

The Secret Life of Flu

Dr Rob Lambkin Williams

Flu, it seems, will always be with us, and even in non-epidemic years is likely to lead to 15,000 UK deaths - with many more in epidemic or pandemic years.

So far, at least, hopes of a “universal” flu vaccine, proof against all strains over long periods of time, are just that. The parts of the virus which the current vaccines attack are highly variable year-to-year, so new vaccines are needed every year. And sometimes we get it wrong: the manufacturers have to start producing vaccines six months before they are needed and rely on predictions about which strains are likely to be in wide circulation. Unfortunately, the 2014/15 vaccine was based on the wrong choices and gave reduced protection. Furthermore, influenza circulates between humans and other animal species, such as birds and pigs, so reducing the rate of transmission in people makes only a minor impact on the evolution of the virus.

Not all is gloom, however. Although vaccines that target other parts of the virus are so far ineffective at preventing infection, it seems that they may well be able to reduce the severity of illnesses. That is important: it can reduce death rates, and more rapid recovery reduces lost working time (not to say the considerable discomfort of full-blown flu). We can also reduce infection rates by widening the vaccination programme, particularly amongst young school age children, who may not suffer severely from the virus, but act as effective agents for infecting their parents and grandparents.

Dr Lambkin Williams explained that more progress relies on “human challenge” experiments: deliberately giving people flu. Animal models (ferrets are the best apparently) are too far away to give a good representation of the full complexity of the human immune system in realistic circumstances.

The take home message is: get vaccinated - and make sure it is the four-strain vaccine.