

# Public-Private Partnerships: The Role of IPRs

Helen Davison



**STOCKHOLM NETWORK**

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# Overview

- Public Private Partnerships for Healthcare
- Legislative Framework: Bayh-Dole Act
- Case Study Analysis
- Conclusions

# What are PPPs?

- Industry led health partnerships  
e.g. The Accelerating Access Initiative
- International consortiums involving NGOs, foundations, governments and the private sector  
e.g. The PATH Malaria Vaccine Initiative
- University-Industry collaboration

# Bayh-Dole: An Enabling Framework

US Bayh-Dole Act 1980 (P.L. 96-517, Patent and Trademark Act Amendments of 1980)

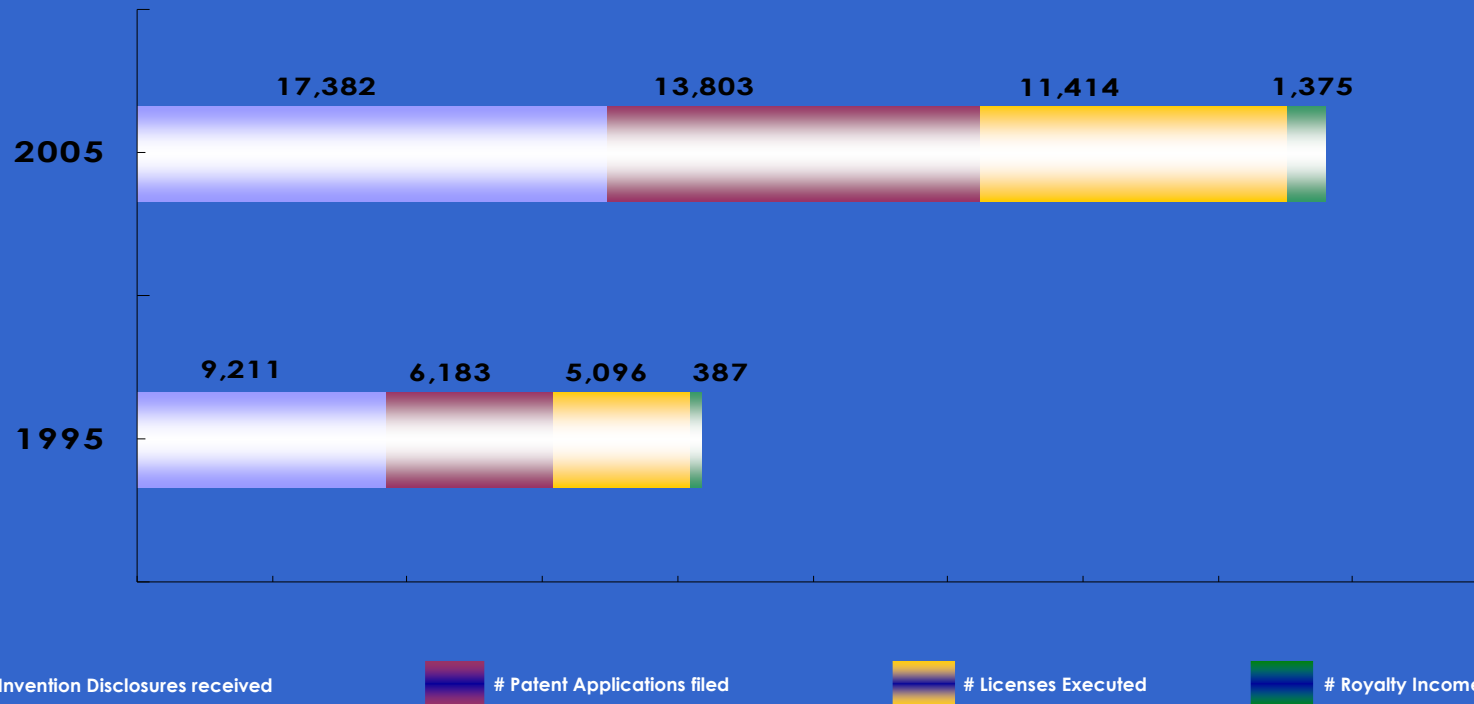
- Allowed universities and federally funded bodies to retain ownership of the proprietary knowledge stemming from the research and daily activities of these institutions
- Encouraged these institutions to become more professional and proactive in the management and exploitation of their IPRs by creating professional TTOs
- Allowed universities and researchers to retain income from the licensing of their inventions

# Results

## AUTM Licensing Survey 2005

- 3,278 US patents issued (Before 1980 less than 250 patents were issued to universities per year)
- 527 new products launched
- 627 spin-off companies created
- Total income of research institutes estimated at \$1.4 billion USD

# Technology Transfer Activity in the US



# Bayh-Dole Style Legislation

Canada (1985)  
Japan (1998)  
Great Britain (1998)  
Germany (1998, 2001)  
France (1999)  
Austria (2002)  
Italy (2001)  
Belgium (1999)  
Spain (1986)  
Denmark (2000)  
Switzerland (2002)  
China (2002)  
Netherlands (1998)  
Korea (1998, 2000 and 2001)  
South Africa (2006)

# Results

“Possibly the most inspired piece of legislation to be enacted in America in the last half-century”

The Economist ‘Innovation’s Golden Goose’, Technology Quarterly Section, p. 3. in *The Economist* (December 14, 2002)

# South Africa: IP For Economic Growth

Framework for Intellectual Property Rights from Publicly Financed Research (2006)

“The ownership of all Intellectual Property...emanating from Publicly Financed Research shall vest with the Institutions which shall have the right to obtain statutory protection for the Intellectual Property in all countries of the world.”

# PPPs in South Africa

## Medical Research Council (MRC)

- DNA Based Diagnostics Tests
- Developed by MRC
- Licensed to GeneCare
- Commercialised Internationally

For more examples see:

<http://www.mrc.ac.za/mrcnews/july2005/innovation.htm>

# China: Attracting Multinational Pharmaceutical Players

## Act For Promotion of Technology Transfer (1996)

Unless otherwise stipulated in the contract, the university or research institute is entitled to all IP rights pertaining to inventions funded by the government

## Opinion on Exerting the Role of Universities in Science and Technological Innovation (2002)

The university or institute is entitled to IP made under government funding

The university or institute can use the results or IP by itself or can assign or exclusively license them to a third party

# Results

- 20% of all patents granted by the Chinese Office of Intellectual Property each year are to universities

OECD, Review of China's National Innovation System (2007)

- 6845 patents filed for in 2006 (up from 4711 in 2003)

Ministry of Science and Technology of the P.R. Of China,  
Science and Technology Statistics Data Book, (2007)

# PPPs in China

Chinese National Human Genome Centre, Beijing

- 20 patents applied for via the global track of the WIPO Patent Cooperation Treaty (PCT) as well as at the national level
- Alliances formed with Roche
- Patented technologies brought to market include primers and kits used to forecast susceptibility to diabetes

Chinese National Human Genome Centre, Beijing, 2007

[http://www.chgb.org.cn/patent/en\\_patent.html](http://www.chgb.org.cn/patent/en_patent.html)

# India: Ongoing Efforts to Promote Innovative Economy

- Ongoing shift towards encouragement of tech transfer activities by PROs as part of a broader shift towards a knowledge based economy:
- Ministry of Science and Technology ruling gave title to intellectual property to those institutions that receive funding from the Ministry (2000)
- National Knowledge Commission made recommendations for a Legal Framework for Public Funded Research (2007)

# PPPs in India

- Inactivated Japanese Encephalitis vaccine
- Developed at the National Institute of Immunology, New Delhi.
- Patented and licensed exclusively to New Delhi-based Panacea Biotec
- Manufactured in three locations across India
- See <http://www.panacea-biotec.com/Alliances.html>

# Nigeria: Finding Solutions to Domestic Healthcare Problems

- National Office for Technology Acquisition and Promotion (NOTAP) - established 1979
- Mandated to assist in the commercialisation of R&D results and to promote the IP system as a source of generating income via:
  - Research Institute-Industry linkage programmes
  - Establishment of Intellectual Property Technology Transfer Offices
  - See [www.notap.gov.ng](http://www.notap.gov.ng)

# PPPs in Nigeria

- Niprisan (marketed as Nicosan®) - a drug for the treatment of Sickle Cell Anemia
- Developed and patented by the National Institute for Pharmaceutical Research (NIPRD) in Nigeria
- Licensed exclusively to Xechem (a US based pharmaceutical company), to manufacture locally based on 7.5% royalty
- Distributed throughout the developing world

# Brazil: A New Innovative Environment

## 2004 Innovation Law

- Provides incentives for university-industry collaboration
- Aims to encourage participation of public sector research institutes within the innovation process more generally through intellectual property rights and licensing agreements
- Established Offices for Technological Innovation

# PPPs in Brazil

- Acheflan®
- Research carried out by the University of Sao Paulo
- Licensed to and developed by Ache
- Ache has since gone on to develop other partnerships with Brazilian universities to develop treatments for:
  - Diabetes
  - Liver Disease
  - Sleep Disorder

# What can we learn from the Bayh-Dole Framework?

1. Bayh-Dole as a technology transfer mechanism has proved itself for 25 years in both the developed and the developing world
2. This platform seems to be applicable to both developed and developing countries
3. In this case the ownership, use of and exploitation of IPRs are the basis for technology transfer

4. Although IPRs are essential to the process they need to be complemented by other factors
  - Establishment of professional TTOs
  - Good research base and supportive IP infrastructure
  - Supportive R&D environment

# Some food for thought for the IGWG...

- The IGWG should pay more attention to Bayh-Dole frameworks as a tool for the development of new healthcare technologies
- At present the IGWG focus on IPRs does not necessarily correspond with what is occurring in the developing world via adoption of the Bayh-Dole framework
- To this end further examination and discussion of these mechanisms is needed at the IGWG level

Thank you  
for your attention

[helend@stockholm-network.org](mailto:helend@stockholm-network.org)