Correspondence

China's ban could curb plastic waste

China's ban on imports of recycled plastic from developed countries takes effect this month. It could be a game changer if it weans us off plastic and forces us to seek sustainable alternatives.

With no suitable strategies in place for dealing with this extra unexpected plastic, countries must quickly devise and implement alternative waste-management solutions (see also C. M. Rochman *et al. Nature* **494,** 169–171; 2013). Many jurisdictions have legislation that prohibits the dumping of plastic waste into landfill. And stockpiling plastic refuse is ill-advised, given the fire risk at storage sites (see, for example, go.nature.com/2dh3mbg).

Moves to change consumer behaviour and implement strategies to cut plastic usage are gaining momentum. International policies and financial disincentives meant to curb the proliferation of single-use plastics (plastic bags and microbeads) are already showing positive results (D. Xanthos and T. R. Walker *Mar. Pollut. Bull.* **118,** 17–26; 2017). These should be extended to include a ban on other items, such as plastic drinking straws, and by widely introducing deposit-and-return schemes for plastic bottles.

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Top genes: the most common searches

Online genetic information is widely explored by the public as well as by researchers (see *Nature* **551,** 427–431; 2017). To get a sense of which genes attract the most public attention, I used Google Trends to gather statistics from 2004 to the present (see go.nature.com/2dsjvdm).

I found that cancer-related genes are among the most commonly searched. The top-scoring gene you identify for researchers searching PubMed, *TP53*, also gathered the highest number of queries on Google — as might be expected from the role of mutant p53 proteins in tumour development. Search queries for *BRCA1* peaked when actor Angelina Jolie announced her preventive double mastectomy in 2013 and the removal of her ovaries and fallopian tubes in 2015. And the promising development of cancer immunotherapy has coincided with a surge in queries in the past few years for *PD-L1*, a targeted immune-checkpoint gene.

The growing popularity of genetic testing for mutations that substantially increase the risk of disease has also brought fame to certain genes. Examples include mutations in *APOE* in Alzheimer's disease, in *SERPINA1* in α-1 antitrypsin deficiency, and in *CFTR* in cystic fibrosis. The scientific community can further empower the public through timely and accurate communication of genetic findings.

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Top genes: names confound hit parade

A rough proportionality might be expected between the number of citations a gene collects in PubMed (see *Nature* **551,** 427–431; 2017) and the hits it receives in Internet searches — where the former reflects its scientific value and the latter is also influenced by its impact on the wider public. Sometimes, however, the names of the genes themselves may introduce anomalies that distort this relationship.

Some gene names are much more popular outside science than they are on PubMed. 'Superman' is an example, referring as it does to a cult figure as well as to the *SUPERMAN* gene in the thale cress *Arabidopsis thaliana*. This distortion is particularly pronounced for longer gene names that are full words or phrases, such as *drop dead* and *Brokenheart* in the fruit fly *Drosophila melanogaster* (M. R. Seringhaus *et al. Genome Biol.* **9,** 401; 2008).

Moreover, this distortion may be evident for genes that are now rarely a focus in the literature but still attract search-engine hits on a scale comparable to scientifically popular genes such as *TP53*, which encodes the tumour-suppressor protein p53. The gene for alcohol dehydrogenase (*ADH*), the enzyme responsible for metabolizing alcohol, is such an example.

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Virtual carbon price is worth testing

Academic institutions, non-profit organizations and the public sector are experimenting with and sharing their findings on internal carbon pricing (K. Gillingham *et al. Nature* **551,** 27–29; 2017). They are also well positioned to experiment with proxy (or shadow) carbon prices as decision-making tools.

Proxy carbon pricing incorporates a virtual carbon tax into a financial decision without collecting revenue. It can be applied in selective ways — for example, to only the largest capital investments or to particular kinds of purchasing (see, for instance, go.nature.com/2dparje).

Several questions need to be collectively addressed. It is unclear how planning and purchasing processes can best be altered to incorporate proxy carbon prices. Effective use of a proxy price usually requires a life-cycle cost assessment, which is not standard practice in many institutions. Researchers also do not fully understand the institutional and technical conditions that cause a proxy carbon price (as opposed to energy savings) to alter a business decision.

A broad range of organizations need to share their findings from the use of these tools, including how they interact with other decision criteria.

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Regulate prescription of Chinese medicines

Problems with prescriptions for traditional Chinese medicines (TCMs) threaten to create a chasm between the Chinese government's medical reforms and their outcome (see *Nature* **551,** 552–553; 2017).

Prescriptions for TCMs are unsupervised in China. Excessive amounts have long been prescribed for clinicians' financial gain. They often involve high-risk injections of unknown efficacy. And some 70% of TCMs are prescribed by untrained practitioners, with almost half of all prescribed medicines proving ineffective (see go.nature.com/2doqbcz; in Chinese).

Correct diagnosis is essential for successful treatment with TCMs. If the indications on the label are used as the only guide, TCMs will not improve patients' health and may even aggravate their conditions.

In addition to improving the quality of TCMs, the Chinese government must regulate prescription practices. It should set up a prescription-review system to prevent misuse and ensure that all clinicians are formally trained in TCM.

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