Evidence-based medicine in China

In recent decades, evidence-based medicine has been propagated rapidly in China, not only to doctors but also to nurses and other health-care professionals. The *Chinese Journal of Evidence-Based Medicine*, the *Journal of Evidence-Based Medicine*, and the *Chinese Journal of Evidence-Based Pediatrics* were launched in 2001–06. Several organisations developed programmes to strengthen a national culture of evidence-based medicine, including the clinical epidemiology committee of the Chinese Medical Association (established in 1993) working with the Chinese Clinical Epidemiology Network (ChinaCLEN; registered as part of the International Clinical Epidemiology Network in 1989),[1] the Chinese Cochrane Centre (which became the 14th centre of the International Cochrane Collaboration in 1999),[2] the Ministry of Education's virtual research centre of evidence-based medicine founded in 2004, and the China Medical Doctor Association's evidence-based medicine committee organised in 2003.[3]

The board members of these organisations are located all around China, and have sought to disseminate knowledge of evidence-based medicine throughout the country. Programmes (usually 1–3 months) organised by the Ministry of Education, continuing education programmes, and online education programmes are available. Clinical epidemiology and evidence-based medicine have become compulsory curricula for medical students and clinical postgraduates in all universities. Medical associations in every discipline have built clinical guidelines for common diseases according to the evidence to inform clinical decision making and teaching. Evidence-based medicine has also engaged with traditional Chinese medicine. Research teams in traditional Chinese medicine have been established and the rigour of traditional medicine has been gradually raised. The Chinese clinical trial registry[4] was established in 2007 and the number of clinical trials registered in China is increasing (figure).[5]

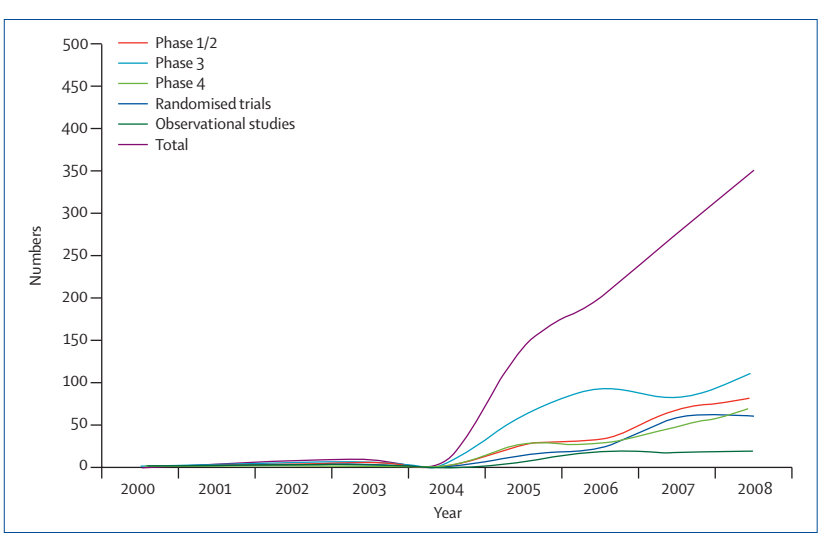

Figure: **Growth in clinical trials in China**
We searched ClinicalTrials.gov[5] on June 15, 2009, with the term "lead principal investigator/sponsor=China".

There are, however, several concerns about the development of evidence-based medicine in China. First, access to scientific evidence is not equal in all regions. Doctors from developed areas and large cities, such as Shanghai and Beijing, can search the literature for free at their university via databases such as Medline. But doctors in remote areas might not be able to access the best information resources, which, together with a limited knowledge of English, could prevent use of the best evidence in their practice.

Second, most of the world's clinical evidence does not come from China. Few results from China have been included in systematic reviews[6] or clinical practice guidelines. I calculated that from 1999 to 2008, 1880 clinical research articles were published in *The New England Journal of Medicine, The Lancet,* and *JAMA*. However, only 0·21% of these were from mainland China.[7] Wu and colleagues[8] analysed randomised trials on 20 common diseases published in China's natural knowledge infrastructure database from 1994 to 2005, and found that only 7% of them met methodological criteria (according to Cochrane review criteria). Frequent errors in statistical analyses are also found in Chinese medical journals,[9] which reduces the credibility of the evidence.

Third, because of a lack of funding for investigator-led randomised trials, most good-quality Chinese clinical trials are pharmaceutical premarketing trials sponsored by drug companies. Such research is more likely to have outcomes that favour the sponsor's product, which could result in publication bias.[10] Finally, although the Chinese Government has made research into traditional medicine a priority area and randomised trials have shown efficacy for some traditional therapies, because of the low methodological quality of trials and selective

publication of positive results, the efficacy of most traditional therapies is uncertain.[11]

Several factors might contribute to this situation. Most active clinical researchers and physicians have little formal training in research methods.[12] Even the editors and peer reviewers of Chinese medical journals do not know or ignore reporting criteria, such as CONSORT, STROBE, STARD, and PRISMA.[13] Preclinical trial registration has not been essential for publication, even though registration results in trials that are more rigorous, efficiently conducted, and ethically sound.[14]

To counter these problems, I have several suggestions. Clinical researchers in China should be formally trained and accredited in clinical trial methodology. Reporting guidelines have been translated into Chinese and published partly in Chinese,[15] and are now available online.[1,7] Researchers need to improve study design by adopting the advice in relevant reporting guidelines to reduce bias. National level platforms need to be established for consultation and administration of multicentre clinical trials. Journal editors must require documentation of ethics approval and clinical trial registration before manuscript acceptance. Journals in China that are members of the ICMJE[16] should obey international criteria for publication. Finally, the Chinese Government should increase its support of clinical research, in the form of clinical research grants for physicians, the creation of national repositories of clinical cases and samples of serum and tissues, and financial support for universities in remote areas to buy literature databases.

There is a long way to go before the words of a *Lancet* Editorial—"China has the opportunity to lead the world not only in research quantity, but also in quality"[17]—are fulfilled.

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Fomenting a prevention revolution for HIV

2010 heralds the year set by the UN to achieve universal access to HIV prevention, treatment, care, and support.[1] Despite major achievements and heroic efforts over the past decades by people living with HIV to assert their rights for treatment equity, to end stigma and discrimination, and to ensure more inclusive approaches to governing the response, much remains to be done. 80 countries still criminalise homosexuality.[2] People living with HIV face restrictions on entry, stay, and residence in some 57 countries.[3,4] About 10 million people are currently denied access to life-saving treatment.

Despite, or perhaps because of, its success, the AIDS response has itself come under attack.[5,6] Coalitions of social conservatives have orchestrated a global campaign against condom promotion and supported legislation criminalising same-sex relations.[7] Such actions increase stigma and isolate people most at risk of HIV at a