ECRONICON OPEN ACCESS

EC PHARMACOLOGY AND TOXICOLOGY
Editorial

Strengthening Ethical and Regulatory Frameworks for Laboratory Animal Use in Countries in Transition: A Pathway to Global Integration in Drug Discovery

Karen Mulkijanyan[1,2]*

[1]*Tbilisi State Medical University, I.Kutateladze Institute of Pharmacochemistry, Georgia*

[2]*Georgian Association for Laboratory Animal Science, Georgia*

***Corresponding Author:** Karen Mulkijanyan, Tbilisi State Medical University, I.Kutateladze Institute of Pharmacochemistry and Georgian Association for Laboratory Animal Science, Georgia.

Received: September 23, 2025; **Published:** October 01, 2025

The ethical care and use of laboratory animals is crucial to biomedical research, especially in drug discovery. As pharmaceutical science moves toward increasingly complex therapeutic targets, animal models remain critical for evaluating safety, efficacy, pharmacokinetics, and toxicity of novel drug candidates before human trials. High-quality, compassionate, and ethical research promotes moral responsibility, yields accurate, repeatable, and translatable data, and strengthens public trust and worldwide collaboration.

In recent decades, international consensus has emerged around comprehensive frameworks designed to ensure the humane treatment of animals used in scientific research. These frameworks reflect both scientific necessity and ethical accountability, recognizing that responsible animal experimentation strengthens public trust and facilitates global collaboration. In the United States, Animal Welfare Act [1] along with the Public Health Service Policy on Humane Care and Use of Laboratory Animals [2], administered by the NIH's Office of Laboratory Animal Welfare, mandates institutional assurances, review committees, regular evaluations, and adherence to the Guide for the Care and Use of Laboratory Animals [3]. In Europe, Directive 2010/63/EU harmonizes standards across member states, embedding the principles of replacement, reduction, and refinement (3Rs) and requiring ethical oversight, project authorization, harm–benefit analyses, personnel training, and public engagement [4].

In countries in transition (CIT) spanning Eastern Europe, Central Asia, the Balkans, and parts of Latin America and Africa—these rigorous regulatory landscapes often remain an aspiration. Many lack dedicated legislation for scientific animal use, and existing welfare laws typically omit oversight committees, veterinary expertise, housing standards, and training requirements. Research facilities may rely on outdated equipment, substandard housing, and sparse laboratory animal specialists. Satellite or remote animal units often operate outside centralized supervision, while a lack of skilled veterinarians and technicians affects both care of laboratory animals and scientific validity of the research.

These weaknesses are further exacerbated by the fact that, unlike the powerful, interdisciplinary committees authorized by US and European frameworks, many CIT institutions have advisory panels that lack independence, ethics representation, and enforcement capacity. This flaw undermines ethical review, obscures harm-benefit calculations and allows processes to proceed without rigorous oversight, creating the risk of noncompliance, inconsistent data, and ethical violations.

Both structural and oversight shortcomings directly constrain international collaboration and funding eligibility. Major research funders, including the National Institutes of Health, the Wellcome Trust, and Horizon Europe, require confirmation of compliance with acknowledged welfare standards, as well as the operation of competent ethic committees. Institutions without certified assurances or functional are often ineligible for funding and collaborations. Leading journals also require approval of research protocols and compliance with reporting guidelines, otherwise it leads to rejection of manuscripts and a decrease in the visibility of CIT scientists.

Many CITs have a low level of public awareness and endorsement of animal research. Cultural preferences and, sometimes, misunderstanding of the importance of animal research lead to opposition or indifference, while few outreach activities exist to explain research protections. In contrast to the transparency actions and open days that are widespread in Western countries, such engagement is unusual in transitional periods. This absence of discourse undermines political will for change and makes it difficult to justify investment in ethical animal research.

The aforementioned challenges demand a dual strategy of international cooperation and local shifts. Training seminars, exchange fellowships, and visiting-expert consultations can all help to speed capacity development through partnership between established research institutes and CIT institutions. Experienced veterinarians and committee chairs from accredited facilities can train newly formed review bodies, refine operating procedures, and aid with protocol design. Additionally, the early-career scientists from CIT benefit from internships abroad.

International organizations like ICLAS and FELASA promote standardization through conferences, online training courses, and shared digital platforms for policy templates and inspection checklists. At the same time both global and national funding organizations should consider including capacity-building components in grants to CIT institutions to foster improvements in animal care, oversight, and staff competence.

CIT governments have to develop implement or amend legislation governing the use of laboratory animals, establish independent ethical committees, and enforce frequent reporting and inspections. Ministries of health, science, and agriculture should coordinate policies that are consistent with internationally recognized standards such as the PHS framework and EU Directive 2010/63/EU. Where full compliance is not immediately possible, interim procedures (provisional assurances or temporary review panels) can fill gaps while permanent systems develop.

Sustainable financing and institutional commitment are both essential. Universities and research bodies should set aside funds for facility renovations, equipment specific to veterinary services, and staff development. Embedding ethics education into graduate and professional programs ensures that new scientists understand ethical research concepts from the start.

Enhancing openness through public discourse is crucial for establishing confidence. Clear information campaigns, open-access collections of annual reports, inspection summaries, and initiatives for replacement, reduction, and refinement will involve civil society, educators, and the media. By explaining animal research, institutions may promote informed discussion, dispel myths, and mobilize support for regulatory reforms.

Importantly, upgrading welfare standards not only fulfills ethical requirements, but also strengthens research findings. Minimizing stress, pain, and poor husbandry reduces physiological influences, lessens data variability, and enhances reproducibility, all of which are important defenses against the replication challenge in biomedical research. Aligning workflows with internationally accepted standards reassures global partners regarding data integrity, enabling convenient participation in multinational drug trials in response to emerging health concerns like antibiotic resistance and pandemic.

In conclusion, the way forward is not impassable or exceptional. CIT can create scientifically sound, ethical, and transparent animal research framework by making strategic investments in law, infrastructure, education, and international collaboration. Hence, the state-of-the-art animal welfare regulations in CIT means much more than just an ethical obligation; it is necessary for scientific legitimacy, innovation, and equity in global health improvement.

Bibliography

1. United States Department of Agriculture. Animal Welfare Act (1966).
2. National Institutes of Health. "Public Health Service Policy on Humane Care and Use of Laboratory Animals". Office of Laboratory Animal Welfare (2015).
3. National Research Council. "Guide for the Care and Use of Laboratory Animals (8th edition)". National Academies Press (2011).
4. European Parliament and Council of the European Union. Directive 2010/63/EU on the Protection of Animals Used for Scientific Purposes. Official Journal of the European Union, L276 (2010): 33-79.

Volume 13 Issue 10 October 2025