

Editorial

Greek Philosophy, Medical Ethics, and the Influenza Vaccine

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As to diseases, make a habit of two things -- to help, or at least to do no harm.

The Epidemics

As there are persons who mend torn garments, so there are physicians who heal the sick; but your duty is far nobler and one befitting a great [person/-namely to keep people in health.

Zenophon of Cyropaedia (400 BC)

The quotation from *The Epidemics* indicates that early Greek physicians had the dual responsibilities of helping and not harming their patients. These responsibilities have become two of the pillars of modern medical ethics -- the principles of beneficence and nonmaleficence. Zenophon's words challenge physicians to expand their concept of "helping" and "doing no harm" beyond the pedestrian calling of therapeutics to the far nobler calling of prevention.

As a hospital epidemiologist, I would agree with Zenophon, and I would argue that we physicians best fulfill our moral responsibilities of beneficence and nonmaleficence when we practice prevention. Yet, from Semmelweis' time to the present, prevention has not been regarded as a noble calling. It has been, instead, relegated to "the back seat" with respect to the flashier, more technological pursuits of diagnostics and therapeutics. In medicine as in Greek mythology, we frequently neglect to keep the jar's lid tightly closed and choose instead to confront pestilence only after it has escaped.

Influenza viruses cause respiratory illness that in particular individuals may be complicated by pneumonia, cardiac failure, and death. Major epidemics in the United States are associated with twofold to fivefold

increased rates of hospitalization for adults with high-risk medical conditions¹ and with 10,000 to 40,000 excess deaths.^{1,2} The vast majority of these deaths occur in persons over the age of 65 years. Furthermore, estimates of the economic loss from influenza in the United States have ranged from \$1 to \$10 billion per year.^{2,3} To paraphrase a 20th century lay philosopher, "If that's not harm, what is?"

Despite the grim statistics and the yearly recommendations by the Centers for Disease Control and Prevention, healthcare workers are remiss in using the influenza vaccine--only 30% of both high-risk patients² and healthcare workers receive the vaccine.⁴ In their article, Watanakunakorn and coworkers⁴ report additional disturbing observations. First, the major reasons for not receiving the vaccine ("I heard it had bad side effects," "I do not like shots," "I had bad side effects from flu shots in the past," "I thought the flu shots did not work," "I did not know I needed a flu shot," etc.) indicated that misinformation and narcissism, not concern for the welfare of patients, motivated many decisions.

Second, education had little effect on vaccination rates and on the attitudes of healthcare workers regarding the vaccine. Although shocking for a profession that prides itself on the acquisition of knowledge, this observation does not surprise hospital epidemiologists given the poor compliance with simple practices such as handwashing^{5,6} and isolation precautions.⁷ The observations of Watanakunakorn and coworkers support the conclusion of Wenzel and Pfaller that information alone is inadequate to alter behavior optimally.⁸

Given their exposure to numerous sick persons, healthcare workers might be at high risk of acquiring

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influenza. However, rather than insisting that their colleagues receive the influenza vaccine to prevent both time lost from work and spread of the virus to coworkers and patients, current peer pressure encourages healthcare workers not to let "little things" like being sick with the flu keep them from working. Such valor in the face of discomfort only exposes others unnecessarily to influenza.

Although surveillance frequently misses nosocomial outbreaks of influenza, they are not uncommon.⁹⁻¹¹ Furthermore, transmission of influenza from patients to healthcare workers¹¹ and from healthcare workers to patients has been described. Serious bacterial pneumonias secondary to nosocomial influenza also have been reported.⁹

Although the efficacy of the influenza vaccine has been debated, only 14% of healthcare workers surveyed by Watanakunakorn used lack of efficacy as a reason for not receiving the vaccine.⁴ In uncontrolled observational studies, the efficacy for preventing clinical illness in elderly patients has ranged from 5% to 43%¹²; however, the vaccine has been shown to reduce rates of pneumonia by 49%,¹³ hospitalization by 72%,¹⁴ and death by 59% to 87%.^{13,14}

Essentially all healthcare workers see patients who are at risk of developing complications of influenza infection. Furthermore, many medical personnel or their family members are at risk of complications (e.g., pregnant women). No healthcare worker intentionally transmits a potentially fatal illness to their patients, coworkers, or family members -- that would be unethical. Yet most do not use the primary measure available to prevent spread of influenza -- the vaccine.

Perhaps it is time for us to stop relying on education alone to improve compliance with influenza vaccination and instead design influenza vaccination programs that decrease disincentives, increase incentives, and add "passive restraints."⁸ Examples of decreasing disincentives include offering flexible schedules and locations for the vaccinations. The most successful programs reported have taken the vaccine to the healthcare workers on the wards and in the clinics.^{10,13,15} Increasing the incentives could include using peer and patient pressure to "encourage" healthcare workers to get the vaccine. Such an approach has been successful in social situations and has precedent in infection control.^{8,16} Adding passive restraints, similar to automatic seat belts in cars, would include requiring all personnel caring for high-risk patients to be vaccinated against influenza. Similar policies have been implemented in some hospitals

regarding measles vaccination; why should we not have similar requirements for the influenza vaccine?

As infection control personnel, we subscribe to Zenophon's radical assertion that prevention is more noble than therapeutics. Our duty includes setting a personal example and creating a culture and philosophy that encourage and reward those who practice prevention. By doing so, we fulfill our noble calling and our ethical responsibility "to help" our patients and "to do no harm."

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