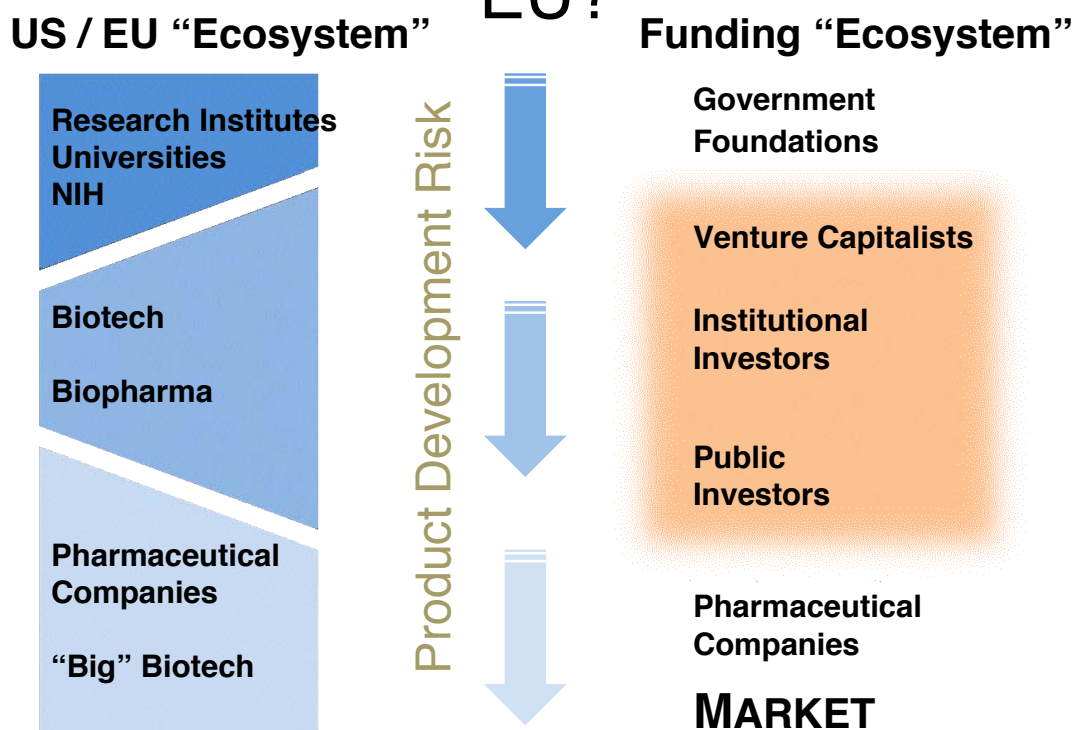


# Incentivizing Innovative Therapeutics for Chagas Disease

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## Who Funds Innovation in the US and EU?



# How Can We Fund Innovation for Chagas?

- The Risk vs. Financial Return does not support for-profit funding
- Traditional philanthropic sources are increasingly over-committed to current initiatives
  - Wellcome Trust, BMGF
  - Canadian / US / EU government agencies: CUDA, USAID, NIH, DFID, SIDA, etc
- Individual high-net worth donors?
- Regional funding strategies
  - Countries which stand to gain and can afford to support innovation that directly benefits its citizens and economies

## Incentive Proposal

- Target a critical stage of development with a milestone payment to encourage innovation
  - Compounds ready for the clinic
  - Safety / pharmacokinetic profile in healthy volunteers
  - Proof of concept / proof of mechanism in patients
- Pay only for success
- Company sells rights and know-how and is compensated for
  - Cost of Capital
  - Risk
  - Proprietary technology and platforms

# How Do You Pay for Innovation?

Country	# Infected (x10 <sup>3</sup> )	Country	GDP
Brazil	1,900	United States	14.26TR
Argentina	1,600	Brazil	1.573TR
Mexico	1,100	Mexico	1.088TR
Bolivia	620	Argentina	326.5B
Colombia	436	Venezuela	319.4B
Venezuela	310	Colombia	240.7B
Guatemala	250	Chile	169.6B
El Salvador	232	Peru	127.6B
Ecuador	230	Ecuador	52.57B
Honduras	220	Dominican Republic	45.6B
Peru	192	Guatemala	38.96B
Chile	160	Uruguay	32.26B
United States (est.)	100-200	Costa Rica	29.83B
Paraguay	150	Panama	23.09B
Nicaragua	58	El Salvador	22.12B

1. OPS/HDM/CD/425-06 *Estimación cuantitativa de la enfermedad de chagas en las Américas.*

2. *The World Factbook 2009.* Washington, DC: Central Intelligence Agency, 2009.

## Brazil and Mexico as Funders of Innovation

- 3 million infected individuals; 39% of total disease burden
- 2/3 of Latin American GDP
- Growing infrastructure to support drug development and commercialization
  - Medical research institutes
- Brazil:
  - Generics production and strong vaccines capabilities
  - Among 4 pillars for industrial growth under President Lula
  - 4.65 Billion \$US planned for R&D investment through 2017
- Mexico
  - Top 10 among drug producers in world
  - Largest drug exporter in Latin America (1.5 Billion \$US in 2007)
  - Growing interest in Innovative pharmaceuticals

# Why Does this Make Sense for Funders?

- Funder retains ownership of therapeutics
  - Control over late-stage development and commercialization decisions
- Strengthen local pharma industry
  - Transfer of know-how
  - Addition of innovative health care products to pipeline
  - Partner in exchange for Incentive support
- Create a sustainable model for funding innovation
- Transcend the bottleneck of global health funding

## What is the Opportunity to LA Pharma?

### **Hepatitis C in the U.S.**

- 3 million actively infected
- Silent disease:
  - 30+ years without symptoms
  - Liver cancer
  - Cirrhosis & liver failure
- Bad current therapy
  - 6 mo treatment; high drop out rate
  - 40% efficacy
- Market
  - > \$1 Billion
  - Huge drug pipelines

### **Chagas Disease in the U.S.**

- 300,000 actively infected
- Silent disease:
  - 30+ years without symptoms
  - Heart failure
- Bad current therapy
  - 60-90 days
  - High rate of adverse events
  - Unclear efficacy
- No pipeline; poor diagnostic
  - PCR—easy to implement
  - Opportunity to create a market