Correspondence

Germline editing: resist a moratorium

On the basis of my experience in technology governance and engaging with stakeholders and the public over controversial bioscience, I contend that we should resist the moratorium proposed by Eric Lander and colleagues on clinical applications of human-germline editing, tempting though it is (*Nature* **567**, 165–168; 2019).

The proposed consensus-based conditions for waiving the moratorium (including the question of their control) could prevent countries from developing policies adapted to their own diverse needs, interests, values, ethical views and moral stances. In some societies, for example, the importance of having a genetically related child could outweigh the technology's biological risks.

Alternative paths to responsible human-germline editing should reconcile consensus with pluralism (see J. S. Dryzek and S. Niemeyer *Am. J. Polit. Sci.* **50**, 634–649; 2006). For example, existing organizations could develop internationally recommended standards and translation schemes for clinical trials that would cater for different policy requirements — instead of creating further bodies to govern a moratorium.

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Germline editing: an accidental risk

Eric Lander and colleagues consider the ethical and safety concerns that distinguish heritable (germline) from non-heritable (somatic) genome editing (*Nature* **567**, 165–168; 2019). However, unintended germline modification could result from well-intentioned somatic-genome-editing procedures. We therefore also need to consider how such risks might be mitigated and managed.

For non-heritable genome editing, somatic cells from a consenting adult are edited in the laboratory and then re-implanted. This *ex vivo* approach is unlikely to correct many genetic conditions. Deactivated viruses, liposomes and nanoparticles are therefore being tested as vehicles by which to convey the genome-editing machinery to faulty cells *in vivo*.

Restricting delivery to specific organs — the brain, for example — might work in some cases. However, treating disorders such as muscular dystrophies could involve exposing large parts of the periphery, including the gonads, to delivery vectors. It is therefore crucial to establish an acceptable level of risk to the germ line that allows *in vivo* somatic editing to proceed.

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Unclog pipeline for new medicines

Problems with the provenance of biomedical research findings occur in the pharmaceutical industry and in contract research organizations, as well as in academic institutions (see A. Casadevall *Nature* **568**, 7; 2019). Strategies that counter biased reasoning and encourage better record-keeping — such as blinding, randomization and appropriately designed data collection and analysis — should therefore be applied across sectoral divides.

We are developing a flexible quality-management framework that aims to improve conduct and reporting of preclinical research in both the public and the private sectors. The framework is being generated by the European Quality in Preclinical Data (EQIPD) project, which draws members from the pharmaceutical industry, academic institutions and contract research organizations (see go.nature.com/2uifxgs), and is financially supported through the European Union's Innovative Medicines Initiative.

The EQIPD will engage with the wider biomedical-research community to pilot the quality-management framework. Individuals wishing to contribute are invited to get in touch.

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Rush on 'red gold' harms ecosystems

Norway is harvesting krill (*Euphausia superba*) in the Southern Ocean and copepods (*Calanus finmarchicus*) in the northeast Atlantic Ocean on an unprecedented scale for use in pharmaceuticals and aquaculture foodstuffs. Government and big business are hailing this exploitation as a sustainable enterprise on the grounds that the biomass of this 'red gold' is enormous. Scientists have a responsibility to refute such ecological illiteracy, to inform public debate and to raise a precautionary flag.

Climate change is making ecology more complex and unpredictable than ever. It is putting krill under pressure, which in turn threatens the survival of the great whales and other predators (V. J. D. Tulloch *et al. Glob. Change Biol.* **25**, 1263–1281; 2019). The extent to which ecosystems are imperilled by such large-scale plundering and its bycatch of fish larvae is unknown. Many questions are unanswered; still more remain unasked.

Norway could learn from the collapse of the world's prodigious herring fisheries just 80 years after Thomas Huxley's pronouncement that people could fish them "how they like, as they like, and when they like" (*Nature* **23**, 607–613; 1881).

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Conflict of interests not always a conflict

Transparency about competing interests is essential when reporting scientific data. However, use of the term 'conflict of interests' for such declarations can be misleading in some biomedical papers.

A genuine example of a conflict of interest is when academic researchers are financially rewarded for their work by commercial partners. The situation can be more nuanced for reports of biomedical discoveries that could be applied in clinical situations. After all, developing such treatments for patients is a moral obligation for academic researchers, both to their funders and to society — even though it can mean working with biotechnology or pharmaceutical companies. Disclosing a financial arrangement as a 'conflict of interest' under such circumstances implies that engagement with for-profit companies is a nefarious activity, potentially at odds with what society expects from biomedical scientists.

In that context, a 'declaration of interest' would be a more accurate term for a mandatory and transparent disclosure of financial relationships. A 'conflict of interest' should instead be reserved for authors who cannot document efforts to translate their discoveries to the clinic.

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