Epi Notes
Disease Prevention and Epidemiology Newsletter
South Carolina Department of Health and Environmental Control

Vol. XXV Issue No. 7 Summer 2006

Special Edition of the Epi Notes Influenza

This edition of the EPI NOTES is a result of a collaboration among DHEC's Division of Acute Disease Epidemiology, the Immunization Division, the State Bioterrorism Training Advisory Subcommittee (TASC), and the Pan Flu Community Outreach Committee.

Prevention and Control of Influenza for 2006: New and Updated Recommendations

Rebecca Morrison, MSN, CS-FNP
Nurse Consultant
Immunization Division

The Advisory Committee on Immunization Practices (ACIP) published the new and updated recommendations for the Prevention and Control of Influenza for 2006 in the Morbidity and Mortality Weekly Report (MMWR) on July 28, 2006. The entire document can be found on the Web site at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5510a1.htm.

The highlighted recommendations from the ACIP include the following:

- Expansion of routine recommendation for Influenza vaccination for children 6 months through 59 months [up to age 5 years]. Last year's recommendation was from 6-23 months of age.

- Expansion of routine recommendation for Influenza vaccination of household contacts and out-of-home caregivers of children birth through 59 months of age [up to age 5 years]. Last year's recommendation was for household contacts and caregivers for children birth through 23 months of age.

- Emphasis on importance of administering 2 doses of Influenza vaccine to children aged 6 months to < 9 years of age who have not been previously vaccinated at any time with either live, attenuated Influenza vaccine (LAIV) or trivalent inactivated Influenza vaccine (TIV).

(Continued on Page 2)

Avian Influenza in Birds

Julie D. Helm, DVM, ACPV
Clemson University Livestock Poultry Health

What is AI / Bird Flu? Avian influenza (AI) affects many avian species, including chickens, turkeys, game birds, ratites, waterfowl and wild birds, but disease problems are usually seen in domesticated poultry. Avian influenza is an extremely rare disease in pet and exotic birds.

Are all Avian influenzas the same? All avian influenzas are not created equal. Birds can get many different AI subtypes (H5N1, H1N1, H7N2). Some AI subtypes produce no disease, some produce mild disease, and others produce severe disease in poultry. The different subtypes (H and N) are named after the surface proteins on the virus. Even a H5N1 may not be the same virus as another H5N1. Avian influenzas are also categorized by pathogenicity, the ability to cause disease in the animal. Low-Path viruses cause none to mild disease. High-Path viruses cause severe disease and death in birds. The H5 and H7 subtypes can mutate from Low to High-Path. We are concerned about these two subtypes in poultry. The "Asian Bird Flu" is caused by a particular High-Path H5N1 avian flu virus. It is important to remember that this current Avian Flu is primarily a bird disease; it is not easy for people to get it.

Do we have AI in the United States now? The Asian strain (High-Path H5N1) is not in the U.S. currently but, yes, we do have other subtypes of AI in U.S. We do see sporadic cases of Low-Path AI with mild disease in poultry, but these do not seriously affect humans. Just because you hear about an AI outbreak in the U.S. doesn't automatically mean it is the

INSIDE THIS ISSUE

(Continued on Page 2)

(INFLUENZA 2006 cont'd from Page 1)

- Suggested strategies to promote optimal use of the vaccine including development of plans to enhance outreach and infrastructure to vaccinate more people and development of contingency plans based on prioritization and supply issues.

- Influenza vaccine providers should continue to offer Influenza vaccine to patients throughout the Influenza season (including scheduling clinics for target populations and offering at least one clinic in December).

- Neither amantadine nor rimantadine should be used for treatment or chemoprophylaxis of Influenza A in the U.S. because of data indicating widespread resistance. Oseltamivir or zanamivir should be used if antiviral treatment or chemoprophylaxis of Influenza is indicated.

- The 2006-07 trivalent vaccine virus strains are A/New Caledonia/20/1999 (H1N1)-like, A/Wisconsin/67/2005 (H3N2)-like, and B/Malaysia/2506/2004-like antigens. For the A/Wisconsin/67/2005 (H3N2)-like antigen, manufacturers may use the antigenically equivalent A/Hiroshima/52/2005 virus; for the B/Malaysia/2506/2004-like antigen, manufacturers may use the antigenically equivalent B/Ohio/1/2005 virus.

For more information regarding influenza vaccination for the 2006-07 season, contact the DHEC Immunization Division at 1-800-277-4687.

(AVIAN INFLUENZA IN BIRDS cont'd from Page 1)

High-Path H5N1 strain. The last large High-Path outbreak in U.S. poultry was in 1983.

How does AI spread in birds? Chickens, ducks and other poultry do not spontaneously erupt with Avian influenza. This is a virus, just like other influenza viruses, that needs to be spread around to infect other birds. The virus is found in nasal secretions and feces of infected birds. The spread is through movement of infected birds or movement of virus contaminated coops, equipment, vehicles, personal boots, etc., that can infect new birds.

The virus can be killed with disinfectants, heat, and drying but, if protected by organic material (manure, feathers, egg debris, etc.), it can survive for weeks. Wild waterfowl and shorebirds are "natural reservoirs" of many subtypes of AI (i.e., they can carry it without getting sick). They normally carry Low-Path AI subtypes - High-Path AI is rare.

What are the signs of AI in birds? AI is primarily a disease problem in poultry-type birds (chickens, turkeys, etc.). Disease signs are variable (i.e., signs depend on the subtype) and can range from no symptoms or mild to severe and may include respiratory signs, nervous signs, decreased egg production, and a low to high death rate. These signs are seen in quite a few other diseases, so a proper laboratory diagnosis is needed.

What about sick birds or large die-offs? Finding an occasional dead bird is not an unusual occurrence in either wild or domesticated flocks. Clemson Livestock Poultry Health (803-788-2260) performs post-mortem examinations (animal autopsies) to help owners and veterinarians determine the cause of illness or death. There is a fee for this service. Large numbers of birds dying or found dead (wild or domesticated) need to be reported. Dead poultry birds should be reported to the State Veterinarian's Office (803-788-2260). Dead wild birds should be reported to the Department of Natural Resources (DNR) (800-922-5431). State specialists will determine if further investigation or testing will need to be performed if they suspect an emergency-type disease.

Can people get AI? Since 1959, there have been reports of people infected with High-Path AI types, but with no serious illness or deaths. The first time that a confirmed High-Path AI (H5N1) was reported that caused disease and death in some people was in Hong Kong in 1997. These people had very close contact or ate raw/undercooked infected poultry. Humans are still considered to be resistant to this current bird virus.

Can you get AI from eating poultry or eggs? AI is not considered a food-borne illness in the U.S. Any High-Path AI infected poultry would not go into the food chain – they would be destroyed. Properly cooked poultry meat and eggs are safe to eat.

What about migrating waterfowl and hunters? Since there is no indication of High-Path AI currently in wild birds in the United States, there is no recognized public health risk associated with wild bird contact. Do not eat, drink, smoke or chew while dressing out any bird or animal carcass, and it is recommended that gloves be worn. Basic hygiene (hand-washing after handling wild animals or carcasses) is always recommended, along with proper food preparation and thorough cooking.

Will High-Path H5N1 come to the U.S. or to South Carolina? No one knows exactly when or how it may come. Possible routes include legal and illegal movement of infected birds or poultry products, infected migratory waterfowl, or an intentional introduction (Agroterrorism). Firewalls are in place; the U.S. bans all birds from affected High-Path areas and there is increased surveillance in U.S. poultry and wild waterfowl. Even if U.S. migratory fowl get the High-Path H5N1 strain, it is still a low risk to commercial poultry, since these birds are sheltered and kept separated from wild birds. Poultry growers with backyard flocks need to follow their example and keep their birds separated from wild birds. Using biosecurity (disease control measures) is the best way for all poultry growers (commercial and backyard) to protect their flocks from all diseases, including AI. Even with a worse-case scenario of a High-Path AI infection in U.S. poultry, the average South Carolinian will not get "Bird Flu" from birds.

(Continued on Page 3)

(AVIAN INFLUENZA IN BIRDS cont'd from Page 2)

People working with infected flocks will wear protective gear as a safety precaution. Our "Home Team Advantage" is that the U.S. is prepared to respond with early detection, rapid diagnostic procedures, and experience in aggressive quarantine/depopulation/clean-up actions.

What about vaccinating poultry for AI? Vaccinating poultry for AI would only be used during an outbreak to control the spread. Vaccination is not routinely used since it could interfere with surveillance testing and international trade issues.

What about international travel? The big concern is accidentally bringing a foreign animal disease through contaminated clothing, hides, feathers, food products, etc., back to your animals. If you have contact with foreign livestock or poultry, you should not even go near any types of livestock or birds after returning home for at least five (5) days. Thoroughly clean all travel clothing, shoes, and equipment after returning home.

What type of poultry surveillance is being done now? AI has been a concern to the poultry industry long before the High-Path H5N1 strain appeared. Monitoring in the U.S. for AI is routine and will be continued. In South Carolina, through Clemson University Livestock Poultry Health, post-mortem examinations (animal autopsies) and testing are performed on commercial and backyard poultry. Surveillance is performed at auctions, flea markets, and fairs that have backyard poultry. A new national AI monitoring program has started to test commercial broiler, turkey and egg layer flocks.

What happens to an AI infected flock? The farm is quarantined by the State Veterinarian to stop movement of birds, eggs, manure, and equipment. Mandatory biosecurity measures are implemented for people and vehicles to exit the farm. Depending on AI subtype, the infected flock may be depopulated and disposed of to reduce spreading the disease. The buildings and equipment are disinfected and the litter heated/composted to kill the virus. Area testing of surrounding poultry premises is conducted to determine the spread of disease.

Does South Carolina have a plan to deal with AI? A High-Path AI outbreak in poultry is a federal response. The USDA is the lead agency with assistance from the State Veterinarian's Office. A Low-Path AI outbreak in poultry is a state response through the State Veterinarian's Office. All poultry states, including S.C., are working to update or develop their state plans to respond to infected flock(s).

For more information:
www.clemson.edu/LPH
www.avianinfluenzainfo.com
www.cdc.gov/flu/avian

Immunization Update: Influenza Vaccination of Health-Care Personnel

Rebecca Morrison, MSN, CS-FNP
Nurse Consultant
Immunization Division

In February 2006, the Advisory Committee on Immunization Practices (ACIP) and the Healthcare Infection Control Practices Advisory Committee (HICPAC) made recommendations regarding Influenza vaccination of health-care personnel. The recommendations were published in the Morbidity and Mortality Weekly Report (MMWR) on February 24, 2006. The entire document may be found on the following Web site: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5502a1.htm. Health-care personnel are defined as personnel in acute care hospitals, nursing homes, skilled nursing facilities, physician's offices, urgent care centers, outpatient clinics, home health, and emergency services.

The ACIP and HICPAC recommend the following:

- All eligible health-care personnel receive an annual Influenza vaccination (inactivated or live, attenuated Influenza vaccine - LAIV).
- Health-care personnel receive education regarding Influenza illness (diagnosis/treatment), the benefits of the influenza vaccine, epidemiology/ modes of transmission, and infection control measures.
- Health-care personnel receive the Influenza vaccination in an easily accessible area at work and at no cost to the employee.
- Health-care personnel sign a declination form if they decline Influenza vaccine (exception – persons with medical contraindications). Identifying these persons allows for focused educational measures regarding vaccination acceptance.
- Coverage/declination levels to be monitored to identify areas where interventions should be focused to enhance vaccination acceptance. Monitoring should be evaluated and reported on a regular basis. Distribution of results to health-care personnel aids in greater vaccination coverage.
- Incorporate health-care personnel Influenza vaccination coverage as part of a facility's patient safety quality program.

Annual Influenza vaccinations are either inactivated vaccine or live, attenuated vaccine (LAIV). LAIV can be given to healthy, non-pregnant health-care personnel ages 5-49 years. There is a theoretical risk of transmitting live, attenuated vaccine virus to severely immunosuppressed persons. Therefore, health-care personnel that receive LAIV should avoid contact with severely immunocompromised persons for seven days after receiving the vaccine. Similarly, health-care personnel that

(Continued on Page 4)

(IMMUNIZATION UPDATE cont'd from Page 3)

are severely immunosuppressed should not administer LAIV.

Influenza vaccination of health-care personnel remains a challenge. There is an inverse relationship between vaccination coverage of health-care personnel and the rate of nosocomial Influenza among patients. Strategies to improve vaccination rates of health-care personnel include:

- Provide in-service education to health-care personnel
- Focus educational campaigns to targeted health-care personnel
- Improve vaccine accessibility
- Vaccinate leadership staff in the facility as role models
- Support legislative/regulatory efforts that support health-care personnel vaccination

For more information regarding vaccination of health-care personnel, contact the DHEC Immunization Division at 1-800-277-4687.

S.C. Human Pandemic Influenza Monitoring Systems

Lena Bretous, MD, MPH
Medical Epidemiologist
Division of Acute Disease Epidemiology

There are seven national influenza monitoring systems geared toward both seasonal influenza and early detection of a novel or pandemic influenza strains or respiratory syndromes, respectively. South Carolina participates in the influenza monitoring systems bolded below. South Carolina also participates and needs continued vigilance in the enhanced Avian influenza surveillance system. Updated clinical symptoms, risk exposures, specimen collection, and infection control measures for suspected cases of human avian influenza are detailed in the DHEC Health Update, June 8, 2006. Please see the reissued update regarding CDC interim guidance on laboratory testing in suspected Avian influenza A in the U.S. in this issue of EpiNotes.

U.S. National Seasonal Influenza Surveillance Overview – 7 Elements
* SC monitoring systems
**Also known as State and Territorial Epidemiologist Report

1. **National Public Health Lab Viral Isolate Network***
2. **U.S. Voluntary Sentinel Influenza-like Illness (ILI) Network***
3. 122 Cities Mortality Reporting System
4. **Weekly State Influenza Activity Report* ****
5. **Influenza-related Pediatric Mortality***
6. Emerging Infections Program (EIP)
7. New Vaccine Surveillance Network

Importance of Influenza-like Illness (ILI) Participation - Early Detection of Novel Influenza-Like Syndrome Before Pandemic Strain Recognition
Currently SC has 61 enrolled providers and 39 providers that have submitted data at least once. More enrolled provider participation across South Carolina is needed for early detection of Pandemic influenza. ILI participants are encouraged to submit viral isolates periodically to the S.C. Department of Health and Environmental Control (DHEC) free of charge.

Fourteen counties currently have no enrolled providers. More primary care providers, infectious disease providers, emergency department providers, and hospitals are needed to make the ILI network more robust in South Carolina. Following are counties with **no** enrolled ILI providers: Pickens, Cherokee, Union, Chester, Lancaster, Chesterfield, Lee, Edgefield, Orangeburg, Barnwell, Allendale, Hampton, Colleton, and Dorchester. Please enroll today by calling Dr. Lena Bretous at 803-898-0862 or by email at bretoulm@dhec.sc.gov.

Importance of Viral Isolate Network - Vaccine Component Determination
Periodic submission of viral isolate specimens from ILI patients to the DHEC Bureau of Laboratories for viral confirmation will greatly aid in the early detection and public health response to a pandemic influenza threat in South Carolina. Year-round public health laboratory viral isolate network participation and vigilance can provide early detection of novel human or animal strains of pandemic threat. Healthcare providers can enroll in both the ILI and viral isolate network. To enroll in the viral isolate network, contact Dr. Lena Bretous at 803-898-0862.

Every year each state conducts seasonal influenza viral isolate surveillance to determine exact antigenic strains for consideration into the following year's seasonal influenza vaccine. This past year's seasonal influenza vaccine components were consistent with the most common type A strains (73%) characterized via the national viral isolate laboratory network. Through year-round viral isolate surveillance, the identified pandemic influenza strain can more quickly be incorporated into pandemic influenza vaccine production, which currently takes 7-8 months.

Weekly State Influenza Activity Report - On the DHEC Influenza Information Website
Weekly updates on South Carolina influenza activity with representative county level maps of positive viral isolates, rapid influenza tests, and ILI percentage activity can be found at the link below. Definitions of South Carolina surveillance systems can also be found at this site. http://www.scdhec.gov/health/disease/acute/flu.htm.

Preparing for a Pandemic: The Psychosocial Challenges

Robert L. Carlton, MSW, LMSW
Social Work Consultant/Emergency Reponse Coordinator
Office of Social Work

As with any major disaster or critical incident, the potential psychosocial ramifications of a pandemic will directly and indirectly affect many people: no one who is involved in a disaster is untouched by it. The degree of impact is generally relative to the size, scope, and proximity of the incident or event. We should anticipate that many will be impacted directly, but not forget that simply being part of an affected community will emotionally impact many others. Management of these risks and the potential psychosocial impact of a pandemic is a shared responsibility between government, individuals, families, and communities.

The field of disaster behavioral health is relatively new, so little is actually known about the potential psychological impact of a large-scale pandemic. Traumatic events are shocking and emotionally overwhelming. It is normal for people who experience or witness them to have reactions. Reactions most reported include: intense fear, grief, horror, anger, paranoia, and stress. Research conducted in recent years concludes these reactions will occur at every phase of a disaster and response, and may be present for years after the initial event.

Disasters are particularly challenging for those who have pre-existing conditions or who are already involved in treatment for a diagnosable mental disturbance. When you examine the fact that one in five American adults age 18 and older has a diagnosable mental disorder and that four of the 10 leading causes of disability in the U.S. and developing countries are mental disorders, we begin to get a picture of the potential impact of such an event.

The good news, if any, is that the transient reactions that most people experience represent a normal response to an abnormal situation, and for the majority of those impacted, what is effective and most needed is short-term emotional support or psychological first aid. It is critical, however, to include professional behavioral health services in any response effort to ensure appropriate psychological assessment and triage. A pandemic, and the rampant fear and anxiety associated with a pandemic, might cause a disruption to the traditional health care delivery system. Professional behavioral health services will be especially significant given the potential surge of individuals who will experience elevated reactions.

As we plan ways to manage or mitigate the psychosocial effects of a pandemic, we must employ interventions to restore the psychological and social functioning of individuals and the community. We must pay special attention to those special needs of individuals with pre-existing behavioral health conditions, the specialized medications they might need to manage their mental disruptions, and how best to shelter or isolate them - if such measures are implemented. Mental and physical health are inextricably linked.

SCDHEC Media Relations

Jim Beasley
Division of Media Relations

Each year, as Influenza moves across the United States from west to east into South Carolina, the Department of Health and Environmental Control renews its efforts to monitor the disease's spread and prepare for its arrival. This is the time that education and awareness are critically important, placing crucial disease-control information into the hands of the public. DHEC and others typically mount multimedia campaigns, and the 2006-07 flu season will be a busy one, thanks in part to a grant from the U.S. Department of Health and Human Services. The grant will enable DHEC to produce and present its disease-control strategy through broadcast and print channels. The campaign will begin with basic prevention steps for seasonal Influenza, with messages in subsequent months focused on prevention of a pandemic. Preventive measures will be very similar for both.

The most recommended – and most publicized – method of prevention is getting vaccinated. However, it is widely recognized that medicines to combat the spread of a novel, pandemic Influenza virus strain will be in short supply. Vaccine will probably be months away. To combat this problem, DHEC will employ public information and education capable of effecting a behavioral change, potentially making each person a part of the solution.

DHEC's strategy: Awareness, Education, and Action.

The overarching theme is "What do you do to prevent the flu?"

The first phase of the campaign will focus on the four key strategies for controlling *seasonal* Influenza. In other words, what can the typical South Carolinian do to prevent the flu? The four messages will be a call to action to:

1. Get vaccinated each year, especially if you're at high risk.
2. Cover your cough, using a tissue or upper sleeve.
3. Wash your hands more often with soap and friction to remove germs.
4. Stay home when you have specific symptoms (like fever) to prevent the spread of germs to others.

The first spot will air from October through the end of the year, potentially into January and February, depending on vaccine supply. The remaining three spots will be used less often in the first months (October through January), but will rotate more equally in the later months of the Influenza season.

(Continued on Page 6)

(SCDHEC MEDIA RELATIONS cont'd from Page 5)

DHEC has contracted with SCETV to produce additional products to boost awareness and education. These broadcast and print spots will build on the messages of the first four. The idea is, as DHEC Commissioner Earl Hunter indicated during the initial Influenza summit in Columbia, **the flu is still the flu**, and that many of the actions that help prevent seasonal Influenza are also applicable to preventing the spread of a pandemic strain.

Additional materials will be offered to further educate the state's population on situations they could face during a pandemic, including:

1. The disruption of daily services due to high rates of sickness and absenteeism,
2. Extended numbers of "snow days" closing schools, businesses and public gatherings, and
3. The potential use of quarantine and isolation, as well as explaining their value and why it is important to abide by public health orders during an emergency.

SCETV will also create a series of short video vignettes, which can be tied together to create a full-length feature. Each of the vignettes will focus on one aspect of a pandemic, elevating awareness to the level of education.

SCETV will also host and broadcast informational forums, possibly held in different locations across the state and available by satellite channel into classrooms for the education of children.

Approximately 36,000 people die nationwide each year due to complications from the disease. Here in South Carolina, seasonal Influenza strikes countless numbers. Planners estimate that a novel strain could infect nearly one-third of this state's population during its peak. In those few weeks, more than one million people would seek a doctor's care; approximately 17,000 would require hospitalization. Our healthcare system would be overwhelmed. Appropriate planning and education are keys to easing that burden.

Pandemic Influenza Planning: On Your Doorstep!

Julie Lumpkin, MSPH
Program Division Planner
Office of Public Health Preparedness

In May 2006, South Carolina received funds from the Centers for Disease Control and Prevention (CDC) to participate in a nationwide effort to initiate Phase I Pandemic Influenza planning and preparedness. Experts at the World Health Organization (WHO) and the CDC believe that the world is now closer to another Influenza pandemic than at any time since 1968, when the most recent pandemics occurred. Scientists are now saying that the possibility of an Influenza pandemic is no longer a matter of if, but when.

In South Carolina, planning and preparedness activities are well under way. Pandemic Influenza (or Pan Flu) planning summits in South Carolina were officially kicked off March 2, 2006, with the statewide summit at the U.S.C. Koger Center in Columbia. U.S. Department of Health and Human Services Secretary Michael Leavitt, Gov. Mark Sanford, and DHEC Commissioner Earl Hunter led the summit. As agreed upon by officials at the state summit, DHEC received approximately $1.5 million in supplemental Pandemic Influenza planning funds to launch pan flu program activities in South Carolina. These activities included an education/awareness campaign, regional and local summits, and follow-up efforts to complete local community plans.

As of August 31, 2006, DHEC planners submitted the application for Phase II of the S.C. Pandemic Influenza Cooperative Agreement for more than $3.27 million. Phase II will fund the first three years of program activity for the S.C. Pandemic Influenza Program in the state public health system (DHEC). In addition to continuing activities begun in Phase I, Phase II requires substantial effort in exercising local Pan Flu plans, as well as training health and first responders. The program's success will be greatly dependent on its collaborations with partners, such as health care providers, county emergency managers, and other government and responder agencies. Education and planning will further occur in the commercial, business, civic, educational, faith and social sectors, ultimately reaching out to the family and individual level.

Organizationally, the newly formed S.C. Pandemic Influenza Program is located within the DHEC Office of Public Health Preparedness (OPHP) Emergency Management Division and is funded through the CDC Public Health Emergency Preparedness Program. The OPHP Pan Flu Program Manager is Phyllis Beasley, State Pandemic Influenza Response Coordinator. She works closely with Doug Skroback, OPHP Program Management Director; Ted Holland, Health Services Public Health Preparedness Director; and M.L. Tanner, Health Services Emergency Preparedness Coordinator, recently manager of the S.C. Lead Control Program. Mr. Holland and Ms. Tanner provide oversight and technical assistance for the CDC, HRSA, and Pan Flu Preparedness Programs within DHEC Health Services and in the eight Public Health Regions. DHEC Region Pan Flu staff members are currently being identified and hired to provide planning and coordination support in their region's local communities.

"A major intent of the Pandemic Influenza Program is to inform and prepare the public to decrease their fear and anxiety and to give them practical guidance on what they can do to help themselves," said Phyllis Beasley, DHEC Pan Flu Coordinator. "Forewarned is forearmed. The more the general public is prepared, the more health care providers and emergency responders will be able to contain a potential pandemic and protect residents in their communities."

(Continued on Page 7)

(PANDEMIC INFLUENZA PLANNING cont'd from Page 6)

During 2006-2007, Pan Flu education, planning, training and exercising should occur often in local communities. As a health care provider in your community, please consider supporting and participating in these local efforts. Call the DHEC Regional Health Director or Public Health Preparedness Director to find out how you or your organization can be involved.

For more general information, please go to www.pandemicflu.gov, the DHEC Internet site at www.scdhec.net, or see the pan flu resources in this issue. For information on obtaining a speaker on pan flu, contact Stewart Carter, DHEC Public Information Director, Office of Media Relations, Speaker's Bureau, at 803-898-7768.

Updated Interim Guidance for Laboratory Testing of Persons with Suspected Infection with Avian Influenza A (H5N1) Virus in the United States

(Note: This information was initially distributed as a CDC Health Update via the South Carolina Health Alert Network (HAN) on June 8, 2006.)

Background

This update provides revised interim guidance for testing of suspected human cases of avian influenza A (H5N1) in the United States and is based on the current state of knowledge regarding human infection with H5N1 viruses. The epidemiology of H5N1 human infections has not changed significantly since February 2004. Therefore, CDC recommends that H5N1 surveillance in the United States remain at the enhanced level first established at that time. However, this revised interim guidance provides an updated case definition of a suspected H5N1 human case for the purpose of determining when testing should be undertaken and also provides more detailed information on laboratory testing. Effective surveillance will continue to rely on health care providers obtaining information regarding international travel and other exposure risks from persons with specified respiratory symptoms as detailed in the recommendations below. This guidance will be updated as the epidemiology of H5N1 changes. Note: CDC is revising its interim guidance for infection control precautions for avian influenza A (H5N1). These will be issued as soon as they are available.

Current Situation

The Avian Influenza A (H5N1) epizootic (animal outbreak) in Asia has expanded to wild birds and/or poultry in parts of Europe, the Near East and Africa. Sporadic human infections with H5N1 continue to be reported and have most recently occurred in China, Egypt, Indonesia, Azerbaijan, Cambodia, and Djibouti. In addition, rare instances of probable human-to-human transmission associated with H5N1 viruses have occurred, most recently in a family cluster in Indonesia. So far, however, the spread of H5N1 virus from person to person has been rare, inefficient, and unsustained. The total number of confirmed human cases of H5N1 reported as of June 7, 2006 has reached 225. The case fatality rate for these reported cases continues to be approximately 50 percent. As of this date, H5N1 has not been identified among animals or humans in the United States.

The epizootic in Asia and parts of Europe, the Near East and Africa is not expected to diminish significantly in the short term and it is likely that H5N1 infection among birds has become enzootic in certain areas. It is expected that human infections resulting from direct contact with infected poultry will continue to occur in affected countries. Since no sustained human-to-human transmission of influenza H5N1 has been documented anywhere in the world, the current phase of alert, based on the World Health Organization (WHO) global influenza preparedness plan, remains at Phase 3 (Pandemic Alert).* In addition, no evidence for genetic reassortment between human and Avian Influenza A virus genes has been found. Nevertheless, this expanding epizootic continues to pose an important and growing public health threat. CDC is in communication with WHO and other national and international agencies and continues to monitor the situation closely.

Reporting and Testing Guidelines

CDC recommends maintaining the enhanced surveillance efforts practiced currently by state and local health departments, hospitals, and clinicians to identify patients at increased risk for Avian Influenza A (H5N1). Guidance for enhanced surveillance was first described in a HAN update issued on February 3, 2004 and most recently updated on February 4, 2005.

Testing for Avian Influenza A (H5N1) virus infection is recommended for:

A patient who has an illness that:

- Requires hospitalization or is fatal; **AND**
- Has or had a documented temperature of >38°C (> 100.4° F); **AND**
- Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; **AND**
- Has at least one of the following potential exposures within 10 days of symptom onset:

A) History of travel to a country with Influenza H5N1 documented in poultry, wild birds, and/or humans,† AND had at least one of the following potential exposures during travel:

- Direct contact with (e.g., touching) sick or dead domestic poultry;

(Continued on Page 8)

(GUIDANCE FOR LABORATORY TESTING cont'd from Page 7)

- Direct contact with surfaces contaminated with poultry feces;
- Consumption of raw or incompletely cooked poultry or poultry products;
- Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N1;
- Close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness;

B) Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;

C) Worked with live influenza H5N1 virus in a laboratory.

Testing for Avian Influenza A (H5N1) virus infection can be considered on a case-by-case basis, in consultation with local and state health departments, for:

- A patient with mild or atypical disease‡ (hospitalized or ambulatory) who has one of the exposures listed above (criteria A, B, or C); OR
- A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above (examples include: a returned traveler from an influenza H5N1-affected country whose exposures are unclear or suspicious, a person who had contact with sick or well-appearing poultry, etc.)

Clinicians should contact their local or state health department as soon as possible to report any suspected human case of Influenza H5N1 in the United States.

Specimen Collection and Testing Guidelines

- Oropharyngeal swab specimens and lower respiratory tract specimens (e.g., bronchoalveolar lavage or tracheal aspirates) are preferred because they appear to contain the highest quantity of virus for Influenza H5N1 detection, as determined on the basis of available data. Nasal or nasopharyngeal swab specimens are acceptable, but may contain less virus and therefore not be optimal specimens for virus detection.
- Detection of influenza H5N1 is more likely from specimens collected within the first 3 days of illness onset. If possible, serial specimens should be obtained over several days from the same patient.
- Bronchoalveolar lavage is considered to be a high-risk aerosol-generating procedure. Therefore, infection control precautions should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher rated filter. A loose-fitting powered air-purifying respirator (PAPR) may be used if fit-testing is not possible (for example, if the person has a beard). Detailed guidance on infection control precautions for health care workers caring for suspected Influenza H5N1 patients is available.||
- Swabs used for specimen collection should have a Dacron tip and an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended.§ Specimens should be placed at 4°C immediately after collection.
- For reverse-transcriptase polymerase chain reaction (RT-PCR) analysis, nucleic acid extraction lysis buffer can be added to specimens (for virus inactivation and RNA stabilization), after which specimens can be stored and shipped at 4°C. Otherwise, specimens should be frozen at or below -70°C and shipped on dry ice. For viral isolation, specimens can be stored and shipped at 4°C. If specimens are not expected to be inoculated into culture within 2 days, they should be frozen at or below -70°C and shipped on dry ice. Avoid repeated freeze/thaw cycles.
- Influenza H5N1-specific RT-PCR testing conducted under Biosafety Level 2 conditions is the preferred method for diagnosis. All state public health laboratories, several local public health laboratories, and CDC are able to perform influenza H5N1 RT-PCR testing, and are the recommended sites for initial diagnosis.
- Viral culture should NOT be attempted on specimens from patients suspected to have influenza H5N1, unless conducted under Biosafety Level 3 conditions with enhancements.
- Commercial rapid influenza antigen testing in the evaluation of suspected influenza H5N1 cases should be interpreted with caution. Clinicians should be aware that these tests have relatively low sensitivities, and a negative result would not exclude a diagnosis of influenza H5N1. In addition, a positive result does not distinguish between seasonal and Avian Influenza A viruses.
- Serologic testing for influenza H5N1-specific antibody, using appropriately timed specimens, can be considered if other Influenza H5N1 diagnostic testing methods are unsuccessful (for example, due to delays in respiratory specimen

(Continued on Page 9)

(GUIDANCE FOR LABORATORY TESTING cont'd from Page 8)

collection). Paired serum specimens from the same patient are required for influenza H5N1 diagnosis: one sample should be tested within the first week of illness, and a second sample should be tested 2-4 weeks later. A demonstrated rise in the H5N1-specific antibody level is required for a diagnosis of H5N1 infection. Currently, the microneutralization assay, which requires live virus, is the recommended test for measuring H5N1-specific antibody. Any work with live wild-type highly pathogenic influenza H5N1 viruses must be conducted in a USDA-approved Biosafety Level 3 enhanced containment facility. Visit http://www.cdc.gov/flu/h2n2bsl3.htm for more information about procedures and facilities recommended for manipulating highly pathogenic avian influenza viruses.

Laboratory testing results positive for Influenza A (H5N1) in the United States should be confirmed at CDC, which has been designated as a WHO H5 Reference Laboratory. Before sending specimens, state and local health departments should contact CDC's on-call epidemiologist at (404) 639-3747 or (404) 639-3591 (Monday – Friday, 8:30 AM - 5:00 PM) or (770) 488-7100 (all other times).

Travel Health Notice

CDC has not recommended that the general public avoid travel to any of the countries affected by H5N1. However, CDC does recommend that travelers to these countries avoid poultry farms and bird markets or other places where live poultry are raised or kept. For details about other ways to reduce the risk of infection, see http://www.cdc.gov/travel/other/avian_influenza_se_asia_2005.htm.

DHEC Contact Information for Reportable Diseases and Reporting Requirements

Reporting of cases or possible cases of persons with suspected infection with Avian Influenza A (H5N1) virus is consistent with South Carolina Law requiring the reporting of diseases and conditions to your state or local public health department. (State Law # 44-29-10 and Regulation # 61-20) as per the DHEC 2004 List of Reportable Conditions available at: http://www.scdhec.gov/health/disease/docs/reportable_conditions.pdf Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).

Additional Information

- South Carolina Department of Health, South Carolina Influenza Surveillance: http://www.scdhec.gov/health/disease/acute/flu.htm
- Department of Health and Human Services at: www.pandemicflu.gov
- World Health Organization at: www.who.int
- World Organization for Animal Health (OIE) at: http://www.oie.int/eng/en_index.htm

Footnotes

*For the current WHO Pandemic Phase, see http://www.who.int/csr/disease/avian_influenza/phase/en/index.html.

† For a listing of influenza H5N1-affected countries, visit the CDC website at http://www.cdc.gov/flu/avian/outbreaks/current.htm; the OIE website at http://www.oie.int/eng/en_index.htm; and the WHO website at http://www.who.int/csr/disease/avian_influenza/en/.

‡ For example, a patient with respiratory illness and fever who does not require hospitalization, or a patient with significant neurologic or gastrointestinal symptoms in the absence of respiratory disease.

|| Interim recommendations for infection control in health-care facilities caring for patients with known or suspected avian influenza are available at http://www.cdc.gov/flu/avian/professional/infect-control.htm.

§ Specimens can be transported in viral transport media, Hanks balanced salt solution, cell culture medium, tryptose-phosphate broth, veal infusion broth, or sucrose-phosphate buffer. Transport media should be supplemented with protein, such as bovine serum albumin or gelatin, to a concentration of 0.5% to 1%.

Information regarding Laboratory Biosafety Level Criteria can be found at http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm.

Teleconference: "Influenza Update for Physician Office Laboratories" September 26, 2006 from 1-2pm ET

Why is there so much concern about Influenza and Bird Flu? What do you need to know about the rapid test kits in order to select the appropriate kit for your physician office laboratory? Are you taking the right kinds of biosafety precautions when performing rapid tests for influenza? Where do physician office laboratories and medical clinics fit into seasonal and pandemic influenza planning activities?

Learn answers to these important questions without having to leave your office or clinic by attending this teleconference - "Influenza Update for Physician Office Laboratories" on September 26, 2006 - sponsored by the National Lab Training Network (NLTN) under a Homeland Security grant.

Teleconference: "Influenza Update for Physician Office Laboratories"
Date: September 26, 2006, from 1:00 to 2:00 ET
Registration Fee: $50
Register Online At: http://www.nltn.org/courses
For More Information: email mwoffice@nltn.org

(Note: Training announcements will be published in the Epi Notes if deemed valuable and if space permits. For more information on the latest training opportunities and Pandemic Influenza links: www.scprepares.org.)

Pandemic Influenza

G. T. Fabian, MD, MPH
Medical Director, Public Health Preparedness
Bioterrorism Surveillance and Response
Division of Acute Disease Epidemiology

Pandemic Influenza can be considered the most extreme example of an acute infectious disease outbreak. It is a worldwide epidemic of influenza. Pandemics happen when a novel (new) virus emerges to which people have little or no immunity. The easy-to-mutate influenza virus shifts to a strain (a new subtype) that people have never experienced before. A novel influenza virus occasionally emerges among humans as part of the natural ecology and biology of influenza viruses – originating from reservoirs of influenza viruses that naturally infect and circulate among other animal species, notably wild birds (the ultimate reservoir for influenza viruses). Normally, animal viruses do not infect humans. However, avian influenza viruses can sometimes "jump" the species barrier and directly infect humans. Pandemic influenza viruses can also arise when some of the genes from animal influenza viruses mix or reassort with some of the genes from human influenza viruses to create a novel virus.

Seasonal Influenza
Influenza (the "flu") is a viral inflection characterized by fever, muscle aches, malaise, cough, sore throat, runny nose, and often nausea and vomiting. It is usually mild but in the very young, the elderly, and those with weakened immune systems, it can result in severe illness or death. 10% to 20% of the population is infected with influenza yearly. In a routine season, influenza causes 30,000 to 40,000 deaths each year in the United States and 250,000 to 500,000 deaths worldwide. There were 894 deaths in South Carolina alone in 2003. Influenza (with related pneumonias) ranks in the nation's top 10 causes of death.

Pandemic Influenza
Four key factors must all be present for a pandemic to occur:

1. Novel virus
   - Reassortment of animal and human viruses
   - Direct transmission of animal virus to humans
   - Adaptation of non-human virus in intermediate host prior to transmission to humans
2. Susceptible population
3. Virus capable of causing disease in humans
4. Virus transmission from person-to-person

Historical Perspective
One of the earliest recorded pandemics occurred in 1580. It started in Asia then spread to Africa, Europe, and the Americas with high deaths rates, e.g. 9000 deaths out of 80,000 people in Rome alone. There have been ten recorded pandemics within the past 300 years. The time interval between pandemics ranged from 10 to 49 years with an average of 24 years. There have been 3 pandemics in each of the last 3 centuries:

- 18th Century: 1729-32, 1732-33, and 1781-82.
- 19th Century: 1830-31, 1833-34, and 1889-90. (One million dead in 1889)
- 20th Century: 1918-19, 1957-58, and 1968-69.

The 1918-1919 Spanish Flu Pandemic was caused by an influenza A (H1N1) strain. One third of the world's population was infected and had clinically apparent illness. Recent estimates put the death toll at over 50 million. A similar pandemic today would extrapolate to a modern death toll of 175 to 350 million. The 1918 pandemic killed more people in 6 months than AIDS has killed in the last 25 years and more than were killed in all of World War I. The estimated United States mortality was 675,000. There is evidence to indicate the virus originated in the United States, then spread to Europe.

The 1918 pandemic strain killed a disproportionate number of healthy young adults. In the U.S. the age-related mortality curve was "W" shaped with high rates of mortality among very young children, persons 15 to 45 years of age, and the elderly – instead of the usual "U" shape with excess deaths only among the very young and the elderly. Clinical accounts described most deaths appeared to die of respiratory failure with characteristic hemorrhagic alveolitis. It appears that the 1918 strain was an avian-like virus derived from an unknown source that adapted to humans until it could be efficiently transmitted from person-to-person.

Avian Influenza (H5N1) ("Bird Flu") (see Avian Influenza in Birds in this issue of Epi Notes)
The current H5N1 is an epizootic of high path avian flu viruses among poultry and birds. Its emergence in humans in Hong Kong in 1997 was a sentinel event. It provided (1) direct evidence that avian influenza viruses can infect people and (2) an epidemiological link between avian influenza infections in poultry with disease in humans. It demonstrated the unusual lethality of H5N1 and was proclaimed as a pandemic warning.

As of August 14, 2006, there have been a total of 238 confirmed human H5N1 cases with 139 deaths in Vietnam, Thailand, Cambodia, Indonesia, China, Turkey, Iraq, Azerbaijan, Egypt, and Djibouti. The case fatality rate (lab confirmed cases) is high at over 50%. However, there is **no** sustained and rapid person-to-person transmission.

Clinical Features of Human H5N1 Cases

- Initial high fever and influenza-like-illness (ILI) with lower respiratory tract symptoms
- Rapid onset of primary viral pneumonia and ARDS.
- Replication in pneumocytes in lungs, causing primary lung damage.
- Severe lung damage primarily in alveoli.
- More severe in young children.
- Possible replication in GI tract.

(Continued on Page 11)

(PANDEMIC INFLUENZA cont'd from Page 10)

- Cytokine storm can increase pathology—possible severe multi-system organ disease.

Laboratory Testing
It is not clear that current rapid tests can detect H5N1. Negative rapid tests in the presence of clinical symptoms (meeting clinical definition) should be followed by chest x-ray and PCR. Cultures and H5N1-specific PCR tests are available from the S.C. DHEC Bureau of Laboratories.

See updated Interim Guidance for Laboratory Testing of Persons with Suspected Infection with Avian Influenza A (H5N1) Virus in the United States in this edition of EpiNotes.

Situation Report: Avian Influenza

- ✓ Widespread and spreading prevalence in migratory birds; broad host range
- ✓ Continued outbreaks among domesticpoultry
- ✓ Mammalian infection (cats, pigs, etc.) lethal
- ✓ Virus is evolving
- ✓ Sporadic human cases
  - Most in young and healthy
  - Case-fatality 50%
- ❑ Sustained and rapid person-to-person transmission

Is another pandemic inevitable?
History indicates that pandemics do indeed happen—having occurred at intervals of 10 to 49 years. Experts warn that a pandemic is inevitable. There has been no change in the underlying biologic and ecologic factors:

- Large virus reservoirs among birds
- Extensive contract between humans and animals
- Interspecies transmission of infection

Social factors are favorable for larger pandemics:

- Larger urban setting
- Much more extensive and rapid travel
- Larger numbers of people with chronic conditions or elder age.

The current scope of avian influenza suggests widespread exposure and increased risk of co-infection of human and avian strains. Despite exposure the likelihood of a reassortment or mutation leading to a virus that spreads between people is unclear.
The world remains in World Health Organization Pandemic Phase 3.

Defining a Pandemic: WHO Phases

- •Phase 1 No new influenza virus subtypes detected in humans. If animals are infected, risk to humans is low.
- •Phase 2 No new influenza virus subtypes detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.
- •Phase 3 Isolated human infections, no human-to-human spread except rare close contacts.
- •Phase 4 Small, highly localized cluster(s), limited human-to-human transmission.
- •Phase 5 Larger localized cluster(s) limited human-to-human spread. Substantial pandemic risk.
- •Phase 6 Pandemic phase: Sustained transmission among humans occurs.

Pandemic Planning Estimates and Assumptions
Due to the clinical and virologic similarities between H5N1 and the 1918 strain, the 1918 experience is used for planning purposes. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus.

- HHS estimates that in a moderate influenza pandemic (like 1957 pandemic), the United States might experience 209,000 deaths, with 128,750 patients requiring ICUs and 64,875 patients needing mechanical ventilators.
- In a severe pandemic (like 1918), the numbers could rise to 1.9 million deaths, with 1.5 million needing ICUs and 742,000 needing ventilators.
- Under both scenarios, 30 % of the population (90 million) would contact the illness and 45 million would need outpatient care.
- 50% or more of those who become ill will seek medical care.
- Incubation period: 1-4 days (average 2 days) (Note: current incubation period for H5N1 may be closer to 10 days)
- Viral shedding and transmission: greatest during the first 2 days of illness
- May be infectious 1-2 days before symptoms
- Infectious for about 10 days; children may shed virus longer
- On average, each person will transmit influenza to two others
- In an affected community, a pandemic outbreak will last about 6 to 8 weeks.
- Multiple waves of illness could occur with each wave lasting 2-3 months.
- Absenteeism may approach 40% in a severe pandemic.
- The virus will have the ability to spread rapidly worldwide.
- There can be simultaneous or near simultaneous outbreaks in communities across the U.S., limiting the ability of any jurisdiction to provide support and assistance to other areas.
- There will be enormous demands on the healthcare system
- Potential disruption of national and community infrastructure - including transportation,

(Continued on Page 12)

(PANDEMIC INFLUENZA cont'd from Page 11)

commerce, utilities, and public safety - due to widespread illness and death among workers and their families and concern about ongoing exposure to the virus.

Interventions to Lessen Impact of Disease.

1. **Vaccine.** The cornerstone for controlling an influenza pandemic is the development of an effective vaccine. Current vaccines against seasonal influenza will not protect against a pandemic influenza strain. With current technology, the development of a pandemic influenza strain will take 4 to 7 months after identifying the pandemic strain. Manufacturing capacity will be limited and, as a result, there will be limited amounts of vaccine produced each month. A second dose of the vaccine will be needed to provide adequate immunity. As a result of this limited vaccine availability, priority groups have been established. (Priority Groups listed in HHS Pandemic Influenza Plan at www.pandemicflu.gov) However, during a pandemic, priority groups could change as a result of vaccine effectiveness and characteristics of the causative virus: transmissibility, virulence, initial geographic distribution, age-specific attack rates, and complication rates. Promising new vaccine technologies are being pursued.

2. **Antiviral Drugs**. Two groups of antiviral drugs are available for treatment and prophylaxis of influenza: (1) the adamantines (amantadine and rimantadine) and (2) the neuraminidase inhibitors (oseltamivir [Tamiflu] and zanamivir [Relenza]). The use of adamantine during a pandemic is limited because of the potential for drug resistance. Most H5N1 viruses currently in circulation in Southeast Asia are resistant to amantadine and rimantadine. The neuraminidase inhibitors can reduce the duration of illness of seasonal influenza if given within 48 hours after symptom onset. However, there is limited clinical data on their effectiveness for treatment of human infection with H5N1. Because there is limited availability of antivirals, the focus of antiviral use will be on treatment, and allocation to priority groups will be required. (Priority Groups listed in HHS Pandemic Influenza Plan at www.pandemicflu.gov)
   Stockpiling of neuramindase inhibitors is considered to be an imported strategy for limiting the impact of an influenza pandemic, but it is not clear that they would be effective against an emergent pandemic strain.

3. **Nonpharmaceutical Interventions**
   (See HHS Pandemic Influenza Plan, Supplement 8 for more information.)
   - Social distancing measures such as closing schools and other public gathering places
   - Isolation and Quarantine
   - Use of masks (value of mask by well public is unknown)
   - Handwashing
   - Respiratory hygiene/cough etiquette

For More Information
(1) www.pandemicflu.gov
(2) www.cdc.gov/flu
(3) HHS Pandemic Influenza Plan
- Supplement 1: Pandemic Influenza Surveillance
- Supplement 2: Laboratory Diagnosis
- Supplement 3: Healthcare Planning
- Supplement 4: Infection Control
- Supplement 5. Clinical Guidelines
- Supplement 6: Vaccine Distribution and Use
- Supplement 7: Antiviral Drug Distribution
- Supplement 8: Community Disease Control and Prevention
- Supplement 9: Management of Travel-Related Risk of Disease
- Supplement 10: Public Health Communication
- Supplement 11: Psychosocial Workforce Support Service

(Supplements 1-7 cover topics of potential interest to clinicians)

(4) Pandemic Influenza Planning Checklists at www.pandemicflu.gov
- Medical Offices and Clinics
- Hospitals
- Emergency Medical Service and Medical Transport
- Home Health Care services
- Long Term Care and Other Residential Facilities

Year-to-Date Summary of Selected Reportable Conditions

January 1, 2006 - August 14, 2006 *

Condition	Confirmed	Probable	Total
Animal bites requiring rabies PEP (2)	193	0	193
Aseptic meningitis	61	8	69
Brucellosis	2	0	2
Campylobacter	135	0	135
Chickenpox	464	336	800
Cryptosporidiosis	28	0	28
Cyclosporiasis	4	0	4
Dengue	0	1	1
E-coli O-157-H7 (3)	8	0	8
Ehrlichiosis	1	2	3
Group A Streptococcal Invasive	56	0	56
Giardiasis	65	1	66
Haemophilus Influenza b, Invasive	27	0	27
Hepatits A	14	0	14
Hepatitis B (acute)	53	7	60
Hepatitis B (chronic)	409	36	445
Hepatitis C (chronic)	1828	1167	2995
Hepatitis D	1	0	1
Hepatitis E	1	0	1
HIV infection / AIDS (4)	431	0	431
Influenza isolates	30	0	30
Invasive S. pneumoniae	161	2	163
Kawasaki disease	2	0	2
Legionellosis	3	0	3
Listeria	5	0	5
Lyme Disease	7	2	9
Malaria	7	0	7
Meningococcal Disease	15	0	15
Mumps	4	0	4
Pertussis	98	13	111
Rocky Mountain Spotted Fever	2	20	22
Salmonellosis	517	2	519
Shigellosis	70	0	70
Tetanus	1	0	1
Tuberculosis	115	0	115
Vancomycin resistant enteroccoccus	20	0	20
Vibrio parahemolyticus	3	0	3
Vibrio vulnificus	1	0	1
TOTAL	4842	1597	6439

(1) This report does not include reportable STD conditions
(2) PEP: Rabies Post-exposure prophylaxis with HRIG + 5 doses of rabies vaccine
(3) Includes closely related microbiologic variants such as Shiga toxin-producing Escherichia coli (STEC)
(4) HIV/AIDS figures are through June 30, 2006

Epi-Notes
Division of Acute Disease Epidemiology
SC DHEC
2600 Bull Street
Columbia, SC 29201

Epi-Notes is published by the South Carolina Department of Health and Environmental Control Division of Acute Disease Epidemiology

FOR DISEASE REPORTING

For immediately reportable conditions, call your local county health department or, for after-hours, call 1-888-847-0902. Routine reports may be phoned in to your local health department or mailed on a completed DHEC DISEASE REPORTING CARD (DHEC 1129). Local county health department numbers are listed on the Official List of Reportable Conditions. For a copy of the current Official List of Reportable Conditions, call 803-898-0861 or visit
www.scdhec.gov/health/disease/index.htm

THE EPI NOTES NEWSLETTER IS NOW AVAILABLE ON LINE AT
www.scdhec.gov/health/disease/index.htm

Bureau of Disease Control
J. Gibson, MD, MPH, Director
803-898-0861

Bureau of Disease Control Divisions
Division of Acute Disease Epidemiology
803-898-0861
Division of Immunization
1-800-277-4687
Division of STD/HIV
803-898-0749
Division of Surveillance and Technical Support
803-898-0749
Division of Tuberculosis Control
803-898-0558

Editorial Staff
Editors: Libby C. Greene, MSN, APRN, BC
Claire Youngblood, MA
Design and Layout: Gloria A. McCurry