Editorial

Swine flu, pandemics, and critical care

Steven M Opal[1,2]

[1]Infectious Disease Division, The Warren Alpert Medical School of Brown University, Biomed Center, Brown and Meeting Streets, Providence, RI 02912, USA
[2]Infectious Disease Service, Memorial Hospital of Rhode Island, 111 Brewster Street, Pawtucket, RI 02860, USA

Corresponding author: Steven M Opal, steven_opal@brown.edu

Published: 15 May 2009
This article is online at http://ccforum.com/content/13/3/146

Critical Care 2009, **13:**146 (doi:10.1186/cc7872)

The recent discovery of a new strain of swine flu (officially known as influenza A/H1N1/Mexico City 2009) and the ensuing epidemic demonstrate the collective vulnerability of humankind to pandemic spread of respiratory viruses. We have been planning for pandemic influenza for decades and it is now upon us. This new strain is a hybrid virus, with its major surface hemagglutinin antigen sequences derived from swine, human, and avian flu sources. This new virus is highly communicable by human-to-human transmission; fortunately, at least thus far, it appears to have relatively low pathogenicity potential, with an overall low mortality rate in the single digits. The growing pandemic is centered primarily on young, healthy, adolescent populations. This segment of the population is typically highly mobile and exposed to crowded environments (schools, social gatherings, and traveling) and is infrequently immunized with annual influenza vaccines. The degree of protection afforded by previous vaccination with prior influenza A H1N1 strain antigens is currently the matter of some debate.

It is conceivable, perhaps even likely, that as the virus spreads to the very old, the very young, and other vulnerable populations (pregnant women, immunocompromised patients, those with chronic cardiopulmonary disease, and so on), the mortality rate will rise. Fortunately, the current epidemic strain of swine influenza remains susceptible to the neuraminidase inhibitors, although it is resistant to amantidine-like drugs. Understandably, the fear, confusion, and mixed messages that accompany pandemics bring out the best and, at times, the worst in human nature. Many health care professionals will respond with courage, selflessness, and quiet dignity in caring for influenza victims, whereas others will manifest less admirable characteristics. Hording of anti-influenza drugs, avoidance of caring for contagious patients, and petty disputes over sharing of limited resources should be discouraged but undoubtedly will occur.

The good news is that we are much better prepared to face pandemic influenza now than was the case for our predecessors. The internet is invaluable for the rapid dissemination of interim treatment guidelines and updates about the current status of the epidemic. Rapid viral diagnostics, knowledge about disease transmission, respiratory support measures, effective anti-viral agents, and access to antibiotics for secondary bacterial pneumonia will radically change the outlook for pandemic flu in 2009 as opposed to 1918. Hospital-based pandemic flu plans are activated and international agreements have been established for sharing of essential resources. Despite these plans, health care will be compromised at times, and deaths will result, and already have.

The readers of *Critical Care* will be challenged by the current epidemic in the months to come. Working together, we can manage this pandemic and provide compassionate care for all of our critically ill patients, whether they have the flu or not. Our personal resolve might very well be tested as well. Guidelines for the management of patients with influenza have just been published [1], and daily updates of influenza activity are posted on public health websites worldwide. The information provided on the website of the Centers for Disease Control and Prevention [2] is a good place to start.

Competing interests

The author declares that he has no competing interests.

References

1. Harper SA, Bradley JS, Englund JA, File TM, Gravenstein S, Hayden FG, McGeer AJ, Neuzil KM, Pavia AT, Tapper ML, Uyeki TM, Zimmerman RK; Expert Panel of the Infectious Diseases Society of America: **Season influenza in adults and children—diagnosis treatment chemoprophylaxis and institutional outbreak management: clinical practice guidelines of the Infectious Disease Society of America.** *Clin Infect Dis* 2009, **48:**1003-1032.
2. **H1N1 flu (swine flu)** [http://www.cdc.gov/flu/swine].