



## THE PANDEMIC FLU – REALITY, NOT FICTION!

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Worldwide, the flu has always been a major health care issue. It comports 2 distinct features: on one hand the annual “*seasonal flu*” which regularly presents under benign outlines, and on the other hand the “*pandemic flu*” which occurs every 20-40 years, affects 25-50% of the world’s population and presents under severe outlines with high mortality.

In the history of mankind, flu pandemics have had devastating consequences. During the past century there have been 3 large flu pandemics: between 1918-1919 the “*Spanish flu*” generated by an A/H1N1 virus, which registered 20-40 million deaths; between 1956-1958 the “*Asian flu*” generated by an A/H2N2 virus, which killed over 3 million people; between 1968-1969 the “*Hong Kong flu*” generated by an A/H3N2 virus, which recorded 2 million deaths. The flu pandemic regularly targets the young, active, previously healthy population, which has dramatic socio-economical repercussions, as consequence of a massive professional absenteeism, which can rapidly lead to paralyzed services, transport, telecommunications and sometimes even medical assistance.

Those who are not aware of or who ignore the tragic history of flu pandemics within the past century can easily be ensnared by certain obscure viewpoints which tend to minimize and dispense with the risks and tragic consequences of a flu pandemic. Through the “*sensation*” driven media, numerous pretense stories have sprung out, congregating speculations, fictitious accusations regarding the medical world, which, sadly, are sometimes adhered to by some members of the medical squad.

In April 2009 a new strain of flu virus has been identified. It has officially been named the “new A/H1N1 virus”, but it is better known under the generic name of “*swine flu virus*”. This new virus is the result of the genetic merger of an avian flu virus strain with a human flu virus strain and with 2 swine flu virus strains. As opposed to most pandemics, which have had their onset in Asia, the current pandemic virus has occurred in Mexico, whence it rapidly spread towards North America, Canada, Europe, Asia and Africa. Due to its rapid spread, in June 2009, WHO officially declared the pandemic stage of flu.

Recent WHO reports show that up to October 2009 there were over 378.223 cases of virologically confirmed disease cases generated by the new A/H1N1 virus. In Romania, up to 12 October 2009, 351 cases have been virologically confirmed, all being imported cases, which presented under mild outlines.

Fortunately, hitherto, on global level, there has been a net predominance of the mild or average disease outlines. Given the genetic plasticity of the flu viruses, as well as the evolution of previous flu pandemics, international flu expert panels consider that there is a risk for the new A/H1N1 virus to undergo significant genetic mutations which could considerably increase its virulence, which would entail the increase in the severity of the clinical outlines and implicitly, the mortality rate.

We need not forget that the epizooty of avian flu, with its outburst in Asia in December 2003, generated by the avian H5N1 virus, overcame the species barrier, recording 300 virologically confirmed human cases, all in Asia, with a mortality of over 60%. Most human cases of H5N1 virus infection rapidly developed

towards severe acute respiratory failure, requiring mechanical ventilation. Fortunately, the efforts of WHO and of the health departments of the affected countries managed to limit the spread of the H5N1 virus human infection, thus saving millions of lives which could have been abruptly ended by a H5N1 virus pandemic. One of the main weapons in this fight was increasing the vaccinal coverage with seasonal flu vaccine in the general population, which limited the circulation of the human flu viruses, thus preventing their interaction with the avian H5N1 flu virus, interaction which could have led to genetic mutations through gene rearrangement. Such a genetic recombination could have generated a virus with a novel configuration, with highly increased pathogenicity, which would have ensured easy interhuman transmission, leading to the outbreak of a pandemic with a virus of high pathogenicity and mortality of over 60%.

We should picture the evolution of the 2009 pandemic flu, had it been generated by a virus with high pathogenicity which would have manifested through severe outlines, with mortality of over 60%. It is extremely likely that not even the developed countries could have successfully faced such an event, if the life of 60% of the patients would depend on their access to assisted breathing equipment.

WHO currently considers that the most efficient weapon for fighting and controlling the pandemic flu is flu vaccination. On one hand, we have the seasonal flu vaccination which confers protection to seasonal flu; on the other hand, we have the pandemic A/H1N1 vaccination whose protective efficiency and safety have already been demonstrated in clinical human studies. Worldwide, the annual manufacturing capacity for the pandemic vaccines is of only 3 billion doses. Fortunately, Romania has the enormous advantage that the Institute for Research and Development for Microbiology and Immunology Cantacuzino, Bucharest (INCDMIC) benefits from WHO licensing both for virologic flu diagnosis, including that of the new A/H1N1 flu virus, and for the manufacturing of seasonal flu vaccine and pandemic A/H1N1 flu virus. Thus, Romania, unlike most developing countries, is not dependent of globally manufactured seasonal flu vaccine and pandemic vaccine, which shall hardly cover the necessary vaccine doses required by the North American and Western European countries. INCDMIC has the capacity for manufacturing 5 million doses of pandemic A/H1N1 vaccine (*Cantgrip*), which shall be available starting with November 2009. This vaccine is manufactured based on the strain indicated by WHO and respecting all WHO recommendations for safety and efficiency. The manufacturing technology is highly similar to that according to which INCDMIC has been manufacturing the seasonal flu vaccine for years.

Currently circulating are a lot of opinions expressed by individuals without the necessary professional training required for the understanding of the complex issue of a flu pandemic, opinions which consider that the efforts carried out according to WHO recommendations by the medical authorities from each country are unjustified and rely on obscure economic interests or, even worse, these are considered to endanger the health of the worldwide population.

During the evolution of a flu pandemic, it would be more natural, more useful, more efficient and more ethical for the media to relinquish the campaign against the medical system and to rally to the efforts of the medical world and of the international panels of flu experts (WHO, CDC, E-CDC), the final target being that of correctly informing the population on the risks involved in the pandemic flu and on the measures for flu fighting and prophylaxis. In order to attain this noble yearning, there is need for a real partnership between the media and the medical community involved in the management of the pandemic flu, which would prepare a coherent plan for informing population, based on well-documented scientific data, results of clinical studies, available on the WHO, CDC, E-CDC and FDA sites. In the absence of such coherent information based on scientific evidences unanimously accepted by international expert panels, the population will continue to be receptive and will believe in the numerous anonymous documents, aberrant and scientifically misleading which freely roam the internet.