

Public Health Views and News



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Influenza Prediction 2017-2018

From the desk of H. Lauren Vogel D. O., Medical Director

According to a recent article published from CNN ¹, Australia is experiencing a bad flu season with over 95,000 cases reported as of August 2017. The virus identified is A (H3N2). The US flu season follows that from the Southern hemisphere so the A (H3N2) virus can be expected to be a prevalent virus and a bad flu season is predicted. The flu vaccine used in Australia and in the US for this year covers this strain although it's noted that the vaccine has been less reliable in preventing the spread of the disease.

There are several reasons for the significant increase in flu cases in Australia. In a New York Times article, it was noted that less than 10 percent of Australian children are immunized against influenza. ² The public health policy in Australia is to recommend immunization of high-risk groups and not for universal immunization. Another concern is that the influenza A virus can mutate during the course of seasonal flu morphing into a slightly different virus whose new genetic signature is immune to the current influenza vaccine. The efficacy of influenza vaccine is estimated to be around 40 percent.

Influenza A can produce a pandemic. This is the global spread of a new disease for which immunization is not very effective in preventing infection. In a pandemic, the infection rates are high and morbidity and mortality significant. In 2009 the A (H1N1) pandemic caused about 60.8 million cases world-wide with over 12,000 deaths in the US. ³ In the 20th century there were three pandemic influenza outbreaks. These occurred in 1918, 1957 and 1968. There has been no predictable pattern of infectivity and the stains of the viruses were different (H1N1, H2N2, H3N2). ⁴ The 1968 pandemic was caused by H3N2 (Hong Kong), the same virus that is currently infecting the Australian population. There were high morbidity and mortality in the US due to the 1968 pandemic. What will happen this year is unknown and cannot be accurately predicted.

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Michigan Tobacco Quitline

Smoking can be deadly to people around you. Cigarette smoking causes one in every five person's deaths each year and increases the risk of serious health conditions. The Michigan Tobacco Quitline is available to all Michigan residents who want to quit. Call 1-800-Quit Now today or visit <http://michigan.quitlogix.org>



Influenza Prediction Continued.

Preparation for the coming flu season is important. The corner stone of prevention is vaccination. Even though the vaccine may not be fully effective, vaccination can reduce morbidity and mortality. Vaccination should begin as soon as a vaccine is available, now, and universal vaccination must be the goal. Public education about the risk, preventive care and isolation is imperative. The concept of "riding out the flu" is not a good one. Medical specialists should be consulted if influenza is suspected. Mortality with influenza in most often from secondary complications and many deaths may be preventable with early assessment and care.

A second consideration for prevention is isolation. For persons sick with the flu, they must isolate themselves from others to help prevent the spread of the infection. Social interaction, shopping and work should be curtailed until the patient is well. As much as possible, limiting public exposure to sick people is important for the healthy. Medical treatment is available and is most effective and indicated when given within the first 48 hours of sickness. The CDC has given recommendations for the use of anti-viral medications.⁵ Healthcare professionals should use the CDC resources for patient management. Suspicion of flu infection (fever, chills, muscle aches, cough) should direct the patient to a medical professional early in the course of the illness. Anti-viral medications are not very effective if not begun within the first 48 hours of illness.



Hepatitis A Outbreak in Michigan

Prion Based Wasting Disease

From the desk of H. Lauren Vogel D. O., Medical Director

Michigan is in the midst of a serious hepatitis A outbreak that started in southeast Michigan but has moved to other areas of the state. Hepatitis A is a vaccine-preventable, contagious liver disease caused by the hepatitis A virus. The virus is one of several types of hepatitis viruses that cause inflammation and affect your livers ability to function. It is often spread through the ingestion of food or water contaminated with infected feces or by oral contact with contaminated objects. It is not spread through coughs or sneezes. Vaccination and proper hygiene are vital to ensuring the stop of person-to-person spread of hepatitis A.

Since August 1st, 2016, there have been 555 confirmed cases of hepatitis A, including 18 fatalities, associated with this outbreak in the city of Detroit and counties of Huron, Ingham, Lapeer, Livingston, Macomb, Monroe, Oakland, Sanilac, St. Clair, Washtenaw and Wayne. Anyone with hepatitis A can spread it to others for 1-2 weeks before symptoms appear. Hepatitis A can range from a mild illness to a severe lasting illness lasting several months and some cases death. Symptoms include fatigue, abdominal pain, jaundice (yellow skin), dark urine and pale stool. Unlike other types of viral hepatitis, hepatitis A does not cause long term liver damage and doesn't become chronic. In rare cases, hepatitis A can cause a sudden loss of liver function especially in older adults or people with chronic liver diseases. People who believe they have been exposed to hepatitis A or who have symptoms should contact their health care provider immediately.

Anyone can get hepatitis A in the United States; however certain groups of people are at higher risk including: persons with a history of substance use; persons currently homeless or in transient living; men who have sex with men (MSM); persons incarcerated in correctional facilities; food handlers; healthcare workers; persons with underlying liver disease; persons who are in close contact with any of the above risk groups; persons wishing to be immune to hepatitis A. People who believe they have been exposed to hepatitis A or who have symptoms should contact their health care provider immediately.

Kuru was a disease of the Fore people of the highlands of Papua New Guinea. In the mid-20th century, scientists noted a syndrome of neurologic decompensation, wasting and early death in the native population. After study, it was determined that the disease was due to the cannibalistic practice of eating the brains of the dead. An infective protein particle coined "prion", unlike all other infectious agents to date, was implicated. Once cannibalism was stopped the disease was contained and is rare today. ¹ The disease is similar to that of Scrapie, a prion disease of sheep and transmissible mink encephalopathy (TME), a similar disease specific to mink.

Bovine spongiform encephalopathy (BSE), or Mad-Cow Disease, a prion based disease, was believed to be caused by the feeding of infected animal proteins to the cows in England. ² Until human victims of BSE were identified it was believed that the infective prion was species specific. Scientific study documented transmission of the BSE prion to mice and to cats. Many other non-cervid mammalian species have been experimentally infected with chronic wasting disease (CWD), either orally or via intracerebral inoculation. These species include monkeys, sheep, cattle, prairie voles, mice, and ferrets.

Chronic Wasting Disease (CWD) is a prion disease of deer and elk that has been identified in both the captive and free-ranging deer of Michigan. ³ Although believed to be species specific and noninfectious to humans, prion based disease has a long dormant pre-symptomatic period that can be up to a decade long. For the identified elk population, the incubation period has been determined to be about 3 years. It is not believed to be food borne, unlike BSE in cattle. In the western deer and elk herds the prevalence of CWD is estimated to exceed 40 percent.

Confirmed Hepatitis A Cases Meeting the SE MI Hep A Case Definition Referred August 1, 2016-November 29, 2017

County	Total Cases
Calhoun	1
Clare	1
Detroit	140
Genesee	1
Hillsdale	1
Huron	1
Ingham	4
Isabella	5
Lapeer	4
Livingston	5
Macomb	172
Monroe	8
Oakland	82
Sanilac	5
St. Clair	18
Washtenaw	8
Wayne	98
Other	1
Total	555

Prion Based Waste Disease Continued.

Michigan DNR has prepared a fact sheet for Michigan hunters. ⁴ It contains important information about deer hunting that includes how to handle and process deer. There is a deer management zone in central Michigan and all deer harvested in that area must be examined for evidence of CWD. To date there have been no documented reports of CWD in deer herds in the Branch, Hillsdale or St. Joseph counties. However, hunters traveling to areas known to have CWD may be at risk.

Deer and elk hunters should be wary of a sick animal. Animals that appear emaciated, do not exhibit a fear of humans, demonstrate abnormal body movements, have tremors or show drooling should not be harvested. Animals testing positive for CWD should not be consumed. Scientific data from 2013 have not demonstrated evidence of transmission of CWD to humans but studies are not complete and public health surveillance continues.

Prions are protein particles that modify the base proteins of the host animal. In this way, they are infective but are quite different from bacteria and viruses. They are not contagious person to person by contact but are believed to be transmitted by consuming the active protein molecule. Corneal transplants and use of neurosurgical instruments previously used on patients with spongiform encephalitis have been shown to transmit the disease to another human. Kuru was human specific. Scrapie was a sheep infection that was transmitted to cattle. Mad cow disease was cattle specific and was transmitted to humans. Given the long incubation period before the disease becomes recognized that may be a decade long, is Chronic Wasting Disease transmissible to humans?

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Why are Immunizations Important?

Immunizations protect people from many infectious diseases that once caused serious illness and even death. The virus and bacteria that cause illness and death still exist and can be passed on to those who are not protected by vaccines. Over the years we have seen a resurgence of measles and pertussis (whooping cough). In the United States, vaccine preventable infections kill more individuals annually than HIV/AIDS, breast cancer or traffic accidents.

According to the National Foundation for Infectious Diseases, approximately 50,000 adults die each year from vaccine preventable disease. In the United States, vaccines are among the safest medical products available and can prevent the suffering and cost associated with infectious disease. The potential risk associated with the disease that vaccines prevent are much greater than potential risks from the vaccines themselves. Vaccines have reduced and in some cases eliminated diseases that killed or severely disabled people in the past. Michigan childhood immunization rates is among the worst ranking 43rd out of 50 states for toddlers age 19 to 35 months. During the 2015-2016 school year, Michigan had the 10th highest non-medical exemption of vaccinating their child. As of June 2017, 56 percent of toddlers are up to date and only 36 percent of Michigan teens 13-18 are up to date with their vaccinations.

Vaccination is completely safe and effective. Vaccines contain ingredients called antigens which tells your body's immune system to create antibodies. Every day a healthy child's immune system successfully fights off millions of antigens. Antigens in vaccines come from the germs themselves, but the germs are weakened or killed so they can not cause serious illness. Today's vaccines contain only 177 antigens in 12 vaccines that protect children and teens against 16 vaccine preventable disease.



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