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# The Pfizer Incubator: Creating Pharmaceutical Innovation

*Mark J. Benedyk, Ph.D.  
Head  
The Pfizer Incubator LLC*



# Topics Covered

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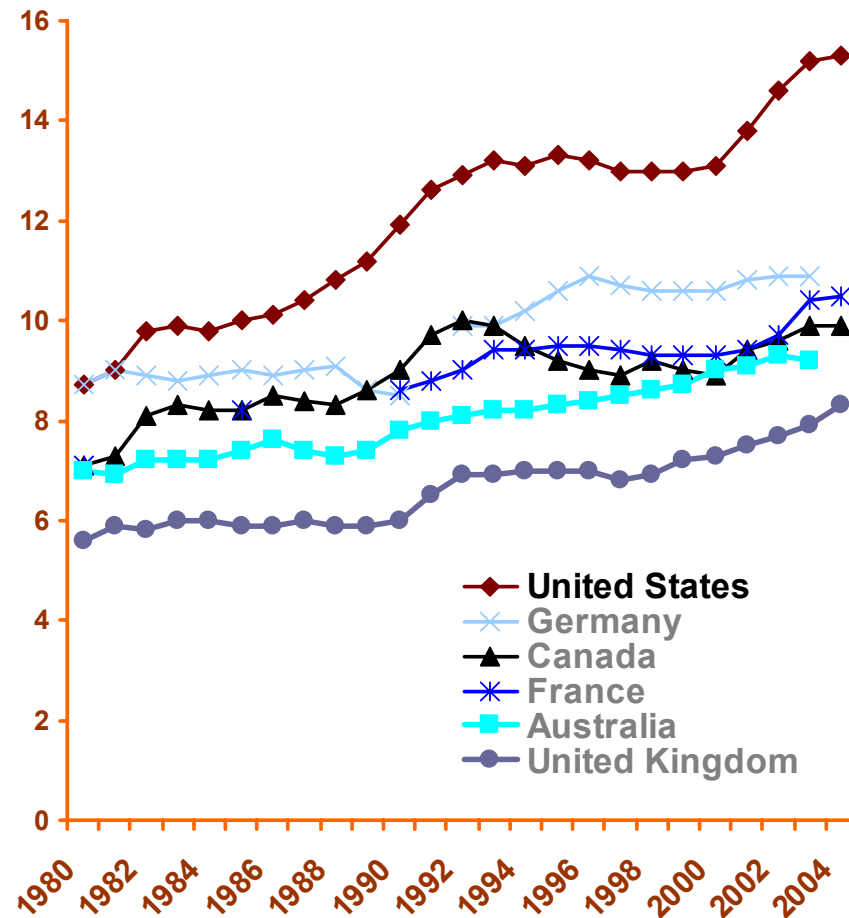
- Changing pharmaceutical landscape
  - Summary of key drivers
  - Healthcare costs
  - Patent expirations
- Biotech – Pharma, Pharma - Biotech Convergence
  - Partnerships
  - Outsourcing
  - New structures
- Pfizer Biotech
  - Biotechnology and Bioinnovation Center
  - Pfizer Venture Investment
  - The Pfizer Incubator

# Key Drivers Changing Healthcare

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- Increasing affluence in the BRIC nations point to newer markets for growth
  - Diabetes
  - Cardiovascular disease
  - Alzheimer's Disease
  - Mental illness
- Aging populations in the USA, EU and Japan will further burden providers
- Pharma/biotech, payors and governments will move pricing of pharmaceuticals and biotechnology drugs
- Near-term future patent expiries for key products will fundamentally change the current pharma development model
- Pharma R&D will experience continued outsourcing for key parts of the development process
- Novel, flexible relationships and structures between pharma, biotech, and financial entities will drive innovation in R&D

# Total Health Expenditures As % of GDP



Source: *Slowing the Growth of U.S. Health Care Expenditures: What Are the Options?*  
The Commonwealth Fund, 2007

# Patents Expiries: Pharma Landscape

| Company               | 2010              |            | 2011      |             | 2012      |            | Share of Revenues* |
|-----------------------|-------------------|------------|-----------|-------------|-----------|------------|--------------------|
| <b>AstraZeneca</b>    | Arimidex          | (\$2.2 BB) | Seroquel  | (\$4.7 BB)  | Symbicort | (\$3.7 BB) | 38%                |
| <b>BMS</b>            |                   |            | US Plavix | (\$4.8 BB)  | Abilify   | (\$2.1 BB) | 30%                |
|                       |                   |            | Avapro    | (\$1.3 BB)  |           |            |                    |
| <b>GSK</b>            | Advair            | (\$3.8 BB) |           |             | Avandia   | (\$2.5 BB) | 23%                |
| <b>Lilly</b>          |                   |            | Zyprexa   | (\$4.8 BB)  |           |            | 22%                |
| <b>Merck</b>          | Cozaar/<br>Hyzaar | (\$3.2 BB) |           |             | Singulair | (\$4.5 BB) | 22%                |
| <b>Novartis</b>       | Femara            | (\$1.1 BB) |           |             | Diovan    | (\$6.0 BB) | 14%                |
| <b>Pfizer</b>         | Aricept           | (\$0.8 BB) | Lipitor   | (\$12.1 BB) | Viagra    | (\$1.7 BB) | 41%                |
|                       |                   |            | Xalatan   | (\$1.6 BB)  | Detrol    | (\$0.9 BB) |                    |
|                       |                   |            |           |             | Geodon    | (\$1.1 BB) |                    |
| <b>Sanofi-Aventis</b> | Taxotere          | (\$2.0 BB) | US Plavix | (\$3.8 BB)  | Lovenox   | (\$3.1 BB) | 34%                |
|                       |                   |            | Avapro    | (\$2.1 BB)  |           |            |                    |

Source: AXA Framlington

\* Value of products losing patent protection as a percentage of total company sales over next five years

# Innovation is Needed, but *not* Funded

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- Pipelines need NCEs, but.....
- “Valley of Death” issues for inventors
- Most investors avoid Early Stage Technology Development (ESTD) funding
  - Valuation difficult: high information asymmetries, uncertain exits
  - Only 4% of VC monies go to early stage investment in the US
- *Government* provides 34% of ESTD funding
- Most financing is provided internally by a combination of
  - Corporations (34%)
  - Angel Investors (25%)
- For corporations, ESTD investment has both a financial and strategic component with regards to portfolio development

# Biotech-Pharma Convergence

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- Biotech companies have more opportunities on the table regarding their participation and rate of return
- Players need to be nimble about relationship structures at all stages of development
  - Discovery
  - Development
  - Production
  - Commercialization
- The trend towards converging interests between biotech and pharma will continue apace
- Financial vehicles to access innovation will become more commonplace to look outside for discovery innovation
- Pharma + biotech = *A New Model*

# Getting Creative by Being Flexible!

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# Different Vehicles to Access Innovation

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- GSK
  - SR One
  - GSK Venture Fund
- Novartis
  - Novartis Option Fund
  - Novartis Venture Fund
- Roche Venture Fund
- Merck – Ranbaxy Anti-infectives Alliance
- Japanese M&A
  - Daiichi - Ranbaxy
  - Takeda – Millennium
  - Eisai –MGI Pharma

# Pfizer: *Doing Things Differently*

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- Biotherapeutics & Bioinnovation Center
  - Coley Pharmaceuticals
  - Rinat Neurosciences
  - CovX
- Pfizer Venture Investment Group
- PGRD - BMS Collaboration
  - Apixiban
  - DGAT-1 Inhibitors
- Pfizer Academic Alliance Partners: TSRI, UCSF
- Genetic Association Information Network (GAIN)
  - Collaboration between Foundation for the NIH, NIH and PGRD
  - SNP analysis of different disease states
- **The Pfizer Incubator (TPI)**

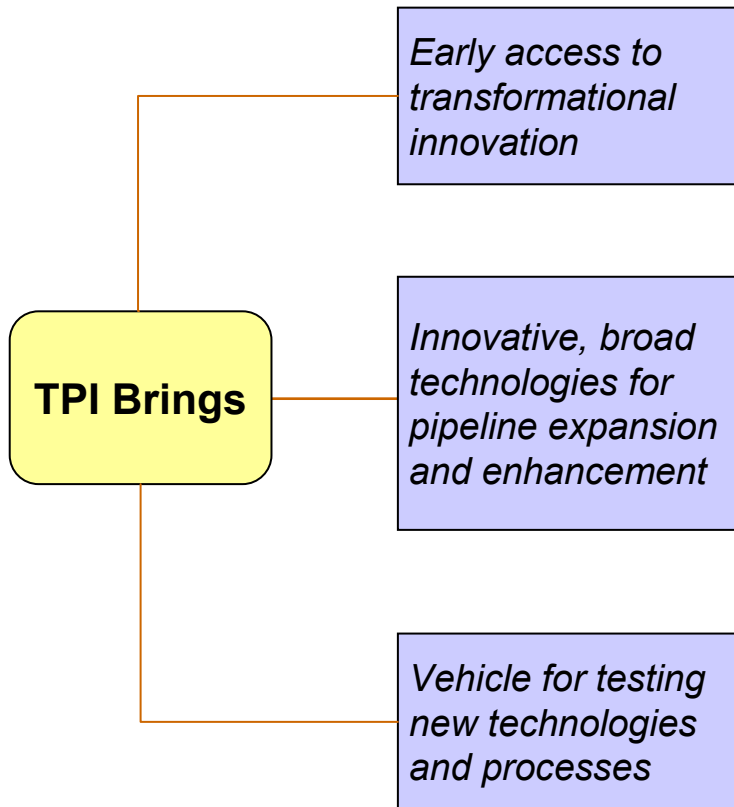
# TPI Investment Thesis

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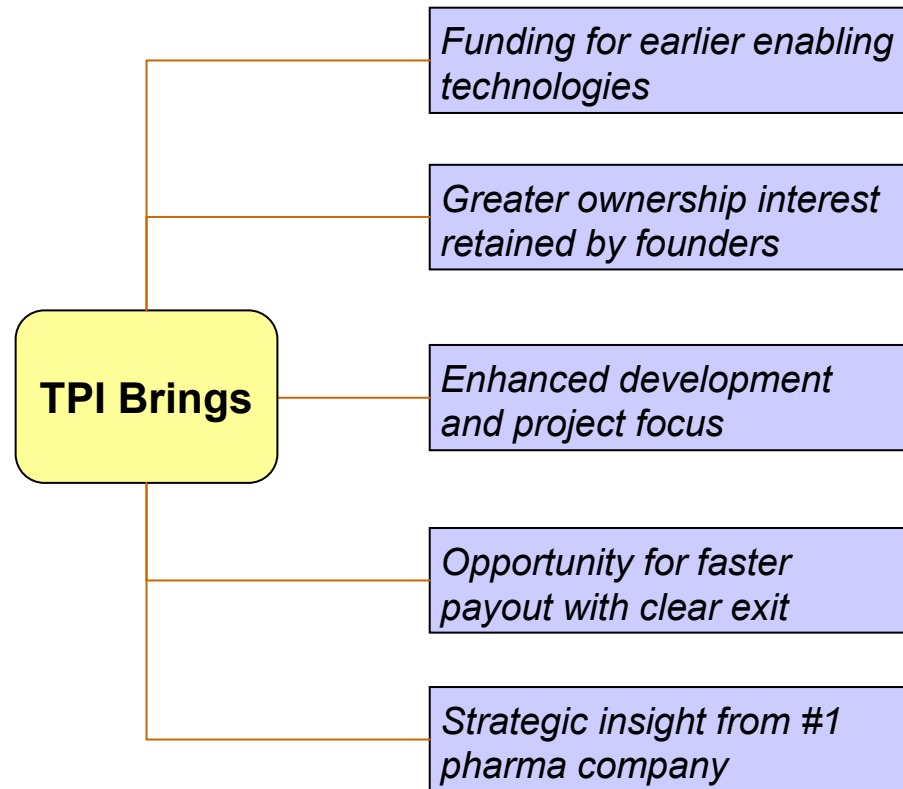
- “High risk/High reward” investments
- PFE portfolio strategic fit/rationale
- Early stage opportunities
- Disruptive, broad platform technologies
- Scientific focus
  - Biologics
  - Small molecules
  - Stem cells
  - siRNA-related technologies
  - Novel targets
  - Targeted delivery systems
- TPI takes controlling interest
- TPI provides “corporate veil”

# TPI Value Proposition

## To Pfizer



## To Entrepreneurs

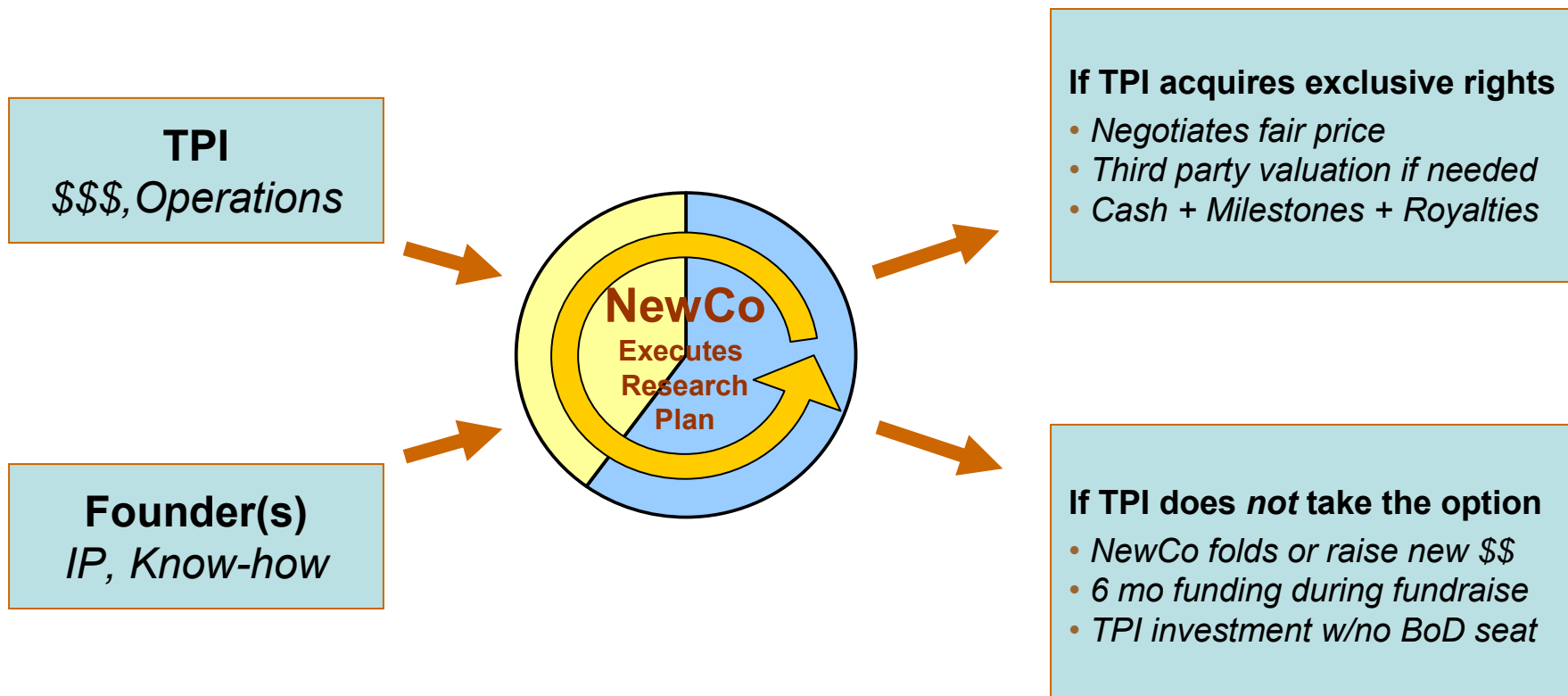


# The Pfizer Incubator - TPI

## NewCo Creation

## Incubation

## Exit Scenarios



# TPI Companies

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## **Fabrus LLC**

- Founded by Vaughn Smider, PhD
- Large addressable array of functional antibodies
- Allows for rapid screening of functional antibody arrays

## **Wintherix LLC**

- Founded by team led by Dennis Carson, Director of the Moores Cancer Center and Professor of Medicine at UCSD School of Medicine
- Focused on targets in the Wnt pathway
- Assay system + PGRD compound library

## **RGo Bioscience LLC**

- Co-founded by Alexander Chucholowski, previously of ChemBridge Research Laboratories, and Thomas Hermann, UCSD
- siRNA delivery technologies

# TPI Facilities: La Jolla

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## La Jolla Facility

- 28,000 sq. ft. footprint
- Up to 8 chemistry and biology labs + offices
- Procurement services, security, IT network and other amenities
- Ready access to key Pfizer therapeutic area and technology heads across the globe

## Outside La Jolla (*incl. international sites*)

- Virtual investments across the US
- Sites identified in close proximity to key academic/biotech centers
- Ready access to key Pfizer therapeutic area and technology heads

# Summary

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- Pharma R&D landscape is changing rapidly
- Pharma and Biotech are in the midst of convergence
- Companies have created more vehicles to access external innovation and top-tier science
- *Pfizer is part of this new paradigmatic shift*
  - Academic collaborations with TSRI, UCSF
  - BBC collaborative network of biotechnology excellence
  - External Research Network
  - Pfizer Venture Investments
  - **The Pfizer Incubator**

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