

# Swine Flu: Lessons from a Non-Epidemic

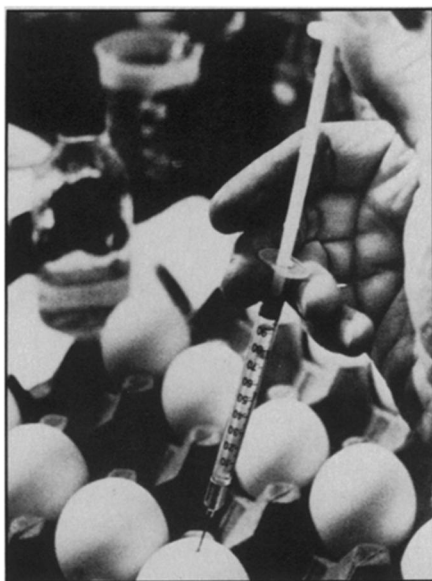
The 1976 swine flu vaccination program, the largest immunization endeavor in history, came to an abrupt and disgraceful end last December. The reasons for its demise were numerous and diverse. Drug companies refused to make the vaccine unless government paid for liability suits if the vaccine proved unsafe. As the feared swine flu epidemic failed to materialize, many Americans did not turn out to get a flu shot. Immunization was suspended temporarily in a few states until it was shown that the deaths of some older persons were not due to the vaccine. Finally, the rare, paralyzing Guillain-Barre syndrome loomed as a risk of swine flu vaccination.

Yet the impact of this costly and controversial preventive medicine effort is far from over, a symposium at the annual meeting of the American Society for Microbiology in New Orleans revealed last week. The symposium, "Swine Influenza Vaccine: An Afterview," included views of government and university scientists.

If there is any one thing the speakers agree on, it is that the program was a "rank political boondoggle." Because so many things went wrong with the program, the American public, and especially the press, became disenchanted with the government officials and scientists who launched it.

The speakers also concur that the Guillain-Barre syndrome was triggered by swine flu vaccination. As Walter R. Dowdle, director of virology at the Center for Disease Control in Atlanta (one of the government agencies responsible for the swine flu program), puts it, being vaccinated posed "a finite but definite risk" of contracting the disease. Epidemiological statistics, he says, showed that 100 cases of the syndrome and 17 deaths from it occurred among 40 million persons vaccinated—risk rates considerably above those for the general American population. Nonetheless, researchers are still not sure whether the swine flu virus itself, or any virus for that matter, can cause the syndrome; vaccination and the syndrome have never been linked before. Rather, the syndrome might have resulted from some abnormal immune reaction to swine flu vaccination or possibly to some other cause. Investigators at the CDC and at the National Institute of Allergy and Infectious Diseases are now trying to see whether swine flu vaccinees who came down with the syndrome share certain characteristics that might have predisposed them to it.

The speakers argue, however, that the swine flu vaccination program was not a scientific failure. It was the largest vaccination attempt in history, surely a scien-



*Vaccine production: Was it worthwhile?*

tific feat in itself, asserts Merrill J. Snyder of the University of Maryland School of Medicine in Baltimore. The vaccines were also made in six weeks rather than in the four months it used to take to manufacture flu vaccines, notes Harry Meyer of the Bureau of Biologics of the Food and Drug Administration (another government agency responsible for the swine flu program). During late summer and early fall 1976, he says, two million doses of the vaccine were being produced by drug companies a week—"a stupendous industrial accomplishment." The vaccine, he points out, was also far purer than flu vaccines made in the past (details of which will be published in a summer or fall issue of the *JOURNAL OF INFECTIOUS DISEASES*). And just because a swine flu epidemic did not occur, Dowdle declares, this does not mean that the vaccination program was a failure. A vaccine against A-Victoria flu virus was made available to Americans at the same time a swine flu vaccine was, and the A-Victoria strain did strike. Thus, if a swine flu epidemic had also occurred, the vaccines might well have saved millions of lives.

What's more, the speakers stress, the program has provided valuable scientific information that can be used in future flu vaccine programs. For instance, the NIAID conducted swine flu vaccine clinical trials on some 5,000 adults and 3,500 children before the vaccine was commercially prepared. These trials, concur John La Montagne of the NIAID and Peter Wright of Vanderbilt University School of Medicine, give researchers valuable insights into how much flu virus adults and children require in a vaccine. Adults need only half or even only a fourth the virus

previously believed necessary for protection. Children, in contrast, need much more virus than adults because their immune systems are less easily activated by it. Also, two doses of vaccine rather than one appear to be ideal for them. Those children who participated in the trials are now being followed up to see how long antibodies to swine flu virus remain in their blood. The results should give researchers an even better idea of how much flu virus children need for protection.

Nonetheless, the challenge of flu epidemics to Americans is far from over. Because flu viruses, unlike other viruses, are ever changing, Americans will probably not have ideal protection against them 10 years from now, predicts Meyer. In fact, a swine flu epidemic may still strike since swine flu virus has been found in pigs throughout the United States, yet not in pigs in other countries (see p. 328). And while scientists and government agencies keep a watch for swine flu or other flu epidemics, they will also try to combat skepticism raised by the swine flu program—an attitude that has hurt other kinds of vaccination programs. For instance, the Department of Health, Education and Welfare will now try to step up immunization among American children. Vaccines against numerous childhood diseases are available, yet parents are not taking advantage of them. Such apathy could create new epidemics of old dreaded diseases such as polio or rubella. The latter, while not serious for children, can trigger birth defects in human fetuses.

Educating Americans in prevention is difficult though, Dowdle concedes, whether it is talking them into vaccines, smoke detectors or even national defense. Look at the Surgeon General's attempts to get people to stop smoking, he points out. The Surgeon General's office is now defunct, and Americans keep puffing. □

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## Fluorocarbons out, new systems in

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Time is running out for spray cans using chlorofluorocarbon propellants. But don't despair about losing that fine mist of hair spray or deodorant. Just in the nick of time, new systems for dispensing spray products are being announced.

Three federal agencies—the Food and Drug Administration, Environmental Protection Agency and Consumer Product Safety Commission—last week, in a rare example of cooperation, set Oct. 15, 1978, as the date after which no chemical firm will be allowed to make the propellants for general use. The proposed