BIRD FLU – The Facts

By Ron Glanville, Woodend, Victoria.

You've no doubt seen the media reports about H5 bird flu being detected in WA and SA and perhaps wondered about its significance. I've had a look through comments associated with mainstream news articles posted on Facebook. The level of ignorance and cynicism on display is astounding. Conspiracy theorists seem to be out in force, so I thought I'd try to do my bit to counter all the rubbish. Here are the facts as I know them. Sorry for the length; it's not a simple story.

Firstly, a bit about influenza viruses generally. There are many hundreds of strains / subtypes of influenza viruses world wide and they tend to have relatively limited host ranges (species they infect). Flu viruses are normally differentiated by two distinct proteins found on the surface of the Influenza A virus – H for hemagglutinin and N for neuraminidase. So for example, the two most common seasonal flu viruses infecting people are H1N1 and H3N2. They can occasionally 'spillover' into species like pigs, but not commonly. The 2007 equine influenza outbreak was caused by H3N8 which only infects horses, donkeys etc, and the occasional dog.

Influenza viruses have a tremendous ability to change their genetic makeup through either antigenic drift (mutations) or antigenic reassortment – if two different flu viruses infect the same cell at the same time, their gene segments can mix and match, creating a new virus.

The current concern is with highly pathogenic avian influenza (HPAI) subtype H5N1, which the media has been referring to as H5 bird flu. However, this is a bit simplistic. There are around 10 branches/groups of the H5N1 family, called clades and also numerous sub-clades. Currently we are mainly worried about just one of these – H5N1 clade 2.3.4.4b. It has a very wide host range and causes serious illness/death.

This virus first appeared in 2020, probably through reassortment and ongoing mutation of other H5 viruses. Since 2021, HPAI H5N1 clade 2.3.4.4b has spread rapidly across the world, except for Australia and New Zealand (because of our isolation). It has caused mass mortalities in wild birds, poultry, and some marine mammal populations. All bird species are thought to be susceptible to this strain, and it has been detected in over 100 species of mammals (wild, domestic, terrestrial and aquatic). The rapid spread across and between countries is primarily associated with the movement of wild birds.

The global H5N1 HPAI outbreaks differ from previous outbreaks of HPAI by their:

– rapid global spread,

– large number of outbreaks,

– increased severity of illness,

– high mortality rates in wild birds and some mammalian species,

– wider host and geographical range, and

– longer persistence of virus and/or repeated exposure.

In the order of 30–40 million+ domestic poultry in Europe and 90 million in the USA have died or been culled because of ongoing outbreaks. Apart from wild and domestic birds, HPAI H5N1 clade 2.3.4.4b has been confirmed in dairy cattle, pigs, cats, alpacas and goats in the USA, farmed mink and dairy cattle in Europe and sheep in the UK. In the USA it has affected hundreds of dairy herds across the country, causing severe illness. Pigs, alpaca, goats are only mildly affected (although, it has killed baby goats fed unpasteurized cows milk). As the virus spread south through South America it caused large-scale mortalities in sea lions and seals along both the Pacific and Atlantic coasts. It eventually spread to the Antarctic.

Human cases have been reported following close contact with infected poultry, dairy cows or raw (unpasteurised) milk. However, there have been only a very small number of deaths. The World Health Organization has assessed it as a low public health risk, but care should still be taken with potentially infected animals. There is no risk with properly prepared eggs and meat.

Late last year this virus was detected in several species on Heard Island, including southern elephant seals, Antarctic fur seal and gentoo penguin. This island lies over 4000km southwest of Perth and is part of the remote sub-Antarctic Australian external territory. It appears to have killed around 13,000 seal pups there.

The current concern relates to migratory birds found infected in southern WA (and now SA). These do not normally make landfall, but presumably did so because they were sick. Whether these are isolated cases or the tip of the iceberg, only time will tell. However, there is real worry that it could hugely impact native bird species if it gets a foothold. It would be impossible to control. The only option for domestic poultry farms would be to keep the birds isolated as much as possible from wild birds. This possibly means that free range poultry production may have to cease.

So, ignore the conspiracy theorists. This virus is a ‘clear and present danger’ to both our domestic birds and our wildlife populations. The impacts could be devastating and could even cause extinction of some threatened species. I’m just hoping that it doesn’t take hold.

I hope this helps. Feel free to share.

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