

China Healthcare: Potential Opportunities From One Of The Fastest Growing Major Global Healthcare Markets¹

An Overview of the KraneShares MSCI All China Health Care Index ETF (Ticker: KURE)

1. Major healthcare markets defined as top five global markets by the World Health Organization. Data from the World Health Organization as of 12/31/2016, last updated on 1/8/2019, retrieved on 1/14/2019.

Introduction to KraneShares

About KraneShares

Krane Funds Advisors, LLC is the investment manager for KraneShares ETFs. Our suite of China focused ETFs provides investors with solutions to capture China's importance as an essential element of a well-designed investment portfolio. We strive to provide innovative, first to market strategies that have been developed based on our strong partnerships and our deep knowledge of investing. We help investors stay up to date on global market trends and aim to provide meaningful diversification. Krane Funds Advisors, LLC is majority owned by China International Capital Corporation (CICC).





KraneShares MSCI All China Health Care Index ETF

Investment Strategy:

KURE seeks to measure the performance of MSCI China All Shares Health Care 10/40 Index. The Index is a free float adjusted market capitalization weighted index designed to track the equity market performance of Chinese companies engaged in the health care sector. The securities in the Index include all types of publicly issued shares of Chinese issuers, which are listed in Mainland China, Hong Kong and United States. Issuers eligible for inclusion must be classified under the Global Industry Classification Standard (GICS) as engaged in the healthcare sector. The issuers included in the Underlying Index may include small-cap, mid-cap and large-cap companies.

China Health Care Sector Highlights:

- China is one of the fastest growing major healthcare markets in the world with a five-year compound annual growth rate of 11%, compared to just 4% in the United States, and -4% in Japan¹.
- China is the second largest healthcare market globally with total healthcare expenditures reaching \$558 billion in 2016¹, a number projected to reach \$1.1 trillion by 2020².
- There is still opportunity for considerable growth in China's healthcare market with per capita health spending at just \$398, compared to an average of over \$6,500 for the world's top eight healthcare markets³.
- China's aging population, rising incomes and increasing urbanization may provide a sustained catalyst for growth in China's healthcare sector.

KURE features:

- Exposure to Chinese companies listed in the Mainland, Hong Kong and United States that are involved in the healthcare industry. Specifically: patent and generic pharmaceuticals, hospital administration, biotechnology, medical equipment production, healthcare IT, and traditional Chinese medicine.
- Exposure to companies that benefit from China's growing middle class and aging population.
- Access to leading Chinese pharmaceutical companies which have been recipients of favorable policy and market conditions for research and development and the invention of new medicines and devices.

1. Major healthcare markets defined as top five global markets by the World Health Organization. Data from the World Health Organization as of 12/31/2016, last updated on 1/8/2019, retrieved on 1/14/2019.

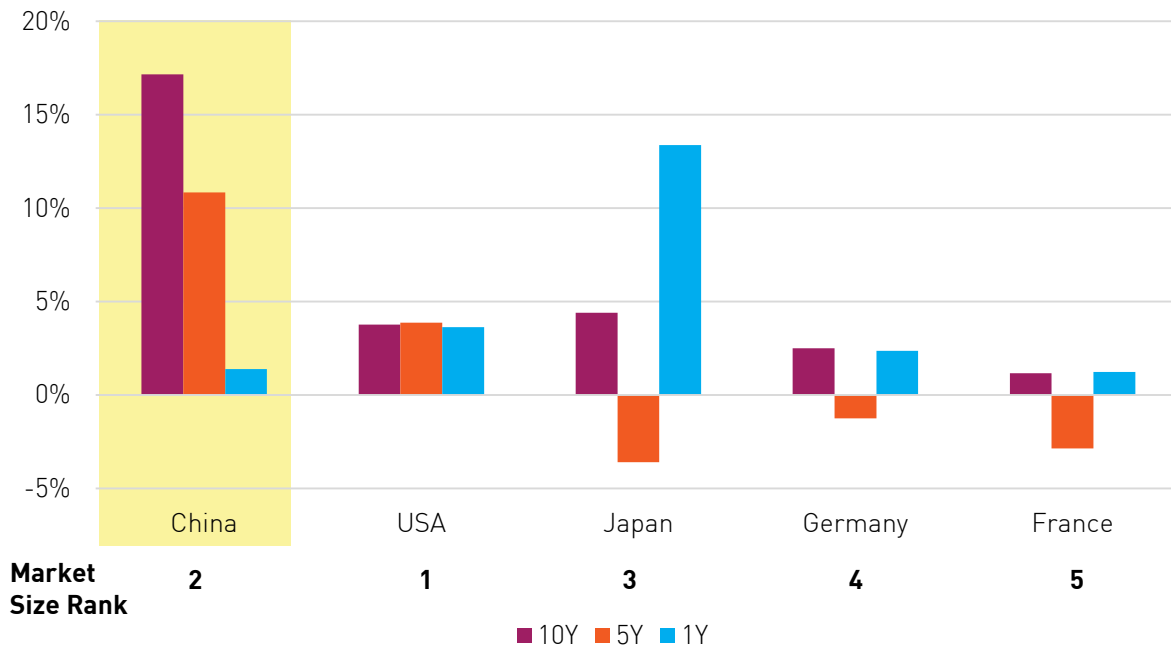
2. International Trade Association, "2016 Top Markets Report Pharmaceuticals, 2016". Retrieved 12/31/2018.

3. World Health Organization, 2016. Data as of 1/8/2019, retrieved on 1/14/2019.

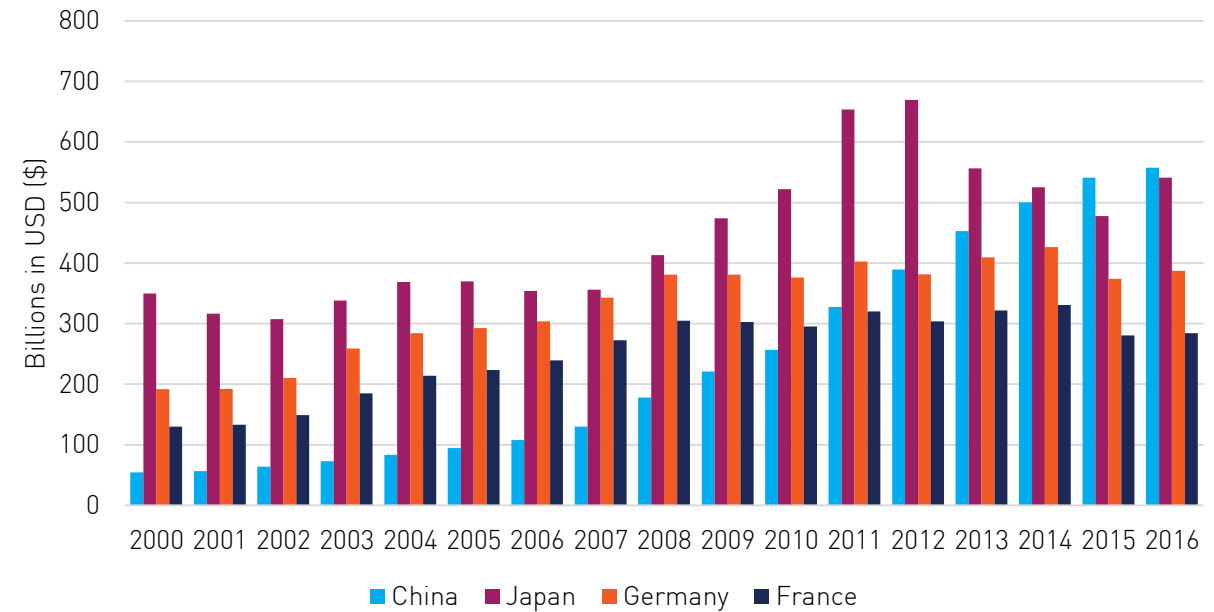
China's healthcare sector is growing rapidly.

- China is one of the fastest growing major healthcare markets in the world with a five-year compound annual growth rate of 11%, compared to just 4% in the United States, and -4% in Japan¹.
- China is the second largest healthcare market globally with total healthcare expenditure reaching \$558 billion in 2015¹, a number projected to reach \$1.1 trillion by 2020².

Growth Rate of the Top 5 Largest Healthcare Markets¹



Total Healthcare Expenditures of the Top 4 Largest Healthcare Markets (Excluding U.S.)¹

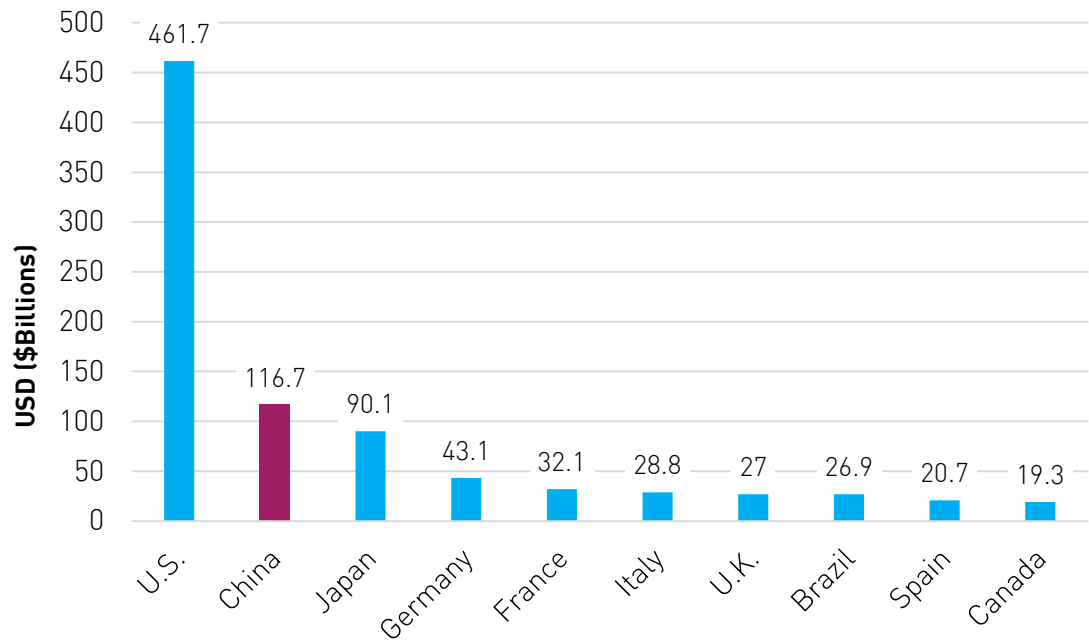


1. Major healthcare markets defined as top five global markets by the World Health Organization. Data from the World Health Organization as of 12/31/2016, last updated on 1/8/2019, retrieved on 1/14/2019.
 2. ITA, 2016 Top Markets Report Pharmaceuticals, 2016. Retrieved on 12/31/2018.

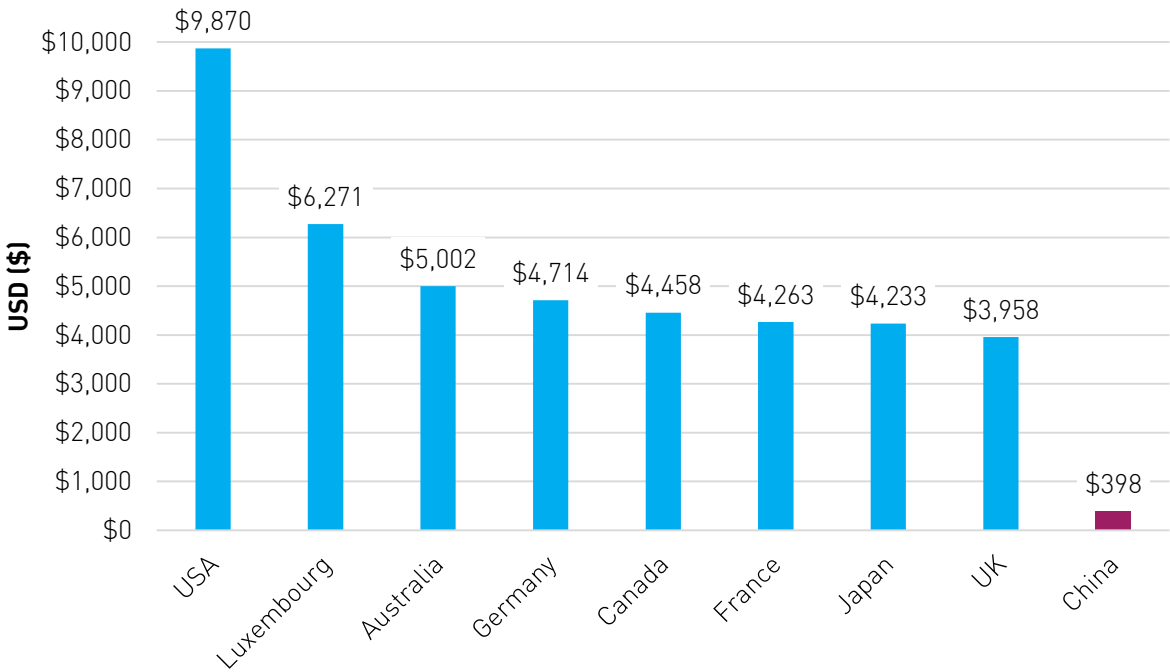
China has continued to break historical pharmaceutical sales records despite having significantly lower healthcare per capita expenditures compared to other major countries.

- China's pharmaceutical sales reached \$122.6 billion in 2017¹. This number is projected to grow to \$175 billion by 2022¹, according to healthcare information company, IQVIA.
- Per capita health spending remains low at \$398, as compared to an average of over \$6,500 in the world's top eight healthcare markets in terms of per capita expenditure².
- In 2011, China adopted Universal Healthcare with 95% of China's population gaining access to healthcare services³.

Global Top 10 Pharmaceutical Spending in 2016⁴



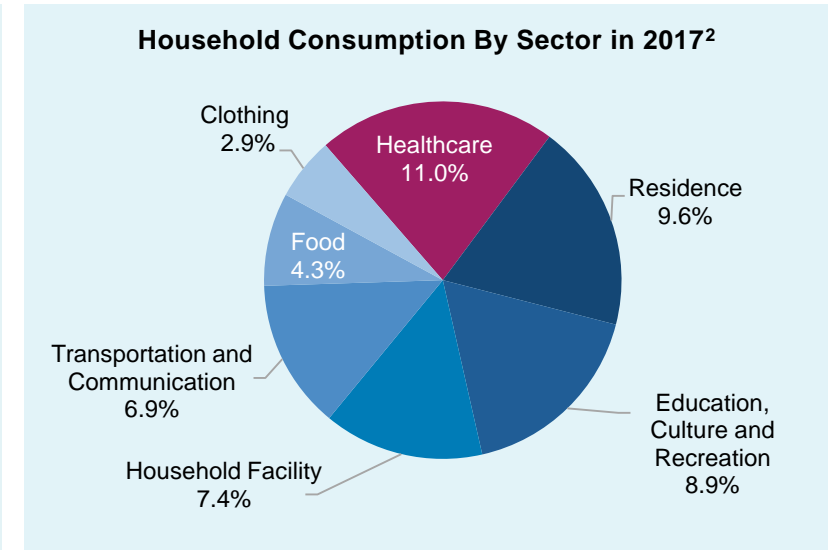
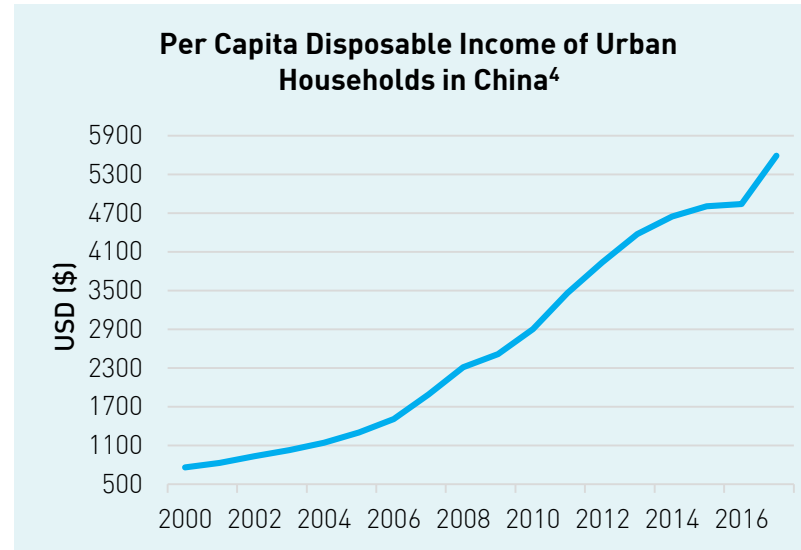
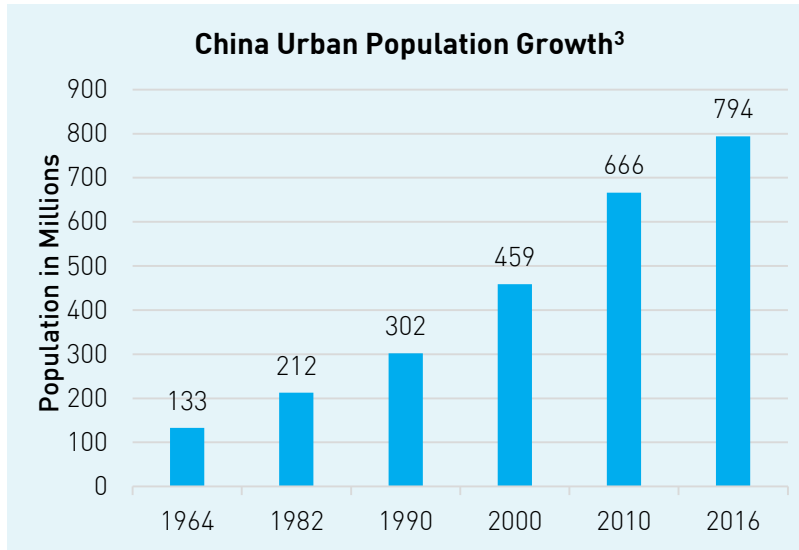
Per capita healthcare expenditure of major countries in 2016²



1. CNBC. "China's pharmaceutical industry is poised for major growth" 4/19/2018. Retrieved on 12/31/2018.
2. Major healthcare markets defined as top five global markets by the World Health Organization. Data from the World Health Organization as of 12/31/2016, last updated on 1/8/2019, retrieved on 1/14/2019.
3. Sun et al., "Chinese healthcare system and clinical epidemiology", NIH, 3/16/2017.
4. IMS Market Prognosis, Oct 2016. Retrieved on 12/31/2018.

As China's population moves to cities and wages increase, healthcare is becoming a greater focus

- As average household income and urbanization rates have risen, Chinese citizens have greater access to healthcare knowledge and have a greater ability to pay for medical-related costs
- Healthcare now comprises the largest segment of household consumption in China²
- However, rising incomes and urbanization have given rise to China's current obesity problem as more citizens adopt western eating habits
- Today, about 30% of Chinese adults, approximately 320 million people, are overweight, while 11.9% of adults are obese¹
- In 2016, the government responded to growing healthcare concerns by launching the "Healthy China 2030 Plan", which is a national initiative that promotes diet, exercise, and access to healthcare services

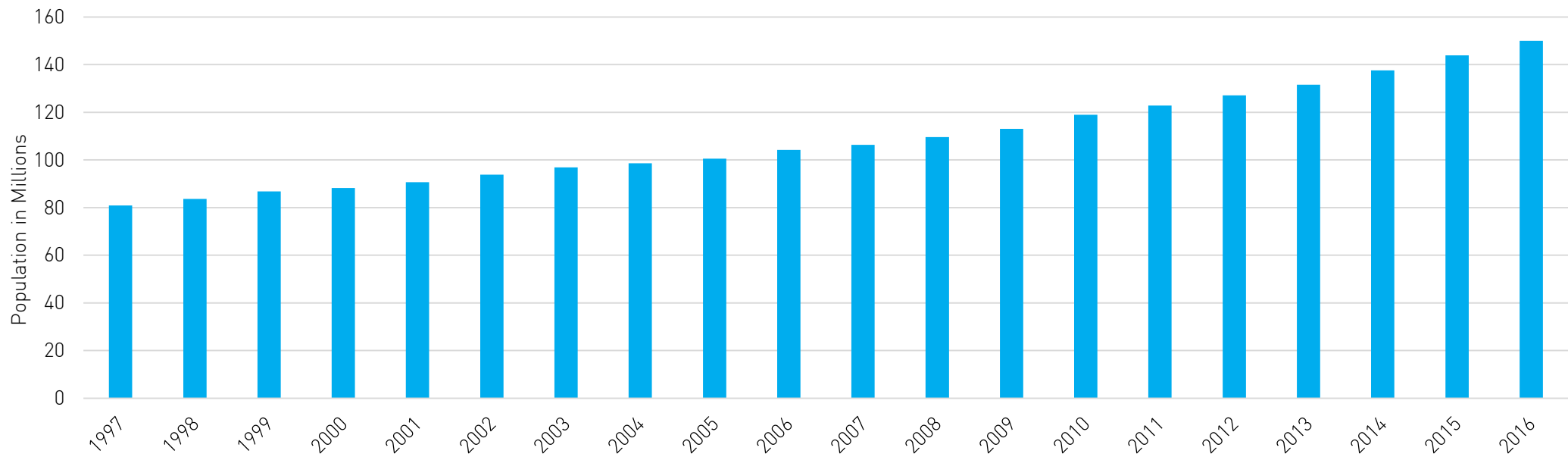


1. Xinhua.net, "30 Percent of Chinese Adults Overweight", Published on 5/25/2017. Retrieved 12/31/2018.
 2. Data from the National Bureau of Statistics of China. Data as of 12/31/2017. Retrieved 12/31/2018.
 3. Data from Bloomberg as of Dec 31 2016. Retrieved on 12/31/2018.
 4. Data from Bloomberg as of Dec 31 2017. Retrieved on 12/31/2018.

China's growing aging population is fueling the demand for increased healthcare services.

- China's aging population is expected to increase the burden of chronic disease by 40% by the year 2030¹.
- By 2053, China will have 487 million senior citizens, making up 35% of the total population².
- The number of nursing homes in China is growing at a rate of 20.6% year-on-year to meet public demand, however, there currently is a shortage of medical care supplies for the elderly. For every 1000 senior citizens, there are only 31.6 nursing home beds².

Population Aged 65 and Over in China³

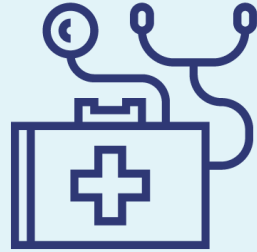


1. The World Bank, "Toward a Healthy and Harmonious Life in China: Stemming the Rising Tide of Non-Communicable Diseases", 07/31/2011. Retrieved 12/31/2018.
2. China-WHO, "Country Cooperation Strategy 2016-2020", 2016. Retrieved on 12/31/2018.
3. Data from Bloomberg as of 12/31/2016. Retrieved on 12/31/2018.

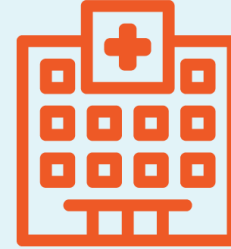
The China healthcare ecosystem



**Patent and Generic
Pharmaceuticals**



**Medical Equipment
Production**



Hospital Administration



Biotechnology



**Traditional
Chinese Medicine**



Healthcare IT

China's domestic pharmaceutical market is flourishing due to favorable market conditions and policies.

Favorable Policies

- Several market-friendly policies have been introduced encouraging joint ventures between multinational companies and domestic companies
- In 2015, the China Food and Drug Administration (CFDA) issued the "Opinions on Reforming the Review and Approval System for Drugs and Medical Devices", which set policies aimed towards:
 - Increasing efficiency and transparency of drug review and approval processes
 - Maximizing quality of generic drugs
 - Enhancing efficiency in R&D innovations
- More than 100 foreign-developed drugs were approved for entry into the Chinese market in 2018¹.

Lower Research & Development Costs

- R&D costs are significantly lower in China. On average, drug development costs in the US amount to \$3 to \$4 billion, while comparable developments could be done in China for about \$30 to \$40 million².
- The CFDA now allows drug license holders to sub-contract manufacturing so that R&D institutions can focus solely on high quality R&D innovations rather than investing in their own manufacturing plants.

Technological Innovations

- IT Companies are leveraging China's robust internet infrastructure to increase efficiency and transparency in the healthcare R&D space.

Joint Venture Partnerships



The Hisun-Pfizer joint venture is mutually beneficial in international marketing and in the commercialization of generic medicines.



Fosun Pharma and Intuitive Surgical's joint venture is mutually beneficial in biomedical technology and pharmaceutical manufacturing and distribution.

Technological Innovations



WuXi Biologic's WuXi AppTec is a global tech platform that offers a portfolio of medical R&D resources to shorten the lag time in biomedical discovery and innovative development.

1. Gordon Orr, "What can we expect in China in 2019?", McKinsey and Company, December 2018.
 2. Fortune, "Why China Is Having A Healthcare Boom", 1/18/2018.

China's medical device market maintains a double-digit growth rate.

- The medical device market has been one of the fastest growing healthcare segments in China, maintaining double-digit growth for over a decade.
- In 2016, the medical device market reached \$53.62 billion, an increase of 20.1% compared to 2015.
- 72.7% of this growth is fueled by hospital procurements.
- The government's "Made in China 2025" initiative to improve industry efficiency, product quality, and brand reputation aims to further spur the development of domestic medical device manufacturers and increase the competitiveness of Chinese medical device brands.

China Medical Device Market

	2014	2015	2016	2017 (Estimate)
Total Market Size	39.32	47.38	53.62	58.63
Total Local Production	31.54	34.22	40.64	46.01
Total Exports	35.97	38.49	38.91	39.39
Total Imports	18.08	18.49	20.23	21.34

Due to perceived quality advantages medical equipment imports from the U.S. and Europe remain high. However, as quality increases, Chinese domestic medical device companies are increasingly competing with U.S. and European companies making particularly strong gains in medium-level technology niches.

As China's population becomes more health conscious, the demand for high quality preventative care also increases, providing a catalyst for private hospitals and facilities that offer health examinations, evaluations, and consulting services.

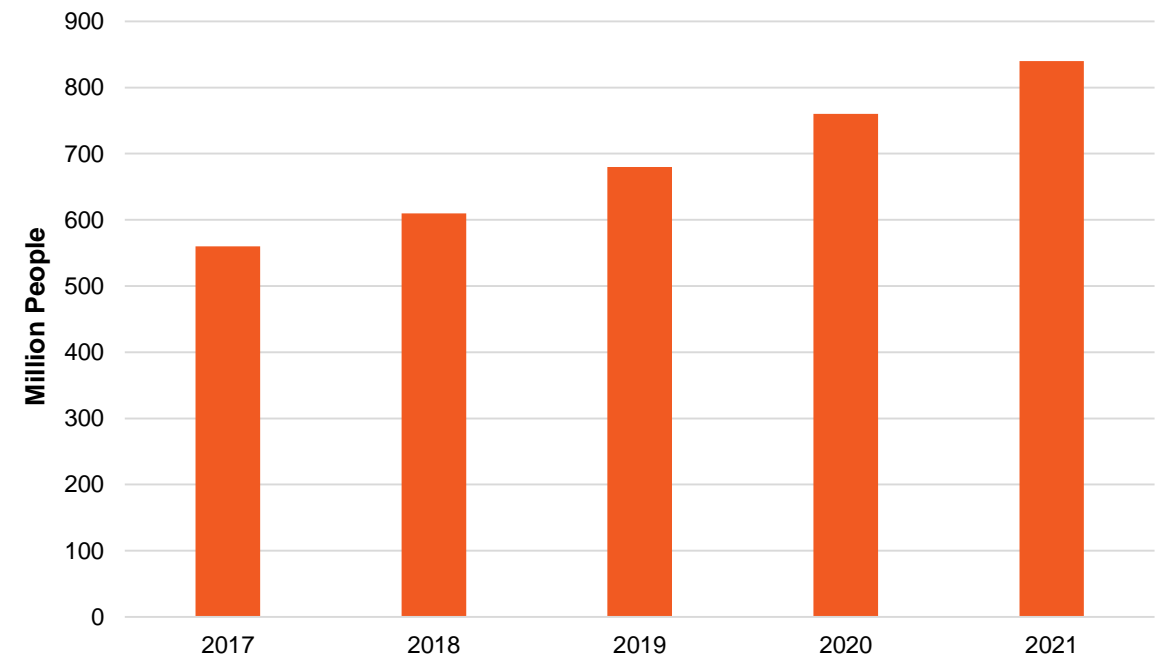
Privatization

- Rising demand from wealthier Chinese seeking quality care and diverse services has led to increased privatization of hospitals to match demand
 - In 2015, China's private hospitals outnumbered public hospitals for the first time with 15,570 vs 12,871 respectively¹

Emphasis on preventative care

- The "Healthy China 2030" policy outlines the Government's plans to upgrade the standards and quality of service in primary care institutions
 - The government sees General practitioners as the gatekeepers of people's health and primary method of controlling medical expenditures
 - By 2030, the goal is to have five qualified general practitioners available for every 10,000 residents in China²
 - The National Health and Family Planning Commission estimates China needs to add 210,000 general practitioners²
 - Establishment of a medical network and referral system geared toward reducing overcrowding in China's largest tertiary hospitals

Preventative Health Examination Volume is Projected to Grow



Source: www.abaogao.com "2017 China's health examination industry market development forecast analysis", translated from Chinese, Jan 25 2017, retrieved on 12/31/2018.

1. "January to July 2016 National Medical Services" China National Health and Family Planning Commission Statistics, 9/19/2016, retrieved 12/31/2018.
 2. WANG XIAODONG "China to improve training of GPs" China Daily, 1/25/2018, retrieved 12/31/2018.

Four major catalysts for China's biotechnology and life science industry

Government funding

- Biotech industry highlighted in three of the government's latest five-year plans
- Estimated \$100 billion¹ already invested in the life-sciences sector by central, provincial, and local governments in an effort to reach the five-year-plan targets.

Venture Capital / Private Equity Funding

- ChinaBio reports that Chinese venture capital and private equity funds raised \$45 billion over a period of 30 months for life-sciences investment¹.

Regulatory Changes

- China is moving toward global standardization
- In June 2017, China joined the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (ICH)

Returning Talent

- Foreign undergraduate and advanced degree recipients are increasingly returning to China to work.
- Over 2 million returnees in last 6 years, estimated 250,000 in life science¹

FOUR YEARS

A snapshot of China's biotech industry

2015

- Chinese scientists alter a human embryo using CRISPR-Cas9 and trigger a global debate on gene editing.
- The 13th 5-Year Plan (2015-2020) mandated the biotech industry should exceed 4% of China's GDP by 2020².

2016

- Two Chinese biotech firms successfully list on the NASDAQ stock market, raising more than \$100 million.
- A Chinese biotech start-up breaks the country's record for first-round financing, raising \$150 million.

2017

- China's drug administration body agrees to align Chinese drug regulations with the rest of the world.
- Chinese CAR-T cell trial impresses on the global stage, showing excellent results for relapsed or refractory multiple myeloma.
- Total value of Chinese biotech IPOs was \$2.8 billion in 2017².

2018

- The Hong Kong Stock Exchange relaxed rules allowing public stock investment in pre-revenue (development-stage) biotech companies. In July, the first such company (Hangzhou-based Ascleptis Pharma) took advantage of the situation and went public³.

Data from Shannon Ellis, "Biotech booms in China" Nature, Jan 17 2018

1. "State of China Life Science 2017H1" ChinaBio Today, 7/24/2017, retrieved 12/31/2018.
 2. "China's biotech revolution" UBS Research, 8/2/2018, retrieved 12/31/2018.
 3. "China biotech: Six things to watch in 2019" KNet365, 11/14/2018, retrieved 12/31/2018.

The Traditional Chinese Medicine (TCM) industry represents a sizable portion of the entire market.

- TCM has a rich 2,000 year history encompassing herbal medicine, acupuncture, massage and dietetics.
- In recent years, TCM has enjoyed a modern resurgence championed by Chinese president Xi Jinping.
- In December 2016, China's State Council issued the "Strategic Plan on the Development of Traditional Chinese Medicine" making the development of TCM a national strategy.
- The policy emphasizes promoting a balance between Western medicine and TCM practices.
- The TCM industry grew by 20% in 2017, earning a total \$130 billion, or one third of total medical industry output¹.
- Currently, there are about 482,000 TCM practitioners in China¹.
- By 2020, the government also seeks to register 100 TCM products and set up 50 international TCM cooperation model centers².
- TCM practitioners emphasize preventative medicine and treating diseases before they occur through healthy living and proper diets. This is especially important in China which has increasing obesity, diabetes and smoking rates.

TCM has over 2000 years of tradition



In Traditional Chinese Medicine, good health is believed to be achieved by a balance between yin and yang.

1. China Daily, "China's TCM industry grows 20%", 11/24/2017, retrieved 12/31/2018.
 2. South China Morning Post, "Traditional Chinese medicine closes in on US\$50 billion market with long-awaited nod from WHO", 9/29/2018, retrieved 12/31/2018.

Healthcare IT services catch up with China's growing healthcare demand.

- China's healthcare IT market reached \$3.4 billion in 2014. With a compound annual growth rate (CAGR) of 13.8%, the China Internet Datacenter Services expects the market to reach \$7.2 billion by 2020¹.
- The growth of China's healthcare IT market has been driven by:
 - Convenience and timeliness to consult with healthcare professionals
 - Greater access to areas that lack adequate healthcare resources
 - Ability to provide continuous support to patients with chronic diseases
- In China's National Planning Guideline for the Healthcare Service System, the Government aims to establish a nationally-accessible digital health information database network which will integrate patient health profiles and medical records in electronic form by 2020.
 - Guangdong province has already surpassed their target electronic health record (EHR) utilization rate of 80%. In 2014, EHR adoption rate in Huizhou (a city within Guangdong) reached 91% of the city's population¹.
- As China's government continues to invest in internet-based healthcare services, utilization rates for internet-based healthcare services are expected to grow
- According to the 2017 Future Health Index, 84% of survey participants have used connected-care technology to share health information with a healthcare professional².

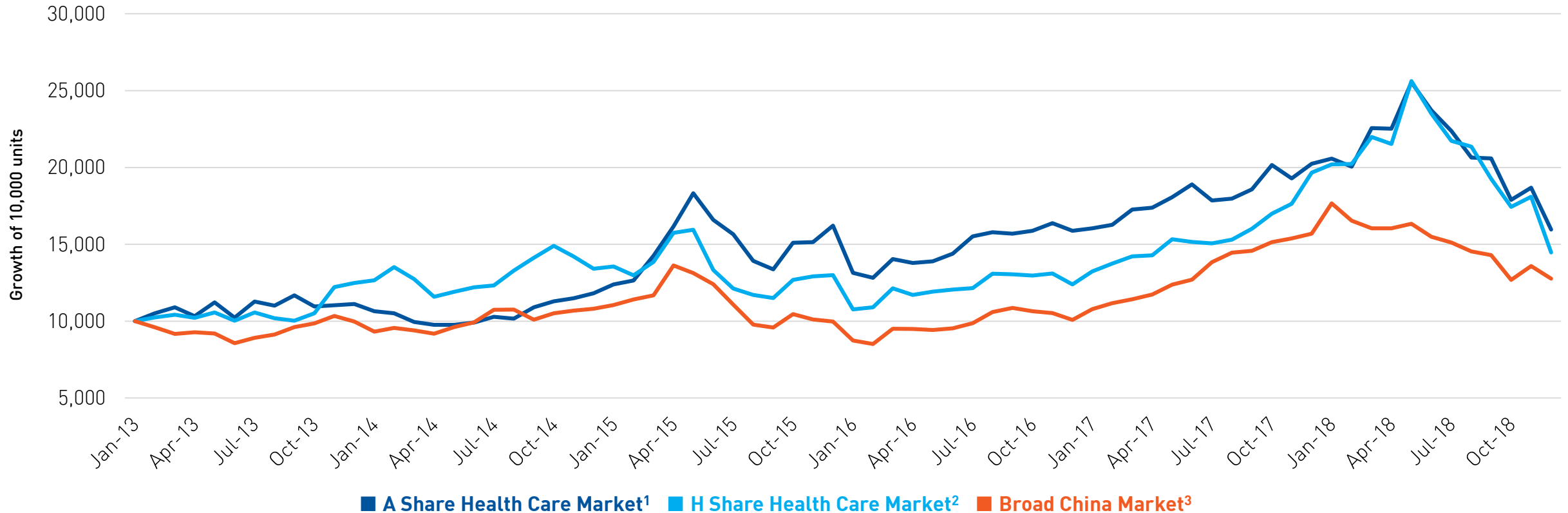
Healthcare IT refers to an array of technologies used to store, share, and analyze health information.



1. KPMG, "Commercial Opportunities in the Primary Care Market in China", Oct 2016, retrieved 12/31/2018.
 2. Andy Ho, "Big Health and the Future of Medicine in China", World Economic Forum, 6/19/2017, retrieved 12/31/2018.

The China healthcare sector in both Mainland (A shares) and Hong Kong (H shares) has outperformed the broader Chinese markets over the past 5 years.








China A & H Share Health Care vs MSCI China Index since 2013 (1/31/2013-12/31/2018)



Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index.

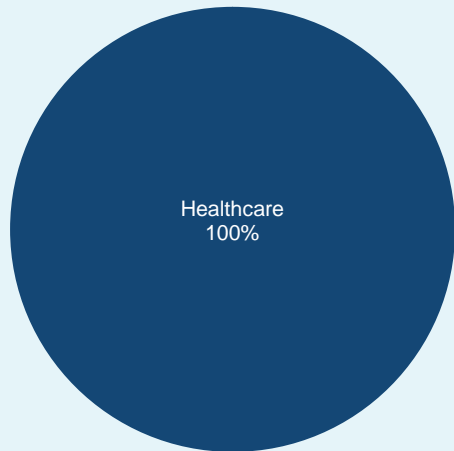
1.) China A Share healthcare sector is represented by CSI 300 Health Care Index 2.) China H Share healthcare sector is represented by MSCI China Health Care Index
3.) Broad China Market is represented by MSCI China Index. See Page 18 for Index Definitions.

Example Holdings in the KraneShares MSCI All China Health Care Index ETF (Ticker: KURE)

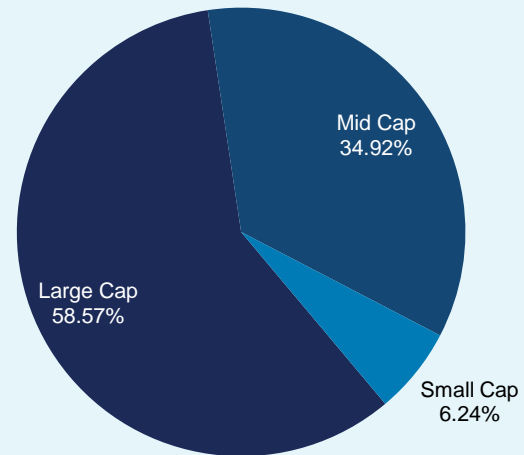
Theme		Example Holding	Holding weight (as of 12/31/2018)	Company logo	Company Description
	Patent and Generic Pharmaceuticals	Jiangsu Hengrui	9.02%		Jiangsu Hengrui develops, manufactures, and markets a variety of medicines and medicine packing materials. The Company specializes in the R&D of new medicines in areas of antineoplastics, endocrine system, cardiovascular, and the immune system.
	Medical Equipment Production	Shanghai Fosun	2.18%		Shanghai Fosun owns Sisram and AlmaLasers, two innovative medical equipment manufacturers whose products include medical aesthetics and minimally invasive medical devices.
	Hospital Administration	Meinian Onehealth	2.16%		Meinian Onehealth Healthcare Holdings Co., Ltd. provides health examinations, evaluations, consulting services and other medical services in 200+ medical facilities throughout China.
	Biotechnology	WuXi Biologics	3.30%		WuXi Biologics owns WuXi AppTec, a leading global pharmaceutical, biopharmaceutical, and medical device open-access capability and technology platform with global operations. WuXi AppTec provides a portfolio of services throughout the drug R&D process.
	Traditional Chinese Medicine	Tong Ren Tang	0.78%		Tong Ren Tang is a Chinese pharmaceutical company founded in 1669, which is now the largest producer of traditional Chinese medicine. The company is engaged in both manufacture and retail sales and drug store operations throughout China.
	Healthcare IT	Alibaba Healthcare	3.03%		Ali Health provides internet solutions for the healthcare industry to increase cross-regional sharing of existing social medicine resources and efficiencies of medical treatment. AliHealth specializes in medical e-commerce, smart medical treatment and product tracing.

KURE portfolio characteristics

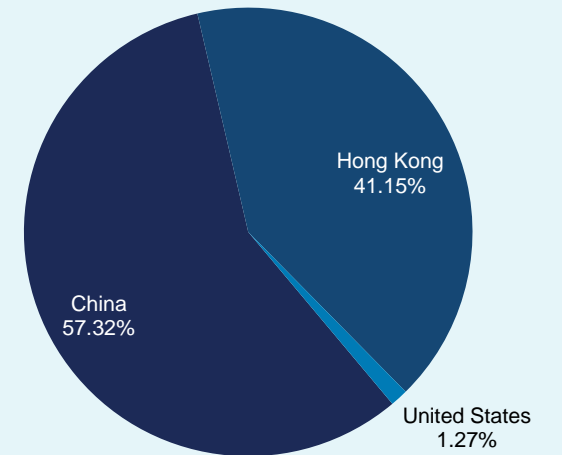
KURE Sector Breakdown



KURE Market Cap Breakdown



KURE Breakdown by Listing Location



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Fund Details	As of 12/31/2018
Primary Exchange	NYSE
Cusip	922908108
Total Annual Fund Operating Expense	0.82%
Inception Date	2/1/2018
Distribution Frequency	Semiannually
Index Name	MSCI All China Health Care 10/40 Index
Index Ticker	Bloomberg: M1CXCAH
Number of Holdings (ex Cash)	59

Top Ten Holdings as of 12/31/2018 excluding cash. The Fund's Holdings are Subject to Change.	Ticker	%
JIANGSU HENGRUI MEDICINE C-A	600276 CH	7.98
CSPC PHARMACEUTICAL GROUP LT	1093 HK	7.41
SINOPHARM GROUP CO-H	1099 HK	5.20
SINO BIOPHARMACEUTICAL	1177 HK	4.99
YUNNAN BAIYAO GROUP CO LTD-A	000538 CH	3.54
WUXI BIOLOGICS CAYMAN INC	2269 HK	3.30
ALIBABA HEALTH INFORMATION T	241 HK	3.03
CHINA RESOURCES PHARMACEUTIC	3320 HK	2.22
ZHANGZHOU PIENTZEHUANG PHA-A	600436 CH	2.12
GUANGZHOU BAIYUNSHAN PHAR-A	600332 CH	2.06

KURE Performance History as of 12/31/2018

	Cumulative %			Average Annualized %		
	3 Mo	6 Mo	Since Inception	1 Yr	3 Yr	Since Inception
Fund NAV	-21.54%	-35.60%	-30.01%	-	-	-30.01%
Closing Price	-23.51%	-35.79%	-30.86%	-	-	-30.86%
Index	-21.03%	-34.70%	-29.58%	-	-	-29.58%

The performance data quoted represents past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than their original cost and current performance may be lower or higher than the performance quoted. For performance data current to the most recent month end, please visit www.kraneshares.com

Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index.

Index Definitions:

MSCI China Index: captures large and mid cap representation across China H shares, B shares, Red chips and P chips. With 143 constituents, the index covers about 84% of this China equity universe.

MSCI China A Health Care Index: captures large and mid cap representation across China securities listed on the Shanghai and Shenzhen exchanges. All securities in the index are classified in the Health Care sector as per the Global Industry Classification Standard.

CSI 300 Health Care Index: consists of all the constituents of CSI 300 Index that are in the health care sector. It aims to reflect the overall performance of the sector.

Important Notes

Carefully consider the Funds' investment objectives, risk factors, charges and expenses before investing. This and additional information can be found in the Funds' full and summary prospectus, which may be obtained by visiting www.kraneshares.com. Read the prospectus carefully before investing.

Investing involves risk, including possible loss of principal. There can be no assurance that a Fund will achieve its stated objectives. The Funds are subject to political, social or economic instability within China which may cause decline in value. Fluctuations in currency of foreign countries may have an adverse effect to domestic currency values. Emerging markets involve heightened risk related to the same factors as well as increase volatility and lower trading volume.

Narrowly focused investments typically exhibit higher volatility. Internet companies are subject to rapid changes in technology, worldwide competition, rapid obsolescence of products and services, loss of patent protections, evolving industry standards and frequent new product productions. Such changes may have an adverse impact on performance. Technology companies may be subject to severe competition and rapid obsolescence. The KraneShares MSCI All China Health Care Index ETF is non-diversified.

The ability of the KraneShares MSCI All China Health Care Index ETF to achieve its respective investment objectives is dependent, in part, on the continuous availability of A Shares and the ability to obtain, if necessary, additional A Shares quota. If the Fund is unable to obtain sufficient exposure to limited availability of A Share quota, the Fund could seek exposure to the component securities of the Underlying Index by investment in other types of securities. The fund may invest in derivatives, which are often more volatile than other investments and may magnify the Fund's gains or losses.

The KraneShares MSCI All China Health Care Index ETF invests primarily in the health care industry. The profitability of companies in the healthcare sector may be affected by government regulations and government healthcare programs, government reimbursement for medical expenses, increases or decreases in the cost of medical products and services, limited product lines, increased emphasis on the delivery of healthcare through outpatient services and product liability claims. Many healthcare companies are heavily dependent on patent protection, which may be time consuming and costly, and the expiration of a company's patent may adversely affect that company's profitability. Healthcare companies are subject to competitive forces that may result in pricing pressure, including price discounting, and may be thinly capitalized and susceptible to product obsolescence. Many new products in the healthcare sector require significant research and development and may be subject to regulatory approvals, which may be time consuming and costly and with no guarantee that the product will come to market.

Although the information provided in this document has been obtained from sources which Krane Funds Advisors, LLC believes to be reliable, it does not guarantee accuracy of such information and such information may be incomplete or condensed.

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