

# Government Sets Plan to Immunize All Americans Against New and Potentially Dangerous Type of Flu

## But Undertaking Is Fraught With Difficulties; New Type of Vaccine Needed

A WALL STREET JOURNAL News Roundup

The government embarked on an unprecedented campaign to immunize every American against a new and potentially dangerous type of influenza that is expected to strike this coming winter.

The effort is the largest single-year vaccination campaign ever undertaken in this country or probably any other, and is fraught with difficulties. Officials hope to have the necessary vaccine so the shots can be given next fall.

An entirely new type of influenza vaccine must be developed and produced in only a few months, normally, drug makers work on flu vaccine changes for a year. Mass immunization programs must be developed to reach the entire population at a time when health authorities are having difficulty mounting limited campaigns to vaccinate special groups, such as children.

"A program of this scope has never been tried before and never in this time frame," comments Dr. Theodore Cooper, assistant Secretary for Health at the Department of Health, Education and Welfare.

The go-ahead was given yesterday by President Ford who met with outside advisers to review the HEW vaccination plans. The President was first informed of HEW's intentions Monday. He called in outside advisers yesterday to find out if they thought the mass-vaccination project was necessary and feasible. The consensus was yes.

After the meeting, the President said his advisers agreed there was "a very real possibility unless we take effective counteraction" of a serious flu epidemic arising this winter. But he added that "these facts don't suggest any cause for alarm." He appealed to the public to participate in the planned immunization programs.

### Supplemental Funds

The project is expected to cost \$135 million, which the President will request in a supplemental appropriation from Congress. Most of the money will be required to purchase vaccine from the manufacturers at 50 cents a dose. The remainder will be used by the government for public and professional education, surveillance and research efforts.

HEW rejected the notion of special federal support for administering the vaccine, an expense that could easily amount to many millions of dollars. Instead, a partnership of federal and state health agencies and private doctors will be relied on. It's anticipated that the federal health programs, Medicare and Medicaid, will pay for immunizing for many of the elderly and poor. State public health programs will reach others, such as school children, but many Americans will be expected to get their flu shots from private doctors.

Many of the distribution details haven't been worked out. The government will tell physicians they can't charge for the vaccine, which will be given to them, although they can charge for administering it. Health officials estimate that 50 million Americans will receive flu shots through the federal government. These recipients include military and Indian Health Service beneficiaries, for example. Another 50 million will be served by state and local health authorities. They will aim particularly at those with a high risk of being seriously harmed by the flu, such as the elderly, the very young and persons with heart or lung disease. The major concern is influenza's potential for producing pneumonia and other respiratory infections that can be fatal.

### A Crash Campaign

The remainder of the U.S. population—more than 100 million people—would be served by private practitioners, who might be willing to spearhead community vaccination campaigns as they did with polio.

Manufacturers will begin a crash campaign to produce a vaccine effective against the new strain of flu virus that's expected to be prevalent next year. This strain first appeared at Fort Dix, N.J., last month, where it infected 500 to 1,000 recruits and other military personnel. The strain is normally

found only in swine, and health experts were astounded by its potential for spreading to and among humans. Ironically, the swine virus-strain, which was isolated in 1931, was then given the number 1976.

Authorities are concerned because a sudden change in the nature of the flu virus is usually followed by epidemics. The last two major flu pandemics—the Asian flu in 1957-1958 and the Hong Kong flu in 1968-1969—were caused by changes in the flu virus. Furthermore, experts suspect that the great flu pandemic in 1918-1919 also may have been caused by a swine-type virus, although in those days viruses couldn't be identified. The reason experts think this is that many older persons who survived the 1918-1919 outbreak, which killed 500,000 Americans, have protective antibodies in their blood streams produced by a swine virus.

A pandemic is an epidemic that spreads over a wide geographic area.

Vaccine makers say they should have sufficient quantities of the new influenza vaccine available to launch a nationwide vaccination program in early fall.

Although the four flu vaccine makers are just taking the first steps to make the vaccine, their authorities believe at least 75 million doses could be available by September and, if nature cooperates, they could have as many as 150 million doses by then. Production would continue as the mass vaccination programs got under way so there should be ample vaccine to inoculate all 215 million Americans.

### "Pull Out All Stops"

"We'll go to the maximum production we can if called upon to do so; we would pull out all stops," said Robert Hendrickson, vice president of operations for the Merck Sharp & Dohme division of Merck & Co. "We're ready to go on a full seven-day week if needed," added a spokesman for Parke, Davis & Co., a subsidiary of Warner-Lambert Co.

The two other flu vaccine makers, Richardson-Merrell Inc.'s Merrell-National Laboratories division and the Wyeth Laboratories division of American Home Products Corp., similarly said they were ready to go all out to produce the new vaccine. In addition, Lederle Laboratories division of American Cyanamid Co., which dropped out of flu vaccine manufacturing this year to renovate its facilities, would be able to produce the new vaccine if it were needed, a spokesman said.

The normal flu vaccine output is 20 million doses a year; the new effort will call for 210 million. During the 1957 flu epidemic an effort was made for massive flu vaccine production but only 50 million doses were produced and only about 25 million were used in immunization campaigns.

The vaccine will be injected, as with current flu vaccines, and will produce immun-

ity in one shot. Federal officials predict that the manufacturers can produce a vaccine that is 70% to 90% effective. Although this isn't as effective as polio vaccine, it is adequate for the campaign, the officials say.

Despite intensive study, federal health officials concede there are many uncertainties about the swine flu. The major unknown is whether an epidemic will actually occur next winter. Scientists say there isn't any way to know for sure and if they waited for one to occur it would be too late to launch a vaccination campaign. "It's more prudent to presume the worst and make the effort," comments Dr. Harry Meyer Jr., director of the Food and Drug Administration's vaccine regulatory work.

Just how much vaccine will be available, and when, depends in a large part in how adept vaccine scientists are in growing the new flu viruses on a production scale—and in a small part it depends on the sex drive of several thousand roosters.

The new vaccine is aimed at preventing flu caused by the Type A swine virus, and is made from swine viruses that have been "killed" or inactivated so they don't cause illness but are still capable of triggering the body to build up an immunity to the "live" flu-causing viruses.

To make the vaccine, the producers first inject the flu viruses into 11-day-old fertile chicken eggs. As the eggs incubate over the succeeding few days, the viruses multiply in the fluid surrounding the chick embryo. The eggs are then cracked, the fluid extracted and the viruses are concentrated, purified, and inactivated.

The key to how much vaccine can be produced is how many doses of vaccine viruses the manufacturers can obtain per egg. In making the older vaccines against the Hong Kong and Victoria varieties of flu—the kinds that struck the U.S. this past winter—the vaccine makers are getting two and three doses of vaccine per egg. A yield of four doses is considered excellent.

Vaccine researchers are experimenting with laboratory-bred variations of the new swine virus, hoping to develop a special breed that would give a high yield per egg. Some makers, such as Merck and Merrell,

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are starting production-size batches of these test viruses this week

However, the initial yields may be quite low, noted Dr Maurice Hilleman, a noted research virologist at Merck's Institute for Therapeutic Research at West Point, Pa

"The way it looks right now, it'll be more like one dose per egg," Dr Hilleman said. This yield should increase, though, as the weeks go by

If the industry can process 600,000 eggs a day, six days a week, it should be able to turn out roughly three million doses a week, once full-scale production gets under way, Dr Hilleman calculated

Other production experts suggested the first production-size batches of vaccine should be available by sometime in July, possibly sooner. Even if the manufacturers are able to get only one dose of vaccine per egg, they could have 75 million doses available by September, Dr Hilleman estimated. If the scientists can manipulate the virus to be even more prolific and increase the yield per egg, the amount available would be even greater, a yield of two doses per egg would provide 150 million doses by September, Dr Hilleman explained

Flu researchers, however, still have to decide how big a dose will be needed to give a person adequate immunity to swine virus flu. If it takes only a small dose to immunize a person, the number of doses that could be made from each egg would be greater. First tests in humans to determine the safety and dose size should get under way in the next few weeks using test batches of the vaccine

One minor production bottleneck is possible. The vaccine has to be produced in fertile hen eggs, meaning the poultry raisers who supply the eggs have to keep roosters. Normally, these roosters are slaughtered after the vaccine maker finishes routine flu vaccine production in the spring.

"I hope the companies told their (egg) suppliers to keep the roosters around," one scientist said. A spokesman for one company noted that most makers were still in production of the older flu vaccines, and presumably poultry raisers still had their roosters