

World view



By Maneesha S. Inamdar

Global research standards must be truly inclusive

Guidelines for research can level the playing field for scientists in low-resource settings – but diverse voices are needed to ensure that people worldwide can actually follow them.

When I was starting out as a stem-cell researcher in Bengaluru, India, I faced challenges that would be foreign to many colleagues elsewhere. My experiments often had to be shelved because supplies took months to come, or arrived unusable. With funds to perform only a few experiments, I had to carefully weigh up whether a peer reviewer would find this reagent or that piece of equipment acceptable. Making the wrong choice could cause serious setbacks.

That's why I was keen to help develop a set of recommendations for how human stem cells used in basic research should be characterized and reported, released by the International Society for Stem Cell Research (ISSCR) this year (see go.nature.com/49np5z3). Reporting standards such as these ensure that science is rigorous and reproducible. This is crucial for stem-cell research aiming to reveal how human organs and tissues develop. By providing clear guidance on best practices – while taking into account the circumstances of researchers globally – they can also level the playing field for academics in resource-poor settings who don't have the luxury of trying out multiple protocols.

I think the ISSCR standards are a crucial step towards increasing equity among stem-cell researchers. Yet my time on the ISSCR committee – and on a World Health Organization committee for developing standards for human genome editing – showed me that such panels need to include more geographically diverse voices, so that 'international' guidelines can truly benefit everyone.

Just 2 of the 26 members of the ISSCR committee were from low- or middle-income countries (LMICs). Although this broadly reflects the global distribution of stem-cell researchers (at least those who are ISSCR members), the community should be working to change this distribution, not reinforce it. Even with the best of intentions, those with ready access to expertise and supplies often do not fully grasp what is affordable and practical for researchers in low-resource settings.

I was vocal in reminding the ISSCR committee that guidelines must consider local economics and resources. Just because a protocol can be followed easily in US or European laboratories, it does not mean that all the necessary reagents and equipment can be obtained elsewhere. And most reagents cost researchers in India almost double the amount that scientists in Europe or the United States pay, because of higher list prices, import duties and shipping charges.

Only by building accessibility and affordability into the way we do science can we reach this goal."

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This means that fair standards should not recommend, or even suggest, specific assays. For instance, although the ISSCR guidelines make it clear that stem-cell lines should be checked to see whether the lines have accrued genetic mutations, they are not prescriptive about how a researcher should assess this. If a reviewer pushes for an assay that is unachievable in some countries, a researcher can now point to the guidelines, and say, 'These standards say that I've met the minimum requirements'.

I think the ISSCR standards are inclusive enough for researchers with limited resources to close the gap – and that this could help to diversify research. Currently, most studies of human stem cells use only certain cell lines, few of which were derived from people of South Asian descent. The new standards should enable researchers in low-resource settings to work more efficiently, freeing precious resources for developing stem-cell lines derived from people in their own regions. This diverse panel of stem-cell lines could be used for future benchmarking, making any revised standards more globally relevant. Such panels should also be used to assess how different genetic ancestries affect stem-cell behaviour – an issue about which little is known.

But my excitement is mixed with some guilt, because I cannot speak for researchers in resource-poor communities that were not represented on the committee. Issues unique to these nations might have been missed.

The ISSCR has an opportunity to seek strong geographical diversity for its upcoming guidelines for the clinical use of human stem cells. Discussions, which have just begun, urgently need to include the voices of scientists and physicians worldwide. Yet many in LMICs will lack the time or resources to attend conferences – and those that do might face a language barrier. Innovative ways to make discussions inclusive and accessible are needed. Having virtual committee meetings, and encouraging sub-groups to discuss locally relevant issues in native languages, would be a first step. Translating early drafts of the guidance for review would also help.

Some might argue that adding more voices to standards committees would extend the decision-making process unduly. Yes, making reporting standards truly inclusive takes time, but they are of little value if they represent the opinions of just a select few. Guidelines for best practices when culturing cells, which were released in 2022 after a year of open consultation with the global community, show that increasing inclusivity can work.

The scientific world has woken up to the idea that research should be equitable. Only by building accessibility and affordability into the way we do science can we reach this goal. If we fail, then my field – and many others – will remain the preserve of a few elite institutions, to the detriment of researchers, patients and science worldwide.