Preparing for Pandemic Influenza:

Presented by Dr. Gary Feldman, Health Officer
To the Riverside County Board of Supervisors October 25, 2005

BACKGROUND

According to the Centers for Disease Control and Prevention (CDC), the worst natural disaster in modern times was the infamous "Spanish flu" of 1918-1919, which caused 20 million deaths worldwide and over 500,000 deaths in the U.S. Although the Asian influenza pandemic of 1957 and the Hong Kong influenza pandemic of 1968 were not as deadly as the Spanish influenza pandemic, both were associated with high rates of illness and social disruption.

Influenza is a highly contagious viral disease. Pandemics occur because of the ability of the influenza virus to change into new types, or strains. People may be immune to some strains of the disease either because they have had that strain of influenza in the past or because they have recently received influenza vaccine. However, depending on how much the virus has changed, people may have little or no immunity to the new strain. Small changes can result in localized epidemics. But, if a novel and highly contagious strain of the influenza virus emerges, an influenza pandemic can occur and affect populations around the world. Avian influenza (bird flu) has the potential of causing pandemic influenza.

An influenza pandemic is a global outbreak of disease that occurs when a new influenza A virus appears or "emerges" in the human population, causes serious illness, and then spreads easily from person to person worldwide. Pandemics are different from seasonal outbreaks or "epidemics" of influenza. Seasonal outbreaks are caused by subtypes of influenza viruses that are already in existence among people, whereas pandemic outbreaks are caused by new subtypes or by subtypes that have never circulated (spread) among people or that have not circulated among people for a long time.

CURRENT STATUS OF AVIAN INFLUENZA

Beginning in late June 2004, new lethal outbreaks of avian influenza A (H5N1) infection among poultry were reported by several countries in Asia: Cambodia, China, Indonesia, Malaysia (first-time reports), Thailand, and Vietnam. In late March 2005, state media in the Democratic People's Republic of Korea (North Korea) officially reported the country's first outbreak of avian influenza A H7 in poultry. In late July 2005, both Russia and Kazakhstan reported outbreaks of avian influenza in poultry. Outbreaks in both countries have been attributed to contact between domestic birds and wild water fowl via shared water sources.

During August to October 2004, sporadic human cases of H5N1 were reported in Vietnam and Thailand. Of particular note is one isolated instance of probable limited human-to-human transmission occurring in Thailand in September 2004. Since December 2004, a resurgence of

poultry outbreaks and human cases have been reported in Vietnam. On February 2, 2005, the first human case of avian influenza A (H5 N1) infection from Cambodia was reported. On July 21, 2005, the first laboratory-confirmed human case of avian influenza A (H5N1) in Indonesia was reported.

As of August 5, 2005, there have been 112 human cases of avian influenza A (H5N1) in Vietnam (90), Thailand (17), Cambodia (4), and Indonesia (1), resulting in 57 deaths.

To date no cases have been reported in the United States. However, the California Department of Health Services (CDHS) has indicated that the State lab has tested approximately 12 specimens to rule out avian influenza. CDHS is convening a conference call with local health departments in October to discuss involving local public health laboratories in testing for avian influenza.

Transmission of Avian Flu (Bird Flu)

Birds infected with avian influenza shed the virus in their saliva, nasal secretions, and feces. The risk of humans becoming infected from bird flu is felt to be low. It appears that most cases of avian influenza infection in humans have been the result of contact with infected poultry or contaminated surfaces. However, there is a concern that changes in the virus may result in ongoing human to human transmission.

Precautions to protect the public and health care workers

Basic infection control principles apply for avian influenza. It is important for the public to cover their mouth & nose with tissue when coughing or sneezing, and to frequently wash their hands. Individuals who feel ill with high fever, headache and severe muscle aches should contact their health care provider. It may be difficult to distinguish regular flu from avian flu without appropriate testing.

It is important to take appropriate infection control measures in health care facilities to avoid potential exposure of staff and other patients. This involves frequent hand washing, use of personal protective equipment and appropriate isolation of patients. This is especially important for patients with severe respiratory illness with fever who have traveled to countries with avian influenza activity within 10 days of hospitalization. Individuals traveling to Asia are asked to consult the CDC Travel Website for travel advisories for the Public.

Planning for Activities for Pandemic Influenza

Planning activities are taking place at the National, State and local levels. The Department of Public Health prepared a draft Pandemic Influenza Response Plan based on guidance from CDHS and CDC. The plan delineates specific actions related to the various phases of a pandemic and outlines the roles and responsibilities of Public Health, State and Federal health officials. The plan will be shared with key stake holders once it is reviewed by CDHS.

Surveillance Activities

Human Cases
The Department of Public Health routinely conducts surveillance activities for influenza. This involves using Reddinet to collect data on visits to emergency departments for influenza-like illness, and conducting active surveillance with hospitals, physician offices and clinics. In addition, health care providers are required to report outbreaks of influenza. Hospitals have been asked to report any suspect avian influenza cases to Disease Control.

Poultry Related Cases
The Department of Public Health has initiated communication with the Agricultural Commission to identify protocols for surveillance and reporting of avian influenza in poultry. Many of the procedures which were established in 2002 to address the Newcastle disease outbreak in poultry will be applicable to avian influenza.

Education of the Medical Community

Information is being distributed to the medical community through Public Health Advisories and the Public Health Dispatch, which is a quarterly publication.

Disease Control is hosting a satellite conference in October, 2005 on Public Health Preparedness for pandemic influenza which is presented by the California Department of Health Services.

Information on avian influenza and appropriate precautions is included in the Department of Public Health new employee orientation and is part of the annual airborne pathogen update. An article is being prepared for an upcoming issue of the County Safety Newsletter.

Education for the Public

Information on pandemic influenza has been posted on the Disease Control Website. In addition, educational materials are being developed for distribution to the Public (i.e., schools).

PRE-EVENT PLANNING

Pre-event planning will assist Riverside County in preparing for responding to an influenza pandemic. It will also increase awareness among the public health, medical, and emergency response communities about a potential pandemic and will foster greater awareness about "routine" annual influenza epidemics, which kill an average of 36,000 Americans every winter.

Prompt improvements in infrastructure to address the major elements of pandemic preparedness can have immediate and lasting benefits and can also mitigate the effect of the next pandemic. For example, increasing routine annual influenza vaccination coverage levels in high-risk patients will not only reduce their risk of dying or being hospitalized during the pre-pandemic period, but will also facilitate access to such patients through greater confidence in the benefits of influenza vaccination and expanded programs to assess those patients when the next pandemic occurs. Influenza vaccination of children is advocated by some experts as a strategy to reduce transmission of disease to adults. Similarly, increasing the coverage of pneumococcal vaccine in

such patients could have a significant impact on the incidence and severity of secondary bacterial pneumonia.

The Department of Public health will begin its annual influenza campaign targeting senior and other high risk individuals in October.

Many of the Disease Control principles used for controlling disease outbreaks will be applicable for addressing pandemic influenza. However, it is important to recognize that a pandemic will require more intensive and sustained intervention, including widespread mass vaccination, stringent infection control measures and surveillance to detect a second wave of disease. Ongoing response planning for infectious disease outbreaks, other public health emergencies and potential BT events will assist in the ability of Riverside County to respond to pandemic influenza.