

LETTERS

edited by Jennifer Sills

The Global Alliance for Chronic Diseases

APPROXIMATELY 35 MILLION PEOPLE WILL DIE THIS YEAR FROM CHRONIC, NONCOMMUNICABLE diseases (CNCDS) worldwide (1, 2). CNCDS include cardiovascular disease and stroke, cancer, diabetes, and chronic respiratory diseases. CNCDS account for 60% of all deaths worldwide, of which 80% occur in low- and middle-income countries (LMICs) (3). Yet, until now there has been no coordinated effort by major global health research councils to address these specific needs.

To this end, we announce a new global health initiative, the Global Alliance for Chronic Diseases (GACD). The first alliance of its kind among government health research councils, the GACD was launched on 15 June 2009 in Seattle, Washington, coincident with the meeting of Heads of International Biomedical Research Organizations. The GACD has a global reach, bringing together an initial formative group of six major national health research councils. These agencies together represent about 80% of all public research funding in the world. Member agencies are Australia's National Health and Medical Research Council; the Canadian Institutes of Health Research; the Chinese Academy of Medical Sciences; the U.K. Medical Research Council; and the U.S. National Institutes of Health, specifically its National Heart, Lung, and Blood Institute and Fogarty International Center. In addition, the Indian Council of Medical Research has been invited to be a Member agency of the Alliance.



Allies. Global Alliance for Chronic Diseases signatories make the Alliance official [back row, left to right: Depei Liu (China), Warwick Anderson (Australia), Abdallah Daar (University of Toronto), Stig Pramming (Oxford Health Alliance), and Leszek Borysiewicz (United Kingdom); front row, left to right: Elizabeth Nabel (United States) and Alain Beaudet (Canada)].

focus is on the CNCDS in LMICs and among low-income and indigenous populations of the more developed countries to support collaborative, coordinated research on low-cost interventions and to build capacity in research, training, and healthcare delivery.

This initial group will expand to involve other research funders, including philanthropic foundations, from around the world with an interest in the Alliance's agenda. Industry has an important role in solving some of these problems, ensuring the public-private aspect of this venture. The World Health Organization (WHO) has joined in an Observer status and, in

addition to the Grand Challenges priorities (2), GACD will consider the WHO 2008–2013 Action Plan for the Prevention and Control of Noncommunicable Diseases in setting priorities (4).

The following priorities have been proposed by some GACD founding members, but exact research priorities await further discussion and will develop as the Alliance evolves: prevention of cardiovascular diseases; public health measures for the control of diabetes and obesity; characterization, quantification of risk factors (tobacco and environmental pollution), and development of control measures for chronic obstructive airways disease, cancer, cardiovascular disease and other disorders; and implementation research of interventions to address these and other priorities. A future Alliance research priority is likely to be in the area of mental health.

The creation of the GACD brings to fruition a global commitment to urgently increase the resources and attention to CNCDS. With concerted action, many millions of premature deaths can be averted in the decades ahead.

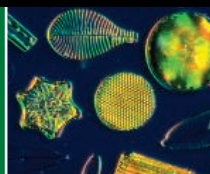
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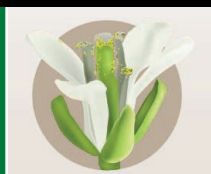
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Diatom
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Auxin in
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Current Brazilian Law on Animal Experimentation

LAST YEAR, *SCIENCE* PUBLISHED A STORY ON THE Brazilian scientific community's battle against a series of local attempts to ban laboratory animal experimentation and the hope for a federal law addressing laboratory animal research that would put a stop to such local bans (1). The Brazilian Federal Law on Animal Experimentation (Law 11794) was enacted on 8 October 2008.

Law 11794 establishes procedures for the scientific use of animals and abrogates the previous Law 6638/1979, which was ineffective because it was not regulated by the Brazilian Executive Power. Without regulation, many issues remained ill-defined, including operational procedures and responsibilities such as

licensing, accreditation, and institutional compliance inspection. The new law states that scientific research activities include basic and applied science, technological development, production and quality control of drugs and medications, food, immunobiological agents, and instruments tested on animals. The law does not extend to the procedures applied to animal experimentation in the course of veterinary, agricultural, or laboratory animal husbandry practices and procedures for the identification of animals for scientific purposes, should they cause no lasting harm.

Only universities and biomedical technical schools are entitled to use laboratory animals in teaching. The term "biomedical" is not defined within the text of the Law, which may generate difficulties given that it does not have a specific meaning in the context of education.

Law 11794 does not indicate whether animal experimentation is allowed by students under 18 years old, unlike Law 6638/1979.

Law 11794 establishes The National Animal Experimentation Control Board (CONCEA), under the presidency of the Ministry of Science and Technology (MCT). Law 11794 does not clearly specify in which ministry CONCEA, as a public administrative unit, belongs. That is, there is no legal disposition tying CONCEA to the MCT. This means that CONCEA will have difficulties implementing its norms, procedures, and resolutions due to lack of ministerial power.

Only institutions accredited by CONCEA can breed or use laboratory animals for teaching and research. CONCEA is primarily an advisory body, and its powers are limited. CONCEA accreditation requires the previous establishment of an ethics committee on the use of animals (CEUA) by the license-seeking institution. CEUA is the body formally responsible for the care and use of research and teaching animals within the institution. All proposals involving laboratory animals have to be submitted and reviewed by CEUA, which has the authority to halt any teaching or research practice that

does not comply with the legislation. CEUA must ensure that the facility standards and the care of animals are in accordance with CONCEA resolutions. The Committee is composed of veterinarians and biologists, professors and researchers of a specific area, and one representative of a legally established Animal Protection Society within the country. The number of members is left open with exception of the mandatory Animal Protection Society member. Considering the heterogeneous geographical distributions of researchers within the Brazilian Territory, a large variability in the number and profile of CEUA members among institutions is expected, which is problematic.

It is CEUA's duty to keep an institutional database of researchers and procedures that use laboratory animals in research and teaching and to report the data to CONCEA. Law 11794 does not mention whether the information retrieved by CONCEA will be made available to the public. The value of public access to information has been stressed by the Federal Constitution (Article 5, XXXIII). Accountability and transparency in animal experimentation are practices yet to be learned by Brazilian research institutions and governmental bodies. The changing process will demand from CONCEA and CEUA communication skills far above those previously required.

Law 11794 places less emphasis on alternatives to animal experimentation than was previously treated legislatively and is expected by the Animal Protection Societies. A requirement that animal experimentation projects must demonstrate the relevance of their results for the progress of science and show that alternative, equally effective methods do not exist was also deleted from one of the substitutive bills proposed.

For Brazilian scientists, Law 11794 undoubtedly represents improvement. It can also support the democratic process of closing the gap between science and society. Nevertheless, its limits and potentialities will depend on the regulatory process in

progress. The challenging issues that were left open by Law 11794 may lead to subjective interpretation of its content. In addition, the adoption of research practices that take into account animal welfare will depend on a government long-term action plan regarding the many and complex aspects related to human resources, training and education on animal care, management and housing, animal research facilities, replacement techniques on animal experimentation, and communication and information systems.

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Creationist Beliefs in Europe

A RECENT NEWS OF THE WEEK STORY ("Creationist beliefs persist in Europe," A. Curry, 27 February, p. 1159) referred to a lack of regionwide studies on creationist beliefs in Europe, while ignoring most of the European research project BIOHEAD-Citizen (Biology, Health, and Environmental Education for Better Citizenship CIT2-CT-2004-506015, 2004–2008). This project involved data collection from 7050 teachers in 19 countries, 13 of which were in Europe (1).

In each country, the sample was a balanced set of primary and secondary school teachers who taught biology or the national language. This study differentiated between anti-evolutionist creationist teachers, teachers who are creationist and evolutionist, and teachers who are evolutionists. There was a large contrast across countries: from 2% anti-evolutionist creationists in Estonia or France to more than 80% in Morocco or Algeria. In Europe, results revealed 47% anti-evolutionist creationists in Romania, 30% in Poland, and more than 25% in Cyprus and Malta. Creationist beliefs were more likely in those with greater belief in God or greater religious observance, regardless of religion. Biology teachers were more evolutionist than their colleagues in only half of the countries surveyed. The longer a teacher trained at a university, the greater the acceptance of evolutionist ideas.

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Sex in *Leishmania*

IN THEIR REPORT "DEMONSTRATION OF GENETIC exchange during cyclical development of *Leishmania* in the sand fly vector" (10 April, p. 265), N. S. Akopyants *et al.* provided evidence for sexual recombination. The next priority should be to apply high-resolution imaging with molecular markers to determine when, where (i.e., in which part of sand fly gut), and how the "mating" events occur.

Genetic exchange is crucial for adaptation to stressful environments. However, in *Leishmania*, exposure to specific stressful conditions in the sand fly gut is likely to induce genetic exchange. Access to the sand fly genome is now urgently required to facilitate the search for factors that stimulate *Leishmania* sex.

The epidemiological consequences of genetic exchange in *Leishmania* are potentially alarming. Akopyants *et al.* demonstrate two distinct virulence traits among hybrid *Leishmania* clones but do not document the effect of genetic exchange on development of *Leishmania* in the vector. There is, however, proof that sex enhances *Leishmania* fitness and transmission in the sand fly. *Leishmania infantum* and *L. major* are divergent species, transmitted by different vectors to different mammalian reservoirs. Nevertheless, *L. infantum*/*L. major* hybrids (1) complete the life cycle in *Phlebotomus papatasi*, the specific vector of *L. major* that does not support *L. infantum*. Hybrids thrive in the aggressive, widespread human-biting *P. papatasi*, as well as in a principal vector of *L. infantum*, *Lutzomyia longipalpis* (2). Other naturally occurring interspecific *Leishmania* hybrids may spread to new vectors, with geographical expansion and carriage of traits such as visceralization and metastasis in humans.

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Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the previous 3 months or issues of general interest. They can be submitted through the Web (www.submit2science.org) or by regular mail (1200 New York Ave., NW, Washington, DC 20005, USA). Letters are not acknowledged upon receipt, nor are authors generally consulted before publication. Whether published in full or in part, letters are subject to editing for clarity and space.