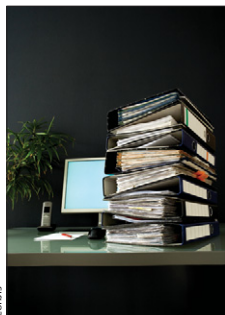


## Sharing public health data: necessary and now



Corbis

“Data management is the most neglected area of the public health research process.” So argued a draft code of conduct for funders of health research, discussed at the National Academy of Sciences in Washington, DC, USA, last week. Ably led by the Wellcome Trust and Hewlett Foundation, the gathering included UN agencies, academics, public health bodies, development organisations, and journal editors. The vision is to increase the public health benefits of research by promoting data sharing in the scientific community and beyond.

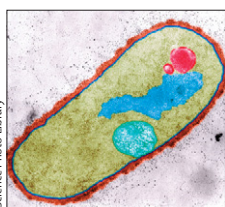
Currently, the outputs—and rewards—of research are based almost entirely on published papers in scientific journals. Incentives strongly favour publication, but not data sharing. Indeed, the extreme focus on publication creates disincentives to share data. This imbalance is at best inefficient, at worst profoundly harmful to health, preventing, as it does, other researchers from using datasets to make their own discoveries. There was broad agreement in Washington that funders should create a mechanism to translate the meeting’s concerns into more precise principles, goals, and recommendations on incentives, infrastructure, and capacity building.

That said, there was also concern that although data sharing was a critical issue, it was a part of a much more

troubling set of predicaments facing researchers in low-income and middle-income countries. Data producers in low-income settings desperately want to be data users. But all too often those same scientists see researchers from western universities use their data, leaving little or no benefit behind for local research capacity. Calls for data sharing need to embed trust and equity as core values. Any global code of conduct must advance local ownership of data, local analysis, local communication, and local translation of research findings.

Scientists in low-income and middle-income settings want an opportunity to analyse data for their populations according to their own priorities. They want to be in the frontlines of national and global conversations about their country experiences. They want a seat at the table among those writing codes of conduct about the sharing of data—data that may well be about their own people. There is an obligation among all of us who hold a hegemony in public health research to assist colleagues wherever we can to sustain embryonic scientific cultures, to help build research institutions, and to address locally relevant questions about health. Data sharing is a vital and urgent matter. It is also a part of a much larger set of interdependent hazards that need our equal attention. ■ [The Lancet](#)

## Synthetic cell created in a laboratory



Science Photo Library

On May 20, 2010, after 15 years of research that cost US\$40 million, Gibson and colleagues reported the creation of a synthetic bacterial cell at the J Craig Venter Institute (Rockville, MD, and San Diego, CA, USA) in *Science*. In this proof-of-principle study, the researchers used a computer to design a synthetic genome sequence that was based on the genome sequences of two laboratory strains of *Mycoplasma mycoides* subsp *capri*. The synthetic genome was transplanted into *Mycoplasma capricolum* subsp *capricolum* to create a synthetic *M mycoides* cell. The properties manifested by the recipient bacterium were controlled by the donor bacterium’s modified genome.

Although the cost of synthetic biology—ie, the cellular and genetic research used to create the synthetic cell—was expensive, the researchers at the J Craig Venter Institute have received funding to design new pathways for the synthesis of antibiotics that are too difficult to make chemically, new vaccine candidates for known influenza

viruses, and cells that can efficiently incorporate carbon into fuel molecules and food oils.

Like genetic engineering, synthetic biology might become an essential part of our everyday existence—eg, for synthesis of drugs and creation of modified plants for food. Careful regulation and monitoring will be needed to ensure that practical applications are thought through and unintended dangers to existing forms of life are prevented. With such concerns in mind, on May 20, 2010, in a letter, President Barack Obama asked the Presidential Commission for the Study of Bioethical Issues, Washington, DC, USA, to investigate “...the potential medical, environmental, security, and other benefits of this field of research, as well as any potential health, security or other risks”. Such a recommendation might apply in all countries where this type of research is in progress.

■ [The Lancet](#)

For more on Gibson and colleagues’ report see <http://www.sciencemag.org/cgi/rapidpdf/science.1190719v1.pdf>

For more on the research at the J Craig Venter Institute see <http://online.wsj.com/article/SB10001424052748704026204575266460432676840.html>

For more on President Obama’s letter to the Presidential Commission for the Study of Bioethical Issues see <http://news.sciencemag.org/scienceinsider/assets/2010/05/20/Gutmann.pdf>