National Center for Foreign Animal and Zoonotic Disease Defense, one of several such facilities established by the US Department of Homeland Security.

The shutdown was the result of Texas A&M's failure to report in a timely manner that four members of staff had been infected by bacteria in early 2006. One worker fell ill from *Brucella* in February last year and two months later routine blood tests results revealed that three other staff members had been exposed to *Coxiella burnetii*. Both bacteria come from cattle; both are fever-causing pathogens and could be used in bioweapons.

Fortunately, no one was seriously injured, nor does any disease seem to have been spread to the wider population. Texas A&M insists that it is now improving its reporting procedures. And the federal government is treating the incident as it has others: a bump on the road to better biodefence through more laboratory research.

But a closer look at the case raises serious concerns. Texas A&M only got around to reporting the four exposures to the CDC on 9 April this year. This was just one month before officials from the Department of Homeland Security were due to arrive on the campus to discuss a major new biodefence contract: the $450-million National Bio and Agro-Defense Facility, for which Texas A&M and its partner institutions are competing. The Department of Homeland Security, which will fund the complex, will this week narrow the 18 bidders down to a short list of three to five, with a final decision due in 2009. The new facility will replace the ageing Plum Island Animal Disease Center, which has operated for half a century off Long Island in New York state.

But even when Texas A&M made its report, neither the university nor the federal agencies found it necessarily to share news of the infraction with the general population. It was only on 26 June that the problem became public, when the Sunshine Project, a small watchdog group based in Austin, Texas, revealed details of the infections at Texas A&M. A week later, the watchdog disclosed associated problems at nine other laboratories nationally.

"The federal government should not have to be prompted by activists into telling the American public the truth."

Back in April 2006, an audit from the Office of Inspector General at the US Department of Health and Human Services reported that 11 of the 15 biodefence labs it funds at universities had identifiable deficiencies in training, security and, most disturbingly, accountability. In fact, eight of the labs had accountability issues, including lax inventories for pathogens and inadequate controls on who can enter the laboratory.

If biodefence labs are to be run safely and successfully, the regulatory process needs to instil public confidence. The federal government should not have to be prompted by activists into telling the American public the truth about its workings. Many communities are inherently suspicious of these facilities and their mode of operation should be made as transparent as is realistically possible. The need to keep some of the technical details of the work secret should not be used to cover up salient facts about management and operations that ought to be squarely in the public domain. ■

Hard to swallow

Is it possible to gauge the true potential of traditional Chinese medicine?

Researchers, practitioners and drug companies around the world are engaged in a complex, tentative dance over the best way to tap into the unknown potential of traditional Chinese medicine. The scientific community and the drug industry both tend to be sniffy about 'traditional' cures; yet there is a strong sense that millennia of practice in China — much of it barely documented — is likely to have yielded at least some treatments that work.

Pharmaceutical companies are understandably eager to enter a Chinese domestic market that was estimated by the Boston Consulting Group to be worth US$13 billion last year, and growing fast. But they are tantalized by one opportunity above all: the prospect that the nation's traditional medicine might contain a number of potentially profitable compounds hidden somewhere in its arcane array of potions and herbal mixtures.

The task of finding these elusive gems has been approached in a typically reductionist manner, with researchers seeking single compounds that might have a role in treating specific diseases. Sometimes this has been successful: artemisinin, for example, which is currently the most effective treatment for malaria, was fished out of a herbal treatment for fevers. But such success stories have been few and far between.

So if traditional Chinese medicine is so great, why hasn't the qualitative study of its outcomes opened the door to a flood of cures? The most obvious answer is that it actually has little to offer: it is largely just pseudoscience, with no rational mechanism of action for most of its therapies. Advocates respond by claiming that researchers are missing aspects of the art, notably the interactions between different ingredients in traditional therapies.

Nevertheless, the drug industry is not exactly awash with promising new medicines at the moment. Perhaps as a result, the global regulatory process has become increasingly receptive to traditional approaches. In 2004, for example, the US Food and Drug Administration issued new guidelines on botanical drugs that made it much easier to get extracts into clinical trials if there was some history of prior use, and that obviated the need to characterize all compounds in an extract.

Some researchers in China and elsewhere, meanwhile, are advocating systems biology — the study of the interactions between proteins, genes, metabolites and components of cells or organisms — as a way to assess the usefulness of traditional medicines (see page 126). Constructive approaches to divining the potential usefulness of traditional therapies are to be welcomed. But it seems problematic to apply a brand new technique, largely untested in the clinic, to test the veracity of traditional Chinese medicine, when the field is so fraught with pseudoscience. In the meantime, claims made on behalf of an uncharted body of knowledge should be treated with the customary scepticism that is the bedrock of both science and medicine. ■