

MODERNISING MEDICAL RESEARCH:

How Britain can become a global leader in animal free science

The case for modernising medical research

EVERY MINUTE OF EVERY DAY, SIX ANIMALS ARE USED IN RESEARCH IN THE UK.

In 2019, 3.4 million animal experiments were carried out in Great Britain on animals including mice, rats, dogs, cats, primates and horses. As well as causing suffering to millions of animals, this outdated approach is holding back medical progress. Significant differences in our genetic makeup mean that data from animal experiments does not necessarily translate to people. 90 per cent of drugs that show promise in animal tests go on to fail in human clinical trials.

Using animals in experiments is not the only option. There are a range of cutting-edge, animal free techniques which provide results that are directly applicable to human patients. These New Approach Methodologies (NAMs) include artificial intelligence; the use of human cells or tissues; organ-on-a-chip technology and stem cell technology.

If Britain is to achieve its ambition of becoming a global science superpower, we must lead the way in replacing animals with these high-tech alternatives. Since Britain is home to world-leading universities and pharmaceutical companies, we are well placed to excel in this field. Supporting the development and take-up of NAMs has huge potential to benefit the British economy. For example, the global 3D cell culture market was estimated to be worth \$10.3 billion in 2020, rising to \$14.8 billion by 2025.

There is strong public support for modernising medical research in this way. A recent YouGov poll found that 68% of respondents would support a policy ending animal experiments in medical research in the UK and replacing them with non-animal alternatives (e.g. artificial intelligence and using human cells or tissue).

Global efforts to modernise medical research

IN SEVERAL COUNTRIES, policy makers are recognising the need to revolutionise medical research. For example:

- The Dutch government has publicly embraced the need for animal free innovation and brought together stakeholders to facilitate this process. The Transition Programme for Innovation without the use of animals (TPI), includes representatives from government, industry, academia and the third sector. It has organised collaborations such as 'helpathons' to work out how to conduct research without animals.
- US government agencies are making significant progress in replacing animals in toxicity testing. The Environmental Protection Agency (EPA) has committed to stop funding and requesting tests on mammals by 2035 and published a detailed workplan setting out how this will be achieved. This includes measures such as undertaking a thorough analysis of relevant legislation and regulations and organising training sessions on the use of NAMs.
- Denmark has given animal welfare professionals a voice in the regulation of animal research. The Council that assesses applications to perform animal experiments includes members that have been selected after consultation with animal welfare organisations.
- In early 2021 Switzerland's Federal Council announced a National Research Programme to advance the 3Rs. Including the reduction of animal experiments as part of a National Research Programme establishes this issue as a matter of national importance.

Practical policy recommendations to modernise medical research

IF THE UK IS TO BECOME A GLOBAL LEADER in modernising medical research, bold policy action from the heart of government will be essential. By establishing a function dedicated to replacing animals with human relevant techniques, the Government could accelerate this important transition. The activities of this new function would include:

- Spearheading a government declaration about the national importance of modernising medical research.
- Producing a roadmap and detailed workplans to replace animal experiments with human relevant methods.
- Working to realise the huge economic potential of NAMs.
- Facilitating collaboration between government, academia, industry and the third sector to accelerate the development and take-up of replacement methods.
- Contributing to international efforts to modernise medical research, including influencing international regulatory guidelines.
- Providing practical support and training for scientists, including for early career researchers to pursue an animal free career pathway.
- Awarding funding for the development of replacement methods – on a scale that reflects the urgency and importance of this issue.

In terms of the form that this new function would take, a full government department would have maximum impact in modernising medical research and harnessing the economic potential of NAMs. Alternative approaches include establishing a Joint Office; appointing a Joint Minister; developing a function within the Cabinet Office; appointing an external expert or 'tsar'; or involving the Commissioner for Patient Safety.

It is vital that the Government looks to the future and takes bold steps to modernise medical research. This will benefit animal welfare, public health and the economy, while firmly establishing the UK as a world leader in scientific research.



Animal Free Research UK is Britain's leading medical research charity working for a world where human diseases are cured faster without animal suffering. The charity funds pioneering animal free research that saves humans and animals and is forging a future where animals are replaced with modern, human relevant techniques.

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