

China Healthcare

Interesting findings on basic questions

Industry Overview

Healthcare expenditure vs. aging population vs. GDP

Given the weak macro environment and the recent consumption downgrade trend seen in China, investors are worried whether healthcare expenditure in China will also be impacted. We examined this topic in detail and found some positive evidence here. 1) Previous studies showed a strong correlation between the healthcare expenditure and GDP per capita, where countries with a higher GDP per capita are much more likely to have a higher healthcare expenditure. 2) The IMF forecasts the growth momentum of GDP per capita of China would continue in the next five years (to RMB119k in 2028 from RMB85.7k in 2022, according to the IMF). Besides, from a population structure, we expect the increasing aging population in China to also contribute to healthcare expenditure growth. As one of the countries with the fastest aging population in the world, the population aged ≥65 in China has increased from 88.2mn in 2000 to 216.8mn in 2023, and is expected to reach 230.0mn by 2030. Combined with the observation that the higher age cohort spend much more on healthcare than the lower age group, we expect the growth momentum to continue. Given the above factors, we hold a positive view on the growth of total China healthcare expenditure in the coming years.

Does new indication approval really drive drug sales?

Considering the off-label use on drugs, many investors are curious to know whether new indication approvals could drive sales sharply. Here we use PD-1/L1 as an example, given that as a pan-tumor drug it has been approved for multiple indications in China. We examine the relationship between sales of PD-1 and new indication approval, and note the growth of PD-1/L1 sales is statistically correlated with its indication's expansion.

In our analysis, we collected the IQVIA monthly sales data of three representative PD-1 drugs, including tislelizumab, sintilimab, and camrelizumab, and examined the average monthly sales growth after the new indication approval (average monthly sales of the next three months vs. monthly sales at the month of approval) with the help of BofA's Predictive Analytics team. As of end-2023, tislelizumab/sintilimab/camrelizumab have been approved for 11/7/9 indications in China. The data analysis results suggest there is a strong correlation between the monthly sales growth (next three months) and the new indication approval ($p < 0.05$). Additionally, based on the analysis, the median forward monthly sales growth (the average of next 3 months) was 21% with new indication approval, compared with 10% with no new indication approvals. Our findings suggest the indication expansion remains the driver for PD-1/L1 sales despite the broad existence of off-label usage in China. The reason could be that the off-label usage only contributed limited sales, as it is not covered by NBMI (National Basic Medical Insurance). We believe this finding could also provide insights into sales of other pan-tumor targeted drugs, or other drugs with strong indication expansion capabilities.

08 March 2024

Equity
China
Healthcare

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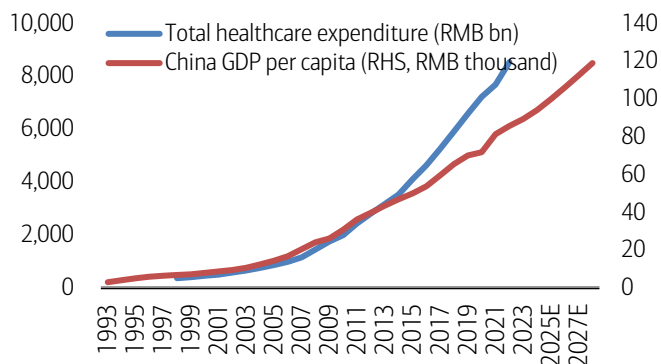
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Exhibits

Exhibit 1: Healthcare expenditure vs. GDP per capita in China

The IMF forecasts the growth momentum of GDP per capita of China would continue in the next five years

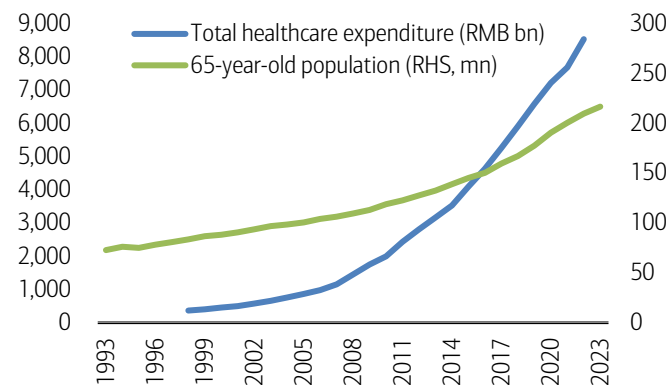


Source: BofA Global Research, Wind and IMF

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Exhibit 2: Healthcare expenditure vs. population aged ≥65 in China

Population aged ≥65 is growing rapidly in China

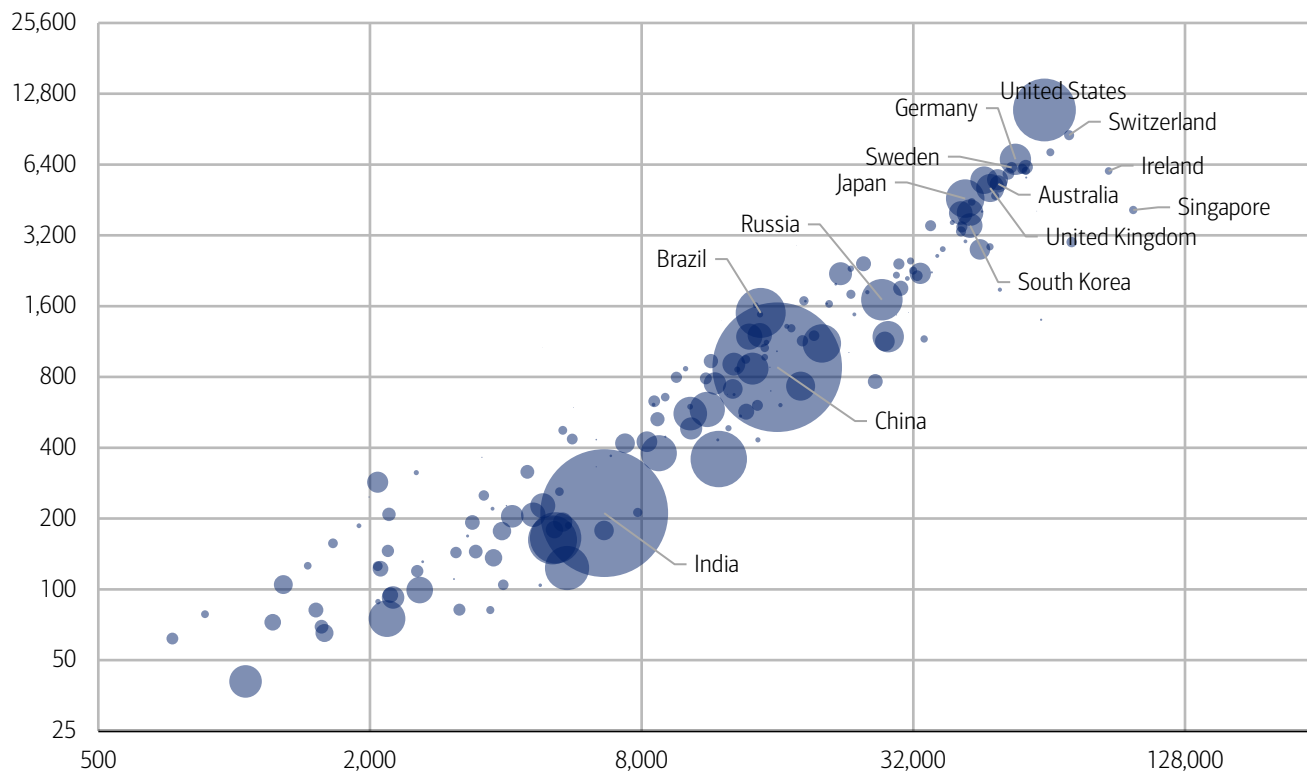


Source: BofA Global Research, Wind

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Exhibit 3: Healthcare expenditure per capita vs. GDP per capita across countries

Healthcare expenditure per capita shows a strong correlation with GDP per capita across countries. X axis: GDP per capita (unit: international dollars), Y axis: healthcare expenditure per capita (units: international dollars), bubble size: population.



Source: BofA Global Research, Our world in Data

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Abbreviations:

ESCC: Esophageal squamous cell carcinoma

EGFRm: Epidermal growth factor receptor mutations

G/GEJ: gastric/gastroesophageal junction cancer

NPC: Nasopharyngeal cancer

GC: Gastric cancer

MSI-H or dMMR: microsatellite instability-high or mismatch repair deficient tumors

NSCLC: Non-small cell lung cancer

nsqNSCLC: nonsquamous non-small-cell lung cancer

HCC: hepatocellular carcinoma

sqNSCLC: squamous non-small cell lung cancer

UC: urothelial carcinoma

r/r CHL: relapsed/refractory classical Hodgkin's lymphoma

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