

Trauma center care cost-effective

August 17 2010

Trauma center care not only saves lives, it is a cost-effective way of treating major trauma, according to a new report from the Johns Hopkins Bloomberg School of Public Health's Center for Injury Research and Policy. Although treatment at a trauma center is more expensive, the benefits of this approach in terms of lives saved and quality of life-years gained outweigh the costs.

The study finds that the added cost of treatment at a trauma center versus nontrauma center is only \$36,319 for every life-year gained or \$790,931 per life saved. This is despite the fact that initial care in trauma centers is 71 percent higher than in nontrauma centers. While previous studies have found trauma center care decreases one's likelihood of dying following injury, this is the most comprehensive study to date to also measure cost-effectiveness. The results are published in the July issue of the *Journal of Trauma Injury, Infection and Critical Care*.

"In today's economic and health care climates, it is critical to determine whether the benefits of expensive therapies warrant their higher costs," said Ellen MacKenzie, PhD, the Fred and Julie Soper Professor & Chair of the Department of Health Policy and Management at the Bloomberg School of Public Health. "Taken together with our previous work demonstrating the effectiveness of trauma centers in saving lives, the results unequivocally support the need for continued efforts and funding for regionalized systems of trauma care in the United States."

The report found that while trauma center care is cost-effective for all

patients taken together, it is of particular value for people with very severe injuries and for those younger than 55 years. The costs per life-year gained are higher for patients with less severe injuries. These results underscore the importance of designing trauma systems that assure that patients are taken to the level of care appropriate to their needs. Taking the less severely injured to a lower level of trauma care will yield lower overall costs and increased efficiency in the system.

"Each year in the United States, more than two million people are hospitalized for treatment of a traumatic injury. Because injuries often happen in children and young adults, the years of potential life lost are significant," said Richard Hunt, MD, director of the Division of Injury Response in the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention. "We know that getting the most critically injured patients the right care, at the right place, at the right time can help save lives."

To determine cost-effectiveness, the researchers used three metrics: cost per life saved, cost per life-year gained, and cost per quality-adjusted life-year gained (QALY). A total of 5,043 patients contributed to the cost-effectiveness analysis from 69 participating hospitals (18 trauma centers and 51 nontrauma centers) across fourteen states. In addition to care received in the hospital, costs associated with hospital transport, treatment at transferring hospital, rehospitalizations for acute care, inpatient rehabilitation, stays in long-term facilities, outpatient care, and informal care from friends or family members were accounted for when estimating cost. Lifetime costs were modeled using age-specific estimates of per capita personal health expenditures for the general U.S. population and limited data on the impact of specific types of injuries on lifetime [health care](#) expenditures.

While the value of a year of life is the subject of considerable debate, MacKenzie noted that the cost per life-year saved at a [trauma center](#)

(\$36,319 or \$790,931 per life) are "well within an acceptable range of other cost-effective, life-saving interventions reported in the literature." For example, a threshold of \$50,000–\$100,000 per year is often justified based on the cost-effectiveness of renal dialysis.

Provided by Johns Hopkins University

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