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Chill, fatigue, fever and achiness characterise the infectious respiratory disease known as influenza. Normally mild and short-lived, it can be serious when complications arise; and history is punctuated with pandemics.

What's new about influenza?

There’s nothing new in the name. The name influenza was introduced in 1743, derived from the Italian phrase ‘un influenza di freddo’ (the influence of the cold) since cases are more common in winter.

There’s also nothing new in the destruction that influenza can cause: history teaches of European flu (1173), Russian flu (1889-90), Asian flu (1957-8) and Hong Kong flu (1968-9). The Spanish flu pandemic (1918-19) was the most catastrophic in history, leaving at least 50 million dead across the globe: a higher death toll than the First World War.

Despite its long history, there’s a lot that’s new about ‘flu.

The Virus

New strains of the influenza virus are constantly emerging due to mutations of the virus. Mary Dobson, historian of medicine, states that “influenza is not just one disease, but a host of rapidly mutating pathogens”. Sometimes the mutations are such that the virus is able to jump from animals to humans: bird flu [7] was first detected in Chinese geese in 1996; by 2007, 315 human cases were reported.

The Vaccine

Faced with such an array of viruses, we will never eradicate influenza; having the flu vaccine [8] annually is crucial for those at risk, since the virus is likely to have mutated during the year. Each year, scientists labour to produce a

vaccine that is well-matched to the new influenza virus strain.

The vaccine is vital for the vulnerable (the elderly, pregnant or those with poor immunity) since complications from flu such as pneumonia and damage to the nervous system are more common in these groups.

The Nasal Spray

Since 2013, a nasal spray flu vaccine has been offered to children. Whilst easy to take, there are doubts about its effectiveness. Scientists are analysing data from the recent large scale programmes amongst children. Meanwhile, the nasal spray has been withdrawn from use in Detroit [9] this year, with children instead being offered the traditional flu jab.

The Drugs

During the recent swine flu outbreak, all residents in my local nursing home were given doses of Tamiflu to prevent the spread. The World Health Organization has stockpiled doses of Tamiflu and Relenza, two useful anti-influenza drugs.

However, resistance to these drugs [10] has been reported (again due to mutation of the virus). Scientists are working on drugs such as RO-7, 1,2,3-triazole-containing N-acyl zanamivir analogs and pyrrolopyridinamines. With names like these, we hope they can beat the virus.

The Detection

Rapid diagnostic tests for influenza can be invaluable in preventing its spread. Scientists are working on developing highly sensitive testing kits [11] that can detect which strain of virus is causing the infection and which drugs might treat it.

A New Pandemic?

We hope not but can only watch and wait, and that is just what the World Health Organization is doing. It has established the 'World Health Organization Global Influenza Surveillance Network [12]' in 83 countries. Meanwhile, they warn that globally, even between pandemics, there are approximately 1 billion cases of influenza annually, with up to 500,000 deaths. Thankfully, with their new discoveries, scientists are prepared. [13]

MEDICAL JOURNALISTS' ASSOCIATION

Links
[1] http://www.readersdigest.co.uk/health/health-z/cold-flu/everything-you-need-know-about-influenza [2] https://www.helencowan.co.uk/../tags/infection [3] https://www.helencowan.co.uk/../tags/immunity [4] https://www.helencowan.co.uk/../tags/historical [5] https://www.helencowan.co.uk/../tags/lungs [6] https://www.helencowan.co.uk/../tags/drugs [7] http://www.nhs.uk/conditions/Avian-flu/Pages/Introduction.aspx [8] http://www.nhs.uk/conditions/vaccinations/pages/flu-influenza-vaccine.aspx [9] http://www.duluthnewstribune.com/news/health/4127438-nasal-flu-vaccinations-eliminated-year [10]

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