Understanding Animal Research: Consultation response, Emerging diseases and learnings from Covid-19 Inquiry

Thank you for the opportunity to provide a response to the **Emerging diseases and learnings from Covid-19 inquiry.** This response was collated by **Understanding Animal Research**, combining feedback from our stakeholders and evidence available to the public.

UAR is a non-profit member organisation that aims to explain how animals are used in scientific research. We are supported by universities, companies, government agencies, scientific societies, charities and the main life science research funding bodies within the UK.

https://www.understandinganimalresearch.org.uk/about-us/membership-and-funding

Introduction

It is vital that the lessons from the Covid-19 pandemic are fully absorbed so as to be prepared for any potential health emergencies in the future. These include preparedness in terms of having a pre-existing body of scientific data as well as planning ahead, thinking through logistics and gathering supplies; granting essential worker status for researchers and lab support staff; ensuring a robust supply of research animals, ideally from UK-based breeders; fixing weak links in our national research infrastructure and appreciating the importance both of 'curiosity based' research, more correctly known as basic science, and proven models of focused reactive research once an outbreak is underway.

The Covid-19 pandemic and subsequent lockdowns had a significant impact on scientific research in the UK, including into Covid-19 itself. Restricted access to laboratories caused a reduction in laboratory capacity which led to delays in output and the understandable focus on Covid-19 research caused research from other fields to be underrepresented and underfunded. Moreover, while development of the vaccine was proof of the essential role of animals in research, the restricted access to laboratories jeopardised lab animal welfare leading to some establishments electing to defer research or reduce or de-populate their animal colonies.

The following document lists seven lessons from Covid and makes recommendations for most effectively countering other similar threats.

The lessons include:

1. Our ability to counter Covid-19, as with other diseases, is the culmination of many years' work, rather than an overnight success. Effective preparation ranges from funding and coordinating research efforts, to ensuring sufficient numbers of research animals to meet a sudden demand for extra research, to sourcing physical resources like PPE, glass vials and specialised rubber.
2. Focused, multi-disciplinary teams or taskforces are advantageous to countering outbreaks when they occur and the government can plan to support and facilitate their response, as well as ring-fencing funding so that other areas of research are not starved of resources.
3. The UK's supply of laboratory animals, which proved vital to delivering research, vaccines and other treatments for Covid-19, was severely strained during the pandemic, and domestic breeders remain under pressure by campaigners to cease UK operations in addition to other serious constraints on animal supply.
4. Exclusion of researchers and laboratory support staff from 'essential worker' status significantly reduced scientific output in several ways, including for Covid research.
5. The role of basic research once again proved to be critical to understanding biology and disease and thus beating the pandemic. Yet as recently as this year, this research has faced calls from MPs within all parties to be curtailed if it uses the animal models that remain vital to its success.
6. The pandemic demonstrated strong public support for the animal research that led to key breakthroughs.
7. The UK's infrastructure for responding to new highly transmissible diseases is in a precarious state and requires a political and financial commitment to complete its renovation.

Recommendations include:

1. Mimic the WHO's approach to 'Disease X' preparations, adding what was learned from when the pandemic struck.
2. Expect to assemble, support, or fund focused research teams from a ring-fenced budget.
3. Improve the UK's ability to supply its own needs for research animals without needing to import animals from overseas.
4. Consider who needs keyworker status, starting with researchers, animal care staff and other staff vital to keeping a biomedical research lab running.
5. Political and financial commitments to basic scientific research.
6. Full political and financial commitments to improving the usable infrastructure available to UK agencies to detect and fight outbreaks, and other weak links.

Lesson 1: Preparation, particularly in biomedical research and logistics, put us in a position to get out of the pandemic sooner

The WHO created a priority list of diseases with a potential to lead to epidemics in 2018, with the aim to direct research focus and to gather valuable data before these pathogens become a major threat. “Disease X” was the placeholder name and Covid-19 would become the first disease to fulfil its description. Activities ranged from studying entire classes of virus rather than focusing narrowly on one virus, to preparing for general approaches such as vaccination which had common needs like glass vials and rubber seals that could withstand excessive cold storage.

https://www.who.int/activities/prioritizing-diseases-for-research-and-development-in-emergency-contexts
https://www.who.int/teams/blueprint/who-r-and-d-blueprint-for-epidemics

Preparedness for future pandemics relies not just on rapid reaction and focused attempts to prevent or treat the disease, but on years of basic research into the way pathogens work.

A good example of preparedness for the Covid-19 pandemic has to do with using mice as animal models: standard mice aren’t affected by Covid the way humans are as the virus doesn’t enter their lungs. However, genetically engineered mice that are vulnerable to the virus had been created 10 years before the pandemic by Professor Stanley Perlman’s group and were already available to researchers.
https://www.smithsonianmag.com/science-nature/mouse-squad-covid-19-180974927/

Similarly, the work that led to **mRNA vaccines** began in 1978 when researchers managed to deliver mRNA into mouse and human cells via lipid structures, so the cells would produce the corresponding proteins. In 1984 mRNA was synthesised in the lab for the first time. Ideas were explored by Merck in the US in 1991 to develop an mRNA vaccine for influenza, but that did not seem achievable. This hesitation to use mRNA technology for vaccines carried on, as the molecule was considered unstable and was costly to produce.
https://www.nature.com/articles/d41586-021-02483-w

The biggest challenge was that mRNA would be taken up by the body and quickly degraded before it could “deliver” its message—the RNA transcript—and be read into proteins in the cells. The solution to this problem came from advances in nanotechnology: the development of fatty droplets (lipid nanoparticles) that wrapped the mRNA like a bubble, which allowed entry into the cells. Once inside the cell, the mRNA message could be translated into proteins, like the spike protein of SARS-CoV-2, and the immune system would then be primed to recognize the foreign protein.

In 2010, the US research agency DARPA (Defense Advanced Research Projects Agency) launched the biotechnology research program ADEPT to develop emerging technologies for the US military. The agency recognized the potential of nucleic acid technology for defense against pandemics and began to invest in the field. DARPA grants, such as the $25 million given to Moderna to advance their vaccine platform, were seen as a vote of confidence that in turn encouraged other government agencies and private investors to invest in mRNA technology.
https://www.darpa.mil/work-with-us/covid-19
https://investors.modernatx.com/news/news-details/2013/DARPA-Awards-Moderna-Therapeutics-a-Grant-for-up-to-25-Million-to-Develop-Messenger-RNA-Therapeutics/default.aspx

The first human clinical trials using an mRNA vaccine against an infectious agent began in 2013 with a vaccine against rabies. Over the next few years, clinical trials of mRNA vaccines for a number of other viruses were started. mRNA vaccines for human use have been studied for infectious agents including influenza, Zika virus, cytomegalovirus, and Chikungunya virus.
https://www.nature.com/articles/d41586-021-02483-w

The genetic sequence of SARS-CoV-2 was made available in January 2020 and both Pfizer and BioNTech started their clinical trials for a vaccine in the spring of the same year. Emergency use of the vaccine was approved in December 2020 and official use was authorised in August 2021. The timeline of the development process for the Moderna vaccine was very similar to that of Pfizer and BioNTech. The FDA approved use of this vaccine in December 2020.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162644/

Both Pfizer/BioNTech and Moderna vaccines deliver mRNA to the cells via lipid nanoparticles - the method tested and validated decades earlier.

Professor Sarah Gilbert led the project that developed the **AZ vaccine** for SARS-Cov-2 at Oxford University. At the start of her career in the mid-1990s, she studied T-cell responses in the context of the malaria vaccine and worked to develop viral vector vaccines to activate such responses that are thus more effective. Her department had designed such vaccines for several pathogens, including for another type of coronavirus. Her work covered lab bench studies, animal studies and human trials, for instance testing the use of viral vectors using ferrets, mice and non-human primates.
https://www.ndm.ox.ac.uk/publications/1049919

Professor Gilbert had already been mapping out plans to quickly tackle WHO's 'Disease X' by the time the pandemic started. Her team worked fast to create a viral vector containing a SARS-Cov-2 antigen after the viral genome sequence was decoded.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162644/

Clinical trials began in April 2020, with the vaccine having been tested on rhesus macaques to ensure its safety.
https://www.ox.ac.uk/news/2020-05-22-oxford-covid-19-vaccine-begin-phase-iiiii-human-trials

Several different species of **animal have been vital to Covid-19 studies**, each model offering unique benefits.
https://www.understandinganimalresearch.org.uk/news/animal-research-and-covid-19
https://www.nature.com/articles/s41586-020-2787-6

In short, without those years of research, there is insufficient understanding of how basic biology works, and what is happening when disease to strikes, to mount a successful defence against it.

Lesson 2: Proven models of focused research can yield the best short-term results

As heard by the Science and Technology Select Committee in its inquiry into a new UK research agency, an example of a focused taskforce can be found in the US with the Defense Advanced Research Projects Agency. DARPA was not created to deal with the Covid-19 pandemic specifically but had established a Pandemic Prevention Platform years prior. DARPA turned its focus to creating a cure based on its previous research on how to protect the US military in case they encounter a new virus while on duty, and funded the Moderna vaccine research.
https://www.washingtonpost.com/national-security/how-a-secretive-pentagon-agency-seeded-the-ground-for-a-rapid-coronavirus-cure/2020/07/30/ad1853c4-c778-11ea-a9d3-74640f25b953_story.html

https://publications.parliament.uk/pa/cm5801/cmselect/cmsctech/778/77802.htm

The Inquiry heard that a factor in DARPA's success was its approach of creating teams of specialists with relevant and complementary skills for relatively short-lived projects with a clearly-defined goal. The goals in a pandemic quickly define themselves in terms of developing and deploying medical treatments. This model also evolved organically as in the case of the AZ vaccine where Prof. Sarah Gilbert, who had experience of designing and delivering Ebola vaccines, merged her team with that of Prof. Andy Pollard, a paediatrician and expert on running large-scale vaccine trials. The partnership with AZ then enhanced and extended the reach of the efforts of both.

The government could expect to have a role here, facilitating such partnerships if not directly assembling the team.

Ensuring that appropriate funding for such activities came from a different pot would also be wise. This would not only ensure a more assured response in the future, but would also allow research studies in fields unrelated to the specific pathogen to go on uninterrupted. It is pivotal for dedicated teams to be working on the disease and to have established processes and plans in place in order to avoid uncertainty and even panic in the governing bodies and the scientific community.

Lesson 3: The UK's supply of laboratory animals was severely strained during the pandemic, and domestic breeders remain under pressure by campaigners

The UK is not completely self-sufficient in its supply of laboratory animals that proved vital to delivering research, vaccines and other treatments for Covid-19, which presents risks for future pandemics. Although most research animals such as mice are domestically bred, supplies were strained and gaps remain, which are only set to get wider.

There are a number of models for the breeding of laboratory animals, which by law must normally be bred and raised specifically for research purposes under specific conditions. There are commercial breeders such as Marshall Bioresources in Cambridgeshire, which supplies the UK with most of its research dogs. These dogs are mainly used as a second, non-rodent, species in legally-required safety testing before potential new medicines enter clinical (human) trials.

There are non-profit models such as the Jackson Lab in the US which, when the pandemic was declared, was able to unfreeze and grow the embryos of a strain of genetically modified mouse that could be used to research Covid-19. The Medical Research Council runs a third model in the form of its Centre for Macaques, which mainly supplies academic institutions for their translational and basic research rather than supplying testing labs.

Centre for Macaques: https://cfm.har.mrc.ac.uk
Marshall Bioresources: https://www.marshallbio.com/
The Jackson Lab: https://www.jax.org

The majority of nonhuman primates (NHPs) are supplied to the UK from Mauritius where they are purpose bred for research by specialist animal breeders. in, where they are an invasive species that is highly destructive to the native flora and fauna. Rather than coming directly from the wild to UK labs, wild-caught Mauritian NHPs are used as breeding stock with subsequent generations destined for the lab.
https://www.gov.uk/government/statistics/statistics-of-scientific-procedures-on-living-animals-great-britain-2021

As the pandemic took hold, flights stopped, making animal imports extremely challenging. The UK was fortunate in the sense that it had a domestic supply of NHPs, although this was severely strained and would have been completely depleted had research taken just a little longer since it takes several years from birth for NHPs to become usable for research.

As many countries faced this squeeze at once, the price of research animals soared. China stopped its supply of NHPs to the world, due both to its own needs for Covid and in the context of a domestic boom in biomedical science.

This affected numerous countries' research programs, particularly the US which imported 50% of its NHPs from China, and individual animals started selling for tens of thousands of dollars, distorting prices on international markets.
https://blog.inotivco.com/how-covid-19-has-affected-non-human-primate-shortage

International supplies have also been affected by numerous issues. The 2021 Home Office statistics on research animal use indicate that 857 out of 2,511 dogs used in experiments (34%) came from abroad, yet several factors can affect this supply such as countries' internal politics.

In the US, a major dog breeder was shut down in 2022 following its inability to maintain its estates due to the Covid lockdowns, a lack of building materials or builders and a lack of staff. In Italy, a subsidiary of Marshall called Green Hill was closed despite its facilities having previously passed inspections and having been found throughout to be compliant with EU laws on lab animal welfare.

The international supply of animals faces further headwinds due to factors including:

- A boom in biomedical science in the US and China;
- The closure of existing suppliers;
- A renewed focus on funding for HIV/AIDS;
- Longer grant durations;
- Long lead times (5 years or more) for establishing new colonies of animals like Nonhuman Primates.

A clear lesson of the pandemic is that the supply of domestically-bred research animals needs to be increased. Although there can be good ethical reasons to import some animals, such as when recreating their genetic makeup would require an additional breeding programme, in the majority of cases the arguments for UK resilience, high domestic breeding standards, the sharp reduction in animals bred abroad and avoiding transporting animals where possible all point towards enhancing UK self-sufficiency.

The use of animals is also opposed by certain campaign groups, almost all of which use misinformation to sway the opinion of the public and Parliamentarians. Breeders and transporters of research animals have come under particular pressure in recent years by campaigners and their enablers in the media and Parliament who harbour beliefs based upon a collection of misconceptions and fabrications.

Direct action against Marshall Bioresources, for instance, has included harassment of animal care staff, throwing objects at car windscreens, the theft of lab dogs, a permanent camp hurling daily verbal invective at workers, stalking staff, graffitiing homes, placing trackers on vehicles, an improvised explosive device, threatening a transporter's young family and more. There have been more than a hundred arrests and several convictions.

Yet the actions of the activists have been feted in the media through titles such as the Daily Mirror, by celebrities including Ricky Gervais, TV presenter Eammon Holmes and MPs, one of whom recently branded the activists as 'heroes'. Their case is, again, based upon a series of beliefs that have no factual basis.

This has presented a challenge in attracting and recruiting staff, which in turn affects how many dogs can be supplied and there is already a backlog in research that can be conducted in the UK, with some studies that should have been conducted this year being pushed back to 2025.

In terms of the biological research dimension of pandemic preparedness, the UK is not merely sitting still, but actively heading in the wrong direction.

Lesson 4: Exclusion of researchers and laboratory support staff from 'essential worker' status significantly reduced scientific output in several ways

Laboratories, and particularly those using animals, require the input of many different specialisms to function. Aside from researchers, less obvious roles such as animal care staff and waste management services are all necessary for the functioning of the lab. Without waste services, for instance, a lab may have to close in a matter of days and at some point euthanising healthy animals may become the best option ethically and legally. When animal care staff cannot go to work to look after laboratory animals, the animals may need to be euthanised.

The initial lack of government support was evident: animal technicians were not considered essential, and there was sudden and unmet need for financial assistance for research projects to continue and for acquiring PPE, which had become both expensive and scarce. There was no financial aid for the purchase and installation of signage, protective screens, PPE, etc that academic establishments needed in order to keep staff and students safe.

To be better prepared for the next pandemic threat, being prepared to dramatically increase the manufacturing of PPE (and other necessities that cannot be stored for long periods) in the event of a pandemic should be made possible.

Even where extensive preparation had been done to minimise disruption to work, the lack of key worker status placed considerable strain on individuals working to beat Covid-19.

In the case of one prominent drug company involved in vaccine production, detailed management plans were already in place at the time of the pandemic and could be easily followed due to their accreditation to international animal care standards. Regarding scientific output, interruptions were minimised by prioritising certain projects and assigning more scientific staff to those projects. This allowed staff to work in shifts and self-isolate if needed.

However, this unconventional working schedule was highly taxing on scientists and laboratory animal technicians and could have been reduced if they had been granted key worker status, especially as many were involved in Covid research. Regarding their animal facilities, they also believe that it would have been of great benefit had they been able to also consult the Home Office for certain challenges, and had certain legal guidelines been revised to allow for more flexibility.

In a survey carried out by the Biochemical Society in 2020 (with 60% of respondents from within the UK), researchers reported that less than half of their expected workload was completed during the pandemic. 76% of the research staff who responded had no access to their laboratories during lockdowns. Nearly 20% reported that delays in their producing data had an impact on obtaining funding for their research. Less than 10% of respondents were able to carry out research from home.
https://biochemistry.blob.core.windows.net/public/2020/08/Impact-of-COVID-19-on-researchers.pdf

In a similar survey from 2021, UKRI reported that 58% of researchers deemed it impossible to carry out their planned work. 76% of respondents described that the pandemic led them to experience feelings of depression.
https://www.ukri.org/news/survey-findings-of-the-impact-of-covid-19-on-researchers/

The technicians in Imperial College London's animal facility were featured in a podcast detailing their struggles with lockdown measures. As animals require constant care, the workers facilitating that should be considered essential; for moral reasons, legal reasons, and because the animals themselves are essential to biomedical research.
https://www.imperial.ac.uk/news/209973/animal-research-workers-share-insights-podcast/

A researcher in the Francis Crick Institute reported that "[…] my team faced the challenge of protecting both animal welfare and safeguarding the future of multiple long-term research projects involving animals. […] Although advances in alternative methods have reduced the need to use animals for some experiments, our bodies are complex, and many systems have yet to be recreated artificially. This means scientists still need to use animals […]"
https://www.crick.ac.uk/news/2021-07-15_how-covid-19-has-impacted-research-with-animals

In the face of such difficulties, during the start of first nation-wide lockdown in 2020, life science sector representatives from the Royal Society of Biology Animal Science Group and the UK Bioscience Sector Coalition (UKBSC) coordinated a series of activities to support the animal research sector in managing the impacts of the pandemic.

This included regular engagement with senior government officials responsible for the policy and regulation of the use of animals in science. This allowed UKBSC members to produce advice on animal colony management, contingency planning and measures for the safe running of facilities during the crisis, and disseminate it to named people working under The Animals (Scientific Procedures) Act 1986 (ASPA) and wider networks of research staff. They also created a document to aid institutional Animal Welfare and Ethics Review Bodies to conduct local reviews of lessons learned from the COVID19 pandemic.

Additionally, the Institute of Animal Technology led discussions on the impacts of COVID19 on staff responsible for laboratory animal welfare, who had to face hard choices, including culling animals, and the associated feelings of compassion fatigue. IAT published a series of leaflets to support staff during those critical months.
https://www.iat.org.uk/_files/ugd/a30180_3b27f4cc51864d02a79a1c285f2a202e.pdf
https://www.iat.org.uk/_files/ugd/a30180_26ca8b8f2c194c6ab01ea5c45a546230.pdf

The chairs of the UKBSC and the ASG wrote a series of letters to the Science, Home Office and Cabinet Office ministers, which were circulated to the chair of the House of Commons Science and Technology Select Committee and the relevant departmental Chief Scientific Advisers, to ask the Government to designate laboratory animal care staff as key workers and give them access to prioritised COVID19 testing, alongside other critical workers in the life science sector.

The letters were followed by announcements from the relevant departments that eventually provided reassurance to the sector and additional clarity on this issue. There exists therefore an opportunity to pre-empt such potential difficulties by granting lab staff special dispensations.

Consideration should also be given to whether sufficient school and nursery provision were in place during previous lockdowns. Although the children of keyworkers could be offered spaces at nurseries, many chose to close anyway and had staff that were, quite reasonably, unwilling to work.

Lesson 5: Basic science should be supported in biological research

Basic research into how biological systems work, often derided as 'curiosity-based' research, provides the foundation for work with a more obvious clinical application. This can come in the form of preventing disease, treating disease, or opening up new avenues for research which then themselves yield a clinical application. This work has consistently proven vital to later breakthroughs, including in research for understanding, treating and preventing serious cases of Covid-19.

Several arguments can be made in the name of basic research. A 1997 EMBO survey of 80 researchers proved that **almost half of the research projects carried out led to useful biotechnological applications**. https://www.nature.com/articles/33784

Furthermore, two common themes between winners of the **Nobel Prize** for Physiology or Medicine are that they usually made their discovery using animals and usually received the prize long after their research was carried out and published; it isn't immediately apparent what the science landscape will look like in the future and what the discoveries of basic research can be applied to. Hence, there are many examples of discoveries within basic ('curiosity driven') research that earned scientists the Nobel Prize: the protein receptors for temperature and for touch, the organisation of the olfactory system, the sequence of the Neanderthal genome, the Hepatitis C virus, the human papilloma virus, the molecules involved in the cell cycle, the molecules involved in the circadian rhythm, the function of telomeres, the mechanism of autophagy.
https://directorsblog.nih.gov/2021/10/12/nihs-nobel-winners-demonstrate-value-of-basic-research/
https://www.nobelprize.org/prizes/lists/all-nobel-laureates-in-physiology-or-medicine/

A fact sheet developed by the National Institute of General Medical Sciences (NIGMS) lists several instances of basic science being translated into medicine to **treat different types of cancer** such as testicular cancer, multiple myeloma, ovarian cancer. Other examples include magnetic resonance imaging (MRI) and immunology.
https://www.nigms.nih.gov/education/fact-sheets/Pages/curiosity-creates-cures.aspx

A collaboration between researchers in Oxford and Edinburgh led to detailed mapping of the transmission of **Covid-19** in the UK via genomic analysis, a success which Oxford University's annual report for 2020 links to all the different kinds of basic research discoveries made within the field of virus evolution.
https://www.ox.ac.uk/sites/files/oxford/Oxford_2020_Annual_Review.pdf

An article by the European Animal Research Association underlines the importance of animals used in basic research, as all drug development relies on this: the science behind **mRNA vaccines** is grounded in studies of the mRNA, and mouse models for coronavirus research had been already in use prior to the pandemic. Furthermore, a vaccine trial against coronaviruses had taken place prior to the pandemic. https://www.eara.eu/animal-research-in-covid-19

More specific examples of basic animal research can be seen in an interactive map created by EARA, with researchers in the UK investigating the infection in animals by looking at the antibodies produced and the compounds that might be effective against it.
https://public.flourish.studio/visualisation/1698667/

In an interview, Ralf Pettersson from the Karolinska Institute, formerly the chairman of the Nobel Prize Committee for Physiology/Medicine, criticised the fact that research in Sweden is very well funded but these funds are directed to industry and not basic science.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1083830/

It is therefore important that basic research is supported in all different areas, which requires political support and understanding of its contribution to scientific progress and how that leads to progress in the clinic.

Despite its importance, MPs from every party have derided the role of basic research if it involves animals since the benefit of the research is not as clear-cut as in research that more directly translates to a clinical application.

Lesson 6: The pandemic had an impact on public opinion on research and the use of animals

It can seem that there is little political capital for politicians in standing up for the use of animals in research, and significant capital in opposing it. Indeed, campaign groups exist entirely for the purpose of downplaying the benefits of research and exaggerating the suffering endured by lab animals. These groups additionally have traction with a certain section of society, although it remains a minority view.

Members of the public can have difficulty relating to abstract concepts like pandemics with no frame of reference, but can readily identify with animals, particularly species that are kept as companion animals. Medical research that addresses human suffering by invoking a smaller degree of suffering in animals is easy for activists to mischaracterise, despite the wider context being far more complex and the intended outcome an improvement in human and animal welfare.

Whereas it would normally take a degree of moral courage to stand by unpopular but necessary measures, the pandemic showed a **spike in support for using animals in medical research**.

An ongoing public attitudes survey tracking people's opinions on animal research has shown that between 65% and 75% of the British public can accept the use of animals in research, as long as the research is carried out according to the law.
https://www.ipsos.com/en-uk/public-attitudes-animal-research-2018

A collection of surveys brought together by UKRI offers interesting insight into the public's view of scientists in 2020. In these, 63% of participants considered the benefits of science to be greater than any harmful effects generated. 60% reported they found scientists trustworthy. Notably, the people's trust in Covid-19 scientists became lower for a time as epidemiologist Dr Neil Ferguson resigned from his advisory role to the Government.
https://www.ukri.org/wp-content/uploads/2020/09/UKRI-271020-COVID-19-Trust-Tracker.pdf

Understanding Animal Research carried out a survey specifically on the public's opinion of the use of animals in Covid-19 research and found that **73% of respondents were accepting of animal models** such as mice, dogs and monkeys in research for Covid-19 and understood their importance for treatment and vaccine development.
https://www.understandinganimalresearch.org.uk/news/high-public-acceptance-of-animal-research-to-find-treatments-for-covid-19

Lesson 7: Various inquiries following the pandemic reveal our animal health infrastructure is in a precarious state

The risk of new highly transmissible diseases remains extremely high, and the UK is ill-equipped to react.

The findings from the recent House of Commons Committee of Public Accounts report into the Redevelopment of Defra's animal health infrastructure show that the UKs main animal health facility at Weybridge has been left to deteriorate alarmingly through a combination of inadequate management and underinvestment.
https://committees.parliament.uk/publications/31598/documents/177448/default/

The APHA's Weybridge site is the UK's primary science capability for managing threats from animal diseases. It houses 98% of the APHA's high containment laboratories. It is the APHA's main site for running long-term animal health studies and the only facility equipped to deal with most zoonotic diseases.

The National Audit Office highlighted that a review of the Weybridge site in 2021 found more than 1,000 examples of "single points of failure – where loss of the system or asset will cause major catastrophic disruption to operations."

Reform of the management of the site and an investment plan are in place but will take years to resolve towards being pandemic-ready and resilient. HM Treasury has also not signed off on all the needed investment, finding it hard to justify the cost. This is notwithstanding pressures created by other situations such as avian flu.

As it stands, the site's managers are confident they can meet a level 3 outbreak, but this is a scale that runs from 1-5. Meeting a level 3 outbreak would also halt other important areas of the site's work.

Until the political will is found to make addressing the high risks that attend the probable outbreak of zoonotic disease a priority, then the UK will remain at significant risk from them.

Recommendations

The following recommendations are straightforward and follow on from lessons learned:

1. Mimic the WHO's approach to 'Disease X' preparations, adding what was learned from when the pandemic struck;
2. Expect to assemble, support or fund focused research teams from a ring-fenced budget;
3. Improve the UK's ability to supply its own needs for research animals without needing to import animals from overseas;
4. Consider who needs keyworker status, starting with researchers, animal care staff and other staff vital to keeping a biomedical research lab running;
5. Ensure political and financial commitment to basic scientific research;
6. Make full political and financial commitments to improving the usable infrastructure available to UK agencies to detect and fight outbreaks, and other weak links.

March 2023