

The cost of silence?

Analyses of AIDS deaths attributable to misguided policies in South Africa carry lessons for scientific leaders.

It is not often that the cost of political leaders being wrong gets quantified. It's doubly important to bring science to bear on such a question when people have paid with their lives, as happened with the AIDS epidemic in South Africa under the leadership of then-president Thabo Mbeki.

An article from the Harvard School of Public Health AIDS Initiative published this week (P. Chigwedere *et al.* *J. Acq. Immun. Def. Synd.* **49**, 410–415; 2008) provides such a service by estimating the benefits lost through underuse of antiretroviral (ARV) drugs in South Africa. Using modelling and clinical data of ARV-drug efficacy, it compares the number of people who received ARV therapy and of pregnant women who received treatment to prevent mother-to-child transmission of HIV between 2000 and 2005 with the number who could feasibly have been treated during the same period. It concludes that the lack of an ARV drug programme caused the loss of more than 330,000 lives — consistent with an estimate along different lines by the South African economist Nicoli Natrass (N. Natrass *Afr. Affairs* **107**, 157–176; 2008) — and that 35,000 babies were needlessly born with HIV. The authors, by their own account, have been conservative in deriving these estimates.

Mbeki was deposed in September, and his successor, Kgalema Motlanthe, moved swiftly to replace Mbeki's chief accomplice, health minister Manto Tshabalala-Msimang, with Barbara Hogan. Hogan has rejected the dissident line, subscribed to by both her predecessor and Mbeki, that AIDS is not caused by HIV. Moreover, describing herself as “ashamed” about the estimates, she has declared that “the era of denialism is over completely in South Africa”.

This is almost certainly true. Motlanthe, who supported Mbeki's stand on HIV–AIDS at the time, has his support base in the country's trade-union movement, which was never happy about Mbeki's line on this issue. Jacob Zuma, leader of the African National Congress and a presidential contender in next year's election, also supported Mbeki's standpoint before he was fired by him. He now espouses only populist causes, and has moved on from denialism about AIDS: the South African electorate has no more appetite for it.

The needless deaths that occurred in South Africa prompt reflection

on Mbeki's now infamous presidential AIDS advisory panel on the link between HIV and AIDS, the fate of which was chronicled in this journal in 2000–01. Its inconclusive report enabled Mbeki and his cabinet, who must bear collective responsibility, to portray this link as “deeply contested, and contestable”, to quote Natrass. Certainly, the AIDS dissidents (much criticized by *Nature* in the past) couldn't wait to participate in the panel. But should orthodox scientists have signed up?

Even in retrospect, this is a difficult question to answer. Once leading South African scientists, such as Malegapuru Makgoba, then president of the South African Medical Research Council and an outspoken critic of Mbeki, had agreed to do so, others were bound to follow suit in support. In turn, members from outside of the country in good faith believed that their colleagues deserved similar support, and so agreed to participate. Ultimately it became clear that these efforts were a waste of time, as there was no possibility of consensus being reached among the panel's two diametrically opposed camps.

Mbeki used this lack of consensus to justify a national policy that refrained from rolling out ARV drugs until late 2003, although some of the country's nine provinces, which enjoy a level of autonomy on matters relating to health, defied this with varying degrees of success. Even as late as 2006 the South African health department's stand at the International AIDS Conference was extolling the virtues of garlic, beetroot and lemon juice as a solution to the epidemic.

In retrospect, the panel, constituted as it was, should never have been supported. Yet several of the country's key scientific institutions explicitly endorsed its establishment, and also desisted from criticizing Mbeki. Along with his cabinet, they bear some culpability for the consequences that have now been documented. There is a moral to this tragic tale that may prove relevant in other contexts. In a young democracy with a historically hierarchical culture, and with attitudes often hardened by a colonial past, scientific institutions need not only to guard their independence fiercely but also to make their reasoned voices heard above the fray of political sycophancy. ■

“The South African electorate has no more appetite for AIDS denialism.”

Culture clash in China

An online row highlights the need for Chinese universities to fix their hiring policies.

In October, an online war broke out between Yi Rao, a neuroscientist and Peking University's dean of life sciences, and Keming Cui, a plant biologist and professor emeritus at the university who has a string of positions on academic and awards committees and editorial posts on Chinese journals to his name.

Cui retired from Peking University four years ago but kept his laboratory there. This year he tried to have his associate professor formally take over the lab. Such transfers of power are common in China, but they are also criticized as a way for powerful professors to hold lab space beyond their tenure. Rao refused to acknowledge the transfer of authority. Instead he planned to drastically cut the lab's size.

Rao, the first Peking University dean to be hired through an international search, says he wants to ensure that the university hires the best faculty members through appropriate evaluation. He also wants to ensure that qualified outsiders are considered and that an inbred

academic system is avoided. Rao says that the associate professor will have a few years to prove himself before he is evaluated for promotion and to see whether he can keep the laboratory.

On 9 October, Cui began writing a string of entries in his blog, which became widely read when copied by other websites and the online bulletin boards of Peking University. Cui described Rao's action as belittling his field of plant anatomy because it was not a 'hot' area. He made a stand for basic science. The blog drew some sympathetic comments from students, who copied it to more widely read student blogs. Rao, whose own blog normally gets about 2,000 hits per entry, immediately posted his defence, which picked up 10,000 hits.

Newspapers hesitate to pick up such hot potatoes, so the debate devolved to the blogs. Although they offer a platform for such discussion, blogs also make irresponsible name-calling possible. After alleging that Rao was trying to cut off support for a discipline of science, Cui compared Rao's efforts to the activities of Trofim Lysenko — the Soviet 'state scientist' who in the 1940s used his close connections to the Soviet leadership to crush scientists who opposed his views.

Both scientists are in all likelihood doing what is natural to them

to promote the next generation of scientists. The situation is further confused by Peking University's lack of clear guidelines on how to proceed in such situations, leaving new regulations set against old customs. When Rao took over as dean in September 2007, the university made it clear in writing that such hiring decisions would be his to make.

Deans and university presidents in China are watching to see how the situation is resolved. Will Cui, who worked at Peking University for more than 40 years, be able to raise public support and use his connections with senior colleagues to get his way? Or will Rao be able to stand his ground? It should, and looks as if it will, be the latter.

But further changes are needed. China and its universities now have the money to undertake proper recruitment exercises, and more universities should be seeking candidates beyond their walls and outside China's borders. They need clear, consistently applied guidelines on who has the authority to make those decisions. Of course, although a clear policy would be good, vesting that much power in one individual's hands, as Rao recognizes, requires caution. So regulations that check and make transparent the actions of those given decision-making power will also be needed. ■

Focus on Earth

Europe is rightly pioneering the systematic appliance of science in space to societal needs.

To achieve unanimity among European countries is no mean feat, particularly when it involves spending billions. So congratulations are due to the ministers of the 18 member states of the European Space Agency (ESA) who meet every three years to agree on funds, and who briskly struck a deal at their summit in the Netherlands last week giving the agency its requested €10 billion (US\$12.8 billion), which includes €2.34 billion in new commitments (see page 552).

The ministers also delivered a well-merited vote of confidence in ESA's science programme, which has long punched well above its financial weight, and has enjoyed a string of prominent successes. It got every euro it asked for — which was hardly a given considering the present economic backdrop.

That happy outcome fits within a broader shift in which the European Union (EU) seems gradually to be adopting a coherent twenty-first-century space policy. Indeed, it is getting its act together in a far more focused and visionary fashion than the United States, which nonetheless boasts much larger space budgets. The EU's major new focus is to deliver tangible benefits of space activity to citizens and society, and to address key challenges such as climate change and natural disasters, with Earth monitoring as its flagship. Importantly, fundamental research has not been sacrificed, and is set to thrive.

The planned joint EU–ESA Kopernikus constellation of Earth observation satellites, scheduled for launch over the next decade, will deliver a wealth of real-time data and maps of planet Earth at our keyboard fingertips. This represents a far-sighted vision for the

use of space science to meet societal needs. And, whereas in the past research satellites were often one-offs, Kopernikus will translate the expertise and technologies acquired from generations of research satellites into fleets of operational satellites delivering data 24/7, year-in, year-out.

The focus of Kopernikus on generating long-term continuous data sets, and exploiting these data as user-friendly services is one that European space science could benefit and learn from. One of ESA's weaknesses, as highlighted recently by the European Science Foundation is that, unlike NASA, it has no clear remit to fund archiving and support for scientific analyses of all the space data it collects. So this falls largely to national agencies, whose role here the foundation describes as "inadequate in volume, fragmented, and dictated by national concerns".

ESA ministers took steps to remedy this last week by approving a €72.3-million initiative to mine past and future data for essential climate variables defined by scientists. But much greater progress could be made, and Europe needs to pay more attention to making better use of the flood of data streaming in from above.

Making data more widely available and accessible, in particular to support policy, is a cornerstone for the EU, which over the past decade has assumed political leadership of space policy in Europe. This shift in power, away from ESA and national governments, was confirmed in September in a resolution that gave the EU the lead role in coordinating investment and operation of Europe's space activities.

The respective roles of the EU and ESA in both Kopernikus and the global navigation system Galileo point to an evolution in which ESA will become the autonomous science and technology development arm of the EU, and the EU will take responsibility for the heavy-lifting of costly operational application and infrastructure. Such change is desirable, with ESA being the place where innovative technologies are developed and where inspiring science is done — in turn, driving the applications of tomorrow. ■