

Medicines are being developed by a sector about to come of age, write **Andrew Ward** and **Patti Waldmeir**

Chinese pharma starts to narrow the gap

Amid daily updates from the pharmaceuticals industry on the latest clinical trials, last week's announcement by Hutchison China MediTech that it had enrolled patients for a study of colorectal cancer was hardly cause for excitement.

But it represented another step forward for one of several experimental medicines that the company – backed by Li Ka-shing, Asia's richest man – is developing in China.

With a market capitalisation of just £550m, London-listed China MediTech – known as Chi-Med – is not going to shake up “big pharma” overnight. However, it is part of a growing Chinese life science sector that the authorities in Beijing hope will become a force in drug development.

“China realises that innovation is what matters in pharma,” says Christian Hogg, Chi-Med chief executive. “There are already some big Chinese drug companies, but to get to the next level they have to innovate.”

Beijing has made faster development of research-based pharmaceuticals a national priority – both to serve the growing health demands of Chinese society, and to challenge the dominance of western drugmakers globally. In the government's latest five-year plan, launched in 2011, the sector was identified as one of seven “pillar” industries to be promoted.

To the outside world, signs of progress have so far been limited. Several big foreign drugmakers have opened research and development centres in China, or are planning to do so – including Novartis, Pfizer and Johnson & Johnson. But most home-grown Chinese companies are yet to move beyond low-value generic medicines or ingredients for innovative drugs made in the US and Europe.

This puts China in a similar position to India, where companies such as Lupin and Ranbaxy have become big generic manufacturers but show little sign of developing their own high-value medicines. Where the two countries differ, however, is in their

approach to the patent system underpinning the global pharma industry.

Whereas India is battling with US and European drugmakers over the intellectual property rights that allow them to charge premium prices, China has shown less dissent. This, say analysts and industry executives, reflects Beijing's hope that it will eventually become a beneficiary of the patent system when its companies start developing drugs of their own.

For several groups, the first step has been to strike partnerships with multinational companies.

Chi-Med, for example, is developing its colorectal cancer drug, fruquintinib, with Eli Lilly of the US and is working with AstraZeneca of the UK on another, called volitinib, for renal cell cancer. Beijing-based BeiGene, meanwhile, is developing cancer drugs with Merck of Germany.

George Baeder, an adviser to local and multinational pharma companies, predicts more than a dozen Chinese-originated products will enter the clinic in the next three years. “Then the industry will have to recognise China's role as a drug innovator,” he said.

China's potential to become a force in pharmaceutical R&D has been evident since the 1960s when Mao Zedong ordered the Chinese army to find a treatment for malaria, which was ravaging North Vietnamese soldiers in their jungle battles with US-backed South Vietnam.

This programme discovered artemisinin, which remains one of the most important weapons against malaria. It was derived from the sweet wormwood plant – a herb used in Chinese medicine for centuries – highlighting the potential to marry the country's traditional medical practices with modern science.

However, it was not until the 1990s, when an artemisinin-based drug was commercialised by Novartis of Switzerland, that this Chinese innovation was made available to the wider world. Beijing wants to make sure future discov-



eries reach the global market more quickly – and with domestic companies taking them all the way.

One of those trying to make the leap from generic to innovative medicines is Simcere Pharmaceuticals,

‘There are already some big Chinese drug companies, but to get to the next level they have to innovate’

which recently opened an R&D hub in Nanjing. Ren Jinsheng, the company’s founder and chairman, says funding remains a challenge. “Compared to the \$30bn invested by the US government each year in fundamental drug research, the Chinese government invests less than Rmb10bn [\$1.6bn] and, at the company level, the gap is even larger.”

There are signs, however, that the gap is beginning to narrow.

Between 2007 and 2012, Chinese investment in biomedical R&D grew at a compound annual rate of 33 per cent, compared with an average 7 per cent in the rest of Asia-Pacific, according to McKinsey, the consultant. This increased spending is beginning to produce results: the number of Chinese papers in respected life science journals rose more than sixfold between 2001 and 2013, says Fangning Zhang of McKinsey in Shanghai.

Skills shortages are another obstacle being gradually overcome, as China’s universities churn out young scientists and those trained in the west return home.

Even so, the regulatory environment remains difficult, according to Carl Firth, a former AstraZeneca executive in China who is now chief executive of Aslan Pharmaceuticals, an Asia-focused drug developer. He says early-stage trials are easier to carry out elsewhere in Asia.

“If there was a serious push by regulators to speed up the process, the biggest beneficiaries would be multinationals because Chinese companies are not ready,” Mr Firth argues. “China is going to be a major player

in pharma R&D, but they are not about to overtake the US and Europe. One day maybe, but not yet.”

Additional reporting by Zhang Yan in Shanghai



Best of old and new

Hutchison China MediTech represents the past and the future of China's pharmaceuticals industry, **write Andrew Ward and Patti Waldmeir.**

Much of its revenues come from traditional Chinese medicines and herbal remedies sold through a marketing network that spans 13,000 hospitals in 600 cities and towns.

But its greatest potential growth comes from several cutting-edge drugs currently undergoing clinical trials. Christian Hogg, chief executive, says he believes the company can produce China's first truly homegrown blockbuster drug.

Among its best prospects are fruquintinib, a colorectal cancer drug being co-developed with Eli Lilly of the US, and volitinib, for renal cell cancer, with AstraZeneca.

Both are in phase two trials – the middle stage of clinical testing – after promising early results. Normally, about 20-30 per cent of drugs that reach this stage go on to be launched on the wider market. Even if they fail, however, Chi-Med has more in its pipeline, including one drug being developed in collaboration with Johnson & Johnson, and others it is developing alone.

There have been setbacks. This month, an independent data monitoring committee recommended the termination of one of Chi-Med's most advanced studies, involving a treatment for ulcerative colitis in partnership with Nestle's health unit.

However, shares in the company, which are listed on London's Alternative Investment Market, are up by two-thirds this year on rising optimism over its prospects.

Whether through its traditional or innovative medicines, analysts say Chi-Med is well placed to benefit from growing healthcare spending in China. Revenues rose 73 per cent in the first half of this year to \$30m, producing

profits of \$6.4m.

"Favourable demand trends, coupled with the supportive environment for clinical research, means the prospects for Chinese healthcare companies are compelling," say analysts at Edison. "Demographics and government support will continue to drive demand."

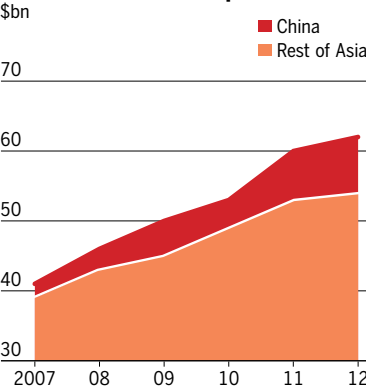


Gift of the lab



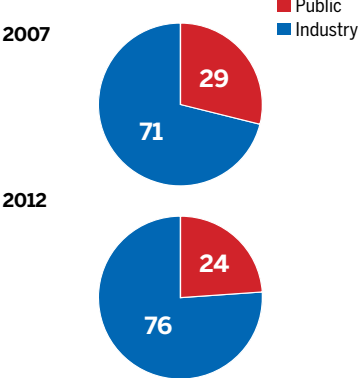
Testing times: Beijing wants to make sure future discoveries are taken to the market via Chinese companies

Pharmaceutical R&D spend in China



Source: Mckinsey

Spend by type (% share)



Number of life science publications* 2001 to 2012

