

TOPICS

2010 Laboratory Animal Statistics for Great Britain: Implications for Animal Welfare

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Abstract

The 2010 laboratory animal use statistics for Great Britain revealed that just over 3.7 million scientific procedures using animals were commenced, representing an increase of 3% (105,000) over the previous year. Laboratory animal numbers have steadily risen across the preceding decade, largely due to increasing use of genetically altered animals. However, their use has disturbing implications for animal welfare. Similar concerns are raised by increasing use of non-human primates, and of procedures conducted without any form of anaesthesia.

Key words: *animal research, animal experiment, animal welfare, animal ethics, 3Rs*

Genetically altered animals

Laboratory animal numbers have inexorably risen over the last decade. There were 1.0 million more procedures than in 2000 (37%), mostly accounted for by the use of an additional 921,000 animals in breeding procedures to produce *genetically altered* animals. Such animals include those whose genomes have been artificially modified during the initial stages (*GM animals*), rather than through natural breeding or mutation, as well as animals with harmful genetic mutations. The maintenance and expansion of all genetically altered strains requires further breeding, however. Yet even when excluding such breeding procedures, there were still 4% (89,000) more procedures than in 2000 (Home Office 2011a).

Consistent with these trends, the 2010 increases when compared to 2009 were largely due to greater use of genetically altered animals. The increase in procedures using GM animals was 6% (88,000), and the increase in procedures using animals with harmful genetic mutations

was 4% (17,000). Most of these increases were attributable to an 8% (73,000) increase in the use of GM mice in breeding procedures (Home Office 2011a).

Within the 3.7 million total procedures in 2010, 1.6 million procedures (43%) used GM animals and 400,000 procedures (11%) used animals with harmful genetic mutations. Procedures using such genetically altered animals exceeded those using normal animals for the second year in a row. Genetically normal animals accounted for the remaining 1.7 million procedures (virtually the same level as in 2010), slightly less than half (46%) of the 3.7 million total (Home Office 2011a).

The welfare implications of such heavy reliance on GM animals are disturbing. Particularly in the initial stages, the production of GM strains involves surgical procedures and significant physiological challenges. It is also an inherently inefficient process, frequently resulting in a high proportion of discarded animals, with the

welfare of the survivors more likely to be adversely affected than for non-GM strains.

Non-human primates

The use of non-human primates rose by 10% (425, to a total of 4,688) when compared to 2009 (Home Office 2011a). The advanced emotional, psychological and social capacities of primates markedly increase their risks of suffering within laboratory environments and procedures. They have advanced capacities to understand and remember that certain people, tools or procedures are likely to cause pain and distress, and their ability to anticipate future aversive experiences is likely to compound the distress such events may cause.

Use of anaesthesia

Sixty nine per cent of all procedures (2.6 million) did not utilise any form of anaesthesia. This was an increase of 6% (154,000) compared to 2009, and represented the greatest proportion of procedures conducted without anaesthesia since reporting began in 1988. From 1988 to 2010, the proportion of procedures conducted without anaesthesia fluctuated from approximately 59 to 69%. Analgesic use was not reported (Home Office 2011b).

Whilst anaesthetic and analgesic use undoubtedly alters normal physiology, claims that such alterations are sufficiently important to hypotheses under investigation to warrant their exclusion, require careful scrutiny. Despite increasing recognition that pain relief improves both animal welfare and research quality – via minimisation of pain-related physiological, psychological and behavioural distortions – pain monitoring and analgesic provision remains less than optimal within many research protocols.

Implications

The steady increases in the use of GM animals and those with harmful mutations, of non-human primates, and of procedures conducted without any form of anaesthesia, several of which are now at record highs, deliver a conclusion as unavoidable as it is unpalatable: neither the British government nor its scientific community are serious about reducing the use of animals in

research, or of procedures that pose the greatest threats to their welfare.

References

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