

## **What is the role of primary care in emergency department overcrowding?**

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## **What is the role of primary care in emergency department overcrowding?**

The use of the emergency department (ED) for nonurgent care and primary care treatable conditions provides an important lens through which to examine needed changes in the health care delivery system. Despite the many advantages of primary health care, the substitution of emergency department services for primary care has been well documented, particularly for nonurgent conditions. At the same time, issues related to ED overcrowding have been receiving heightened interest from the public, the media, and the U.S. Congress due to concerns that emergency care is not being delivered in a timely way, potentially producing poor health outcomes. To the extent that nonurgent visits increase ED patient volume and contribute to overcrowding, an understanding of how barriers to and problems with primary care lead patients with nonurgent concerns to the ED is crucial for resolving the problem of overcrowding.

In this paper, we examine the role of primary care in the overcrowding of our nation's EDs, particularly focusing on utilization for nonurgent conditions. We consider the availability and accessibility of primary care services, with an emphasis on vulnerable populations that often utilize ED services as a substitute for primary care services. We then describe a new algorithm that allows us to classify ED visits by urgency and the extent to which conditions are treatable in primary care settings. Using New York City as an example, we provide empirical data that confirm the high frequency of the ED as a site for care that could be provided in less intensive settings. We then examine the reasons why patients are turning to emergency departments for nonurgent care and review interventions that have been attempted to date to reduce ED utilization. Finally, we describe changes to the primary care system which may improve appropriate ED utilization.

### **Understanding the role of primary care in ED utilization**

The essence of primary care includes an ongoing, continuous, comprehensive relationship with a provider who can provide primary access to and help navigate the health care system. Primary care is defined as care “*which provides integrated, accessible health care*

*services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.*”<sup>1</sup> Starfield’s criteria for primary care emphasize seven important features: *continuous, first contact, comprehensive, coordinated, community-oriented, family-centered, and culturally competent.*<sup>2</sup> If we understand how primary care delivery is measuring up to these core constructs, we may be able to better understand the role of primary care accessibility in the utilization of emergency department services.

The concept of a continuous “*sustained partnership with patients*” has been a core feature of primary care. Greater *continuity* has been associated with improved outcomes, including less ED utilization.<sup>3</sup> While patients who discontinue care with their usual provider are more likely to report delays in obtaining care when needed,<sup>4</sup> patients may be willing to trade continuity for easier access. With an acute illness, many patients would prefer to see another provider rather than wait for an appointment with their usual provider.<sup>5</sup> For some, that means turning to an ED rather than another primary care provider.

Though a core feature of primary care is “*addressing a large majority of personal health care needs,*” this is an area in need of significant improvement. In a study by Levinson, patients frequently offered direct or indirect comments about their emotional or social feelings that went undetected by primary care providers.<sup>6</sup> If patients view this lack of perception as their providers being unresponsive to a substantial part of their needs, they may turn elsewhere for care, and this may in part explain the use of non-primary care services for nonurgent conditions. In addition, if patients perceive a need for specialty care, they may feel that a hospital-based provider such as an ED provider can address a broader range of their concerns than an office-based primary care provider.

There are reasonable data to suggest that *first contact* with a primary care provider can reduce subsequent use of specialists and emergency departments. However, longer travel times to primary care offices and the absence of extended office hours may lead to less

first contact through primary care providers, and may make the ED appear to be a more attractive first contact alternative.

The primary care provider is supposed to provide “*accessible health care services.*” However, the primary care providers’ gatekeeper role has led to the view of primary care as a bottleneck to obtaining needed health care services. Prior to the implementation of laws requiring a “prudent layperson” standard for determining the health conditions for which insurers would pay for ED services, managed care patients were often required to get referrals for ED care from their primary care providers. Now that such restrictions have been eased, patients who have difficulty obtaining needed services through their primary care provider may be more inclined to use the ED.

For those individuals who are uninsured, the ED may provide more accessible services than primary care providers. The 1986 Emergency Medical Treatment and Active Labor Act requires that all patients who arrive in the ED be seen by a provider and stabilized or treated, regardless of their ability to pay. For those without a usual primary care provider or who cannot afford their services, the ED provides an attractive option: no one is turned away, no proof of income is required, and often no payment is required at the time services are delivered. In addition, Medicaid patients are more likely to utilize emergency departments in part due to difficulties accessing office-based physicians who are willing to accept Medicaid fee schedules.

A substantial proportion of visits to emergency departments are for nonurgent conditions which could be treated in primary care settings. These types of ED visits likely reflect poor primary care accessibility and many of the limitations of primary care discussed above. While only 6.3 percent of the entire U.S. population utilized the ED for nonurgent conditions in 1987,<sup>7</sup> this usage has been associated with important barriers to accessing primary care. For example, Cunningham et al. found that very young children were more likely to use the emergency department for nonurgent care - possibly related to parents’ inability to reach their usual provider after regular office hours.<sup>7</sup> Patients who utilize EDs

for ambulatory care were more likely to report non-financial barriers to care, such as an inability to access evening services or get time off work, no timely clinic appointments, and failed attempts to get care elsewhere.<sup>8</sup> One Canadian study reported that, among a largely insured cohort, 55 percent of patients utilized the emergency department for reasons of convenience.<sup>9</sup> This and several other studies suggest that the more traditional office hours of primary care physicians are leading patients to seek care when it is convenient for them.

### **Profiling emergency department care in New York City**

The use of emergency services for nonurgent conditions is a complex phenomenon, related to difficulty accessing primary care, financial issues, knowledge, and convenience. To better understand this use of EDs, the New York University Center for Health and Public Service Research and the United Hospital Fund of New York have developed an algorithm to profile ED use. The algorithm uses computerized ED records to classify use into four categories (see Figure 1):

- Non-emergent
- Emergent - Primary care treatable
- Emergent - Emergency department care required - Preventable/avoidable
- Emergent - Emergency department care required - Not preventable/avoidable

The algorithm was developed by a panel of ED physicians and is based on information abstracted from a sample of full ED records (3,500 cases in 1994 and 2,200 cases in 1998) that captured information on the patient's initial complaint, vital signs, age, medical history, and resources used.

Patients in the sample were classified as "Non-emergent" if the initial complaint and vital signs indicated care was not required within 12 hours. Records of "emergent" patients (requiring care within 12 hours) were further examined to assess the resources used in the emergency department. Patients using no resources or resources typically available in a primary care setting were classified as "Emergent - Primary care treatable." Patients with

serious complaints (e.g., chest pain) or having procedures or using resources not available in a primary care setting (e.g. CAT scan, certain lab tests, etc.) were categorized as "Emergent - Emergency department care required." These patients were further classified as to whether the emergent nature of the condition was potentially preventable/avoidable with timely and effective outpatient care. For example, with asthma and diabetes patients, management of the condition on an ambulatory basis can often prevent acute flare-ups requiring urgent medical attention.

This information on each patient in the sample was then linked to the patient's discharge diagnoses (which are available in computerized administrative records), and each discharge diagnosis was assigned a percentage weighting of cases from the sample falling into the four categories. These percentages can be applied by the algorithm to the computerized emergency department records maintained by hospitals to profile utilization.

Computerized ED data was obtained for New York City hospitals for 1994 and 1998, and the application of this algorithm results in several important findings regarding ED usage in New York City:

- There is significant ED use for conditions that are non-emergent or that are emergent but could be treated in a primary care setting. For children age 0-17, 41.6% of ED use was for non-emergent conditions, with another 36.0% for emergent but primary care treatable conditions. Only 22.4% of use required ED services, and almost one-third of this use (7.6% of all use) was potentially preventable/avoidable with effective and timely primary care earlier in the episode of illness (see Figure 2). For adults, similar rates were observed, with 41.7% non-emergent and 32.4% emergent, but primary care treatable (see Figure 3).
- Rates of non-emergent use differed by geographic area - Interestingly, rates of non-emergent ED use for both Medicaid and uninsured patients differed

substantially by geographic area, with high rates clustering in some (but not all) low income areas and in some of the highest immigrant neighborhoods of New York City (see Figures 4 and 5).

- The relative rates of non-emergent and primary care use differed by payer. Rates were highest among Medicaid children and lowest among commercial patients, with selfpay/uninsured patients falling between the two (not shown).
- Relative rates also differed by race/ethnicity and gender. Black and Hispanic/Latino patients had higher relative rates of use for non-emergent or primary care treatable conditions across all payer classes, and males had higher rates than females.
- There were substantial differences in relative rates among hospitals and hospital types. These differences among hospitals and hospital types suggest that more work is required to identify and understand the practices that contribute to these differences, but highlight the potential for improvement, as some facilities seem to have found strategies that work to reduce non-emergent and primary care treatable use of the ED.

Analyses also compared ED visit rates for 1994 and 1998, with a few interesting trends observed:

- For children, the relative rates fell for most categories during the period. This small reduction in relative use of the ED for non-emergent, primary care treatable, and preventable/avoidable conditions may reflect the expansion of primary care resources in New York City during this period that were often targeted at children.
- For non-elderly adults, the findings were mixed. Medicaid relative rates fell, but rates for selfpay were higher for non-emergent care. It is difficult to interpret these differences with only two data points, and further monitoring

will be required to identify significant trends. With the full implementation of Medicaid managed care and the financial impact of the Balanced Budget Act, it is anticipated that New York City's safety net will continue to face pressure and possible cutbacks that will affect this population.

- Changes in non-emergent use differed by geographic area - Not surprisingly, changes in the relative rate of non-emergent use differed by geographic area within the city. Many, but not all, of the biggest increases were in some of New York's low income neighborhoods, as well as in some of the areas that have experienced the largest influx of new immigrants (see Figure 6).

Further analysis of New York City data is being conducted for 1999 and 2000, and analysis of ED data in several other states is expected to be forthcoming in the next 12 months. While these data are not nationally representative, they do provide some insights into areas where changes to the primary care system might have the greatest impact on reducing nonurgent ED use.

### **ED utilization for nonurgent conditions**

In order to decide what interventions are most appropriate for improving access to primary care and encouraging patients with nonurgent conditions to seek services other than ED care, we need to understand the reasons why these conditions bring them to the ED. Typically, studies find that a substantial proportion of patients do not view the condition for which they came to the ED as an urgent or emergent condition. In small studies of urban EDs, investigators report that 82 percent of patients who were triaged as nonurgent view their condition as urgent<sup>10</sup> and that only 58 percent of repeat or frequent ED users thought their problem needed immediate attention.<sup>11</sup> One study of patients in four EDs in New York City found that only 14 percent of patients believed their condition was an emergency.<sup>12</sup> In the *24 Hours in the ED Study*, which spanned 56 hospital EDs and included more than 6000 patients, Young et al. report that 45 percent of ambulatory ED patients thought that their condition was urgent or emergent or that they were too sick

to go elsewhere to receive care.<sup>13</sup>

Despite understanding that their conditions may not be urgent, patients may lack a clear understanding of the types of conditions that warrant ED care. A Canadian study that found that three-quarters of patients reported that their primary care physicians did not educate them about when to see emergency care and half were not informed about the kinds of services that were available in the office.<sup>9</sup>

Many of the reasons patients usually give for coming to the ED with a condition that is non-emergent are either financial or related to access to care. Patients frequently report visiting the ED rather than another site of care due to financial barriers - because they are uninsured or could not afford to go elsewhere.<sup>11,13</sup> Data from the *24 Hours in the ED Study* indicate that 15 percent of patients cite financial barriers as reasons for visiting the ED.<sup>13</sup> The same study shows that fully half of all ambulatory patients report visiting the ED because of nonfinancial barriers, including clinic services not being available at night, not being able to get off work, having nowhere else to go for care, not being able to get a clinic appointment soon enough, or geographic and transportation barriers. A San Francisco-based study finds 45 percent of patients reporting financial and non-financial access barriers,<sup>14</sup> and other studies similarly find patients reporting either the convenience of ED care or that they have nowhere else to go for services as one of the reasons for their visit.<sup>11,15</sup>

Both financial and non-financial access problems are more frequently seen among those without a regular clinician (33 percent reporting financial and 58 percent reporting nonfinancial barriers) than among those with a usual provider (7 percent reporting financial barriers and 45 percent reporting nonfinancial barriers).<sup>13</sup> In addition, the lack of a relationship to a primary care provider has been correlated with ED use for selected nonurgent conditions, regardless of insurance status or health status,<sup>16</sup> and the decision to delay needed ED care is related to access to a regular physician.<sup>17</sup> While a usual source of care significantly reduces the need for emergency department visits, it may not eliminate

nonurgent use.<sup>18</sup> Similarly, individuals who are uninsured are considerably more likely to report access problems (51 percent) than those with Medicaid or private health insurance (16 percent and 11 percent, respectively).<sup>14</sup>

### **Interventions to reduce nonurgent ED utilization**

A number of concerns have been raised about the provision of nonurgent care in EDs, including both costs and quality of care. Care for non-emergent conditions costs substantially more when provided in the emergency department than when provided in an outpatient setting. Particularly in an era of rising health care costs, the comparative fiscal inefficiency of seeing these patients in the emergency department highlights the need to examine mechanisms for improving access to primary care services. However, if one views providing this care in the emergency department as an alternative to keeping multiple primary care clinics open evenings and weekends, financial arguments may not provide the most persuasive reasons for moving nonurgent care out of the emergency department.

There are a number of additional concerns about the appropriateness and quality of care provided for individuals with non-emergent conditions in the ED. Research questions of interest include:

- Given that many of these nonurgent conditions are ideally treated in primary care settings, can the ED support the coordination, comprehensiveness, and continuity of care required to meet the health care needs of its nonurgent patients?
- To what extent do EDs have the resources to provide nonurgent acute care and frequent or repeated care for acute exacerbations of chronic illnesses?
- To what extent does the use of ED services for nonurgent conditions constrain the ability to provide care for emergent conditions?
- What are the financial and non-financial costs and benefits to providing this type of care in the ED as opposed to other settings?

A limited range of interventions for keeping nonurgent patients out of the emergency department has been attempted and evaluated. One increasingly popular option is to establish a “fast track” urgent care center adjacent to the ED, staffed by physicians, physician assistants, or nurse practitioners. This center treats patients with minor illnesses and injuries, diverting them out of the main ED. Patients seen in the fast track have shorter lengths of stay, fewer tests, and lower average charges for services received, and have outcomes and levels of satisfaction equivalent to those seen in the main ED.<sup>19,20,21,22</sup>

While fast track centers may provide primary care services and ease the burden of nonurgent patient flow through the emergency department, they fail to resolve two central issues. First, fast track centers may not offer significantly improved accessibility compared to primary care. While in some cases fast track centers operate primarily at night or on weekends,<sup>19</sup> which may help improve after-hours access, these centers typically operate during limited hours, in some cases for only one eight-hour period per day.<sup>20</sup> Depending on the hours of operation, this may or may not help alleviate the problem of accessing adequate primary care services for nonurgent conditions. Second, establishing an urgent care center immediately adjacent to the ED does not change patients’ incentives for coming to the ED, and the provision of urgent and nonurgent care in an ED setting does not incorporate the need for ongoing, comprehensive primary care and preventive services.

Referring nonurgent ED patients to a primary care provider is another intervention that has been attempted. Grumbach, Keane, and Bindman found that 38 percent of ED patients would be willing to trade an emergency department visit for a visit to a clinic within three days.<sup>14</sup> Patients with less serious conditions were more willing to accept this trade than those who perceived their problem as being more serious. In interventions that have made such referrals, however, comparatively few patients followed through – between 22 and 38 percent of those receiving the intervention obtained primary care services from the referred site.<sup>23,24,25</sup> Other studies have found that while patients may

increase their use of the clinics to which they have been referred, there was no associated reduction in their use of the ED for nonurgent care.<sup>26</sup>

Other studies have suggested that patient education and empowerment could potentially reduce nonurgent visits to the emergency department. Boushy and Dubinsky's finding that the large majority of patients had never been informed by their primary care provider about what types of medical situations require care in the emergency department imply a need for greater patient education.<sup>9</sup> One study which examined the use of a three-month ED-based case management period to eliminate access barriers to obtaining primary care found that patients had 15% fewer nonurgent ED visits than those in a comparison group.<sup>27</sup>

Most of the interventions which have been attempted have been based in the ED, and do not attempt to change the primary care system. One natural experiment in North Carolina, however, examined nonurgent use of emergency departments following the implementation of the state's Medicaid managed care plan (Carolina Access) in the mid-1990s.<sup>28</sup> The plan was designed to improve access to primary care services for children, guaranteeing in-person or telephone access to a primary care provider 24 hours a day. In the Greensboro area, overall use of the emergency department among children enrolled in the Medicaid program decreased 24 percent after the implementation of Carolina Access, and the average monthly rate of nonurgent visits decreased 37 percent. In contrast, utilization by non-Medicaid enrolled children and those with urgent conditions changed little. Other interventions which focus on decreasing financial and access barriers to the receipt of primary care may be more effective than programs that only address the referral of patients to primary care without reducing other barriers.

## **Conclusion**

Primary care needs to be more responsive to patients' stated needs and preferences, which drive nonurgent ED use. While the current state of primary care offers many opportunities for improvement, the basic constructs of primary care remain an important

and necessary part of our health care system. Patients would benefit from an ongoing relationship with a primary care provider who can serve as teacher, advocate, and coordinator of care. Though the provision of urgent and nonurgent care in the ED cannot incorporate all of the desired features of primary care, it is important to acknowledge the aspects of primary care practices that have led patients to vote with their feet. Primary care needs to be more responsive to patients' needs, with greater availability where and when patients need care. Primary care also needs to be more patient-centered, with better care coordination and information provided to patients in ways that they can understand.

Primary care services provided at sites maximally accessible to patients, such as worksite and school-based clinics, offer important insights about access barriers to traditional primary care services. Several innovative studies have demonstrated the role of providers in the worksite to promote health promotion and disease management for chronic illness. Similarly, the ability for children, especially adolescents and chronically-ill children, to access services at school has the potential to significantly improve access to care. In a recent example, a school-based health clinic reduced costs through reducing ED services, while improving the use of preventive services for at-risk children.<sup>29</sup> Other changes to improve the accessibility of primary care, such as open scheduling to allow for same-day appointments, also have the potential to reduce ED use. Addressing financial barriers, educating patients about the types of conditions which need to be seen in the ED and alternative places to obtain needed care, improving geographic availability, and expanding primary care hours to cover nights and weekends may similarly help reduce the use of EDs for nonurgent conditions.

Even if primary care services were more accessible, there are still patients who will choose to utilize the ED for nonurgent care. In particular, uninsured patients may continue to view the ED as the portal to the health care system because it is perceived as a site where care is guaranteed, though often followed by a large bill. Further research is needed to better understand the changes in the health care system, and the primary care

system in particular, that would be required to meet patients' needs and reduce unnecessary utilization of the emergency department for nonurgent care.

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