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Commentary on: *The Invention of the Swine-Flu Pandemic* Keil et al

Learning lessons from the 2009 pandemic – putting infections in their proper place

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The article by Keil et al considers the handling of the 2009 pandemic in Europe and specifically criticises WHO.(1) The jury is out on WHO's role until the final report of the independent Fineberg Committee emerges (a preview of the report is now available for comment and the final report will be considered by the World Health Assembly in May(2)) The Keil et al article makes some good points similar to those of the Fineberg preview; namely that the description of pandemics needs to be re-cast, that surveillance of influenza should be strengthened and that advice to WHO and other bodies should be made more public with transparent conflicts of interest.(1,2) At the same time the article unfortunately repeats without question some of the myths concerning the 2009 pandemic that ECDC has previously corrected (e.g. that the international definition of a pandemic was changed in 2009).(3) It also invents a new myth, that improving social conditions is the most effective way to prevent pandemics of infectious disease .(1)

European policy-makers and politicians are put in a hard place by the prospect of modern influenza pandemics. They don't know when one is going to happen, where it will start or what it will be like. The only certainty is that future influenza pandemics will occur and they will be unpredictable.(2) There are effective preparations and countermeasures; preparing hospitals, making essential services more robust and vaccines, antivirals and other medical treatments that worked in the 2009 pandemic.(4,5) So not to make preparations would be neglectful. Hence prudent European policy-makers, led by the EU institutions like ECDC and WHO, invested in preparations between 2005 and 2008.(6-8) Many followed the precautionary principle and prepared for something towards the severe end of historical experience. That made particular sense for investments in pharmaceutical countermeasures. If the countries did not have stockpiles (for antivirals and other consumables) or prior contracts with manufacturers (for vaccines) the countries would have very little of these essential drugs and vaccines available in the event of a challenging pandemic. (2)

In all this unpredictability it seems one certainty was that when a pandemic happened the policy makers would be criticised. If it was a bad pandemic they would be criticised for not doing enough. If it was not so bad (and ECDC and others have argued that the 2009 was about the best pandemic Europe could have hoped for)(9) they would be criticised for over-preparation, wastefulness and *shroud-waving*.(1) Politicians are used to this but the public health community needs to now examine the criticisms and learn the right lessons.(2,3,9)

There have been many evaluations of the handling of the 2009 pandemic and [ECDC maintains a compilation of national and international evaluations](#).(10) An early and rapid evaluation was by the Parliamentary Assembly of the Council of Europe and that has been questioned for its scientific basis. (3,9,11) Most other ones (like that of the recent European Parliament have been critical but

technical and more even-handed.(10,12) Some learning points are self-evident and accepted by ECDC which has benefitting from the numerous evaluations (the Centre would certainly not claim to be the first to have thought of them) and some of those within the Centre's mandate are already being acted upon.(Table)

By implication Keil et al move on to criticise modern public health approach to tuberculosis (case finding and ensuring completion of proper antimicrobial treatment).(13) They note how improvements in social conditions were associated with reduced mortality from tuberculosis in the 19th and early 20th century before antimicrobial treatments became available and conclude that *the most effective way to preventing any infectious disease pandemic is to invest in the improvement of social conditions*.(1) That is true and certainly improving social conditions will also mitigate the impact of influenza pandemics.(14) But at the same time that does not follow that a country being socially and economically developed will protect it against modern infections and pandemics. Certainly improved social conditions will not *prevent* pandemics and it is also wrong to imply that case-finding and proper treatment for tuberculosis in Europe and elsewhere is misguided. Where both improving social conditions and case-finding and treatment have been undertaken their effect has been additive.(14-16) In fact the danger of Keil et al's statement on tuberculosis is that countries with a high social standard could become complacent.(1)

This moves onto the whole issue of where to place infectious diseases in health care priorities in Europe, especially those that affect younger persons (those under age 65 years) and are preventable by vaccines. Many of these vaccines are effective and inexpensive on a per capita basis. Keil et al rightly point to the growing burden from potentially preventable chronic conditions type II diabetes, lung cancers, cardiovascular and circulatory conditions.(1) Certainly there should be investment in the prevention of those conditions but that is not an argument for neglecting preventable and treatable infections. Overall the European '*report-card*' on vaccine preventable diseases reads '*must do better*'. There are substantial cohorts of undervaccinated children and young adults in many European countries. In some countries this has to do with low resources but in a substantial number of countries this has more to do with attitudes and behaviours (opponents of vaccination, doubts over safety and complacency over the threats from infection). As a result infections like rubella, measles, mumps and whooping cough have been returning .(17-21) Investing in the improvement of social conditions maybe could benefit the outcome of some severe cases and some fatalities will be prevented with better access to health care - but it will have a very limited impact on the spread of such diseases. The burden from the vaccine preventable diseases (including the 'new' seasonal influenza) is unnecessarily high because coverage of vaccination varies so greatly across the EU. Because of that all health ministers agreed to improve coverage rates for influenza.(22) Hopefully such commitments will also be given for the childhood vaccine preventable disease.

983 words + Table

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Table: A selection of the more important lessons to be learnt in Europe from the 2009 Pandemic (9)

Topics	Learning Point	Notes
Planning Scenarios	Countries and plans to be flexible – preparing for a range of scenarios.(2)	
	Undertake more operational planning and preparation at the delivery end (2,3,9)	This means determining how for example how vaccines will be delivered, intensive care capacity increased quickly using tools like ECDC's Acid Tests as a starting point.(7)
Early analyses	Early assessments should be more structured and rehearsed annually for seasonal influenza.(2)	This was done for the 2010-11 seasonal influenza epidemics in Europe by ECDC and its advisors through a structured risk assessment.
	There need to be more sophisticated descriptions of pandemics, the severity reflecting the inherent complexity of the pandemics and their countermeasures.(2)	ECDC is taking a lead in developing this for Europe working with Member States and WHO using seasonal influenza as a model
	The results of important analyses need to be shared in more timely manner between countries.(2)	Problems arose from the need for independent peer-review and authorities producing analyses but not necessarily thinking who else needed to know the results.
Surveillance	Surveillance needs to be better targeted to answer certain essential questions and particular weaknesses (surveillance in hospitals, mortality surveillance and seroepidemiology) need to be addressed using seasonal influenza as a model.(23)	A general finding was the near impossibility of establishing new surveillance and other systems during a crisis like a pandemic (e.g. surveillance in hospitals). In contrast pre-existing systems , primary care and virological surveillance worked well.
Decision making in the pandemic	There should be more formal if rapid independent reviews of earlier decisions at national and international levels.(24)	This did happen in a number of circumstances learning from earlier recommendations.(24)
	Opinion giving should be transparent with those advising being identified and with public declarations of interest.	An adviser having a conflict of interest does not mean that their advice is incorrect or should be discounted. There are certain areas (e.g. pharmaceutical development) where conflicts of

		interest are inevitable among those giving advice
Communications	Prepare the population and professionals for a range of possibilities (2,9)	A particular problem was that the public and decision makers thought they had been promised a severe pandemic.(25)
	The opinions, concerns and views of the public and professionals should be monitored at national levels during a pandemic and responded to rapidly.	This was done in a few countries notably the United States. Professionals are especially important for pandemics as it is they who need to deliver the countermeasures like early medical treatments, antivirals and vaccines to the public
	A disconnect between technical epidemicological and virological risk assessments and the politically-driven risk management process was evident and partially fuelled by the media coverage in early days of the 2009 pandemic.	
	Many public health authorities are poorly equipped to deal with the multi-source two-way communication platforms that the internet and social media allows today.	This was one of the reasons leading to a variable public health response in some countries especially when it came to vaccinations.(26)
Essential Research and Development	It should be more possible to rapidly commission essential research in a pandemic	Some countries were able to do this but current European Union rules and procedures almost make it impossible to use EU monies for this.

