Viral storm: why factory farming is bad for your health

Matilda Lee, 28th October, 2011

Matilda Lee reports on the alarming findings of a new book that shows how the threat of global disease pandemics is increasing because of our love affair with industrial animal farming

Microbes are finally getting the attention they deserve: albeit through the glossy veneer of a Hollywood 'outbreak film', Contagion, released on October 21. The film stars Gwyneth Paltrow, Kate Winslet, Matt Damon and Laurence Fishburne and is loosely based on research by Nathan Wolfe (pictured below), whose new book, Viral Storm: the dawn of a new pandemic age, tells why modern life has made us more vulnerable, not less, to the threat of a global pandemic.

In the film, the origin of a deadly global virus is linked back to a nesting bat whose home is destroyed by forest clearing from a mining company. The homeless bat then infects a pig, which is slaughtered and the chef, who carries the pig blood on his hands, passes it on to an unsuspecting first victim (played by Gwyneth Paltrow).

What comes out much clearer in the book, Viral Storm, is the complex and evolving relationship between humans and animals - both wild and domesticated. For example, Wolfe recounts the story of the first human victim of 'bird flu' or H5N1, in 2003. A boy in Thailand happens to carry a sick chicken home and after 11 days of fever and respiratory distress, he dies, lungs drowning in fluids. Wolfe warns that infectious diseases like bird flu are a growing threat. The transmission of animal microbes to humans is the source of most global pandemics.

By way of a microbiological tutorial, Wolfe explains the varying deadliness of viruses and how, in order to be threatening to humans on a global scale, a virus need to be able to kill (e.g. rabies) but also to spread easily from person to person (e.g. swine flu, SARS, HIV).

Wolfe has been hailed as, 'the world's most prominent virus hunter' and, as Director of the Global Viral Forecasting, his work takes him across the globe in a search for the where, why and how of pandemics, ideally to nip them in the bud before they cause major havoc.
But far from the tropical forests of the Democratic Republic of Congo or the traditional villages of Malaysia, Wolfe identifies a more ordinary, but equally dangerous threat: factory farms.

'The combination of high human population densities, intense livestock production, close contact with the diverse microbes of wild animals and a massive, efficient transportation network gives us a good sense of where the world is heading with regard to pandemics', he writes.

The D.C.-based Worldwatch Institute recently reported that global meat production increased by 2.6 per cent in 2010 to 290.6 million tons. Since 2000, global meat production has risen by 20 per cent. Worldwatch point out that while better control methods have reduced the burden of livestock diseases, new diseases have emerged that are considerable cause for concern for human health - they name bird flu (H5N1), swine flu (H1N1), foot and mouth disease and mad cow disease. 'Many diseases are spread through industrial farming, which forces livestock to live in crowded, dirty environments,' Worldwatch state.

'Crammed and filthy conditions in factory farms contribute to antibiotic resistance, making it more difficult to treat human as well as animal diseases. Eight per cent of all antibiotics sold in 2009 were used on livestock and poultry, meaning that just 20 per cent were used for human illnesses'. Worldwatch adds that seventy-five per cent of antibiotics are not absorbed by animals and are excreted in their waste, posing a serious risk to public health.

Wolfe has done his own research on factory farming, stating that more than half of the livestock produced globally now originate in industrial farm settings. The numbers of livestock boggle the mind: over one billion cattle, one billion pigs and over twenty billion chickens live on our planet.

Industrial farms can be more than settings to grow meat; they can be 'incubators' for infectious agents that could move into human populations, he writes.

*The Ecologist* has reported widely on the growing threat of deadly antibiotic-resistant infections from animals to humans. Only this summer, there were fresh concerns of the spread of a deadly MRSA bacteria found in UK dairy cows being transmitted to humans. Yet the calls so far for the reduction of the use of antibiotics have gone largely ignored, primarily because factory farming wouldn't be possible without them. In the UK, a decision on the controversial Foston 'mega' pig farm is due late this year, and could largely set the stage for the inevitable future of these types of farms in the UK.

Alternatives include rethinking our love affair with meat as meat diets have been linked to high cancer and heart disease rates. Equally on the horizon, though somewhat far off, is the introduction of laboratory grown meat to enable a meat-loving but low-fat, low-carbon, cruelty-free 'farming' system. Of course there is equally the need to return to sensible, sustainable, small farming systems.

There are more and more warnings that a viral storm is on the horizon, and to be fair, industrial farming is
just one of a number of threats - but the warnings about factory farming are coming from many camps now and we must heed them.

*The Viral Storm: the dawn of a new pandemic age (Allen Lane, £14.99)*