Kentucky
Epidemiologic Notes & Reports

Cabinet for Health Services
Department for Public Health
Division of Epidemiology & Health Planning

Volume 39 Number 2 March 2004

Basic Information on Avian Influenza
Excerpts from World Health Organizations Fact Sheet

The disease in birds: impact and control measures

Avian influenza is an infectious disease of birds caused by type A strains of the influenza virus. The disease, which was first identified in Italy more than 100 years ago, occurs worldwide. All birds are thought to be susceptible to infection with avian influenza, though some species are more resistant to infection than others. Migratory waterfowl – most notably wild ducks – are the natural reservoir of avian influenza viruses, and these birds are also the most resistant to infection. Domestic poultry, including chickens and turkeys, are particularly susceptible to epidemics of rapidly fatal influenza.

Fifteen subtypes of influenza virus are known to infect birds, thus providing an extensive reservoir of influenza viruses potentially circulating in bird populations. To date, all outbreaks of the highly pathogenic form have been caused by influenza A viruses of subtypes H5 and H7.

A constantly mutating virus: two consequences

All type A influenza viruses, including those that regularly cause seasonal epidemics of influenza in humans, are genetically labile and well adapted to elude host defenses. Influenza viruses lack mechanisms for the "proofreading" and repair of errors that occur during replication. As a result of these uncorrected errors, the genetic composition of the viruses changes as they replicate in humans and animals, and the existing strain is replaced with a new antigenic variant. These constant, permanent and usually small changes in the antigenic composition of influenza A viruses are known as antigenic "drift".

The tendency of influenza viruses to undergo frequent and permanent antigenic changes necessitates constant monitoring of the global influenza situation and annual adjustments in the composition of influenza vaccines. Both activities have been a cornerstone of the WHO Global Influenza Programme since its inception in 1947. Influenza viruses have a second characteristic of great public health concern: influenza A viruses, including subtypes from different species, can swap or "reassort" genetic materials and merge. This reassortment process, known as antigenic "shift", results in a novel subtype different from both parent viruses. As populations will have no immunity to the new subtype, and as no existing vaccines can confer protection, antigenic shift has historically resulted in highly lethal pandemics. For this to happen, the novel subtype needs to have genes from human influenza viruses that make it readily transmissible from person to person for a sustainable period.

Conditions favorable for the emergence of antigenic shift have long been thought to involve humans living in close proximity to domestic poultry and pigs. Because pigs are susceptible to infection with both avian and mammalian viruses, including human strains, they can serve as a "mixing vessel" for the scrambling of genetic material from human and avian viruses, resulting in the emergence of a novel subtype. Recent events, however, have identified a second possible mechanism. Evidence is mounting that, for at least some of the 15 avian influenza virus subtypes circulating in bird populations, humans themselves can serve as the "mixing vessel".

Human infection with avian influenza viruses: a timeline

Avian influenza viruses do not normally infect species other than birds and pigs. The first documented infection of humans with an avian influenza virus occurred in Hong Kong in 1997, when the H5N1 strain caused severe respiratory disease in 18 humans, of whom 6 died. The infection of humans coincided with an epidemic of highly pathogenic avian influenza, caused by the same strain, in Hong Kong's poultry population.

Why H5N1 is of particular concern

Of the 15 avian influenza virus subtypes, H5N1 is of particular concern for several reasons. H5N1 mutates rapidly and has a documented propensity to acquire genes from viruses infecting other animal species. Its ability to cause severe disease in humans has now been

(Continued on Page 3)

National HIV Testing Day Campaign Report for 2003

Team Captain, Tom Collins
Kentucky Department for Public Health, HIV/AIDS Branch

The following is a chronologic summary of the 2003 HIV testing initiative sponsored by the Kentucky Department for Public Health, HIV/AIDS Branch.

January 2003 – May 2003:
Counseling and testing training as well as Ora-Sure® training was made available, by the Sexually Transmitted Diseases/Human Immunodeficiency Virus Counseling and Testing (STD/HIVCT) team, to all interested parties. More than 100 additional counselors were trained, including 16 Hispanic counselors.

April 2003:
2,000 Ora-Sure® test devices were ordered. 2003 HIV Prevention Grant funds were used to pay for Ora-Sure®. The kits were distributed to sites based on the volume of tests they usually conduct and plans for large-scale events.

The first of two letters was sent to all 181 Counseling and Testing Sites (CTS) in the state as well as to the 21 Ora-Sure® sites. The purpose of the first letter was to request participation and to give suggestions as to particular activities that sites may be able to implement.

Tom Collins provided Catina Perkins of the National Association of People With AIDS (NAPWA) with mailing labels of for all Kentucky CTS sites so that she could mail them a campaign kit containing posters and marketing materials. Campaign materials arrived much earlier than in past years. Additional packets were mailed to the Kentucky Department for Public Health and were distributed to healthcare facilities around the state.

May 2003:
A statewide press release was developed for release the first week of June. The press release normally generates media calls, which results in phone interviews and scheduling coverage of specific events. We also schedule radio broadcasts with stations where we have existing working relationships. We encourage key people around the state to do the same. Susan Rice from the Barren River District Health Department and Cindy Mangrum from Purchase District Health Department did great jobs coordinating media contacts for their regions. This year our Commissioner for Public Health, Dr. Rice Leach, sent out a request to the directors of all county health departments encouraging them to participate in the campaign.

A second letter is sent to all CTS. This letter repeats the request for participation and offers support. This usually results in requests for assistance with off-site counseling and testing and for letters of support needed for testing in jails, juvenile detention centers or rehabilitation centers.

Counseling and testing training was provided to Hispanic counselors from two agencies targeting migrant farm workers. This was a new component for our testing campaign.

June 2003:
June offered a full month of special testing events.

August 2003:
Report forms were sent to all CTS with a letter of request for them to return the report sheet to Tom Collins. When data is received a report is generated and sent to NAPWA.

HIV Testing Highlights

Susan Rice of the Barren River District Health Department teamed up with outreach workers from Heartland Cares Clinic and the Lincoln Foundation, as well as the Health and Wellness office of Western Kentucky University to conduct a program titled "Red Ribbon Rock and Roll". The group rented the town square and provided a live concert. Local shops provided private spaces for counseling and testing. Educators worked the crowd encouraging people to "Take the Test".

Three sites of the Lincoln Foundation's Minority AIDS Council, a directly funded Community Based Organization (CBO), participated in this year's campaign. Two of the 3 sites posted a 100% return rate.

The two agencies targeting Hispanics hosted Fiesta-style parties and provided counseling and testing to those who gathered. Together they tested 58 people and had 84% return for their results.

We also had one university, one methadone clinic, and two youth correctional facilities participate in this campaign.

(Continued on Page 3)

HIV Testing Day Campaign

Results

A grand total of 2,649 tests were performed. This was an increase of 1,027 tests over last year's campaign. 311 tests were performed by Community Based Organizations, 2,274 tests were performed by local health departments, and 64 tests were performed at other testing sites. Of the 2,649 individuals who took the test 1,698 returned for results for an overall return rate of 64 percent. The return rate can be broken down by CBO, Health Departments, and other testing sites. The CBOs had an average return rate of 83%, with 4 posting 100% return rates. Health Departments had an average return rate of 61%, with 22 having return rates of 100%. The additional testing sites had an average return rate of 92%, with 2 posting 100% return rates.

One thousand, four hundred, and thirty-two (1,432) individuals indicated that they were first time testers.
Thus 54% of the people tested in this campaign were first time testers.

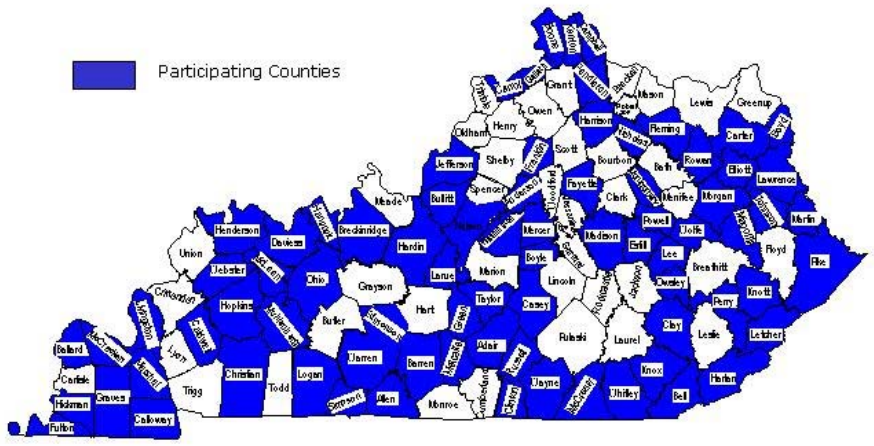
Fourteen (14) positive test results were obtained. All positive individuals were found through local health departments. Even though more tests were performed in this campaign fewer positives were found. The number of test performed by CBOs decreased and CBOs found no positives. The overall seropositivity rate was 0.53%.

Summary

Ninety-seven testing centers in eighty counties and ten CBOs participated in this year's campaign (Map 1). Health Department participation more than doubled, but we had a decrease in CBO participation. The number of tests performed almost doubled compared to last year's campaign. The seropositivity rate for this campaign is the lowest ever for National HIV Testing Day Campaigns in Kentucky.

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

Ora-Sure®
Ora-Sure Technologies, INC.
Bethlehem, PA



Map 1

Avian Influenza

(Continued from page 1)
documented on two occasions. In addition, laboratory studies have demonstrated that isolates from this virus have a high pathogenicity and can cause severe disease in humans. Birds that survive infection excrete virus for at least 10 days, orally and in feces, thus facilitating further spread at live poultry markets and by migratory birds.

The epidemic of highly pathogenic avian influenza caused by H5N1, which began in mid-December 2003 in the Republic of Korea and is now being seen in other Asian countries, is therefore of particular public health concern. H5N1 variants demonstrated a capacity to directly infect humans in 1997, and have done so again in Viet Nam in January 2004. The spread of infection in birds increases the opportunities for direct infection of humans. If more humans become infected over time, the likelihood also increases that humans, if concurrently infected with human and avian influenza strains, could serve as the "mixing vessel" for the emergence of a novel subtype with sufficient human genes to be easily transmitted from person to person. Such an event would mark the start of an influenza pandemic

For more information visit the WHO and the CDC websites:
Http://www.who.int
Http://www.cdc.gov

Sexually Transmitted Diseases Morbidity Trends in Kentucky

David Raines and George DeRoller
Kentucky Department for Public Health, STD Program

Steady progress has been made in reducing Sexually Transmitted Disease (STD) morbidity in Kentucky. Gonorrhea and syphilis rates have declined over the past ten years, even chlamydia infections have started to decline. In 2003, 24% of the early syphilis cases, 62% of the gonorrhea cases and 77% of the chlamydia cases were in the 15-24 year age group (Chart 1).

Gonorrhea morbidity has steadily declined for 20 years (Chart 2) and is currently approximately one third of the 1984 rate (3,565 vs. 10,169). One hundred and nine counties in Kentucky reported gonorrhea cases in 2003 but the disease is primarily confined to the larger cities. Seven counties: Christian (183), Fayette (410), Daviess (144), Jefferson (1439), Kenton (197), McCracken (96) and Warren (130) accounted for 73% of the gonorrhea morbidity.

Reported syphilis cases (Chart 3) have declined by 84% in the ten years since 1993 (76 vs. 487). However, syphilis rates have proven to be somewhat cyclical in the past. Syphilis rates are volatile due to its low incidence and tendency to become quickly endemic is subpopulation groups. The 1970s and 1980s saw syphilis become endemic in men who have sex with men, while the 1990s saw increases in persons who used crack cocaine. As cocaine usage declined (as measured by arrest records), so have syphilis rates.

Kentucky Gonorrhea Cases
1984-2003

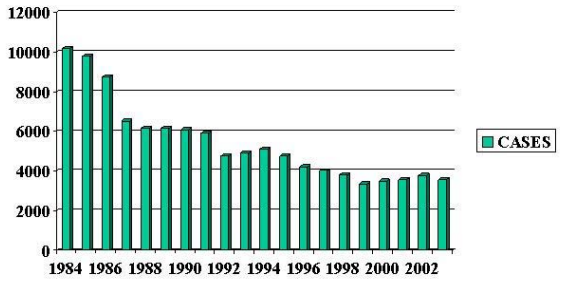
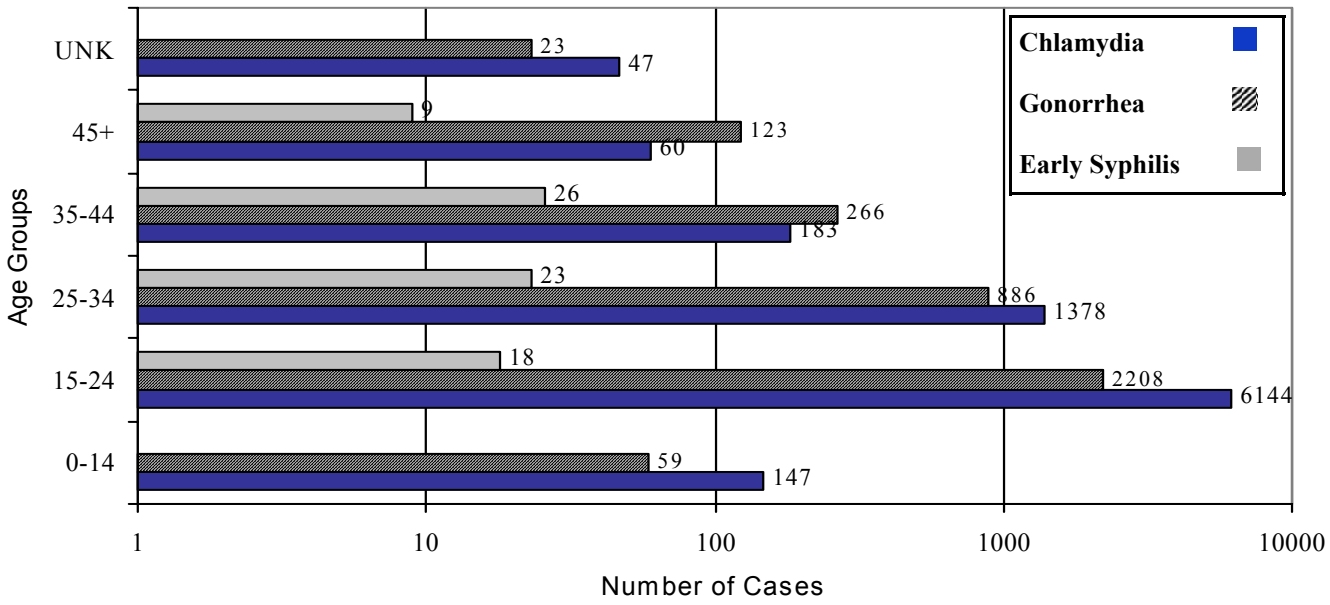


Chart 2

Only 10 counties in Kentucky reported early syphilis cases in 2003. Syphilis morbidity is highest in the city of Louisville. Of 76 cases, 52 (68%) were in Louisville and it also ranked 13th nationwide in syphilis rates for cities over 200,000 in population in 2002.

With 7,981 cases reported in 2003, chlamydia is by far the most reported STD in Kentucky (Chart 4). Rates of chlamydial infection have escalated due to increased

Chart 1. Comparison of Chlamydia, Gonorrhea and Early Syphilis by Age for 2003 in Kentucky



STD Morbidity Trends in Kentucky

Kentucky Early Syphilis Cases
1984-2003

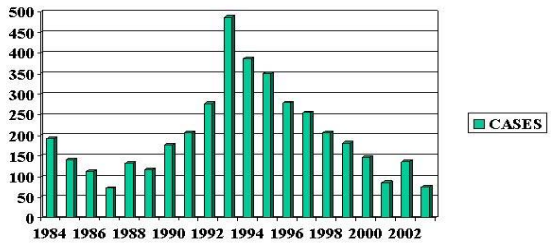


Chart 3

testing rather than increases in chlamydia infection. Prior to 1984, chlamydia was often misdiagnosed as non-gonococcal urethritis, non-specific vaginitis or went undetected. With the development of cheaper, easier diagnostic tests, such as nucleic acid probes, more wide spread screening programs have resulted in better measures of the extent of chlamydia in communities.

Testing for chlamydia in local health department patient service clinics has increased 20 fold since 1985. Almost 80,000 tests were performed in 2003. The increased ability to screen large populations has resulted in a far more accurate indication of the prevalence of chlamydia in Kentucky. All 120 counties in Kentucky reported chlamydia morbidity in 2003.

In summary, there has been substantial progress in STD control in recent years. However, changing epidemiology of disease, patterns of antibiotic resistance, and availability of testing and treatment modalities continue to provide new challenges in STD control.

Kentucky Chlamydia Cases
1984- 2003

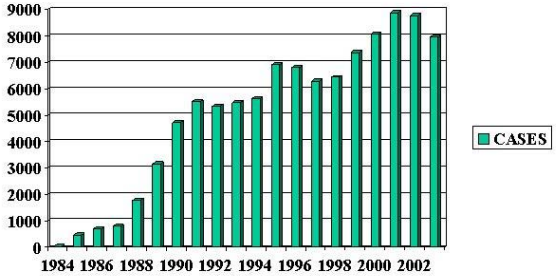


Chart 4

CDC Recommendations for Limited Supply of Pneumococcal Conjugate Vaccine

The Centers for Disease Control and Prevention (CDC) recently published temporary recommendations for the administration of pneumococcal conjugate vaccine (PCV7). The recommendations are being made to conserve PCV7 vaccine and minimize the likelihood of shortages caused by production and supply problems at Wyeth Vaccines, the only supplier of PCV7 in the United States. Wyeth Vaccines markets PCV7 under the trade name Prevnar®.

The recommendation for those children not at increased risk is for the temporary suspension of the fourth dose of PCV7, a booster dose given at 12 to 15 months of age, regardless of the amount of PCV7 vaccine in providers inventories. Healthcare providers should move to a three-dose series of one dose at two months, one dose at four months, and one dose at six months. Providers should continue to administer the fourth dose to children at increased risk of severe disease. Children at high risk for pneumococcal infection are those who have sickle cell disease or asplenia; HIV or other immunocompromising conditions; or chronic illness that would increase their risk of pneumococcal infection.

TEMPORARY RECOMMENDATION FOR USE OF PCV7

RISK OF CHILD	2 MONTHS	4 MONTHS	6 MONTHS	12-15 MONTHS
Not increased	Provide	Provide	Provide	Defer*
Increased	Provide	Provide	Provide	Provide

* Defer the fourth dose (12-15 months) PCV7 for children who are not at increased risk until vaccine supply is adequate (so long as age remains less than two at such time). Children whose booster dose is deferred should receive PCV7 on their first visit after supplies are restored, unless they have reached their second birthday during the interim.

KENTUCKY EPIDEMIOLOGIC NOTES & REPORTS
Printed With State Funds
by the
Commonwealth of Kentucky
Cabinet for Health and Family Services
Department for Public Health
275 East Main Street
Frankfort, Kentucky 40621

PRSRT STD
U.S. Postage Paid
Lexington, KY
Permit No. 1

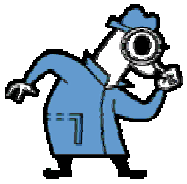
Kentucky Epidemiologic Notes and Reports, a monthly publication, is available without charge to subscribers. Although materials may be reproduced without permission, we appreciate acknowledgement. For more information call 502-564-3418.

Visit our Website:
http://chs.ky.gov/publichealth/newsletters-pub.htm

Rice C. Leach, MD,
Commissioner, Department for Public Health
Steven J. Englender, MD, MPH,
State Epidemiologist and Director,
Division of Epidemiology and Health Planning

Sue K. Billings, DVM, MSPH Interim Editor

RETURN SERVICE REQUESTED



Epi-Rapid Response Team Training via Teleconference

Epi-Rapid Response Team (ERRT) Training for State and Local Health Department Surveillance personnel is now being offered in a new format by the Division of Epidemiology and Health Planning. The core training will be through four separate videoconference broadcasts to the ProAct sites around the states. The first videoconference date is March 24, 2004 from 1:00-4:00 pm EST. The courses will also be available through the KY TRAIN web site throughout the year.

Visit the ERRT website for more information and the KY TRAIN web site to register for participation.

http://chs.ky.gov/publichealth/index-Epi_Rapid_Response_team.htm

http://ky.train.org

March
Notes & Reports

State Epidemiologist-Steven J. Englender, MD, MPH 502-564-7243
State Public Health Veterinarian–
Michael Auslander, DVM, MSPH 502-564-3418

Communicable Disease	502-564-3261
Immunization Program	502-564-4478
STD Program	5 02-564-4804
TB Program	502-564-4276

AIDS Information	1-800-420-7431
HIV/AIDS Reporting	1-866-510-0008 (Toll Free)
HIV/AIDS Branch	502-564-6539

Division of Epidemiology/Health Planning 502-564-3418; 24HR/7Day Emergency—1-888-973-7678