Trauma Deserts: Distance From a Trauma Center, Transport Times, and Mortality From Gunshot Wounds in Chicago

Marie Crandall, MD, MPH, Douglas Sharp, MURP, PhD, Erin Unger, MD, David Straus, MD, Karen Brasel, MD, MPH, Renee Hsia, MD, MSc, and Thomas Esposito, MD, MPH

Marie Crandall and Douglas Sharp are with the Department of Surgery, Feinberg School of Medicine, Northwestern University, Chicago, IL. Erin Unger is with the Feinberg School of Medicine, Northwestern University, Chicago. David Straus is with the Department of Neurologic Surgery, University of Chicago, Chicago, IL. Karen Brasel is with the Department of Surgery, Medical College of Wisconsin, Milwaukee. Renee Hsia is with the Department of Emergency Medicine, University of California, San Francisco. Thomas Esposito is with the Department of Surgery, Loyola University Medical Center, Maywood, IL.

Correspondence should be sent to Marie Crandall, MD, MPH, Associate Professor of Surgery and Preventive Medicine, Northwestern University Feinberg School of Medicine, 676 N St. Clair, Suite 650, Chicago, IL 60611 (e-mail: mcrandall@northwestern.edu). Reprints can be ordered at http://www.ajph.org by clicking the “Reprints” link.

Contributors

M. Crandall was responsible for conceptualization, study design, data analysis, and article preparation. D. Sharp performed statistical and geographic data analysis and contributed to the article preparation. E. Unger contributed to the study design, initial geographic data analysis, and article preparation. D. Straus contributed to the study design and article preparation. K. Brasel, R. Hsia, and T. Esposito contributed key editorial assistance to the article preparation.

ABSTRACT

Objectives. We examined whether urban patients who suffered gunshot wounds (GSWs) farther from a trauma center would have longer transport times and higher mortality.

Methods. We used the Illinois State Trauma Registry (1999–2009). Scene address data for Chicago-area GSWs was geocoded to calculate distance to the nearest trauma center and compare prehospital transport times. We used multivariate regression to calculate the effect on mortality of being shot more than 5 miles from a trauma center.

Results. Of 11 744 GSW patients during the study period, 4782 were shot more than 5 miles from a trauma center. Mean transport time and unadjusted mortality were higher for these patients (P < .001 for both). In a multivariate model, suffering a GSW more than 5 miles from a trauma center was associated with an increased risk of death (odds ratio = 1.23; 95% confidence interval = 1.02, 1.47; P = .03).

Conclusions. Relative “trauma deserts” with decreased access to immediate care were found in certain areas of Chicago and adversely affected mortality from GSWs. These results may inform decisions about trauma systems planning and funding. (Am J Public Health. Published online ahead of print April 18, 2013: e1-e7. doi:10.2105/AJPH.2013.301223)

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