

Open Innovation in Healthcare Industry

Mingde Xia, PhD

Senior Director
Corporate office of Science & Technology (COSAT)
Johnson & Johnson

Global Healthcare Market > \$4 Trillion

Strong growth 2006 – 2011⁺ and tremendous potential

UNITED STATES

Population: 301 MM
HC Mkt*: \$1,700 B; +5%

BRAZIL

Population: 190 MM
HC Mkt*: \$86 B; +9%

RUSSIA

Population: 145 MM
HC Mkt*: \$23 B; +11%

CHINA

Population : 1.3 B
HC Mkt*: \$130 B; +13%
Economy growth:
9.6% 2011, 9.5% 2012

INDIA

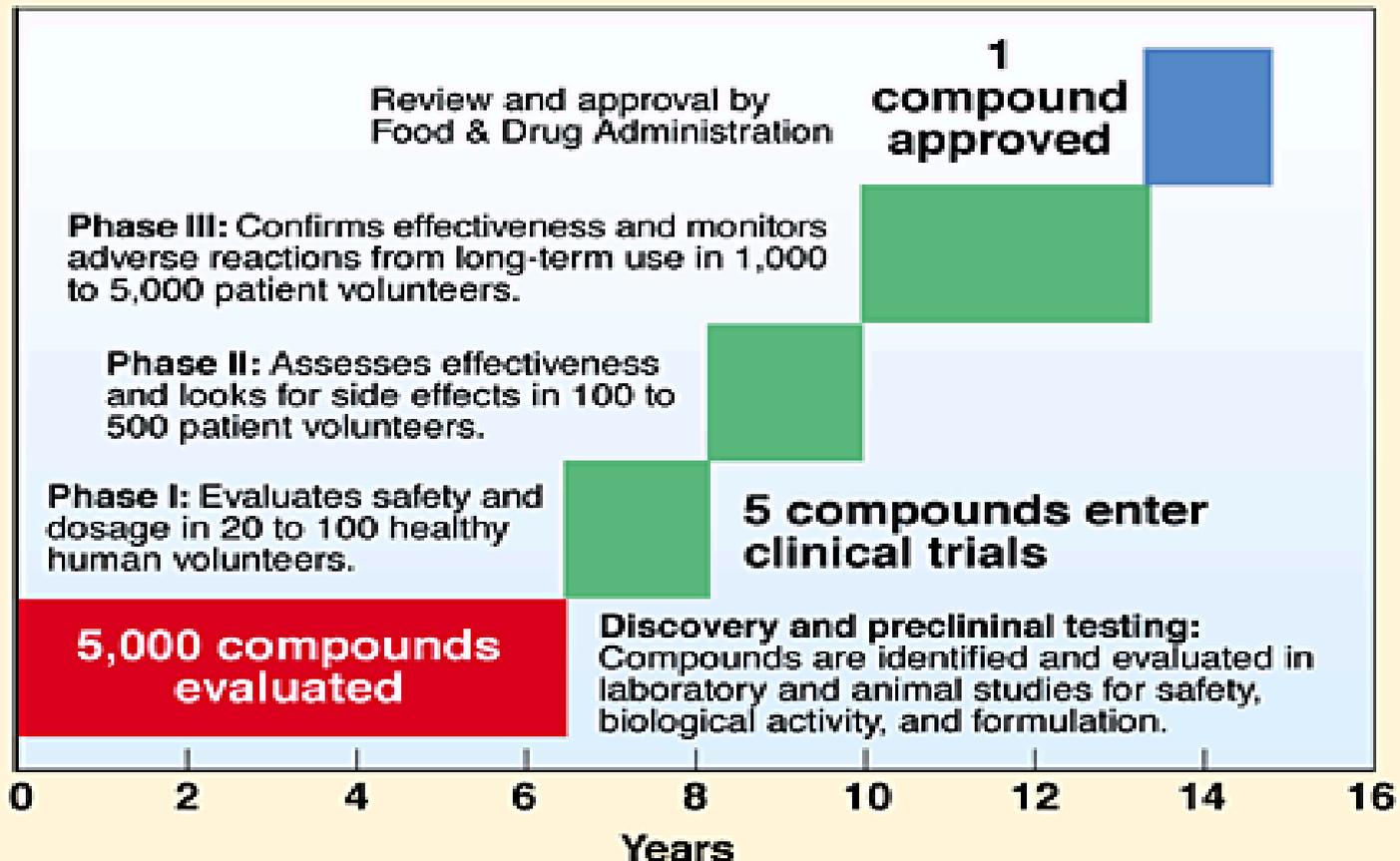
Population: 1.2 B
HC Mkt*: \$36 B; +15%
40% Generic Drug made in India
Economy growth: 8.2% 2011, 7.8% 2012

BRIC > 2.8 Billion People

SOURCE: The Economist, McKinsey

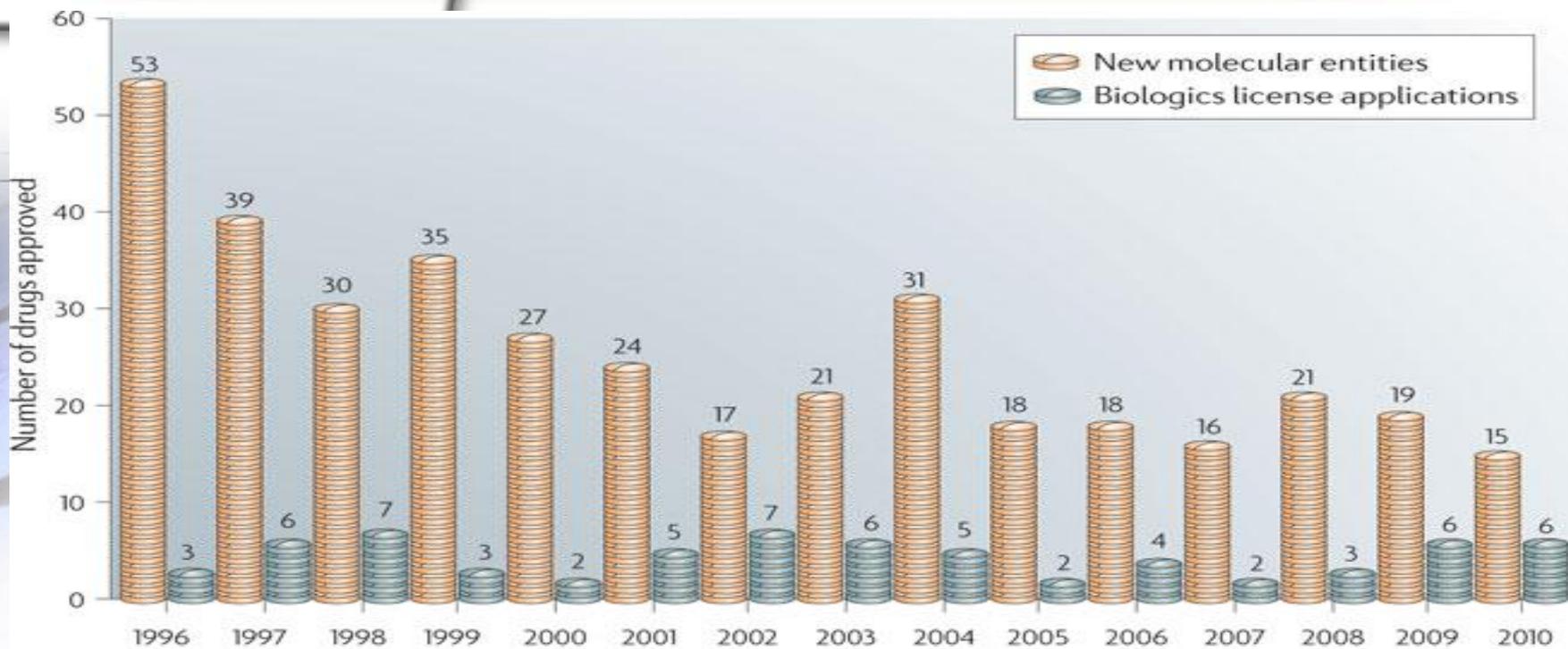
Drug Discovery & Development

Bringing a new drug to market can take 15 years



Source: Tufts Center for the Study of Drug Development

Current Challenges in Pharmaceutical Industry



Nature Reviews | Drug Discovery

Current blockbuster revenues are seriously threatened by patent expiration, regulatory hurdles, increasing competition, reduced R&D efficiency, and drug price pressure.

Outsourcing the Pharmaceutical Industry

- Western pharma companies are giving Asian partners more responsibilities than they ever imagined
- Outsourced R&D activities to India and China make up 20% - 30% of total global clinical trials
- Utilize the great talent pool and explore more market
- Save the drug industry billions of dollars, bring down the prices of new drugs, and accelerate breakthroughs

Innovation and Collaboration

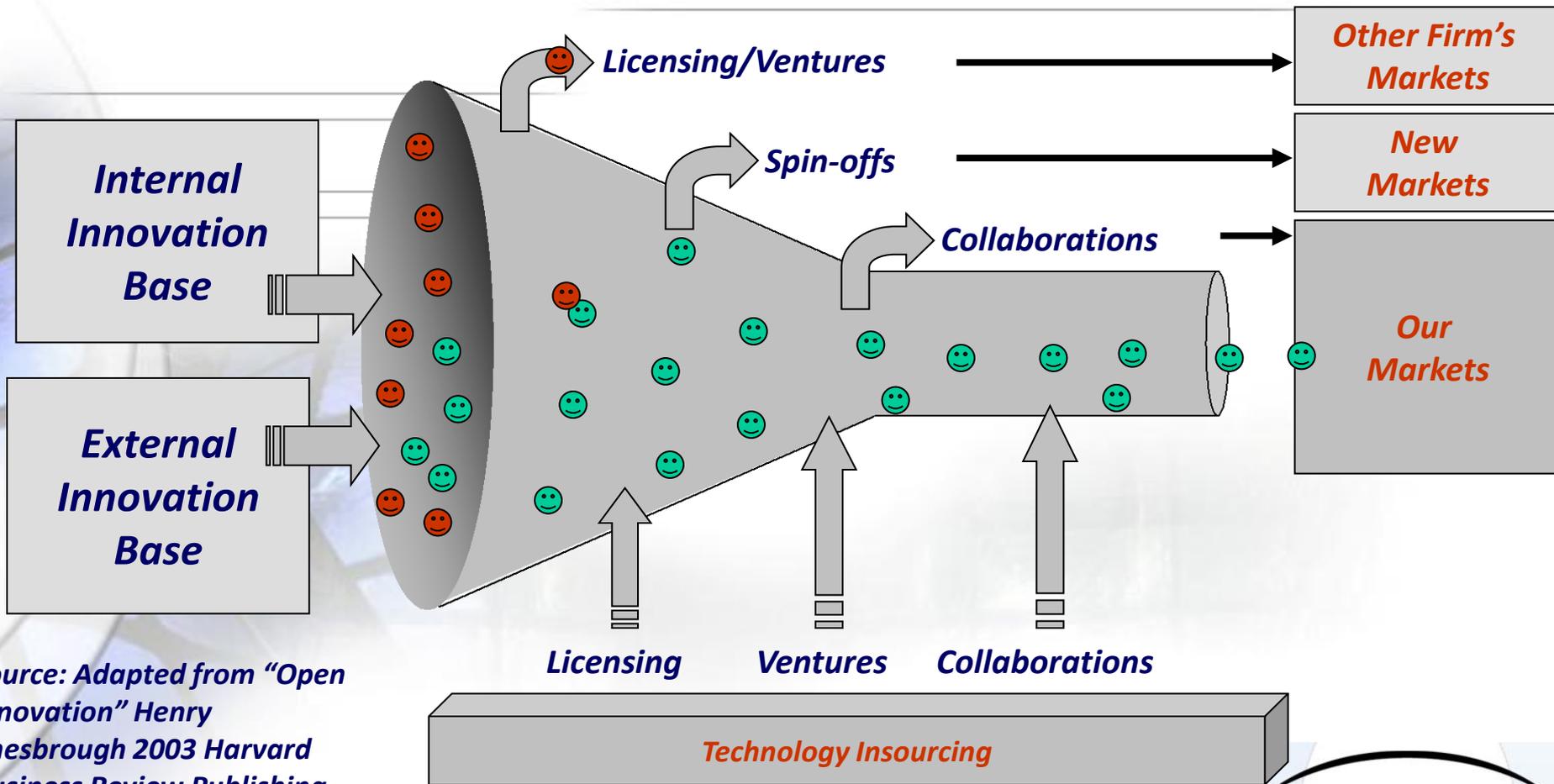


Future of Healthcare -- Open Innovation

Conceptualize

Incubation

Commercialize



Source: Adapted from "Open Innovation" Henry Chesbrough 2003 Harvard Business Review Publishing

37 USA Universities Start New Partnerships with UK, India & China

A

Collaborations Range from Cancer Research and Robotics to Fashion and Global Public Health

B

Many of the awards will facilitate third country partnerships, particularly joint US-UK collaborations with India and China

C

***Georgia Institute of Technology-University of Manchester-
-Beijing Institute of Technology***
George Washington University-Oxford-Tata Memorial Center, India

India-UK announce 45 million pound partnership to support affordable healthcare

A

India and the United Kingdom have announced a 45 million pound partnership to support the development of innovative healthcare products at affordable costs. The partnership has been inked between Department of Bio-Technology, Government of India and Wellcome Trust, United Kingdom.

B

The aim is to bring together researchers from both public and private sector, largely working in India, to develop innovative devices, diagnostic medicines and vaccines that can reach the greatest number of beneficiaries at affordable cost.

C

The focus would be on vaccines, technologies for rehabilitation and women and child care, adding that affordable health is top priority for the Government and use of high technology for low cost new devices would be encouraged on priority.

Conclusion

- **There are many challenges in healthcare industry**
- **Collaborative efforts among pharmaceutical industry, regulatory agencies, academia and VC are needed to bring effective and safe medicines as fast as possible to patients**
- **East West partnership and Asia country alliance are very important**
- **Open innovation and globalization are major trends (from R & D to C & D)**

Thank You



Mingde Xia, PhD

Senior Director, J & J COSAT
mxia@its.jnj.com
www.jnjcosat.com/cosat