Ten organisations account for half of all animal research in Great Britain in 2021

- 99% of procedures carried out in mice, fish, and rats
- 83% of procedures caused similar pain (or less) than an injection
- 63 research institutions proactively share their 2021 animal research statistics

Today, 30 June 2022, Understanding Animal Research (UAR) has published a list of the ten organisations that carry out the highest number of animal procedures – those used in medical, veterinary, and scientific research – in Great Britain. These statistics are freely available on the organisations' websites as part of their ongoing commitment to transparency and openness around the use of animals in research.

This list coincides with the publication of the Home Office's report on the statistics of scientific procedures on living animals in Great Britain in 2021.

These ten organisations carried out 1,496,006 procedures, 49% or nearly half of the 3,056,243 procedures carried out on animals for scientific research in Great Britain in 2021*. Of these 1,496,006

All organisations listed are signatories to the Concordat on Openness on Animal Research in the UK, a commitment to be more open about the use of animals in scientific, medical and veterinary research in the UK. More than 125 organisations have signed the Concordat including UK universities, medical research charities, research funders, learned societies and commercial research organisations.

Wendy Jarrett, Chief Executive of Understanding Animal Research, which developed the Concordat on Openness, said:

"Animal research remains a small but vital part of the quest for new medicines, vaccines and treatments for humans and animals. We know that the majority of the British public accepts that animals are needed for this research, but it is important that organisations that use animals in research maintain the public's trust in them. By providing this level of information about the numbers of animals used, and the experience of those animals, as well as details of the medical breakthroughs that derive from this research, these Concordat signatories are helping the public to make up their own minds about how they feel about the use of animals in scientific research in Great Britain."

Professor Anne Ferguson-Smith, Pro Vice-Chancellor for Research at the University of Cambridge:

"Animal research continues to be an important part of biomedical science, but as research institutions it is vital that we do not take public support for granted, and instead explain clearly why and how we work with animals and the steps we take to ensure good animal welfare.

"Since first signing the Concordat in 2014, Cambridge University has strived to be as open about our animal research as possible, sharing a wealth of information and case studies, and continuing to engage the public. We believe it's important to show leadership in this area and we hope our efforts make a difference and show others within the sector what can be achieved."

Professor David Lomas, UCL Vice-Provost (Health)

"Research using animals plays a small but vital role in UCL's biomedical research, enabling us to make ground-breaking, life-saving advances; this is even more clear than ever as animal research enabled scientists to rapidly develop effective treatments and vaccines for Covid-19. Here at UCL we make every effort to ensure that animals are only used in research when strictly necessary, to treat them with utmost care, and to improve methods to minimise harm and maximise public benefit."

Jan-Bas Prins, Director of the Francis Crick Institute's Biological Research Facility:

"The number of procedures carried out at the Crick has remained fairly steady from 2020 to 2021 and they are down from years before the pandemic. The Crick is committed to the 3Rs and to providing a research environment where the development of and access to non-animal methods is a matter of course."

Professor Jonathan Seckl, Senior Vice Principal at the University of Edinburgh:

"At the University of Edinburgh, we tackle some of the most difficult problems in human and animal health and the sustainability of our planetary ecosystems. We use animals for research where no alternatives exist. In the past year we have continued to make strides in the reduction, refinement and replacement of the use of animals in research. For example, we have developed 3D stem cell models to reduce the need for live birds for studies into common infections in chickens, which are a source of

Professor Marina Botto, Director of Bioservices, Imperial College London

“Imperial’s commitment to the 3Rs principles and openness around animal research is reflected in our animal numbers. Research using animals enables us to understand human diseases and how they can be treated. We are also committed to the highest standard of animal welfare as demonstrated by the AAALAC accreditation”

-Ends-

Notes to Editors

For more information, contact Hannah Hobson on 07759235176 or hhobson@uar.org.uk.

The hashtag for social media is #AnimalStats.

Understanding Animal Research (UAR) is a not-for-profit organisation that explains how and why animals are used in scientific research in the UK. UAR promotes open communications about animal research.

A list of recent animal research case studies from contributing organisations can be found below.

Further information on the Concordat on Openness on Animal Research in the UK can be found here: http://concordatopenness.org.uk

These figures refer to procedures using animals for medical, veterinary, or scientific research, as licensed by the UK’s Home Office under the Animals (Scientific Procedures) Act 1986. The use of animals to test tobacco products was banned in the UK in 1997 and it has been illegal to use animals to test cosmetic products in this country since 1998. A policy ban on household product testing using animals was introduced in 2010. Since 2013, it has been illegal to sell or import cosmetics anywhere in the UK or the

Medical Research Council	169,989	169,920		12		57	
King's College London	111,750	89,258	19,574	2,599			638
University of Glasgow	103,271	96,784	3,775	1,554	380		778
University of Manchester	87,535	70,586	13,328	2,646			975
Imperial College London	76,325	68,085	5,528	1,631	239		842
TOTAL	1,496,006	1,236,161 (82.6%)	224,929 (15.0%)	22,391 (1.5%)	6,751 (0.5%)	103 (0.01%)	5,990 (0.4%)

All numbers represent completed procedures on animals in 2021. The number of procedures carried out using animals will be slightly higher than the number of animals used, as a small number of animals may be used in more than one procedure.

Full table of procedures broken down by severity categories from top ten organisations:

Organisation

University of Central Lancashire
University of Dundee
University of East Anglia
University of Edinburgh
University of Exeter
University of Glasgow
University of Hertfordshire
University of Leeds
University of Leicester
University of Liverpool
University of Manchester
University of Nottingham
University of Oxford
University of Plymouth
University of Portsmouth
University of Reading
University of Sheffield
University of Southampton
University of St Andrews
University of Stirling
University of Strathclyde
University of Surrey
University of Sussex
University of York

CASE STUDIES

University of Oxford
New research sheds light on how ultrasound could be used to treat psychiatric disorders

A new study in macaque monkeys has shed light on which parts of the brain support credit assignment processes (how the brain links outcomes with its decisions) and, for the first time, how low-intensity transcranial ultrasound stimulation (TUS) can modulate both brain activity and behaviours related to these decision-making and learning processes.

While currently developed in an animal model, although in a brain area homologous to the one in humans, this line of research and the use of TUS could one day be applied to clinical research to tackle psychiatric conditions where maladaptive decisions are observed.

The study published in the journal Science Advances shows that credit assignment-related activity in this small lateral prefrontal area of the brain, which supports adaptive behaviours, can be safely, reversibly and quickly disrupted with TUS.

After stimulating this brain area, the animals in the study became more exploratory in their decisions. As a consequence of the ultrasound neuromodulation, behaviour was no longer guided by choice value – meaning that they could not understand that some choices would cause better outcomes – and decision-making was less adaptive in the task.

The study also showed that this process remained intact if another brain region (also part of the prefrontal cortex) was stimulated as control condition; showing for the first time how task-related brain modulation is specific to stimulation of specific areas that mediate a certain cognitive process.

The first author, Dr Davide Folloni of Oxford's Wellcome Centre for Integrative Neuroimaging, said: 'This research has critical importance in a number of areas, including allowing us for the first time to non-invasively test hypothesis on the role of deep cortical areas in cognition while simultaneously recording the underlying neural activity in primates and potentially humans. This could significantly improve clinical treatment by helping surgeons to test implant sites for suitability before surgery, greatly improving the efficiency and accuracy of such delicate surgery. By improving our knowledge of the

for a unique sequence of base pairs – combinations of the A, C, G and T molecules that make up DNA. It then changes the DNA base – in this case, changing a C to a T. This would, in principle, enable the tool to correct certain 'spelling mistakes' that cause the mitochondria to malfunction.

There are currently no suitable mouse models of mitochondrial DNA diseases, so the researchers used healthy mice to test the mitochondrial base editors. However, it shows that it is possible to edit mitochondrial DNA genes in a live animal.

This ground-breaking research is the first time that researchers have been able to change DNA base pairs in mitochondria in a live animal. It shows that, in principle, scientists can go in and correct spelling mistakes in defective mitochondrial DNA, producing healthy mitochondria that allow the cells to function properly.

King's College London
Scientists obtain first high-resolution 3D image of muscle protein

Heart and skeletal muscle owe their function as reliable biological machines to the extraordinary

Molecular Biophysics. Strikingly, heart muscle actin filaments demonstrated the clear absence of nebulin.

the heart's pumping action, its overload can be a root cause of arrythmias. Viagra was able to suppress the mechanism in the cell which causes calcium overload.

https://www.manchester.ac.uk/discover/news/sex-