

Healthcare Forum: The Prescription for New Market Opportunities

Opportunities and Challenges in the Healthcare Sector

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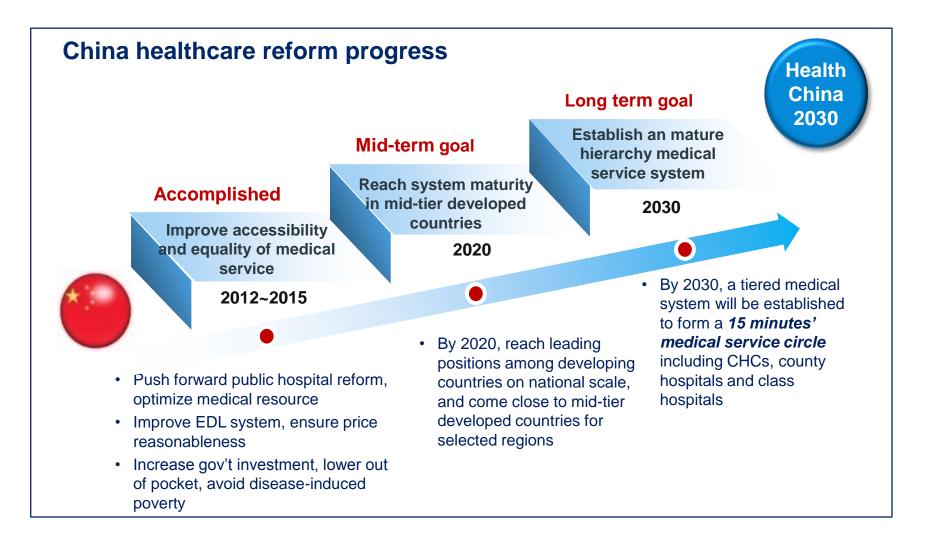
Macro-environment Changes and their Impacts on Healthcare Sector

China is undergoing massive transformation in political, economic, social and technological aspects

2003 - 2013 2013 - 2020 **Timeline** "Improve Quality of Life", "Rapid development", **Political** more focus on the people emphasizing fast growth >10% GDP growth, GDP growth slowed down focusing on infrastructure **Economic** to <7%, more focus on development and export stabilizing growth Social Demographic Dividends Aging population Labor intensive industries. Innovation driven to **Technology** focusing on manufacturing support high-tech industry

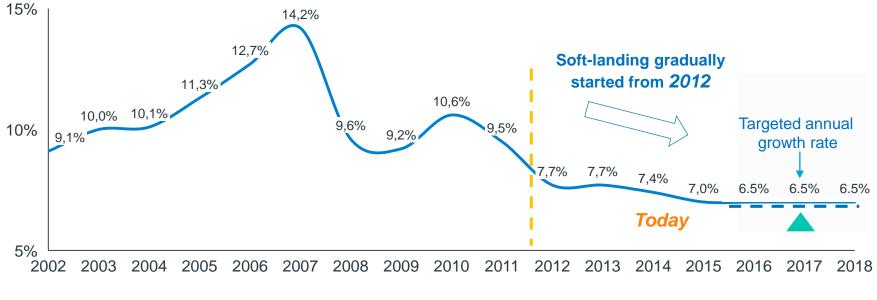


Focusing on "People", China healthcare reform has set clear direction to improve "Quality of Life"



After double-digit growth for a decade, China's economic growth slowed down as "soft-landing"

China GDP growth from 2000 to 2014



Economic achievement in "Golden Period"

- World's second largest economy in the world by 2011
- Average GDP CAGR: ~10%

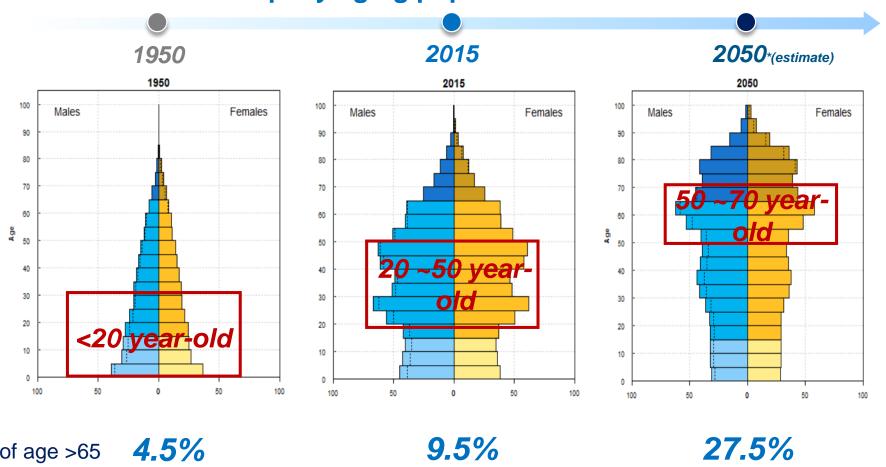
Soft-landing

- Gov't attempted to engineer a "soft landing" for the economy
- Average GDP CAGR: ~7%



China's demographics is shifting rapidly with an aging pop. and shrinking workforce

A rapidly aging population in China







From a technology perspective, China is experiencing a transformation from labor intensive to innovation-driven

Driver of change

- Demand for a more modern society
- Demand for new growth drivers and more jobs in urban areas

Before 1980s

Agriculture and heavy industry

Driver of change

- Shrinking labor force
- Rising labor cost
- Demand of high-value jobs
- Economic structure transformation



Now

2000s

Labor intensive manufacture industry

Innovation driven advanced tech industry

Prioritized industries

- Information technology
- Consumer and service industry
- Healthcare
- Equipment manufacturing
- Raw materials

Under the fast changing environment, the healthcare sector is also going through fundamental changes

Key implications on healthcare market

Political

Healthcare as a new government political priority

Economic

 More cautious on public spending as budget facing challenges

Social

- Aging population will demand more and better healthcare
- Aging population will also lead to increased pressure of public medical insurance fund with decreasing contribution and increasing spending*

Technology

 More focus on innovation to drive industry advancement

Note: *Public medical insurance in China is mainly funded by income of the working population; retired population do not pay for medical insurance



Key Challenges and future Directions on Healthcare Reform

New reform will be set to reinforce the alignment of "Medical Service", "Medical Insurance" and "Medicine"

"三医联动"

Medical Service Medical Insurance Medicine

Key Reform Aspects

Optimizing Resource Allocation

Government Stakeholders

National Health Commission:

Newly set integrated commission of health department

Value-based Payment Method Reform

State Medical Insurance Administration

- Directly under the State Council

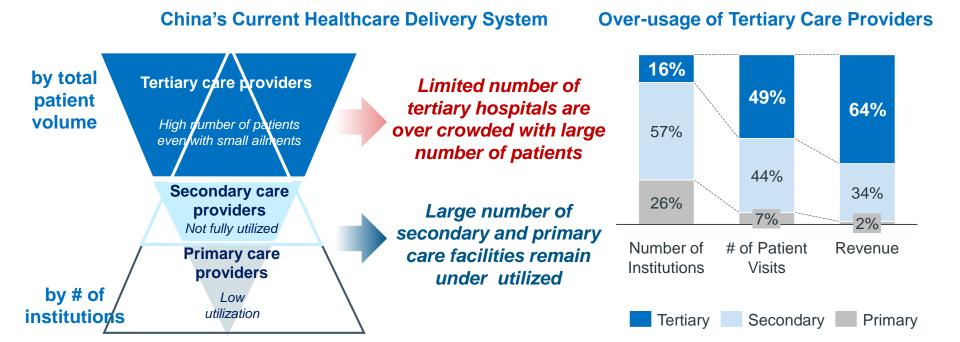
Improve Drug Quality & Encourage Innovation

Drug Regulatory Administration

 Affiliated to State Market Regulatory Administration



China's tertiary care is overburdened with primary care under-utilized, hindering the improvement of services



Inefficient healthcare delivery system leads to:

- Compromised service quality: difficult to get timely treatment with high service quality
- Waste of healthcare resources: large number of primary care facilities exist but remain under utilized



Medical resource will be pushed to lower tier market by new referral system and Hospital Union model

<Guide on developing Hospital Union>

"by 2017, framework is to be built for Hospital Union across all the 3rd tier public hospital and successful model needs to be identified for Hospital Union in each prefecture city.....by 2020, Hospital Union should be rolled out nationally..."

- State Council Article 32 [2017]

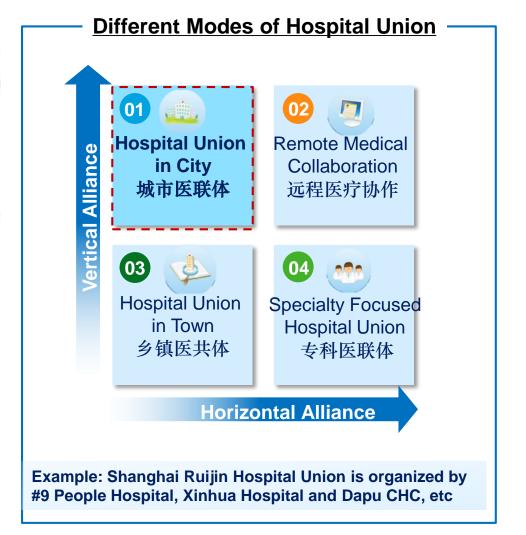
205 Prefecture Cities

Started hospital union pilots, accounting for 60% of China total prefecture cities

2.6 Million

Downward Referral

Over 2.6 million downward referral #, increased by 117% compared with 2015



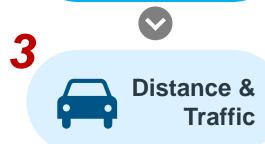


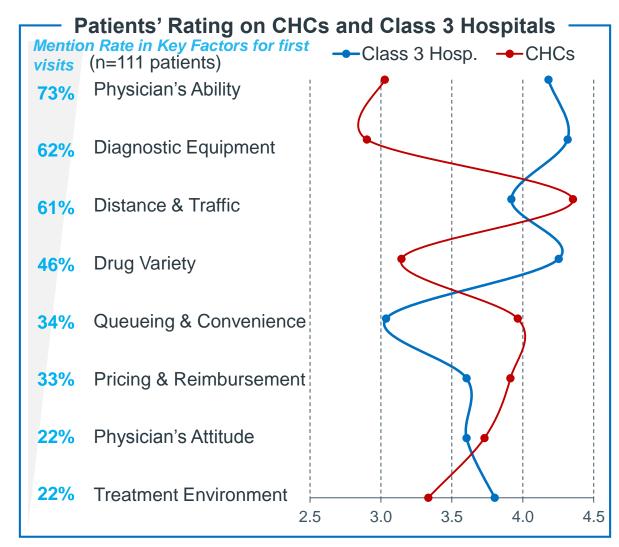
However, referral system will take time to change as patient still prefers big hospital for high quality service

Key Decision Factors in Patient Visits

Physician's
Diagnosis &
Treatment Ability

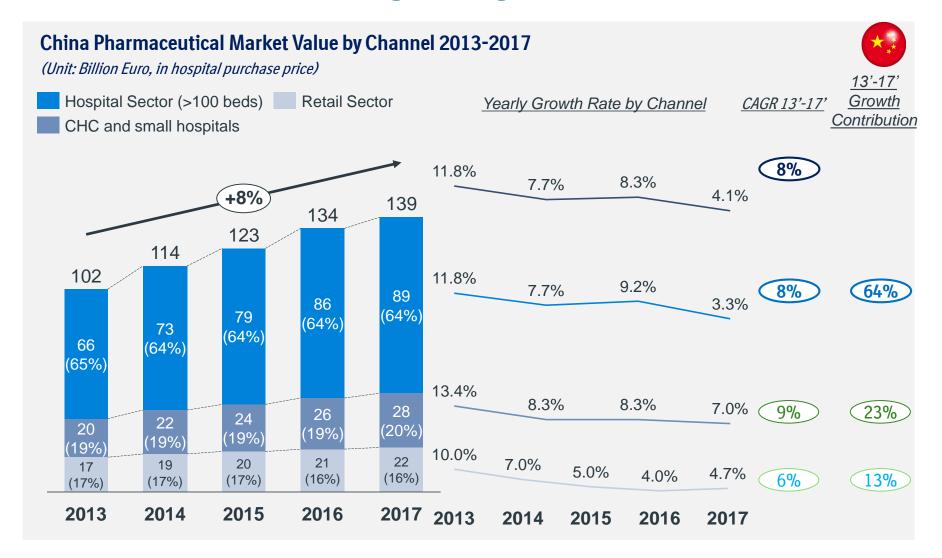








Hospital will continue dominating pharmaceutical sales, but other channels are growing such as CHC and retail





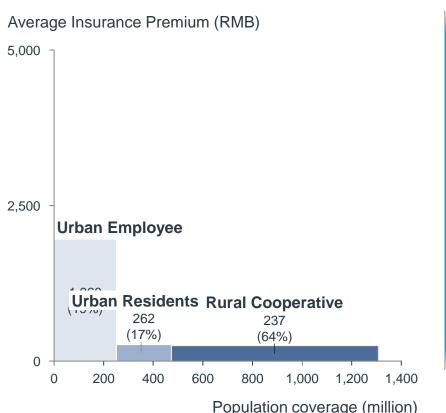
Basic medical insurance coverage is expanding over the past 10 years, but coverage quality is still very low

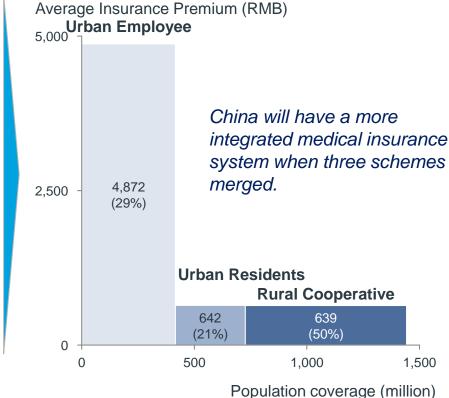
2010 Medical Insurance Status:

Urban employee is small with high coverage while others have very low average insurance premium

2020 Medical Insurance Trends:

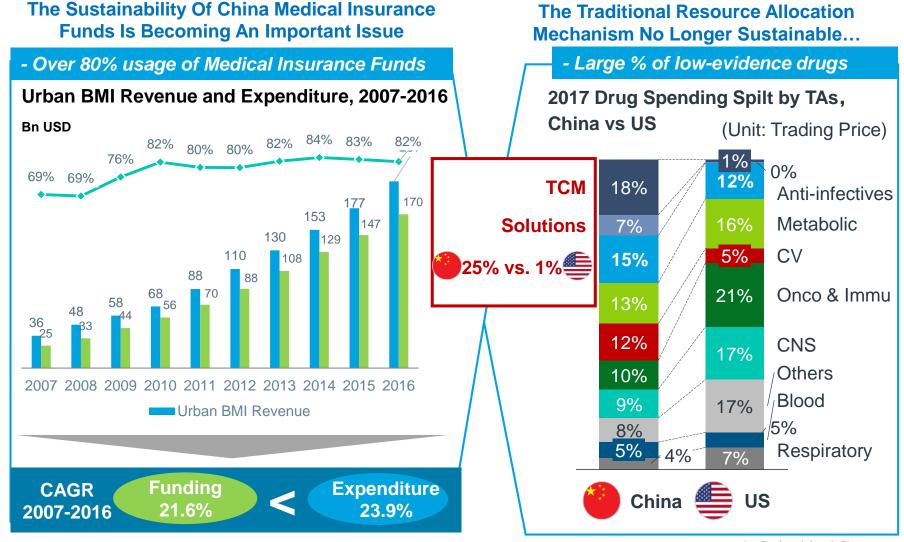
Overall insurance coverage is improving with increasing average insurance premium





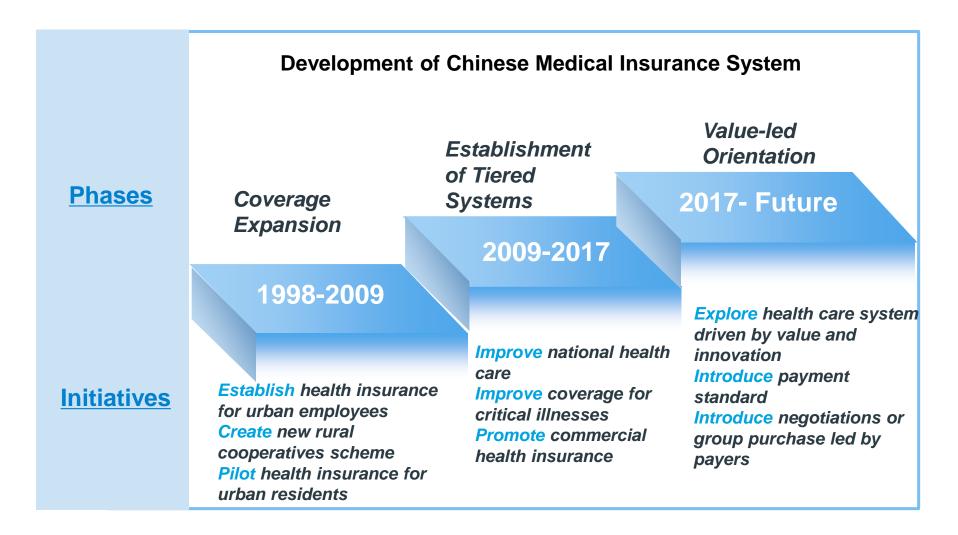


Funding is undergoing huge pressure, but there are still lots of wastes in the medical spending





With these challenges, China medical insurance system is evolving and transforming to "value-led" orientation





Payment method reform will be rolled out from 2017 to reinforce cost containment in the hospital

Traditional Payment

New Payment Methods: More Delicate Design, with "Value-Considered"

| Fee for Service 按服务项目付费 | Pre-Paid Lump Sum 总额预付 | Capitation 按人头付费 | Fee for Disease 按病种付费 | DRGs* 按病种分组付费 |
|--|---|--|---|------------------|
| Retrospective Payment | Prospective Payment | | | |
| Inpatient & Outpatient | Inpatient | Outpatient | Inpatient | |
| BMI fund payment to hospital in unit of service item Total amount depends on service price & service volume | BMI fund payment to hospital in unit of annual expense Total amount depends on service price & service volume with expenditure ceiling | BMI fund payment to hospital in unit of annual capita Total amount depends on capitation payment standard & number of patient | BMI fund payment to hospital in unit of disease (group) Total amount depends on disease (group) payment standard & number of disease (group) | |
| Payment standard is specific Total budget goes with service volume | Total BMI budget per hospital is specific Expenditure exceeding the budget won't be paid | Capitation payment standard is specific Total BMI budget goes with number of patient | Disease (group) payment standard is specific Total BMI budget goes with number of disease (group) | |
| Low | Cost impact High | | | |
| History-based payment | Only annual BMI budget per hospital needs to be made Historical data can be referred | Rational capitation payment standard can be calculated based on historical patient data | Large amount of payment data for different disease (group) with different treatments are required to set rational payment standard | |
| ——— Easy ——— | Easy — Difficult — Difficult | | | |



Payment standards implementation also demonstrates regional attitude toward drug pricing reform

Grouping methodology adopted by piloted regions

Pattern description



 Different brands' drugs with the same generic name have different payment price

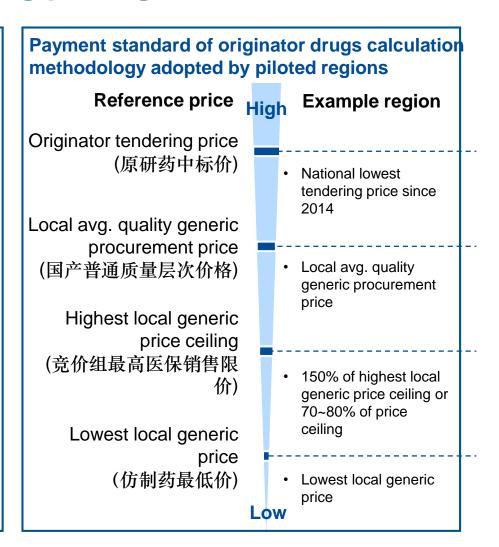


- Both by brand name and by generic name are adopted
 - By generic name if price of avg. quality drug is higher than avg. sales price
 - Otherwise by brand name

By generic name (按通用名)

Source: IQVIA analysis

 Drugs' with the same generic name share the same payment price





There are some positive trends expected in the future for the fast access of new drugs and high-priced drugs



Future Outlook



Dynamic NRDL update 目录动态调整



Faster access for newly launched products 新药准入加快

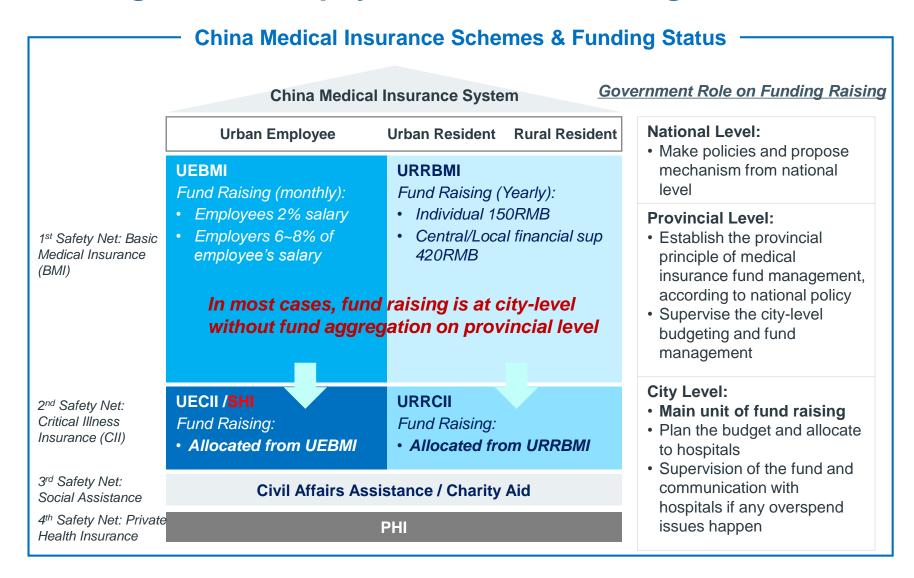


Regulated negotiation access for high-priced drugs 高价药谈判常态化





Public fund raising is managed mainly at city level, leading to various payers decision-making foundations



SOURCE: Desk Research; QuintilesIMS Analysis



Drug reform aims to speed up approval and to improve quality standards, and to encourage drug innovation

Optimize the drug approval procedure

- Improve the process transparency
- Increase work staff, and improve efficiency
- Complete all the accumulated applications
- Catch-up the review progress

Generic
Quality
Consistency
Evaluation
(GQCE)

 If more than 3 MNFs pass the GQCE for a same molecule, all other non-GQCE products will not be considered during the provincial tendering Encourage Drug Innovations

- Set up individual innovative drug approval, eg. Green Channel
- Accept the clinical trial results from global multicenters, and encourage global combined trials to accelerate launch time

Drug
Marketing
Authorization
Holder

- Separate the drug launch application and manufacturing approval
- Allow R&D institute and research staff to hold drug authorization number, to become a holder, and be responsible for drug safety, efficacy and quality.

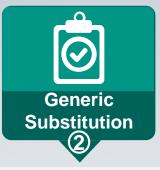




Market access for innovative products is also greatly improved with savings from generic substitution



 Rising voices for anti-abuse & corruption to regulate spending on supportive care with no or less evidence



Generic Quality
 Consistency
 Evaluation (GQCE),
 along with the rise of
 local MNFs, will
 gradually erode the
 market for off-patent
 originators



 Payer reform has opened a door for new launches with a more dynamic P&R mechanism



 China has a clear ambition to set up HTA system by 2020: multiple stakeholders have been involved in the process

Quality & Cost Saving

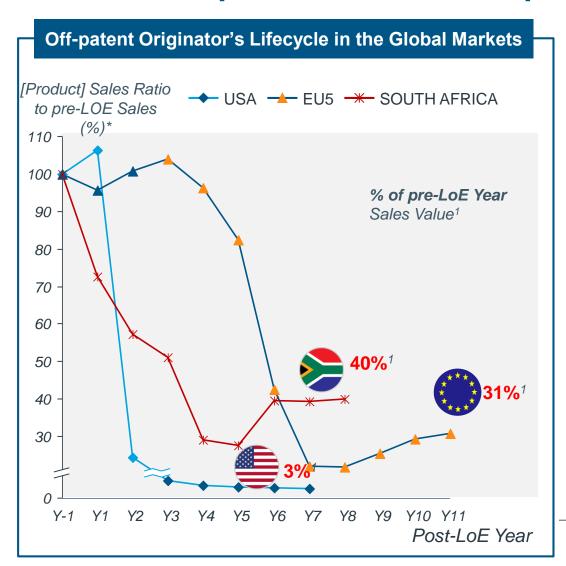


Value-based System

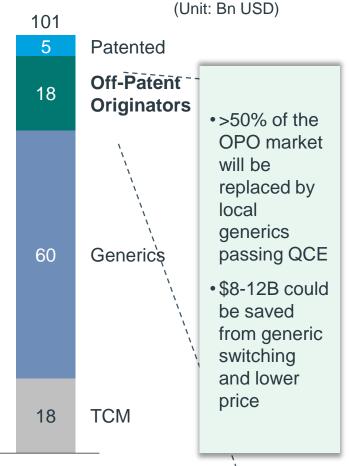




GQCE impact will be long term shaping the market structure of pharmaceuticals, especially for new drugs



GQCE Market Impacts in China 2017

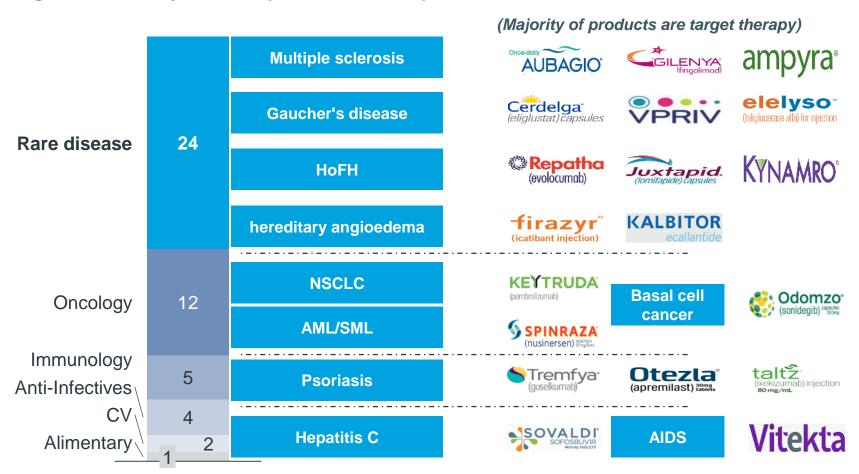






There will be a booming new launches in the next few years in very positive regulatory policy environment

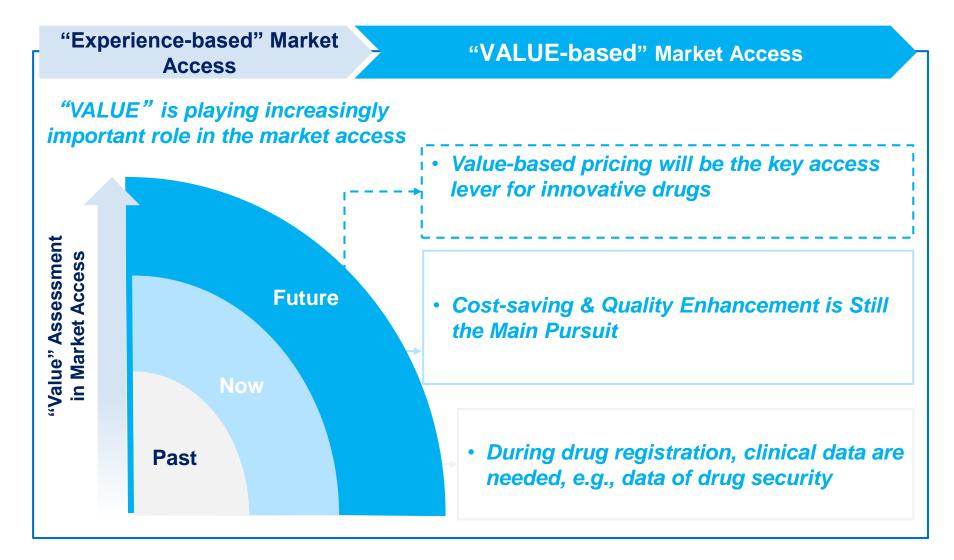
Urgent-need list by TA, example diseases and products





Opportunities in the Changing Healthcare Dynamics

We are at a historical transition period from experiencebased to value-based access system



Proving and defending value is critical for market access throughout product life cycle

- Product development needs to consider total value through out product lifecycle
- Value story: clinical value and social economic value



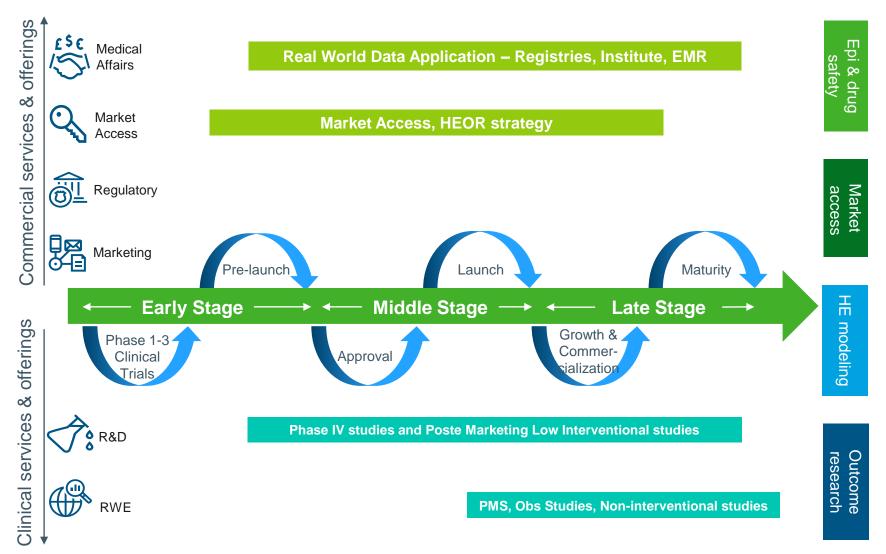








Real world evidence will be enabling future industry development the in the value-based healthcare system



"Patient Centric" is reshaping our Mindset to re-design our Go-to-market, i.e. online platform as new channel

Home Based Oncology Treatment



Several online based platforms can offer homebased nurse services



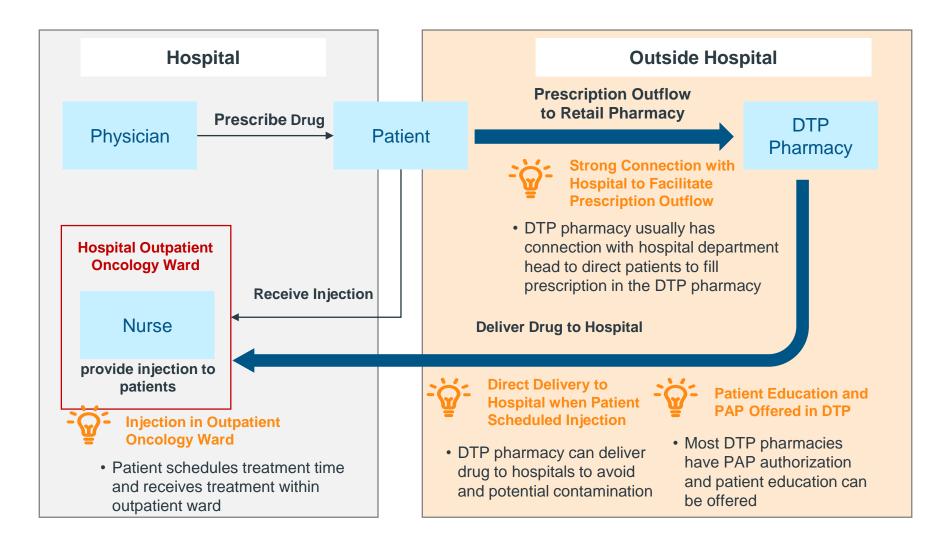
- Government approved online homecare service platform
- Offer homebased nurse care, body check-up and consultation services
- Over 43K registered nurses covering over 300 cities



- Offer community healthcare services
- Allow residents to make appointment with physician or nurse and enjoy homebased consultation and care
- With 17K family physicians, 3K nurses and 3K specialized physicians registered



DTP and pharmacy could supplement with superior service and delivery capabilities in the future



A closed-loop physician engagement cycle is necessary to improve effectiveness by ensuring message delivery

Closed-loop

Physician

Cycle

Existing Models Key Focus – Message Delivery

Education

- Educating physicians on disease knowledge with multiple methods
- Case:
 - Call center or other attachment
 - Physician group service

II. Action

- Providing action programs to improve the physician adherence
- Case:
 - Physician assistant program
 - Other innovative way

Potential Routes Key Focus – Collection and Respond

IV. Implication

- Collecting physician behavior data to provide better disease solutions
- Idea:
 - Guiding marketing activities
 - Providing precision solution to each single physician

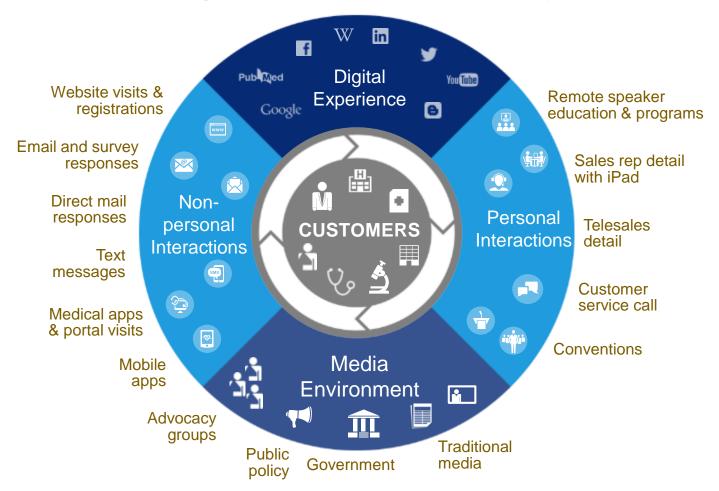
Engagement₂ III. Interaction

- Supervising and correcting physician behavior actively & timely
- Idea:
 - Patient management program
 - Real time assistance



Technology will be continuously improving the efficiency of customer engagement

The challenge is to ensure that messages do not get lost in the noise; the key will be to orchestrate the messages across the channels effectively





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