

Country Spotlights



(Illustration by Joelle Bolt)

The Future Of Ancient Cures

Turning traditional Chinese medicine modern and leading the way for new drugs
by Mara Hvistendahl

Wolfberry, licorice and caterpillar fungus. Such substances don't sound like the makings of modern medicine, but they might soon be just that. China's current five-year plan lists the "modernization" of traditional Chinese medicine (TCM) as one of 12 focal points, allotting 1 billion yuan (\$146 million) for the task. The goal is to move away from philosophies like

yin–yang and meridian theory and toward science—by introducing randomized, double-blind, placebo-controlled trials.

"We find the pure compound first, then evaluate the efficacy of that compound," explains Wu Jun, vice president of Xiangxue Pharmaceutical Company, which tests and develops herbal medicines in the southern city of Guangzhou. "Let's just call it Chinese medicine. It's not traditional."

The epicenter of the drive is Shanghai's Zhangjiang High Technology Park, a sprawling complex at the city's futuristic edge. There the gleaming Research Center for Modernization of Traditional Chinese Medicine holds court before a scattering of biotech start-ups, along with the research arms of almost every major pharmaceutical company. The area is brimming with returnees—bilingual, bicultural scientists educated overseas—intent on proving and improving China's worth. "The talent pool is huge," says Mirielle Gingras, chief executive officer of Huya Bioscience International, a U.S. company that licenses drug compounds from its office in Zhangjiang.

One early Chinese success is artemisinin, an extract of sweet wormwood determined in the 1970s to be effective in fighting malaria. The World Health Organization approved artemisinin in 2001, recommending that tropical countries adopt a combination therapy that includes the Chinese drug—sparking a boom in sweet-wormwood production in the Chinese heartland.

The Holy Grail for Chinese biotech companies is approval by the U.S. Food and Drug Administration. But adapting Chinese medicines to western medical standards is far from easy. Many modern disorders are not described in centuries-old Chinese materia medica. And herbal medicines often have a strong smell that can be difficult to emulate in a placebo.

Some companies spend years isolating a compound, only to learn it has been patented. "A lot of times you find a compound that is connected [to a treatment], but it's already known," says Wang Ming-Wei, director of the National Center for Drug Screening in Shanghai. "It's a good academic story, but it's not a passage to [intellectual property]."

But with problems surrounding overall drug development in China—the head of China's State Food and Drug Administration was executed in 2007 for taking bribes, leaving thousands of licenses under review—some say TCM is a bright spot. Recently the central government unveiled Herbalome, a 15-year project with the goal of isolating active compounds in thousands of ancient medicines. For companies like Huya, the investment in research translates into licenses, and Gingras estimates that 10 percent of the company's compounds are derived from TCM.

Wang is optimistic that Chinese companies will succeed at updating an ancient practice. "Not only are traditional doctors studying [TCM], but other scientists in China and the world are as well," says Wang. "More and more good stories will come up."

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