

Inadequate preparedness for pandemic influenza

"The world will be in deep trouble if the impending influenza pandemic strikes this week, this month, or even this year", conclude Drs Richard Webby and Robert Webster from St Jude Children's Research Hospital, Memphis, US.

Because influenza continually evolves at the human-lower animal interface, it is important to be able to simultaneously manage multiple potential pandemic situations, comment Drs Webby and Webster. Since preparing reagents and vaccines against all strains of influenza is not logistically possible, virus subtypes need to be prioritised.

At present, the only option for mass prophylaxis is with inactivated vaccines of which supply is limited. Furthermore, antiviral stocks are insufficient for the management of an epidemic. The supply of inactivated vaccines could be supplemented by tissue culture-based and live attenuated vaccines, which are licensed in some countries. There is an urgent need to further develop these options, say Drs Webby and Webster.

According to Drs Webby and Webster, the method used to create influenza vaccines is too slow and too dependent on the supply of embryonated chicken eggs to be reliable in the event of a pandemic. Furthermore, two of the high-risk virus subtypes, H5 and H7, cannot be grown in eggs. The most promising means of enhancing the response to a pandemic is by creating influenza virions and vaccines using plasmid-based reverse genetic systems. Co-operation between government, industry and academia is required to ensure the most rapid production of a vaccine candidate, comment Drs Webby and Webster.

There are too few facilities capable of conducting vaccine safety testing which is of prime importance, note Drs Webby and Webster. However, the need for safety testing must to be balanced against that of rapid mass production of a vaccine. The manufacture of vaccines is discouraged by the risk of financial liability from inevitable adverse reactions. However, the impact of liability exposure can be reduced by legislative measures.

According to Drs Webby and Webster, *"it is now time to progress from talking about pandemic vaccines to taking action"*.