China Healthcare Market and Key Recent Policy Updates

2016
Agenda

1. China Healthcare Market
2. The Healthcare Reform and Key Recent Policy Updates
China is now the 2\textsuperscript{nd} largest healthcare market in the world

- It is also the fastest growing one among the top 5

### Total healthcare expenditure and growth CAGR (US$ bn)

<table>
<thead>
<tr>
<th>Country</th>
<th>Healthcare Expenditure (US$ bn)</th>
<th>Growth CAGR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>2,867</td>
<td>5.9%</td>
</tr>
<tr>
<td>China</td>
<td>531</td>
<td>22.8%</td>
</tr>
<tr>
<td>Japan</td>
<td>507</td>
<td>10.7%</td>
</tr>
<tr>
<td>Germany</td>
<td>423</td>
<td>0.1%</td>
</tr>
<tr>
<td>France</td>
<td>329</td>
<td>-0.9%</td>
</tr>
</tbody>
</table>

Source: WHO. Healthcare expenditures are based on 2013 data, and CAGRs are between 2008-2012.
But per capita spending and relative spending is still low...

Per capita healthcare expenditure (US$)

<table>
<thead>
<tr>
<th>Country</th>
<th>Per Capita Expenditure (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>9,150</td>
</tr>
<tr>
<td>Japan</td>
<td>3,965</td>
</tr>
<tr>
<td>China</td>
<td>370</td>
</tr>
</tbody>
</table>

Healthcare expenditure as % of GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>Healthcare Expenditure as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>17.1%</td>
</tr>
<tr>
<td>Japan</td>
<td>10.3%</td>
</tr>
<tr>
<td>China</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

Note: Healthcare expenditures are based on 2013 data, calculated with current year exchange rate to US dollar.
Source: WHO
China Healthcare Market – regulatory framework

**Key Stakeholders**

- **National Health and Family Planning Commission (NHFPC)**
  - incl. The State Food and Drug Administration (SFDA or CFDA)

- **National Development & Reform Commission (NDRC)**
  - incl. The Price Bureau

- **Ministry of Human Resources & Social Security (MoHRSS)**

- **Ministry of Commerce (Mofcom)**

- **Ministry of Finance (MoF)**

- **Ministry of Civil Affairs**

**Function and Responsibility**

- Formulating industry policies, supervising the operation of state-owned hospitals, drug registration and safety/quality administration, disease prevention, etc.

- Setting the price of drugs and medical services

- Management of medical care programs and the reimbursement system

- Regulates the distribution of medicines and medical equipment

- Investment in healthcare sector as well as subsidies for health insurance

- Medical aid for the poor
## China Healthcare Market – sources of funding

### Sources of healthcare expenditure funding

<table>
<thead>
<tr>
<th>Section</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government</strong></td>
<td>30%</td>
</tr>
<tr>
<td>• Administrative expenses</td>
<td></td>
</tr>
<tr>
<td>• Subsidies to public plans</td>
<td></td>
</tr>
<tr>
<td>(URBMI and NRCMS)</td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>37%</td>
</tr>
<tr>
<td>• Employer/employee contributions to public plans</td>
<td></td>
</tr>
<tr>
<td>• Commercial plans (~3%)</td>
<td></td>
</tr>
<tr>
<td>• NGOs, donations</td>
<td></td>
</tr>
<tr>
<td><strong>Out-of-pocket (OOP) expenses</strong></td>
<td>33%</td>
</tr>
</tbody>
</table>

### Key Public Plans

- **UBBMI**
  - Urban Employee Basic Medical Insurance, a mandatory program for employees of urban state-owned and private enterprises
  - Covers ~20% of population
  - 75-85% inpatient reimbursement ratio

- **URBMI**
  - Voluntary program for urban residents not eligible for UEBMI (seniors, unemployed, children, students, disabled)
  - Covers ~15% of population
  - 40-80% inpatient reimbursement ratio

- **NRCMS**
  - Voluntary basic medical insurance for rural residents
  - Covers ~60% of population
  - 40-80% inpatient reimbursement ratio

Source: NHFPC
China Healthcare Market – flow of expenditure

Composition of healthcare expenditure

- Hospitals: 63%
- Clinics: 9%
- Pharmacies: 11%
- Public Health Organizations: 7%
- Administrative Organizations: 2%
- Others: 8%

Hospital revenue of city tier

- County/Township/Community Level Hospitals: 37%
- City Level Hospitals: 63%

Hospital Revenue by type

- Drug sales: 40%
- Treatment charges: 60%
Agenda

1. China Healthcare Market

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China is using 3% of global healthcare spending to address healthcare needs of 22% world’s total population

Source: WHO
Significant achievements made to date – improved quality of health

<table>
<thead>
<tr>
<th>Life expectancy at birth (years)</th>
<th>Maternal mortality ratio¹</th>
<th>Under 5 yr olds mortality ratio²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010: 75</td>
<td>2010: 35</td>
<td>2010: 16</td>
</tr>
</tbody>
</table>

¹: per 100,000 live births  
²: per 1,000 live births  
Source: World Bank Group, World Development Indicators 2016
Significant achievements made to date – expanded insurance coverage

Basic medical insurance coverage – 2000 vs. 2014

- 2000: 20%
- 2014: 95%

Out-of-pocket expense as % of healthcare spend

- 2000: 59%
- 2014: 33%

Source: WHO, NHFPC
Significant achievements made to date – better access to healthcare

<table>
<thead>
<tr>
<th>Hospital beds per 1,000 population</th>
<th>Physicians per 1,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Median</td>
<td>OECD Median</td>
</tr>
<tr>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>2.9</td>
<td>3.2</td>
</tr>
<tr>
<td>4.8</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Source: OECD, NHFPC
But still, China is faced with serious long term healthcare challenges

### Demographic shift

25%  
Chinese population is aging very rapidly. In 1982, only 5% of the total population is aged over 65. In 2010, the number has increased to 9%. By 2050, it is expected to reach 25% (same as the level in Japan).

### Epidemiological change

90mn  
Burden of non-communicable disease (NCDs, cancer, cardio disease, diabetes, etc.) is increasing, due to changing lifestyle and environmental issues – currently there are 90mn people with diabetes. This will drive up outpatient visits, hospitalizations and overall medical spending.

### Diversifying needs

100mn  
Rapid social stratification (100mn incremental middle class population expected in the next decade) means diversifying healthcare demands – private hospitals, high-tech medical devices, patented drugs and commercial health insurance need to be developed to cater to the country’s well-to-do population.
Objective of current healthcare reform is to establish a basic universal healthcare system that provides safe, effective, convenient and low-cost services by 2020.

### Medication
- **2009**: EDL
- **2010**: cGMP
- **2013**: EDL 2012 Generic Consistency Evaluation
- **2015**: Free drug pricing, Accelerated drug approval, Biosimilar guidelines, generic guidelines cGMP deadline

- Multiple rounds of drug price cuts by NDRC

### Service Delivery
- **2009**: Public hospital bidding
- **2013**: County public hospital reform
- **2015**: City public hospital bidding

- Separation of Rx and dispensing (e.g. zero mark-up)
- Tiered diagnosis and treatment

### Reimbursement
- **2009**: More financial support, 90% coverage, OOP burden 55%
- **2014**: 95% coverage 33% OOP
- **2015**: Critical illness insurance

- Coverage increases, Out-of-pocket (OOP) burden lowered
Issue 1 – maldistribution of healthcare resources...

<table>
<thead>
<tr>
<th>Hospital Number as % of total</th>
<th>Inpatient volume as % of total</th>
<th>Hospital Bed Utilization Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1 Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 2 Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 3 Hospital</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: China Healthcare Yearbook

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...Which exacerbated the problem of access
Key Policy Focus 1 – rationalization of the delivery system

1. Promotion of tiered diagnosis and treatment on a national scale
2. Loosening control on doctor’s multi-site practice
3. Development of primary care service network in urban and rural area
### Issue 2 – increasing reimbursement pressure

- On the national level, public plans are still at surplus position, but is facing increasing balancing pressure giving demographic shift.

#### Annual premium income/expenditure of public med care plans (RMB BN)

<table>
<thead>
<tr>
<th>Year</th>
<th>Income</th>
<th>Expenditure</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>88</td>
<td>77</td>
<td>11</td>
</tr>
<tr>
<td>2010</td>
<td>111</td>
<td>140</td>
<td>145</td>
</tr>
<tr>
<td>2011</td>
<td>145</td>
<td>155</td>
<td>188</td>
</tr>
<tr>
<td>2012</td>
<td>145</td>
<td>155</td>
<td>188</td>
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<td>2013</td>
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<tr>
<td>2014</td>
<td>145</td>
<td>155</td>
<td>188</td>
</tr>
<tr>
<td>2015</td>
<td>145</td>
<td>155</td>
<td>188</td>
</tr>
</tbody>
</table>

- But on municipality level, almost half of the cities are already in deficit position (mostly in less developed mid-west regions).

#### Med care plans’ surplus/deficit position by city

- **225 municipalities in total**
- **Surplus position**
- Deficit, on cumulative basis: 22
- Deficit, on annual basis: 86
Key Policy focus 2 – expanded funding sources and better cost control

1. Encouraging private investment into healthcare service sector
2. Encouraging the development of commercial medical insurance
3. Hard reimbursement cap for hospitals, DRGs
4. Multiple rounds of price cuts for drug purchase, zero mark-up at hospital level
Issue 3 – low efficiency in the distribution system

Drug/device distribution in China

- ~15k drug/device distributors in China
- Channel mark-up accounts of 30-50% of total retail price

Drugs/device distribution in the U.S.

- ~72% of hospital purchases made through GPOs
- GPOs earn ~3% admin fee and save an estimated 10-20% on hospital purchases

Source: Healthcare Supply Chain Association
Key Policy focus 3 – improving channel efficiency

1. The “two invoices” policy
2. Healthcare sector VAT reform
**Issue 4 – lacking behind in fostering innovation**

### PharmaCo R&D spending as % of sales
- **18.6%** (USA)
- **6.9%** (China)

### NDA Submissions in 2015
1. **40** (1)
2. **15** (2)

### Average time used for NDA review (months)
- **42** (USA)
- **10** (China)

**Notes:***
1. incl. NME and BLA
2. incl. chemical class 1.1, 1.2, 1.3 and biologics class 1
Key Policy Focus 4 – fostering innovation

1. Clinical trial data inspection
2. Generic quality and efficacy consistency evaluation
3. Reform of categorization for chemical drug registration
4. New CFDA mechanism for priority review and approval
5. Carry out of Marketing Authorization Holder (MAH) scheme in 10 provinces/municipalities