Editorial

Influenza Vaccine Progress

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I have devoted several *Hospital Pharmacy* editorials¹⁻⁴ to the safety and ethical concerns of vaccine use. I reported on a rigorous analysis⁵ that raised questions regarding the evidence for effectiveness of the present generation of influenza vaccines in the elderly and those at risk for medical complications. The editorial conclusion reported that current influenza vaccines do provide a moderate level of protection and the evidence still supports their use but that a partnership between industry and government may be required to guarantee the prospects for much better flu vaccines. I am pleased to report this has happened. A pandemic influenza would seriously threaten the global economy; there is currently optimism in the scientific community that better vaccines are within reach if we have the will to do it.⁶

Novartis, in partnership with US Department of Human Services – Biomedical and Advanced Research Authority (HHS BARDA), received approval on November 20, 2012 for *Flucelvax* (influenza virus vaccine). It is the first cell culture–derived vaccine available for patients 18 years of age and older. *Flucelvax* utilizes full-scale cell culture manufacturing technology instead of traditional egg-based production. Novartis has chosen to use a mammalian cell line rather than the current, slower process involving chicken embryos. It does not contain preservatives and allows for rapid response to an urgent public health need, such as a pandemic, within weeks.

Patients have also expressed ethical concern about the use of fetal cell lines purchased by several other pharmaceutical companies. These lines have been used in production for vaccines for measles, mumps and rubella, hepatitis, polio, rabies, chickenpox, and smallpox. Bio-ethical issues have been raised as to the use of these vaccines for some patients.⁷ If the health of a child is at risk, parents, who otherwise would not use vaccines developed with fetal cell lines, may use these vaccines. Some parents may choose not to have vaccines

administered to their children for ethical or religious reasons, which puts their children and, potentially, the population as a whole at increased risk of disease transmission. Those who object to these types of vaccines should make their concerns known and ask their health care system to make other types of vaccines available.

This cell culture technique for vaccine production obviates these ethical concerns. Prior editorials concluded that it is incumbent on us to do what is possible to make available alternative vaccines, to encourage the pharmaceutical industry to do so as well, and to petition the US Food and Drug Administration to process any such application expeditiously.

My congratulations go to Novartis and HHS BARDA. This method of cell culture technology may lead the way for further vaccine development and ensure the availability of seasonal influenza vaccines and those of a potential pandemic.

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