

## Editorial Board

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## Variety is the spice of life

Research using animal models has been tilting towards standardization in recent decades. Tightly controlled variables—from an animal’s genotype to daily husbandry considerations to specific testing regimes—are intended to reduce noise and improve statistical results. But the real world is not homogenous, and the emphasis on standardizing everything might limit whether a particular study can be reproduced elsewhere and if its results can translate to where it counts: the clinic. In a new Perspective, S. Helene Richter discusses the “standardization fallacy” in animal experiments and explores whether introducing controlled, systematic heterogenization can improve the end result.

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## How to proceed with a rare disease

When a patient, or often a parent, is told that they or their child have an orphan disease, the path forward isn’t always clear. With over 7,000 orphan diseases out there, few have treatments. Many patients and their families will find themselves without even basic answers about their condition, often stemming from a lack of critical tools, like an appropriate animal model of the disease. An orphan disease diagnosis usually means a long road involving advocacy and fundraising, as well as figuring out how to get from preclinical studies into clinical trials. There are lots of roadblocks in the way of orphan disease research, but new resources are increasingly available to make sure the patients, their families, and the researchers who take on rare conditions are heard.

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