A Matter of Urgency: Reducing Emergency Department Overuse

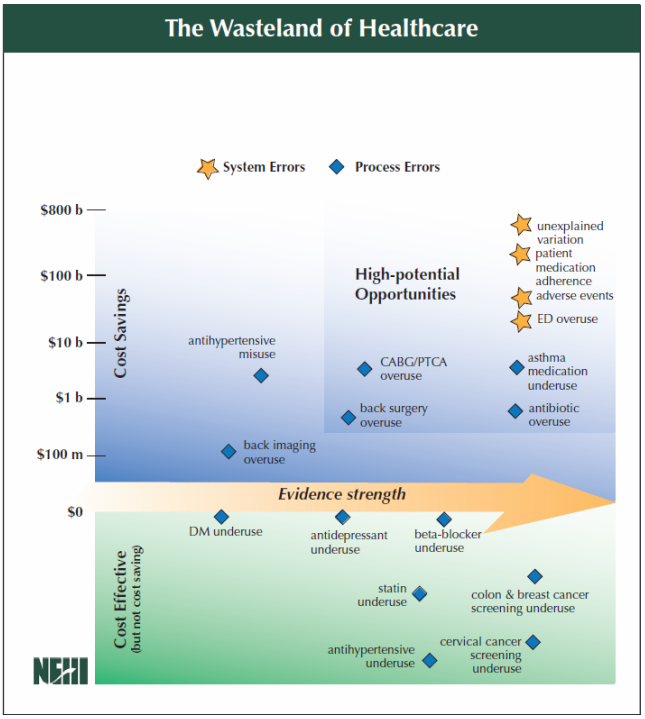
A NEHI Research Brief – March 2010

Research Findings

- The overuse of U.S. emergency departments (EDs) is responsible for $38 billion in wasteful spending each year.
- ED overuse is on the rise across all patient populations, irrespective of age or insurance coverage.
- Drivers of ED overuse include lack of access to timely primary care services, referral to the ED by primary care physicians themselves, and financial and legal obligations by hospitals to treat all patients who arrive in the ED.
- Strategies to curb ED overuse include redesigning primary care to improve access and scheduling; providing alternative sites for non-urgent primary care; improving the case management of chronic disease patients, and using financial incentives and disincentives for visits to the ED.

Background

In 2007, the New England Healthcare Institute (NEHI) published the seminal report, *Waste and Inefficiency in the Health Care System – Clinical Care: A Comprehensive Analysis in Support of System-wide Improvements*. The research found that 30 percent, or nearly $700 billion, of all health care spending is wasteful, meaning it could be eliminated without reducing the quality of patient care. NEHI's research also identified the six major sources of this waste - unexplained variation in clinical care, patient medication adherence, misuse of drugs and treatments, emergency department (ED) overuse, underuse of appropriate medications, and overuse of antibiotics. A visual representation of the findings appears in the "Wasteland of Health Care'' graphic, at left. As shown, ED overuse represents the fourth largest category of waste and is responsible for up to $38 billion in wasteful spending in the



U.S. every year. Given the tremendous opportunity to lower health care costs by addressing this problem, NEHI launched an initiative to examine ED overuse in detail. Through this initiative, NEHI has identified the key factors driving this costly ED overuse, including who overuses the ED, what causes ED overuse and what can be done to reduce it.

The Problem: The Wrong Care in the Wrong Place at the Wrong Time

Emergency departments are the only place in the U.S. health care system where individuals have access to a full range of services at any time regardless of their ability to pay or the severity of their condition. Today, the ED is becoming a primary resource for more and more people as the U.S. primary care system finds itself unable to meet the growing demand for care. In the ten years ending in 2005, the annual number of emergency department visits in the United States increased nearly 20%, from 96.5 million to 115.3 million.[1]

A large portion of ED visits fall into the category of avoidable use resulting from patients seeking non-urgent care or ED care for conditions that could have been treated and/or prevented by prior primary care. Use of the ED for non-urgent (or non-emergency) visits grew from 9.7 percent of all ED visits in 1997 to over 12 percent in 2006 (see Figure 1). Estimates of total avoidable ED use range as high as 56 percent of all visits. [2]

Avoidable ED use is problematic from both a cost and quality standpoint. The high costs impact both patients and payers and create a drain on resources. Avoidable ED use diminishes the quality of ED care; crowding, long waits and added stress on staff take away from patients in need of true emergency care. More fundamentally, experts believe that for non-emergency patients the ED simply cannot provide the continuity of care that the primary care system offers.

At the onset of our research, we chose to focus on *non-urgent* visits to the emergency department. However, we found that the conditions driving emergency department overuse extend far beyond minor acute illnesses. Emergency departments are overused for many different conditions and health needs, all of which represent varying levels of severity, including acute episodes of chronic illnesses, mental health needs, substance abuse issues, the need for prescription refills and well-child visits. Thus, we chose to focus on *avoidable* emergency department visits, namely non-urgent visits as well as all avoidable visits that could be treated and/or prevented with timely primary care.

The Findings

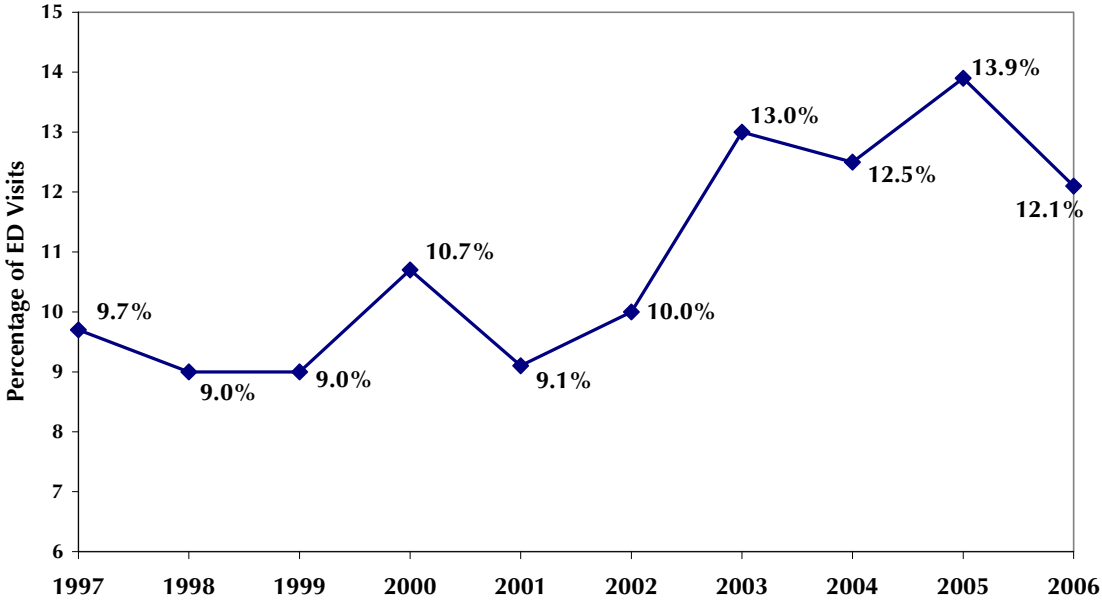
Who Overuses the ED?

There is a widespread belief that emergency department overuse is solely the result of the poor and the uninsured flooding EDs for non-urgent health needs. NEHI's research found that this is far from the truth; these populations are only a small subset of the overall

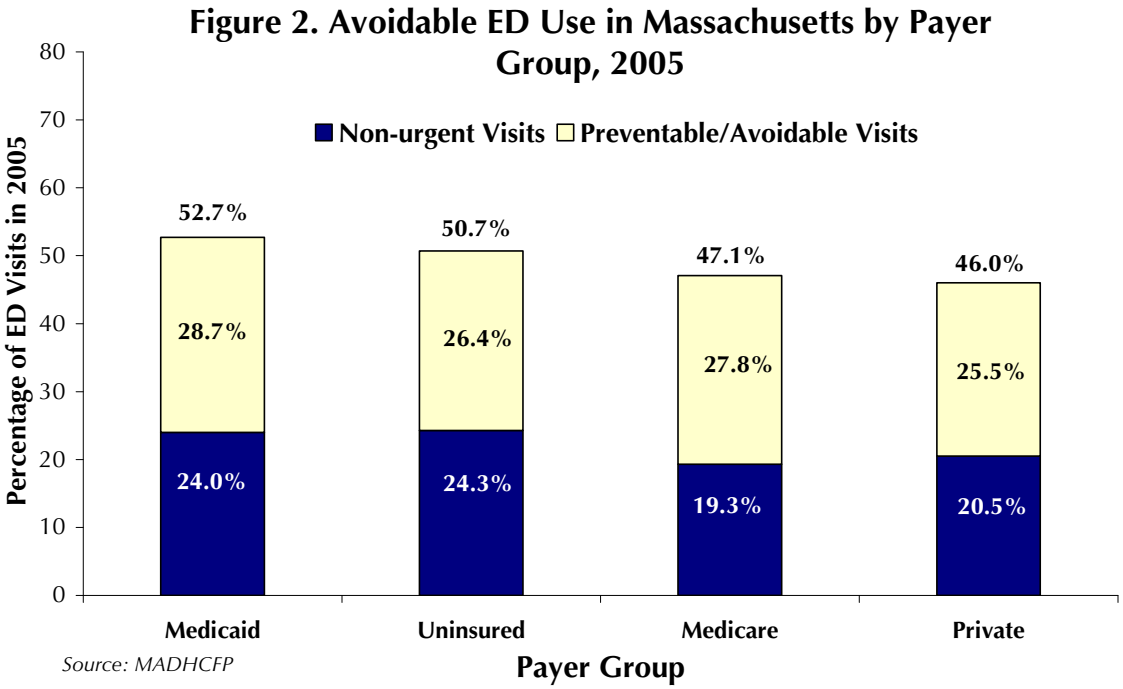
population using EDs inappropriately. Indeed, NEHI research shows that emergency department overuse is high across all payer groups. A large, national survey of emergency department patients found that 56 percent of all visits were avoidable.[3] Similar rates were found in Massachusetts, where a recent study of ED use found that within all payer groups, the percentage of total ED visits classified as avoidable was nearly 50 percent (Figure 2).

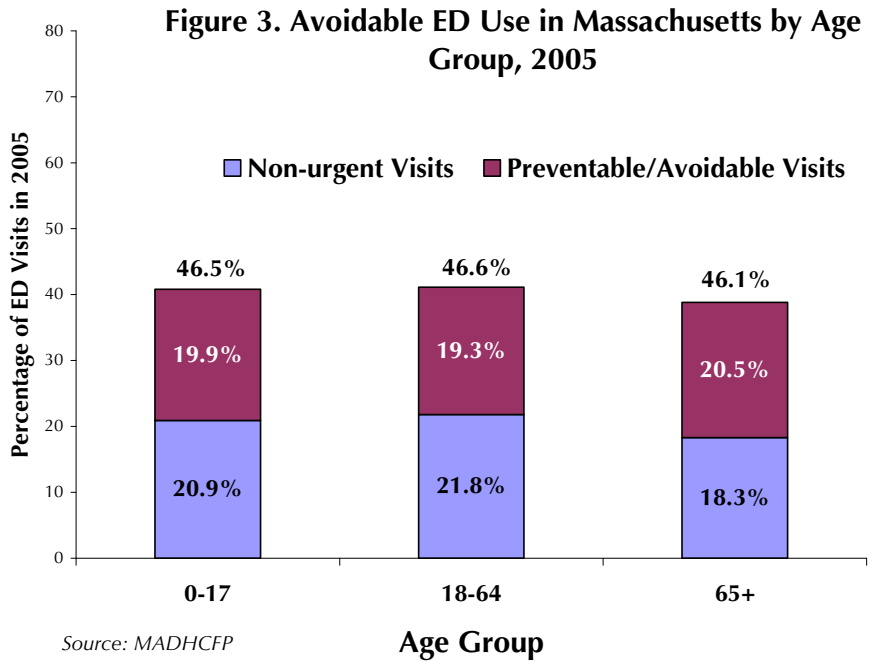
Additionally, the increasing rates of ED utilization have been shown to be the result of disproportionate increases in visits by the insured.[4] Likewise, individuals with a usual source of care other than the ED are actually more likely to have one or more ED visits per year than patients without a usual source of care.[5] The Massachusetts study also found that avoidable ED use was nearly identical across age groups, even for patients 65 and older (Figure 3). As such, ED overuse spans the entire population, irrespective of insurance status or age.

Figure 1. Non-urgent Visits Nationwide, 1997-2006



Source: CDC, National Hospital Ambulatory Care Survey





With the passing of Massachusetts Chapter 58, approximately 400,000 people became insured between 2006 and 2008.[6] Despite the belief that ED use would increase, the reports are mixed. Some cite increases or no significant change in ED utilization, while others point to decreases for specific health ailments. [7] [8] These contradictory findings can only be clarified once new data regarding emergency department use becomes available.[9]

What are the Root Causes of the Problem?

In order to understand the root causes of ED overuse, we examined the reasons why patients seek care in the ED as compared to other care settings. We identified five causes of ED overuse:

- **Patients have limited access to timely primary care services.**
- **The ED provides convenient after-hours and weekend care.**
- **The ED offers patients immediate reassurance about their medical conditions.**
- **Primary care providers refer patients to the ED.**
- **Hospitals have financial and legal obligations to treat ED patients.**

The first four root causes all relate to shortcomings in our primary care system. NEHI recently launched an initiative to examine the crisis in primary care, including its drivers and consequences. The rise in patient demand, fueled by an aging population and the growing burden of chronic disease, is outpacing the supply of primary care providers, which is compromising the system's ability to deliver quality primary care services to all patients.[10] Thus, the ED has increasingly filled that gap. For example, the inability of primary care practices to provide patients with timely appointments and after-hours and weekend care has driven patients to the ED for conditions that arise or worsen during those hours. Likewise, when patients in need of reassurance are unable to make an appointment or even speak with their primary care provider, they seek care at the ED. One study found that among pediatric patients in the emergency department, 34 percent of the children did not receive any direct treatment during the ED visit; only advice and reassurance was delivered to the parents.[11] Finally, patients also seek care in the ED at the explicit instruction of their primary care provider, their staff or answering service. As NEHI's research on the primary care crisis has found, providers are increasingly overextended and are often unable to provide patients with same-day or even same-*month* appointments.

The fifth root cause relates to the financial incentives and the legal obligations that hospitals face in providing ED care, both of which limit the role that hospitals can play in reducing ED overuse:

- Financial Incentives – The emergency department is a major source of revenue for hospitals. A study examining the impact of ED admissions on hospital revenue found that 34 percent of total hospital gross revenue for inpatient services came from patients admitted through the Emergency Department.[12] The ED also generates revenue for the hospital through ancillary testing. In 2006, imaging was ordered at 44.2 percent of ED visits and blood tests were ordered at 38.8 percent of ED visits.[13] Thus, redirecting emergency department visits to other sources of care, regardless of the severity of the visit, does not align with a hospital's financial incentives.

- Legal Obligation – The Emergency Medical Treatment and Active Labor Act (EMTALA) requires that hospitals provide care to all patients needing emergency treatment.[14] EMTALA requires hospitals to provide a medical screening examination to determine whether or not an emergency medical condition exists, a provision that may legally limit the ability of emergency departments to redirect patients who have already arrived at the ED.

What are the Consequences of ED Overuse?

Excess Costs

Given cost differences and the high number of avoidable visits, NEHI estimates ED overuse costs approximately $38 billion annually (see Figure 4 below):

Figure 4. Calculation of ED Overuse Costs

Average Cost of ED Visit in 2007 [15]	$767
Average Cost of Office-Based Visit in 2007 [16]	$187

Cost Difference in 2007= **$580**

Cost Difference in 2007 X (Total # of ED Visits in 2007[17] X Percentage of Avoidable ED Visits[18]) = National ED Overuse Costs

$580 X (116.8 million visits X 56% avoidable ED Visits) = **$38 billion**

Although there is no consensus, experts estimate that the cost of an ED visit for a non-urgent condition is two to five times greater than the cost of receiving care in a primary care setting for the same condition. One study demonstrated that treatment for an acute upper respiratory infection in the emergency department costs more than double that at a family practitioner's office, $221 versus $106.[19]

This dire situation is exemplified by an analysis by the Massachusetts Department of Health Care Finance and Policy, which found that the annual cost of ED overuse in 2005 was approximately $1 billion in Massachusetts alone, accounting for 43.3 percent of all outpatient ED charges.[20]

Fragmented Care

Traditional emergency departments are not optimal settings for the delivery of non-urgent care. The episodic nature of ED care lacks the benefits associated with continuity of care delivered by a primary care provider – particularly for the nearly half of Americans suffering from at least one chronic condition – including enhanced clinical diagnostic accuracy and treatment, disease prevention and patient adherence to treatment regimens.[21,22]

A recent study found that most patients do not fully understand their ED care or their discharge instructions.[23] Likewise, the health care system and health information technology infrastructure are poorly equipped to share patient visit information efficiently or quickly across care settings. Thus, care in the ED is rarely coordinated with care that occurs elsewhere in the system, including in the primary care provider's office.

The Solutions: The Right Care in the Right Place at the Right Time

As we have described, emergency department overuse is a widespread problem that spans all patient populations. NEHI has identified 15 sets of strategies, some proven and some promising, to reduce avoidable emergency department visits.

Redesign Primary Care Services

Telephone Access to After-Hours Consultation

Success Story: Neighborhood Health Plan

Neighborhood Health Plan (NHP) is a Managed Care Organization that serves Medicaid members in Massachusetts. NHP has employed a range of techniques to improve member access to primary care services and reduce emergency department use. As a result, NHP's ED visits for its Medicaid population have remained at around 570 per 1,000, tracking much lower than the nationwide average of 890 visits per 1,000. In addition, NHP has not seen a significant change in the rate that members are using the ED in the past five years – contrary to the average national increase in usage.

NHP's approach is two-fold. First, it seeks opportunities to engage its members and educate them on alternative care options. When a member visits the ED for a non-urgent issue, they subsequently receive a memo from NHP with information on other care sources available to all NHP members including a website, books and access to a 24/7 triage line. NHP also encourages its members to seek care in primary care settings.

Second, NHP relies on health information technology (HIT) to monitor ED use among its members. It monitors differences in care among providers and posts reports online that can be downloaded and analyzed by physician practices. The reports measure each center by the percentage of its patients who visited the ED during the quarter when the center was open and provide detailed patient-level data on the number and type of yearly ED visits. NHP also sends letters to primary care physicians advising them on the patients who have visited the ED more than 5 times in the past year and examines variations in clinical care across practices, looking at where performance would be if all providers met benchmarks in care.
Finally, NHP has recently developed a clinical team that reviews comprehensive profiles of the top ED users each quarter in order to identify case management needs and other opportunities for patient engagement.

Providing patients with access to after-hours physician or nurse telephone consultation has been proven to reduce avoidable ED use. We found that many patients seek care in the ED at the instruction of their primary care providers' answering service. If offered access to a 24-hour telephone consultation instead, patients would then have access to primary care services in the form of reassurance and/or consultation. One program found that by following the implementation of a call system, it reduced "inappropriate" visits from 41 percent to 8 percent.[24] However, whether a primary care office or health plan is able to offer a hotline depends on their resources and on the availability of payment or reimbursement to support the additional cost of the service.

Extended Practice Hours

Patients who receive care at primary care practices that offer evening and weekend hours use the emergency department less than patients who do not have access to extended hours. A recent pilot project found that expanding night and weekend hours at community health centers reduced emergency department visits by 8 percent over an 18-month period.[25]

Open Access Scheduling

Open access scheduling is an approach to appointment scheduling in which practices offer same-day services to their patients. The exact approach varies from assigning one provider to handle acute-care appointments to only reserving certain hours for acute-care appointments. The result is increased patient access, particularly for acute care.

Group Visits or Shared Medical Appointments

In a shared medical appointment, also known as a group visit, multiple patients are seen in a group for routine or follow-up care. These visits provide a secure but interactive setting in which patients have improved or more frequent access to their physician(s), the benefit of counseling with additional members of a health care team, and can share experiences and advice with one another. A two-year randomized study found that chronically ill older adults attending monthly group visits used the emergency department 17 percent less than patients not enrolled in the program.[26] However, shared medical appointments may only be appropriate for patients with certain conditions, especially chronic illnesses.

Facilitate Access to Appropriate Services

Outreach to Primary Care Providers

Some emergency departments have actively worked to reach out to primary care providers. For example, NEHI identified a promising strategy that includes hiring a "primary care coordinator" to work in the ED to assist patients with identifying their

primary care provider. Likewise, some emergency departments and/or health plans send letters to the primary care providers of emergency department users to let them know that their patient recently sought care in the ED. Both of these strategies require motivation and resources on the part of the emergency department. Likewise, they also depend on the commitment and capacity of the primary care provider.

Connecting Vulnerable Patients to Appropriate Services

Emergency department users, particularly frequent users, often seek care at the ED as a result of mental health needs or substance abuse problems. A study by the Kaiser Family Foundation found that 18% of frequent ED users (defined as a patient who used the ED four or more times in the two year study period) had a mental health condition compared to only 6% of the total study population.[27] As some EDs see a significant number of patients with substance abuse and mental health needs, linking patients with appropriate support services may reduce ED visits. One study found that emergency department use among injecting-drug users declined by 20 percent following the implementation of a mobile health clinic to serve that population.[28]

Similarly, some EDs also care for homeless individuals who are unable to obtain care elsewhere. A housing and case management program for homeless adults in Chicago found that the program reduced emergency department visits by 24 percent.[29] However, both of these strategies require additional resources and may not be applicable to all patient populations.

Provide Alternative Sites of Primary Care for Non-Urgent Conditions

Urgent Care Services

- **Emergency department "fast tracks"** allow hospitals to more appropriately triage and treat patients without life-threatening conditions. While not a way to actually reduce these non-urgent visits, establishing a "fast-track" process for patients who can be treated relatively quickly may reduce wait times and improve the overall flow of patients through the emergency department.[30]

- **Hospital-run urgent care clinics**, whether located in the same facility as the emergency department or elsewhere, provide patients with an alternative to the emergency department. One study found that among patients who had previously used the ED for non-urgent reasons, using an urgent care clinic resulted in a 48 percent decrease in their subsequent emergency department use, while subsequent urgent care clinic visits increased 49 percent.[31] As described earlier, the revenue that hospitals generate from emergency department visits may dissuade them from building urgent care clinics.

- **Retail clinics** are similar to hospital-run urgent care clinics, except they do not operate under a hospital and often are run within a drug or department store. Most retail clinics have a limited number of services that they provide, and a major

concern is that these retail clinics will fragment care further. However, according to recent studies, approximately 90% of retail clinic users report high levels of satisfaction while up to 98% utilize the clinics for appropriate and treatable ailments.[32] [33] Moreover, co-payments by both insured and uninsured patients to retail clinics were lower than payments for ED visits. Acknowledging the cost saving benefits, some hospitals have invested in retails clinics or in operating a modular clinic adjacent to their emergency rooms. [34]

Worksite Clinics

Worksite clinics are another alternative to the emergency department. These on-site clinics provide employees with routine, preventive and acute care at a convenient location and time. A recent national survey found that in 2008, nearly 30 percent of large employers had an employee health care center on-site or were scheduled to open such a center next year.[35] One large employer, ABX Air, found that after constructing an on-site clinic, employees used the emergency department less, saving the company an estimated $546,000 in additional health care coverage costs.[36] The primary barrier to widespread adoption of this solution is the cost of constructing an on-site clinic. Also, employers must have a large enough workforce for an on-site clinic to be cost-effective.

Telemedicine

Telemedicine encounters also provide patients with access to immediate primary care consultations, proven to reduce emergency department overuse. A recent analysis found that nearly 28 percent of all visits to a pediatric emergency department could have been handled with telemedicine.[37]

Telemedicine encounters can take several forms. Email encounters between providers and patients represent a simple form of telemedicine that allows patients to receive answers to their questions and concerns. A more complex form of telemedicine is the Web-based eVisit. These eVisits enable patients to log online from a computer at any time and select from a panel of available physicians. Likewise, installing a telemedicine station at different sites – schools, nursing homes and community health centers – would provide patients with immediate care.

The adoption of telemedicine technologies has been slow as the technologies are relatively new. Barriers to implementing telemedicine include financial issues such as lack of coverage and reimbursement for the technologies, limited uniform information technology infrastructure, cultural resistance, and legal and licensure barriers.

Improve Chronic Disease Care and Management

The use of case management, collaboratively engaging multiple providers to assess and develop a care plan, has shown to be an effective strategy in the treatment of frequent emergency department users, particularly chronically ill patients. One study found that

the average number of yearly, per patient emergency department visits dropped from 26.5 to 6.5 following implementation of a case management program. [38]

Making follow-up calls to patients is another, similar management strategy that shows promise in preventing avoidable ED visits. These follow-up calls may occur after a doctor's visit at which a chronic condition was discussed or shortly after a patient has been discharged from the hospital. The call helps to identify if a patient is struggling with managing his or her condition and is at risk for making an ED visit. A study by Kaiser Permanente Colorado demonstrates these positive effects: recently discharged ED patients participating in a tele-health based transitional program were 29% less likely to be readmitted to the ED. [39]

Provide Patient Education

Providing patients with educational materials and empowering them to manage their own conditions, where appropriate, is another way to reduce ED visits. For instance, providing new mothers with health information on caring for their infants may prevent mothers from seeking non-urgent care or reassurance regarding their infant's health status in the emergency department. Similarly, providing patients with access to online health information services such as Healthwise delivers relevant health information to patients on demand. Patients who are able to access such information may find reassurance and answers to their questions, which will then preclude the necessity of an ED visit.

Offer Patients Financial Incentives

Using financial incentives and disincentives is another way to potentially reduce ED overuse.

Increased Co-Payments for Non-urgent Use

Research has shown that increasing co-payments for visits classified as non-urgent will reduce the use of the ED for such visits. For example, one study found that among commercially insured subjects, ED visits decreased 12 percent following the enactment of a $20-$35 co-payment for emergency services, and decreased by 23 percent with a $50-$100 co-payment.[40] The use of increased co-payments for non-urgent visits has not been widely adopted due to the difficulty in determining exactly which visits should be deemed non-urgent. There is also some concern among providers that such financial incentives may deter patients from seeking needed care.

Healthy Rewards Accounts

Another recommended strategy is the use of "Healthy Rewards Accounts," in which points are awarded and deducted from a patient's account. The accumulation of points would translate into reductions in co-payments or even cash back. While the details of implementation may vary, patients may receive points for not making a non-urgent visit

within a given time period or have points deducted for such a visit. As with increased co-payments, some experts are concerned that Healthy Rewards Accounts may deter patients from seeking appropriate care. Data are not yet available on the impact of this type of incentive on ED utilization.

Collect Improved Data on ED Use

Some experts mentioned that improving the collection and use of data on emergency department utilization may be useful. While improving data on ED use alone will not reduce overuse, it will help hospitals and providers to intervene when appropriate.

ED Census Reports

Regular census reports on emergency department use could help emergency departments track utilization over time and identify frequent users. This strategy requires significant data collection and data analysis, as well as follow-up activities. Many hospitals and providers may not have the resources to undertake these activities.

Predictive Modeling

Likewise, an emerging method is the use of predictive modeling. This approach uses data on both previous ED use and other points of contact across the health care system to identify patients who are likely to make future ED visits. This strategy would be particularly useful for older adults.

NEHI Recommendations

The proven and promising strategies we identified to curb ED overuse include redesigning primary care to improve access and scheduling, providing alternate sites for non-urgent primary care, improving the case management of chronic disease patients, and using financial incentives and disincentives for visits to the ED. While there is significant variation in these solutions, NEHI recommends several key actions that decision makers can take to reduce ED overuse.

- **Establish collaborative relationships among EDs, primary care providers and community services.** Many of the strategies we identified require significant and frequent interaction between hospital emergency departments and other providers throughout the community. Strategies will be most successful if a collaborative, rather than competitive, relationship is fostered.

- **Understand the patient population.** Some of the strategies we identified will be effective for all patient populations, while others are most applicable for specific segments of the patient population. It is important that those implementing these strategies truly understand their patient populations, what drives their emergency

department use, and which strategies will have the greatest impact on decreasing their future emergency department use for non-urgent care.

- **Reform payment for primary care services.** The current primary care reimbursement system does not offer providers incentives to invest in strategies to reduce ED overuse. Reformed payment systems, such as global service payments, would give providers the resources to offer additional services to their patients such as extended hours and telephone and email correspondence. Also, under a pay-for-performance system, non-urgent and avoidable ED use could be used as a metric to measure physician performance, with rewards for physicians who reduce ED overuse by their patients.

- **Invest in health information technology.** These technologies, particularly electronic medical records, are essential to system-wide care coordination, as well as to enabling reforms to primary care service delivery. However, acquiring and implementing these technologies requires substantial investment, perhaps necessitating financial incentives for providers to speed their adoption. Current efforts to build health information technology (HIT) infrastructure, including the significant federal investment made through the recent stimulus legislation, represent an important opportunity to strengthen and promote HIT.

- **Increase the primary care workforce.** While simply increasing the number of primary care physicians (PCPs) will not fix the problems in primary care, addressing the growing shortage of PCPs is nonetheless important. Encouraging medical students to pursue careers in primary care through tuition assistance and loan forgiveness may help to ease the shortage, thereby improving access to primary care and reducing the demand for non-urgent use of the ED.

- **Redesigning Primary Care Services.** One promising new model is the development of physician-led primary care teams consisting of nurse practitioners, physician assistants, registered nurses, medical assistants and receptionists, with the option to include social workers, nutritionists and pharmacists. Key to its success is educating members with a team-based curriculum designed to encourage a collaborative approach to care. Benefits range from improved clinical and financial skills to reduced clinician workload.

Conclusion

The overuse of the ED for non-urgent or avoidable conditions compromises both the quality and affordability of health care, costing the U.S. health care system an estimated $38 billion each year. By taking steps to increase the primary care workforce, reform primary care payment, invest in health information technology and establish collaborative relationships between providers and emergency department staffs, policymakers can help eliminate this wasteful, costly and unnecessary problem.

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