

# Overburdened Emergency Departments

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Poverty 423

Jesus Vivas, a native of Mexico found a job in Texas in 1994 to paint houses for \$55 per day. He fell off a ladder at work, and even though he was in much pain and his arm was swollen, his boss refused to send him home to avoid having to pay his medical bills. When his family took him to the emergency room, the doctor simply put Jesus in a splint and gave him some pain medication, completely neglecting to perform a thorough exam or an x-ray. The nurse in the crowded emergency room referred Jesus to a physician's office that refused to see him because he had no insurance. Three weeks later and still in pain, Jesus tried a public clinic. The doctor at the clinic found a fracture in his wrist that the emergency room doctor had completely missed (Quadagno 4).

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Sheila Wessenberg worked a few hours a week as a payroll clerk while her husband was in and out of work. She had to park her van outside her office window and leave her autistic son, Alex (at that time, age four), to watch a video because she couldn't afford child care. She had neither the time nor the money to get regular health screenings, and at age 42 she was diagnosed with Stage III breast cancer. After an initial mastectomy, she went seven months without follow up treatment. The sicker Sheila got, the less her husband could work, and the family was caught in "a death spiral, in which uninsured people who can't afford to pay out of pocket for services are deprived of adequate care while their conditions are treatable, and then their families are brought down with them when they have to scramble to make ends meet" (Winoker and Kashi 44 ). Over time, her cancer metastasized to the bone, brain, neck, and liver, and one oncologist dropped her because she could not pay for care. In the last two years of her life Sheila was forced to receive much of her care in the emergency department because it was the only place she could

not be denied care. Hence, her treatments were given in the least cost-effective setting. Her last round of chemotherapy was delivered after an oncologist advised her to go to the emergency department. He told her to complain of abdominal pain and shortness of breath because only then would she be admitted. On her last visit to the emergency department, she died after spending four hours there (Winoker and Kashi 45).

The uninsured, such as Jesus and Sheila, are often denied care that is available to people with insurance. Many uninsured people do not receive important preventative health services such as cholesterol blood tests or screening for potentially fatal diseases including heart disease, diabetes, and cancer. They are denied these preventative health services due to a lack of regular primary care. As a result, their health problems are diagnosed at a later stage, which translates to higher mortality rates. Furthermore, the little care they do receive is in an Emergency Department where there is no primary care and no follow-up care (Quadagno 4). Emergency Departments are now overcrowded with patients who cannot find care anywhere else.

## **Scope of the Problem**

*“when health care sneezes, the ED gets pneumonia”* (Velianoff 62)

Key characteristics of an overcrowded Emergency Department (ED) include the fact that patients spend more time in the waiting room than in the treatment areas, and a high percentage of patients leave before receiving medical attention because the wait is so long. Often paramedic ambulances are diverted to other hospitals because the emergency room cannot accept anymore patients; overall, doctors, nurses, and their patients are dissatisfied (Pate and Pete xiii). There are a variety of causes of overcrowding including increased complexity and acuity of patient cases, managed care problems, and lack of beds for patients admitted into the hospital (Derlet and Richards 64-65). There are also problems of delays in services provided by other departments

such as radiology, a shortage of nursing and other staff, and increased medical record documentation requirements (Derlet and Richards 65-66). Sometimes problems with language and cultural barriers cause delays as well (Derlet and Richards 66). However, the overall problem is an increase in patient volume as a result of decreased access to office and clinic physicians and the growing number of uninsured patients (Derlet and Richards 64). There is also difficulty in arranging follow-up care with uninsured patients. Patients who have definite clinic follow-up can be more quickly discharged, but if studies are not performed in the Emergency Department, they will never get done for the uninsured patient (Derlet and Richards 66).

When denied access to care, the uninsured can turn to the Emergency Department because of the federal law entitled the Emergency Medical Treatment and Active Labor Act of 1986 (EMTALA). The Emergency Department has developed a new role because of EMTALA in that it is the only universal health care accessible to the general public in the United States. The Centers for Disease Control and Prevention cited a 14% increase in Emergency Department visits over the past decade (Velianoff 59). In 2003, about 114 million patients visited the Emergency Department. More importantly, one-third of those Emergency Department visits are classified as non-urgent or semi-urgent, suggesting that the care could be provided in other more appropriate settings (Cunningham 324).

As overcrowding continues and long waits persist, the quality of patient care deteriorates. The patient's safety is jeopardized. For example, a patient with abdominal pain entered an Emergency Department with ten patients already waiting for a bed. Although nurses triaged him as "urgent," the physician could not fully examine the patient until two hours had passed. After a forty-five minute exam, the doctor found that the patient actually was suffering from a much more serious problem than a gastrointestinal problem: a dissecting aortic aneurysm (Pate and

Pete xiv). In another case, a patient sat in the hallway for nearly eight hours with an enlarging subdural hematoma, a serious brain injury, because the staff was too busy to evaluate him. In another hospital, the nursing staff was overwhelmed and failed to perform the simple task of taking a patient's temperature, and the patient's hypothermic state was overlooked until much later (Derlet and Richards 66). Likewise, a man was picked up by paramedics fifteen minutes after reporting chest pain but could not be transported to an Emergency Department for over an hour because there were too many patients in the Emergency Department (Pate and Pete xv). The incidence of ambulance diversion has increased especially in urban areas. Ideally, an ambulance would deliver a patient to the closest hospital. However, hospital administrators, when faced with serious overcrowding and lack of resources, alert EMS providers of their status using an EMS system, a web-based program that provides real-time information on patient capacity. Ambulances are then sent to a different hospital that may accommodate the patient. Diversions cause "increased transportation times, risk of traffic accidents en route and potential for poor clinical outcome" (Derlet and Richards 66).

The U.S. Court of Appeals for the Ninth Circuit decided in the case *Arrington v. Wong*, 2001, that the Emergency Medical Treatment and Active Labor Act obligates hospitals to give a medical screening once an ambulance contacts the hospital by radio or telephone and informs the hospital that the ambulance is en route with a patient unless the hospital is on diversionary status (Hudson 10). More specifically, "diversion of ambulances is only permitted following a community-wide plan to assure that decisions on acceptance of ambulances is based on true capacity and capabilities rather than selective patient practices" (Executive Summary: Vers. 3.0). Ambulances are required to follow community wide Emergency Medical Services plans and protocols developed by the system medical director (Executive Summary: Vers. 3.0).

Emergency Department overcrowding is plaguing the nation as a whole, largely a result of the demand created by lack of options for the poor and uninsured. In turn, beds are full and the hospitals cannot accommodate even true emergencies. Some supply issues, including shortage of staff and lack of available beds, are only exacerbated by the increased numbers of patients who seek health care in the Emergency Department (Velianoff 59). The problem at root: demand of services, has been popping up in the news across the nation. A newspaper in Fayetteville, North Carolina outlined a Monday afternoon with forty-nine patients in the emergency department including five patients who were admitted but had no beds. As more and more were admitted and beds were still not open, stretchers began to line the hallways with patients waiting longer than twenty-four hours for an inpatient bed. In San Francisco, patients were being held in ambulances because there were no beds. Similarly, ambulances in Texas drove around the city trying to find an open emergency department. Palm Beach County in Florida has been struggling with diversion as well. One hospital in the area was on diversion twenty-five times during a recent winter season. In Massachusetts, the scenario is not much different. On average, two emergency departments were on diversion every day in 2000. One hospital was closed forty-five hours each week, and overall, hospitals were closed a total of 1,064 hours. Thus, during May through August of 2000, there was only three days when a Massachusetts hospital was not on diversion. Furthermore, in one hospital the number of patients waiting for an inpatient bed increased from 3 to 803 over the last decade (Velianoff 61). Evidently, the hospitals cannot keep up with the demand for services.

### **Who is Utilizing the Emergency Department**

Individuals with lower income rely frequently on clinics and especially Emergency Departments as their regular source of care (Shi and Stevens 107). Perhaps due to lack of

choices, each racial or ethnic group reports different types of sources of regular care, but many report going to an emergency room as their primary source of care (see Figure 1) (Shi and Stevens 89).

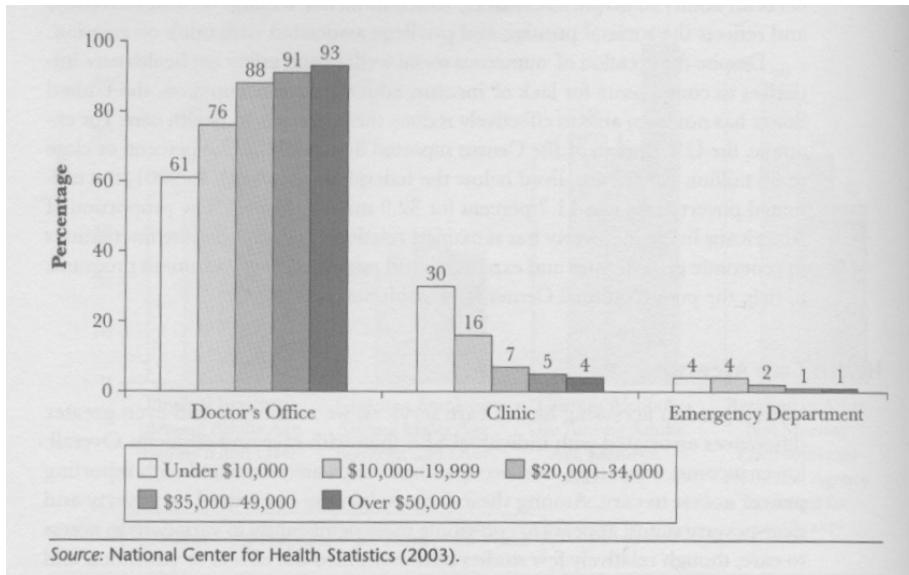


Figure 1. Type of Regular Source of Care by Income, 2001 (Shi and Stevens 108).

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Figure 1 displays the types of regular sources of care reported by adults based on their income level. For this analysis, income levels were grouped in sets of \$10,000 to \$15,000, beginning with people reporting less than \$10,000. The figure shows that a higher income more often correlates to visiting a physician's office as the primary source of care. Individuals earning more than \$50,000 per year were 33% more likely to visit a physician's office as their primary source of care than individuals earning less than \$10,000 per year. Furthermore, individuals of lower income are four times as likely to use the Emergency Department as their regular source of care when compared to higher income groups (Shi and Stevens 107).

It is not always easy to identify whether a visit is due to a true emergency or for ambulatory care services, but some patterns of Emergency Department use have been outlined

relating to race/ethnicity, insurance coverage, and poverty status (see Figure 2) (Shi and Stevens 137).

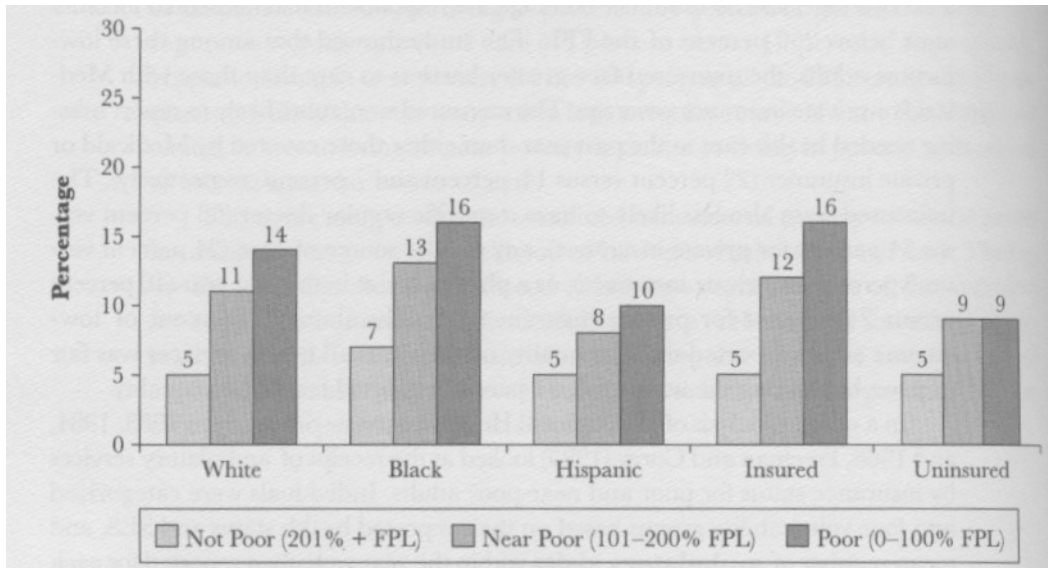


Figure 2. Emergency Department Visit in the Past Year Among Adults Eighteen to Sixty-Four Years by Race/Ethnicity, Insurance Coverage, and Poverty Status, 2001. (Shi and Stevens 138).

It is evident that vulnerable populations often rely on Emergency Departments for basic services.

Figure 2 shows that blacks are more likely than whites to go to the Emergency Department, but

for both groups, use increases when the person is in poverty or near the poverty line. Five percent of nonpoor whites reported an Emergency Department visit versus 14% of poor whites.

Likewise, 7% of nonpoor blacks reported a visit to the Emergency Department versus 16% of those in poverty. Even patients who are insured but living in poverty are three times more likely than nonpoor individuals to visit the Emergency Department (Shi and Stevens 137).

Furthermore, there was little difference in visits between uninsured living below the poverty line and those living near the poverty line, but their usage was higher overall when compared to nonpoor, uninsured adults (Shi and Stevens 138). Hence, it is not only being uninsured that plays a role in higher frequency of Emergency Department visits, but poverty in general. If the poor and near poor uninsured frequented the Emergency Department at the same rate as the nonpoor who are insured, there would be a 27% decrease in Emergency Department visits per

year (calculated using data from Holahan and Brennan 2; Shi and Stevens 138; National Center for Health Statistics). This would have a large impact on the state of the U.S. Emergency Departments.

The use of the Emergency Department among the homeless spreads across the nation as well. The homeless are a disadvantaged population with significant medical needs that often go unaddressed in the health care setting. Furthermore, poor health is closely associated with homelessness. The homeless are more likely to use the Emergency Department as a source of care because no other care is available to them (Morris and Gordon 842). A Los Angeles study of the homeless found that only 57% had any contact with medical care, and 23% of those used the Emergency Department as their primary point of care in the past year (Morris and Gordon 839-840). In a 2002 study done in San Francisco, 40% of homeless reported using the Emergency Department in the past year, which is three times higher than the national average compared with the general population. Likewise, a New York City hospital reported that its emergency department consisted of 20-30% homeless on a daily basis. Furthermore, these patients averaged six Emergency Department visits per year (Morris and Gordon 840).

## **The Nation's Poor and Uninsured: Reasons for Use of the Emergency Department**

### ***Lack of Health Coverage***

There are many reasons for impoverished and lower income patients to rely on the emergency department. First, the poor lack insurance to cover a visit elsewhere. Because people have no insurance, the emergency department becomes their only option for health care (Velianoff 60). In 2005, the number of people without insurance reached 46.6 million, up from 45.3 million in 2004 and 41.2 million in 2001. This indicates that 15.9% of Americans are



uninsured, and the number is projected to continue to rise (Figure 3) (Center on Budget and Policy Priorities, 1).

	Uninsured		Medicaid/ SCHIP	Employer- sponsored Insurance	Individually- purchased Insurance	Medicare	Military Health Care
	Number (millions)	Percent	Percent	Percent	Percent	Percent	Percent
2005	46.6	15.9%	13.0%	59.5%	9.1%	13.7%	3.8%
2004	45.3	15.6%	13.0%	59.8%	9.3%	13.6%	3.7%
2003	45.0	15.6%	12.4%	60.4%	9.2%	13.7%	3.5%
2002	43.6	15.2%	11.6%	61.3%	9.3%	13.4%	3.5%
2001	41.2	14.6%	11.2%	62.6%	9.2%	13.5%	3.4%

\* Based on Current Population Surveys. Percentages do not sum to 100% because some people have more than one type of coverage.

Figure 3. Health Insurance Coverage, 2001-2005. (Center on Budget and Policy Priorities, 1).

### ***Barriers to Primary Care***

Numerous studies also suggest that, independent of insurance coverage, inadequate access to primary care is associated with higher rates of Emergency Department use. In 2005, respondents reported that the use of Emergency Departments for primary care has intensified because of inadequate access to primary care, especially for Medicaid enrollees and the uninsured. They cited increasing unwillingness among primary care physicians to accept more patients. Other reports found that physicians routinely refer Medicaid and uninsured patients to Emergency Departments for non-urgent care (Kaiser Commission on Medicaid and the Uninsured 86). Others refer patients to the Emergency Department because it is too difficult to obtain specialty care for the uninsured (Kaiser Commission on Medicaid and the Uninsured 87).

### ***Ethnicity, Healthcare Knowledge, and Cultural Beliefs***

Other obstacles to health care access for Americans is their minority ethnicity/race, knowledge about health options, and the cultural competence of health care providers. The Institute of Medicine has found that understanding and use of health information

are lower among certain populations, including the elderly, those with less education, the poor, minorities, and groups with limited English proficiency such as recent immigrants. Lack of healthcare knowledge results in shoddier disease management, poorer health status, and higher utilization of the Emergency Department. A lack of awareness about the importance of preventive and primary care also appear to be a factor, especially among Hispanics and men in general. Moreover, many Hispanics are unaware of the health care settings and programs available to them (Ross and Patrick 10). Ethnic minorities, especially Asians and Hispanics, report language barrier issues and difficulty getting appointments so they often turn to the emergency department. Many health care providers are unaware of the culture of their patients and have difficulty communicating with patients (Kaiser Commission on Medicaid and the Uninsured 88).

Furthermore, cultural beliefs influence the use of the Emergency Department. Poor inner-city communities and rural communities perceive the Emergency Department as the only way to maintain adequate standard of medical care. “Without a hospital, the thinking goes, the community will never be able to attract a sufficient supply of physicians and other health professionals, let alone provide services to its residents” (Vladeck 36). Even when alternative avenues for the provision of medical care exist, these populations insist on using the hospital’s Emergency Department because of its “symbolic role in the community’s self image...[The Emergency Department] demonstrates that the community has a certain presence and importance” (Vladeck 36). Fear of finding out something is wrong also appears to be a major barrier, especially among African-Americans. This fear is also often coupled with a general mistrust of the medical community outside of Emergency Departments. Again, most health care

providers are unaware of these cultural beliefs and struggle to relay information to their patients and break down misconceptions of the health care system (Ross and Patrick 12).

Overall, the uninsured turn to Emergency Departments because it is the only place they can access care. However, ethnicity/cultural beliefs and a lack of knowledge of the health care system can also bring about crowding in the Emergency Department. “Studies showing that racial/ethnic and socioeconomic disparities in preventable hospitalization rates persist even when insurance differences are controlled suggest that the mechanisms of access have not been fully explained” (Kaiser Commission on Medicaid and the Uninsured 88).

### **Emergency Department Use in Other Countries**

Emergency Department overcrowding is not only a problem in the United States. Canada, Great Britain, some Australian cities, and Taiwan have Emergency Departments that are overtaxed due to supply issues. Even though each country has universal health care, it does not resolve the problem of adequate Emergency Department services. For example, Emergency Departments in Canada are exceeding capacity, ambulances are being diverted, and there is a general lack of beds to transfer patients into (Rowe 7). A 2005 study asked Emergency Department directors what they thought was the leading cause of overcrowding, and 85% reported lack of admitting beds, a supply issue. Other responses included the length of stay of admitted patients, the increased complexity and acuity of cases, and the occupancy rate of Emergency Department stretchers (Rowe 8). It seems as though there is an undersupply of Emergency Department services in Canada, in contrast to the demand issues plaguing the United States. Furthermore, when comparing Emergency Department use, U.S. Emergency Departments are seeing a larger amount of people because of the high demand for services. In 2004, United States Emergency Departments saw a total of 110.2 million visits while Canadian

hospitals reported 4.5 million Emergency Department visits (National Center for Health Statistics and Canadian Institute of Health Information). Taking into account differences in population size, Canadian Emergency Departments are estimated to have 12.2 million visits per year if experiencing the same usage rate in the United States, a 170% difference (calculated using World Factbook). This shocking disparity most likely reflects the large number of uninsured in the United States frequenting the Emergency Department.

In a similar fashion, Australian city hospitals suffer a supply problem with Emergency Department overcrowding. In 2004, Australian Emergency Departments handled 5.9 million visits (Australian Institute of Health and Welfare). Again taking into account population sizes, Australian Emergency Departments are estimated to have 7.5 million visits per year if experiencing the same usage rate in the United States, a 27% difference (calculated using World Factbook). Again the disproportionate amount of people in U.S. Emergency Departments reflects the large number of uninsured in the United States.

## **The Multitude of Costs due to Overcrowding in the Emergency Department**

### ***Monetary Cost for the Hospital***

Overuse of the Emergency Department for primary care or preventable care reveals the inadequate nature of the nation's primary care delivery system. Health care system costs would decrease if there were more preventative services in the form of primary care and chronic disease management for underserved populations (Shi and Stevens 239). An emergency room visit typically costs about four times as much as treating the same problem in a regular office visit (Sered and Fernandopulle 12). Some studies suggest that an Emergency Department loses at least \$84 per visit (Pate and Pete xxii). According to a May 2003 American Medical Association (AMA) study, each emergency room physician provides, on average, \$138,300 of

uncompensated care per year under the requirements of EMTALA. The cost of performing these exams has resulted in growing financial losses for hospitals. Many have responded by closing their Emergency Departments, further overcrowding surrounding Emergency Departments that have stayed open (Sered and Fernandopulle 12).

More important than the money lost is the large cost of care in the Emergency Department. Studies have attempted to study the difference between the charge for an emergency department visit and the charge for a visit to another setting in non-urgent care situations using the National Medical Expenditure Survey of 1987. Overall, the mean first visit charge in a non-emergency department setting was \$43 as compared to the mean first visit charge in an emergency department at \$144 (Baker and Baker165). Regression adjusted estimates of mean charges for first visits are presented in Figure 4.

Condition	Actual ED charge	Projected Non-ED charge	Difference	Ratio
<b>All episodes</b>				
All conditions	\$143.72	\$49.87	\$93.85	2.882
Pharyngitis	121.33	35.96	85.37	3.374
Upper respiratory infection	113.02	40.82	72.20	2.769
Skin disorders	120.88	42.00	78.88	2.878
Head- and backaches	143.24	46.41	96.83	3.086
Miscellaneous symptoms	147.35	44.41	102.94	3.318
Superficial injury	154.62	59.74	94.88	2.588
<b>Restricted sample episodes</b>				
All conditions	100.06	34.80	65.26	2.875
Pharyngitis	100.76	33.77	66.99	2.984
Upper respiratory infection	90.06	33.50	56.56	2.688
Skin disorders	98.51	36.87	61.64	2.672
Head- and backaches	99.02	33.10	65.92	2.991
Miscellaneous symptoms	110.86	37.42	73.44	2.963
Superficial injury	101.08	33.34	67.74	3.032

Source: Authors' analysis of 1987 National Medical Expenditure Survey (NMES) data.

Note: Dollars presented are 1987 dollars.

Figure 4. Sample Sizes and Mean First Visit Charges for Emergency Departments and Non-Emergency Department Episodes, By Condition, 1987 (Baker and Baker 167).

For all condition categories combined, the projected non-emergency department charge is \$50, while the actual charge for the Emergency Department is \$144, nearly three times higher. Large differences are evident when looking at the conditions separately as well (Baker and Baker 165).

Episode charges are also important because episodes begun in the Emergency Departments may differ from episodes begun in non-emergency department settings. For instance, an office-based provider may recommend follow up visits, but episodes in the emergency department may be longer (Baker and Baker 167). The study concluded that episodes beginning in the Emergency Department had more visits than those beginning elsewhere (Baker and Baker 168). This was the case with Jesus, who had to seek alternate care after visiting the Emergency Department. On the other hand, Sheila began her care outside of the Emergency Department but her health episode required many subsequent visits to the Emergency Department. Overall, the average Emergency Department episode cost \$174 as compared to the projected charge of \$63 per episode in another setting (Figure 5) (Baker and Baker 169).

Condition	Actual ED charges	Projected non-ED charge	Difference	Ratio
All conditions	\$174.09	\$63.63	\$110.46	2.736
Pharyngitis	150.18	52.52	97.66	2.859
Upper respiratory infection	153.91	38.93	114.98	3.953
Skin disorders	132.89	57.05	75.84	2.330
Head- and backaches	170.49	74.78	95.71	2.280
Miscellaneous symptoms	204.55	62.95	141.60	3.250
Superficial injury	162.48	70.51	91.97	2.304
<b>Restricted sample episodes</b>				
All conditions	116.41	42.04	74.37	2.769
Pharyngitis	113.82	37.62	76.20	3.025
Upper respiratory infection	106.70	40.00	66.70	2.667
Skin disorders	115.07	48.45	66.62	2.375
Head- and backaches	121.11	43.43	77.68	2.788
Miscellaneous symptoms	153.96	41.10	112.86	3.746
Superficial injury	98.57	37.63	60.94	2.620

Source: Authors' analyses of 1987 National Medical Expenditure Survey (NMES) data.  
 Note: Dollars presented are 1987 dollars.

Figure 5. Mean Actual and Projected Total Episode Charges For Emergency Department Patients, For all Episodes, By Condition, 1987. (Baker and Baker 168).

Various projections can be made from this data about the overall excess costs associated with the use of the Emergency Department. A 1993 study considered 10% of Emergency Department visits as non-urgent so that the nationwide excess charges for the treatment of the study's narrow set of conditions was about \$840 million in 1987 dollars and \$1.3 billion in 1993 dollars. This may be an understatement if the amount of non-urgent Emergency Department cases has increased significantly, as data suggests, and the overall excess charge may be \$7.2 billion in 1993 (Baker and Baker 169).

### ***Monetary Cost for the Uninsured Patient***

The uninsured are typically burdened by severe financial strains, as seen in the opening story of Sheila Wessenberg. Nearly half of individual bankruptcy filings are due to medical bills. The uninsured are left to live each day in fear of getting sick or becoming injured because they cannot pay the resulting medical bills (Quadagno 5). Until recently, only the uninsured have been billed the full charges of hospital care. For example, an uninsured patient might find himself paying off a hospital bill for \$30,000 over many years. For the same procedure, Medicaid would have reimbursed the hospital for only \$6,000, and commercial insurers somewhere in between \$6,000 and \$30,000. Because many uninsured patients are of low-income families, many only pay a fraction of the charge after intensive collection efforts by the hospital. The disparity in costs became so bad that Congress held hearings on these practices in 2003, and many hospitals now have means-tested discounts (Reinhardt 62). Yet, many patients still struggle under the burden of bills.

### ***Monetary Costs for Us: the Patron of the Hospital, Tax-Payer and Health Insurance Member***

Indigent care raises the costs of health care for everyone. The U.S hospital payment system is seriously impaired by the presence of large numbers of uninsured Americans

(Reinhardt 67). Hospitals often rely on reserves, endowments, or third-part assistance to cover the cost of uncompensated care (Holosko and Feit 92). For-profit businesses within the hospital such as laundry service or the gift shop are depended upon as an extra source of revenue. Other hospitals use price discrimination to shift their costs. Patients who have the ability to pay may be overcharged to cover the costs of providing uncompensated care in the hospital. Hospitals raise the price of highly inelastic services and procedures but maintain the price of price-sensitive services. However, current data is insufficient to conclude price discrimination is a serious problem (Holosko and Feit 93).

Furthermore, a lot of the expense is borne by the taxpayers through a variety of government programs. In addition, privately insured patients are also being charged more. The cost shifting in hospitals may cause insurance companies to reduce covered services for its members. Furthermore, this cost shifting causes insurance companies to raise premiums, co-payments, and deductibles. As a result, fewer employers offer coverage, and more people become uninsured. Thus, a never-ending cycle develops (Quadagno 5).

### ***Heath Costs and Negative Outcomes for Patients***

EMTALA requires hospitals to provide a “medical screening” to determine whether an emergency medical condition exists. However, once the patient is stabilized, the patient may be discharged or referred to another physician outside of the hospital (Sered and Fernandopulle 202). Unfortunately, many more problems may develop when simply referred out of the Emergency Department, as in the case of Jesus Vivas.

Researchers looked into the relationship between hospital and emergency department occupancy, as indicators of hospital overcrowding, and mortality after emergency admission (Sprivulis et al. 208). They developed an “overcrowding hazard scale” taking into account when



the hospital was less than 90% full, 90-99% full, and 100% full or more. They also considered if a patient waited more than eight hours for a bed (Sprivulis et al. 210). The study revealed a 30% increase in mortality by day two and day seven for patients who had been admitted during overcrowding (Figure 6). They also estimated that 120 deaths at one hospital in the study were associated with overcrowding in 2003 (Sprivulis et al. 211). Hence overcrowding is more than just a hospital workflow issue, it is a patient safety issue.

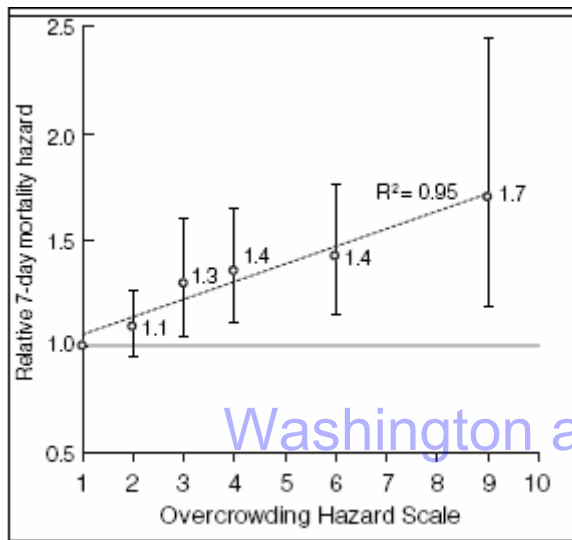


Figure 6. Relationship between the Overcrowding Hazard Scale and the 7-day mortality hazard for emergency admissions (Sprivulis et al. 211).

But overall, the consequences of crowded Emergency Departments on quality of care have not been studied comprehensively, and therefore, little scientific evidence is available to confirm the widely held assumption that crowding adversely affects the quality of patient care.

However, the literature does show a variety of short-term bad health outcomes resulting from Emergency Department overcrowding. While waiting, patients are in prolonged pain, and it is risky to hold admitted patients in the Emergency Department rather than in an inpatient unit. It is even riskier to delay treatment because of ambulance and patient diversion to other facilities (Velianoff 59). Likewise, the patient is not receiving as high a quality of care when the overload of patients frustrates and burns out the staff and physicians, illustrated in the opening story of

Jesus Vivas (Velianoff 59). Physicians stretch their ability to see many patients at the same time, and at a certain limit of patients, productivity declines and patient care is compromised (Derlet and Richards 67). The long waits also leave patients dissatisfied, and an increasing number of patients are leaving before being seen. Minor medical problems potentially may become more serious from the delay in care (Derlet and Richards 66). A study of a San Francisco hospital in 1990 found that 86% of the patients who left the Emergency Department reported their reason for leaving as “[t]he wait was just too long” (Bindman et al. 1094). Twice as many patients who left without being seen than the number of patients who were seen reported that their pain or the seriousness of their problem was worse than when they arrived. In addition, 31% of patients who left without being seen had a deterioration of at least one health status characteristic such as pain or seriousness of the problem. Furthermore, 11% of the patients who left were hospitalized in the subsequent two weeks for more serious problems (Bindman et al. 1094). Some overcrowding delays leave patients so agitated that violence flares up in the Emergency Department. Fist fights have broken out in waiting rooms, and nursing staff and physicians have been threatened (Derlet and Richards 67).

Moreover, uninsured patients receive less care than privately insured patients when seeking care in the Emergency Department. This is surprising because in an Emergency Department, insurance type should not impact the type of service, intensity of service, or quality of service under the assumption that Emergency Departments are composed of homogenous medical staff and equipment (Jackson 63). Yet, in a study of Emergency Department visits in a Mid-West country hospital, disparities in service were evident (Jackson 64). Patients without insurance were one-third as likely to be admitted to the hospital for an overnight stay when

compared to insured patients with similar medical needs (Jackson 67). Patients expecting the same quality of care were discriminated against because of insurance status.

In addition, long-term, chronic medical problems are exacerbated for persons who rely solely on the emergency department for care. Approximately 40% of homeless persons report at least one chronic health problem including psychiatric and medical health issues (Morris and Gordon 842). However, in the emergency department these chronic illnesses frequently go unrecognized and untreated. Furthermore, even when the illness is detected, there is no primary care physician follow-up with the patient, which results in disease progression, disability, and premature death (Morris and Gordon 843). Cancer and heart disease were the leading cause of death among the homeless age 45 to 54, both more manageable with early detection if this population had access to a regular source of primary care (Morris and Gordon 842). Yet, further study is needed to measure the effect of crowding on individual health as well as public health.

### **How to Reduce Emergency Department Overcrowding**

As there are a multitude of causes for Emergency Department overcrowding, there is a wide variety of solutions. Reviews have shown that supply issues are plaguing the Canadian and Australian Emergency Departments. U.S. hospitals have some supply problems, resolutions of which are first addressed below; but the main cause of overcrowding in the U.S. is the high demand for services, with possible remedies discussed in the rest of the paper. Three main solutions to demand problems include the short term roles of Community Health Centers and Community Health Workers, as well as the long term role of universal health care.

#### ***More Efficient Hospitals and a Greater Supply of Services***

Many hospitals are trying various approaches to reduce Emergency Department overcrowding issues by improving hospital efficiency. Some tweaking of the clinical process

can cut down on the amount of time that patients spend in the Emergency Department. Most programs focus on intake, throughput, and output systems (Pate and Pete xxii). There can be a variety of patient flow models and different patient tracking system implementations to have a more organized and efficient Emergency Department (Pate and Pete 28). Fast track handling of low acuity patients can be beneficial as well (Taylor 20). Better departmental leadership can promote efficient team work throughout the Emergency Department and supporting departments such as radiology (Pate and Pete 30). Furthermore, if there are specific lab and x-ray staff assigned to the Emergency Department as well as equipment, it will cut down on bottling for those services. In addition, smoothing of operation schedules by spreading surgeries evenly throughout the week frees up operation time and beds for Emergency Department patients. Implementing a discharge unit for patients who have been discharged but are waiting for medications or transportation frees up beds for Emergency Department patients as well (Taylor 20). Other hospitals including Long Island College Hospital have hired a “discharge” nurse to identify patients who qualified for early discharge and facilitated the movement of the patient through the system (Cooke and Finneran 15).

Furthermore, there is a call to expand the supply of Emergency Department services. One proposal is for specialty hospitals or hospitals with specialized capabilities but no Emergency Department to accept appropriate transfers in times of overcrowding. For example, many Emergency Departments struggle to stabilize psychiatric patients; hence, transferring the patient to a psychiatric hospital would best serve the patient and help alleviate overcrowding (Taylor 19). Improving on-call specialist ability and reducing physicians’ liability concerns may also expand the supply of Emergency Department services (Taylor 20). In some areas the solution may be that there is a need for an additional hospital or Emergency Department to

supply services to that region. Demand is increasing but the number of Emergency Departments is dwindling (Figure 7). Between 1994 and 2004, total visits increased by 18% to 110 million, but the number of Emergency Departments declined by 7% (Taylor 4-5). Hence, there is a need for alternative places of care or fewer hospital closures.

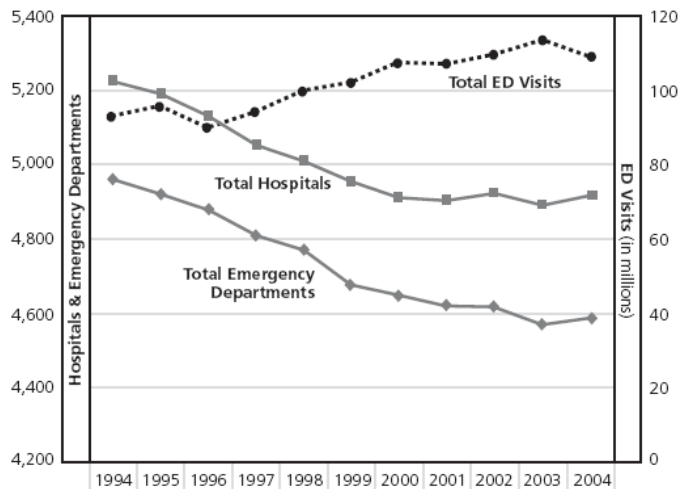


Figure 7. Trends for total Emergency Department Visits, Number of Hospitals, and Number of Emergency Departments (Taylor 5).

### ***Reducing the Demand for Emergency Department Services***

The greatest task is to reduce the demand for Emergency Department services. Some administrators are using management strategies to cut down on unnecessary visits to the emergency department. Some examples include improving same day or next day appointment access for primary care or offering telephone consultations. More importantly, education on proper use of the Emergency Department should reduce overcrowding (Shi and Stevens 240). Such education can be provided through health fairs, news media, public relations, and service announcements (Velianoff 63). However, most short-term plans involving alternatives to diversion, holding areas, and various internal programs do not address the long-term issue of accessibility and availability of primary and preventative care practitioners (Velianoff 64).

One possible short-term solution that could make a significant difference is a Community Health Center made available to the uninsured who are overcrowding the Emergency Departments. Community Health Centers or free standing clinics are appropriate “safety nets to provide primary and preventative health services, funded by federal, state, or local agencies” (Smith-Campbell, “Emergency” 81). A study was performed in Kansas after state legislators enacted a law in 1991, Health Care Access (HCA), to provide funding to establish primary care services for the medically underserved in a non-profit clinic setting (Smith-Campbell, “Access” 295). Data showed that between 1988 and 1990, the uninsured were proportionally more likely than the insured to visit the Emergency Department, but between 1993 and 1995, there was a dramatic drop in Emergency Department visits by the uninsured which correlates with 1993 being the first full year that the clinic received state funding (Figure 8) (Smith-Campbell, “Access” 297). Hence, Emergency Department visits by the uninsured population decreased after state funding of programs increased. Instead of using the Emergency Department for care, they were able to go to the HCA for primary care services. Thus, “the decrease in ED use appears to have been influenced by the establishment of HCA and therefore influenced by state funding” (Smith-Campbell, “Access” 298).

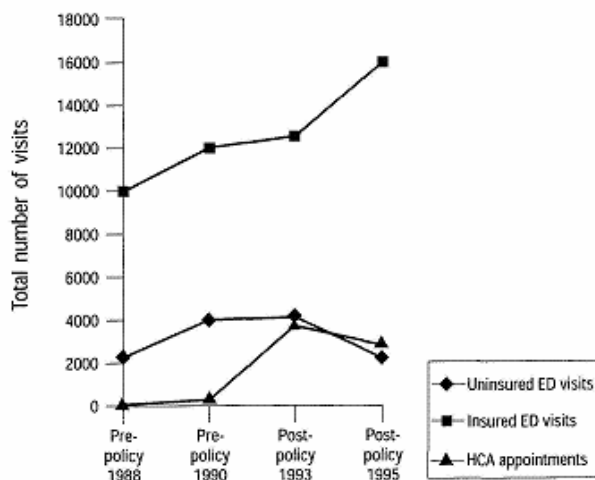


Figure 8. Total Emergency Department visits and HCA appointments, by year, before and after state funding.

Furthermore, based on the assumption that the drop in uninsured visits to the Emergency Department was related to people using HCA, the hospital saved over \$600,000 (based on the presumption that a quarter of the uninsured may have been admitted to the hospital, and an average hospital stay in Kansas is 7.4 days at a cost of \$690 per day). If the total budget of HCA in 1996 of \$185,967 is subtracted from this amount, there is still a savings of \$400,000 (Smith-Campbell, "Access" 299). This has powerful implications for the role of federal government funding in addition to state funding in free clinic settings.

The upcoming reauthorization for community health centers provides an opportunity to consider the effect that broadening eligibility for section 330 grant funding could have on improving access to primary care and, thereby, potentially alleviating some ED overcrowding (Taylor 18).

The section 330 grant application and award process could be used to direct federal dollars to communities with overcrowding in their Emergency Departments (Taylor 18).

Strategies for redirecting patients to primary care are very important, and a Community Health Worker is another short-term goal to alleviate overcrowding. Some communities and hospitals have looked into the role of a Community Health Worker to improve access to health care, promote client knowledge and behavior change, and contribute to improved health status of individuals. Typically programs utilize Community Health Workers who are culturally competent members of the community and know the specific needs within the target community (Ross and Patrick 9). There is training to prepare Community Health Workers for their role, and some type of evaluation process to determine the effectiveness of their services (Ross and Patrick 9). Various systems with Community Health Workers have developed including a proposed program piloted in Presbyterian Hospital of New York City by the United Hospital Fund of New

York. The hospital hired a staff member to facilitate the transfer of nonacute patients from the Emergency Department to one of the hospital's primary care practices. The community health worker liaison had an associate's degree, was bilingual, and possessed strong interpersonal skills. This community liaison worked with the triage nurses in the Emergency Department and maintained contact with the primary care practices administrators to determine the availability of appointment slots. The patient was then transported in hospital vans to the primary care site. After the appointment the liaison followed up with the patient to ask if they were satisfied with their care at the primary care practice and to reemphasize the value of continuing primary care (Cooke and Finneran 11). The project demonstrated that patient redirection programs can be successful. Three years after the initiative, nonurgent Emergency Department visits decreased from 31,000 to 18,000. Furthermore, 89% of patients kept their first primary care appointment, and 61% of the adult patients had no further nonacute Emergency Department visits (Cooke and Finneran 12). Because of reduction in volume, the hospital was able to close its Rapid Evaluation Unit and there was an increase in hospital revenues. Moreover, Presbyterian Hospital was able to reverse the pattern of behavior among its study group: patients went from being high users of the Emergency Department to high users of the clinics. The liaison was able to break the misconception on the part of the patients that the primary care clinics were not of equal quality of the Emergency Department for care (Cooke and Finneran 13). Other hospitals and studies have used variations of this program tailored to their specific communities and found similar positive results.

The intervention of the liaison or community health worker is essential in emphasizing the importance of primary care. It is more effective for the liaison to schedule the first appointment instead of giving verbal or written instructions to the patient to schedule his own



appointment. When counselors made appointments for follow-up care in a clinic with explanations of the benefits of being connected to a “system of continuous, comprehensive services,” patients were more likely to keep their clinic appointment (Cooke and Finneran 34). Many counselors make reminder phone calls a few days prior to the patient’s scheduled appointment and call afterward to make sure the patient was satisfied. The individual attention makes a significant change in patient behavior, improving the patients’ health-seeking behavior (Cooke and Finneran 34). The Community Health Worker is also effective at providing knowledge about programs and places that can help people obtain other necessary care. Furthermore, barriers such as fear and mistrust of the medical system and a lack of understanding about preventative care can be overcome with long-term effort for health education and relationship building (Ross and Patrick 10).

Adequate and stable funding is critical to a successful program. Costs include direct training costs, curriculum development, evaluation, wages and benefits for the Community Health Workers, and administration of the overall system (Ross and Patrick 20-21). Grants are essential in the launch of many of these programs but cannot sustain the program over time. It would be best to have multiple investors including health care providers, local and federal government, educational institutions, and foundations (Ross and Patrick 21).

Furthermore, Community Health Workers make an economic contribution to the public safety net system. In a study of Community Health Workers who managed African Americans with diabetes in Baltimore, Emergency Department visits decreased by 39% a year after contact. Investigations reported a savings of \$262, 080 direct costs related to hospital care. They estimated a potential gross savings per Community Health Worker with a caseload of thirty patients to be \$80,000 to \$90,000 per year (Whitley 8). Denver Health utilized a Community

Health Worker to divert patients into a primary care setting. Cost of care shifted from expensive urgent care averaging \$934 to less expensive primary care averaging \$237 (Whitley 10). Using the monthly savings to the hospital following the implementation of the Community Health Worker and the monthly cost of the program, the return on investment showed that the hospital saves \$2.28 for every \$1.00 invested in the program. The savings translates to \$95,941 annually (Whitley 11). Hence, Community Health Workers improve the health of individuals and may improve the financial state of safety net health care systems by reducing costs.

However, certain policy changes must accompany these programs to successfully move patients into primary care. State and federal policy must define the roles, training and certification necessary to serve as a Community Health Worker. Policy measures to establish public funding to support Community Health Workers must be enacted as well (Whitley 13).

Most importantly, primary care capacity must be expanded. There needs to be enough primary care sites so timely appointments can be made. Without additional primary care capacity to make appointments available within one to two weeks, Emergency Departments will remain overcrowded (Cooke and Finneran 32). It would also be beneficial for the primary care sites to have expanded hours including some nights and weekends, access to physicians during off-hours through a phone service, and easy access. Patients must find the clinic as convenient as the Emergency Department (Cooke and Finneran 33). It is important for the clinics to be staffed with bilingual physicians and try to assign patients a regular physician who develops an ongoing relationship with the patient. This helps to change the patients' perceptions and break the cycle of emergency department misuse (Cooke and Finneran 34).

Other long term goals to alleviate Emergency Department overcrowding require policy changes that occur incrementally over a long period of time. There is a need for "appropriate

reimbursement to health care facilities and to the physicians providing health care services in the USA” (Schafermeyer and Asplin 26). To guarantee that hospitals receive appropriate funding for their services which would improve their staff and ensure specialists on call for Emergency Department needs, universal health care is the best solution (Schafermeyer and Asplin 26).

More importantly, the long term goal of universal health care would remove barriers of access to primary care. Reduced use of the Emergency Departments has been correlated to continuity of care through either private or public health insurance (Menec, Sirski, and Attawar 395). In addition, access to primary care would ensure that patients have the necessary preventative care to maintain a healthy disposition and reduce premature death. It would be effective to include the Community Health Worker in universal health care planning. The community liaison could continue to break down cultural barriers, ensure that people are aware of places to seek proper care, encourage healthy care habits, and make sure patients take full advantage of the services available to them.

According to a 2004 study conducted by America’s Health Insurance Plans, the national trade association for health insurers, 59% of respondents said the government could do a better job than the private sector in ensuring more Americans have access to care. Other surveys reported that people would be willing to spend more tax dollars to improve health care coverage (Quadagno 207). There are many suggestions on the course to pursue and the form that universal health care should take; but taken as a whole, universal health care would remove access barriers to primary care and alleviate some Emergency Department overcrowding.

The issue of overcrowding in Emergency Departments is best met by reducing the demand for services versus increasing the supply of Emergency Department services. An effective short term solution includes increasing the role of Community Health Centers to

provide a proper source of primary care to the uninsured. Likewise, a Community Health Worker can be very effective in diverting patients out of the Emergency Department and into primary care, as well as increasing health care awareness. Moreover, the United States should aim to provide health coverage for every citizen. The United States, one of the richest nations in the world cannot continue to ignore the growing number of uninsured as healthcare becomes increasingly unaffordable for businesses and individuals. Universal access to health care would allow people like Jesus Vivas, Sheila Wessenberg, and the rest of the medically vulnerable to access the medical care they deserve.

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