

The Cost and Consequence of Community Violence
The Center for Public Safety Initiatives

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Trauma Centers Closing
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Closures

From 1988-1991 sixty-one trauma centers closed (National Foundation for Trauma Care, 2004).

From 2001-2003 thirty trauma centers closed nationally. One of the threats to trauma centers is inadequate trauma center financing. This is due to a variety of factors, which includes a disproportionate and increasing share of patients who are unable to pay for services and problematic relationships with Managed Care. Twelve percent of the patients at the nation's 600 trauma centers are receiving care for assault-related injuries. According to the national trauma reimbursement profile, the trauma centers receive a 27% surplus in recovered costs from health insurance agencies; however, the trauma centers only recover 8% of the costs associated with those patients who are uninsured (National Foundation for Trauma Care, 2004).

The National Trauma Center Stabilization Act of 2007 (S. 2319) was introduced into the Senate in 2007 and "would ensure that continued and future availability of lifesaving trauma health care in the United States and to prevent further trauma center closures and downgrades by assisting trauma centers with uncompensated care costs, core mission services, and emergency needs." This was referred to the Health, Pensions, Education, and Labor committees. It appears that this bill has been abandoned, as The National Trauma Center Stabilization Act of 2008 (H.R. 5942) was introduced into the House on May 1, 2008 and referred to the Energy and Commerce Committee, Subcommittee on Environment and Hazardous Materials. This bill reads the same as S.2319, with the addition of ensuring the future of information technology as well (The Library of Congress, 2007) (The Library of Congress, 2008).

Expense

In the National Foundation for Trauma Care's 2003 report, the following was found: the average cost per patient in a trauma center is \$14,896; total trauma center losses are estimated to be at \$1 billion; and there are an estimated 678,000 injury victims nationally who benefit from evaluation and treatment in a trauma center (National Foundation for Trauma Care, 2004).

The proportion of charges reimbursed by outpatient visitors to hospital emergency departments from 1996-2004 has decreased across all payer groups. (Hsia, 2008)

According to Garson (2007), by 2001 sixty percent of hospitals were operating at or over capacity and the number of hospital rooms since 1997 had decreased by twelve percent due to inadequate reimbursement (p. 119).

According to an article in 2001, Texas trauma centers lose an average of \$20 million each year and in California the losses are at an estimated \$400 million annually for the trauma centers. It is thought that trauma in the uninsured population accounts for the increases in loss to the trauma centers and that the trauma centers' financial situations are worsening. Close to 80% of California's emergency departments lost money in 1999 (SoRelle, 2001)

The Post and Courier newspaper out of Charleston, South Carolina published an article on trauma centers in South Carolina. According to the article, the trauma centers are requesting \$28.6 million in annual funding to cover the higher costs and growing number of uninsured patients. Without the funding, hospitals say that more trauma centers will drop out of the system. In 2003 at one of the trauma centers, 27.5% of the trauma patients seen were uninsured and 14% were receiving Medicaid, which traditionally reimburses poorly (Maze, 2004).

According to the Beaumont Enterprise newspaper out of Texas in 2006, the St. Elizabeth trauma center lost \$23.5 million in uncompensated costs (Ybarra, 2007).

In 2006, the average operating margin of New York hospitals was 0.9% and close to half of New York hospitals recorded margins that were less than 1%. A margin of 4% or more is considered necessary by health economists in order to ensure that hospitals have sufficient funds to improve patient care and to reinvest in modernization. Nationally, only

one other state suffers average margins lower than New York (Healthcare Association of New York State, 2008).

New York State, in 2005, had an estimated 2.5 million nonelderly residents uninsured. New York hospitals provided \$1778.4 million in uncompensated care in 2005. Statewide, it is estimated that \$3.5 billion in public funds are attributable to subsidizing uninsured care in 2005. (Bovbjerg, 2006)---- urban institute

Penetrating vs. Blunt trauma

The costs to both the victim of a penetrating injury and the health care system is substantial in the United States. Penetrating injuries are usually caused by gunshots and stabbings (Macpherson, 2007).

Gunshot wounds account for the majority of penetrating trauma cases (Manthey, 2006).

In 2004, 2,799 people died in the United States due to stab wounds. Penetrating trauma primarily affects young men and incurs substantial medical and societal costs. Data from the American College of Surgeons National Trauma Data Bank found that the mortality rate for penetrating trauma is 9.6% and a cause-specific mortality rate of 15.4% for gunshot wounds and 1.6% for cuts/piercing (Christensen, 2008).

Selzer (2001) explains that victims of penetrating trauma are somewhat known as providing less reimbursement for their care than other patients seen in the trauma centers. A small percentage of trauma centers report profit from trauma care and these are usually located in non-urban areas or have a much higher number of blunt trauma injuries which are reimbursed at a higher rate than penetrating trauma injuries. Public urban trauma centers report a large number of self-pay patients. This study looked at 574 admissions in their institutional trauma registry from July 1, 1997 to December 31, 1997 and of these, 553 had complete records and were used for the study. 28% sustained injuries from penetrating trauma and 61% from blunt trauma; males were more likely to be injured than females at a rate of 4:1. There were 224 self-pay patients and only 17 provided any out-of-pocket payment and of these, only 8 provided reimbursement close to the hospital costs. The majority of losses to the trauma center was from Medicaid (\$932,037) and self-pay patients (\$1,175,687). However, for penetrating trauma, the governmental supplement Medicaid Disproportionate Share Hospital (DSH) generated the greatest positive return for penetrating trauma.

This shows that the DSH supplement is crucial to the continuation of trauma centers.

According to McConnell (2007), trauma centers that have a higher percentage of blunt trauma (usually due to motor vehicle accidents) have a higher rate of reimbursement for services than do trauma centers with a higher proportion of penetrating trauma (usually due to stab wounds or gunshot wounds). This is because of a higher prevalence of automobile insurance coverage for those with blunt trauma and a lower incidence of insurance coverage for those suffering from penetrating trauma. Most trauma centers are supported by some type of indirect subsidy, which differ from state to state.

Efron (2006) discusses the surge in trauma deaths at the Johns Hopkins Medical Institute over the previous fifteen months, of which the majority of the injuries leading to death were due to interpersonal violence. This study revealed that from 2000 to March 2005, 11,051 traumatic injuries were seen at the trauma center and of these, 11,025 were included in the current study. Twenty-six percent of the injuries were due to penetrating trauma while 72% were the result of blunt trauma. The average age of those with penetrating trauma was ten years younger (27 years old) than those with blunt trauma. Of these patients, 366 patients died from injuries and penetrating trauma accounted for 71.9% (263) of those who died. In this study, gunshot wounds accounted for one of eight injured patients, yet they were the cause of close to 50% of the deaths.

Rodriguez (2005) discusses the trauma center crisis which is threatened by the continued inadequate reimbursement. Rodriguez looked at 1,907 trauma patients admitted to the University of Louisville Hospital (a Level I trauma center) from January 2003 to December 2003. Of these trauma patients, 458 (24%) had no insurance. The total trauma center charges for those with no insurance were \$22,217,047 and the total direct costs were \$3,967,965. The total reimbursement was only \$291,562, with a loss of \$3,676,403. This excludes the additional governmental, state, and city reimbursements. Similar to New York State's Indigent Care Pool, Kentucky has a pool for unfunded care that totals \$30.3 million. When the reimbursement is readjusted to include the money contributed to the trauma center for uncompensated care, then the reimbursement is at \$3,921,562 for direct costs. The loss then becomes \$46,403 for the trauma center.

Rochester trauma centers:

There is only one trauma center in the Rochester area----- Strong Memorial Hospital, however, some victims of gunshot and stab wounds are treated at Rochester General Hospital's Emergency Room.

In 2006, The Berger Commission did not close down any Rochester area hospitals, however, prior to the Berger Commission, in 1999 St. Mary's Hospital converted into a non-acute care hospital and in 2001 Genesee Hospital closed down, both of which were due to financial losses.

According to the University of Rochester Medical Center's 2007 Annual Report, 121,615 patients were seen in the Emergency Department in 2006 and 122,512 patients were seen in 2007. The average length of stay was 5.8 days in 2006 and 6.0 days in 2007. In 2006 there were 18,196 ambulatory surgeries and in 2007 there were 18,094 ambulatory surveys. (University of Rochester Medical Center, 2008)

References

- Bovbjerg, R. R., Dorn, S., Hadley, J., Holahan, J., & Miller, D. (2006). *Caring for the uninsured in New York*: Urban Institute.
- Christensen, M. C., Nielsen, T. G., Ridley, S., Lecky, F. E., & Morris, S. (2008). Outcomes and costs of penetrating trauma injury in England and Wales. *Injury, In Press, Corrected Proof*.
- Efron, D. T., Haider, A., Chang, D., Haut, E. R., Brooke, B., & Cornwell, E. E., 3rd. (2006). Alarming surge in nonsurvivable urban trauma and the case for violence prevention. *Archives Of Surgery (Chicago, Ill.: 1960)*, 141(8), 800.
- Garson, A. (2007). *Health care half-truths : too many myths, not enough reality* Lanham: Rowman & Littlefield Publishers.
- Hsia, R. Y., MacIsaac, D., & Baker, L. C. (2008). Decreasing reimbursements for outpatient emergency department visits across payer groups from 1996 to 2004. *Annals Of Emergency Medicine*, 51(3), 265.
- The Library of Congress. (2008). *H.R.5942*. Retrieved July 25, 2008 from <http://thomas.loc.gov/cgi-bin/bdquery/z?d110:h5942>.
- The Library of Congress. (2007). *S. 2319*. Retrieved July 25, 2008 from <http://thomas.loc.gov/cgi-bin/bdquery/z?d110:SN02319>.
- Macpherson, A. K., & Schull, M. J. (2007). Penetrating trauma in Ontario emergency departments: a population-based study. *CJEM: Canadian Journal Of Emergency Medical Care = JCMU: Journal Canadien De Soins MÃ©dicaux D'urgence*, 9(1), 16-20.
- Manthey, D. E., & Nicks, B. A. (2008). Penetrating Trauma to the Extremity. *Journal of Emergency Medicine*, 34(2), 187-193.
- Maze, J. (2004). South Carolina trauma centers to ask Legislature for funds. *Post and Courier, The* from <http://ezproxy.rit.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=nfh&AN=2W62000898444&site=ehost-live>
- McConnell, K. J., David, G., & Richard, C. L. (2007). The Financing of Hospital-Based Emergency Departments. *Journal of Health Care Finance*, 33(4), 31.
- National Foundation for Trauma Care. (2004). *U.S. trauma center crisis: Lost in the scramble for terror resources*: National Foundation for Trauma Care.
- Rodriguez, J. L., Christmas, A. B., Franklin, G. A., Miller, F. B., & Richardson, J. D.

- (2005). Trauma/critical care surgeon: a specialist gasping for air. *The Journal Of Trauma*, 59(1), 1.
- Selzer, D., Gomez, G., Jacobson, L., Wischmeyer, T., Sood, R., & Broadie, T. (2001). Public hospital-based level I trauma centers: financial survival in the new millennium. *The Journal Of Trauma*, 51(2), 301-307.
- SoRelle, R. (2001). Trauma centers bleeding dollars with balance sheets in the red. *Circulation*, 103(e9019).
- Thorpe, K. E., & Woodruff, R. (2005). *Impacts of health care reform: Projections of costs and savings*. Washington, D.C.: National Coalition on Health Care.
- University of Rochester Medical Center. (2008). *University of Rochester Medical Center Annual Report*. Rochester.
- Ybarra, R. (2007). *St. E trauma center seeks ways to offset tens of millions in uncompensated costs*: Beaumont Enterprise, The (TX).