

Improving Lung Health Worldwide

4Dx CHINA



With a population of 1.4 billion, an expanding and affluent middle class, a growing senior population and a steep rise in chronic lung disease, China is experiencing an unprecedented and rapidly expanding healthcare market.

Recognizing an urgent and humanitarian need for earlier detection of lung-related illnesses, 4Dx has now turned it's attention to the healthcare market in China.

MARKET STRATEGY

4Dx is well established in the US and is already generating rapidly-growing revenue streams. Using many of the same principles, methods to introduce 4Dx to the China healthcare market are already proving successful. Investment into a custom go-to-market strategy shows great promise that 4Dx's breakthrough product - XV Technology™ - will be highly successful in the Chinese market.

LUNG DISEASE IN CHINA

Over the last 3 decades, China has experienced an alarming rise in lung disease. Chronic Obstructive Pulmonary Disease (COPD) is found to be highly prevalent in China's adult population, currently ranking as the third leading cause of death. Results from a 2018 study conducted by Tulane University estimated that a staggering 100 million adults in China are currently suffering from COPD -

with a significant proportion unaware they have the disease. Additionally, it is widely accepted that COPD is a significant risk factor for lung cancer. Causing 1.37 million deaths worldwide each year, lung cancer is the most commonly diagnosed cancer in the world and the most common cause of cancer death. For both diseases, early detection is absolutely critical to improving treatment options and patient outcomes.

EXPONENTIAL GROWTH. TREMENDOUS DEMAND.

With 1.4 billion people and rising, China now sits as the second largest healthcare market in the world. According to a 2013 McKinsey & Co. report, healthcare spending in China reached \$357 billion in 2011, and is expected to soar to an unprecedented \$1 trillion by 2020.

Such growth is due to many factors, some of which are continuing urbanization, a healthy economy with positive income growth and a growing disease burden. Multiple studies have also shown an increasing income of a growing middle class - a demographic which is expected to make up 54% of urban Chinese households by 2022.

In response to such trends, in October 2016 the Chinese government announced the "Healthy China 2030" initiative - a bold movement by the central government to take active and aggressive steps toward raising the Chinese citizens' life expectancy and improving overall public health.

The plan is a blueprint with five tasks:

- 1) Healthy Living;
- 2) Improving Health Security;
- 3) Building a Healthy Environment;
- 4) Optimizing Health Services; and
- 5) Developing the Healthcare Industry.

31,056 HOSPITALS

IN 2017 COMPARED TO ONLY 6,210 IN THE US



COPD

THIRD LEADING CAUSE OF DEATH
EST. 100 MILLION ADULT CASES



#2

HEALTHCARE MARKET IN THE WORLD



AIR POLLUTION HAS REACHED CRITICAL LEVELS LEADING TO HIGH RATES OF LUNG DISEASE



HEALTHCARE SPENDING BOOM \$1 TRILLION BY 2020

CLOCKWISE FROM TOP LEFT

1. Number of hospitals in China in year 2000 - 16,318. Number of hospitals in China in 2017 - 31,056.
2. Exposure to lung irritants, such as air pollution and cigarette smoke, are known risk factors for COPD. In China, air pollution has reached critical levels, becoming a major health problem. In addition, the proportion of smokers remains high, especially among men.
3. Healthcare spending is booming - estimated to reach \$1 Trillion USD by next year - and the # of hospitals is growing exponentially.
4. China's healthcare market is now #2, right behind the US
5. COPD (one of the main diseases we can identify earlier than conventional methods) is the third leading cause of death in China. A recent study estimates a total of 100 million adults in China have COPD but may not realize it.

One particular plan point relaxed regulations on foreign ownership to attract private hospital operators, resulting in a soaring number of hospitals being built. As of 2017, the total number of hospitals in China had reached 31,056. For reference, statistics show the number of hospitals in the US reached 6,210 as of 2019.

CUSTOM-BUILT SOLUTION

Despite the rapidly increasing understanding of lung diseases, the ability to make further inroads into the treatment of pulmonary diseases has been critically limited by the lack of tools to measure lung function in a regional manner. Diagnoses have come too late because for a loss of total lung function to be measurable and thus clinically significant, local disease must be advanced in order to be identified.

All lung pathologies cause significant regional changes in lung motion and airflow due to local changes in tissue compliance and/or resistance. And while there are various clinical presentations of COPD, the basic identifier is airflow limitation. But since pulmonary function is normally measured via spirometry and hence averaged over the entire lung, current treatment plans are developed and prescribed based not on regional deficiencies, but on the global response of the lung.

Now for the first time, 4Dx's XV Technology gives radiologists the ability to quantitatively measure the patterns of regional lung function in a way that has never been done before. In fact, XV Technology is the only modality that

images the motion of the lung tissue during the breath cycle, yielding back 4-dimensional, quantitative measurements that identify - with pinpoint accuracy - regional ventilation deficiencies. Non-invasively, and with no contrast agents. XV Technology allows for higher sensitivity and greater pinpoint accuracy than any competing imaging system to date, and does so with existing hospital hardware already in place.

4Dx is the only team able to obtain pulmonary function measurements - normally measured at the mouth and averaged over the entire lung - with such unprecedented precision. Thus, airflow deficiencies can be identified much sooner, at the onset, when a disease is most treatable. It's clear 4Dx is an ideal solution to help combat the chronic lung disease epidemic in China.

ENTHUSIASTIC RECEPTION

Over the last 14 months, 4Dx has been successfully introducing XV Technology to China's officials and building relationships with Tier 3 hospitals (the highest and most sophisticated level of care). They've had detailed discussions with doctors from four of these top tier hospitals across the east coast of China, including:

- 1) the head of radiology and senior doctors from Beijing 301 Hospital;
- 2) approximately 50 lung specialists and radiologists each from the Zhejiang Hospital and Sir Run Run Shaw Hospital in Hangzhou;
- 3) senior pulmonologists and radiologists, plus the president of Shanghai East Hospital;

4) and senior, well-respected pulmonologists from the University of Hong Kong Hospital in Shenzhen.

4Dx also met with NCMI and discussed the potential of 4Dx to be included in annual health checks. With the potential for an expedited CFDA application process available once 4Dx obtains FDA clearance in the USA, 4Dx could be in clinical use in China as early as 2020.

The majority of patients visit Tier 2 and below facilities, and this group presents the largest market. Additionally, unlike the better resourced Tier 3 hospitals, many of these hospitals either cannot afford, or choose not to purchase the very latest and best medical equipment such as CT scanners, MRI scanners etc. However, a great many of the facilities without that top line, expensive equipment do carry the necessary X-ray equipment for 4Dx imaging.

Overall, Chinese physicians have been overwhelmingly positive. There is consensus that 4Dx has the potential to detect lung disease early. 4Dx is now in advanced planning stage with a number of hospitals conducting Chinese based clinical trials to support market entry post CFDA clearance.

With the right distribution partner, XV Technology can be accessible to all hospitals in China and serve as the catalyst pivotal in China's movement to combat the advancement of chronic lung disease.

CONTACT DETAILS

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DIRECTORS

Andreas Fouras PhD, MEngSci, MAICD

As Founder (2013) and CEO of 4Dx, Andreas drives the technical innovation behind 4Dx's game-changing technology, along with his vision to drive change in global lung health.

His desire to improve the lives of those suffering from lung disease led Andreas from an award-winning career at Monash University, where the technology was first conceived, into the MedTech startup world.

Non-Executive Directors

Dr Robert Figlin, MD, FACP

- Division Director Hematology/ Oncology Cedars Sinai Medical Center
- 350 peer reviewed articles, 70 book chapters and editor of numerous books

Heath Lee B Econ, CA, F Fin, GAICD

- CA (KPMG, BZW) working in M&A
- Founder, CEO of OCIS (grew to over 600 staff before sale)

Lusia Guthrie MSc, BSc, MAICD

- Founding CEO of ASX listed LBT
- Taken multiple products to market under FDA regulation

John Livingston BAppSci, GAICD

- AGFA International Award for Digital Imaging Solutions
- Founding CEO of ASX listed IDX

Julian Sutton BSc, CFA

- Actuarial Consultant (Towers Perrin)
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