

# Workshop Topic: Healthcare Services and Medical Technologies – Trends, Future Outlook, and the Impact on China

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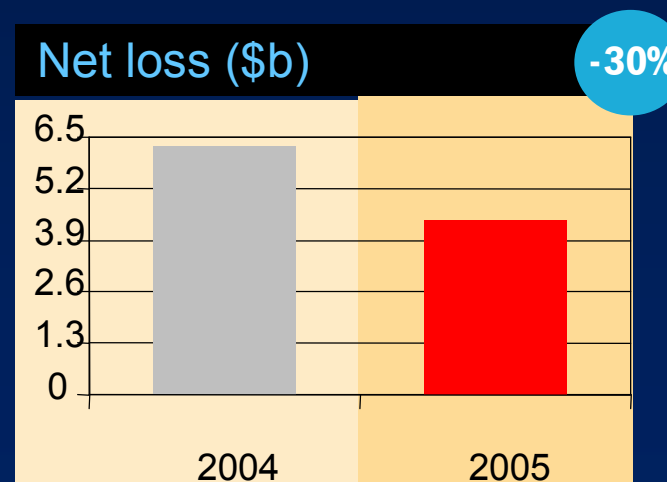
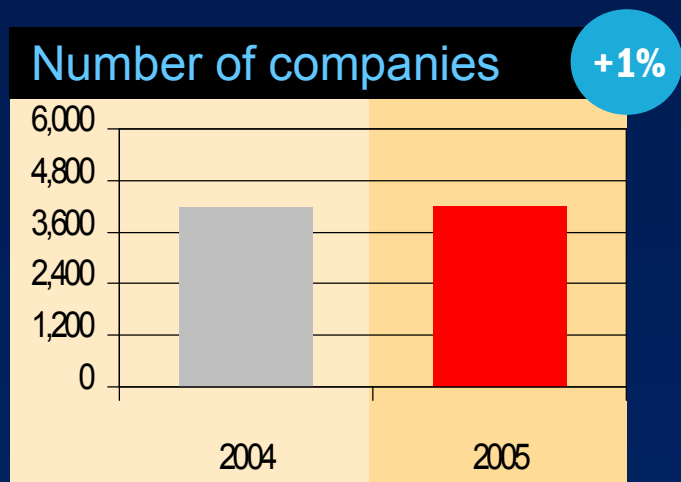
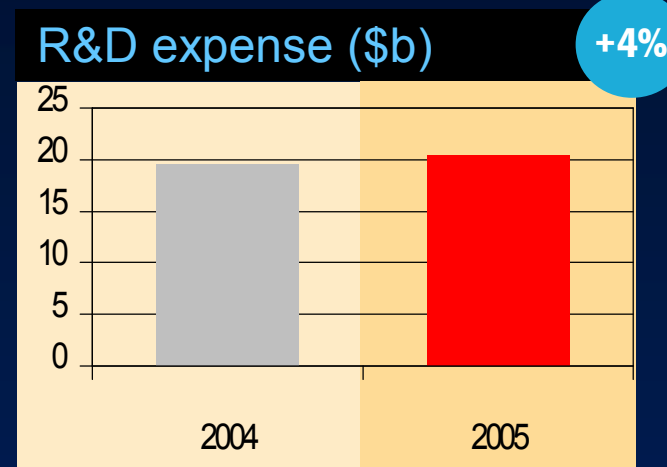
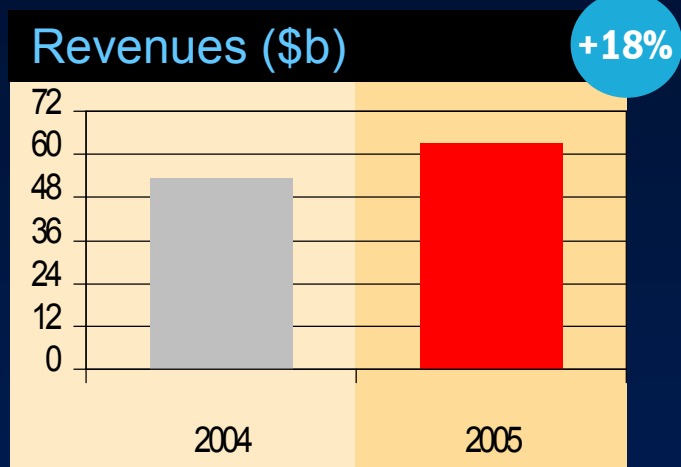
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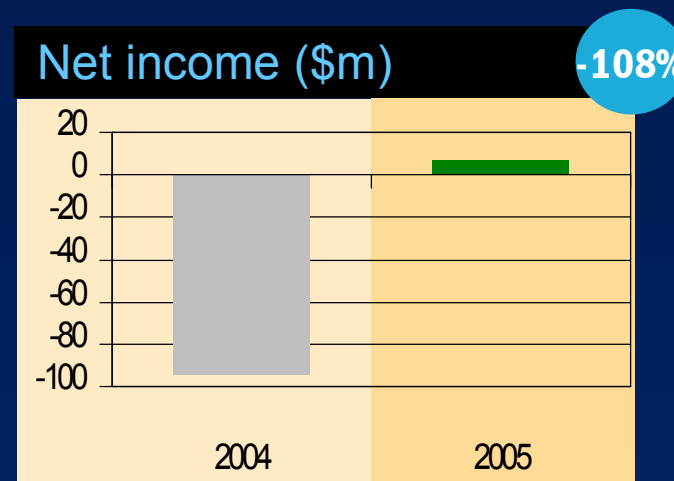
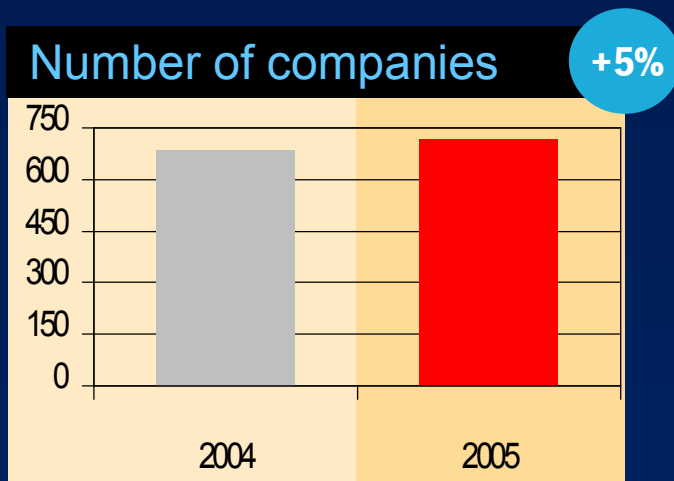
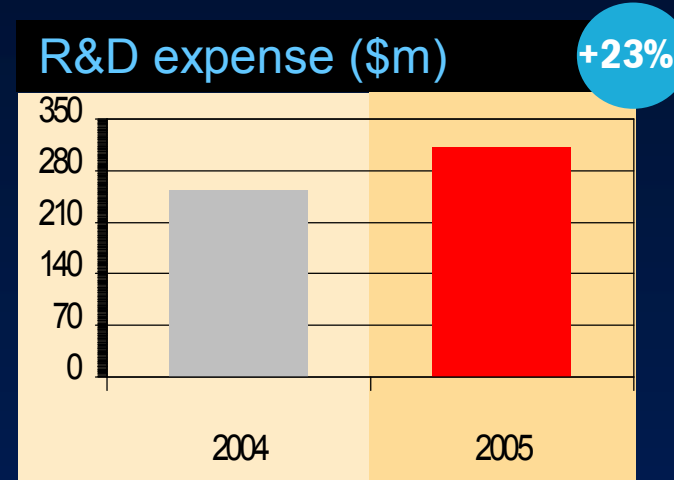
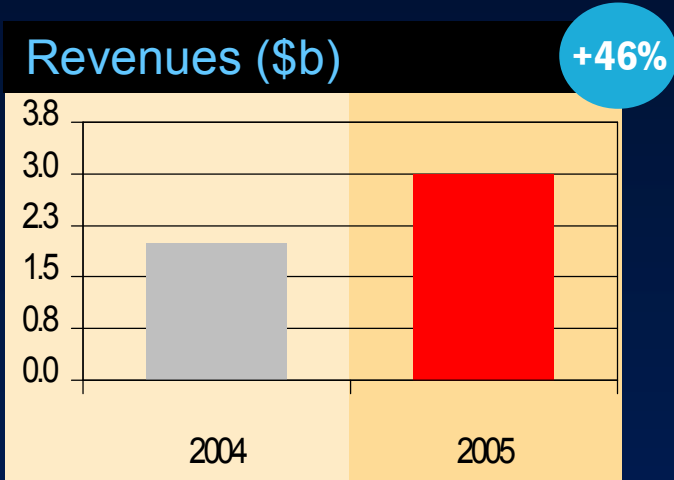


# Global Financial Performance, 2005



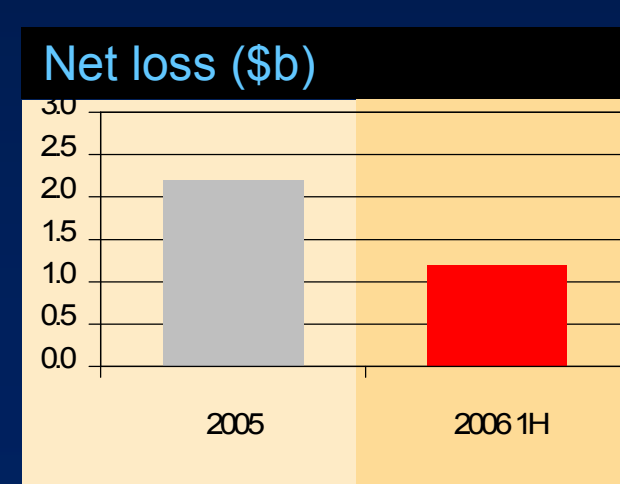
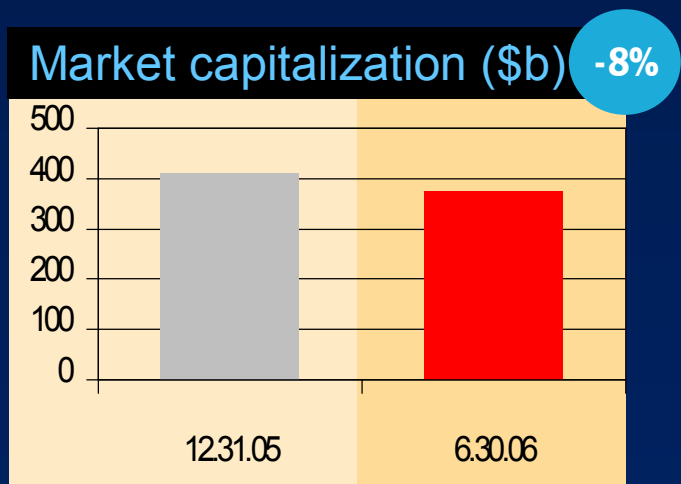
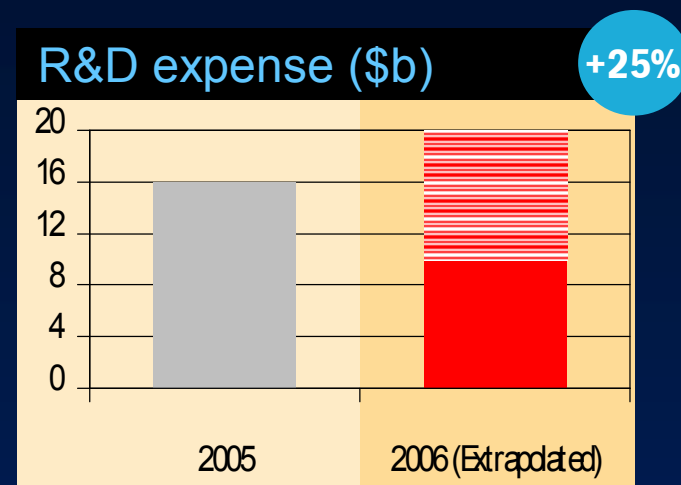
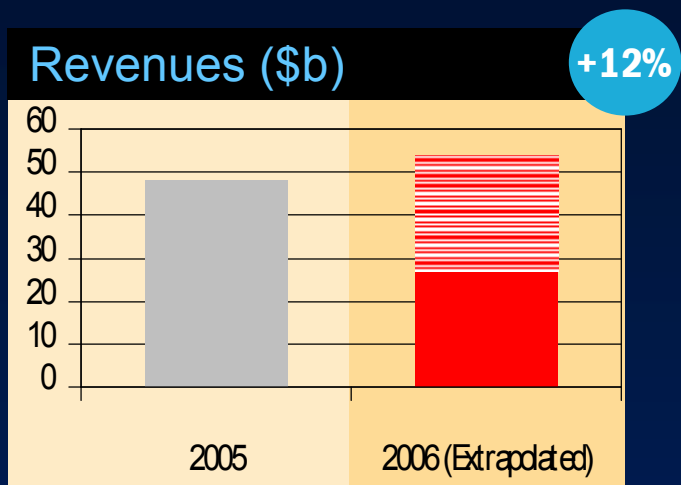


# Asia-Pacific Financial Performance, 2005





# U.S. Financial Performance, Mid-Year 2006





# Global Financing, 2005

Global financing (\$b)						
Year	2005	2004	2003	2002	2001	2000
IPOs	<b>1.5</b>	2.1	0.5	0.5	0.4	8.0
Follow-on and other offerings	<b>12.9</b>	13.8	13.9	6.5	7.0	27.4
Venture	<b>5.3</b>	5.3	4.1	3.5	4.1	3.9
<b>Total</b>	<b>\$ 19.7</b>	<b>\$ 21.2</b>	<b>\$ 18.4</b>	<b>\$ 10.5</b>	<b>\$ 11.5</b>	<b>\$ 39.4</b>

Source: Ernst & Young, BioCentury, and BioWorld



# Competitive Niches

## Contract research / manufacturing

Trends	Competitive strengths	Challenges
<ul style="list-style-type: none"> <li>■ Cost of drug development over \$1b per approved drug</li> <li>■ Increasing pricing pressure on Western drug companies</li> <li>■ Outsourcing to Asia reinventing numerous other industries</li> <li>■ Virtual business models in biotech</li> </ul>	<ul style="list-style-type: none"> <li>■ Highly educated, skilled labor force</li> <li>■ Low wages</li> <li>■ Existing strengths in manufacturing</li> <li>■ Improving IP enforcement, GSP, GMP</li> </ul>	<ul style="list-style-type: none"> <li>■ Improving IP protections and enforcement</li> <li>■ Boosting regulatory regimes to international standards (GLP, GMP)</li> <li>■ Building infrastructure</li> </ul>

**Competition:** Singapore (successfully attracting research and manufacturing FDI)  
 India (passage of Patents Act)



# Competitive Niches

## Vaccines

Trends	Competitive strengths	Challenges
<ul style="list-style-type: none"> <li>▪ Global vaccines market receives “shot in the arm” from avian flu, SARS, biodefense concerns</li> <li>▪ Pressing public health problems in Asian developing countries</li> <li>▪ Gates Foundation, others, increase funding for vaccines</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ability to “make the numbers work,” given:               <ul style="list-style-type: none"> <li>▪ Innovative science</li> <li>▪ Lower production costs</li> <li>▪ Incentive to develop vaccines for pressing health care needs</li> </ul> </li> <li>▪ Companies like Sinovac making cutting edge breakthroughs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improving IP protections and enforcement</li> <li>▪ Boosting regulatory regimes to international standards (GLP, GMP)</li> <li>▪ Commoditization</li> </ul>

**Competition:** India (Shantha, Panacea, Bharat, others)



# Competitive Niches

## Generics / biogenerics

Trends	Competitive strengths	Challenges
<ul style="list-style-type: none"> <li>■ 2005 largest patent expiration year ever (\$23 b)</li> <li>■ Estimated \$80b in patent expirations by 2008—more than global biotech industry’s total revenues</li> <li>■ Strengthening patent regimes in India and China</li> <li>■ First biogenerics appear in Australia and Croatia</li> </ul>	<ul style="list-style-type: none"> <li>■ Low-cost manufacturing</li> <li>■ Strong base of generics companies, players include Dongbao, AnkeBio, Amoytop, Shandong GeneLeuk, Hangzhou Jiuyuan</li> </ul>	<ul style="list-style-type: none"> <li>■ Uncertain regulatory pathways for biogenerics in major markets</li> <li>■ Competition from Eastern Europe</li> <li>■ Boosting regulatory regimes to international standards (GLP, GMP)</li> <li>■ Leveraging generics strengths to more lucrative novel drugs segment</li> </ul>
<p><b>Competition:</b> India (Wockhardt, Biocon, Bharat, Shantha, Dr. Reddy’s) Eastern Europe (e.g., Pliva)</p>		





# Competitive Niches

## Traditional Strengths

Trends	Competitive strengths	Challenges
<ul style="list-style-type: none"><li>■ Pipeline challenges</li><li>■ Western companies looking at TCM, biodiversity</li></ul>	<ul style="list-style-type: none"><li>■ Rich traditional resources in Medicinal systems, biodiversity</li></ul>	<ul style="list-style-type: none"><li>■ IP issues</li><li>■ Protecting domestic commercial gain</li></ul>
<b>Competition:</b> India, Malaysia		



# Competitive Niches

## Disinvested Technologies

Trends	Competitive strengths	Challenges
<ul style="list-style-type: none"><li>▪ Embryonic stem cell research restrictions in some countries</li><li>▪ Disinvestment in gene therapy, development obstacles</li></ul>	<ul style="list-style-type: none"><li>▪ Strong science</li><li>▪ Government support, investment</li></ul>	<ul style="list-style-type: none"><li>▪ Challenging technologies, with development hurdles along the way</li></ul>
<b>Competition:</b> Korea, Singapore, India		