An avian flu outbreak is spreading to mammals. What is the risk to humans?

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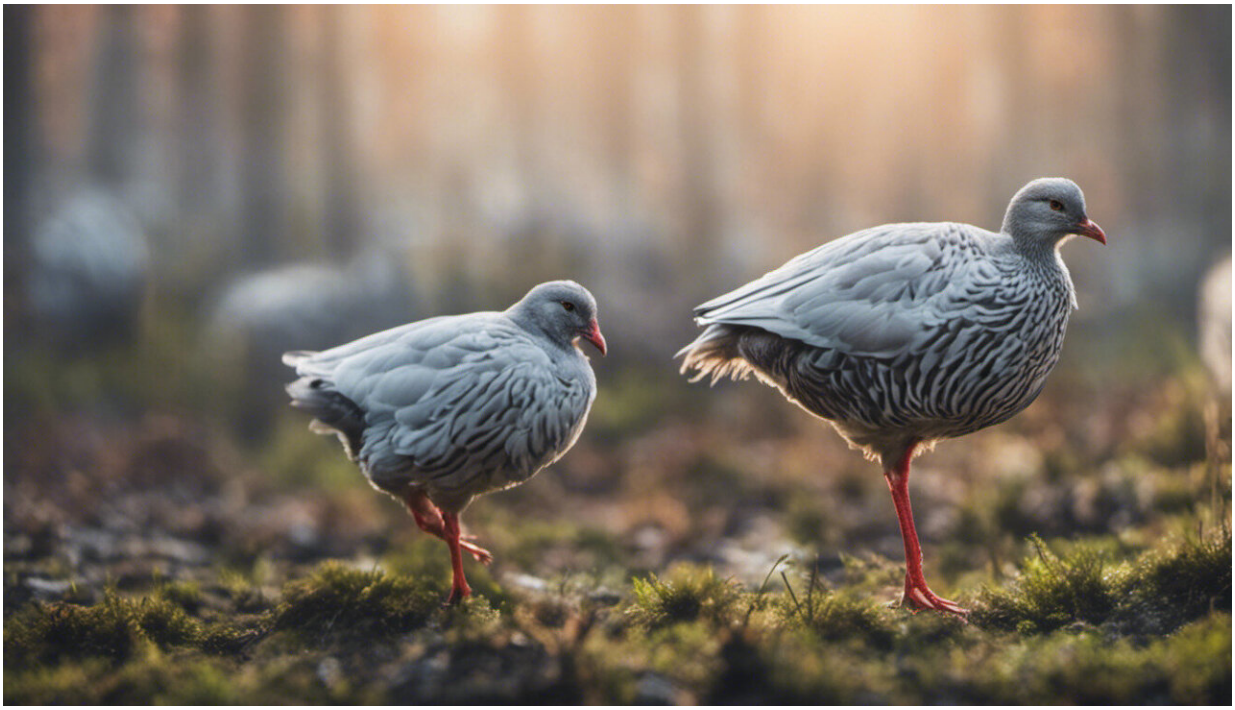

Credit: AI-generated image (disclaimer)

Avian influenza—or bird flu, as it's commonly known—continues to run through bird populations, killing millions of animals worldwide. Now, a particularly infectious and lethal strain of the virus called H5N1 appears to be spreading to mammals, with cases reported in wild otters, foxes, seals and in farmed minks.

While transmission from an infected bird to another animal is not uncommon, it is unusual for the virus to spread between mammals, as is suspected with the H5N1 outbreak in minks. The virus not only appears to have passed from mink to mink, but in doing so, may have developed genetic mutations which could help it better infect other mammals.

Professor Bill Rawlinson, a virologist from the School of Biomedical Sciences, UNSW Medicine & Health, says the situation remains an issue with animal health but is not a cause for alarm in humans at this stage.

"The worry is a deadly H5N1 strain could mutate in a mammal like a mink and become more adaptable to people, but it doesn't appear we're on the cusp of that at the moment," Prof. Rawlinson says.

Credit: AI-generated image (disclaimer)

While we're still likely several steps away from a human-adapted version of the virus, there may be more chances that people will encounter it.

"The overall risk of contracting it is quite low, but the risk may be slightly higher for those who have close unprotected contact with infected birds and their saliva, mucous, and feces in industries like poultry," Prof. Rawlinson says.

A low, but anticipated threat

Since its emergence in the mid-1990s, scientists and health authorities have worried about the potential of H5N1 to evolve into a pandemic. Still, the threat remains low, and no human-to-human transmission has ever been recorded.

"Avian flu tends not to infect people because it simply can't bind as well in humans, so you're almost certainly not going to be infected by it walking around today in Australia," Prof. Rawlinson says.

However, in the rare instances H5N1 has jumped the species barrier and infected humans, it has been deadly. According to the World Health Organization, over half of the 868 cases of human infection with H5N1 since 2003 have been fatal.

Prof. Rawlinson says the current situation would be more worrying if there were signs the virus was spreading between mammals more genetically similar to humans, such as other primates.

"Pigs would be the other concern as they can be more easily infected with both human and avian flu strains, so may have potential to pass a super strain on to humans," Prof. Rawlinson says.

"Thankfully, that doesn't always seem to be the primary way avian

infections cause human infections and hasn't been as much of an issue as we've feared to this point."

Monitoring the risks of animal viruses

Prof. Rawlinson says we should continue with routine preparedness measures in case the virus changes and becomes a more significant threat to human health. This includes strengthening a One Health System, with all health professionals, from doctors and vets to virologists and epidemiologists, working closely together to assess changing risks.

"We should continue sampling and testing wild birds and poultry, which is essential to be on top of any early signals if the situation is changing," Prof. Rawlinson says.

"If you do have regular contact with birds, and you observe sudden unexplained changes, it's essential to talk to a local vet or contact The Ministry of Health, so they can investigate.

"We also need to be on the lookout for people with unexpected, undiagnosed pneumonia-like infections."

Prof. Rawlinson also says it's also essential people get vaccinated for the flu every year, which may reduce the capacity for a person to host, and mix, avian and human strains.

"It's not so much about cross-protection with avian flu, although there may be a small amount. But by vaccinating against human flu, we're less likely to see a mixing of avian and human flu strains.

"People have been very switched on to vaccination with COVID-19, and that needs to extend to the human flu, especially as we're likely to have another moderate to severe outbreak this year."

Ultimately, Prof. Rawlinson says the virus should warn us about the need to be wary of the increasing presence of zoonotic—animal-derived—diseases in our world.

"There are a range of zoonotic viruses, not just avian flu, that seem to be becoming part of a more regular cycle between animals and humans," Prof. Rawlinson says. "That doesn't mean they will always be a pandemic risk, but we should be continuing to monitor these events and be prepared to respond to any pandemic risk."

Provided by University of New South Wales

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