

## Merinoff Symposium 2010: Sepsis—An International Call to Action

Christopher J Czura

The Feinstein Institute for Medical Research, North Shore-LIJ Health System, Manhasset, New York, United States of America

© 2010 The Feinstein Institute for Medical Research, [www.feinsteininstitute.org](http://www.feinsteininstitute.org)

Online address: <http://www.molmed.org>

doi: 10.2119/molmed.2010.00001.editorial

The polio pandemic that spread across Europe, North America, Australia and New Zealand in the first half of the 20th century paralyzed or killed nearly half a million people each year. These were terrifying and challenging times, and it took a concerted effort among clinicians, researchers, patient advocates and public policy makers to develop effective vaccines that led to the near-eradication of polio half of a century later.

Today's emergency rooms and intensive care units are struggling with another condition that has reached epidemic proportions, but is rarely recognized. Sepsis, commonly defined as suspected infection plus evidence of a systemic inflammatory response, afflicts nearly 1 million people in the United States each year, and kills 25–50%—leading to more deaths each year than colon cancer, breast cancer and HIV/AIDS combined (1–4). The average cost of care per patient is approximately \$50,000, creating a U.S. national economic burden of nearly \$17 billion annually (1,5).

Despite these staggering statistics, clinicians frequently miss the diagnosis of sepsis (6). Fewer than 20% of the general population in developed nations is

familiar with the term “sepsis”; and of those who are, nearly 60% do not recognize sepsis as a leading cause of death (7). This incomplete knowledge among the patient/family population makes communication with caregivers difficult (8,9). Similar poor penetration of sepsis knowledge is likely in specific subpopulations, including government and policymakers, the health care industry, philanthropy, public health agencies and the pharmaceutical and diagnostic industries—leading to similar communication challenges between groups. As a result, little attention is paid to sepsis in these sectors, and few resources are deployed to improve diagnostics, treatments and outcomes.

The incidence of sepsis and the number of sepsis-related deaths increase each year, yet few therapeutic options are currently approved for sepsis patients (4,10). Rapid and appropriate delivery of standardized therapies in the initial hours after sepsis onset is likely to influence outcome (9). The recent development of an evidence-based system for patient assessment and management has significantly improved survival, reduced costs and decreased length-of-stay for critically ill patients, despite a modest adherence rate of approximately 50% (9,11).

An education and awareness campaign leading to greater protocol adoption and adherence is likely to further improve these endpoints (12–14).

The polio epidemic—and our success in managing that global health crisis—demonstrated that success requires lawmakers, philanthropists, industrialists, patient advocates, providers and payers to join forces on a collaborative global initiative to eradicate one of the leading causes of death worldwide. Essential to such an initiative is the ability to speak with one voice—to share a common-language, comprehensible message that defines the clinical syndrome of sepsis, describes its prevalence and mortality, and communicates the current challenges to diagnosing and treating sepsis effectively. The *Merinoff Symposium 2010: Sepsis* will be the beginning of an education and awareness campaign to draw international attention to the global sepsis crisis. International thought-leaders in relevant industry sectors will convene at the Feinstein Institute for Medical Research on 29 September through 1 October 2010 to develop a publicly accessible definition of sepsis, and to agree upon a short-term road map to incentivize the early recognition and aggressive treatment of sepsis, to reduce costs, and ultimately—and most importantly—to save lives.

It took many years to defeat polio. It will take commitment, dedication and patience if we are to succeed in solving sepsis. The time to start is now.

---

**Address correspondence and reprint requests to** Christopher J Czura, The Feinstein Institute for Medical Research, North Shore-LIJ Health System, 350 Community Drive, Manhasset, NY 11030 USA. Phone: 516-562-2110; Fax: 516-562-1022; E-mail: [cczura@nshs.edu](mailto:cczura@nshs.edu).

## DISCLOSURE

CJ Czura, PhD, is the Vice President for Scientific Affairs at the Feinstein Institute for Medical Research. The Feinstein Institute for Medical Research in conjunction with the Global Sepsis Alliance is hosting the Merinoff Symposium 2010: Sepsis.

## REFERENCES

1. Angus DC, *et al.* (2001) Epidemiology of severe sepsis in the United States: analysis of incidence, outcome, and associated costs of care. *Crit. Care Med.* 29:1303–10.
2. Linde-Zwirble WT, Angus DC. (2004) Severe sepsis epidemiology: sampling, selection, and society. *Crit. Care.* 8:222–6.
3. Dombrovskiy VY, Martin AA, Sunderram J, Paz HL. (2007) Rapid increase in hospitalization and mortality rates for severe sepsis in the United States: a trend analysis from 1993 to 2003. *Crit. Care Med.* 35:1244–50.
4. Martin GS, Mannino DM, Eaton S, Moss M. (2003) The epidemiology of sepsis in the United States from 1979 through 2000. *N. Engl. J. Med.* 348:1546–54.
5. Chalfin DB, Holbein ME, Fein AM, Carlon GC. (1993) Cost-effectiveness of monoclonal antibodies to gram-negative endotoxin in the treatment of gram-negative sepsis in ICU patients. *JAMA.* 269:249–254.
6. Poeze M, Ramsay G, Gerlach H, Rubulotta F, Levy M. (2004) An international sepsis survey: a study of doctors' knowledge and perception about sepsis. *Crit. Care.* 8:R409–13.
7. Rubulotta FM, *et al.* (2009) An international survey: public awareness and perception of sepsis. *Crit. Care Med.* 37:167–70.
8. Levy MM. The challenge of sepsis. (2004) *Crit. Care.* 8:435–6.
9. Dellinger RP, *et al.* (2004) Surviving Sepsis Campaign guidelines for management of severe sepsis and septic shock. *Crit. Care Med.* 32:858–73.
10. Parrish WR, Gallowitsch-Puerta M, Czura CJ, Tracey KJ. (2008) Experimental therapeutic strategies for severe sepsis: mediators and mechanisms. *Ann. N. Y. Acad. Sci.* 1144:210–36.
11. Dellinger RP, *et al.* (2008) Surviving Sepsis Campaign: international guidelines for management of severe sepsis and septic shock: 2008. *Crit. Care Med.* 36:296–327.
12. Kortgen A, Niederprum P, Bauer M. (2006) Implementation of an evidence-based “standard operating procedure” and outcome in septic shock. *Crit. Care Med.* 34:943–9.
13. Nguyen HB, *et al.* (2007) Implementation of a bundle of quality indicators for the early management of severe sepsis and septic shock is associated with decreased mortality. *Crit. Care Med.* 35:1105–12.
14. Shorr AF, Micek ST, Jackson WL Jr, Kollef MH. (2007) Economic implications of an evidence-based sepsis protocol: Can we improve outcomes and lower costs? *Crit. Care Med.* 35:1257–62.