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Animal experiment statistics



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Summary

In 2022, there were 2.7 million completed procedures involving living animals in Great Britain. These were regulated procedures, meaning they involved animals for an experimental or other scientific purpose or for breeding genetically-altered (GA) animals.

This was the lowest annual number since 2002 and was a reduction of 10% on the previous year and a reduction of nearly 20% on the number in 2019, before the pandemic and the UK's exit from the EU.

The law on animal testing

The use of protected animals in any experimental or other scientific procedure which may cause pain, suffering, distress or lasting harm to the animal is regulated by The [Animals \(Scientific Procedures\) Act 1986 \(ASPA\)](#). Protected animals in the Act are any living vertebrate other than humans and any living [cephalopod](#) (marine animals such as squid).

Procedures on animals are falling in number

Pandemic aside, the annual number of procedures has been [falling steadily since 2015](#), a year in which 4.1 million procedures on animals were carried out. The number in 2022 was 33% or around a third lower than this.

Numbers peaked in the 1970s, at around 5.6 million per year, before falling to around 2.7 million per year in the 1990s and early 2000s. The way in which procedures were recorded changed in 1987, which means figures before and after this date are not directly equivalent.

Reasons for experiments and animals commonly used

Around four in ten recorded procedures involve the creation or breeding of genetically altered (GA) animals. These procedures are almost all rated 'sub-threshold' or 'mild' in terms of severity), meaning the harm and/or discomfort they cause. The severity rating of a procedure is determined according to criteria [set out in ASPA](#).

Most experimental procedures cause some degree of harm (ranked ‘mild’, ‘moderate’, or ‘severe’). In 4% of procedures carried out in 2022 the animal did not recover.

Four fifths of procedures in 2022 involved rodents, and two thirds of all procedures involved mice. Since 2007, fish have been the second most common animal used; before this it was rats.

In 2022, just over half (53%) of experimental procedures were undertaken for basic research, 24% for translational/applied research, 21% for regulatory uses, and a small number for other purposes.

The statistics in this briefing are for Great Britain, unless specified otherwise. They are mainly taken from the Home Office’s [Statistics of scientific procedures on living animals](#).

[Statistics for Northern Ireland](#) are published separately by the Northern Ireland Department of Health.

1 Background

1.1 The law on scientific procedures on animals

The [Animals \(Scientific Procedures\) Act 1986](#)¹ (ASPA) regulates the use of protected animals in any experimental or other scientific procedure which may cause pain, suffering, distress or lasting harm to the animal. Under the Act, protected animals are any living vertebrate other than humans and any living cephalopod.

Scientific procedures covered by the Act are controlled using a triple licensing system enforced by the Home Office. This requires a personal licence for the scientific investigator, a licence for the establishment where the procedure is to take place, and a project licence which contains details of the animals to be used and the procedures to be performed.

The Act requires a cost and benefit analysis to be performed weighing the likely adverse effects on the animals against the likely benefit arising from the procedure.

The UK has a policy to limit the number of animals used in science through replacement, reduction, and refinement of research design – the ‘3Rs’. This requires licence applicants to demonstrate that they have considered using non-animal alternatives as far as possible.

EU law and post-Brexit

Revised legislation came into force in 2013, transposing [EU Directive 2010/63/EU](#).² This also requires EU Member States to submit data on the volume and nature of procedures annually to be synthesised and published by the European Commission.

In the light of the UK’s departure from the EU, the UK’s Animals in Science Regulation Unit (ASRU) has stated that “other than minor changes to references to the Directive [EU Directive 2010/63/EU] that are embedded in ASPA, no further legislative action is needed for animals in science regulation around EU exit.”³

¹ <http://www.legislation.gov.uk/ukpga/1986/14/contents>

² <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0033:0079:EN:PDF>

³ [Animals in Science Regulation Unit annual report 2017](#)

1.2

Regulatory framework

The [Animals in Science Regulation Unit](#) (ASRU) is the regulator of the use of animals in science. Its responsibilities include licensing and monitoring licensed establishments for compliance.

The [Animals in Science Committee](#) (ASC) is an independent committee which advises the Home Secretary on matters relating to animal testing in the UK. Prior to 2013, this was done by the now-disbanded Animal Procedures Committee (APC). Annual reports from both can be found on the committees' websites.⁴

⁴ See the [Animal Procedures Committee](#) and [Animals in Science Committee](#) pages on Gov.uk.

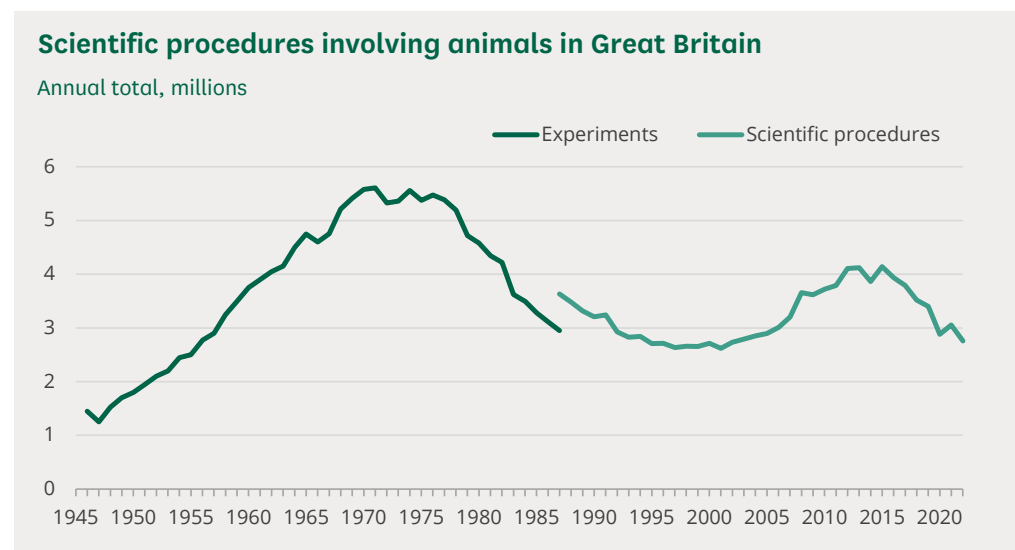
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Overall trends in procedures

In the 2022 calendar year, 2.7 million procedures were performed using living animals subject to the provisions of the Animals (Scientific Procedures) Act 1986 (ASPA). This number was 10% lower than in 2021 and the lowest annual figure since 2002.⁵

The number of procedures involving animals rose from a low of approximately 1.4 million in 1945 to a high of 5.6 million in 1971. The number gradually decreased, reaching a modern-day low of 2.7 million in 1998. The number rose again to a recent peak of 4.1 million in 2015 and has fallen since. There was an increase between 2020 and 2021 but this represented a return to the typical level after an unusual year in 2020 due to the pandemic.

Data before 1987 relates to **experiments** performed under the Cruelty to Animals Act 1876. Data from 1987 onwards concerns **procedures** performed and recorded under the Animals (Scientific Procedures) Act 1986. The 1987 data is provided for both measures, showing that the 1986 Act had wider coverage.



Source: Home Office Experiments on Living Animals Statistics 1977; Statistics of Scientific Procedures on Living Animals Great Britain 1988; Statistics of Scientific Procedures on Living Animals: Time Series Tables, 2008 and 2022.

Notes: As a result of revised legislation in 2013, the data collection methodology changed, meaning that comparisons between years before and after this period should be made with caution. The principal difference is that previously the number of procedures started was recorded but from 2014 the number of completed procedures was recorded.

The rise in procedures in the 2000s and 2010s was due to an increase in the breeding of genetically altered (GA) animals. Although they are classified as

⁵ Home Office, Statistics of scientific procedures on living animals, Great Britain: 2021, table 1.3, and earlier editions.

regulated procedures, many of these procedures merely count the number of **new animals bred** using GA animals or their descendants. This is explained further in section 3 below.

3 Procedure types: Experiments and breeding

Scientific procedures involving live animals are not always experiments. In 2022, over four in ten (45%) recorded procedures were instances of breeding genetically altered (GA) animals for scientific use. The creation and/or breeding of new animals includes the creation of new lines of GA animals and the reproduction of established lines of GA animals.⁶

3.1 Creation and breeding of genetically altered animals

The Animals (Scientific Procedures) Act 1986 regulates the breeding of an animal which is “bred from, or is the descendant of, an animal whose genes have mutated or been modified.”⁷ These are known as genetically altered (GA) animals.

Since 2007, the Home Office has published data on the number of procedures involving the creation and breeding of GA animals. The number of procedures recorded in this class includes both the parents used for breeding and their offspring.⁸

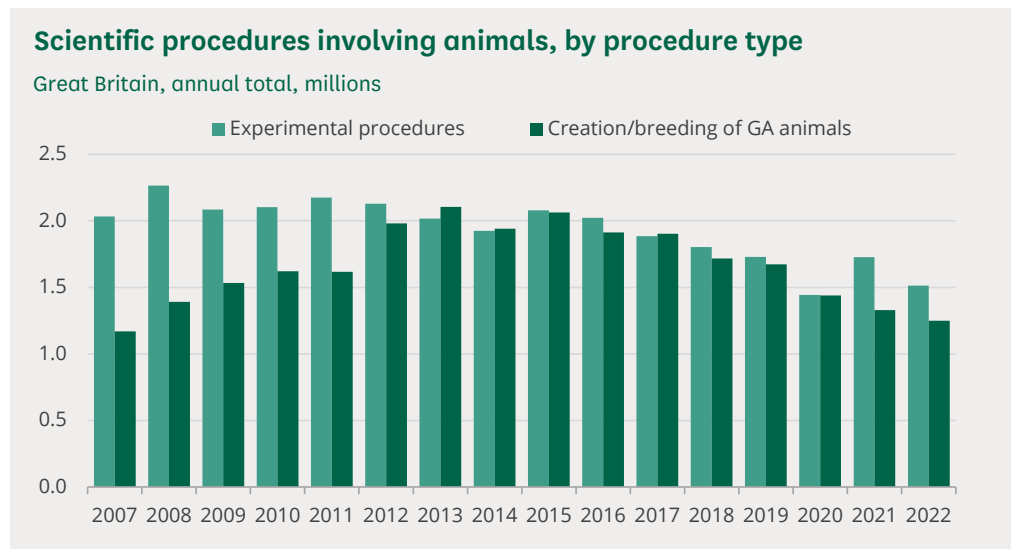
The chart below shows the number of scientific procedures and instances of creation and/or breeding in each year since 2007, the longest stretch for which we have consistent data. While instances of creation and/or breeding initially rose, they have been steadily declining since 2015.

The number of experimental procedures also gradually fell throughout the period. The rise in 2021 may partly represent the clearing of a backlog of procedures delayed by pandemic restrictions in 2020.

⁶ Note that “This category also includes some animals that were bred with the intention of producing genetically altered animals, but resulted in nongenetically altered animals being born (3% of animals in this category in 2020).” Home Office, Annual Statistics of Scientific Procedures on Living Animals Great Britain 2020, p.19.

⁷ ASPA, Section 2(3B)

⁸ There is an exception to this where, if a wild type animal is mated with a GA animal, the wild type parent is not recorded and neither are any wild type offspring (User Guide to Annual Statistics of Scientific Procedures on Living Animals Great Britain 2020, p.19).



Sources: Home Office [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2022](#): time-series tables.

The number of GA breeding procedures performed in 2022 was the lowest it had been since 2008. At 1.3 million procedures, this was around two fifths fewer than the peak number of 2.1 million in 2013.

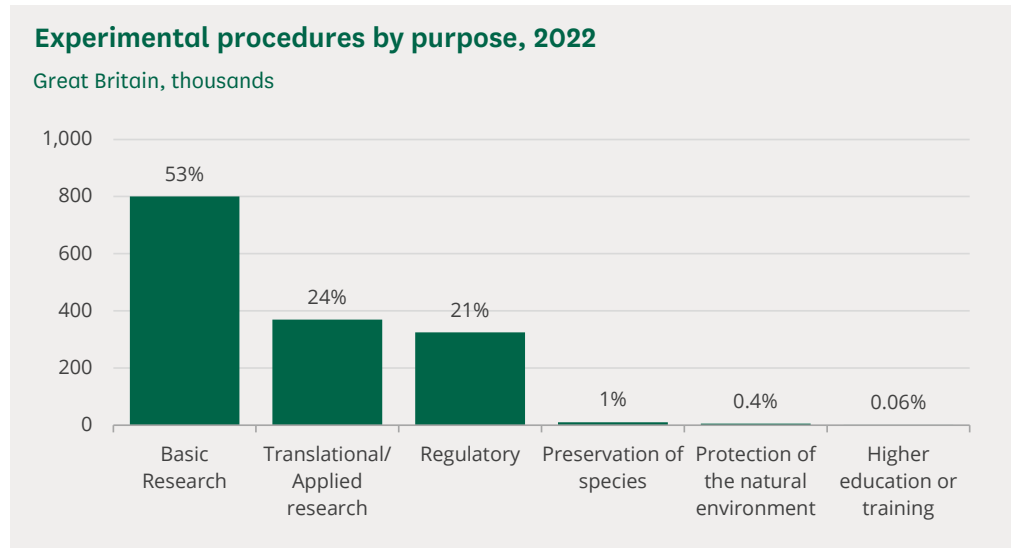
The data on procedures includes attempts to create animals using GA parents but some of these do not result in live offspring being created and others (approximately 4%) result in non-GA animals being born.

3.2 Experimental procedures

In 2022, there were 1.5 million experimental procedures on live animals completed. These Home Office statistics are shown in the chart below. The main procedure types are:

- **Basic research.** Procedures designed to study the structure, functioning, and behaviour of living organisms. These include studies in toxicology.
- **Regulatory.** Procedures carried out to satisfy legal requirements in producing substances, materials, chemicals, including the testing of their safety, and other types of testing.
- **Translational/applied research.** Procedures designed to address human and animal diseases and include experiments to develop drugs and treatments.

In 2022, the majority (53%) of experimental procedures were undertaken for basic research, 24% for translational/applied research, 21% for regulatory uses, and a small number for other purposes.



Source: Home Office [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2022](#)

4 Species and origin

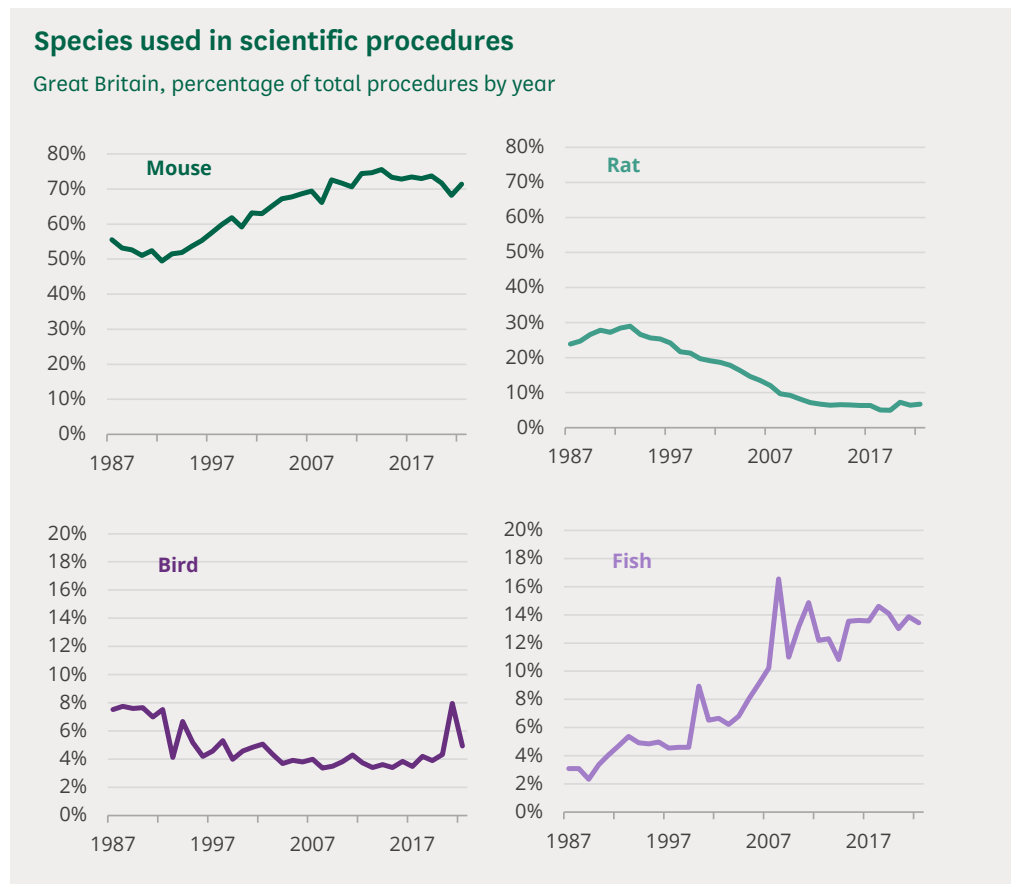
In 2022, rodents were the most common type of animal used in all procedures, accounting for 78% of all procedures. Mice were the most used sub-species of rodents, involved in 71% of all procedures.

Different types of animal are used more frequently in certain types of procedure. Mice were involved in 86% of GA breeding procedures but used in 59% of experiments in 2022. By contrast, rats were used in 12% of experiments but in only a handful of creation and breeding procedures.

Species used in scientific procedures, 2022						
Great Britain, thousands						
Species/ Sub-species	Experimental procedures		Creation & breeding of GA animals		Total procedures	
	Number	%	Number	%	Number	%
Rodents, comprising:	1,078	71%	1,086	87%	2,163	78%
Mouse	892	59%	1,079	86%	1,971	71%
Rat	180	12%	6	0%	186	7%
Other rodents	6	0%	0	0%	6	0%
Fish	210	14%	161	13%	371	13%
Bird	135	9%	1	0%	136	5%
Ungulates	68	5%	0	0%	69	2%
Amphibian/ reptile	5	0%	1	0%	5	0%
Carnivores	5	0%	0	0%	5	0%
Primate	2	0%	0	0%	2	0%
Other mammal	10	1%	0	0%	10	0%
Total	1,512	100%	1,249	100%	2,761	100%

Source: Home Office [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2022](#), table 1

The charts below show the percentage of all procedures involving each species, over time. Note that the charts for mice and rats have a different scale to the others.



Sources: Home Office Statistics of Scientific Procedures on Living Animals Great Britain 1988; [Statistics of Scientific Procedures on Living Animals](#): Time Series Tables, 2008 and 2022: Table 2.1.

Rodents have remained the largest group used over time, although rats have been used less over the last twenty years, being replaced with mice.

The use of some other species has changed, most notably for **fish**, which were used in 13% of procedures in 2022. This is compared to 3% of all procedures in 1987, the earliest year for which we have comparable data. Around one in four of the 371,000 procedures involving fish in 2022 were instances of GA fish being bred.

The growth in the use of fish, in number and as a proportion of all procedures, is partly driven by a rise in the popularity of zebrafish (*Danio rerio*) as research subjects. Despite more fish being used over the long term, the number in 2022 was around two fifths fewer than the peak of 605,000 fish used in 2008.

The use of **birds** in experiments has fallen in the long-term from 273,000 in 1987 to 136,000 in 2022. The year 2021 was an exception to this pattern, with an unusually high number of procedures on birds (243,000). The majority of these were procedures on domestic fowl (*Gallus domesticus*) and were related to research into the avian influenza outbreak affecting the UK in 2021. In 2022, the number of procedures on birds returned to its typical level.

Other **mammals, reptiles, and amphibians** make up the remainder of animals involved in procedures. Of the mammals, ungulates (horses, goats, pigs, sheep and cattle) were used in 69,000 procedures (2% of the total),

carnivores (cats, dogs, and ferrets) in 5,000 procedures, primates in 2,000 procedures, and other mammals in 10,000 procedures. Reptiles and amphibians were used in 5,000 procedures.

The Home Office has also collected data on the use of cephalopods since 1994 but there are no recorded instances of them having been used.

4.1

Origins of the animals used

Ninety-three percent of the animals used for the first time in experimental procedures in 2022 were born in the UK. The large majority of these (1.3 million or 88% of the total) were born in establishments licensed for the breeding and creation of protected animals while a fraction (64,000 or 4%) were not born in licensed establishments.⁹

Of those animals that were born abroad, 95,000 were imported from the EU, 1,400 from the rest of Europe, and 8,500 from the rest of the world.

The animals being imported from the rest of the world included 1,800 non-human primates, mainly macaques. Macaques were mainly used in 'toxicity and other safety testing' experimental procedures in 2022. Two thirds of imported primates came from Africa and the remainder from Asia.¹⁰

⁹ Licensing is required and the conditions set out under [sections 2-5 of ASPA](#).

¹⁰ A detailed breakdown by species appears in Table 2.1 of [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2022](#).

5 Severity of procedures

As part of the 2014 changes in data collection methodology it was decided to record the severity of experimental procedures.

The measure of severity relates to harm that occurs as a result of procedures (it excludes harm resulting from non-procedural processes, such as transport). It captures the actual harm inflicted, which is recorded after a procedure and which might differ from the harm that the procedure was anticipated to cause.¹¹

The severity categories are:

- **Sub-threshold:** causing less pain than inserting a hypodermic needle according to good veterinary practice.
- **Non-recovery:** procedures are those which were carried out under general anaesthesia from which the animal did not recover.
- **Mild:** pain or suffering is slight or transitory and the animal returns to its normal state within a short period of time.
- **Moderate:** causing significant and easily detectable pain to the animal but which is non-life threatening.
- **Severe** procedures cause a major departure from the animal's normal state of health and include suffering from long term diseases.¹²

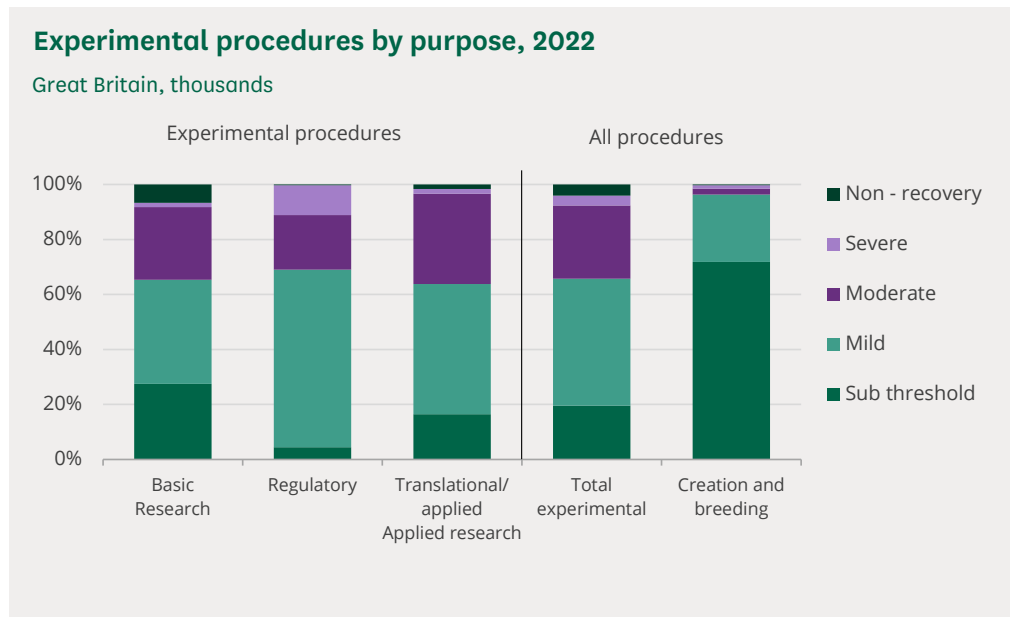
The chart below shows the proportion of procedures carried out in 2022 by severity.

Experimental procedures had higher severity ratings overall. Within these, regulatory procedures were the most likely to involve 'severe' harm (occurring in 11% of these procedures). Across the broad types of experimental research there was a similar proportion of procedures which were mild or sub-threshold in severity (80% of procedures across all research types).

Genetically Adapted creation and breeding procedures had a high rate of sub-threshold cases – many 'procedures' in this category simply refer to regulated births, which are classified as sub-threshold unless the offspring have defects. Overall, 96% of creation and breeding procedures were classified as sub-threshold or mild.

¹¹ Actual severity can differ from the expected severity of an experiment and the Home Office has a set of rules for recording procedures where this is the case.

¹² Home Office, [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2020](#).



Source: Home Office [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2022](#): data tables, tables 3.1 and 8

6 Fields of research

Procedures are classified by fields of research within each procedure category (basic research, translational/applied, or regulatory research).

Basic research

Within basic research, the single largest category in 2022 was study of the nervous system (199,000 procedures or 30% of all basic research). Together with the next largest categories – the immune system and oncology – these made up 68% of all basic research procedures.

Basic research procedures are designed to study the structure, functioning and behaviour of living organisms.

Translational/applied research

Within translational/applied research, the largest categories are generally human cancer and human infectious diseases. In 2022, these accounted for 130,000 experimental procedures or 30% of experiments for all translational/applied research.

The years 2021 and 2022 have had an unusually high number of experimental procedures in the category of ‘animal diseases and disorders’. In 2021, the 225,000 procedures of this kind accounted for 48% of translational/applied research and 13% of all experimental research in that year. These were almost all procedures on domestic fowl, related to testing and research into the outbreak of avian influenza in 2021.

Translational/applied research procedures are designed to address human and animal diseases and include experiments to develop drugs and treatments.

Regulatory research

Within general regulatory research, ‘quality control’ was the most common type, with 79,000 procedures in this category. Most of these procedures were for ‘batch potency testing’, of which 93% were classified as causing ‘moderate’ or ‘severe’ harm.

There were 156,000 procedures performed for regulatory research into toxicity in 2022, of which nearly half (47%) were for research into ‘reproductive toxicity’. This refers to testing to see if an ingredient affects fertility. This research was mainly carried out on rats and tended to have a low severity classification.

Regulatory procedures are carried out to satisfy legal requirements in producing substances, materials, chemicals, including the testing of their safety, and other types of testing.

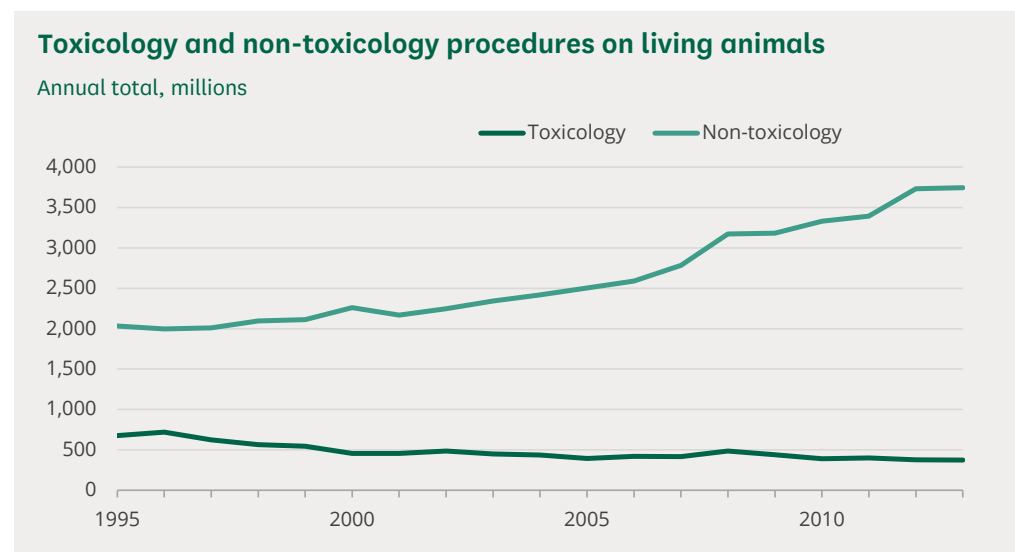
Data before 2013

Consistent time series data on research fields is available up to 2013. Procedures before 2013 were classified into:

- **Toxicology**, meaning “the safety evaluation of the effects of substances on man, animals or the environment, mainly medical treatments.”¹³
- **Non-toxicology**, which included everything else; for example, nutrition, cancer research, immunology, genetics, and anatomy.

Around 9% of procedures in 2013 were for ‘toxicology’ used for safety testing, in official statistics.

The chart below shows trends in toxicological procedures before 2013. Most of the general fall has been due to fewer procedures in pharmaceutical areas such as safety, efficacy, ADME (absorption, distribution, metabolism, excretion) and tests for the residue of veterinary drugs in food producing animals (these would now fall under the category of regulatory research).



Source: [Statistics of Scientific Procedures on Living Animals Great Britain 2013](#), Time Series Tables: Table 24

From 2014, the data collection methodology changed. This creates difficulties in comparing previous data on which research fields used animals in experiments.

¹³ Annual Statistics of Scientific Procedures on Living Animals, Home Office, Great Britain 2012

7

Establishments and licences

Any place where procedures on animals regulated by the Animals (Scientific Procedures) Act 1986 (ASPA) take place must hold an **establishment licence**.

The Animals in Science Regulation Unit (ASRU) is responsible for licensing. During 2021, there were 144 establishment licences in place across Great Britain.¹⁴ This was down from 153 in 2020 and 160 in 2018.¹⁵

Procedures also require a **project licence** to cover the specific research being performed.

During 2022, there were 139 establishment licences in place and 2,913 active project licences. Two of the licensed establishments did not have any active project licences. The number of active project licences was slightly lower than in 2020 (3,024) and in 2021 (2,950).

A person carrying out a regulated procedure must hold a **personal licence**. There were 16,278 of these in force at the end of 2018 but equivalent information has not been published since then.

Universities and schools conduct more than commercial organisations

Detailed statistics on procedures by type of establishment have not been published since 2020 and this information is no longer collected in the Home Office's system.¹⁶

In 2020, universities and medical schools accounted for 1.6 million procedures on living animals, or 54% of the total. This is the most recent year for which this data is published. The Home Office stated in its 2021 Annual Statistics of Scientific Procedures on Living Animals report that "Information regarding establishment type is no longer collected in the return of procedures collection".¹⁷

As the chart below shows, over the past 30 years GB research has moved away from being dominated by commercial organisations. In 1988, 61% of all

¹⁴ Home Office, [Statistics of scientific procedures on living animals, Great Britain: 2022](#)

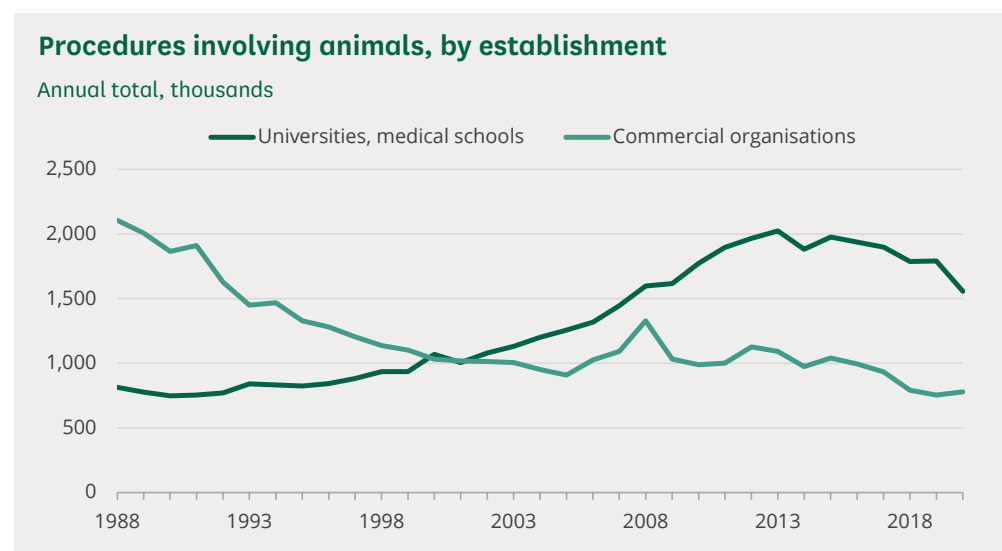
¹⁵ Home Office, [Statistics of scientific procedures on living animals, Great Britain: 2020](#); APHA, [Animals in Science Regulation Unit annual report 2018](#).

¹⁶ The [User Guide](#) to these statistics notes that the decision was taken to stop collecting this information because "an individual establishment could be categorised as multiple types, and type was not an indicator of the procedures conducted by establishments."

¹⁷ Home Office, [Annual Statistics of Scientific Procedures on Living Animals Great Britain 2021 \[PDF\]](#), page 30

procedures were performed by such organisations whereas in 2020, the figure fell to 27%.

In nominal terms, the number of procedures carried out by commercial organisations has fallen by more than half (63%) since 1988. This decline is attributed to two factors: first, the increase in fundamental research (gathering knowledge and understanding of scientific phenomena) involving GA animals at universities, and second, the general fall in procedures undertaken for toxicological purposes.



Sources: Home Office, Statistics of Scientific Procedures on Living Animals Great Britain: Time Series Tables 2008 and 2020

Note: 1988-2006 Universities and polytechnics were reported separately until 2016 when they were aggregated.

The table below shows a detailed breakdown of procedures by establishment for 2020 and the change in this number over time. Note the number of procedures carried out at NHS hospitals and laboratories in 2020 was 96% lower than in 1988 and 83% lower than in 2010. Meanwhile procedures by non-profit organisations have tripled since 1988, with these establishments performing the third most procedures in 2020.¹⁸

Number of procedures by establishment, thousands				
Comparing the 2019 numbers with 1988 and 2009				
Establishment	Number in 2020	% of procedures	Change since 1988	Change since 2010
Universities, medical schools	1,558	54%	91%	1%
Commercial organisations	780	27%	-63%	-21%
NHS hospitals & laboratories	5	0%	-96%	-83%
Government departments	24	1%	-63%	-68%
Other public bodies	156	5%	-33%	-72%
Non-profit-making organisations	360	12%	211%	17%
Total	2,883	100%	1%	-5%

¹⁸ Not-for-profit organisations include registered charities and other entities that operate without the aim of profit-making.

Source: Home Office, Annual Statistics of Scientific Procedures on Living Animals Great Britain [2019](#) & 2008: Table 11

As these figures are no longer being published by the Home Office, there is a gap in current data.

The organisation Understanding Animal Research collects and analyses data on procedures on animals from research organisations. It found that in 2022, 10 establishments were responsible for 52% or over half of all procedures on animals for scientific research.¹⁹ These are listed below.

- University of Oxford (209,544 procedures in 2022)
- University of Cambridge (206,992)
- The Francis Crick Institute (190,981)
- University of Edinburgh (154,764)
- University College London (148,050)
- Medical Research Council (136,732)
- King's College London (123,228)
- University of Glasgow (108,204)
- University of Manchester (95,004)
- Imperial College London (60,904)
- All other establishments in Great Britain (1,434,403).

¹⁹ Understanding Animal Research, [Ten organisations account for half of all animal research in Great Britain in 2022](#), 30 June 2022. This was based on data collected from 63 establishments and the overall Great Britain-wide data from the Home Office.

8

Animal experiments in the EU

As of 2014, EU Member States are required to publish annual statistics on the use of animals in scientific procedures, starting from 2014 (Directive 2010/63/EU [PDF]). The most recent data was published in 2020 but does not include figures for the UK.

EU-wide statistics are presented in a different way to those published for Great Britain by the Home Office. They capture the **number of animals** used in procedures rather than the number of procedures. This makes the overall numbers look slightly lower as several procedures are sometimes performed on the same animal.

In all EU countries plus Norway and the UK in 2020, there were 9.4 million animals used in experimental procedures.²⁰ Germany used the most animals in experimental procedures (1,537,000 animals) and France used a similar number (1,512,000). They were followed by Norway (1,412,000 animals) and the UK (1,377,000 if counting ‘animals used for the first time in procedures’, which is the nearest equivalent data available). Together these four countries accounted for 62% of animals used in experiments in the EU.²¹

When accounting for the human population size of each country, the UK ranked 10th out of these countries in terms of the number of animals it used in experimental procedures in 2020. Malta used by far the most animals relative to its population, with a ratio of nearly one animal used in experimental procedures for every 1,000 people in the human population.²² Denmark, Belgium and Ireland had the next highest ratios of animals used relative to their population size.

²⁰ European Commission, [Report on the statistics on the use of animals for scientific purposes in the Member States of the European Union and Norway in 2018](#) (PDF), Part 2: Tables 2.1 to 3.2. This refers to animals used for the first time and those used subsequent times and excludes instances of breeding and creation of GA animals.

²¹ As above

²² As above; Eurostat [Population on 1 January \(tps00001\)](#)

Animals used in experimental procedures in EU countries, 2020

Includes first and subsequent use; excludes instances of breeding and creation

Country	Animals used	Per 10,000 population	Continued...	Animals used	Per 10,000 population
Germany	1,536,834	185	Portugal	62,994	61
France	1,511,555	225	Malta	47,490	923
Norway	1,411,606	17	Greece	44,349	41
UK	1,376,664	205	Croatia	36,442	90
Spain	687,895	145	Slovakia	14,757	27
Italy	446,874	75	Bulgaria	8,414	12
Belgium	396,228	344	Romania	7,874	4
Netherlands	396,041	228	Slovenia	5,796	28
Sweden	258,599	250	Luxembourg	5,341	85
Denmark	250,127	430	Estonia	4,089	31
Czechia	225,581	211	Latvia	3,857	20
Austria	184,429	207	Lithuania	3,788	14
Ireland	137,988	278	Cyprus	3,746	42
Hungary	136,545	140			
Finland	112,976	204	Total	9,431,594	157
Poland	112,715	30			

Source: European Commission, [Report on the statistics on the use of animals for scientific purposes in the Member States of the European Union and Norway in 2020 \[PDF\]](#), Part 2: Tables 2.1 and 2.2; Eurostat [Population on 1 January \(tps00001\)](#)

The EU Commission also publishes the number of animals used for the creation and maintenance of GA lines. The latest figures show that the EU and Norway used around 700,000 animals in creation and maintenance procedures in 2020.

These figures appear to only refer to the animals used for breeding, as opposed also to including the offspring, unlike the Home Office figures for Great Britain. The UK figures cannot be included here because they capture the number of procedures rather than animals used.

Germany used the most animals in creation and maintenance procedures in 2020 (361,000), followed by France (132,000). Norway, despite its relatively high number of animals used in experimental procedures, used relatively few (10,000) in creation and breeding and these were mainly fish. Across EU countries and Norway, mice made up the large majority (85%) of animals used in creation and maintenance.

The full results by country can be found in [the European Commission's 2018 report](#) (PDF) and [a summary \(including Norway\)](#) has been published by the organisation Understanding Animal Research.

9

Reference table

Species used in all scientific procedures on living animals																		
Great Britain																		
Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total	3,631	3,480	3,315	3,207	3,242	2,928	2,828	2,842	2,710	2,717	2,636	2,660	2,657	2,715	2,622	2,733	2,792	2,855
Mouse	2017.3	1850.5	1,745	1,636	1,699	1,449	1,457	1,475	1,455	1,502	1,518	1,591	1,642	1,607	1,658	1,720	1,817	1,919
Rat	866.3	860.4	882	892	882	833	820	756	694	689	637	576	567	535	500	510	496	465
Other rodent	178.6	184.1	172	163	152	132	138	141	134	125	103	93	81	72	62	60	48	38
Rabbit	109.9	131.8	113	90	82	80	71	69	61	54	45	38	41	40	34	30	25	22
Carnivore	18.7	20.5	21	19	18	17	15	14	15	15	13	12	14	12	12	12	11	11
Ungulate	38.7	38.1	35	35	31	34	33	32	55	60	60	68	64	63	57	76	75	
Primate	5.1	6.3	5	5	5	5	5	5	5	4	4	4	4	4	4	5	4	
Other mammal	0.9	0.4	0	1	1	1	3	3	1	1	1	1	1	1	1	2	2	
Bird	273.1	269.5	252	246	227	220	116	190	140	114	121	141	106	124	127	138	122	105
Reptile/Amphibian	10.5	11.3	12	13	15	19	18	17	17	17	15	14	15	16	18	18	17	20
Fish	112.3	107.5	78	108	132	138	152	140	131	135	120	122	122	243	171	182	174	195
Cephalopod	..	..	..	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0
Continued...	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total	2,896	3,012	3,202	3,656	3,620	3,725	3,793	4,110	4,122	3,867	4,143	3,937	3,789	3,520	3,402	2,883	3,056	2,761
Mouse	1,961	2,067	2,222	2,419	2,629	2,670	2,680	3,059	3,077	2,921	3,038	2,866	2,782	2,568	2,508	2,067	2,084	1,971
Rat	425	406	386	355	334	305	272	278	266	254	269	249	242	178	171	209	197	186
Other rodent	42	38	37	35	26	20	18	18	31	33	25	29	26	9	10	9	8	6
Rabbit	23	20	20	17	17	15	15	14	15	14	14	15	10	11	10	11	9	9
Carnivore	10	10	9	9	7	7	5	5	5	5	5	6	4	5	5	5	5	5
Ungulate	61	56	48	55	55	53	56	62	63	61	64	67	66	72	75	72	71	69
Primate	5	4	4	5	4	5	2	3	3	3	4	4	3	3	3	2	3	2
Other mammal	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	0	0	1
Bird	113	114	128	123	127	142	163	154	141	139	141	151	132	148	133	125	243	136
Reptile/Amphibian	22	21	19	33	21	15	16	14	11	17	20	12	10	10	7	7	11	5
Fish	233	274	328	605	398	491	564	501	507	419	561	536	514	514	480	376	424	371
Cephalopod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Home Office Statistics of Scientific Procedures on Living Animals Great Britain 1988; Statistics of Scientific Procedures on Living Animals: Time Series Tables, 2008 and 2022: Table 2.1.

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