

## Six questions that Neil Ferguson should be asked

The Spectator, 16 April 2020, 3:28pm

It was a tale of two interviews on the *Today programme* this morning. First up on the show was **Neil Ferguson**, professor of mathematical biology at Imperial College London, who has been instrumental in forming the UK government's response to the coronavirus crisis, and whose virus modelling led to the current lockdown being put in place.

On the show, the professor received an almost deferential line of questioning from Sarah Smith with his views seemingly taken as near-Gospel as he declared that a 'significant level' of social distancing could have to be maintained indefinitely until a vaccine becomes available.

Then came along the Health Secretary, **Matt Hancock**. As you would expect, he was treated to the traditional *Today programme* mauling, as his record and pronouncements on testing, the growing virus outbreak in care homes and PPE were scrutinised by Nick Robinson.

While Mr S thinks it's only right that Hancock faces tough questions, Steerpike can't help but wonder whether Ferguson should receive similar treatment. After all, his advice is heavily feeding into government policy and therefore ought to face a similar level of scrutiny. What's more, Ferguson's scientific work can't exactly be described as bulletproof.

Given that it's the trend these days for former spinners, hacks and politicians to suggest questions that the media isn't currently asking of politicians, Mr S has decided to do his bit for public discourse by penning a few for Ferguson. Below are six questions Steerpike would like to see Neil Ferguson pressed on the next time he embarks on a media round:

### Q1.

In 2005, Ferguson [said](#) that up to 200 million people could be killed from bird flu. He told the *Guardian* that 'around 40 million people died in 1918 Spanish flu outbreak... There are six times more people on the planet now so you could scale it up to around 200 million people probably.' In the end, only 282 people died worldwide from the disease between 2003 and 2009.

How did he get this forecast so wrong?

### Q2.

In 2009, Ferguson and his Imperial team predicted that swine flu had a case fatality rate 0.3 per cent to 1.5 per cent. His most likely [estimate](#) was that the mortality rate was 0.4 per cent. A government [estimate](#), based on Ferguson's advice, said a 'reasonable worst-case scenario' was that the disease would lead to 65,000 UK deaths.

In the end swine flu killed 457 people in the UK and had a death [rate](#) of just 0.026 per cent in those infected.

Why did the Imperial team overestimate the fatality of the disease? Or to borrow Robinson's words to Hancock this morning: 'that prediction wasn't just nonsense was it? It was dangerous nonsense.'

### Q3.

In 2001 the Imperial team produced modelling on foot and mouth disease that suggested that animals in neighbouring farms should be culled, even if there was no evidence of infection. This influenced government policy and led to the total culling of more than six million cattle, sheep and

pigs – with a cost to the UK economy estimated at £10 billion.

It has been claimed by experts such as Michael Thrusfield, professor of veterinary epidemiology at Edinburgh University, that Ferguson's modelling on foot and mouth was 'severely flawed' and made a 'serious error' by 'ignoring the species composition of farms,' and the fact that the disease spread faster between different species.

Does Ferguson acknowledge that his modelling in 2001 was flawed and if so, has he taken steps to avoid future mistakes?

#### Q4.

In 2002, Ferguson predicted that between 50 and 50,000 people would likely die from exposure to BSE (mad cow disease) in beef. He also predicted that number could rise to 150,000 if there was a [sheep epidemic](#) as well. In the UK, there have only been 177 deaths from BSE.

Does Ferguson believe that his 'worst-case scenario' in this case was too high? If so, what lessons has he learnt when it comes to his modelling since?

#### Q5.

Ferguson's disease modelling for Covid-19 has been criticised by experts such as John Ioannidis, professor in disease prevention at Stanford University, who has said that: 'The Imperial College study has been done by a highly competent team of modellers. However, some of the major assumptions and estimates that are built in the calculations seem to be [substantially inflated](#).'

Has the Imperial team's Covid-19 model been subject to outside scrutiny from other experts, and are the team questioning their own assumptions used? What safeguards are in place?

#### Q6.

On 22 March, Ferguson [said](#) that Imperial College London's model of the Covid-19 disease is based on undocumented, 13-year-old computer code, that was intended to be used for a feared influenza pandemic, rather than a coronavirus.

How many assumptions in the Imperial model are still based on influenza and is there any risk that the modelling is flawed because of these assumptions?



WRITTEN BY [Steerpike](#)

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## **Bird flu pandemic 'could kill 150m'**

[James Sturcke](#), The Guardian, 30 Sep 2005



An Indonesian agriculture ministry official injects a parrot with bird flu vaccine in Jakarta. Photograph: Tatan Syuflana/AP

A global influenza pandemic is imminent and will kill up to 150 million people, the UN official in charge of coordinating the worldwide response to an outbreak has warned.

David Nabarro, one of the most senior public health experts at the World Health Organisation, said outbreaks of bird flu, which have killed at least 65 people in Asia, could mutate into a form transmittable between people.

"The consequences in terms of human life when the pandemic does start are going to be extraordinary and very damaging," he said.

He told the BBC that the "range of deaths could be anything between five and 150 million".

A highly pathogenic form of bird flu, known as the H5N1, has led to the culling of tens of millions of birds in south-east Asia, but efforts to contain it have not prevented it spreading as far as the Ural mountains in Russia.

Carried by wildfowl, it spreads quickly among poultry flocks and has killed people living or working in close proximity to infected birds. Scientists fear the virus could evolve into a form which could be passed from human to human with catastrophic consequences.

Last month Neil Ferguson, a professor of mathematical biology at Imperial College London, told Guardian Unlimited that up to 200 million people could be killed.

"Around 40 million people died in 1918 Spanish flu outbreak," said Prof Ferguson. "There are six times more people on the planet now so you could scale it up to around 200 million people probably."

A Department of Health [contingency plan](#) states anywhere that there could be between 21,500 and 709,000 deaths in Britain.

Last week, veterinary and medical chiefs from the European Union held talks aimed at drawing up an EU-wide action plan to prevent the spread of bird flu. Experts say spotting any outbreak immediately and treating local people with anti-viral drugs and vaccines will be the key to containing any outbreak.

Rich countries are stockpiling anti-viral supplies. Britain announced in March that it was spending £200m on treatments for up to 14 million people. In July the government also said it would buy 2m doses of vaccine for key workers, though it will take around six months for it to arrive.

The problem facing governments and the WHO is that it is difficult to know what vaccine to produce until an outbreak occurs and then to manufacture treatments in sufficient quantities.

"A flu outbreak is imminent but no one knows if it will be next week or in three years' time," a WHO spokeswoman said. "It is really difficult to know how many people will be infected but we know we have to get prepared."

She said the "best case scenario" would be 7.4 million deaths globally.

South-east Asia's agriculture ministers announced a regional plan today to combat bird flu and pledged to co-operate with international agencies in stamping out the virus.

The ministers from the 10-member Association of South-east Asian Nations (ASEAN) said in a statement that bird flu requires "an all-out coordinated regional effort".

The plan covers eight strategic areas including a disease surveillance and alert system, vaccination, improving diagnostic capability and establishing disease-free zones.

## **Predictive models of epidemics are too often wildly wrong**

Date By [InProportion2](#)

[http://inproportion2.talkigy.com/wrong\\_models.html](http://inproportion2.talkigy.com/wrong_models.html)

The COVID-19 Response Team led by Professor Neil Ferguson, has been a major influence on UK Government COVID-19 policies.

**Imperial College model predictions have influenced UK government COVID-19 policies without sufficient challenge and peer review. This is surprising given past forecasting failures and the enormous costs of the policies in premature death, health and well-being and money.**

- In 2005, Ferguson said that up to **200 million** people could be killed from bird flu.  
In the end, only **282** people died worldwide from the disease between 2003 and 2009.
- In 2009, Ferguson and his Imperial team predicted that swine flu most likely had a case fatality rate of 0.4 per cent. A government estimate, based on Ferguson's advice, said a 'reasonable worst-case scenario' was that the disease would lead to **65,000** UK deaths.  
In the end swine flu killed **457** people in the UK
- In 2001 the Imperial team produced modelling on foot and mouth disease that influenced government policy and led to the total culling of more than six million cattle, sheep and pigs – with a cost to the UK economy estimated at £10 billion.
- In 2002, Ferguson predicted that between **50** and **50,000** people would likely die from exposure to BSE (mad cow disease) in beef. He also predicted that number could rise to **150,000** if there was a sheep epidemic as well.  
In the UK, there have only been **177** deaths from BSE.
- On 22 March, Ferguson said that Imperial College London's model of the Covid-19 disease is based on undocumented, 13-year-old computer code. How many assumptions in the Imperial model are still based on influenza and is there any risk that the modelling is flawed because of these assumptions?

**Source:** [Six questions that Neil Ferguson should be asked, Spectator, 2004-04-16](#)