

Outstanding research into pandemic flu - but is it enough?

JD Campbell from the University of Maryland School of Medicine, Baltimore, US, cites recent 'exceptional advances' in influenza research as testament "that yes, we are doing enough" to prepare for an influenza pandemic.¹ However, MT Osterholm from the Center for Infectious Disease Research and Policy, Minneapolis, Minnesota, US believes that a 'monumental gap' remains between the potential cost of a pandemic and the efforts to date to prepare for such an event.²

Advances in research...

Campbell notes key advances in the understanding of the role of viral and host characteristics in severe influenza pandemics. Soon, this author suggests, it may be possible to identify whether an avian influenza strain is moving towards transmissibility between humans and thus developing pandemic potential. Campbell also highlights the development of a breakthrough vaccine production technique - a 'reverse genetics' approach that has enabled the production of vaccines against avian influenza strains.

However, Campbell suggests that the potential cost of a future pandemic should be weighed against the costs of current ongoing public health problems. There are limits to the resources available to address these issues, he comments and, in terms of allocation, "who is to say where the perfect balance lies?".

...but what about production capacity?

Despite these advances, Osterholm says that preparation for a pandemic is greatly inadequate. This author highlights a number of 'serious flaws' in the US government's assumption that increasing the seasonal influenza vaccine production capacity will provide the surge capacity for vaccine production in the event of an influenza pandemic:

- without advance identification of the pandemic strain, vaccine production will of necessity start after pandemic onset; pandemic vaccines would therefore be essentially unavailable over the first few months of the pandemic
- current stockpiles of H5N1 vaccine may provide benefit - if H5N1 is the causative strain, and if the pre-pandemic vaccine strain is efficacious - but the amount is greatly insufficient
- currently available worldwide vaccine production capacity falls far short of worldwide need, and there is no incentive to the private sector to build such capacity.

Osterholm concludes that it would be worthwhile for the US to fund the surge capacity for worldwide pandemic vaccine production and thus prevent the human toll and accompanying economical collapse.

1. Campbell JD. Pandemic flu vaccine: are we doing enough? *Clinical Pharmacology and Therapeutics* 82: 633-635, No. 6, Dec 2007.

2. Osterholm MT. Pandemic influenza vaccine: the US Government is not doing enough. *Clinical Pharmacology and Therapeutics* 82: 635-637, No. 6, Dec 2007.