

Correspondence

Research integrity guidelines in Japan

It is to be hoped that Japan's new guidelines for research integrity, released recently by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), will curb research misconduct (see T. Tanimoto *et al. Nature* **512**, 371; 2014).

Institutions in Japan have previously tended to avoid taking responsibility for misconduct by their scientists. Under the revised guidelines, a research institution must take appropriate measures against any scientist who is found guilty of data manipulation or fabrication, for example. Should it fail to do so, MEXT will cut its research budget.

MEXT has already reduced RIKEN's requested budget for next year by nearly 20% (¥12.1 billion; US\$111 million) as a penalty for inefficient handling of the two 'STAP' stem-cell papers published and subsequently retracted this year (see *Nature* **511**, 112; 2014). **Masanori Wada** *Tokyo Institute of Technology, Japan.* wada.m.ae@m.titech.ac.jp

Lung-cancer screens now worth the cost

False-positive results from computed-tomography (CT) scans were a cause for concern in the 2011 US National Lung Screening Trial (see *Nature* **513**, S4–S6; 2014). But false-positives have now been cut significantly owing to improved imaging technology and more-refined screening protocols (see B. J. McKee *et al. J. Am. Coll. Radiol.* <http://dx.doi.org/10.1016/j.jacr.2014.08.002>; 2014).

Contrary to your implication, an actuarial analysis indicates that CT lung scanning is cost-effective (see B. Pyenson *et al. Am. Health Drug Benefits* **7**, 272–282; 2014) in the US population covered by the health-insurance programme

Medicare. Most members screened are aged over 65.

The study finds that the average monthly cost of CT lung scanning per Medicare member is just US\$1 (the equivalent screening cost for breast and colorectal cancers is \$2.50 and \$1.40, respectively). This latest cost-benefit analysis is consistent with other peer-reviewed research proving that lung-cancer screening is cost-effective for Medicare and for private payers too.

As James Mulshine, a translational-medicine specialist at Rush University in Chicago, Illinois, pointed out in a 2010 Lung Cancer Alliance statement, through screening, "we have the opportunity to realize the greatest single reduction of cancer mortality in the history of the war on cancer" (see go.nature.com/vs2smt).

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Protect privacy of mobile data

The use of new data sources to model humans' behavioural responses to climate change (see P. Palmer and M. Smith *Nature* **512**, 365–366; 2014) raises methodological and ethical issues.

The authors do not mention the importance of call-detail records (CDRs), normally collected by mobile-phone operators for commercial purposes. Compared with data collected by smartphones from global-positioning systems, CDRs have lower location accuracy and differ in their potential for modelling and privacy risks.

The poorest communities in low- and middle-income settings should be at the centre of modelling efforts because

they are among the most vulnerable to climate change.

These populations are unlikely to use satellite navigation and social media, and they might not conform to human-mobility models derived from commuting patterns in wealthy countries. In these regions, CDRs can provide important insight — if appropriate privacy protections are in place (see, for example, A. Wesolowski *et al. Science* **338**, 267–270; 2012).

The rights of the individual to control their private data and the needs of researchers and policy-makers to access data for societal good create tensions that are central to the effective modelling of human behaviour (see, for example, Y. de Montjoye *et al. Sci. Rep.* **3**, 1376; 2013). These call for new regulatory and institutional review board processes.

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Invest in renewable energy in Tibet

Tibet's fragile environment is being damaged by a paucity of energy, as well as by pollutants and litter (see *Nature* **512**, 240–241; 2014). Greater investment could unleash the region's huge potential to produce renewable energy.

Access to fossil fuels is extremely limited in Tibet, particularly in rural areas. Biomass — including manure, firewood and crop residues — is largely used instead, making up two-thirds of total energy use. However, this degrades forest and grassland and causes indoor pollution (see G. Liu *et al. Renew Sust. Energ. Rev.* **12**, 1890–1908; 2008).

Tibet has abundant resources

for renewable energy (including solar, wind and geothermal) owing to its complex topography and widely varying climate (see L. Shen *et al. Environ. Manage.* **46**, 539–554; 2010).

These resources remain mostly untapped, however, because of the high cost of exploitation, unevenly distributed settlements, lack of local infrastructure, and inadequate maintenance and knowledge.

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Focus on positive features of ageing

Ageing is not just a linear physiological decline (see L. Fontana *et al. Nature* **511**, 405–407; 2014). Research into its more positive features could lead to a better-quality and longer life.

Personal resources such as optimism, resilience and engagement are integral to ageing well (see, for example, T. D. Cosco *et al. BMJ Open* **3**, e002710; 2013).

Investigating the contribution of psychosocial strengths to positive ageing in human models would provide further insight into, and complement, physiological animal models.

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**Supplementary information to:
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