

## Chapter 1 : H7N9 Influenza: The Emerging Infectious Disease

*Bird flu, or avian influenza, is a viral infection spread from bird to bird. Currently, a particularly deadly strain of bird flu -- H5N1 -- continues to spread among poultry in Egypt and in.*

The discovery, published in the journal Nature, was made by examining the atomic structure of the capsid and creating mutant HIV viruses, which allowed the team to see the behavior of the pores. Epstein-Barr virus EBV can cause illnesses and complications aside from infectious mononucleosis. We are Realizing similar air vents exist on K7, Kirk and Spock beam over to the station to see if the tribbles are in the grain storage compartments. There are several computer viruses known to imitate an update for Adobe Flash Player. She remained in a viagra 75 mg canada dehydration for five tools before company, usually to fall to her fact down a globe of compounds at the involvement. Instead of giving your name, you will be identified by a unique number. Most of the time, unless specific swabs are taken from the patient, we do not know which virus type causes croup. Continuous updates come with every Bitdefender product, and accelerate the introduction of new features and simplify updating, upgrading and installing Bitdefender. The duration of viral fever is generally longer in children and old people as they have lower immunity levels. Runny or stuffy nose; The nasal discharge may be clear, cloudy, yellow or green; Fever can also be present; A sore throat can be the first sign; At times, the child. Most cases of Hepatitis B occur among sexually active young adults, therefore, teenagers are an important group to be vaccinated. The treatment, known as T-VEC, uses a genetically modified version of the cold sore virus herpes to. Cats suffer severe side effects from or do not respond well to the types of therapies that successfully suppress the development of AIDS in HIV-infected people. Though diarrhea and vomiting are the main symptoms, fever, body aches and fatigue may accompany them. To test the response of the transgenic animals to Rep-mediated targeting, primary cultures of We demonstrate that site-specific integration of both wt virus and. Raise funds for Charity: Doctors consider that highly unlikely. The birds themselves are rarely affected by the viruses, but since the emergence of the H5N1 strain, the virus has caused immense damage. Helichrysm - this oil is nicknames "stitches in a bottle", it will promote healing of the sores. Hepatitis B virus HBV is a potentially life-threatening bloodborne pathogen. I love you very much Im happy you know that! Writing a research paper about a virus that was like discovered two month ago!! Treatments for Cryptococcal Meningitis including drugs prescription medications alternative treatments surgery and lifestyle changes. How much do you know? Saliva does not spread HIV. I had protected intercourse but not protected oral sex and 10 days after I came down with general flu like symptoms similar to HIV infection. Now Aids is on of the most important health problems in USA. Centers for Disease ControlR. The couple were identified in court papers only as Bridget B. The test was negative. Baton Rouge Louisiana How common is the oral hiv testing till this day? Avoid Infected Fluid Transmission. Perceptions and attitudes of people living with stage of disease risk perception knowledge of HIV that they are at risk of re-infection use condom at More than thirty of the fifty states in the U. October 10, Filed Under: Maria Premal Viruses can cause all sorts of diseases. TORCH is a medical acronym for a set of perinatal infections, caused by a group of viral, bacterial and protozoan infections that gain access to the fetal bloodstream transplacentally via the chorionic villi. Get Ebola Virus Microscope pictures and royalty-free images from iStock. Get complete information on bird flu including symptoms, test, causes, prevention, treatment, medicine. Classical swine fever CSF is a highly contagious viral disease of domestic pigs and wild boar which figures on the list of diseases notifiable to the World Organization for Animal Health OIE. They may have recognizable hallmarks of coxsackievirus infection such as hand, foot, and mouth disease which has.

### Chapter 2 : Influenza - Wikipedia

*Although avian influenza A viruses usually do not infect people, rare cases of human infection with these viruses have been reported. Infected birds shed avian influenza virus in their saliva, mucous and feces. Human infections with bird flu viruses can happen when enough virus gets into a person.*

**Sepsis When to Contact a Medical Professional** Call your provider if you develop flu-like symptoms within 10 days of handling infected birds or being in an area with a known avian flu outbreak. **Prevention** There is an approved vaccine to protect humans from the H5N1avian flu virus. This vaccine could be used if the current H5N1 virus starts spreading among people. The US government keeps a stockpile of vaccine. The CDC makes the following recommendations. As a general precaution: Avoid wild birds and watch them only from a distance. Avoid touching sick birds and surfaces that may be covered in their feces. Use protective clothing and special breathing masks if you work with birds or if you go into buildings with sick or dead birds, feces, or litter from infected birds. If you have had contact with infected birds, watch for signs of infection. If you do become infected, tell your provider. Avoid undercooked or uncooked meat. This reduces the risk for exposure to avian flu and other foodborne diseases. If traveling to other countries: Avoid visits to live-bird markets and poultry farms. Avoid preparing or eating undercooked poultry products. See your provider if you become sick after you return from your trip. Current information regarding avian flu is available at: Avian influenza A virus infections in humans. Updated April 18, Accessed October 5, Goldman L, Schafer AI, eds. Levin S, Singh K.

*Wild birds are the natural hosts for a type A virus (also called avian flu or bird flu), but this infection can also spread to other animals and humans. This often causes pandemics. Diagnosing.*

In humans[ edit ] Signs and symptoms[ edit ] In humans, after an incubation period of 5â€”19 days, the symptoms of the disease range from inapparent illness to systemic illness with severe pneumonia. It presents chiefly as an atypical pneumonia. In the first week of psittacosis, the symptoms mimic typhoid fever , prostrating high fevers , joint pains , diarrhea , conjunctivitis , nose bleeds , and low level of white blood cells. It may become a serious lung infection. Headache can be so severe that it suggests meningitis and some nuchal rigidity is not unusual. Towards the end of the first week, stupor or even coma can result in severe cases. The second week is more akin to acute bacteremic pneumococcal pneumonia with continuous high fevers, headaches, cough, and dyspnea. X-rays show patchy infiltrates or a diffuse whiteout of lung fields. Diagnosis[ edit ] Blood analysis usually shows a normal white cell count, but marked leukocytosis is occasionally apparent. Liver enzymes are abnormal in half of the patients, with mild elevation of AST. The erythrocyte sedimentation rate and C-reactive protein can be markedly elevated. Differential diagnosis must be made with typhus, typhoid, and atypical pneumonia by Mycoplasma , Legionella , or Q fever. Exposure history is paramount to diagnosis. Diagnosis involves microbiological cultures from respiratory secretions of patients or serologically with a fourfold or greater increase in antibody titers against C. Typical inclusions called "Leventhal-Cole-Lillie bodies" [4] can be seen within macrophages in BAL bronchoalveolar lavage fluid. Treatment[ edit ] The infection is treated with antibiotics ; tetracyclines and chloramphenicol are the drugs of choice for treating patients. For initial treatment of severely ill patients, doxycycline hyclate may be administered intravenously. Remission of symptoms is usually evident within 48â€”72 hours. However, relapse can occur, and treatment must continue for at least 10â€”14 days after fever subsides. Epidemiology[ edit ] Psittacosis was first reported in Europe in 1930. Although not the first report of psittacosis in the United States, it was the largest up to that time. It led to greater controls on the import of pet parrots. Many more cases may occur that are not correctly diagnosed or reported. Bird owners, pet shop employees, zookeepers, and veterinarians are at risk of the infection. Some outbreaks of psittacosis in poultry-processing plants have been reported. An immature little blue heron with psittacosis In birds, Chlamydia psittaci infection is referred to as avian chlamydiosis. Infected birds shed the bacteria through feces and nasal discharges, which can remain infectious for several months. Many strains remain quiescent in birds until activated under stress. Birds are excellent, highly mobile vectors for the distribution of chlamydial infection because they feed on, and have access to, the detritus of infected animals of all sorts. Signs[ edit ] C. Signs in birds include "inflamed eyes, difficulty in breathing, watery droppings, and green urates. A polymerase chain reaction -based test is also available. Although any of these tests can confirm psittacosis, false negatives are possible, so a combination of clinical and laboratory tests is recommended before giving the bird a clean bill of health. Epidemiology[ edit ] Infection is usually by the droppings of another infected bird, though it can also be transmitted by feathers and eggs, [9] and is typically either inhaled or ingested. Septicaemia eventually develops and the bacteria become localized in epithelial cells and macrophages of most organs, conjunctiva, and gastrointestinal tract. It can also be passed in the eggs. Stress commonly triggers onset of severe symptoms, resulting in rapid deterioration and death. All should be considered to be readily transmissible to humans. Serovar B is endemic among pigeons, has been isolated from turkeys, and has also been identified as the cause of abortion in a dairy herd. Serovars C and D are occupational hazards for slaughterhouse workers and for people in contact with birds. Serovar E isolates known as Cal, MP, or MN have been obtained from a variety of avian hosts worldwide, and although they were associated with the sâ€™s outbreak in humans, a specific reservoir for serovar E has not been identified. The M56 and WC serovars were isolated during outbreaks in mammals. Treatment[ edit ] Treatment is usually with antibiotics, such as doxycycline or tetracycline, and can be administered through drops in the water or injections. Use as a biological weapon[ edit ] Psittacosis was one of more than a dozen agents that the United States researched as potential biological weapons before the nation suspended its

biological weapons program. She was the first wife of George Pepperdine, the founder of Pepperdine University.

## Chapter 4 : Bird flu (avian influenza) - Diagnosis and treatment - Mayo Clinic

*Bird flu, also called avian influenza, is a viral infection that can infect not only birds, but also humans and other animals. Most forms of the virus are restricted to birds.*

Home Remedies for Colds. Communicable Disease Fact Sheet, hepatitis B. Each stops HIV from replicating in different ways. If one tool fails, you can try the other. Free download, spy, keylogger. Norovirus is named for Norwalk, Ohio, where the first confirmed outbreak was recorded, in That will be a good thing for those of us who worry. Symptoms can include fever, fatigue, headache, back and body aches, stiff neck. Winter has definitely arrived and with it some nasty symptoms. Oh they were open metal trucks just with metal sides bars not solid metal just bars and a chain was then put over the top of the cane to hold it on and some of the trucks were just open bogies for carrying other things and when we went for picnics hairs would be put on the bogie for the people to sit on and we. Symptoms of late pulmonary dysfunction may include cough dyspnea on exertion and wheezing but many patients are asymptomatic until later. Modell and Boyd concluded that upper respiratory tract infections. WorkSafe Victoria is currently looking to engage with Medical Professionals to join our Independent Medical Examiners Panel to support our Victorian Community by providing expert advice and guide decisions about addiction medicine issues with identified injured workers. A new regulatory variant in the interleukin-6 receptor gene associates with asthma risk. They committed to either ing under control or eliminate ten diseases by ; ten diseases that currently cause enormous suffering and hardship across the developing world. Qi stagnation stagnated heat yin deficiency deficiency-cold and blood stasis. Urgent antibiotic treatment is needed. Cyanosis choking and aspiration of a nut or other foreign body in. The use of the after school. Although onchoscopy for onchoalveolar. McKeown attributed the decline in mortality to the first five namely tuberculosis; the typhus typhoid continued fever group; scarlet fever; cholera. My best peak flow is. I watch her by night dreaming through her fears her small milky eath smaller than tears: After all who wants to go out in cold or wet weather every time The primary analysis was by intention to treat with imputation by last unrelated to study drug shortness of breath and throat tightness after severe coughing bouts Do not Repeat 10 times He was Miscellaneous symptoms are: Methods employed by folk healers are varied and eclectic consisting of herbalism medicinal diet advocacy and massage massage with oil or butter as well as shamanic and Buddhist elements such as pulse treatment prayers cleansing rituals and divination. If the consumer has no intention to quit smoking and often leaves the unit no intervention is required however advise consumer. How much more powerful is oxycodone than Hydrocodone apap for sore throat. In we showed that by additionally training these muscles with electrical stimulation we can further improve the strength of the cough. Whooping cough affects people of all ages but can be very serious in babies. It is during this time that you can contextualise the clinical skills learnt in the Simulation Blocks and integrate the. Older children and adults born during or after should ensure that they have been vaccinated with 2 doses of vaccine.

## Chapter 5 : Psittacosis - Wikipedia

*Recent exposure to possible sources of infection. Be sure to describe any international trips, especially to areas where bird flu is prevalent. Medical history.*

Kidney dysfunction Heart problems Although bird flu may kill more than half the people it infects, the number of fatalities is still low because so few people have had bird flu. Fewer than bird flu deaths have been reported to the World Health Organization since In contrast, the Centers for Disease Control and Prevention estimates that seasonal influenza is responsible for thousands of deaths each year in the United States alone. Prevention Bird flu vaccine The Food and Drug Administration has approved one vaccine to prevent infection with one strain of H5N1 bird flu virus. This vaccine could be used early in such an outbreak to provide limited protection until another vaccine “ designed to protect against the specific form of the virus causing the outbreak ” is developed and produced. Researchers continue to work on other types of bird flu vaccines. If possible, avoid rural areas, small farms and open-air markets. This is one of the simplest and best ways to prevent infections of all kinds. Use an alcohol-based hand sanitizer containing at least 60 percent alcohol when you travel. Ask about a flu shot. Before traveling, ask your doctor about a flu shot. Use hot, soapy water to wash cutting boards, utensils and all surfaces that have come into contact with raw poultry. Cook chicken until the juices run clear, and it reaches a minimum internal temperature of F 74 C. Steer clear of raw eggs. Because eggshells are often contaminated with bird droppings, avoid foods containing raw or undercooked eggs. Diagnosis Laboratory tests Samples of fluids from your nose or throat can be tested for evidence of bird flu virus. These samples must be taken within the first few days after symptoms appear. Imaging tests X-rays may be useful in assessing the condition of your lungs, which can help determine the proper diagnosis and the best treatment options for your signs and symptoms. Treatment Many influenza viruses have become resistant to the effects of a category of antiviral drugs that includes amantadine and rimantadine Flumadine. These drugs must be taken within two days after the appearance of symptoms. Preparing for an appointment If you suspect that you have bird flu, you need to see your primary care doctor. Let people know you may have the flu, and ask for a surgical mask to wear during your visit. If you are very ill, you may need to be hospitalized. What you can do Symptom history. Recent exposure to possible sources of infection. Be sure to describe any international trips, especially to areas where bird flu is prevalent. Questions to ask your doctor. Write down your questions in advance so that you can make the most of your time with your doctor. For bird flu, some basic questions to ask your doctor include: Will I need any tests? Are there any alternatives? Will I need to take medicine? What can I do at home to help ease my symptoms? What to expect from your doctor Your doctor will need to know certain details about your illness to make a diagnosis. Be prepared to answer questions such as: When did you start feeling ill? Have you had a fever? If so, how high has it gotten? Have you had any close contact with birds recently? Have you traveled abroad recently? If so, where did you go? Terms of use Learn more about Bird flu avian influenza Associated drugs.

## Chapter 6 : HAN Archive - |Health Alert Network (HAN)

*Bird flu (avian influenza) is a disease caused by strains of influenza virus that primarily affects birds. In the late s, a new strain of bird flu arose that was remarkable for its ability to cause severe disease and death, especially in domesticated birds such as ducks, chickens, or turkeys.*

This information is for historic and reference purposes only. Content has not been updated since the last reviewed date at the bottom of this page. The purpose of this HAN Advisory is to notify public health workers and clinicians of the potential for human infection with these viruses and to describe CDC recommendations for patient investigation and testing, infection control including the use personal protective equipment, and antiviral treatment and prophylaxis. The majority of these infections have occurred in poultry, including backyard and commercial flocks. USDA surveillance indicates that more than 40 million birds have been affected either infected or exposed in 20 states. These are the first reported infections with these viruses in US wild or domestic birds. While these recently-identified HPAI H5 viruses are not known to have caused disease in humans, their appearance in North American birds may increase the likelihood of human infection in the United States. Previous human infections with other avian viruses have most often occurred after unprotected direct physical contact with infected birds or surfaces contaminated by avian influenza viruses, being in close proximity to infected birds, or visiting a live poultry market. Human infection with avian influenza viruses has not occurred from eating properly cooked poultry or poultry products. For more information on the origin of the recently-identified HPAI H5 viruses in the United States, their clinical presentation in birds, and their suspected clinical presentation in humans, please see <https://www.cdc.gov/od/ohrt/avian-flu/human-infection/>. CDC considers the risk to the general public from these newly-identified US HPAI H5 viruses to be low; however, people with close or prolonged unprotected contact with infected birds or contaminated environments may be at greater risk of infection. Until more is known about these newly-identified HPAI H5 viruses, public health recommendations are largely consistent with guidance for influenza viruses associated with severe disease in humans e. Currently, CDC considers these newly-identified HPAI H5 viruses as having the potential to cause severe disease in humans and recommends the following: Clinicians should consider the possibility of HPAI H5 virus infection in persons showing signs or symptoms of respiratory illness who have relevant exposure history. This includes persons who have had contact with potentially-infected birds e. State health departments are encouraged to investigate potential human cases of HPAI H5 virus infection as described below and should notify CDC within 24 hours of identifying a case under investigation. Rapid detection and characterization of novel influenza A viruses in humans remain critical components of national efforts to prevent further cases, evaluate clinical illness associated with them, and assess any ability for these viruses to spread among humans. People should avoid unprotected exposure to sick or dead birds, bird feces, litter, or materials contaminated with suspected or confirmed HPAI H5 viruses. All recommended personal protective equipment PPE should be worn when in direct or close contact within about 6 feet with sick or dead poultry, poultry feces, litter or materials contaminated with suspected or confirmed HPAI H5 viruses. People exposed to HPAI H5-infected birds including people wearing PPE should be monitored for signs and symptoms consistent with influenza beginning after their first exposure and for 10 days after their last exposure. Influenza antiviral prophylaxis may be considered to prevent infection see below. Persons who develop respiratory illness after exposure to HPAI H5-infected birds should be tested immediately for influenza by the state health department and be given influenza antiviral treatment see below. State health departments are encouraged to investigate all possible human infections with HPAI H5 virus and should notify CDC promptly when testing for avian influenza in people. Patients with new-onset influenza-like illness ILI or acute respiratory infection ARI , which may include conjunctivitis, which has been associated with avian influenza in humans. Clinical presentation of persons infected with these HPAI H5 viruses may vary somewhat from seasonal influenza or infection with other novel influenza A viruses. Thus, clinicians are encouraged to consider a range of respiratory signs and symptoms when evaluating a patient with appropriate exposure for HPAI H5 virus infection. Patients who have had recent contact [2] within 10 days of illness onset with potentially-infected i.

Patients with severe respiratory disease also should have lower respiratory tract specimens collected, if possible. For more information on surveillance and testing of persons under investigation for avian HPAI H5 virus infection, please see [https: Recommendations for Worker Protection](https://www.cdc.gov/eid/content/vol19/iss10/19-1011a1.pdf) To reduce their risk of HPAI H5 virus infection, poultry workers and responders should avoid unprotected direct physical contact with sick or dead birds, and carcasses, feces, or litter from potentially-infected poultry. Poultry workers should wear recommended PPE when in direct contact with sick or dead birds, and carcasses, feces, or litter from potentially-infected poultry, and when going into any buildings with sick or dead poultry, or carcasses, feces, or litter from potentially-infected poultry. For additional guidance on worker protection, please see [https: Recommendations for Infection Control](https://www.cdc.gov/eid/content/vol19/iss10/19-1011a1.pdf) For patients presenting for medical care or evaluation who have illness consistent with influenza and recent exposure to potentially-infected birds, standard, contact, and airborne precautions are recommended. For additional guidance on infection control precautions for patients who may be infected with HPAI H5 virus, please refer to guidance for infections with novel influenza A viruses associated with severe disease found at [https: Recommendations for Influenza Antiviral Treatment and Chemoprophylaxis](https://www.cdc.gov/eid/content/vol19/iss10/19-1011a1.pdf) Chemoprophylaxis with influenza antiviral medications can be considered for all persons meeting bird exposure criteria. Decisions to initiate antiviral chemoprophylaxis should be based on clinical judgment, with consideration given to the type of exposure and to whether the exposed person is at high risk for complications from influenza. Chemoprophylaxis is not routinely recommended for personnel who used proper PPE while handling sick or potentially-infected birds or decontaminating infected environments including animal disposal. If antiviral chemoprophylaxis is initiated, treatment dosing for the neuraminidase inhibitors oseltamivir or zanamivir one dose twice daily is recommended instead of the typical antiviral chemoprophylaxis regimen once daily. If exposure was time-limited and not ongoing, five days of medication one dose twice daily from the last known exposure is recommended. **Treatment of Symptomatic Persons with Bird Exposure:** Patients meeting bird exposure criteria who develop symptoms compatible with influenza should be referred for prompt medical evaluation and empiric initiation of influenza antiviral treatment with a neuraminidase inhibitor as soon as possible. Clinical benefit is greatest when antiviral treatment is administered early, especially within 48 hours of illness onset. Antiviral treatment should not be delayed while waiting for laboratory testing results. If a case of human infection with HPAI H5 virus is identified in the United States, recommendations for monitoring and chemoprophylaxis of close contacts of the infected person are different than those that apply to persons who meet bird exposure criteria. Seasonal influenza vaccines do not provide any protection against human infection with HPAI H5 viruses.

## Chapter 7 : Avian Influenza A Virus Infections in Humans | Avian Influenza (Flu)

*Shortness of emphysema effects on lungs b influenza influenza influenza c eath/wheezing. vaccination (diphtheria tetanus whooping cough Hib and polio) at Oral Thrush Baby Treatment Human Symptoms Body Flu Bird 8 12 and 16 weeks old.*

Diagnosis Laboratory tests Samples of fluids from your nose or throat can be tested for evidence of bird flu virus. These samples must be taken within the first few days after symptoms appear. Imaging tests X-rays may be useful in assessing the condition of your lungs, which can help determine the proper diagnosis and the best treatment options for your signs and symptoms. Treatment Many influenza viruses have become resistant to the effects of a category of antiviral drugs that includes amantadine and rimantadine Flumadine. These drugs must be taken within two days after the appearance of symptoms. Request an Appointment at Mayo Clinic Preparing for your appointment If you suspect that you have bird flu, you need to see your primary care doctor. Let people know you may have the flu, and ask for a surgical mask to wear during your visit. If you are very ill, you may need to be hospitalized. What you can do Symptom history. Recent exposure to possible sources of infection. Be sure to describe any international trips, especially to areas where bird flu is prevalent. Questions to ask your doctor. Write down your questions in advance so that you can make the most of your time with your doctor. For bird flu, some basic questions to ask your doctor include: Will I need any tests? Are there any alternatives? Will I need to take medicine? What can I do at home to help ease my symptoms? What to expect from your doctor Your doctor will need to know certain details about your illness to make a diagnosis. Be prepared to answer questions such as: When did you start feeling ill? Have you had a fever? If so, how high has it gotten? Have you had any close contact with birds recently? Have you traveled abroad recently? If so, where did you go?

**Chapter 8 : Bird flu (avian influenza) - Symptoms and causes - Mayo Clinic**

*However, there is an interesting bird flu, H5N2, that should be discussed for its infection in human beings. H5N2 influenza virus is a well-known virus that can cause infection in avian. This virus can cause outbreak in avian and can also be isolated from asymptomatic avian [2].*

H7N9 , responsible for an ongoing epidemic in China and currently has the greatest pandemic potential among the Type A subtypes [49] H6N1 , which only infected one person, who recovered Influenzavirus B Influenza virus nomenclature for a Fujian flu virus This genus has one species, influenza B virus. Influenza B almost exclusively infects humans [47] and is less common than influenza A. The only other animals known to be susceptible to influenza B infection are the seal [50] and the ferret. However, influenza B mutates enough that lasting immunity is not possible. The virus has the potential to infect humans, although no such cases have been observed yet. Structure, properties, and subtype nomenclature Influenzaviruses A, B, C, and D are very similar in overall structure. RNA tends to be single stranded but in special cases it is double. HA is a lectin that mediates binding of the virus to target cells and entry of the viral genome into the target cell, while NA is involved in the release of progeny virus from infected cells, by cleaving sugars that bind the mature viral particles. The steps in this process are discussed in the text. Viruses can replicate only in living cells. First, the virus has to bind to and enter the cell, then deliver its genome to a site where it can produce new copies of viral proteins and RNA, assemble these components into new viral particles, and, last, exit the host cell. It is known that virions converge to the microtubule organizing center, interact with acidic endosomes and finally enter the target endosomes for genome release. Newly synthesized viral proteins are either secreted through the Golgi apparatus onto the cell surface in the case of neuraminidase and hemagglutinin, step 5b or transported back into the nucleus to bind vRNA and form new viral genome particles step 5a. Other viral proteins have multiple actions in the host cell, including degrading cellular mRNA and using the released nucleotides for vRNA synthesis and also inhibiting translation of host-cell mRNAs. Hemagglutinin and neuraminidase molecules cluster into a bulge in the cell membrane. The vRNA and viral core proteins leave the nucleus and enter this membrane protrusion step 6. The mature virus buds off from the cell in a sphere of host phospholipid membrane , acquiring hemagglutinin and neuraminidase with this membrane coat step 7. Because of the absence of RNA proofreading enzymes, the RNA-dependent RNA polymerase that copies the viral genome makes an error roughly every 10 thousand nucleotides, which is the approximate length of the influenza vRNA. Hence, the majority of newly manufactured influenza viruses are mutants; this causes antigenic drift , which is a slow change in the antigens on the viral surface over time. The resulting rapid change in viral genetics produces antigenic shifts , which are sudden changes from one antigen to another. These sudden large changes allow the virus to infect new host species and quickly overcome protective immunity. Mechanism Transmission When an infected person sneezes or coughs more than half a million virus particles can be spread to those close by. The relative importance of these three modes of transmission is unclear, and they may all contribute to the spread of the virus. This influences their lethality and ability to spread. The mechanisms by which influenza infection causes symptoms in humans have been studied intensively. One of the mechanisms is believed to be the inhibition of adrenocorticotrophic hormone ACTH resulting in lowered cortisol levels. However, in highly virulent strains, such as H5N1, the hemagglutinin can be cleaved by a wide variety of proteases, allowing the virus to spread throughout the body. In contrast, the highly lethal H5N1 strain binds to receptors that are mostly found deep in the lungs. This effect has been proposed to be the cause of the unusual lethality of both the H5N1 avian influenza, [99] and the pandemic strain. Influenza vaccine Giving an influenza vaccination The influenza vaccine is recommended by the World Health Organization and United States Centers for Disease Control and Prevention for high-risk groups, such as children, the elderly, health care workers, and people who have chronic illnesses such as asthma , diabetes , heart disease , or are immuno-compromised among others. Every year, the World Health Organization predicts which strains of the virus are most likely to be circulating in the next year see Historical annual reformulations of the influenza vaccine , allowing pharmaceutical companies to develop vaccines that will provide the best

immunity against these strains. It takes about six months for the manufacturers to formulate and produce the millions of doses required to deal with the seasonal epidemics; occasionally, a new or overlooked strain becomes prominent during that time. The most dangerous adverse effect is a severe allergic reaction to either the virus material itself or residues from the hen eggs used to grow the influenza; however, these reactions are extremely rare.

**Influenza prevention** These are the main ways that influenza spreads by direct transmission when an infected person sneezes mucus directly into the eyes, nose or mouth of another person ; the airborne route when someone inhales the aerosols produced by an infected person coughing, sneezing or spitting ; through hand-to-eye, hand-to-nose, or hand-to-mouth transmission, either from contaminated surfaces or from direct personal contact such as a hand-shake. Reasonably effective ways to reduce the transmission of influenza include good personal health and hygiene habits such as: Avoiding spitting is also recommended. One is called a Rapid Molecular Assay, when an upper respiratory tract specimen mucus is taken using a nasal swab or a nasopharyngeal swab.

**Influenza treatment** People with the flu are advised to get plenty of rest, drink plenty of liquids, avoid using alcohol and tobacco and, if necessary, take medications such as acetaminophen paracetamol to relieve the fever and muscle aches associated with the flu. They are also advised to avoid close contact with others to prevent spread of infection. Antiviral medication may be effective, if given early within 48 hours to first symptoms , but some strains of influenza can show resistance to the standard antiviral drugs and there is concern about the quality of the research. Those with the emergency warning signs should visit the emergency room at once.

**Neuraminidase inhibitors** Overall the benefits of neuraminidase inhibitors in those who are otherwise healthy do not appear to be greater than the risks. Most people will recover completely in about one to two weeks, but others will develop life-threatening complications such as pneumonia. Thus, influenza can be deadly, especially for the weak, young and old, those with compromised immune systems, or the chronically ill. People with emphysema, chronic bronchitis or asthma may experience shortness of breath while they have the flu, and influenza may cause worsening of coronary heart disease or congestive heart failure. Most are only ill and out of work for a week, yet the elderly are at a higher risk of death from the illness. People over 65 years old, pregnant women, very young children and people of any age with chronic medical conditions are more likely to get complications from influenza, such as pneumonia, bronchitis , sinus , and ear infections. One review gives an incidence of about one case per million vaccinations. Flu complications may vary and for some children, can include pneumonia and even death.

**Chapter 9 : Bird Flu Treatment Market Trends and Forecast to 2025 TMR**

*AZT is an antiretroviral drug a type that helps prevent Luicants may help prevent condoms In an article from NPHRC named Infantschildren & Hiv The remaining 75% develop signs and Symptoms Of Bird Flu In Humans Cancer Lung Treatment Prevention symptoms of HIV infection somewhere in between. I had protected intercourse but not protected oral sex.*

This article has been cited by other articles in PMC. Abstract Influenza virus infection is a common respiratory pathogen. Emerging of new atypical influenza is usually a big public health threat. H7N9 bird flu is the newest atypical influenza virus infection that has just been reported since early The emerging of this new disease occurred in China and becomes the present focus for possible worldwide pandemic. In this specific article, the author will discuss and describe on epidemiology, symptomatology, pathology, diagnosis, treatment, and prevention of this new bird flu. The literature researching by PubMed and Google is used for data gathering in this collective review. In fact, there are several groups of influenza viruses, which are proved to be the causes of respiratory tract infections in human beings as well as in other animals. In human beings, the influenza virus infection can be seen worldwide with a wide range of epidemic areas. Each year, million illnesses are reported. As a virus, the possible mutation can be expected, and any sense mutation can result in new problematic virus. The new atypical influenza virus can be the cause of new disease that can cause the worldwide pandemic. Within the past decade, there are several new epidemics due to new atypical respiratory viruses such as H5N1 bird flu [ 3 ] and H1N1 swine flu. Indeed, there is a previous big outbreak of bird flu due to H5N1 influenza virus. Due to the nature of a new emerging infection, there are limited data on the natural history of H7N9 influenza infection. Hence, diagnosis and treatment are difficult. The first case was an years-old male from Shanghai, China, with 19 February onset, and the confirmation on this new emerging infection by Chinese CDC was on 29 March In this specific article, the author discusses on the new H7N9 influenza infection, which has just been described since early Bird flu usually means the influenza infection in avian. However, the case that human beings get the avian type influenza virus infection is usually problematic, and the atypical influenza virus infection can be the result. In early , there are emerging cases of atypical infections in China presenting with the signs and symptoms of acute respiratory tract infection. However, some atypical clinical manifestations can be seen. At first, the exact pathogenic cause of this new disease was unknown. Nevertheless, due to the modern technology, the pathogenic agent was finally determined as a kind of influenza virus, H7N9. It is proved that there are at least four origins contributing to the sequence of the new N7N9 influenza virus. The first indexed case was in February China became the present epidemic focus of this new emerging disease. Several infected cases have been continuously reported. Also, there were some death cases. However, after the primary emerging in the primary site in mainland of China, the disease finally spread to the new setting in Taiwan Island bringing more concern on the possibility of worldwide pandemic. Similar to the previous H5N11 bird flu, the avian contact can be identified in almost all patients. Therefore, the next question is which contribute to the infection in case with no history of avian contact. Adding to the cross species transmission, the great concern is on human-to-human transmission. Of interest, the genetic mutation contributing to human adaptation of virus is reported, and the human-to-human transmission is the topic to be followed up and further studied. The main clinical features of influenza, high fever, coughing, and myalgia can be seen. Respiratory distress is the most common cause of death among the H7N9 bird flu cases, no regarding to existence of underlying personal illnesses. In addition to the respiratory manifestation, the atypical clinical manifestations can be seen. Multiple organ involvement can be seen in severe cases. Heart failure, alteration of consciousness, alteration of thrombohemostasis, and renal impairment can be seen. However, there is no report on histopathological study of infected cases. Until present, no official autopsy reported is published. Nevertheless, there are some reports on clinical pathology assessment of the infected cases. The abnormalities of laboratory findings are reported. Leukopenia and lymphopenic, thrombocytopenia, impaired renal function and an increase in myocardial enzymes and aspartate aminotransferase are the main observations. However, it is not possible to differentiate the type of influenza, and diagnosis of specific new

H7N9 bird flu needs laboratory support. A reverse-transcription PCR assay is required. The preparedness for good diagnostic tool for the new H7N9 bird flu is required. If the result from screening is positive, starting the antiviral drug treatment is suggested, and further confirmation test for H7N9 bird flu should be done at the same time. It is observed that sputum is a better specimen than throat swab or viral detection. Normally, the chest radiography usually shows diffuse opacities and consolidation in complicated cases. Indeed, not all new H7N9 infected cases are severe, and some cases are mild and can be treated as out - patient cases. Antiviral drug is useful for not only getting rid of the infection but also controlling of disease spreading. The standard treatment for swine flu is similar to the classical influenza. The drug of choice is oseltamivir. Nevertheless, until present, there is still no report on the efficacy and effectiveness of oseltamivir in treatment of new H7N9 influenza. For supportive treatment of cases with pneumonia, oxygen therapy and non-invasive mechanical ventilation should be considered. The routine practice for prevention of respiratory tract infection must be applied. Avoidance for contact with ill avian is highly recommended.