

Uptake of novel therapies in China and the impact of geography, insurance and patient income levels

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While drugs in novel therapeutic classes often show a dramatic uptake in Western countries – even when priced significantly above existing classes – these products tend to take much longer to have an impact in China, and their peak shares are often much lower than in the US and EU, or even other APAC countries. The chart below (Figure 1) illustrates this reality, using the uptake of monoclonal antibodies for drug-treated cancer patients as two example of this discrepancy. This data was taken from Synovate Healthcare’s China Oncology Monitor, based on a sample of over 500 cancer-treating physicians per wave, and a patient sample of over 11,000 drug-treated cancer patients per year from tier I and II cities; the Australian data, included for comparison, is based on Synovate Healthcare’s Australia Oncology Monitor.

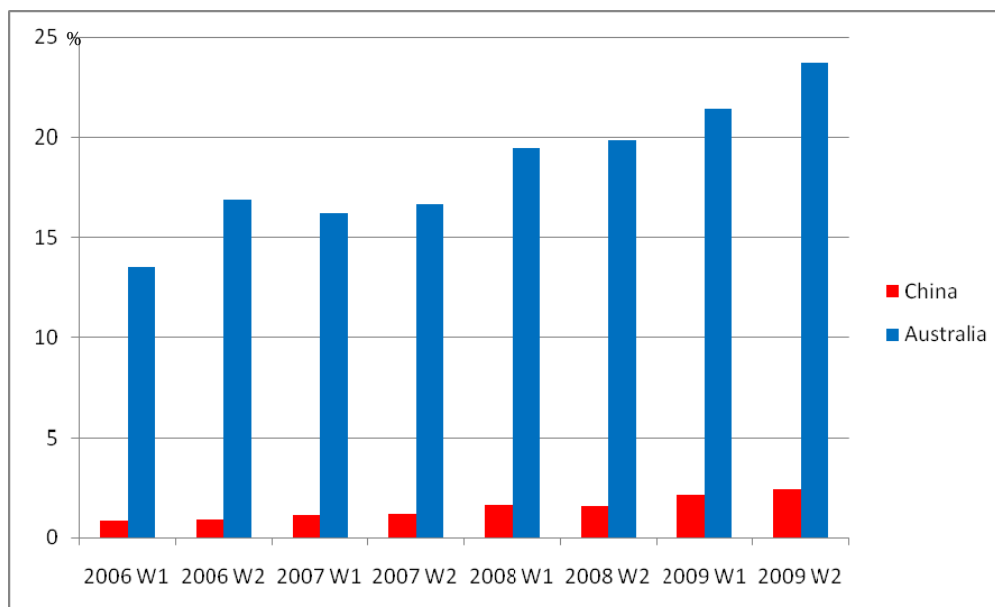


Figure 1: Monoclonal antibody patient shares (base: all drug-treated cancer patients, across all tumour types, excluding patients treated with hormonal monotherapy; source: Synovate Healthcare Oncology Monitor)

It should also be noted that this uptake has been far from consistent amongst the Chinese drug-treated cancer population. The patient pool is very heterogeneous –even when just tier III hospitals in tier I and II cities are considered- and there are a multitude of factors that have a significant impact on the shares of these novel therapies.

As the chart below (Figure 2) illustrates, there is a clear difference in the rate of uptake of these expensive anti-cancer therapies between tier I and tier II cities: while the total share is low across all cities, cancer patients treated in Tier I cities are approximately 3 times as likely as those in Tier II cities to receive monoclonal antibodies for treatment of their cancers.

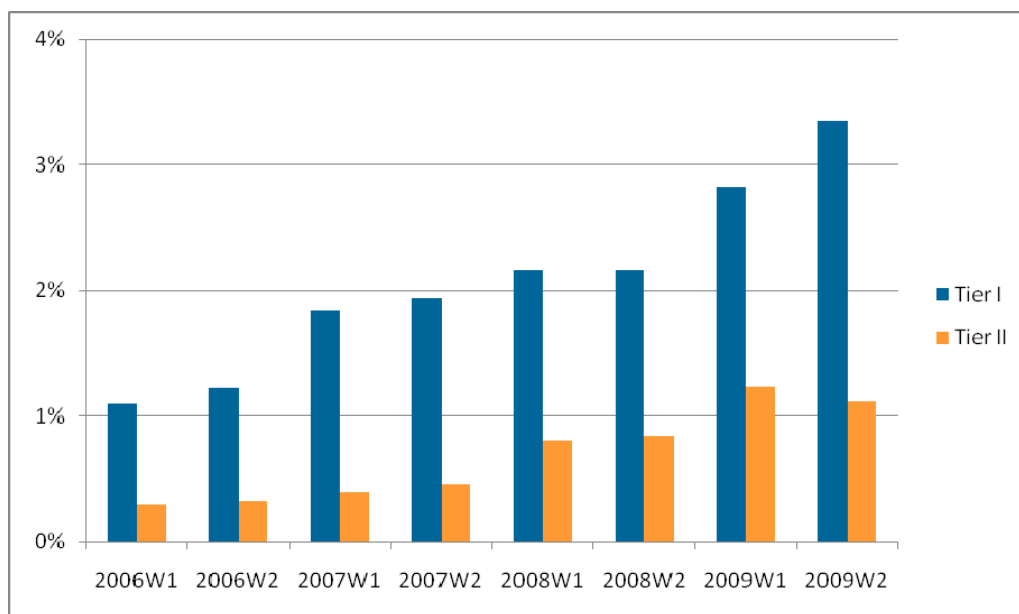


Figure 2: Monoclonal antibody patient shares (base: all drug-treated cancer patients, across all tumour types, excluding patients treated with hormonal monotherapy; source: Synovate Healthcare Oncology Monitor)

This trend does not just apply to the oncology therapeutic area. The table below (Figure 3) is based on data from Synovate Healthcare’s 2009 China Diabetes Monitor, which utilised a panel of >200 physicians to collect type 1 diabetes and type 2 diabetes (T2D) patient data. In addition to previous and current OAD and insulin therapy, information on whether the patient was considered to be a candidate for a number of novel drug classes within the next 12 months was also collected for each patient. It is clear that the intended uptake of both DPP4 inhibitors and GLP-1 analogues is higher in Shanghai, Beijing and Guangzhou than in the tier II cities shown; the SGLT-2 inhibitors (furthest from launch) don’t even feature on the radar of tier II physicians yet.

	Beijing	Shanghai	Guangzhou	Chengdu	Shenyang	Hangzhou
Base: all T2D patients	690	636	431	263	267	141
DPP4 inhibitor	28.1%	20.8%	18.3%	4.6%	12.7%	5.0%
GLP-1 analogue	26.4%	23.3%	15.1%	2.3%	15.0%	7.8%
SGLT-2 inhibitor	4.6%	5.7%	2.6%	0.0%	0.0%	0.0%

Figure 3: % of patients for which each class is considered as a possible next treatment in the next 12 months (base: all T2D patients; source: Synovate Healthcare Diabetes Monitor)

One of the key differentiators of many novel classes of drugs is that their cost per therapy is many times higher than for more conventional, existing drug classes. For as many as 63.4% of all patients in China who received a monoclonal antibody in 2009, the total drug treatment cost per cycle was above 30,000 RMB. This compares to only 9.6% of all

patients who received other anti-cancer drug therapies (Source: Synovate Healthcare Oncology Monitor). It is perhaps not surprising, therefore, that individual patients' income levels have a big impact on the usage of these therapies; indeed, as patients on monoclonal antibodies cover 62% of the total drug costs themselves on average (compared to 39% for patients on other drugs), these novel therapies are generally out of reach for all but the richest of patients. The data, taken from the China Oncology Monitor, in the chart below (Figure 4) illustrates just how strongly patients' income levels are linked to the uptake of monoclonal antibodies in the oncology setting.

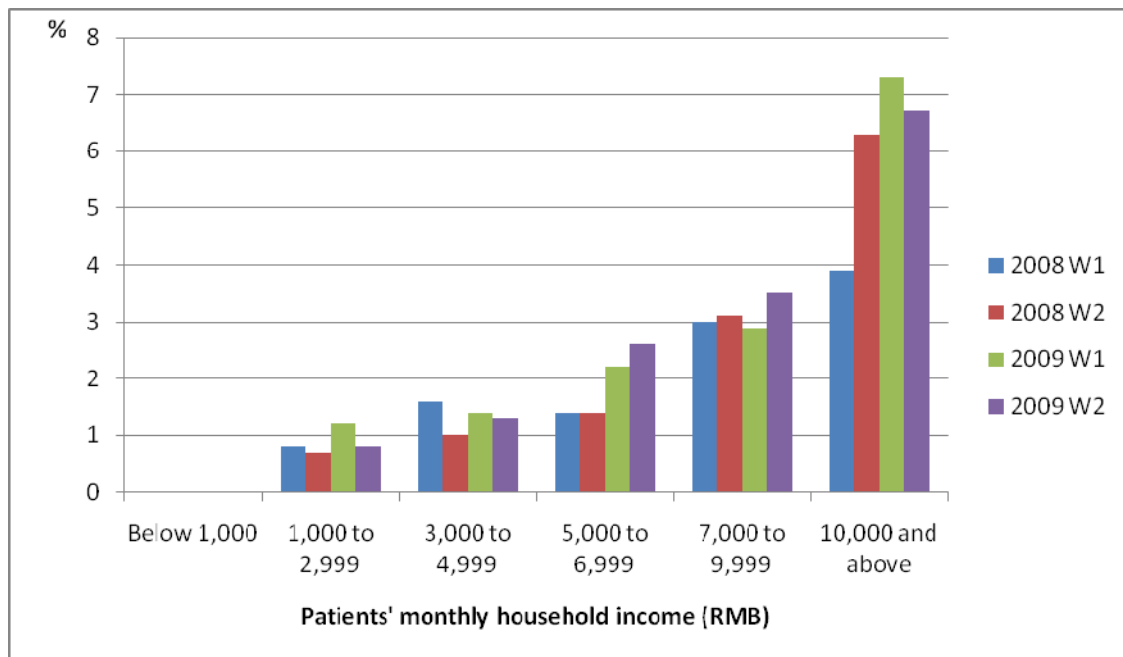


Figure 4: Monoclonal antibody patient shares (base: all drug-treated cancer patients with known income levels, across all tumour types, excluding patients treated with hormonal monotherapy; source: Synovate Healthcare Oncology Monitor)

Patients in the low income level brackets (including unemployed patients) are often unable to afford medical insurance. Patients' insurance cover has a clear impact on whether they are likely to be prescribed novel therapies as well. The table below (Figure 5), drawn from the Diabetes Monitor in 2009, shows that patients who are not covered by medical insurance are less likely to be considered as candidates for DPP4 inhibitor or GLP-1 analogue treatment in the next 12 months.

	Out of pocket	Basic medical insurance
Base: all T2D patients	390	2239
DPP4 inhibitor	15.1%	23.6%
GLP-1 analogue	16.4%	23.4%
SGLT-2 inhibitor	2.6%	3.6%

Figure 5: % of patients for which each class is considered as a possible next treatment in the next 12 months (base: all T2D patients; source: Synovate Healthcare Diabetes Monitor)

The points above clearly demonstrate that there are a multitude of factors in the Chinese market that have an impact on the uptake of novel therapies. Indeed, the launch curves are very different amongst different patient populations, even when only the urban market is considered. With rising income levels, increasing urbanization, and broader insurance coverage in China, these differences are expected to become less pronounced over time; however, there is still a long way ahead before these discrepancies between heterogeneous patient populations start to disappear.

The article is contributed by Pieter De Richter who is responsible for managing Synovate Healthcare's Syndicated Studies portfolio in the Asia-Pacific region. He has been with Synovate Healthcare for seven years. He is a therapy area expert in the areas of oncology, diabetes and antivirals. Synovate Healthcare runs a range of large scale syndicated patient audits (Therapy Monitors) around the globe, including the Oncology Monitor, Diabetes Monitor, RA Monitor and HBV/HCV Monitors, all of which are available in China.