

SOFTWARE

IRREPRODUCIBILITY, ONCE MORE

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[Francis Collins](#) wrote in a commentary

A growing chorus of concern, from scientists and laypeople, contends that the complex system for ensuring the reproducibility of biomedical research is failing and is in need of restructuring. As leaders of the US National Institutes of Health (NIH), we share this concern and here explore some of the significant interventions that we are planning.

Science has long been regarded as 'self-correcting', given that it is founded on the replication of earlier work. Over the long term, that principle remains true. In the shorter term, however, the checks and balances that once ensured scientific fidelity have been hobbled. This has compromised the ability of today's researchers to reproduce others' findings.

Let's be clear: with rare exceptions, we have no evidence to suggest that irreproducibility is caused by scientific misconduct. In 2011, the Office of Research Integrity of the US Department of Health and Human Services pursued only 12 such cases³. Even if this represents only a fraction of the actual problem, fraudulent papers are vastly outnumbered by the hundreds of thousands published each year in good faith.

I agree, that a major part of current research output is not reproduced anymore.

Furthermore, there are doubts that science is self-correcting anymore even on the long-term run. Who will ever assemble 500K GWAS data 50.000 asthma patients and another 50.000 controls? [Sharing data](#) is the only solution to discover any false claims. Unfortunately, I could [even not even get within an EU FP 5 project](#) the genotype data from my own probands.

And let's be clear: was is scientific misconduct? Just fraud or the [long slippery slope](#)?

According to the FDAAA, failure to comply with its provisions may result in civil penalties of as much as \$10 000 per day.

Maybe the EU should implement a similar policy [like the FDAAA??](#)

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