Press release 08/01/2024

Researchers highlight high human disease risk from pig and poultry farms and call for planning re-think

University researchers have studied the risks posed to human health by intensive pig and poultry farm operations where the species are kept in close proximity to each other.

Based on their analysis of the risks, the researchers strongly discourage granting any planning applications for new or expanding industrialised intensive animal farms, especially poultry and pig farms or a mix of both, and especially in areas with already high numbers of intensive animal farms. Instead, they recommend that efforts should concentrate on supporting arable agriculture (or a transition toward this), and on de-intensifying the remaining animal farms.

This new study was published in the peer-reviewed *Frontiers in Veterinary Science* and was conducted by researchers at the University of Winchester, UK and Griffith University, Australia. The findings concerning mixed or close pig/poultry farms are globally applicable but included a focus on the UK.

A well recognised major public health concern is that the next zoonotic influenza virus mutates and enables sustained human-to-human transmission, leading to a pandemic with high mortality rates. Zoonotic influenza has been the cause of all four influenza pandemics since 1918 and has killed millions of people.[i] Three of these pandemics were caused by viruses transmitted to humans from birds and one from pigs.

Report author Jenny Mace, an Animal Welfare Lecturer at the University of Winchester, said:

"There are established concerns about pigs acting as mixing vessels for new viruses that may result in sustained human to human transmission. There are also established concerns about intensive farms being hot beds for disease. Despite these concerns, planning permissions are still being granted for new intensive farms or expansions of existing farms."

Zoonotic diseases, accounting for 3 out of 4 emerging infectious diseases, pose a significant threat to human health. The UK recognises many zoonotic disease risks associated with farmed animals within its own boundaries[ii]. The report centres on the one with the most pandemic potential – avian 'flu – which can pass to humans via poultry or pigs.

Pigs can be infected with two or more types of influenza virus at once and act as 'mixing vessels' for the viruses. Genetic material can be transmitted from one virus strain to the other, creating new strains. These host animals can serve as a fertile breeding ground for new mixes and for the emergence of lethal strains of viruses.

The authors stress that concerns about mixing vessel potential host animals need to be broadened to include other species like chickens and humans, as both of those can also receive and mix viruses. Global human and chicken populations dwarf those of pigs.

The world saw its largest highly pathogenic H5N1 avian influenza outbreak in 2022, causing the culling or death of over 130m domesticated birds globally (8.3 million poultry birds died or have been culled in the UK since 2021,)[iii]. It has now reached 81 countries and five continents, after spreading into Antarctica in October 2023. On 25 November 2023, the United Kingdom saw a human case of swine-origin influenza A(H1N2) virus infection[iv].

The report highlights other risk factors and Jenny Mace says:

"The global slaughter of over 70 billion farmed chickens annually necessitates living conditions that create a 3 pronged disease risk of viral emergence, viral replication and disease spread."

Co-author veterinary Professor Andrew Knight stated:

"There is exceptionally strong evidence for a link between low animal welfare levels and high disease transmission risks. Animals of low genetic diversity who are crowded together, chronically stressed, and kept in conditions of compromised hygiene are highly vulnerable to the rapid spread of disease, including to farm and abattoir workers. These environments are fertile breeding grounds for the emergence of new influenza pandemics and other dangerous diseases. To protect both human health and animal welfare intensive pig and poultry farms should not be permitted at large scale or in close proximity."

Recent planning applications in the Borough Council of King's Lynn and West Norfolk for large-scale mixed swine-poultry farms raise serious concerns with the scientists urging policymakers to reconsider the expansion of intensive animal farming and prioritise measures that safeguard public health and well-being.

Biosecurity practices alone are proving insufficient at lowering the risk of zoonotic disease, as demonstrated by avian 'flu outbreaks in indoor systems with good biosecurity.

Jane Tredgett, campaigner for voluntary group Scrap Factory Farming, who commissioned but were not involved in the report design, and claimant in a legal challenge against the UK government regarding the human health risks of factory farms said:

"As the report says, the disease risks to humans from intensive animal farming, are enormous, and must not be understated. We are facing a ticking time bomb of disease risk and antibiotic resistance that our Government must face up to and act upon."

----------ENDS)

Notes to editors:

1.Report and video links

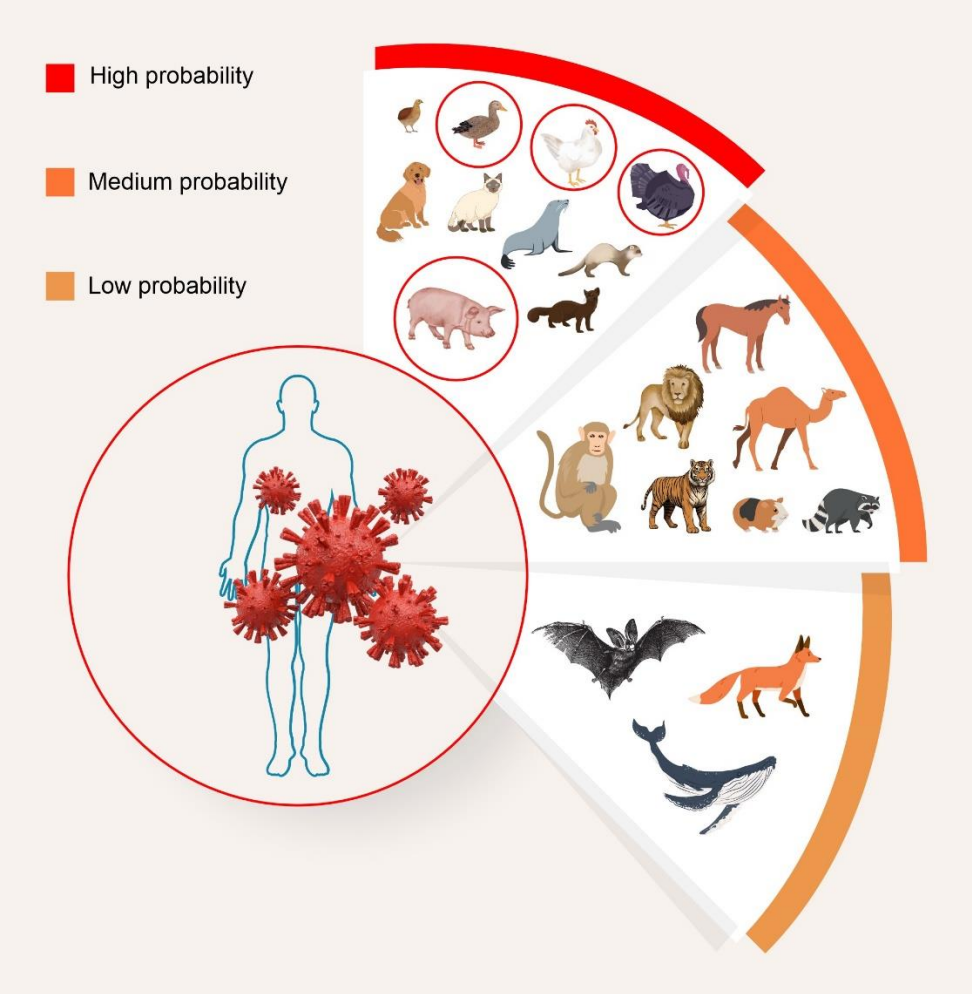
https://doi.org/10.3389/fvets.2023.1310303
https://youtu.be/W9mSWM-71Zg
https://fb.watch/p5fDITlybF/

2. Scrap factory farming is a Humane Being campaign. The study was commissioned by Humane Being, but the campaigning organisation took no part in designing the study. The organization has, however, made a legal challenge against the UK Government and authored its own report highlighting the disease risks of pig and poultry farms, including influenza risks and, additionally, the risks for residents living near intensive farms. This report was created in response to a planning application for a mega mixed farm in Norfolk. The report can be found here:
https://78460747.flowpaper.com/HumanhealthrisksandplanningobjectionMethwoldandFeltwell/

3. Background note on influenza transmission_Influenza transmission takes place through direct contact with infected saliva, nasal secretions, faeces, or occurs via airborne particles or contaminated equipment such as vehicles and clothing which can remain active for weeks.

4. Infographic re viral mixing from the report.
https://www.frontiersin.org/articles/10.3389/fvets.2023.1310303/full#fig1 . This would need to be credited appropriately if used.

Image: Mace and Knight 2023 Fig. 1, MAD Ideas,
https://www.frontiersin.org/articles/10.3389/fvets.2023.1310303/full#fig1



5. Contact details

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[i] Pandemics through history, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7874133/

[ii] https://www.gov.uk/government/publications/list-of-zoonotic-diseases/list-of-zoonotic-diseases
[iii] https://www.theguardian.com/environment/2023/may/05/50000-wild-birds-uk-killed-h5n1-avian-flu-double-estimates-aoe#
[iv] https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON496#