

A Publication of the Genesee County Health Department

2010-2011 Influenza Season

The 2010-2011 Influenza Season is just beginning and in Genesee County influenza activity is currently low. Infections typically peak in January or later, but influenza is very unpredictable and can be severe as last influenza season proved. Each year 5% to 20% of the United States (US) population contracts influenza causing more than 200,000 hospitalizations and between 3,000 and 49,000 deaths due to flu-related complications. Last year on June 11, 2009 the World Health Organization (WHO) declared the first global influenza pandemic in 41 years. This pandemic was caused by a novel H1N1 strain of influenza A virus.

2009 Pandemic Influenza

Novel influenza strains emerge when a circulating influenza A virus undergoes antigenic shift. This is a major change in the genetic composition of the virus which results in a new human influenza A virus which most people have little or no immunity. The 2009 H1N1 influenza A virus was able to be easily transmitted from person to person and led to a pandemic. When this particular virus emerged it was referred to as "swine flu" because it has gene segments similar to those of influenza viruses currently circulating among pigs and likely arose as a result of reassortment of genetic material from influenza A viruses of swine and human origin.

The 2009 H1N1 influenza virus quickly spread globally from its origin in Mexico. The first case of 2009 H1N1 influenza A in Michigan was confirmed on April 29, 2009. Soon after, on May 12, 2009 Genesee County announced its first confirmed case. By that time there were over 100 cases among Michigan residents. Subsequently, there was a dramatic increase in cases locally and nationally which represented the first wave of the pandemic in the US and globally. The second wave of the pandemic occurred in the fall of 2009 where Genesee County observed historic levels of influenza activity. By January 2010 cases of influenza returned to seasonal baseline levels but the 2009 pandemic strain continued to cause the majority of infections with influenza during that time.

The epidemiology of infection with 2009 H1N1 influenza virus differs from what is typically observed among seasonal influenza. The rate of infection has been highest among those under 25 years of age and infection has been less common among persons aged 65 years and older. Surveillance of hospitalizations and deaths indicated that certain groups are at higher risk

for complications due to 2009 H1N1 infection including pregnant women, children under 5 years of age, and persons with underlying health conditions such as asthma, chronic lung disease, immunosuppressive conditions, heart disease, and diabetes. The cases in Genesee County were similar to what was seen state- and nation-wide. Influenza activity was greatest among school aged children and 72.3% of reported 2009 H1N1 cases were observed among those under 25 years of age. Hospitalizations occurred in 21.5% of the cases. The highest rates of hospitalizations occurred among children under 5 years of age and adults 45 years of age and older (33.0% and 46.7%, respectively). Four deaths among Genesee County residents were reported during the second wave of the pandemic. All deaths were among adults over the age of 50 with underlying medical conditions that made them at high risk of developing flu-related complications.

On August 10, 2010 the World Health Organization announced that the pandemic was over, but influenza cases caused by the 2009 H1N1 influenza A virus have been found in Michigan and throughout the US during the 2010-2011 influenza season and are expected to continue causing infections. It is not known yet whether it will be the predominant strain this season. Other influenza strains have been found co-circulating and causing infections so far this influenza season. These strains include another influenza A virus subtype, the seasonal H3N2, and an influenza B virus.

2010-2011 Influenza Vaccine

Annual vaccination is the most effective strategy for preventing influenza. The 2010-2011 influenza trivalent vaccine contains antigens to protect against infection with the 2009 pandemic influenza A (H1N1) virus, the influenza A (H3N2) virus, and an influenza B virus. Because the seasonal vaccine protects against the pandemic influenza strain, there is no need for a separate pandemic influenza vaccine this year. In February of 2010 the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) expanded the influenza vaccine recommendations to include all people 6 months of age and older for routine seasonal influenza vaccination. During the transition to the

The purpose of this newsletter is to inform the community and health care providers in Genesee County about disease trends in the county. We welcome any comments or questions. Contact Fatema Mamou, MPH, Epidemiologist, at (810) 768-7971 or email fmamou@gchd.us

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expanded recommendations for annual influenza vaccine, vaccination efforts should continue to focus on groups at high risk for flu-related complications as well as the reduction of the spread of influenza to those who are at high risk. It should also be a priority that health care personnel receive an annual influenza vaccination. Certain groups at risk for complications from influenza include: children aged 6 months to 4 years, adults above 50 years of age, and anyone with certain health conditions such as chronic lung disease, diabetes, heart disease, immunosuppression, morbid obesity, and pregnancy.

Seasonal influenza vaccination should be offered throughout the flu season, which can last as late as May, to provide protection during the current flu season. Providers should note that it takes approximately 2 weeks after vaccination for full efficacy. Two types of vaccine are available, the trivalent inactivated influenza vaccine (TIV) which can be used for any person aged 6 months and older and including those with high-risk conditions, and the live, attenuated influenza vaccine (LAIV) which may be used for healthy nonpregnant persons aged 2 years to 49 years. There are several manufacturers of the TIV and several different presentations available. Special attention should be taken when vaccinating children 6 months through 8 years of age to ensure they are fully protected against influenza. Providers vaccinating these children with a seasonal flu vaccine for the first time will need to administer two doses, at least 4 weeks apart, in order to develop immune protection. This includes children who received one or two doses of the 2009 H1N1 monovalent influenza vaccine, but never received a seasonal flu vaccine or received seasonal flu vaccine for the first time last flu season and only got 1 dose

Influenza Antiviral Medications

Antiviral medications effective against influenza viruses can be used to treat or prevent infection and are important in the control of influenza. This flu season there are two approved influenza antiviral agents recommended for use. Oseltamivir (Tamiflu®) and

zanamivir (Relenza®) are neuraminidase inhibitors that have activity against both influenza A and B viruses and have been proven to reduce the severity of illness, shorten the duration of the disease, and lower the risk of flu-related complications. Empiric antiviral treatment is recommended as soon as possible after the onset of symptoms for hospitalized patients, patients who have severe, complicated, or progressive illness, and patients who are at higher risk for flu-related complications. Ideally treatment should be initiated within 48 hours of symptom onset but for persons requiring hospitalization antiviral treatment is recommended as soon as possible even if it is more than 48 hours after illness onset. Antiviral treatment of symptomatic outpatients with uncomplicated influenza who were previously healthy and non high-risk can be considered based upon clinical judgment if it can be initiated within 48 hours of illness onset. Data on local influenza activity should be used to inform treatment decisions and treatment initiation should not be delayed while awaiting specimen collection or influenza testing results.

Post-exposure chemoprophylaxis with antiviral medications is not a substitute for influenza vaccination when vaccine is available. Chemoprophylaxis is typically given within 48 hours of the last known exposure to a close contact known to have influenza and for up to 10 days after the exposure. It should be reserved to prevent influenza in contacts who are at high risk of influenza complications during the first 2 weeks following vaccination, for prevention of influenza among contacts who are at high risk for influenza complications and are not likely to respond to vaccination or cannot be vaccinated, or prevention during influenza outbreaks among residents of institutions such as long-term care facilities. Providers should consider early treatment and monitoring for signs and symptoms as an alternative to chemoprophylaxis in some patients.

For the latest flu information and resources for health care providers visit www.gchd.us or www.michigan.gov/flu.

Selected Reportable Communicable Diseases in Genesee County

Disease	Reported cases November 2010	Reported cases October 2010	Reported cases to date this FY	Reported cases to date last FY	Total reported cases last FY
Chickenpox	14	6	20	22	130
Pertussis	10	4	14	4	111
Flu-like illness	4336	4212	8548	24350	51235
Meningitis-Viral	2	4	6	4	45
Meningococcal Disease	1	0	1	0	1
TB, New	0	0	0	0	4
Chlamydia	205	208	413	422	2742
Gonorrhea	41	51	92	147	674
P & S Syphilis	0	0	0	2	5
HIV, Adult	1	2	3	8	40
Hepatitis B, Acute	1	1	2	1	12
Hepatitis C, Chronic	28	29	57	56	361
Campylobacter	1	2	3	3	16
Salmonellosis	6	2	8	2	35

*FY – Fiscal Year, October 1-September 30

Genesee County Health Department

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