Health Opportunities in China

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BACKGROUND
China As Number 1

Top population (1.4 billion – China’s population has grown by 360 million since 1978. The U.S. has 330 million)

- Top energy consumer
- Top carbon emissions
- Top foreign reserves
- Top savings rate
- Top manufacturer
- Top exporter
- Top executioner
## U.S. Companies Doing Well in China

<table>
<thead>
<tr>
<th>Company</th>
<th>Profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yum! (KFC)</td>
<td>40%</td>
</tr>
<tr>
<td>General Motors</td>
<td>13%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>99%</td>
</tr>
<tr>
<td>Boeing</td>
<td>52%</td>
</tr>
<tr>
<td>Nike</td>
<td>?</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>67%</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>55%/hair</td>
</tr>
<tr>
<td>Intel</td>
<td>15%</td>
</tr>
<tr>
<td>Starbucks</td>
<td>70%</td>
</tr>
<tr>
<td>Apple (tablets)</td>
<td>51%</td>
</tr>
</tbody>
</table>

In total, the number of American companies that are making money in China is not high nor is the number of companies increasing much.

- 67 American companies are profitable (2012)
- 8 companies are very profitable

(Dr. Richard Drobnick, Marshall Business School, U of So Cal)
Top Challenges for Foreign Companies in China

- Higher costs
- Competition with Chinese companies
- Administrative licensing
- Human resources
- Intellectual property rights enforcement
- Uneven enforcement of Chinese laws
- Transparency
- Standards and conformity assessment
- Foreign investment restrictions
China Medical History Primer

- 1915 - Peking Union Medical School – Started by the Rockefeller Foundation
- 1949 - Barefoot doctors primary care system put in place by Mao Zedong
- 1965-1975 - Medical Education halted during the Cultural Revolution
  - Shanghai: 10,885 doctors (1950), 1,514 (1965), 0 in 1966
- 1979 – Economic modernization and restarting of Medical Schools (Deng Xiao Peng)
  - Fee for service private care started.
A History of Low Govt Spending on Health Care in China

- Chinese government spent $200/person on healthcare in 2010

- Healthcare expenditures as % of GDP (2006)
  - China: 5.8%
  - USA: 15.3%
Per Capita Health Expenditure (2010)
Shanghai (2007)

- Food: 36% of disposable income
- Transport/communication: 16%
- Utilities: 10%
- Clothing: 7%
- Medical: 5%

Low Average Consumer Expenditure for Medical
HEALTH REFORM
Health Reform (2009)

- Government commits to 16.5% increase in funds toward health per year until 2015
- Health insurance for all (universal coverage)
- Social insurance through employers in cities
  - High out-of-pocket expenses (30 to 50% co-pays)
  - Consultations with physicians specialists range from $10 to $16.
    - This will lessen the need for doctors to over-prescribe pharmaceuticals
- Government payouts to peasants in rural areas
Health Reform

- More health facilities and renovations of existing facilities
  - Traditional Chinese Medicine receives a big infusion of financial support
- Some hospitals are being allowed to vary prices and service offerings
  - A move toward a competitive health system
- Essential Drug Package
  - 400 drugs at all hospitals
  - Government is setting prices and getting large discounts
  - Almost 50% of the 400 drugs come from multi-national corporations
<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2011</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Capita Health Expenditure</td>
<td>$119</td>
<td>$261</td>
<td>~ $700</td>
</tr>
<tr>
<td>Total Health Expenditure</td>
<td>$156Billion</td>
<td>$357B</td>
<td>~ $1Trillion</td>
</tr>
<tr>
<td>% with Health Insurance</td>
<td>43%</td>
<td>95%</td>
<td>~ 95%</td>
</tr>
</tbody>
</table>

* China Health Statistics Year Book

**Quickly Increasing Health Spending in China**
Comparing China’s 2020 Per Capita Expenditure for Health Care
Expanding Service Sector Employment
Health Demographics

- People over 65
  - 122 million today, 223M in 2030
  - Approximately ¼ of the Chinese population will be 65+ by 2050

- Chronic disease conditions proliferating rapidly
  - 92 million diabetics and 150 million pre-diabetics
  - In comparison, the U.S. currently has 27 million diabetics

- Cancer / Respiratory & Depression – under-diagnosed
  - 2 million new cancer cases per year, but facilities are only able to handle about 400,000 patients/year (2007)
OPPORTUNITIES

Pharmaceutical, Medical Device, Insurance, Bio-Medical, Health Services
PHARMACEUTICAL
<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pharma Expenditure</td>
<td>$27B</td>
<td>$71B</td>
</tr>
<tr>
<td>Global Ranking</td>
<td>9\text{th}</td>
<td>3\text{rd}</td>
</tr>
<tr>
<td>Total Revenue of Top 10 Pharma Co.</td>
<td>$4B</td>
<td>$10B</td>
</tr>
<tr>
<td># of Sales Reps for Top 10 Pharma Companies</td>
<td>6,000</td>
<td>&gt;25,000</td>
</tr>
</tbody>
</table>

* Chinese Pharmaceutical Association
Multi-National Corporate Partnering in China

- 5% of China’s GDP in 2010. Expected to be 8% in 2015 and 15% by 2020
  - Government is standardizing bio-medical industries.

- MNCs are teaming up with Chinese companies
  - Sectors: pharmaceuticals, consumer health, vaccines and medical devices

- Pfizer is planning a joint venture with Hisun Pharma
  - Generic drugs, low-cost manufacturing and R&D capacity
  - Also, working with Shanghai Pharma, including a $50M investment in their IPO
Pharmaceuticals

- **Revenues**
  - China is already in top 3 of revenue producing nations for Bayer and Novo Nordisk

- **Retail Pharmacy**
  - Trying to move medications outside hospitals and into retail pharmacies
  - Hospitals used to handle 60 to 80% of all pharmaceutical sales
  - Retail pharmacy sales now growing by >20% per year

- **Sales Force**
  - 10 largest MNC Pharmaceuticals have a sales force over 25,000. More than in the U.S.
  - Pharmaceutical sales forces have been downsized in Europe and the U.S. in recent years
MEDICAL DEVICES
<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Size</td>
<td>$8B</td>
<td>$20B</td>
</tr>
<tr>
<td>Global Ranking</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
</tr>
<tr>
<td>TCM Market Size</td>
<td>$6B</td>
<td>$13B</td>
</tr>
</tbody>
</table>

* Southern Medicine Research Institute
Medical Device

- Emphasis on bringing in state-of-the-art medical devices
- New facilities as a result of health reform:
  - 2,000 county hospitals
  - 2,400 urban hospitals
  - 3,700 community clinics
  - 11,000 urban clinics
- Revenues: GE and Philips now have $1B annual sales in China/growing quickly
Difficulties

- Product registration, reimbursement, tendering, pricing and distribution can be problematic for MNCs
  - Not standard: Conditions vary at provincial, city and even hospital level

- Beijing government is said to be aiming for 20-30% price reductions on some medical devices
INSURANCE
Insurance

- Private insurance sales have increased from $3.8B (2004) to $8.6B (2008)
  - Many U.S. firms have already set up shop for supplemental insurance coverage

- “Domestic insurers are ill equipped to deal with the complexity of the health insurance business.”
The Chinese Hospital

- 17,844 hospitals (v.s. 5,200 in U.S.)
  - 10% are private hospital
  - Less than 2% are estimated to be foreign-invested

- Management systems are inefficient.

- Most hospitals are not run as businesses, but as government agencies.
<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Length of Stay per Patient</td>
<td>10.9 days</td>
<td>5.5</td>
</tr>
<tr>
<td>Admissions per 1,000 population</td>
<td>47.1</td>
<td>136.0</td>
</tr>
<tr>
<td>Accounts Receivable in Days</td>
<td>0</td>
<td>57.8</td>
</tr>
<tr>
<td>Pharmacy as % of Total Revenues</td>
<td>55%</td>
<td>18%</td>
</tr>
<tr>
<td>Average Malpractice Claim</td>
<td>$500</td>
<td>$300,000</td>
</tr>
</tbody>
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**US vs. CHINA**

Hospital Comparison
Limited Management Capacity

- No governance structure
  - No trustees to oversee hospital
  - No mission statements or strategic objectives

- Administrators aren’t trained
  - Clinicians rotate annually as administrators
  - No organizational chart, lines of authority
  - Community party influence

- No Chief Financial Officer
  - Senior finance person has principal responsibilities for cashiering
  - No operating budget or cost center budgeting
System Decentralization

- Patients prefer to visit the primary care hospitals (in urban areas)
  - Long lines every day
  - This is due to perceptions (and maybe reality) of physician capabilities
  - Secondary and tertiary hospitals are under-utilized

- The Government is trying to establish a better primary care system, including referrals to hospitals
Hospital Physical Plant

- Poorly maintained with inadequate environmental and maintenance services
  - Lack of cleanliness
  - Fewer housekeepers than international hospitals

- No mandated codes or requirements for Chinese hospitals
  - Door width, ceiling height, number and type of gas outlets/bed, ventilation requirements, airflow and handling capabilities, etc.
  - As such, infection control is a problem
<table>
<thead>
<tr>
<th></th>
<th>CHINA</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians per 1,000 Population</td>
<td>1.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Physicians per Hospital Bed</td>
<td>.6</td>
<td>.9</td>
</tr>
<tr>
<td>Nurses per Hospital Bed</td>
<td>.4</td>
<td>2.8</td>
</tr>
</tbody>
</table>

**US vs. CHINA Staffing**
Physician Practice

- No private practice – all physicians are employed by a hospital and practice in the hospital.
- Salaries are very low by western standards. A typical physician earns around $6,000 per year.
  - Consideration is being given to increasing physician pay to $17,000/year for high level specialists
- Healthcare delivery is high-volume and impersonal with a heavy emphasis on pharmaceutical and diagnostic services.
Western Joint Venture Hospitals Seen as Being Better
### High Dissatisfaction with Chinese Hospitals

<table>
<thead>
<tr>
<th>DISSATISFACTION REASON</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Waiting Line</td>
<td>64.0%</td>
</tr>
<tr>
<td>Bad Personnel Attitudes</td>
<td>54.1%</td>
</tr>
<tr>
<td>Qualification of Doctors</td>
<td>35.5%</td>
</tr>
<tr>
<td>High Price or Overcharge</td>
<td>32.6%</td>
</tr>
<tr>
<td>Poor Physical Environment</td>
<td>22.7%</td>
</tr>
<tr>
<td>Inconvenient Location</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

*Results from Surveys in Shanghai & Beijing*
Survey Indicates that Wealthier Chinese Want:

BETTER MANAGEMENT
- Clean, well-maintained hospitals
- Courteous staff
- A personal physician not numerous physicians
- Greater privacy and dignity
- More involvement in medical decisions
Violence Against Medical Personnel

- Violence has increased 23% on average each year from 2002 to 2012
- “Malpractice mobs” – 20 guys go to hospital to get a settlement (avoid court). They share 50% of the profit with the patient’s family
- On average, a Chinese hospital has 27 attacks/year!

*Chinese Hospital Association, 2012*
Example Of Poor Medical Care

• Full Body Rash
  – Several other patients and a janitor gathered around to hear the prognosis
  – Based on air in Yunnan; It is different than Beijing
  – Based on spicier food in Yunnan
  – Based on different water in Yunnan
  – Suggestion: Leave Yunnan and go back to Beijing

*Under the Knife, NewYorker Magazine, 8/25/14*
WILL THEY PAY?
Will the Chinese Pay Western Health Services’ Prices?

- Increasing appreciation for western health technique
  - 60,000 Chinese went to Taipei for western trained doctor care in 2012
  - Number of patients using JV hospitals doubled between 2003 and 2007

- Increasing willingness to pay for certain services
  - Chinese flooding into Hong Kong for maternity care at western hospitals
  - 2.85 million Chinese went to private hospitals in 2007; this is up from 1.5 million in 2003.

- Increasing interest in western standards of care
  - 3 Joint accredited hospitals in 2008; 33 today.
  - As a middle class emerges, they are starting to spend (real estate, wine, electronics), but are still quite frugal, especially for health services
- At a western Joint Venture hospital it costs approximately $5,800 for maternity care, including pre- and post-natal care.

- General baby care at a public hospital in Beijing costs from $400 to $700.
Consumption as a Factor in China’s GDP Growth
<table>
<thead>
<tr>
<th>Year</th>
<th># Households</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Affluent</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Mass Affluent</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Upper Aspirant</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Aspirant</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>Lower Aspirant</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Poor</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global</td>
<td>10</td>
<td>30%</td>
</tr>
<tr>
<td>Affluent</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Mass Affluent</td>
<td>32</td>
<td>30</td>
</tr>
<tr>
<td>Upper Aspirant</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>Aspirant</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Lower Aspirant</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Poor</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

**Consumption by Urban Households by Income Bracket**
CASE STUDIES

Capitis International Healthcare vs. Proactive Medicare
Case #1: Capitis

- Located in Colorado
  - Joint venture with Capitis China LTD in Hong Kong
- Strong executive team
  - Columbia HCA, supply chain management
  - Leading Chinese physicians involved
- Target Market
  - Upper middle class Chinese (5 million nationals)
  - Expatriates (500,000)
  - Multinational companies
  - Foreign embassies
  - Tourists (3 million annually)
Centers of Excellence

- Cardiovascular Center
- Diagnostic and Interventional Center
- General and Family Medicine Center
- Neurosurgery Center
- Reproductive Health Center
- Ortho and Rehabilitation Center
- Plastic Surgery Center
- Ophthalmic Surgery Center
Ambitious plan:

- 3 - 250 bed referral hospitals in hub/spoke system

- Will provide primary, secondary, and tertiary care services throughout China
Case #2 – Proactive Medicare

- Based in Austin, Texas
  - Joint venture corporation in Hong Kong
  - Very strong familial connections in Hong Kong

- Excellent hospital management experience
  - HCA/Columbia background: strategy and operations

- Already operating a couple of private units within public hospitals
  - Has been successful securing financing
**Strategy: Clinics First, Hospitals Later**

- Maternity and cardiovascular units first
- After clinics are established, they will build referral hospitals
Goal: Acceptance in China

- Trying to be a Chinese hospital with international sophistication
  - Built semi-private units within existing public hospitals

- Cost of care at PM is about half the cost of care in other international hospitals
  - Not just focusing on expatriates
  - Attempting to win over the upper, middle class Chinese
## Comparing Strategies

<table>
<thead>
<tr>
<th>CAPITIS</th>
<th>PROACTIVE MEDICAL CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Goal: top Intl Hospital</td>
<td>• Goal: top Private Hospital</td>
</tr>
<tr>
<td>• Excellent Mgmt team</td>
<td>• Excellent Mgmt team</td>
</tr>
<tr>
<td>• Hospital-based strategy</td>
<td>• Clinic-based strategy</td>
</tr>
<tr>
<td>– All Services</td>
<td>– 1 or 2 services</td>
</tr>
<tr>
<td>• High end market</td>
<td>• Mid to high end market</td>
</tr>
</tbody>
</table>
First Day at Proactive Medicare’s Maternity Unit