greater tolerance of triage errors as they are caught and corrected at successive levels of care.

Is this kind of modeling study helpful? Yes. Despite some obvious limitations, the article generates a fruitful discussion surrounding a core question in disaster medicine: how does overtriage influence critical mortality? It also emphasizes more broadly the critical role that triage plays in determining outcomes than does the relative proportion of critical casualties to treatment bays. For time-dependent mortality, our main finding is that, for most mass casualty incidents, triage accuracy has less impact on outcomes than does the rate of overtriage (ie, getting triage “wrong” in the direction of overcrowding) may obscure other drivers of critical outcomes.

As noted by Armstrong et al in this issue, our model did produce “a positive correlation between overtriage and critical mortality when the number of noncritical casualties increases” but this relationship is both nonlinear and dependent on the ratio of critical casualties to treatment bays. For all of its limitations, this model represents a conceptual framework that begins to reflect the complex relationships among actions, resources, and patient outcomes, and we will continue our efforts to improve its fidelity to the realities of trauma care in both the field and hospital settings.

Response to Armstrong et al

Nathaniel Hupert, MD, MPH, Eric Hollingsworth, BS, and Wei Xiong, PhD

We are pleased that the thought leaders and originators of this line of research consider our article1 to be a useful contribution to ongoing discussions about improving mass casualty trauma care. Our approach focused on the tripartite, dynamic relationship among patient selection resulting from triage decisions, trauma system treatment capability, and time-dependent mortality. Our main finding is that, for most mass casualty incidents, triage accuracy has less impact on outcomes than does the relative proportion of critical casualties to treatment capability, with the corollary that focusing on the rate of overtriage (ie, getting triage “wrong” in the direction of overcrowding) may obscure other drivers of critical outcomes.

About the Authors

Dr Armstrong is Assistant Professor of Acute Care Surgery, University of Florida; Dr Hammond is director of the trauma center at the Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey; Dr Hirschberg is Associate Professor of Surgery, Baylor College of Medicine; and Dr Frykberg is Chief, Division of General Surgery, University of Florida.

Correspondence and reprint requests to Dr John H. Armstrong, 1600 SW Archer Rd, Box 100286, Gainesville, FL 32610-0286 (e-mail: john.armstrong@ufl.edu).

Received for publication December 5, 2007; accepted December 6, 2007.

Authors’ Disclosures

The authors report no conflicts of interest.

REFERENCES

Received for publication December 10, 2007; accepted December 13, 2007.

Authors’ Disclosures

The authors report no conflicts of interest.

ISSN: 1935-7893 © 2008 by the American Medical Association and Lippincott Williams & Wilkins.

DOI: 10.1097/DMP.0b013e3181654336

REFERENCES
