

Swine Flu: A Potential Pandemic

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Swine Flu is an acute febrile respiratory disease which infects pigs. It is known to be transmitted primarily pig-to-pig. It contains genetic mix of strains of the virus that affect humans, birds and swine. The effect of swine flu has been mild in most of the affected countries except for Mexico. The economic impact of the swine flu can be colossal. The concerns surrounding the outbreak of swine flu merit international health regulations.

A global hysteria has surfaced with the outbreak of Swine Flu in Mexico, the United States (US), Canada, Spain and Britain. In Geneva, the World Health Organisation (WHO) has announced that the swine flu virus can no longer be contained.¹ WHO declared that the virus has the potential to turn into a pandemic and raised its alert level to four, two steps short of a full pandemic.² It has urged for increased surveillance worldwide.

Initially the Mexican authorities had confirmed that swine flu is responsible for 20 deaths out of 152 deaths from flu in the country.³ There have been 20 confirmed cases of swine flu in the US and 6 in Canada.⁴ During the initial outbreak, the American and Canadian cases were reported to have been milder and have not proved to be fatal as in Mexico. There have been 2 deaths in the US and one in Canada due to swine flu. The worst affected country has been Mexico where there has been 1,626 confirmed cases resulting in 45 deaths. The US has declared a public health emergency for swine flu.

Swine Flu is an acute febrile respiratory disease which infects pigs. The etiology of swine flu is a type A Influenza virus that has high morbidity and low mortality. Swine flu is known to be transmitted primarily pig-to-pig. However, the latest outbreak shows that H1N1 can spread from person to person through coughing; sneezing and people can pick up the virus through their hands. The clinical symptoms of swine flu in humans is similar to that of seasonal flu - fever, cough, sore throat, body aches, chills and fatigue but may cause more severe vomiting and diarrhea. WHO has confirmed that the latest version of H1N1 virus is a new strain that has the ability to pass from person to person and could possibly trigger a global pandemic.

The outbreak of swine flu in some of the human cases is a new version of the H1N1 strain of influenza type A. It contains genetic mix of strains of the virus that affect humans, birds and swine. What makes it particularly dangerous is that this hitherto unidentified virus strain defies any traditional treatment. Another

challenge that is posed by this new strain is its ability to rapidly swap genetic components with each other and forming a new strain that defies identification. This makes it difficult for medical authorities to target the virus with the required drug. Further the Centers for Disease Control and Prevention has confirmed that the new swine flu virus is a highly unusual genetic mix of bird, flu and human viruses and health officials worry that it could continue to mutate and return in a more virulent form for next winter's flu season.⁵ Such warnings foretell the re-emergence of probably a more virulent form of flu.

The effect of swine flu has been mild in most of the affected countries except for Mexico. Though this may indicate that the alert level has not increased to that of a pandemic yet it raises some worrisome questions. Is there any unusual geographical factor that is catapulting the mortality rate in Mexico? Is the virus circulating in Mexico different and hence more dangerous than that which is evident in the rest of the affected areas? It is normal that people will die of flu during the flu season but what makes healthy adults die of flu, similar to what happened in Mexico? Only laboratory tests can provide satisfactory answers to these important questions.

One important factor that needs to be pondered upon is what is the source of this recent outbreak of swine flu? How could have swine flu developed, and what can now be done to protect the global population from future outbreaks? It is a fact that this is not the first time a triple hybrid human/bird/pig flu virus has been detected. The first was found in a North Carolina industrial pig farm in 1998, and within a year it had spread across the US.⁶ Dr Michael Greger, director of Public Health and Animal Agriculture at the Humane Society of the US has highlighted how some experts blamed the emergence of the original 1998 virus on intensive farming practices in the US, where pigs and poultry are raised in extremely cramped conditions, in adjacent sheds – and tended to by the same staff.⁷ Damp and cramped conditions are ideal for a series of mutations to occur resulting in a highly pathogenic form. Within crowded chicken factory farms, the

mild virus can evolve rapidly towards more dangerous and highly transmissible forms, capable of jumping species and spreading back into wild birds, which are defenceless against the new strain.⁸ The North Carolina case shows the number of pig farms as reducing, with more and more animals being confined into fewer and fewer farms. Since the primary route of swine flu transmission is thought to be the same as human flu, the increased potential for the spread of disease in such conditions is clear.⁹ In Mexico the role of increasing intensive farming as been perceived to be a probable reason for the outbreak of swine flu pandemic in the country.

The economic impact of the swine flu can be colossal. For a country, where tourism is a significant attraction, canceling trips is worrisome. It is particularly difficult for the Mexican economy as projected by the International Monetary Fund it would shrink by almost 4 percent this year, as a result of the global financial crisis. Reports further indicate that the spread of swine flu has plummeted world stocks after seven weeks of gains. The increasing concerns of the spread of swine flu have also reduced the value of the euro and the oil. The threat of a possible pandemic is likely to weaken global trade and hit the economy hard. As the virus spreads, it seems inevitable that the economic impact will be felt beyond international borders.

There has to be a worldwide effort to mitigate the effects of this potentially dangerous virus. Aggressive actions have to be taken worldwide to minimize the impact of swine flu on people's health. India has responded to the gravity of the situation by putting on alert all international airports and ports for identifying infected persons. Directions have been issued to track and monitor people who have arrived in India from the affected countries. The National Institute of Communicable Diseases and Indian Council of Medical Research are working on preliminary containment measures if the virus springs up in Asian countries.¹⁰ Efforts are also in place by affected countries to stockpile common drugs like Tamiflu and Relenza as a precaution against a possible pandemic. US scientists are believed to be developing a new

vaccine, but it may take some time to perfect it, and manufacture enough supplies to meet a huge demand. It would be also prudent for the Indian Government to seriously consider the practices of intensive farming. It is also important that the authorities conduct immediate and urgent inquiry, into the dynamics that might exist between the development and spread of animal-based epidemics which can be lethal to humans.

The concerns surrounding the outbreak of swine flu merit international health regulations. However, people should avoid panicking and respond to the directions of health authorities. It is also important that the global health-monitoring system remains sensitive and responsive to any potential disaster.

Endnotes:

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3. "Mexico flu 'a potential pandemic'," *BBC News*, April 26, 2009 at <http://news.bbc.co.uk/2/hi/americas/8018356.stm> (Accessed on April 27, 2009).
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5. Steven Reinberg, "CDC Shifts Swine Flu Focus to Likely Impact in the Fall," *HealthDay*, May 12, 2009 at <http://www.healthday.com/Article.asp?AID=626981> (Accessed on May 13, 2009).
6. Caroline Lucas, "Swine flu: is intensive pig farming to blame?" *The Guardian*, April 28, 2009 at <http://www.guardian.co.uk/commentisfree/2009/apr/28/swine-flu-intensive-farming-caroline-lucas> (Accessed on April 29, 2009).
7. Ibid.
8. Ibid.
9. Ibid.
10. Kounteya Sinha, "Mexico flu sets alarm bells ringing in India," *Times of India*, April 27, 2009.