An Overview Combating Cataract

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Cataract: Leading Cause of Blindness Globally

Global causes of blindness in 2010

- Cataract, 51%
- Childhood, 4%
- Undetermined, 21%
- DR, 1%
- Trachoma, 3%
- CO, 4%
- AMD, 5%
- RE, 3%
- Glaucoma, 8%

- DR: Diabetic retinopathy
- CO: Corneal opacities
- RE: Uncorrected refractive error
- AMD: Age-related macular degeneration
Overview CSR of West-Pacific Region (2009)

- P.R.China: 9500
- Philippines: 1700
- Cambodian: 1381
- Vietnam: 1200
- Laos: 1085
- Australia: 800
- CSR

## Overview CSR and Surgery Cases in China

**Goal by NHFPC:** CSR Reach 1300 by 2015.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
<th>CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1.208 million</td>
<td>884</td>
</tr>
<tr>
<td>2014</td>
<td>1.46 million</td>
<td>1067</td>
</tr>
</tbody>
</table>
Key Barriers in Combating Cataract in China

• **Low CSR comparing with other countries**

Although the economic rate in China is rapidly increasing, CSR still lower than many counties in west-pacific region. Not to mention developed countries (eg. USA, Canada, Japan) CSR>9000, even India CSR>6000.

• **Regional disparity in China**

In China, CSR differs dramatically among provinces, between west and east China.

• **High cataract surgery expenses in China**

Imported IOL: good quality but high price, usually between 900-8,000RMB.

IOLs made in China: low price but also low rate of usage.
### Top & Last 5 Provinces of CSR in China, 2014

#### Top 5 Provinces

<table>
<thead>
<tr>
<th>Province (Municipality)</th>
<th>Cases</th>
<th>CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai City</td>
<td>87636</td>
<td>3807</td>
</tr>
<tr>
<td>Beijing City</td>
<td>45489</td>
<td>2319</td>
</tr>
<tr>
<td>Tibet Region</td>
<td>5492</td>
<td>1829</td>
</tr>
<tr>
<td>Tianjin City</td>
<td>22843</td>
<td>1766</td>
</tr>
<tr>
<td>Jiangsu Province</td>
<td>121414</td>
<td>1544</td>
</tr>
</tbody>
</table>

#### Last 5 Provinces

<table>
<thead>
<tr>
<th>Province (Municipality)</th>
<th>Cases</th>
<th>CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guizhou Province</td>
<td>20391</td>
<td>597</td>
</tr>
<tr>
<td>Guangxi Province</td>
<td>24389</td>
<td>530</td>
</tr>
<tr>
<td>Qinghai Province</td>
<td>2675</td>
<td>475</td>
</tr>
<tr>
<td>Jilin Province</td>
<td>12814</td>
<td>467</td>
</tr>
<tr>
<td>Xinjiang Region</td>
<td>7191</td>
<td>330</td>
</tr>
</tbody>
</table>
• The most important issue

• Unbalanced distribution of human resource in ophthalmology

According to statistics in 2012, there are 326 eye hospitals in China. 70% of them locate in urban areas working for 49% urban population, while the rest 51% rural population only can be served by 30% eye care hospitals.

• Cataract operation skills need to be improved

There are 31,400 registered ophthalmologists in China, however, each of them only operated 46 cataract cases in 2014.
Less information for Indicators for Cataract Surgery

• **CSR (Cataract Surgical Rate):** Number of cataract surgeries done per year per 1 million public sector dependent population. CSR is widely used in China by National Health and Family Planning Commission of PRC.(NHFPC)

• **CSC (Cataract Surgical Coverage):** CSC is a reliable indicator for availability of health services in many countries, especially to the elderly. Influential new report published in June 2015 co-authored by the WHO and the World Bank identifies a small set of indicators to track and monitor Universal Health Coverage. IAPB’s recommendation – Cataract Surgical Coverage – among the thirteen health intervention indicators listed. IAPB strongly recommends CSC data as one viable indicator for health service coverage, as it is supported by data over time and geographies.
Current Improvements in Combating Cataract

1. **Improve the medical service in primary levels.**
   - In September 2015, Chinese government encourage to set up a three-level model in medical care.
   - "Sight First China Action III" program supported by NHFPC, Lions Club, to set up a pilot three-level model for the prevention of blindness in Liaoning province since 2012.
Three-Level Model for the Prevention of Blindness

Eye Care Network for Urban Areas

City Level
- Cataract and Refractive Error Surgery Center
- Eye Shop

County Level
- Tel-Medicine Eye Clinic

Training, Referral and Tel-Medicine

Eye Care Network for Rural Areas

National Key Specialty designated by Ministry of Health
Training Base of Ministry of Health for Blindness Prevention and Treatment
Three County-level Hospital
Cooperated with He Eye Hospital

Zhangwu People's Hospital

Beizhen People's Hospital

Haicheng Central Hospital

Shenyang He Eye Hospital

National Key Specialty designated by Ministry of Health
Training Base of Ministry of Health for Blindness Prevention and Treatment
Results: Cataract Surgery Cases Increase
区域眼科远程医疗网

1. 眼部照相并建立电子病历
2. 电子病历上传到服务器
3. 阅片及远程诊断处理
4. 诊疗数据传输给基层医生
5. 基层医生告知患者结果
6. 白内障等疾病转诊到上级医院治疗

信息服务数据存储数据备份
## Tele-medicine Screening: Cost-effective

<table>
<thead>
<tr>
<th>(RMB/Case)</th>
<th>Tele-medicine Screening</th>
<th>Traditional Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Equipment and Supplies</td>
<td>5.54</td>
<td>4.6</td>
</tr>
<tr>
<td>Human Resource Expenses</td>
<td>1.73</td>
<td>5.3</td>
</tr>
<tr>
<td>Costs of Cataract Patient and Accpanied Person</td>
<td>13.35</td>
<td>81</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20.62</strong></td>
<td><strong>90.7</strong></td>
</tr>
</tbody>
</table>
2. Government keep on encouraging introducing non-governmental capital into medical industry

- In 2010, National Development and Reform Commission and Ministry of Health published a document about encouraging non-governmental capital into medical industry.
- 83% eye hospitals in China are non-government hospitals.
- Chinese government organize NGO coordinating meetings regularly to formulate a work pattern of "Leading by the government, participating by all parties".
3 HR Provide Training for PBL Team Building

- National Training Base for the Prevention of Blindness by National Health and Family Planning Commission of PRC in 2012, in He University Eye Hospital.
- Other training programs conducted by ORBIS International, Fred Hollows Foundation, etc.
National Key Specialty designated by Ministry of Health
Training Base of Ministry of Health for Blindness Prevention and Treatment
Team Training for Cataract

Problems:

- No patient
- No clinical nurse
- No quality control
- No staff for measuring IOL
### Number of Trainees by National Training Base 2014

<table>
<thead>
<tr>
<th>Training Content</th>
<th>Number of Trainee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Eye Health Training</td>
<td>28,000</td>
</tr>
<tr>
<td><strong>MSICS Surgeon Training</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Ophthalmic Nursing Training</td>
<td>200</td>
</tr>
<tr>
<td>Optometry Training</td>
<td>1500</td>
</tr>
<tr>
<td>Low Vision Training</td>
<td>300</td>
</tr>
<tr>
<td>PBL Program Training</td>
<td>400</td>
</tr>
</tbody>
</table>
Quality Control in SICS Surgeon Training

- Surgeons Score
- Hospital Score
- Best Score

5月  6月  7月  8月  9月  10月  11月

月份

手术医生的评分  医院的平均分  最高分
4 Conduct national HR investigation and epidemiological investigation in ophthalmology

- National-wide investigations are under operation by National Health and Family Planning Commission. The NHFPC plans to evaluate ophthalmic service in provincial, municipal and county levels in two years.
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