

# Correspondence

## Use WHO antibody standards for emergency vaccine testing

The World Health Organization's International Standards for antibody assays enable researchers to compare results from different clinical trials of vaccines against a particular pathogen. Yet, despite the availability of such an antibody standard for SARS-CoV-2 (see [go.nature.com/3w5jkyk](https://go.nature.com/3w5jkyk)), none of the developers of the most advanced vaccine candidates used this standard when reporting early clinical data or when the vaccines were approved for emergency use.

Comparability of clinical-trial results improves the public-health value of vaccines. Regulators, clinical-trial sponsors, funders of vaccine development and ethics committees would all benefit from incorporating the WHO standards as a reporting requirement. Research papers should include them as a benchmark and report serology-assay data using the International System of Units for transparency.

Such standards are not always available at the start of a virus outbreak, as was the case for the Zika and 2014 Ebola outbreaks, so immune-response assays must be developed without such calibration. In that event, using standardized testing procedures and the same reagents can help (see [go.nature.com/3yakesv](https://go.nature.com/3yakesv)).

Note also that the WHO issued a manual in April 2022 for preparing reference materials for use as secondary standards in antibody testing.

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\*On behalf of 9 signatories. See [go.nature.com/3ggybn8](https://go.nature.com/3ggybn8)

## Arctic science: resume collaborations with Russian scholars

The inclusion of data and expertise from Russia is crucial for mitigating global climate change. As well as being the world's largest country, Russia has the longest Arctic shoreline and the largest forest biome and permafrost zone. We therefore call for a resumption of academic relations and scientific collaborations with Russian scholars and institutions, despite Russia's invasion of Ukraine last February and the ensuing geopolitical and socio-economic crises.

Since the invasion, international communication networks with scholars from Russia have collapsed (see *Nature* **607**, 432; 2022). However, peer-to-peer and institutional interaction in the global community of climate scientists is crucial for the continuity of observations, experiments and data sets, including those on greenhouse-gas emissions from industry, wildfires, permafrost thawing and carbon-cycle dynamics.

Collaboration also facilitates diplomatic soft power. For instance, Norway will take over from Russia as chair of the Arctic Council in May, but it is unclear how the handover might be achieved without scientific cooperation and mutual understanding. This could be an opportunity to reset international relationships in an increasingly uncertain world.

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## Honour genetic diversity to realize health equity

Jedidiah Carlson and his colleagues implore population geneticists to downplay genetic disparities to counter the misappropriation of genetics research by white nationalists (*Nature* **610**, 444–447; 2022). As scientists dedicated to the study of health disparities and health in people in minority groups, we suggest that this could be counterproductive because it cedes intellectual ground to extremists.

Researchers should instead home in on genetic diversity as a tool for improving health equity through identification of different biological pathways (see, for example, A. Oni-Orisan *et al. N. Engl. J. Med.* **384**, 1163–1167; 2021).

The authors urge colleagues to conduct and present analyses to “underscore – not undermine – the biological reality of our shared humanity”. But this is the opposite of what population geneticists and genetic epidemiologists actually do: we strive to highlight human diversity and uncover how our genetic differences relate to evolution and health. Abandoning this empirical mandate could threaten the credibility of our field.

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## UK Office for National Statistics responds

We wish to clarify some points relating to the assessment by the UK government's Office for National Statistics (ONS) of UK business spending on research and development (see *Nature* **612**, 8; 2022).

The ONS did not simply benchmark its improved figures for research and development (R&D) against those already produced by His Majesty's Revenue and Customs (HMRC). Our research revealed that small businesses had undercounted their R&D expenditure, so we used data from the HMRC and others to help us to understand the disparity. Those data were not used in our improved assessment method.

We disagree that ONS consultation with users was inadequate and that we should have waited for longer before releasing the improved figures. We engaged with a wide range of users over many months to ensure due diligence. Our duty is to publish the most accurate data possible. In addition, the UK Statistics Authority's Code of Practice for Statistics precludes us from discussing data with users before publication.

As the economy evolves and new data sources become available, the ONS regularly updates its methods to ensure the continued production of reliable, high-quality data. This might mean revising published ONS data, which is better than sticking to outdated sources and methods.

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