

China plans to modernize traditional medicine

BEIJING

China has announced an ambitious attempt to bring the ancient practice of traditional Chinese medicine (TCM) into line with modern standards. The government says it will expand basic and clinical research, and improve the testing and developing of TCM remedies for export. But critics question whether the research will meet the scientific standards necessary for international recognition.

Although China has invested in TCM before, the 15-year plan involves a change of direction and will receive significantly more money. The project is backed by 16 Chinese ministries, spearheaded by the Ministry of Science and Technology (MOST), the Ministry of Health and the State Administration of Traditional Chinese Medicine (SATCM).

Zou Jian-qiang, director of MOST's health and biotechnology division, says the government has earmarked 1 billion yuan (US\$130 million) for TCM research and development, with the total budget over the next five years increasing to at least 5–6 times as much as the previous total of 740 million yuan.

In a country where most of the population is not covered by the public healthcare system and cannot afford to go to hospital, there is also a tenfold increase in money for the TCM-related part of the public healthcare system to 8.5 billion yuan. "Chinese medicine, which has served the Chinese people since antiquity, still has an important role in today's healthcare, especially in areas where people do not have access to, or could not afford, treatments based on Western medicine," says Yu Wen-ming, deputy director of SATCM.

The initiative comes after heated discussions on TCM throughout China. Last year, Zhang Gong-yao, a scholar at the Central South University in Changsha, Hunan, sparked a national debate when he published an article titled "Farewell to Traditional Chinese Medicine" in the Chinese journal *Medicine and Philosophy* (27, 14–17; 2006). Zhang argued that TCM is a pseudoscience and should not be part of public healthcare and research.

All sides of the argument have been keenly awaiting the government's stance, and it has come down firmly in favour of promoting TCM as a science. China is desperate to

earn regulatory approval for TCM remedies abroad, and hopes to globalize TCM by 2020. The world market for Chinese herbal medicine has doubled over the past decade, with Europe and the United States being the biggest importers. But the patchy safety record of TCM from China has led to a steady decline in its exports, and it has lost market share to neighbouring nations such as Japan and South Korea.

So China's plan specifies strategies to boost standards, including conducting clinical research on the safety and efficacy of TCM remedies, encouraging international collaboration, improving manufacturing techniques and bringing the drug regulatory system into line with international guidelines.

More controversial is the government's shift in approach. Previous attempts to develop scientifically tested drugs from TCM have focused on isolating active ingredients from the remedies and screening them one at a time. This has led to a handful of new treatments, such as artemisinin for treating malaria and the decongestant ephedrine, but there has been no goldrush of approved drugs. The new plan aims to develop methodologies to test TCM's

"The wind is now right for the development of traditional Chinese medicine."

more traditional features and principles. The practice takes a holistic approach to disease treatment, so rather than using one drug to treat a particular disease, complex combinations of plant extracts are used. Each mixture is personalized to the symptoms and characteristics of the patient.

TCM practitioners and researchers are still waiting to see whether the government will actually come up with the money, but they have generally welcomed the plan. "It's a significant step forward," says Liu Ping, vice-president of Shanghai University of Traditional Chinese Medicine. Some, however, are reluctant to jump on the bandwagon. A professor at the China Academy of Chinese Medical Sciences in Beijing, who asked not be named, reckons that after thousands of years of practice and development, TCM is already close to perfect and that modernization will simply distort its essence.

Shi-min Fang, a US-trained biochemist who now runs a website called 'New Threads' that fights pseudoscience and research misconduct in China, is also unimpressed by the plan, but



for opposite reasons. He is in favour of scientific research into Chinese herbal remedies, but thinks the emphasis on testing the theories of TCM is misplaced. "The basic concepts of Chinese medicine, such as yin and yang, wu xing (the five elements) and the qi (meridian) theory, are inaccurate descriptions of the human body that verge on imaginative," he says. "The government has already spent a lot of money trying to prove their mechanistic basis, but this hasn't gone anywhere."

Wang Ming-wei, director of the National Centre for Drug Screening at the Shanghai Institute of Materia Medica, agrees: "To truly modernize Chinese medicine, we must first demystify these theories."

Some critics also worry that the plan doesn't set strict enough scientific standards. Although clinical research is listed as a priority, the plan doesn't specify whether there should be randomized, controlled trials in which neither practitioners nor patients know who is receiving



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Traditional Chinese medicine uses mixtures of plant extracts in a holistic approach to disease.

ing active remedy and who is getting a placebo. And there is no requirement for TCM researchers to publish in internationally recognized journals. "Most research on TCM in the past is of poor quality, and is published only in Chinese medical journals without proper peer-review processes," remarks Wang. "Without a clear position from the government, it is unlikely that the situation will change."

Another concern is that the government does not specify how it will control the way in which research funding is allocated. Some critics feel that resources are currently being circulated only among certain favoured universities and institutes, and argue that reform to ensure that TCM grants are based on merit is necessary if any real progress is to be achieved. Otherwise, as Jia Wei, associate dean of the pharmacy school at Shanghai Jiao-tong University, puts it, the initiative will be

just "loud thunder, small raindrops".

Zou says that the government is aware of the controversy and problems surrounding TCM, and that the plan, on which it has consulted widely, is set to resolve these issues. Su Gang-qiang, deputy director-general of SATCM's science and technology department, points out that the plan outlines overall principles and long-term directions for the development of TCM, rather than going into details, and says that further strategies will be published to specify exactly how the schemes will be carried out.

Whether the government will take critics' concerns into account while drafting these plans remains to be seen, but many are cautiously optimistic. "The wind is now right for the development of TCM," says Jia. "Let's hope this will not be a missed opportunity." ■

Jane Qiu

SCORECARD



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Sources: Reuters, thewest.com.au, PlanetArk, NASA

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