b) eliciting additional pertinent information on medications and allergies, and c) performing a directed physical assessment with an emphasis on vital signs. Based on these findings, patients are categorized by severity of illness, thus dictating the priority for receiving care, typically as emergency, urgent or non-urgent. Ideally, triage is an efficient and effective tool that ensures that potentially unstable patients are seen rapidly and that those not likely to deteriorate may wait safely to receive care.<sup>11-12</sup>

Despite widespread use of triage for decision making in prioritizing patient care, current triage methods have problems with ambulatory patients. Non-urgent emergency visits by ambulatory patients have been implicated as an inappropriate use of limited services and as an important contributor to escalating health care costs both nationally and internationally.<sup>18,19</sup> In the August 14, 1996 issue of *JAMA*, Young and colleagues<sup>13</sup> provide additional data on this timely issue from their study of ambulatory patients who presented for emergency care at 56 U.S. hospital EDs during a single 24-hour period. Of 6187 ambulatory patients studied, 45% considered their condition to be urgent or an emergency or felt they were too sick to seek care elsewhere, and 65% cited barriers to receiving care elsewhere. Of 3045 (49%) patients who were assessed by triage nurses as having a non-urgent condition, defined as a problem or

condition that could wait 12 to 24 hours for treatment, 166 were hospitalized directly from the emergency center, representing 5.5% of all non-urgent visits and 13% of all admissions in the study population. The authors speculate that if these data accurately reflect the national experience, as many as 2 million ambulatory patients classified as having non-urgent conditions would require admission to the hospital each year.

Unfortunately, the investigators did not report information on the indications for, or the appropriateness of, admission for patients with non-urgent conditions. Likewise, the study failed to collect data on interventions (e.g., surgical procedures, intensive care monitoring) required during admission or outcomes for patients with non-urgent visits who were discharged after receiving emergency treatment. Disconcertingly, there were no significant differences in either the type or frequency of presenting complaints or the reason for seeking emergency care between admitted patients triaged as non-urgent and those who were deemed medically stable enough to be routed from an emergency center to obtain care elsewhere. This emphasizes the difficulties inherent in the ability of the process to accurately assess patients as to their degree of illness.

Other studies examining the accuracy of the triage process have reported inconsistent results. In a study comparing triage assessments of more than 5000 patients by nurses, physicians, and a computer program, Brillman, et al.<sup>14</sup> identified substantial variability and insufficient sensitivity and specificity among decisions of the three groups in attempting to predict the need for hospitalization. In contrast, Derlet, et al.<sup>15</sup> reported that of 31,000 ambulatory patients who were triaged as having non-urgent conditions, were not treated, and were referred elsewhere for care, less than 1% experienced an adverse outcome. The authors estimated that 39% of patients triaged away received care elsewhere on the same day, 35% received care within three days, and 26% decided not to seek care.

However, Lowe, et al.<sup>16</sup> were unable to validate a set of published triage guidelines for identifying patients who could be referred to other settings. The authors suggested that these triage guidelines were not sufficiently sensitive to identify patients who need ED care and warned that their broad application may jeopardize the health of some patients. Of 106 patients who would have been refused care according to triage criteria, one third had appropriate visits, many required diagnostic or therapeutic intervention, and 4 were hospitalized, suggesting that they needed emergency care. In a study of 216 children who were enrolled in a Medicaid managed care program and for whom authorization for emergency care by telephone triage was denied by the gatekeeping clinician, Gadomsky, et al.<sup>17</sup> reported that no adverse health outcomes occurred because of the delay in care. However, only 123 (57%) of patients denied care were seen by their primary care clinician within 1 week, and children who had been denied authorization for emergency care were subsequently hospitalized at a higher rate than age- and complaint-matched controls selected from those patients who had been treated with non-urgent conditions.

Although clear guidelines for the development of triage procedures are yet to be delineated, the ED remains a major target for cost-cutting efforts by managed care organizations.<sup>20</sup> Over 90 percent of health maintenance organizations use primary care physicians as gatekeepers, whose role is to authorize access to specialty, emergency, and hospital care and to diagnostic tests. Gatekeeping has

come to imply the medically limited and bureaucratic function of opening or closing the gate to high-cost medical services. This simplistic view of gatekeeping is controversial, both because it diminishes the physician's professionalism and implies that the physician is an agent of the third party-payer rather than the patient.

Rather than rely on triage by a health care professional to limit access to the ED, some health care providers encourage patients to limit ED use by imposing economic disincentives. The effect of the co-payment on the use of ED was studied on over thirty thousand patients in northern California.<sup>20</sup> The studied patients were adjusted for age, sex and socio-economic status, and the introduction of the co-payment of \$25 to \$35 for using the ED, resulted in an approximately 15% decrease of the overall ED visits. The decline in ED visits for conditions classified "always an emergency" was insignificant and very small, whereas the number of ED visits in the patient category "sometimes an emergency" and "not an emergency" was most significant and pronounced. In summary, this article showed that among members of a health maintenance organization, the introduction of a small co-payment for the use of ED was associated with a decline of about 15% in the use of the ED, mostly among patients with conditions considered likely not to present as an emergency.

Other data suggest that the marginal cost of non-urgent care in the ED is relatively low.<sup>21</sup> Personally, I do not agree with the findings of this article, because my personal experience from California and Hawaii show me that the non-urgent use of the ED significantly contributes to the cost explosion in health care. Currently, lack of triage of ambulatory patients may be viewed as a contributing factor to these purportedly inappropriate and expensive visits. Alternatively, with proper refinement, the triage process may prove to be pivotal in efforts to find solutions for establishing the optimal site of care and safely reducing costs for treatment of ambulatory patients.

Triage protocols have been used in many EDs where patients are evaluated on a dynamic basis in the sight of view of a trained nurse. Hospitals and emergency care centers should critically analyze and carefully evaluate their triage practices and procedures, with goals of improving the accuracy and efficiency of the process, facilitating patient care and flow through the sometimes overburdened system, decreasing patient waiting time, and enhancing patient satisfaction without a decrement in safety or the delivery of necessary care. Managed care organizations and others who use telephone triage should prospectively standardize and objectively validate preauthorization triage protocols before using them to determine the necessity, appropriateness, or timeliness of care.<sup>22</sup> Physicians and other health care professionals should, as a part of a total approach to health care, inform and educate patients on the cost-effective use of health care resources, balanced with the desires and rights of patients to obtain timely, affordable care for acute medical problems.

A totally new approach of internists working together with ED doctors was recently published.<sup>23</sup> The Harvard Pilgrim Health Care (HPHC) Program is designed to reduce unnecessary admissions and provide better continuity of care for patients. This emergency room in Boston started in 1994, when officials noticed that ED visits were

rising by ten percent a year, despite a non-changing patient population. At that time, officials were also concerned about lack of physician involvement in the ED evaluations, and subsequently HPHC, in cooperation with Brigham and Women's Hospital in Boston, started to have one of the internists, once a month, work an eight hour shift together with the ED doctors. The internist saw every patient who walked into the ED, and assisted the ED physician in evaluation and discharge planning. Working together with the ED physician, the internist might suggest that the patient be seen at an urgent care center or be admitted directly to an extended care facility, without spending the night at the hospital. All patients continue to be seen by the ED physician, who makes the final decision as to whether the patient should be admitted or not. In this study, a closer cooperation of different specialists in the emergency room, as well as a much more centralized database, significantly decreased cost inflation. The physicians were able to reduce the number of admissions by 20 to 25 patients a month, which translated into a monthly savings of approximately \$40,000.

Ultimately, successful development of innovative approaches and implementation of effective interventions for the long-standing practice of patient care may prove useful in solving some of the existing problems and developing workable solutions for the complex issues related to the management of ambulatory patients.

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