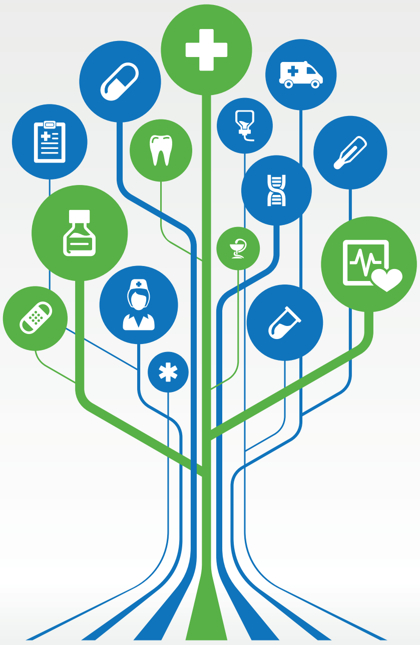

The Chinese Healthcare System, Opportunities & Challenges

01. 290 million Chinese citizens have been diagnosed with cardiovascular disease (CVD). Approximately 3.5 million citizens lose their lives each year because of CVD and this accounts for 40% of total yearly deaths.

02. 110 million Chinese citizens have been diagnosed with diabetes (approx. 25% of the global total). 150 million are further diagnosed as pre-diabetics and nearly 60% of diabetics have difficulty keeping their blood glucose within safe levels because of widespread clinical inertia and reluctance to prescribe combination drug therapies.

Diabetes

03. China accounts for 25% of newly diagnosed global cancer cases (4.5 million) and it is the second largest cause of death. The leading causes of cancer within China are lung, stomach, liver and oesophagus.

04. 87 million Chinese citizens have been diagnosed with chronic obstructive pulmonary (COPD). Approximately 67% of citizens suffering from COPD remain undiagnosed and it is the third largest cause of death.

05. More than a third of Chinese adults suffer from high blood pressure (hypertension). More than 40% of the adult populace are unaware of their condition. About 50% are receiving no medication for it, and about 80% are not controlling it effectively.

06. 70 million Chinese citizens have been diagnosed with chronic sleep apnea and there is a reluctance to seek clinical help for its effective management.

Sleep Apnea

07. Non communicable diseases (NCDs) account for over 80% of the 10.3 million deaths registered in China in 2015 (WHO).

Throughout the past ten years, there has been an epidemiologic shift in the prevalence of NCDs which has not been helped with rapid urbanisation, shifting patterns of work, decreasing physical activity, and unhealthy diets.

NCD's

08. 6% of the Chinese GDP (US $663 billion) is spent on healthcare and throughout 2017-2020 it is expected to grow between 6.5%-7%. The central government in 2017 has budgeted US $205 billion for healthcare, which accounts for 7.2% of government expenditure.

GDP

09. The Chinese health system is hospital centric, with over 28,000 hospitals (17,000 public and 11,000 private) and over 4.58 million beds.

Furthermore in 2016, 2.86 billion patients attended hospitals for major and or minor ailments (public hospitals 2.5 billion and private hospitals 360 million).

10. China has approximately 3.2 million registered doctors and there are very few doctors at the primary health level (less than 40%) and in rural areas. The majority of doctors specialise in a clinical area and mainly work within the hospital network.

11. China has approximately 3.3 million registered nurses, the nurse doctor ratio is 1:1, compared to the OECD average of 2.8:1 and this significantly effects health delivery outcomes.

12. China has approximately 25,000 practicing cardiologists and in 2016 over 570,000 percutaneous coronary interventions (PCI) operations were performed.

In 2016 over 40,000 Coronary Artery Bypass Grafting (CABG) operations were performed and it's increasing at 10% per year. (2016 China CVD report).

13. Currently open sternotomy (open heart surgery) is still the predominant operative procedure for structural heart problems such as TAVI & TAVR.

The Chinese healthcare system has to better adopt minimal invasive cardiac surgery (MICS) techniques to resolve these structural problems, significantly reduce healthcare expenditure and improve patient outcomes.

OPEN HEART SURGERY

14. Traditional Chinese Medicine (TCM) holds a unique place in Chinese society and healthcare. Throughout the last twenty years, Chinese citizens have increased their usage of pharmaceutical medication, but recently government guidelines are encouraging the utilization of TCM remedies.

15. The Healthy China 2030 and the 13th Five Year Plan for Medical and Healthcare System Reform 2030, have promoted broad national goals for healthier lifestyles, improved health services, patient centric clinical delivery outcomes. Significant work is still needed to remedy the "Chinese Healthcare Gap".

5 Year Plan

16. The Chinese medical device industry in 2017 was valued at US $53billion. There are over 17,000 Chinese medical device companies of which 80% predominantly manufacture and or distribute class 1 and low-end class 2 medical devices.

17. The Chinese medical device industry is the 2nd largest globally and has grown 20.1% since 2015. Globally the medical device industry is valued at approximately 42% of the pharmaceutical industry (revenue comparison) and in China it is much lower at approximately 14%, with considerable room for growth.

18. The Chinese medical device industry is dominated by overseas multinational companies (importing 50% of local demand) and or through their local manufacturing activities. The United States ranks as the preeminent overseas medical device supplier in China, followed by Germany and Japan.

19. The Chinese Food and Drug Administration board (CFDA) manages medical device and pharmaceutical product registrations and has developed various innovation and or priority review pathways to register medical devices that help with China's healthcare needs.

20. The major medical device segments experiencing consistent growth are cardiovascular, endoscopy and laparoscopy, invitro diagnostic (IVD), imaging and minimal invasive surgery devices.

Dailu's Business Objective

Dailu provides ethical advice, professional help and relationship management for talented professionals, start-ups and innovative enterprises, within the biomedical, health care and medical device industries to effectively develop their business models, careers and start-ups within Chengdu, Sichuan and Western China.

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