CHATTANOOGA-HAMILTON COUNTY HEALTH DEPARTMENT

Epidemiology Newsletter

March 2010

INFLUENZA UPDATE

In June 2009, novel H1N1 influenza was declared a pandemic. Between the time of that declaration and December, CDC estimates that between 39 and 80 million people were infected and as many as 16,000 of those died (CDC, 2010). While the US has experienced two waves of influenza, pandemic disease is typically accompanied by multiple waves of illness. Although it is unknown if another wave of illness will occur, it is essential to remain vigilant with flu prevention measures. 2009 H1N1 flu is a preventable disease and plenty of vaccine is still available from the Chattanooga-Hamilton County Health Department.

The Health Department has administered nearly 24,000 doses of vaccine. It is estimated that the Health Department will administer about 10% of the total flu vaccine administered in our county. Therefore, 90% of vaccine is given by other healthcare providers and we appreciate all their efforts in this vaccination campaign.

Nationally, through the end of December, approximately 20% of the population had been vaccinated for H1N1 and **only 25% of healthcare workers had been vaccinated.**

Healthcare workers are at high risk of being infected from ill patients as well as transmitting of disease to vulnerable individuals. It is important that we recognize our responsibility as healthcare workers to protect those we are treating and ourselves.

While incidence is on the decline both nationally and locally, flu-like illness is still being reported and may surge again this spring. Circulation of significant 'seasonal flu' has not yet been identified. Influenza specimen testing and surveillance data from the Tennessee Department of Health indicates that 2009 H1N1 is the predominant flu strain in circulation.

We strongly encourage healthcare providers to continue to vaccinate individuals and promote the H1N1 vaccine. Daily and weekly Hamilton County Surveillance indicates the continued presence of influenza-like illness in our community. Figure 1 below shows Hamilton County flu data from four flu seasons, including the current season. This chart illustrates the start of the 2009 H1N1 outbreak in May 2009, and the second wave of flu in our community in September and October 2009. We will continue to monitor trends of ongoing community-wide illness. Figure 2 displays vaccination by age group.

In December, The Association of Immunization Managers awarded the Tennessee Department of Health Immunization Program with the Bull's Eye Award for Innovation and Excellence in Immunization. Tennessee's use of the Tennessee Web Immunization System (TWIS) to pre-register providers for vaccine receipt allowed the quick identification and engagement of vaccine providers. For those of you that participated as a TWIS user, congratulations! If you are a healthcare provider not currently using TWIS and would like to become a user, please visit: http://health.state.tn.us/twis/

Figure 1

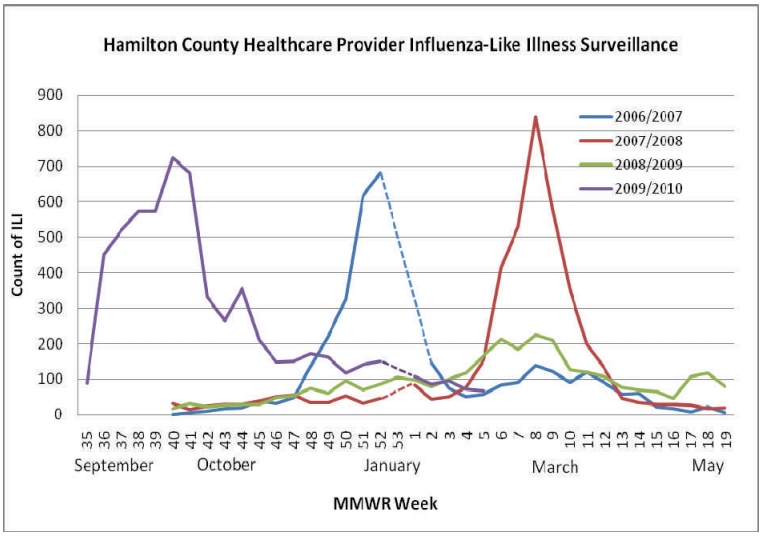
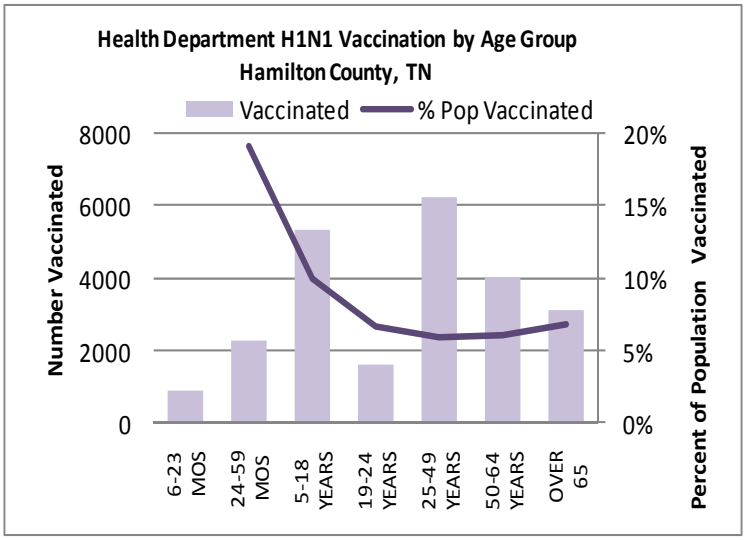


Figure 2



Pertussis

Pertussis (whooping cough) is a very contagious disease and can cause serious illness. Among vaccine-preventable diseases in the United States, pertussis is one of the most common. This past year, 2009, there were 184 cases in Tennessee with 10 of those cases being in Hamilton County.

Pertussis vaccines, while very effective, do not guarantee immunity. When Pertussis is circulating within a community, it is possible that even a fully vaccinated person can catch this very contagious disease.

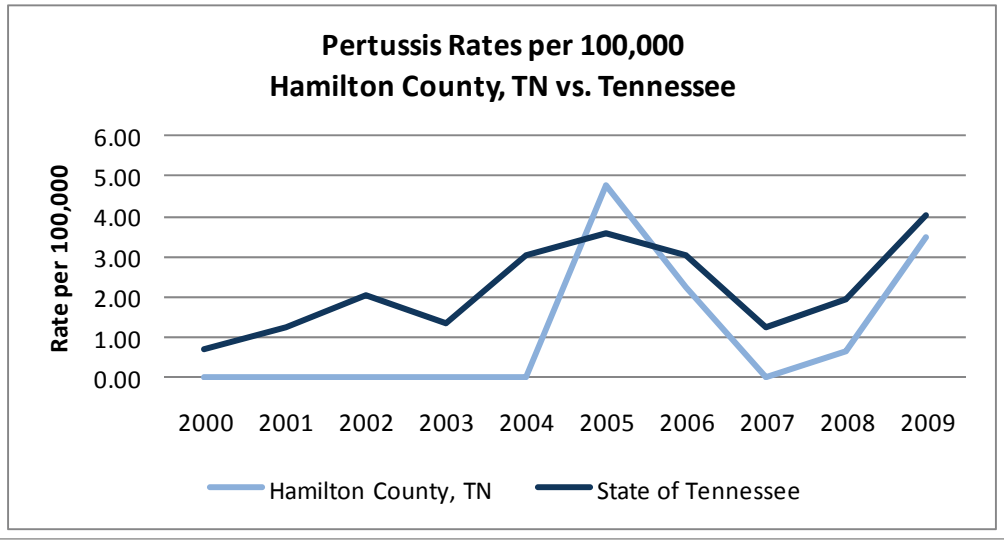
Pertussis should be considered a diagnosis if the patient has an acute cough characterized with one or more of the following: prolonged cough (more than two weeks), cough with paroxysms, whoop, or post-tussive vomiting. Adults and vaccinated children often have milder symptoms which mimic bronchitis.

A laboratory test can be used to confirm, but not rule out, pertussis. Diagnosis should be made with clinical symptoms in conjunction with lab tests. **Suspect cases should be confirmed by culture or polymerase chain reaction (PCR).** Maximum sensitivity and specificity are achieved when both tests are performed. Two other testing methods are available, but are not recommended. Direct Fluorescent Antibody (DFA) is not considered reliable due to low sensitivity and variable specificity. Serology is not standardized in the U.S. and therefore is considered unreliable.

The CDC recommends treatment of pertussis with antibiotics within 3 weeks of cough onset. Antibiotic treatment reduces the period of communicability. **Five days of antibiotics must be completed for suspect or confirmed cases before returning to day care, school or work.** Antibiotic prophylaxis should be given to all household members and close contacts within 3 weeks of exposure, regardless of age or vaccination status.

Pertussis is a reportable disease. Do not wait for lab results to report a clinically suspected case. Our epidemiological investigation includes clinical information, interviewing case patients to identify sources of infection, and identifying contacts to ensure chemoprophylaxis and/or vaccination.

The best way to prevent pertussis is vaccination. Infants and children are recommended to have the 4 dose primary series and a fifth booster dose. Because immunity wanes over time, it is recommended that adolescents and adults aged 11 to 64 years receive a single booster dose of Tdap. This dose should replace one booster dose of Td.



Infection Prevention in Healthcare Facilities

Healthcare-associated infections (HAI) are among the most common adverse events in healthcare and result in morbidity and mortality which may have been preventable. Recent attention from the public on HAIs has focused on infections associated with hospitals and has subsequently resulted in legislation requiring public reporting of HAI rates.

Healthcare-associated Infection (HAI)

A localized or systemic condition resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s) that

- Occurs in a patient in a healthcare setting and
- Was not present or incubating at the time of admission

CDC/NHSN surveillance definition of health care–associated infection June 2008

In addition to infections in acute care settings, disease transmission has been linked to outpatient facilities including dialysis centers, surgery centers, endoscopy clinics and long term care facilities.

Infection control practices generally include engineering controls, administrative controls, personal protective equipment, and elimination of potential exposure.

The CDC Division of Healthcare Quality Promotion has been established to protect patients, protect healthcare personnel, and promote safety, quality, and value in the healthcare delivery system. Excellent tools and resources regarding healthcare-associated infection prevention are available at their website: www.cdc.gov/ncidob/dhqp/

Adherence to infection control principles in all healthcare settings is vital in reducing adverse patient outcomes and associated healthcare costs. Focus on healthcare infection control practices as a result of the 2009 H1N1 influenza pandemic has also emphasized the potential for disease transmission within medical facilities.

Influenza Infection Control Guidelines - TN Department of Health

- Promote and administer 2009 H1N1 and seasonal flu vaccine
- Enforce hand hygiene, respiratory hygiene and cough etiquette
- Establish facility access control and triage procedures
- Manage visitor access and movement in the facility
- Establish patient movement and transport guidelines and apply isolation precautions and respiratory protection recommendations

For detailed information regarding these guidelines visit: http://health.state.tn.us/H1N1.htm

2009 Epidemiology Year-End Report

Hamilton County Diseases Reported	Cases
Bacterial meningitis, other	1
Campylobacteriosis	33
Cryptosporidiosis	2
Ehrlichiosis	5
E. coli O157:H7	0
Giardiasis	9
Group A Streptococcus, invasive	4
Group B Streptococcus, invasive	25
Guillain-Barre syndrome	4
Haemophilus influenzae, invasive	7
Hepatitis B, acute	3
Hepatitis C, acute	4
Legionellosis	4
Listeriosis	1
Lyme disease	1
MRSA (S.aureus, methicillin resistant), invasive	130
Malaria	1
Mumps	1
Neisseria meningitidis, invasive	1
Pertussis	11
Rocky Mountain spotted fever	10
Salmonellosis	39
Shiga toxin-producing Escherichia coli (STEC)	4
Shigellosis	23
Strep pneumoniae, drug resistant, invasive	20
Strep pneumoniae, invasive	57
Toxic-shock Syndrome, Staphylococcal	0
Typhoid fever (Salmonella typhi)	3
Vibriosis	0
VRE (Vancomycin-Resistant Enterococcus-Invasive)	6
Yersiniosis	0

For a complete list of reportable diseases in Tennessee, go to http://health.hamiltontn.org/Epidemiology

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