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# To Stop the Pandemic, Change Your Axioms!

Never in most of our lifetimes has an existential threat to the whole of humanity been so immediate and so widely acknowledged, as the threat posed by the probable imminent emergence of a human-transmissible form of the avian influenza type A/H5N1.

Since our decision several months ago to devote our Fall issue to this topic, the level of public awareness of the danger has been raised by the devoted efforts of a number of leading figures, prominent among them the infectious disease specialist Dr. Michael Osterholm. Many media outlets have not hesitated to present the danger.

Yet, the level of government response remains vastly, obscenely, inadequate to the need. Listen to even the best-informed public figures, such as the National Institutes of Health's Dr. Anthony Fauci, as they describe the looming catastrophe with considerable precision. Then hear their proposed responses. Anyone who has truly internalized the magnitude of the threat, cannot but feel like one of the thirsty and starving citizens of New Orleans in the first week of September, as they listened to government posturing and promises of help on the way.

The failure to act adequately in face of a perceived threat of this magnitude can only be explained as a form of mass insanity. So future generations—the post “great-influenza outbreak” generations—would see it. And so must we, who wish to be history's active instruments in averting such a disaster.

The specific insanity is a cultural problem with roots in the mid-1960s. It is the shift which took place in America and Western Europe in the period following the John F. Kennedy assassination and the buildup of the Vietnam War. The dominant theme of that cultural paradigm shift, defined by figures such as Lord Bertrand Russell, was the abandon-

ment of a commitment to the scientific outlook as a means of solving the problems facing mankind. Russell, who had just a few years earlier argued for pre-emptive nuclear strikes against Russia, changed the argument: Science made war. Give up your brain, and get in touch with your feelings. If you found the taste bitter, the favorite poets and authors of the Congress of Cultural Freedom's menagerie of pessimism were there to make you feel good about feeling bad. And there were always drugs and sex.

Symptomatic was the dismemberment of the U.S. space program, even before the first astronauts set foot on the Moon. In place of the manned mission to Mars, we got the Star Trek television serial, whose principal spinoff, the “Trekkies,” were the living embodiment of the shift in popular axioms from science to intellectual mass suicide.

## Where Katrina Came From

Take the case of Katrina, as exemplifying the kind of mass cultural insanity we address. Following Hurricane Betsy in 1965, the Johnson Administration got Congress to authorize a project to be completed in 10 years, which included protecting the city of New Orleans with 16-foot levees. But before the 10 years was up, the decision was made not to spend the money. The cultural paradigm shift of the '68-er generation had already set in. Science was out. Infrastructure was too expensive. “Get it now while you can, and let someone else worry about the future.” The process set in the economy as a whole, as the essential costs of maintaining a modern agro-industrial economy were abandoned.

Some wise guys figured out that we didn't have to produce anything at home any more. It was a lot cheaper to shop it out to cheap-labor markets in South America and Asia. Those things



Courtesy of Tien Chiu

*Vietnamese peasant farming: Traditional practices provide an opening for flu virus mutation under conditions of globalized agriculture*

that couldn't be imported, like health care for the poor and elderly, we'd just cut. First, it was called the Jimmy Carter Administration, a receivership under control of such Trilateral Commission and Council of Foreign Relations figures as James "Rodney the Robot" Schlesinger and Zbigniew Brzezinski. Then it was re-invented as Newt Gingrich's Conservative Revolution. The premise is the same: You don't have to actually work to make a living (unless you're poor), and government can persist forever cutting taxes for the rich.

Worse, under globalized agriculture we have developed a vulnerability in our food supply chain which will exacerbate the effects of any pandemic, and poses a catastrophic problem in its own right—the threat of worldwide famine. As elaborated in the article featured on page 34, the alarming worldwide reduc-

tion of just-in-time inventory systems—which will mean immediate shortages in production in the event of a pandemic-induced shutdown of transportation—a point recently emphasized by Dr. Osterholm—has the same origin. Worse, under globalized agriculture we have developed a vulnerability in our food supply chain which will exacerbate the effects of any pandemic, and poses a catastrophic problem in its own right—the threat of worldwide famine. As elaborated in the article featured on page 34, the alarming worldwide reduc-

### Flu Threat Has Same Origin

Our dangerously weakened ability to respond to the now-threatening avian flu pandemic is provably a result of those same policies implemented on a global scale. Among the consequences:

- The conditions for reassortment and spread of the viral organism are provably fostered by the patterns of globalized agriculture which have developed, particularly in Asia.
- The present weakness of our public health infrastructure, has the same ideological origin.
- The same causes are behind such economic vulnerabilities as the preva-

lence of just-in-time inventory systems—which will mean immediate shortages in production in the event of a pandemic-induced shutdown of transportation—a point recently emphasized by Dr. Osterholm—has the same origin.

### Global Biological Holocaust

Our record on this matter goes back to physical economist Lyndon LaRouche's 1973 warning of the inevitable onset of a global biological holocaust resulting from the effects in Third World nations of the early phases of that mid-1960s cultural paradigm shift. Policies such as the replacement of village-scale agriculture with exportable mono-crop production in impoverished regions of Africa, temporarily supporting displaced populations with a flood of PL-480 food aid, were the sort of thing to be noted. Behind this came a crushing burden of debt service requirements, and the inevitable International Monetary Fund austerity programs. In the effects of those conditions on already impoverished and often deeply demoralized populations, could be found the conditions for the outbreak of old and new forms of pandemic disease.

LaRouche's associates sounded the warning in 1974 through the formation of the Fusion Energy Foundation's global Biological Holocaust Task Force. The appalling 1973 famine in the African Sahel, when this once self-sufficient region was struck by one of

*Continued on page 5*

## Senate Proposes \$3.9 Billion To Fight Avian Flu

The proposal by Senate leaders Democrat Harry Reid and Republican Bill Frist, to appropriate \$3.9 billion to fight avian flu, is a move in the right direction. But don't get too excited yet: Some \$3.1 billion of it is reported to be allocated to build U.S. stocks of the antiviral Tamiflu, in order to have enough for 50 percent of the U.S. population. That comes to \$22 per person for 140 million Americans for a drug that is not certain to protect against the coming flu. How far is the other \$0.8 billion going to go in face of a pandemic that could be more severe than the 1918 Spanish flu,

which killed 40 to 50 million?

The proposal was announced on Sept. 29 by Democrat Tom Harkin of Iowa and backed by Senators Harry Reid, Barack Obama, Ted Kennedy, and Evan Bayh, as an amendment to a \$50 billion-plus emergency Defense Appropriation for Iraq, about to come before the Senate. Republican Majority leader Frist endorsed the effort in a joint appearance with Democratic Senate leader Harry Reid on ABC-TV's "Nightline," Sept. 29. Key points include:

- Double global surveillance of avian flu;

- Restore Bush's \$122 million budget cuts to local and state public health departments and emergency preparedness activities;

- Increase stockpiles of the Tamiflu antiviral to provide for 50 percent of the population;

- Build up and strengthen vaccine infrastructure;

- Provide new resources for outreach and education.

All the points are necessary, but they don't even begin to face the requirements of a global pandemic that could strike as early as this flu season.

## Editorial

*Continued from page 3*

its periodic droughts, was a harbinger of worse to come.

The appearance of HIV/AIDS in epidemic form in parts of Africa in the mid-1980s, became the occasion for LaRouche's call for a crash mobilization of scientific resources to defeat this deadly threat to the whole human race. LaRouche called for a Manhattan Project-style mobilization of both existing and frontier resources of biomedical research, with a special emphasis on pursuing unexplored pathways, such as some promising results in optical biophysics applications spun off from military-related research. The response of then Surgeon General C. Everett Koop was to argue that we could not afford it.

In 1986-1987, the Fusion Energy Foundation conducted a proof-of-principle experiment in the efficacy of eliminating flying locusts by use of appropriately tuned directed-energy beams. That approach to solving the locust crisis then devastating West Africa and surrounding locations was added to LaRouche's call for mobilization against biological holocaust.

The trend of culturally dictated negligence of the need for scientific mobilization for defense of human life, from the failure to implement the response to Hurricane Betsy launched under President Johnson, through disregard for our own and others' validated warnings of a pending Sahel crisis, through our warnings on the subject of the global "AIDS" pandemic during the early 1980s, and the horrifying negligence of the Cheney-Bush administration in failing to prepare for the clear threat from "Katrina" are now expressed in the most terrifying of all such threats of pandemics, pestilences, and related categories of "New Dark Age"-like calamities today.

The mid-1960s paradigm shift, away from science-driven approaches to serving the common aims of mankind, is the problem. It's time to face this deeply embedded error in our cultural outlook, to change it, and to have the courage to tell others to do the same.

—Laurence Hecht  
Oct. 1, 2005

# FLU PANDEMIC

## It's the Physical Economy, Stupid!

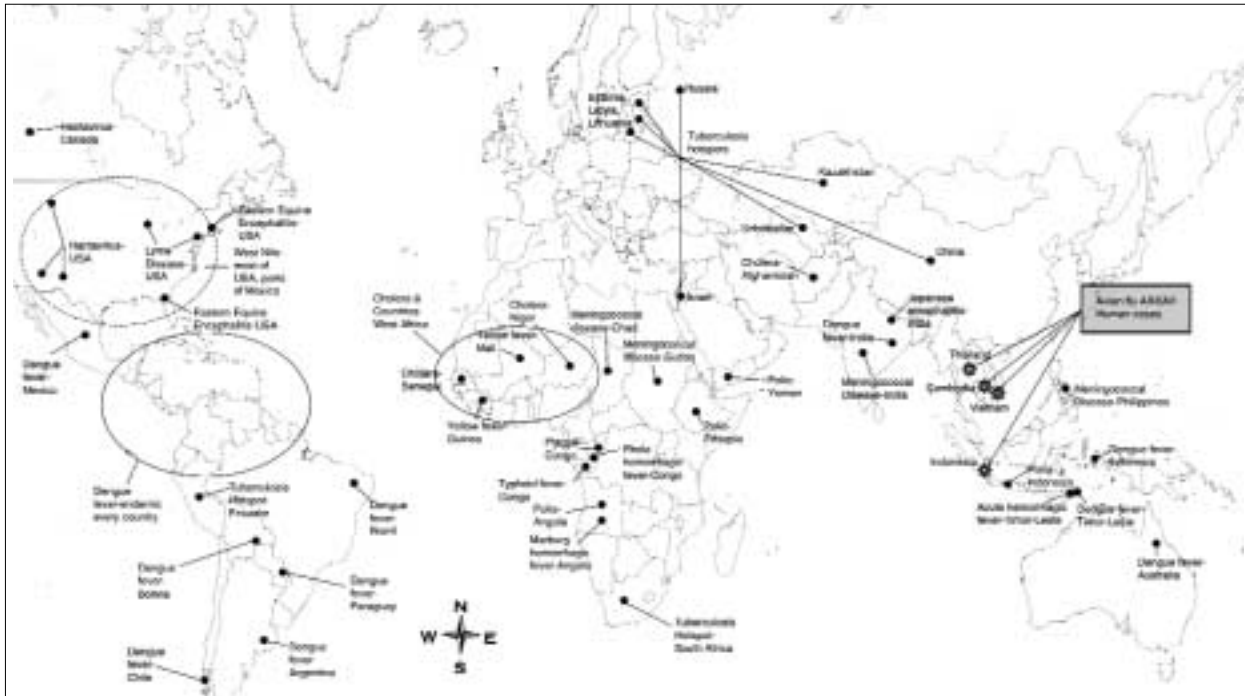


FAO

*Declining world living standards, combined with globalized agriculture, have created ideal conditions for the development and spread of infectious diseases. Here a live fowl market in Asia, where the close proximity of human beings and animal and bird species provides a culture for avian flu to spread.*

**A** global pandemic of the H5N1 avian influenza virus now threatens 50 million or more lives. The virulence of this new strain of Influenza A is established by the fact that, of the 118 confirmed cases so far among humans, 64 died in a short time. To date, *most* of those infected were in close proximity to infected animals. The remaining step in the evolution of the virus is a reassortment or mutation of the existing strain to a form capable of easy human-to-human transmission. There is no doubt among experts in the relevant fields of virology and veterinary medicine that this final step is coming some time soon. The question is not if, but when.

Emergency measures must be taken now, before it is too late. These must include: protection of front-line defenders; government action under emergency provisions to accelerate vaccine preparation, and to produce and stockpile antiviral medication; and gear-up of emergency capabilities for medical and public health response. No more hospital closings. No more takedown of



### EMERGING INFECTIOUS DISEASE HOTSPOTS 2005

The map is a “snapshot” of the major infectious disease outbreaks for 2005 globally, including the emerging human break-out of avian influenza A/H5N1 in Asia this year. Not included are the ongoing HIV/AIDS pandemic now devastating Africa and moving into Asia and Russia, and malaria, one of the top three killer diseases worldwide.

Sources: WHO, CDC, PAHO

medical capability such as the decision to break up the research capability of Walter Reed Army Medical Center, in Washington, D.C.

There are two crucial and frequently overlooked points which relevant experts and layman alike need to know in the coming battle to defeat this deadly threat.

**First**, the avian flu threat is part of a general biological holocaust, which is the result of a decades-long collapse of world physical economic infrastructure. **Second**, the collapse of living standards and spread of disease is the intentional and willful policy of leading financial elites. We address these points consecutively below.

#### Pandemic and Physical Economic Breakdown

Despite mountains of propaganda, the average standard of living of each member of the human species has been significantly reduced since the 1965-1971 period. A county-by-county breakdown of the physical productivity of U.S. manufacturing regions, carried out by the *Executive Intelligence Review* economics staff, makes the point so dramatically as to be irrefutable, regarding the United States.

The declining condition of life in most Third World nations has become so severe that the rising rates of infectious disease, infant mortality, and malnutrition—not monetary economic measures—have become the most precise indicator.

Accompanying this physical economic breakdown, which dates to the 1965-1971 period of abandonment of the commitment to the development of an agro-industrial economy in the United States, has been the spread of a global biological holocaust, which includes the emergence of AIDS, and re-emergence of once-controlled tuberculosis, malaria, and a full spectrum of other infectious diseases, affecting the human, animal, and plant populations. These two features, physical economic collapse and biological collapse, interact in myriad interconnected ways, some understood and some yet to be discovered.

Primary among causative factors has been the proliferation of agricultural practices such as monoculture, which has so reduced the species diversity of crops as to threaten disaster with the onset of every new disease. A similar reduction in the diversity of species and varieties poses a dangerous threat to the sustainability of livestock in the event of infection.

In livestock management, a danger arises at both ends of the economic spectrum. The intermixing of migratory waterfowl (which carry influenza A virus in their intestinal tract), with farm populations of fowl and mammalian livestock, provides the breeding ground for emergence of a new strain of H5N1 capable of human-to-human transmission. At the low end of the economic spectrum, this species mixing occurs in traditional agricultural practices. On the other end of the econom-

# LaRouche: Public Sanitation Is First Line of Defense

*During the anthrax-letter episodes of Fall 2001, Lyndon H. LaRouche, Jr. released a policy document, "National Defense Against Germ Warfare," through his Presidential campaign, LaRouche in 2004. Some excerpts from this Oct. 28, 2001 statement follow. (The full text is at [www.larouchein2004.com](http://www.larouchein2004.com).)*

**T**he most important principles of national defense against bacteriological and related forms of warfare, were consolidated as knowledge in the experience of World War II and the war in Korea. Those lessons were featured in the adoption and implementation of the Hill-Burton legislation adopted shortly after the close of World War II.

From the related experience our nation, and others, have accumulated over the centuries, we must not limit the idea of defense against germ warfare and related attacks, to the role of medical practice. We must situate the role of the medical profession, both in care for the sick and in other ways, as an essential, subsumed feature of public sanitation.

I explain this extremely important distinction to be made at this point of our national defense requirements. It is to the degree that we have taken down much of the national-defense protection provided by public and related measures of sanitation, during the recent three decades, that our nation's vulnerabilities to the presently ongoing germ-warfare attacks were created as the opportunities they presently represent to the advantage of our enemies.

National biological defense means, chiefly, those measures of sanitation which are essential to improving and defending the life-expectancies and well-being of the population as a whole. . . . This includes not only safe water, but also improved supplies of energy, per capita and per square kilometer; it includes improved public transportation.



EIRNS

*Lyndon LaRouche in 1974, testifying in Washington, D.C., before the House Judiciary Committee. In 1973, LaRouche commissioned a task force on biological holocaust, to study the emergence of new and old pandemic diseases that were likely to result from the shift to policies of austerity and deindustrialization.*

## The General Hospital

It also includes the practice of the medical professions generally. The pivotal feature of the medical profession's role is the general hospital, provided as a public institution which is not only a teaching institution, but which serves those sections of the population which are relatively indigent, and are therefore the most likely radiators of infectious diseases. The public teaching hospital of this type, which is also integrated with the teaching and research functions of a university, is among the most valuable such facilities.

The feature of medical practice to be emphasized in dealing with the actuality and threats of biological warfare, as now, is the ability of the medical profession to respond effectively by producing, rapidly, appropriate forms of non-standard treatment for diseases of a non-standard quality. In such circumstances, we must deal not merely with the apparent "inge-

nuity" of infectious organisms, but with an enemy, like H.G. Wells's fictional "Dr. Moreau," whose satanic impulses are employed to make infectious agents more deadly than such diseases could become by so-called natural means.

However, without lessening emphasis on the importance of medical counter-intelligence practice, *it is public sanitation which remains the first line of defense of the population against both normal epidemic disease, and also biological warfare attacks.* We require a coordinated, "crash program" sort of attack on both fronts, combined.

This means that we must move quickly, not only to restore the indispensable Washington, D.C. General Hospital, but to restore those medical and infrastructural defenses which were taken down, piece by piece, during the approximate quarter-century since the enactment of the [1974] HMO legislation.

ic spectrum, massive factory farming of chickens, pigs, and other animals provides a breeding ground for rapid spread of any infection and the human-animal interaction which can facilitate mutation and viral reassortment. Similarly for the large-scale poultry processing operations, animal feedlots, abattoirs, and so on.

In all these cases, pressures for quick-return on financial investment, a key feature of the disastrously mismanaged global economic environment, lead to shortcutting of sanitary practices, and use of untrained labor, often under conditions of overwork and poor health. Even the most brilliant work of veterinary pathologists cannot always be expected to stem the tide of infection under such circumstances.

The level of health and immunological resistance of the human population is the final link in the chain of spread of pandemic disease. Here is where the low level of public health infrastructure in developing nations, and the takedown of once advanced capabilities in formerly industrialized nations such as the United States, really take their toll. First, resistance to most types of infection resides not in the individual, but in a population as a whole. The spread of HIV/AIDS in famine- and disease-wracked sub-Saharan Africa is a case in point, as is the resurgence of tuberculosis in such locations as the economically looted states of the former Soviet Union. Poor infrastructure for provision of clean water, sanitation, and basic public health are the hallmarks of a region marked for human ecological holocaust. Such populations are the breeding ground for new and more virulent forms of pandemic disease, which have no respect for political borders.

Precisely this interconnection of declining physical economy, public health, and the emergence of new and old forms of pandemic disease was the thesis of economist Lyndon LaRouche, in 1973, when he commissioned a task force on *biological holocaust*. LaRouche recognized at the time that the shift in U.S. policy from that of an agro-industrial producer society, committed to industrial development of the Third World, to a consumer society, increasingly dependent on imports from low-wage nations, meant a downward shift in the global economic productivity and a concomitant reduction in average per capita living standards for the entire world population. The monetary arrangements associated with that shift, the end of the Bretton Woods gold-reserve standard in 1971 and its replacement by a floating exchange rate, created the conditions for the looting of wealth out of developing nations by way of adjustment of currency values, so as to astronomically increase debt service payments.

LaRouche recognized in the austerity terms imposed on already poor, hard-pressed developing nations by the International Monetary Fund and related institutions, precisely the conditions for emergence and spread of pandemic. The appearance of the HIV/AIDS infection in Africa in the



HHS/Images from the History of the Public Health Service

*A U.S. public health nurse visits rural patients, around 1920. Today, the public health gains of the last century are in decline, as the physical economy disintegrates and health budgets are cut.*

1980s, and its spread into Southeast Asia, and other locations in the 1990s, was precisely the sort of thing to be expected.

### **The Intention Behind the Collapse**

The second point that is often overlooked: The collapse of living standards and spread of disease is the intentional and willful policy of leading financial elites. Prince Philip's 1986 call to be reincarnated as a "deadly virus" in order to help reduce world population, was no idle fancy (see box). The Duke of Edinburgh was stating a personal commitment to a policy of the Anglo-Venetian financial elite, otherwise spelled out in the 1974 National Security Study Memorandum 200 directed by then National Security Advisor Henry A. Kissinger.

There, Kissinger developed the nakedly colonial policy that population growth in Less Developed Countries threatened our national security by denying U.S. access to strategic minerals. Thirteen key countries were specially targeted for population reduction: India, Bangladesh, Pakistan, Nigeria, Mexico, Indonesia, Brazil, the Philippines, Thailand, Egypt, Turkey, Ethiopia, and Colombia. That policy commitment continues to be a guiding principle in foreign policy objectives of the Cheney-run Bush Administration today.

Although many would wish to avoid facing this nasty side of the matter, recognition of the problem is a necessary part of dealing with the current reality. Failure to face it will cause much wasted effort by otherwise well-intentioned and qualified opponents of this new genocide in their dealings with government and policy-making institutions. Ultimately, the only solution to the global pandemic threat is to eliminate the

conditions of economic backwardness which allow them to spread.

In the following articles, we first provide the reader with an overview of the avian influenza H5N1—how it works, the immediate threat it poses, and the short-term emergency measures which must be taken to deal with it. Next, we address the question of the larger context of global pandemic, the physical economic breakdown, and what must be done to restore a functioning public health system. To this end, we include substantial excerpts from the testimony before

Congress by the LaRouche Political Action Committee at the time of the November 2004 U.S. crisis in flu vaccine. Our intent is to offer a summary overview of the threat from new and re-emerging diseases, and the necessary approach to public health which must be implemented, pronto, if the human species is not to succumb to a global biological holocaust worse than any we have seen before. We make no exaggeration, as the reader who takes the trouble to find out for himself will soon learn.

—Laurence Hecht

## Who Wants a Pandemic?

It's not just "natural causes." The destruction of public health infrastructure, and abandonment of populations to disease and famine have a willful component. Some people want genocide.



Stuart Lewis/EIRNS

*Prince Philip: Deadly virus?*

"In the event that I am reincarnated, I would like to return as a deadly virus, in order to contribute something to solve overpopulation."

—Prince Philip, Duke of Edinburgh and director of the World Wildlife Fund, as reported by Deutsche Press Agentur, August 1988

"I don't claim to have any special interest in natural history, but as a boy I was made aware of the annual fluctuations in the number of game animals and the need to adjust

the 'cull' to the size of the surplus population."

—Prince Philip, Duke of Edinburgh, preface to *Down to Earth*, 1988

"For example, the World Health Organization Project, designed to eradicate malaria from Sri Lanka in the post-war years, achieved its purpose. But the problem today is that Sri Lanka must feed three times as many mouths, find three times as many jobs, provide three times the housing, energy, schools, hospitals and land for settlement in order to maintain the same standards."

—Prince Philip, Address on Receiving Honorary Degree from the University of Western Ontario, Canada, July 1, 1983

"[T]here are only two possible ways in which a world of 10 billion people can be averted. Either the current birth rates must come down more quickly. Or the current death rates must go up. . . . Famine and disease are nature's ancient checks on population growth, and neither one has disappeared from the scene."

—Robert McNamara, then president of the World Bank, Oct. 2, 1979

"The Mexican population must be reduced by half. Seal the border and watch them scream." Asked how this population reduction would be accomplished, the speaker replied, "By the usual means: famine, war, and pestilence."

—William Paddock, U.S. State Department consultant, in a 1975 interview



Library of Congress

*Bertrand Russell:  
Black Death advocate*

"At present the population of the world is increasing at about 58,000 per diem. War, so far, has had no very great effect on this increase, which continued throughout each of the world wars. . . . War has hitherto been disappointing in this respect . . . but perhaps bacteriological war may prove effective. If a Black Death could spread throughout the world once in every generation, survivors could procreate freely without making the world too full. The state of affairs might be unpleasant, but what of it."

—Bertrand Russell, *The Impact of Science on Society*, 1952 (Routledge UK)



# Last Chance to Stop Avian Flu Pandemic

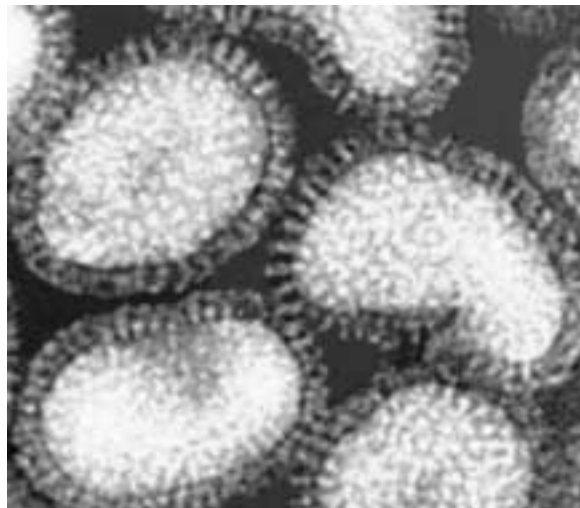
by Colin Lowry

Events in Asia over the past few months have put the world on a short fuse toward the explosion of a global influenza pandemic. Avian influenza (H5N1) has broken out in several new places, and last Spring it infected another species, the pig, which could act as a carrier and mixing vessel for the recombination of a hybrid virus that can easily infect people.

This very lethal influenza virus has only to acquire the ability to spread easily from person to person to become the most deadly flu pandemic ever recorded. However, most of the world remains sorely unprepared to deal with the public health crisis that the new flu pandemic will bring. The United States itself is suffering a serious crisis in its public health response capability, as a result of years of willful neglect. The U.S. government has done nothing to address the lack of hospital and clinic capacity that would be required to deal with a pandemic, although a typical flu season already overwhelms the hospitals in many areas of the country. Antiviral production capacity is severely restricted, and vaccine production has not been geared up for the sort of crash program that is needed.

## The Flu Spreads

Since Dec. 26, 2003, 118 cases of human infection with H5N1 have occurred in four Asian countries. There were 63 deaths, indicating more than a 50 percent mortality rate for this deadly virus. What will mark the transition to a global pandemic is the development of a viral strain which can easily move from human to



Linda Stannard/University of Cape Town, South Africa

*The H5N1 avian flu virus up close. Actual size is about 200 nanometers diameter.*



Center for Biologic Terrorism and Emerging Diseases

*More than 140 million chickens were killed in Asia to try to stop the spread of the H5N1 strain of avian flu. But the avian flu has continued to spread, as wild birds carrying the infection fly out from their breeding areas. Here, domestic chickens are burned in Hanoi.*

human. There is general agreement among virology and disease control experts that it is not a question of “if,” but “when.”

Indonesia reported its first human cases and fatalities from avian influenza type H5N1 on July 21, 2005, with the death of a father and two of his young daughters. The man died 10 days after the onset of symptoms, despite treatment in the hospital. Making the cases more mysterious, is the fact that the man lived in a city and had no known exposure risk to wild or domestic birds, which, so far, have been the primary vectors for spreading the disease to people.

The health authorities in Indonesia are coordinating with the World Health Organization (WHO) to track down all of the people who may have been exposed to the virus from the victims, or who had recent contact with them, to try to find the source of the infection.

In April in Indonesia, researchers reported that they had been testing for the presence of H5N1 influenza in domestic pigs, and found that in one area on the island of Java, there were many pigs that showed no symptoms but were infected with the virus. This finding is extremely serious, as pigs could now be vectors of the avian influenza virus, and because the pigs showed no symptoms of the disease, it makes detection even more difficult. In Asia, large-scale testing for the virus in domestic pigs is economically impossible under current conditions.

The fact that the pigs could now harbor the avian virus also makes them a dangerous new mixing vessel for the creation of a new form of the virus, if the pigs are also infected with a human influenza virus. Pigs routinely are susceptible to human influenza viruses, and can carry them asymptotically as well. Influenza type A viruses can recombine and swap genes, creating a new and potentially more dangerous virus. A recombination event in the pig, with a human and avian influenza virus, could produce a virus that could easily spread from person to person—which is exactly what the experts fear will be the start of the next deadly pandemic.

#### **Can a New Pandemic Be Prevented?**

The Summer avian flu outbreak in Qinghai province in China showed that wild birds are an important vector in the spread of the disease, and their flight patterns mean that the disease is far from contained in Asia. As of early September, more than 140 million domestic chickens had been slaughtered in an attempt to contain the spread of the disease. Avian flu has spread to Kazakhstan and in the Russian region of Novosibirsk, probably from infected wild birds coming from the breeding area of Qinghai Lake in China.

Wild bird flyways during migration from this area go to Russia, Europe, India, and the Middle East. German farmers were advised to put all their poultry under cover as of Sept. 15; the Netherlands ordered this as of Aug. 22. In an outbreak of a less dangerous bird flu in the Netherlands, in 2003, many public health workers handling the birds took ill, and one veterinarian died.

Some Siberian species also fly over to Alaska, where they mix with North American species. Limited testing is now going on among some birds in Alaska.

#### **WHO Strategy Review**

In early July 2005, the United Nations World Health Organization (WHO), the U.N. Food and Agriculture Organization (FAO), and the World Organization for Animal Health (OIE) held an international meeting of health officials and scientists in Malaysia to review the strategy to combat the avian influenza epidemic in Asia. The meeting concluded by adopting a prevention plan with four main objectives. Although insufficient to meet the total threat, these could form an important part of a larger plan of flu prevention and public health measures to be taken:

- (1) Farming practices must be changed to segregate the species, so that chickens, ducks, and pigs are not kept together, allowing a flu virus to move from species to species, and recombine into a new form.
- (2) A large education program must be set up for small farmers and their families about risky livestock practices, and how to limit exposure of people to animal viruses.
- (3) The testing and reporting of suspected flu outbreaks must be improved, with incentives for farmers to report outbreaks in their flocks, so that the necessary control measures can be applied.
- (4) A better poultry influenza vaccine needs to be developed; large-scale vaccination of poultry in countries with endemic avian flu may be the only way to stop the epidemic from spreading.

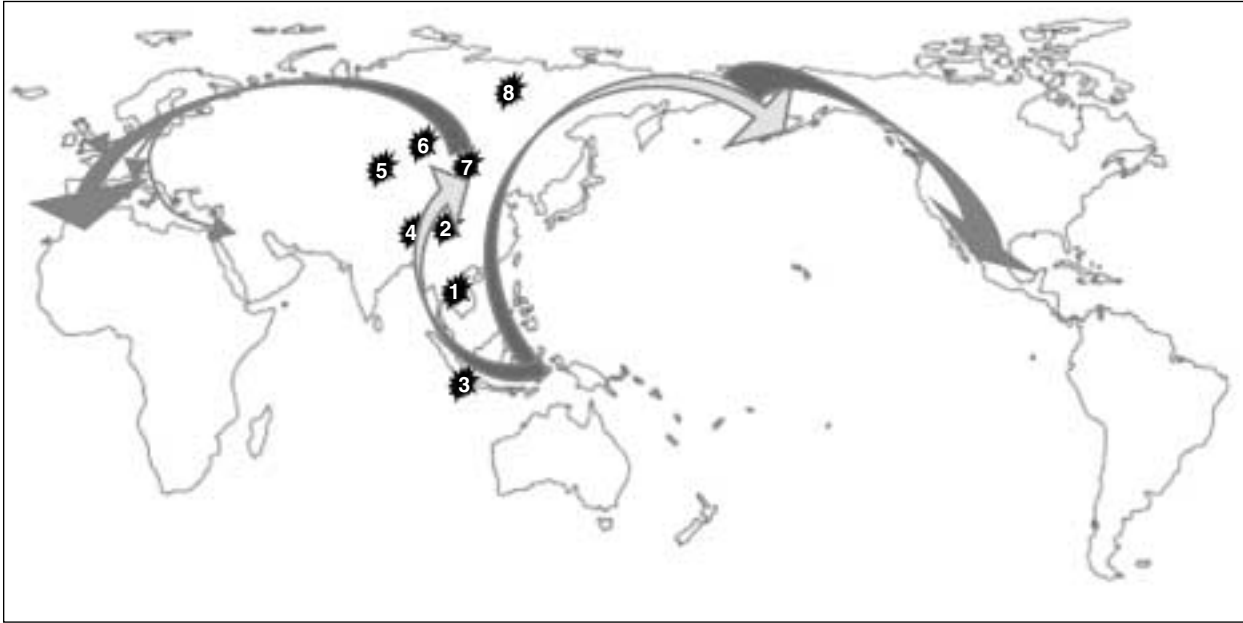
The implementation of the WHO plan would cost about \$250 million, which would have to come mostly from the developed countries outside of Asia. The plan also calls for the buildup of public health infrastructure, including laboratories, clinics, disease surveillance, and the purchase of antiviral medicines, which would require much more funding than that included in the WHO budget.

The question of the effectiveness of an H5N1 vaccine based on the seed strains the WHO was using last year is still not resolved, as no one can say what the composition of a new variant virus would be, but so far, studies from Vietnam show that the virus has changed very little over the last year. The vaccines are still being developed, and if the H5N1 virus were to break out this year in Asia, spreading from person to person, the vaccines would not be ready for use. The only other treatment would be antiviral drugs, but the older class of drugs, such as Amantadine and Rimantadine have shown little effectiveness against H5N1 in human patients.

The newer drugs, Tamiflu and Relenza, are more effective, but are much more expensive, and are in short supply worldwide. Tamiflu is manufactured only by Roche Pharmaceuticals, and only in one plant in Switzerland. Orders from 14 countries for 40 million doses are still being fulfilled and at current capacity, the manufacturing process will take about one year to produce that amount. But this will be insufficient in the event of a global pandemic, where potentially a billion doses would be needed.

#### **Are Antivirals Effective Enough?**

A new study done by a research team at St. Jude Children's Hospital in Memphis, Tenn., has shown that the previous assumptions about how much Tamiflu is required, and how



#### WATERFOWL FLYWAYS AND H5N1 AVIAN FLU OUTBREAKS IN BIRDS

*The known flyways of waterfowl indicate where the H5N1 avian flu is likely to move—and why we have a pandemic waiting in the wings. Indicated are the locations where major bird outbreaks have occurred: (1) Southeast Asia (Thailand, Cambodia, Vietnam); (2) China; (3) Indonesia; (4) Tibet (near Lhasa); (5) Kazakstan, Uzbekistan; (6) Russia; (7) Mongolia; (8) Siberia.*

long a patient should be treated, may not work against the new variety of avian H5N1 in circulation now. Previous work using the original H5N1 virus, which was isolated from Hong Kong in 1997, showed that a five-day course of Tamiflu given to mice experimentally infected with the virus resulted in about an 80 percent survival rate. When this experiment was done using the H5N1 virus isolated from Vietnam in 2004, the same treatment was able to save only 50 percent of the infected mice.

Continuing the study with varying doses and time courses, it was found that to get 80 percent survival in the mice infected with the 2004 H5N1 virus required an eight-day treatment with Tamiflu. If this study is an indication of what the new variant virus might look like from a treatment perspective, it means that even more Tamiflu will be required, and that current stockpiles of the drug will be exhausted more quickly in the event of a pandemic.

Flu vaccine production in the United States depends on only two companies, neither of which could produce enough vaccine to protect the U.S. population. Antiviral medicines, which may be the only effective treatment in the absence of a vaccine, are in short supply, and WHO recommendations to increase the production of these medicines and to stockpile supplies have been mostly ignored here.

#### What Makes Avian H5N1 So Dangerous?

H5N1 avian flu infection can be deadly to people by causing respiratory failure. The clinical course of the infection produces high fever, and inflammation of the respiratory mem-

branes. However, the overreaction of the immune system often leads to severe inflammation of the lungs, including flooding of the alveolae, and often massive internal bleeding in the lungs.

In many patients, the infection triggers a cytokine immune response that is not turned off by the body, leading to tissue damage. Patients have died of respiratory failure 7 to 10 days after the initial onset of symptoms.

An unusual feature of the H5N1 human cases was the presence of primary viral pneumonia; generally, pneumonias seen in flu cases result from secondary bacterial infections.

H5N1 influenza is a type A influenza virus, which is highly unstable, and prone to genetic mutation. In addition to mutation, the virus can reassort genetically, by combining with another influenza virus. In this way, the virus can pick up new genes from other viruses in a sort of swap of genetic material. The virus is further defined by the variety of surface antigens for Hemagglutinin (H) and Neuraminidase (N) it contains.

#### How It Started

Although avian influenza viruses usually cause disease only in birds, H5N1 jumped the species barrier in 1997, and caused the first documented human infections, with severe disease and deaths. This outbreak in Hong Kong in 1997, started with a highly pathogenic H5N1 on poultry farms and in live bird markets, which was then transmitted directly from birds to human beings, resulting in 18 cases and 6 deaths. A wider epidemic was averted by the decision to destroy the province's entire poultry population. The quick action of the

# How Avian Flu Virus Takes Over a Cell

by Christine Craig

The avian influenza virus is a remarkably simple entity consisting of eight segments, or strands, of the genetic material RNA, bundled with a few proteins inside an outer envelope. Here we show the steps by which the virus invades and takes over the life process of a cell.

**1.** The flu virus particle (*virion*) must first invade a susceptible cell in order to reproduce and prosper. Without a host cell, a virus is merely a lifeless mote with interesting structural qualities. The surface of the virion is carefully crafted to accomplish this task. Borne by air or water into the host, it uses special molecules (the glycoproteins *hemagglutinin* and *neuraminidase*) projecting from its surface envelope which have been derived from host cell material, to bind to complementary *receptor* molecules on the host cell membrane.

**2.** This “handshake” of recognition at the cell membrane sets into motion a process called *endocytosis*, the same which cells use to bring external substances into the cell for nutritional or other purposes. The cell membrane sur-

rounds the virion and fuses around it.

**3.** Now the virus is *within* the cell, in a spherical vesicle surrounded by a membrane. But it does not yet have access to the rest of the cell.

**4.** Next, the aqueous environment within the vesicle acidifies, which sets into motion a cascade of events, resulting in the release (*decoating*) of the virus’s RNA strands and related proteins into the cytoplasm of the cell. The virus now has free access to hijack the cellular “machinery” required for its replication and the eventual release of its progeny from the cell.

**5.** The viral RNA (v-RNA) is transported into the nucleus, along with the four viral proteins essential for processing of the viral RNA. Here are found the host cell’s chromosomes and the required apparatus for DNA and RNA synthesis and processing. Using its own nuclear enzymes and those of the host cell, the viral RNA is transcribed into messenger RNA (m-RNA)—the code for protein translation—and complementary RNA (c-RNA). The c-RNA will eventually produce all the copies of the eight viral RNA strands neces-

sary for the hundreds of infectious progeny which a single infected cell can produce.

**6.** Meanwhile, in the cell cytoplasm (the aqueous milieu outside the nucleus), the cell’s protein-manufacturing equipment, its ribosomes, have been conscripted to produce the protein products necessary for the assembly of new virions.

**7.** The protein products destined for packaging within the viral envelope are now transported into the nucleus, where they are assembled in the proper proportions and configuration with a complete set of eight v-RNA strands. Then they are exported into the cytoplasm and migrate toward the inside of the outer cell membrane.

**8.** While this is occurring, two viral components take a different route. Hemagglutinin and neuraminidase, the two glycoproteins which will eventually stud the outside of the viral envelope, are transported to the outer cell membrane via the *endoplasmic reticulum* (ER) to *Golgi apparatus* (GA) route.

**9.** The viral glycoproteins are duly incorporated into the cell membrane,

Hong Kong authorities probably saved the world from an immediate pandemic then, but the virus itself simply retreated into the wild waterfowl population, and slowly began to mutate.

The 1997 Hong Kong outbreak put the world on notice that H5N1 avian flu had pandemic potential, and scientists began to track and study this virus. In southern China, samples of the virus were taken from wild ducks and geese over the years 1999-2002. The wild ducks themselves showed no signs of disease, but were found to excrete large amounts of virus. These viral isolates from the ducks were then experimentally introduced into chickens, which caused severe disease and often death. The H5N1 viral isolates were also tested on mice, to see if the virus was somehow acquiring the ability to infect mammals. Over the three-year period, the virus did indeed gain greater infectivity in the mice, and caused progressively severe disease with increasing mortality. This startling finding shows that the virus may be reassorting with other mammalian influenza viruses, picking up genes needed to infect mammals more easily.

Pigs are sometimes susceptible to avian influenza, and it

may be that in areas where pigs and ducks are kept in close proximity, this type of viral mixing may have occurred. Because wild ducks are resistant to H5N1, they act as a large mobile reservoir for the virus, which is almost impossible to control or eliminate. Compounding the difficulties of control efforts, is H5N1’s ability to survive in water for up to four days, and in contaminated manure for three months.

## Pandemic Waiting in the Wings

In 1997, H5N1 initially caused only mild disease in chickens, but after months of mutation, it became a highly deadly virus that could kill a chicken in 48 hours, by causing internal bleeding and organ damage. As quickly as it hit bird flocks in 1997, it disappeared from view for almost six years. Then, in December 2003, a large poultry farm near Seoul, Korea, reported large numbers of chicken deaths, and avian influenza was the suspected cause. Days later, two more farms were hit by the same influenza. Laboratory tests of the samples revealed that it was H5N1 subtype, just like the Hong Kong outbreak in 1997.

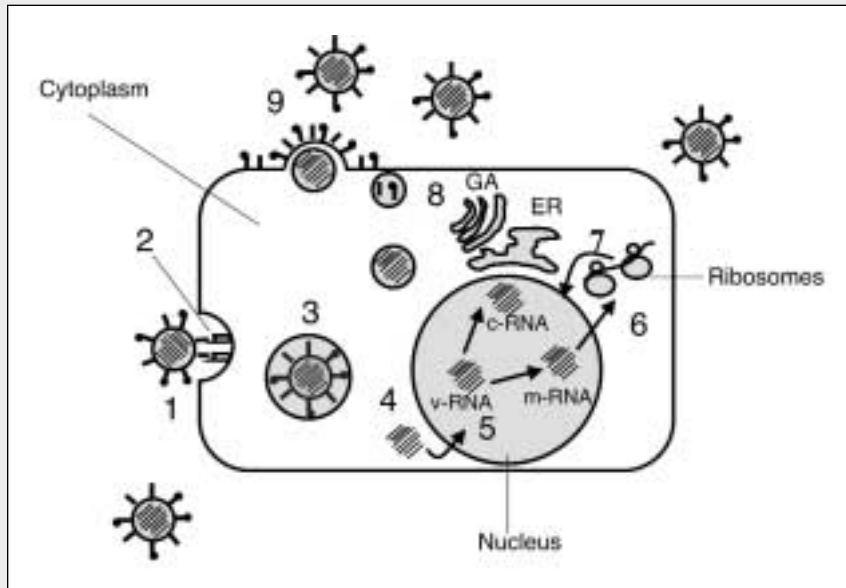


Illustration by Christine Craig

whereupon the virions exit the cell in a reverse of the process by which they entered—exocytosis. The viral parts next to the inside of the cell membrane are “blebbed off” as hundreds of new, fully assembled, infectious virions, complete with an envelope made up of the cell’s membrane, studded with the hemagglutinin and neuraminidase glycoproteins on the outside.

#### How the Species Jump Occurs

The key to the ability of the avian flu to jump species and infect humans with

virulent pandemics lies partly in the nature of its genome, and partly in its method of entry into the cell.

Because of the segmentation of the viral genetic code into eight strands, it becomes possible for a *reassortment* to occur within the host cell. If more than one flu virus strain has infected the cell, functionally similar (homologous) RNA strands from different virus strains can be swapped upon packaging, leading to a “hybrid” virion type. For example,

since the hemagglutinin (H) and neuraminidase (N) glycoproteins are contained on different strands, the following might occur:

Two strains, H3N1 and H5N7 both infect a cell. Within the nucleus, every so often, H3 strands of RNA might get packaged with the other seven RNA strands of the N7 genotype, instead of its own cohort; while the H5 could be packaged with the N1 RNA group. This would produce four genotypes relative to the surface glycoproteins: H3N7, H5N1, H3N1, and H5N7. This reassortment can lead to different qualities of infectivity or virulence in new or old hosts. Once a population is infected, the virus keeps one step ahead of the host immune defenses by rapidly mutating its antigenic determinants (how the host immune system recognizes the virus as the enemy to be destroyed).

If one of these new “hybrids” can now efficiently infect a new type of animal host, like the bird flu infecting a human being, the seeds of a pandemic could be sown. The new host, having no immunity to the “hybrid,” could suffer devastating infection, which could spread rapidly within the population—if there is not rapid and effective intervention.

In January 2004, Vietnamese health officials reported a cluster of cases of severe respiratory disease in 11 children, of whom 7 eventually died. A little later, large numbers of poultry died from H5N1 in southern provinces, but there was no evidence at the time that suggested a link between H5N1 and the respiratory disease in the children. However, several samples from the fatal cases were sent to the WHO reference laboratory for testing and identification, and in a week it was confirmed that the children had been infected by avian H5N1.

In early February 2004, H5N1 swept through poultry farms in Japan, and Vietnam’s epidemic had already infected 3 million poultry. Thailand soon followed with announcements of large outbreaks, and its first human cases of H5N1 infection—two young boys. At this point, H5N1 epidemics in birds had spread to Cambodia, Laos, Indonesia, and China. By March 2004, 120 million birds died or were destroyed in Asia as a result of the H5N1 virus. Never before had avian influenza caused outbreaks in so many countries at once. Massive control efforts had an effect by April, and outbreaks declined sharply. But as can

be expected from the history of influenza epidemics, a second wave of outbreaks can produce an even more tenacious flu virus.

This started to be seen in July and August of 2004, with fresh outbreaks in Cambodia, China, Indonesia, Thailand, Vietnam, and Malaysia, which had been untouched in the first wave. The second outbreaks infected about 1 million poultry, but they were also followed by new human infections, including some fatalities. In September 2004, Thailand reported its first probable case of person-to-person transmission in a family cluster. This was the event that prompted the WHO to sound the alarm that the world was on the brink of the next flu pandemic that could kill millions.

Other events in Thailand showed that H5N1 was expanding its mammalian host range, when 147 captive tigers became ill from eating infected chicken. Tigers and other cats were not considered susceptible to infection with other influenza A viruses, so this marked a disturbing trend. By October, migratory birds were discovered that were dying from H5N1 in Asia, signalling another change in the composition of the virus.

## Emergency Measures in Brief

- Vaccinate first responders
- Government mandate to produce supply of antiviral drugs
- Crash program for vaccine production, including cell culture method
- Return to a real public health system, including adequate beds and personnel for emergencies (and prevention), return to Hill-Burton standards
- Protect the food supply: stop globalization and bring back crop and animal varieties

### Pandemics of the Past

To get a picture of what a new influenza pandemic would look like, it is useful to look back at the three pandemics that have occurred in the last century. The most severe pandemic took place in 1918, and estimates are that 40 to 50 million people died from the flu worldwide in less than one year. The flu started out in the Spring in Europe and the United States, and travelled back and forth among the troops. It was not particularly deadly in this first wave. But by August, something had changed drastically, and young, previously healthy people were now dying in a matter of days in the United States, France, and Africa.

The second wave left no country untouched, and it caused symptoms so severe, including bleeding of the lungs, that influenza was not even considered as a cause when it first

appeared. Unlike typical influenza epidemics that cause deaths in the very old and very young, this influenza caused the most deaths in the 15-35 age bracket. Primary viral pneumonia was common, and secondary bacterial pneumonia was very difficult to treat, as antibiotics were not available in 1918. It is estimated that 25 to 30 percent of the world's population fell ill from this influenza during 1918-1919. Recent analysis of samples of the virus from 1918 showed that it was of type H1N1, and that it may have adapted over time from an avian flu virus. It is still not known what made the virus so deadly.

In 1957, the world was hit by what was called the Asian Flu, which started in Hong Kong and China in February and spread all over the world within six months. This was a much milder flu virus than 1918, and the pattern of deaths was mostly in the elderly and very young. Vaccines were being made against this flu virus in the United States, Britain, and Japan by the Fall of 1957, but limited production capacities made their introduction too late to do much to thwart the epidemic. As a result, about 70,000 people died of the flu in the United States in the 1957 pandemic.

Again, in 1968, the pandemic started in China, and rapidly spread to the rest of the world. However, this was an even milder flu virus than 1957, and it was of a similar subtype, so most of the population had some resistance to it. In the United States, about 34,000 deaths occurred from the flu that year, mostly in the elderly.

### Window of Opportunity Closing

The evidence is increasingly clear that the world will face a new flu pandemic, possibly very soon, and so far we are unprepared to deal with it. Even the modest WHO plan will not be implemented unless the money and resources are put behind it very soon—and much more is needed. The window of opportunity for the world to prevent this catastrophe from happening may close very soon. Past flu epidemics have shown us that flu usually resurges in Asia in the Summer, and then sweeps through the rest of the world, hitting the United States in the early Winter.

Most health experts believe it is only a question of time before H5N1 becomes able to spread from person to person, kicking off the next deadly flu pandemic. The present form of the virus has shown near 50 percent lethality in people, but it is likely that the virus would lose some of this lethality as it acquires improved transmissibility. Still, it will be very dangerous, and the fact that no H5 subtype virus has ever circulated



National Museum of the History of Medicine

*An emergency wing of a Kansas hospital in 1918, set up to care for flu victims.*

in the population, means that potentially, the entire human race will be vulnerable to it. This provides even more incentive for the development of a vaccine to protect the population.

Technically, there are some problems to be overcome in vaccine development, as the current H5N1 virus is so deadly to chickens, that the standard method of growing the virus in chicken eggs may have to be changed. Cell culture methods could certainly work, but the majority of vaccine manufacturers lack cell culture facilities of the scale needed to mass produce an influenza vaccine.

The total vaccine production capacity globally today is only 300 million doses per year, but WHO experts say that more than 1 billion vaccine doses would be needed to control a new pandemic. In the United States, only two companies, Aventis Pasteur and Chiron, produce flu vaccine, and their production capacity is sufficient only to produce enough vaccine in six months to cover about 10 percent of the U.S. population.

So far, the U.S. government has done nothing to address the lack of any plans to produce a vaccine against H5N1 influenza. Sen. Charles Schumer (D-N.Y.) proposed on March 6 that the Federal Government issue a guarantee of \$200 million to ensure that vaccine manufacturers here produce the vaccine without the fear of losing money. He also called on the U.S. Centers for Disease Control to begin stockpiling antiviral medications that could be used to treat the flu in the event of a pandemic.

#### Emergency Measures Needed

The U.S. government needs to implement emergency measures before the flu pandemic hits, and to coordinate a response with other governments and the WHO. These measures can be carried out under declaration of a public health emergency:

**Front-line Defense:** When a pandemic first is detected, it is essential that all front-line medical personnel be treated with drugs such as Tamiflu that can prevent infection, and if a vaccine is available, these first responders must be vaccinated.

**Government Mandate to Produce Antivirals:** The U.S. government must order production of Tamiflu (oseltamivir) as a generic by issuing contracts to other drug manufacturers, and by producing it at government facilities if necessary. The government must buy and stockpile crucial antiviral medications that may provide the only way to curtail the spread of the avian influenza and save lives, should the pandemic erupt this Winter.

The World Health Organization plans to use a stockpile of antiviral drugs to be delivered anywhere in the world where an outbreak is detected, to try and stop the virus



Frank McFarlane Burnet/University of Melbourne

*Inoculating eggs for the production of flu vaccine, 1944-1945. The H5N1 flu is so lethal to chickens, that other methods for producing vaccines, such as cell cultures, will be needed. But the production gear-up has to start immediately.*

from spreading. Three million doses of Tamiflu have been ordered so far by the WHO, but it will take up to a year for the drugs to be manufactured, using presently limited capabilities.

**Crash Program for Vaccine Development:** The U.S. government should be issuing guaranteed contracts for the production and development of new flu vaccines.

The prototype for the human H5N1 flu vaccine has been tested, but the results show that double the standard amount of vaccine antigen will be needed to generate a protective response. The lack of vaccine production capacity will have to be solved by increased research to perfect cell culture vaccine methods, and the transformation of some national laboratories into vaccine production facilities.

**Public Health in Depth:** A health-care infrastructure rebuilding program must be launched, modelled on the Hill-Burton standard of adequate medical facilities based on the population of an area.

The nation is vulnerable in its lack of surge capacity in hospitals and clinics, to be able to handle the tremendous increase in hospitalizations required in a pandemic. To solve this, requires a long-term perspective of rebuilding our public health infrastructure, including new hospitals and public clinics. State and municipal public health systems must be revitalized with well-trained public health personnel who can contribute to an increased disease surveillance network.

No hospital shutdowns are to be tolerated. All Veterans Administration and Army medical centers are to remain open as crucial parts of the nation's defense against a pandemic. This includes the research capability of Walter Reed Army Medical Center, scheduled to be broken up by the recent decision of the Base Realignment and Closure Commission.

## LAROUCHEPAC TESTIMONY

# To Meet New Pandemic Threats, Bring Back Public Health



*Excerpts from testimony by the Lyndon LaRouche Political Action Committee, placed in the record of the House Committee on Government Reform's hearings Nov. 17, 2004, on "The Nation's Flu Shot Shortage: Where Are We Today, and How Prepared Are We for Tomorrow?" A version of the same testimony was placed in the record of the Nov. 18 hearings of the House Energy and Commerce subcommittees on Health, and on Oversight and Investigations. Those hearings were titled "Flu Vaccine: Protecting High-Risk Individuals and Strengthening the Market."*

*The LaRouchePAC testimony was prepared by Executive Intelligence Review economics editor Marcia Merry Baker.*

### **To Committee Chairman Rep. Tom Davis; Rep. Henry Waxman; and Committee Members:**

In recent weeks, members of this Committee have rightly undertaken a necessary line of investigation into the current U.S. flu shot supply shortage, namely: How did it come about, that the U.S. 2004-2005 flu vaccine was to come from only two suppliers, including one company reliant on an offshore facility with a known history of risk?

Throwing a spotlight on this question is important. But in terms of government oversight, we want with this testimony to bring attention to the broadest context within which to judge government responsibility:

First, what is the full scope and nature of the disease threat faced today by this nation and internationally—going beyond even pandemic influenza?

Second, from that vantage point, what are the public health and other actions called for in the immediate situation, and what must be done to reverse the policies that created the crises in the first place?

The particulars of the various dramatic episodes in recent years, including the anthrax attack (2001), SARS (2003), Mad Cow Disease in North America, etc., illustrate the point that it is the takedown of public health infrastructure, along with globalization practices in agriculture and throughout the economy, that are themselves causing increased likelihood of harm.

Forewarning was given decades ago by American economist and Democratic Party leader Lyndon LaRouche, who in 1973, commissioned a task force on the prospects for a "biological holocaust," if policies of de-industrialization and free trade were to prevail, and to create "points of congruity and interaction of

economic and biological processes," leading to the spread of disease. In July 1985, the task force published the EIR Special Report Economic Breakdown and the *Threat of Global Pandemics*.

Unfortunately, LaRouche's warnings have been borne out. We are now seeing dramatic, deadly proof of how new and re-emerging diseases are associated with practices of outsourcing, lack of sanitation and pest eradication, monoculture in agriculture, and all the other hallmarks of so-called "competitive global sourcing and markets."

Moreover, bad as this free-trade era was when it "worked," it is now simply breaking down.

Lyndon LaRouche, on July 30 of this year [2004], addressed the issue of the public health crisis, and the general collapse process in the economy, at a Boston press conference following the end of the Democratic Party Convention; there, he announced the formation of the political action committee Lyndon LaRouche PAC, to fight for emergency measures to restore a functioning *physical economy*. . . .

### **Threat of Flu Pandemic, Other Diseases**

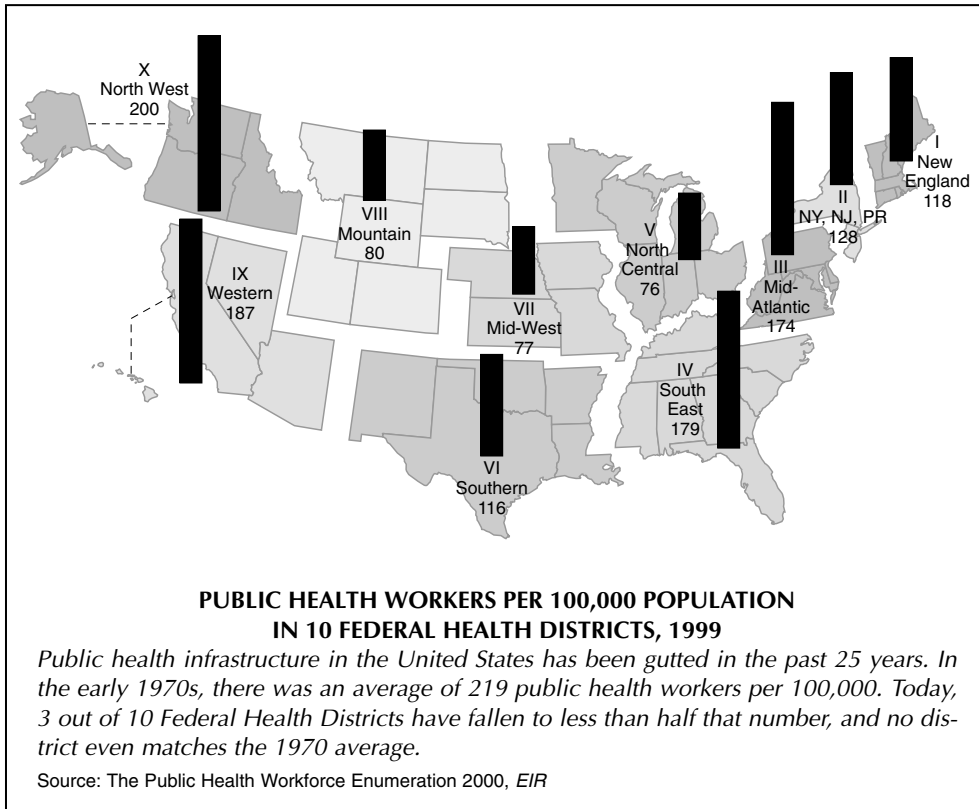
For years, epidemiologists and livestock and other experts have sounded alarms about growing disease threats. Three recent sources make the necessary points about the scale of danger today, beginning with influenza.

On Oct. 28, 2004, Dmitri Lvov, director of the Ivanovsky Virology Institute and Academician of the Russian Academy of Medical Sciences, held a press conference [reported by RIA-Novosti News Agency], warning of the threat of avian flu becoming transmissible from human to human. "Up to 1 billion people could die around the whole world in six months. We are half a step away from a worldwide pandemic catastrophe."

The World Health Organization, the Pan American Health Organization, the International Vaccine Institute based in Seoul, South Korea, and many other agencies, are likewise warning of flu pandemic.

On Sept. 25, 2004, a report given to the Pan American Health Organization conference warned of a potential "new influenza strain" saying that the "sudden and marked change in Influenza virus A [in Asia] should be considered one of the greatest public health concerns" in the Americas. The report said, "Recent episodes of animal strains causing disease in humans, support experts' views that a new pandemic is inevitable. . . . Epidemiological studies project that another pandemic is most likely to result in . . . 280,000 to 650,000 deaths in less than two years—in industrialized countries alone."





at the outset that in the United States, the crude death rate per 100,000 persons from infectious diseases has increased from 1980-1999, from under 40 deaths to over 50; and this is before the death toll from HIV/AIDS is added in. With that included, the U.S. death rate from infectious diseases has risen from 40 per 100,000 in 1980, to over 60 by the turn of the century!

Why? The Institutes of Medicine faults the head-in-the-sand policies of the past 20 years, in which the public and lawmakers discontinued base-line public health policies, perhaps under the delusion that disease threats had somehow come to an end! "As a result of this apparent reprieve from infectious diseases, the United States Government moved research funding away from infectious disease toward the

### New and Re-Emerging Diseases

Apart from influenza, there are threats from other new and re-emerging infectious diseases. A September 2004 report by the U.S. Government Accountability Office (GAO), "Emerging Infectious Diseases," reviewed how well state and Federal surveillance systems are set up to monitor disease incidence. Provided at the request of Sen. Norm Coleman [R-Minn.], Chairman of the Permanent Subcommittee on Investigations of the Senate Committee on Governmental Affairs, the study took place over the past year, and the report includes a world map showing many of the "Selected Emerging Infectious Diseases, 1996-2004."

On the flu, the GAO report stressed: "The Centers for Disease Control and Prevention (CDC) estimates that if an influenza pandemic were to occur in the United States, it could cause an estimated 314,000 to 734,000 hospitalizations and 89,000 to 207,000 deaths, with associated costs ranging from \$71 to \$167 billion" (From the CDC, Fiscal Year 2005, Justification of Estimates for Appropriations Committees, p. 172).

On disease threats generally, the GAO report states, "More than 36 newly emerging infectious diseases were identified between 1973 and 2003, and new emerging infectious diseases continue to be identified."

### Microbial Threats

The U.S. crude death rate from infectious diseases, declining for 80 years, is now on the rise! The National Institutes of Medicine, which surveys rates of infectious diseases every 10 years, released its 400-page report in 2003—Microbial Threats to Health; Emergence, Detection and Response—and stressed

'new dimensions' of public health—noncommunicable disorders such as heart disease and lung cancer. The government closed 'virtually every tropical and infectious disease outpost run by the U.S. military and Public Health Service' [quote is from Laurie Garrett, Research Fellow, Council on Foreign Relations in a 1989 study]. Infectious disease surveillance and control activities were de-emphasized. Research, development, and production of new antibiotics and vaccines declined. The potentially devastating impact of infectious diseases was either relegated to the memory of previous generations or left to the imagination of science fiction enthusiasts."

All kinds of infectious diseases are on the rise—not simply recent and exotic varieties such as the West Nile virus, or Lyme Disease. Two cases in point: whooping cough and food-borne illnesses.

- Whooping cough, or pertussis. The seventh-ranked killer infection globally, this is making a comeback in the United States, because of lack of vaccination, poverty, immigration, and general neglect. Thirteen children died in 2003 as a result of pertussis, which can also cause pneumonia and inflammation of the brain. In 2004, the CDC reported that North Dakota has had one of the largest outbreaks, with 693 cases in 2004, up from just 6 in 2003.

- Hepatitis A. In October-November 2003, the largest-ever U.S. outbreak from a single source took place near Pittsburgh, in Beaver Valley, Penn. At least 650 got sick; 100 were hospitalized; and 3 died, two men (aged 38 and 46) and a 51-year-old woman. The source was contaminated scallions, imported from a cheap-labor farm operation in Mexico. Another incident may occur at any time. During the winter

months, up to 70 percent of the fresh fruits and vegetables consumed in the United States are imported; the average annual rate is 25 to 35 percent and rising. Harmful pathogens are more than three times as likely from low-infrastructure sources in Mexico, Guatemala, the Philippines, and elsewhere; including *salmonella*, *E. coli*, and *shigella*.

### Zoonotics and Botanicals

Beyond basic sanitation and pathogens, risks of disease are increasing, simply because of the common patterns of plant-life and livestock-raising under globalized agriculture, and lack of public health infrastructure under borderless “free trade” generally.

The threat comes from the fact that the last 40 years have been characterized by ever-increasing monoculture in crops and livestock; increasing reliance on a few varieties of plants and animals; and dangerous animal husbandry practices. Therefore, vulnerability and extent of damage are maximized, in the case of any mutation, outbreak, species-jump, and so on.

One recent case of plant disease, and magnified harm from monoculture, is the arrival this fall of soybean rust, a fungus, in the United States for the first time (confirmed Nov. 10 [2004] by the U.S. Department of Agriculture). The blight, of the species *Phakopsora pachyrhizi*, was identified in Louisiana. It can cut yields significantly. The same fungus—entrenched in Asia—arrived in South America in 2001, and has spread since, reaching Argentina in 2003.

The salient point about this pest, is that food-cartel-imposed policies have led to a situation of such concentration, that only three countries of the Americas—the United States, Brazil, and Argentina—together account for 188 million metric tons, which is over 80 percent of all world annual soy production (229 million metric tons), and those three account for over 90 percent of all soybean exports. There is no redundancy and no reserves.

The cartel companies (ADM, Cargill, Monsanto, Smithfield, et al.) impose extreme concentrations of food processing, factory-farm-production monoculture, and trading, which has been extensively documented by Prof. William Heffernan, of the University of Missouri.

Animal sources of diseases are equally serious, both for risk of direct transmission, and as “mixing bowls” for mutations of pathogens that can then become human-to-human transmissible. The GAO September report summarized: “According to CDC, nearly 70 percent of emerging infectious disease episodes during the past 10 years have been zoonotic diseases, which are diseases transmitted from animals to humans. The West Nile virus, which was first diagnosed in the United States in 1999, is an example of a zoonotic disease. The West Nile virus can cause encephalitis, or inflammation of the brain. . . . Other zoonotic diseases include SARS, avian influenza, human monkeypox, and variant Creutzfeldt-Jakob diseases (vCJD), which scientists believe is linked to eating beef from cattle infected with bovine spongiform encephalopathy (BSE), and is often called mad cow disease.”

Look at the record of the period of origins and spread of BSE in Britain, under Prime Minister Margaret Thatcher, the quin-



Images from the History of the Public Health Service, HHS

*Uniformed Public Health Service officers aboard the Coast Guard Cutter Bear. Since 1879, Public Health Service medical officers have served on Coast Guard vessels. Today we need to return to the concept of public health as national defense.*

tessential free-marketeer government (1980-1990).

After the 1970s, studies by the U.S. Department of Agriculture and others were finding risks of “transmissible dementias” between species; the strong recommendation was made in September 1979, that hygiene standards be tightened for animal feeds in Britain, where a large outbreak of sheep scrapie was under way (TSE, transmissible spongiform encephalopathy). The British Royal Commission on Environmental Pollution wanted tight licensing for processing animal proteins—especially sheep parts—back into the feed and food chain, especially the chain destined for cows.

Thatcher and her Agriculture Minister, Lord Peter Walker, refused, on grounds that this violated the privatization principle of “self-regulation” of farm and health industries; they loosened rules on cycling animal wastes back into feed; and on exporting animals. By 1986, BSE was identified; by 1996, some 162,000 cases of BSE cows were officially reported in the United Kingdom, and the epidemic had been exported.

### Government Responsibility

These kinds of ideologies must be stopped cold, and public health principles re-established as the basis for government action. The current U.S. flu shot debacle underscores that very point.

What needs to be done in the short term is straightforward, generally falling into two categories: vaccines, and medical treatment contingencies.

**Vaccines:** Both for the 2005-2006 “normal” flu season, and for the threat of a killer flu pandemic, the U.S. government must take domestic actions, and collaborate internationally, to see to a ramping-up of vaccine production capacity, and to back the best science and production of a potentially useful

avian flu vaccine. Currently, two companies are tasked to make some 2.4 million shots of an experimental vaccine. It is of the utmost importance to *evaluate* and *vastly expand that program*.

The Nov. 11-12 [2004] unprecedented “Flu Summit” of 50 government leaders and 16 vaccine manufacturers in Switzerland, has created an institutional forum through which a crash program of vaccine production can take place, if the United States and collaborating nations act on this.

The “Flu Protection Act,” sponsored by Senators Evan Bayh [D-Ind.] and Larry Craig [R-Id.], and many others, has been introduced into Congress, and includes the initiatives essential to ensuring the needed volumes of vaccine. The measures contained in this bill have been endorsed by the American Public Health Association, the American Lung Association, and many other organizations.

**Medical Treatment Contingencies:** Also in the short term, Federal intervention is required to aid states and localities to provide contingency plans for hospital emergency rooms and beds, antiviral medicines, staff, and so on, to handle any surge of patients caused by the fact that in this 2004-2005 season, the United States lacks half the needed flu shots.

The need for contingency logistics has in fact been heightened, because Federal authorities did not take timely action immediately after Oct. 6, 2004—the day of the announcement of the delicensing of the Chiron plant in Liverpool—to collect and re-allocate scarce flu shots. Thus closed a window of opportunity for at least mitigating the chaos, and that means that harm will now be inevitable.

The takedown of the U.S. hospital system, Veterans Administration hospitals, and public health agencies has been so drastic over the past three decades of the “managed care” ideological era, that even a mild flu season, with plentiful vaccine, has seen hospitals overwhelmed. The Homeland Security fund infusions of 2002-2004 have in no way reversed the net decline of the U.S. health system.

On Oct. 18, 2004, the American College of Emergency Physicians, an organization of 22,000 doctors meeting in San Francisco, issued a plea for Federal action and resources to be able to handle the coming wave of patients.

#### **Return to the ‘Hill-Burton’ Principle**

The principle to guide both short-term contingency medical arrangements, and the restoration of the U.S. health system, is the traditional American health-care policy known historically as the “Hill-Burton” principle. This refers to the 1946 bipartisan law, “The Hospital Survey and Construction Act.” This simple, nine-page law mandated that every county in the nation must provide hospital facilities on a ratio of licensed beds per 1,000 residents, based on modern medical standards of treatment. During the years from the late 1940s through the mid-1970s, this policy led to the successful provision of hospital beds in nearly all 3,069 U.S. counties, at a ratio of 5.5 beds per 1,000 in rural areas, and 4.5 per 1,000 in urban areas (where transportation was easier).

During the 1950s and 1960s, the same “Hill-Burton spirit” governed the aggressive efforts to defeat poliomyelitis and other diseases, as a matter of principle.

Then came the dismantling of this system, and the thinking



March of Dimes

*A widespread public health campaign for polio vaccinations in the 1950s, vastly decreased the incidence of poliomyelitis, and eliminated it in North America by the 1970s.*

behind it, with the passage in 1973 of the first HMO furtherance act, the subsequent deregulation of health care, and the concept of “managing” care, instead of combatting disease.

Today’s flu vaccine fiasco in the United States underscores the point that generally, the economic system itself is now breaking down; along with it, the ideologies that rationalized the economic takedown all along, are disgraced. We face the opportunity and the necessity to return to the principles and tasks of restoring the physical economy—in particular, health care.

This is a bipartisan duty of the highest level. Sen. Harold Burton was a Republican from Ohio; Sen. Lister Hill, a Democrat from Alabama. Both were advocates of industry, agriculture, and public-serving infrastructure, as well as health care in particular.

Your leadership on this Committee, on the particular matter of flu vaccine, can provide a needed impetus across the board to bring about the collaborative steps necessary to restore the health-care system, and the economy itself.

On Oct. 6, [2004] Lyndon LaRouche, asked about the significance of the 50-million-flu-shot cancellation, during an international webcast in Washington, D.C., said: “To put the human race at risk in this way, was a mistake! We have to adopt a policy of correcting that mistake, by reversing the policies which led to that mistake. . . . Do whatever it takes.”