



## The invention of the swine-flu pandemic

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# The Invention of the Swine-Flu Pandemic.

Running title: the swine-flu affair

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Figure: 1

## Introduction

The hype about the swine-flu pandemic is over. Should we, therefore, forget about this episode? We feel that there is a need to evaluate on a national as well as international level the events which have occurred and the mistakes which have been made.

The announcement of the swine-flu pandemic on June 11, 2009 by the World Health Organization (WHO) was a real precedent. In May 2009 WHO eliminated the severity of disease from the definition of stage six of a pandemic and demanded as sole criterion the swift and worldwide spread of a new virus against which the population has no immunity.

For the first time expensive measures against a pandemic such as the production of vaccines and mass vaccination were initiated worldwide. The pandemic stage six has been kept until August 2010, although there was neither any indication for serious health threats from A/H1N1 influenza, nor was the virus “new”.

#### A historical perspective

Neither WHO nor national pandemic expert committees nor governments have informed the public that the A/H1N1 virus has been known for decades. In the 1970ies soldiers coming from Vietnam brought the virus as the so called Asian swine flu to the US. In 1976 a vaccination campaign was started and about 40 million US-citizens were vaccinated, because the Centres for Disease Control and Prevention (CDC) feared, that the A/H1N1 virus might be similar to the virus of the Spanish influenza in 1918-1920 with 25-40 million deaths.<sup>1</sup> The A/H1N1 vaccination campaign was stopped abruptly when it was realized that the virus produced only a mild disease, while the vaccine produced a number of severe neurological side effects, namely Guillain-Barre-Syndrome.<sup>2</sup>

In their report “The epidemic that never was” Neustadt and Fineberg<sup>3,4</sup> concluded that

- “ overconfidence by specialists in theories extrapolated from meagre evidence
- conviction fuelled by a conjunction of some pre-existing personal agendas
- premature commitment to deciding more than had to be decided
- failure to address uncertainties in such a way as to prepare for reconsideration
- insufficient questioning of scientific logic and of implementation prospects ”

were all points that were detrimental in the decision making process in 1976. Obviously, these lessons were not learned.

#### The 2009/2010 A/H1N1 pandemic

A similarly benign evolvement of the 2009/2010 A/H1N1 pandemic has been observed around the world. In Germany about 260 000 people were supposed to be infected and only a very small number of deaths could be attributed to the A/H1N1 pandemic, namely 258,<sup>5</sup> which corresponds to a case fatality of

0,1 % (see table). Hardly any infection with A/H1N1 has been found among people aged 60 and over, a clear indication that older people had already been in contact with the A/H1N1 virus and/or with vaccines containing A/H1N1 virus antigen.<sup>6</sup>

In spite of unconvincing data from Mexico, WHO followed the advice of its emergency committee and declared the A/H1N1 pandemic on June 11, 2009, thus triggering a cascade of national actions that had been prepared after the Severe Acute Respiratory Syndrome (SARS) and avian flu pandemic fears.

In Germany 50 million doses of vaccine were ordered by the government costing more than 500 million Euro. Finally, less than 7 million doses were used for vaccination. Interestingly, the contracts with the vaccine manufacturer for Germany, “GlaxoSmithKline”, were signed already in 2007 after a new pandemic mock-up vaccine (Pandemrix), based on the avian flu A/H5N1 viral antigen, had been licensed. There were no changes made to the contract for the swine flu pandemic in 2009.

WHO based its evaluations merely on the re-assortment theory promoted by molecular virologists, specifically that two different viruses infecting a host at the same time may merge (= re-assort) into a new highly pathogenic killer virus. These killer virus scenarios, first propagated by government agencies and vaccine producers for SARS, avian flu, and swine-flu, and predicting millions of deaths, call on deeply rooted fears in humans with respect to

plagues, such as the Spanish Influenza (1918-1920). They never became true and not a single death from SARS or avian flu occurred in Germany, and the swine flu pandemic (258 deaths) did by far not reach the usual death toll of the seasonal flu epidemics.

#### A decade of angst campaigns

In recent years we have been witnessing angst campaigns with regard to SARS in 2002/3, with regard to avian flu in 2005/6 and now we have experienced the so called swine flu pandemic. The probable worldwide toll for SARS amounts to 8098 cases of which 774 died (case fatality 9,6 %).<sup>7</sup> Avian flu so far has affected some 496 individuals, killing 293 of them.<sup>8</sup> (see table) It is important to know that avian flu is only contracted by close contact between birds and humans and therefore remains a regional zoonosis. Nevertheless, avian flu became the model for pandemic flu scenarios.

What have we learned from the swine-flu-affair?

What needs to be done ?

Firstly: The current concept of pandemics has to be reconsidered and it should be accepted that the spread and severity of infectious diseases is generally more dependent on social conditions of populations than on the properties of the infectious agent.<sup>9</sup>

Most people including scientists and politicians are hardly aware of the fact, that the A/H1N1 virus of the Spanish Influenza has hit populations stricken by war and hunger: Poor, frail and undernourished people paid the highest death toll. According to Murray, Lopez et al <sup>10</sup> mortality figures from the Spanish flu showed a 31-fold variability according to the nutritional- and social status of the respective populations; in a hypothetical re-occurrence of the Spanish Influenza pandemic, 96% of all deaths would occur in the developing countries and only

4% in the developed world.<sup>10</sup> Therefore, the swine-flu vaccination campaigns in Europe and North America were especially inappropriate.

Obviously, the most effective way to prevent any infectious disease pandemic is to invest in the improvement of social conditions.<sup>9,11</sup> Tuberculosis is an excellent example. This major scourge was very prevalent and produced a high death toll at the time, when the mycobacterium tuberculosis was detected by Robert Koch (1882). Although there was no effective treatment, the disease declined dramatically with the improvement of social conditions. When streptomycin appeared on the scene (1952) the epidemic in Europe had nearly disappeared.

Secondly: Sound infectious disease epidemiology must be applied to the surveillance of influenza epidemics, e.g. define the target population, draw appropriate random samples from the respective population to obtain unbiased estimates of the incidence of flu like symptoms and of the viral status of the sample. Such methodology allows for proper inference of the spread and the virulence of the respective infectious agent. Data currently provided by the Global Influenza Surveillance Network are insufficient; they are not population based and therefore do not provide reliable data on disease severity, nor on case fatality. The data on the seasonal influenza show similar weaknesses and the estimates of disease frequency, mortality, and case fatality are similarly vague.<sup>12</sup> Consequently, the effectiveness of seasonal influenza vaccination campaigns and of anti-viral medication is more than questionable.<sup>12</sup>

Thirdly: Conflicts of interest of scientific advisors to WHO or to other international and national public health institutions regarding connections with the respective pharmaceutical industry must be disclosed and acted upon in a similar fashion as is the case for employees of and advisors to WHO regarding the tobacco industry.<sup>13</sup>

Fourthly: To blame the media alone for the horror scenarios pertaining to the swine-flu pandemic is too simple. The media most often conveyed messages they received from scientists (with hidden links to vaccine producers), representatives of government agencies close to those experts, and WHO. However, contrary to WHO and its experts there were a number of critical journalists questioning the pandemic scenarios. Also not all countries in Europe were following WHO's advice: The minister of health of Poland decided not to buy any swine-flu vaccine. Consequently, there was no vaccination campaign against A/H1N1 in Poland; however, the course of the disease there was similarly mild as in the other European countries.

Fifthly: WHO failed to give appropriate guidance in the swine flu pandemic. To prevent this from recurring, new strategies for the evaluation of the impact of new infectious diseases are needed. According to the figure by Doshi<sup>14</sup> four scenarios are conceivable: a severe disease infecting many (Type 1), a severe disease infecting few (Type 2), a mild disease infecting many (Type 3) and a mild disease infecting few (Type 4). So far WHO has misclassified SARS, avian flu and swine flu as Type 1 diseases, which produced a hat trick of false alarms within less than a decade.<sup>15</sup> Future WHO emergency committees must comprise scientists from a wide range of disciplines thus diminishing the chance of misclassification of future infectious disease epidemics. Advice from disease experts, e.g. molecular virologists, is important, but final policy recommendations must come from scientists trained in evaluation, priority setting, and public health and being fully independent.<sup>16</sup>

## Resume

In light of the fact, that life expectancy in the western world has been increasing by 2-2.5 years per decade for the last half century, the angst campaigns concerning influenza pandemics triggered by virologists are out of range and irresponsible. It is ironic, that during the decade of continuous alarms for pandemics, with millions of deaths predicted from SARS,

avian flu and swine-flu, life expectancy e.g. in Germany increased by nearly three years for both men and women, reaching more than 77 and 82 years for men and women, respectively.<sup>17</sup>

### Public Health Perspective

It is now time to re-evaluate public health strategies and to ask the question what really helps to reduce the burden of morbidity and mortality in Europe and worldwide? Fortunately, we know the great killers, namely cardiovascular diseases, diabetes, cancers and chronic respiratory diseases<sup>18</sup> (plus malaria, HIV/AIDS, tuberculosis in a number of developing countries). And we also know that 90% of diabetes mellitus type II, 85% of lung cancer, 80% of coronary heart disease, 70% of stroke and 70% of colon cancer are preventable by life style modification and public health measures<sup>19</sup> such as improved social conditions, healthy nutrition, increased physical activity and a strict ban on smoking.<sup>18</sup>

However, governments and public health services are often paying only lip service to the prevention of these great killers and are instead wasting money on pandemic scenarios whose evidence base is weak. According to the pharmaceutical industry, their worldwide earnings from selling vaccines against the swine flu pandemic amounted to 18 billion Euro.<sup>20</sup>

### References

#### Scientific Comments on Article by Keil et al

Pag e No:	Par a No	Comment	Supporting Reference
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1,	2	<p>It is stated:</p> <p><i>In May 2009 WHO eliminated the severity of disease from the definition of stage six of a pandemic and demanded as sole criterion the swift and worldwide spread of a new virus against which the population has no immunity.</i></p> <p>That is not the case and that will be confirmed by the Fineberg Report <a href="#">the Preview of which is now available</a> That is critical of WHO on a number of points</p> <p>What Keil et al are doing is mixing up the criteria of a pandemic with descriptions of severe pandemics . To use an analogy – if mild earthquakes do not result in what has happened in Christchurch and NE Japan that does not stop them being earthquakes.</p> <p>WHO is criticised in the Fineberg report mishandling of its web-site but not for emphasising the more severe pandemics as that is a correct application of the precautionary principle.</p> <p>Severity has never been part of the criteria of a pandemic and the criterion stated by Keil et al incorrect.</p> <p>Indeed the opposite is the case. For the first time WHO in 2009 (following international expert advice over the period 2007-9) introduced severity into its description into its pandemic characteristics.</p> <p>The criteria used by WHO and the international community is shown opposite:</p>	<p>WHO Definition of 2005</p> <p>From WHO frequently asked questions <a href="http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html">http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html</a></p> <p>See <a href="http://www.who.int/ihr/note_chairman_review_committee_mar2011_en.pdf">http://www.who.int/ihr/note_chairman_review_committee_mar2011_en.pdf</a> <a href="http://www.who.int/ihr/preview_report_review_committee_mar2011_en.pdf">http://www.who.int/ihr/preview_report_review_committee_mar2011_en.pdf</a></p> <p>The criteria used by WHO and the international community is shown below:</p> <p><i>The emergence of an influenza A virus significant different genetically from circulating human influenza A viruses (i.e. many or most of the population are non-immune to the new virus) with the following three characteristics.</i></p> <ul style="list-style-type: none"> <li>• <i>Able to infect humans,</i></li> <li>• <i>Able to cause disease in humans,</i></li> <li>• <i>Able to spread from human to human quite easily.</i></li> </ul> <p><a href="#">WHO 2005</a></p>
	3.	<p>It is stated by Keil et al that the virus was not ‘new’. It certainly was new in the sense that the virus had never</p>	<p><i>Origins of the A(H1N1) 2009 virus from reassortment.</i> Solovyov A, Palacios G, Briesse T, Lipkin WI, Rabadan R.</p>

		<p>been observed and reported before in the scientific literature.</p> <p>There was some cross immunity for older people (thank goodness – declaration of interest I am age 60) because another A(H1N1) virus had been circulating in the period up to 1957 which had some antigenic similarity. So people with immunity to those older viruses had protection against the new virus. This is not the first time this has happened. When the 1957 pandemic occurred very old people, born before 1918 who had been exposed to the A(H2N2) which circulated 1918 experienced lower amounts of disease</p>	<p>Cluster analysis of the origins of the new influenza A(H1N1) virus. Euro Surveill. 2009;14(21):pii=19224. Available online: <a href="http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19224">http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19224</a></p> <p><i>Cross-immunity in older people</i> Hancock K, Veguilla V, Lu X, Zhong W, Butler EN, Sun H, et al. Cross-reactive antibody responses to the 2009 pandemic H1N1 influenza virus. The New England journal of medicine. 2009 Nov 12;361(20):1945-52. <a href="http://content.nejm.org/cgi/reprint/361/20/1945.pdf">http://content.nejm.org/cgi/reprint/361/20/1945.pdf</a></p>
2	3	<p><i>In the 1970ies soldiers coming from Vietnam brought the virus as the so called Asian swine flu to the US.</i></p> <p>Fascinating. I have never heard that before so it really needs to be supported by some form of a reference. All that is cited is a Washington Post link that seems to be defunct.</p> <p>However I have checked with heads of two of the five global Collaborating Centres (UK-Alan Hay and USA-CDC Nancy Cox, both of whom were active in 1970s ) and they independently confirmed that the 1976 virus did <u>not</u> come from SE Asia, It was close in its origins to US swine (pig) influenza viruses, though the actual virus was never found in pigs.</p>	<p><a href="http://news.sciencemag.org/scienceinsider/2009/04/retrospective-w.html">http://news.sciencemag.org/scienceinsider/2009/04/retrospective-w.html</a> not supportive</p> <p>Kindy, K. Officials are urged to heed lessons of 1976 flu outbreak. <a href="http://www.washingtonpost.com/wp-dyn/content/article/2009/05/08/">www.washingtonpost.com/wp-dyn/content/article/2009/05/08/</a> - does not work</p> <p>Gaydos JC, Top FH, Hodder RA, Russell PK. Swine influenza A outbreak, Fort Dix, New Jersey, 1976. Emerg Infect Dis [serial on the Internet]. 2006 Jan [date cited]. Available from <a href="http://www.cdc.gov/ncidod/EID/vol12no01/05-0965.htm">http://www.cdc.gov/ncidod/EID/vol12no01/05-0965.htm</a></p>
3	1	<p><i>Obviously these were lessons that were not learnt ... (referring to the Neustadt-Fineberg book)</i></p> <p>This is <u>not</u> the case at Global, European or national levels - especially in the USA where the event of 1976 cast an especially long shadow but also in EU countries. The implication of Keil et al is that</p>	<p>World Health Organisation International Health Regulations (2005). Source page <a href="http://www.who.int/csr/ihr/en/">http://www.who.int/csr/ihr/en/</a> Full text (English) <a href="http://www.who.int/qb/ebwha/pdf_files/WHA58/WHA58_3-en.pdf">http://www.who.int/qb/ebwha/pdf_files/WHA58/WHA58_3-en.pdf</a></p> <p>WHO SAGE Vaccine Policy on pandemic vaccines WHO SAGE</p>

	<p>they all got this wrong . I do not know from the article whether the authors are ignorant of the way things work or simply find the detail undermines their thesis. However here are some examples of ways that 2009 was handled better than 1976. (though I would not defend the handling as in any way perfect – see References at the end by Leung &amp; Nicoll and Nicoll &amp; McKee.</p> <p>Under the 2005 International Health Regulations it was no longer being possible for a single country (the US) to effectively declare and act as if a pandemic was underway (as happened in 1976).</p> <p>At a global level there was work by the independently chaired WHO SAGE (Immunisation) Committee and the Global Advisory Committee on Vaccine Safety. These are especially important for when WHO oversees use of vaccine in resource poor countries,</p> <p>Equally in Europe there were EU level checks built into the process at European and national levels with . Also there were formal re-evaluations en route by the EU Health Security / EWERS Committee, and the EMA Advisory Committees the CHMP and Vaccine Safety Committee</p> <p>These do not replace the committees. In in Germany where Keli et al are based (see next point)</p> <p>There was very specific EU pharmacoepidemiological efforts evaluating vaccine safety and looking for unusual vaccine reactions by national / EU agencies which were highly successful both in overall showing that the vaccine was effective and very safe.</p> <p>At the same time there were ‘signals’</p>	<p>Experts advise WHO on pandemic vaccine policies and strategies October 2009 <a href="http://www.who.int/csr/disease/swineflu/notes/briefing_20091030/en/">http://www.who.int/csr/disease/swineflu/notes/briefing_20091030/en/</a> - meeting report <a href="http://www.who.int/csr/disease/swineflu/meetings/sage_oct_2009/en/index.html">http://www.who.int/csr/disease/swineflu/meetings/sage_oct_2009/en/index.html</a></p> <p>WHO Global Advisory Committee on Vaccine Safety (GACVS) <a href="http://www.who.int/vaccine_safety/en/">http://www.who.int/vaccine_safety/en/</a></p> <p>EMA Pandemic Pharmacovigilance Summaries <a href="http://www.ema.europa.eu/influenza/updates.html">http://www.ema.europa.eu/influenza/updates.html</a></p> <p>The European Agency for the Evaluation of Medicinal Products (EMA). Note for guidance on harmonisation of requirements for influenza vaccines. Committee for proprietary medicinal products 1997; CPMP/BWP/214/96. <a href="http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500003945.pdf">http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500003945.pdf</a></p> <p><i>EU Scientific evaluation of vaccine effectiveness</i> Valenciano M Kissling E, Cohen J-M, Oroszi B, Barret AS, Rizzo C et al Estimates of Pandemic Influenza Vaccine Effectiveness in Europe, 2009–2010: Results of Influenza Monitoring Vaccine Effectiveness in Europe (I-MOVE) Multicentre Case-Control Study. Plos Medicine PLoS Med 8(1): e1000388. doi:10.1371/journal.pmed.1000388 <a href="http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000388">http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000388</a></p> <p><i>Investigation of narcolepsy cases:</i></p>
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		of vaccine reactions Guillain Barre Syndrome and narcolepsy that are being scientifically and rapidly evaluated.	ECDC Reports of cases of narcolepsy and cataplexy in children and adolescents in Finland, Iceland, and Sweden <a href="#">ECDC public health development 02 Mar 2011</a>
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2	<p><i>In Germany about 260 000 people were supposed to be infected and only a very small number of deaths could be attributed to the A/H1N1 pandemic, namely 258.</i></p> <p>Nobody is disputing that the infection fatality rate for the 2009 pandemic was low, But the reported deaths will always be an underestimate and that should be acknowledged. For example in the US the estimates of deaths from the pandemic are 5 to 6 times the reported deaths . I would <u>not</u> recommend using this or any other simplistic multiplier to the reported deaths in the EU countries.</p> <p>However it is more important to acknowledge the difference in the pattern of deaths in the pandemic. To put it simplistically with the old seasonal flu (1968 to 2008) about 90% of the deaths were in people aged 65 years and above. While in the pandemic 80-90% of the reported deaths were in people under age 65 years (because of the many older people with cross-immunity). One way around that is to calculate Years of Potential Life Lost (YPLL) which the first author will be familiar with. When that has been done in the Netherlands (Wilders) old seasonal and pandemic flu 2009 came out with similar YPLLs while in the USA the pandemic flu came out as considerably higher YPLL (Viboud et al).</p>	<p><i>A discussion on the issues when estimating mortality from seasonal and pandemic influenza</i></p> <p>ECDC Mortality from influenza: Comparing deaths from seasonal and pandemic influenza  <a href="http://ecdc.europa.eu/en/healthtopics/H1N1/basic_facts/Pages/mortality_from_influenza.aspx">http://ecdc.europa.eu/en/healthtopics/H1N1/basic_facts/Pages/mortality_from_influenza.aspx</a></p> <p><i>Estimated pandemic deaths in the USA were 12 469 deaths (CI 8868–18 306) Shrestha S, Swerdlow D, Borse R, Prabhu VS, Finelli L, Atkins, Owusu-Edusei K, Bell B, Mead P Biggerstaff M, Brammer L, Davidson H, Jernigan D, Jhung M, Kamimoto L, Merlin T, Nowell M, Redd S, Reed C, Schuchat A, Meltzer M</i></p> <p>Estimating the Burden of 2009 Pandemic Influenza A (H1N1) in the United States (April 2009–April 2010) Clinical Infectious Diseases 2011;52(S1):S75–S82  <a href="http://cid.oxfordjournals.org/content/52/suppl_1/S75.full.pdf+html">http://cid.oxfordjournals.org/content/52/suppl_1/S75.full.pdf+html</a></p> <p><i>Netherlands YPLL comparison</i></p> <p>Wilders CCH, van Lier EA, van 't Klooster TM, van Gageldonk-Lafeber AB, van den Wijngaard CC, Haagsma JA, Donker GA, Meijer A, van der Hoek W, Lugnér AK, Kretzschmar M, van der Sande MAB. The burden of 2009 pandemic influenza A(H1N1) in the Netherlands EJPH .  <a href="http://eurpub.oxfordjournals.org/content/early/2010/12/22/eurpub.ckq187.full.pdf+html">http://eurpub.oxfordjournals.org/content/early/2010/12/22/eurpub.ckq187.full.pdf+html</a></p> <p><i>USA YPLL comparison</i> Viboud C, Miller M, Olson D,</p>
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		<p>Osterholm M, Simonsen L. Preliminary estimates of mortality and years of life lost associated with the 2009 A/H1N1 pandemic in the US and comparison with past Influenza seasons PLoS Curr Influenza. 2010 March 20: RRN1153  <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843747/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843747/</a></p> <p><i>A good if conservative estimate of the infection fatality rate is</i> Wu JT, Ma ESK, Lee CK, Chu DKW, Ho P-L, Shen AL, Ho A, Hung IFN, Riley S, Ho LM, Lin CK, Tsang T, Lo S-V, Lau YL, Leung GM, Cowling BJ, Peiris JSM The Infection Attack Rate and Severity of 2009 Pandemic H1N1 Influenza in Hong Kong  <b>Clinical Infectious Diseases</b> 2010 51:10, 1184-1191  <a href="http://www.journals.uchicago.edu/doi/pdf/10.1086/656740">http://www.journals.uchicago.edu/doi/pdf/10.1086/656740</a></p>
	3	<p><i>In Germany 50 million doses of vaccine were ordered by the government costing more than 500 million Euro. Finally, less than 7 million doses were used for vaccination. Interestingly, the contracts with the vaccine manufacturer for Germany, “GlaxoSmithKline”, were signed already in 2007 after a new pandemic mock-up vaccine (Pandemrix), based on the avian flu A/H5N1 viral antigen, had been licensed. There were no changes made to the contract for the swine flu pandemic in 2009.</i></p> <p>That was the whole point of the mock-up vaccines that you could make commitments ahead of time so that a country could, if</p> <p>It is worth noting that the German public health leading body the Robert Koch Institute from early on was very conservative in its estimates of the severity of the pandemic - see...</p> <p><i>A situation report published April 25 and available on the web says in the second paragraph:</i></p> <p><a href="http://www.rki.de/cln_178/nn_1960670/DE/Content/InfAZ/I/Influenza/IPV/Archiv-Situation/Schweineinfluenza_Situation-090425.html?nnn=true">http://www.rki.de/cln_178/nn_1960670/DE/Content/InfAZ/I/Influenza/IPV/Archiv-Situation/Schweineinfluenza_Situation-090425.html?nnn=true</a></p>

		<p>needed, be certain of receiving enough (in its view)vaccine. That opposite is for example the Robert Koch's Institute</p> <p>The German strategy was agreed by the independently chaired national committee which is <a href="#">STIKO German Standing Committee on Vaccination (STIKO)</a>; and its strange the authors do not refer to it.</p>	<p><i>"Situation in Deutschland - 25.04.2009</i></p> <p><i>In den USA sind einige Fälle von Schweine-Influenza A/H1N1 beim Menschen entdeckt worden. Die Symptomatik dieser Fälle ist ähnlich wie bei saisonaler Influenza; ein Patient wurde im Krankenhaus behandelt, aber alle erholten sich vollständig. In Mexiko sind laut Medienberichten mehrere hundert Fälle von Schweinegrippe bei Menschen aufgetreten, dort gab es auch eine Reihe von Todesfällen.</i></p> <p><i>Mit H und N werden die beiden wichtigsten Eiweiße der Virushülle (Hämagglutinin und Neuraminidase) abgekürzt. Im Tierreich existieren unterschiedliche Ausprägungen davon, die "durchnummeriert" sind. Die in den letzten Jahrzehnten vorkommenden und in der Bevölkerung zirkulierenden Influenzaviren gehören zum Subtyp H1N1 und H3N2, beides Influenza-A-Viren, oder es sind Influenza B-Viren. Bei dem Schweinegrippen-Virus handelt es sich um ein verändertes H1N1-Virus. Die Befunde aus den USA sprechen nicht für eine besonders krankmachende Wirkung, die Fälle aus Mexiko sind derzeit schwer zu bewerten....."</i></p> <p><i>Unofficial Translation:</i></p> <p><i>"In the United states a few cases of Swine flu A/H1N1 have been detected in humans. The symptoms of those cases are similar to seasonal influenza. One patient was treated in the hospital, but all recovered completely. According to media reports several hundred cases of swine flu have occurred in Mexico,</i></p>
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			<p>including several deaths.</p> <p><i>H and N are the abbreviations of the two most important outer proteins of the virus (Hämagglutinin und Neuraminidase). In animal world several kinds of them exist and are identified by different numbers. The flu viruses that circulated in the recent decades in human populations belong to the suptype H1N1 and H3N2, both Influenza A viruses, and to Influenza B. Swineflu is a variation of the H1N1 virus. Data from the'US do not indicate a particularly pathogenic effect, cases from Mexico are more difficult to assess....."</i></p> <p>While at the same RKI was supportive of ordering vaccine on the basis of the precautionary principle</p>
3	2	<p><i>WHO based its evaluations merely on the re-assortment theory promoted by molecular virologists, specifically that two different viruses infecting a host at the same time may merge (= re-assort) into a new highly pathogenic killer virus. These killer virus scenarios, first propagated by government agencies and vaccine producers for SARS, avian flu, and swine-flu, and predicting millions of deaths call on deeply rooted fears in humans with respect to plagues, such as the Spanish Influenza (1918-1920).</i></p> <p>Re-assortment of flu viruses is a valid and accepted scientific theory. Along with antigenic drift it explains the observation of radically distinct flu viruses on occasion (like A(H1N1) 2009) with obvious 'bits' from other viruses as well as more gradual evolution. Those observations are a reality but WHO and its advisers do not judge whether or not these will be more or less transmissible or more pathogenic. Not to</p>	<p>Webster R, Bean W, Gorman O, Chambers TM, Kawaoka Y Evolution and Ecology of Influenza A Viruses Microbiologic Reviews 1992; 56: 152-79.</p>



		take into account re-assortment and the possibility of a new pathogenic flu virus would be to ignore history. The critique of molecular virologists reads as being anti-science.	
5-6		<p><i>Most people including scientists and politicians are hardly aware of the fact, that the A/H1N1 virus of the Spanish Influenza has hit populations stricken by war and hunger: Poor, frail and undernourished people paid the highest death toll .</i></p> <p>It is true that poor populations suffer more in flu epidemics pandemics but it incorrect to then suggest that well-nourished people do well. For example in 1918 it is well documented by Murray (cited in the Keil article) that where they were recorded fatality rates were higher in poorer countries eg India vs USA. But the fatality rates remained high in the USA which did not have <i>populations stricken by war and hunger</i>. Yet still there were large excess mortality in the USA (would have produced 380,000 deaths in a 2004 population adjusting for improvements in health and health care – Murray et al). While Viboud et al estimates 1,27million deaths at the time . Those are big numbers and are the reasons that countries invested accordingly</p>	<p><i>Mortality estimate from Viboud et al:</i>  <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843747/figure/fig-3/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843747/figure/fig-3/</a></p>
6	2	<p><i>Obviously, the most effective way to prevent any infectious disease pandemic is to invest in the improvement of social conditions.</i></p> <p>That statement is simply wrong. Its hard to work out how improving social condition would <u>prevent</u> (my emphasis) pandemics.</p> <p>What could have been accurately said is <i>Obviously, one of a number of effective ways of mitigating the effects of any infectious disease pandemic is to invest in the improvement of social conditions.</i></p>	
6	2	<i>Tuberculosis is an excellent example. This major scourge was very prevalent and produced a high death</i>	Anon TB prevalence down 30% in China after DOTS. Bull World Health Organ. 2004

	<p><i>toll at the time, when the mycobacterium tuberculosis was detected by Robert Koch (1882). Although there was no effective treatment, the disease declined dramatically with the improvement of social conditions. When streptomycin appeared on the scene (1952) the epidemic in Europe had nearly disappeared.</i></p> <p>That is true up to a point in 19<sup>th</sup> and early 20<sup>th</sup> century Europe (the McKeown observation) deaths from Tb declined. That was when there was no effective treatments. But its not very scientific to conclude that therefore that case finding and treatment (the mainstays of contemporary Tb control) would have made no difference if they had been present also. When the data are available on both social change and case finding and treatment are available (e.g. from China and India) it seems that the effects are additive. Certainly the authorities in those countries and Europe are not intending to abandon case finding and treatment.</p>	<p>Sep;82(9):716.</p> <p>Trends in the prevalence of TB infection and ARTI after implementation of a DOTS programme in south India. Gopi PG, Subramani R, Narayanan PR. Int J Tuberc Lung Dis. 2006 Mar;10(3):346-8.</p> <p>The effect of tuberculosis control in China. China Tuberculosis Control Collaboration. Lancet. 2004 Jul 31-Aug 6;364(9432):417-22.</p>
	<p><i>Secondly: Sound infectious disease epidemiology must be applied to the surveillance of influenza epidemics, e.g. define the target population, draw appropriate random samples from the respective population to obtain unbiased estimates of the incidence of flu like symptoms and of the viral status of the sample.</i></p> <p>Agreed, but its not easy. However though that is difficult especially in a timely manner that is what has been done and published including by WHO. Some examples opposite. The authors seem not to be aware of the literature.</p>	<p>WHO Dynamics and impact of pandemic influenza A (H1N1) 2009 virus WER 2009, 84, 481–484  <a href="http://www.who.int/wer/2009/wer8446.pdf">http://www.who.int/wer/2009/wer8446.pdf</a></p> <p>Miller E, Hoschler K, Hardelid P, Stanford E, Andrews N, Zambon M Incidence of 2009 pandemic influenza A H1N1 infection in England: a cross-sectional serological study The Lancet, Early Online Publication, 21 January 2010 doi:10.1016/S0140-6736(09)62126-7  <a href="http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)62126-7/fulltext">http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)62126-7/fulltext</a></p> <p>Wu JT, et al see above</p>
	<p><i>Consequently, the effectiveness of seasonal influenza vaccination campaigns and of</i></p>	<p>Valenciano et al (see above)</p>

		<p><i>anti-viral medication is more than questionable.</i></p> <p>This rather straying off the points of pandemics but the evidence is that in the 2009 pandemic the vaccines were effective and that the most widely used antiviral (oseltamivir) was beneficial.</p>	<p>Hongjie Yu, Qiaohong Liao, Yuan Yuan, Lei Zhou, Nijuan Xiang, Yang Huai et al</p> <p>Effectiveness of oseltamivir on disease progression and viral RNA shedding in patients with mild pandemic 2009 influenza A H1N1: opportunistic retrospective study of medical charts in China BMJ 341:doi:10.1136/bmj.c4779 (Published 28 September 2010)</p> <p><a href="http://www.bmj.com/content/341/bmj.c4779.full.pdf+html">http://www.bmj.com/content/341/bmj.c4779.full.pdf+html</a></p>
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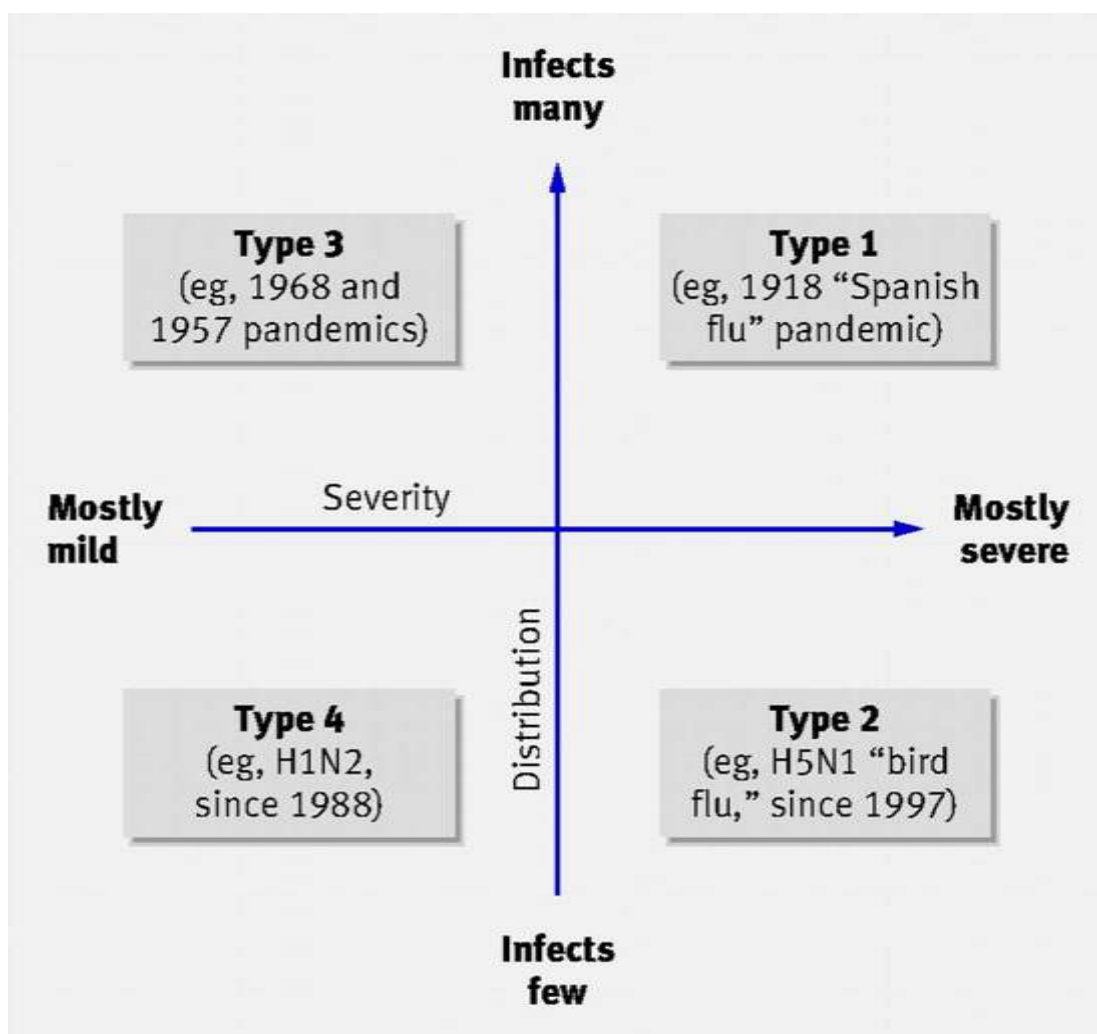
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## Case fatality of known influenza viruses

Influenza Type	Case Fatality %
Spanish Flu	3,0
A/H5N1 (avian flu)	68,0
SARS (corona)	9,6
Seasonal Influenza	0,4
A/H1N1 (swine flu)	0,1



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Source: Doshi P. How should we plan for pandemics? BMJ 2009;339:603-5

Legend: Proposed classification of impact of new infectious diseases