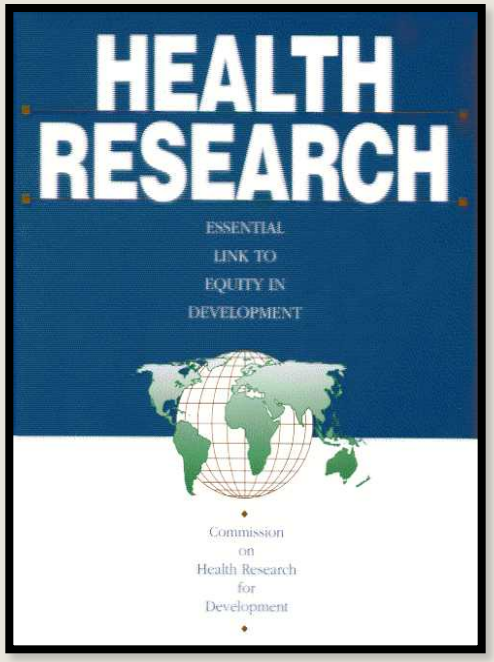
THE ROLE OF GOVERNMENT AND INTERNATIONAL AID IN R&D FOR NEGLECTED NEGLECTED DISEASES

JEAN -FRANÇOIS ALESANDRINI
Advocacy, Coms & Fundraising Director
jfalesandrini@dndi.org

DNDi
Drugs for Neglected Diseases *initiative*

The recognition of the imbalance for two decades



Commission on Health Research for Development (1990)

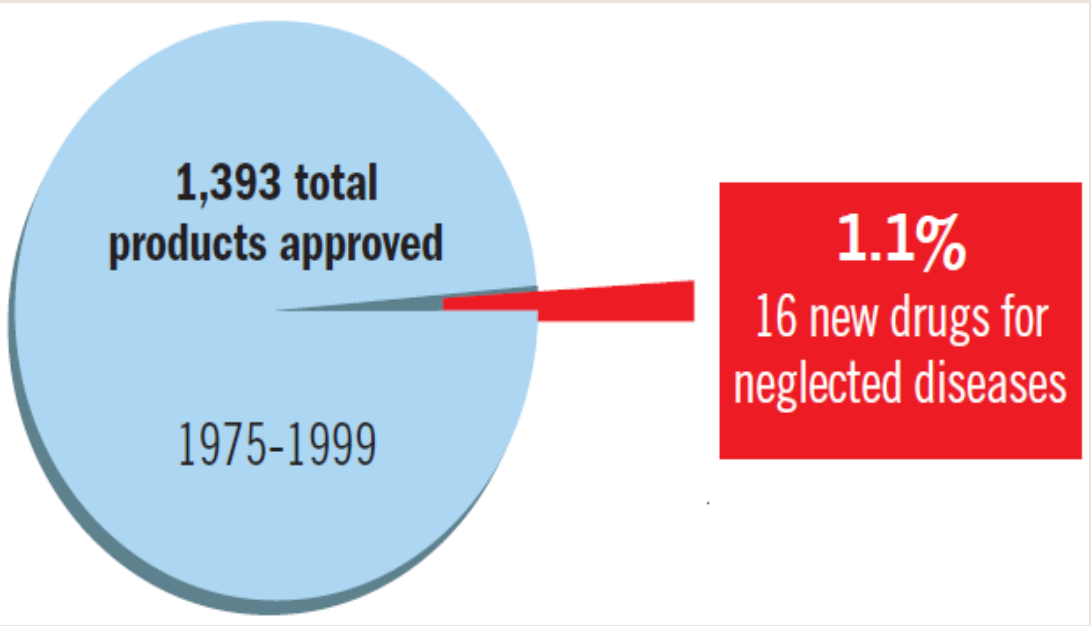
Ad Hoc Committee on Health Research (1996)

Commission on Macroeconomics and Health (2001)

DNDi
Drugs for Neglected Diseases *initiative*

A Decade Ago, the 10/ 90 gap with a Pipeline Virtually Empty for Neglected Diseases

Health R&D (1975 – 1999)



A Fatal Imbalance

Approx. 10% of R&D dedicated to illnesses that affect 90% of global disease burden ('10/90 gap')

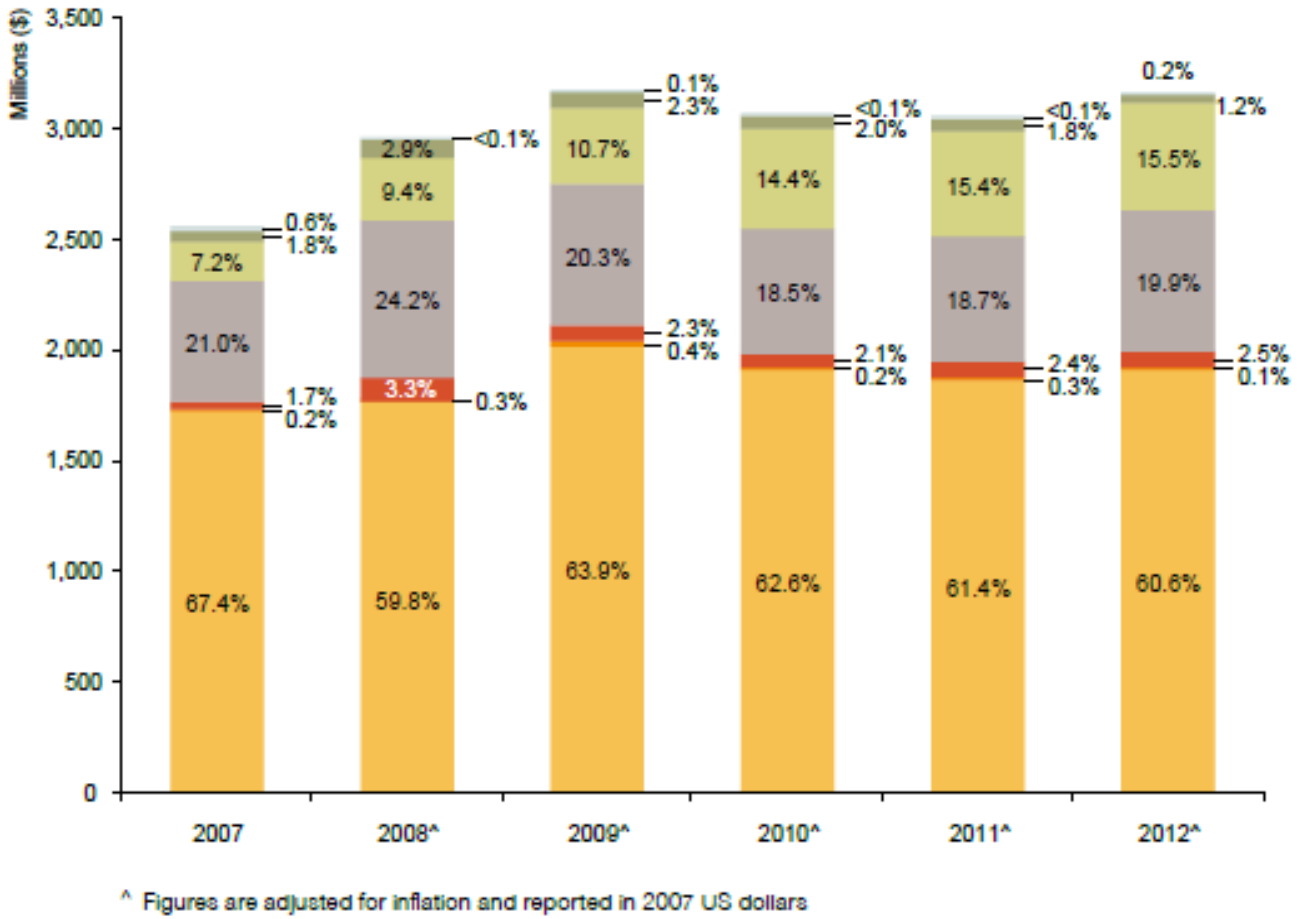
From 1975-1999:

16 of 1393 new products for neglected tropical diseases + malaria and TB (1.1%) despite these diseases representing 12% of global disease burden

Source: Fatal Imbalance: The Crisis in Research and Development for Neglected Diseases, MSF, 2001

DNDi
Drugs for Neglected Diseases *initiative*

Public sector, the dominant funder for neglected diseases R&D



Source G-Finder 2012

Drugs for Neglected Diseases *initiative*

US, UK & EC providing 80 % of total public funding

Table 21. Top 12 public funders 2012

Source G-Finder 2012

Country	US$ (millions)^						Percentage of total (%)					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
United States of America	1,253	1,258	1,461	1,387	1,355	1,445	70.6	67.2	69.2	69.7	69.5	72.2
United Kingdom	104.7	103.3	142.6	163.8	133.2	93.4	5.9	5.5	6.8	8.2	6.8	4.7
European Commission	121.4	129.9	118.3	92.5	105.2	93.1	6.8	6.9	5.6	4.6	5.4	4.7
Germany	12.1	3.7	34.1	37.8	31.8	54.6	0.7	0.2	1.6	1.9	1.6	2.7
France	15.7	29.3	48.2	40.5	59.9	53.3	0.9	1.6	2.3	2.0	3.1	2.7
Australia	18.2	25.1	22.8	25.0	31.3	39.5	1.0	1.3	1.1	1.3	1.6	2.0
India		32.5	24.6	31.1	33.8	34.4	0.0	1.7	1.2	1.6	1.7	1.7
Brazil	22.1	36.8	31.8	10.9	11.3	19.7	1.2	2.0	1.5	0.5	0.6	1.0
Sweden	21.6	25.6	33.1	18.9	19.4	18.2	1.2	1.4	1.6	0.9	1.0	0.9
Canada	19.1	23.1	16.9	9.5	9.3	17.1	1.1	1.2	0.8	0.5	0.5	0.9
Netherlands	34.1	27.0	28.7	18.1	24.2	15.3	1.9	1.4	1.4	0.9	1.2	0.8
Switzerland	6.6	3.9	7.0	11.9	11.9	13.4	0.4	0.2	0.3	0.6	0.6	0.7
Subtotal top 12 public funders*	1,666	1,734	1,982	1,854	1,829	1,897	93.9	92.6	93.9	93.1	93.8	94.8
Total public funding	1,775	1,873	2,112	1,990	1,949	2,001	100.0	100.0	100.0	100.0	100.0	100.0

^ Figures are adjusted for inflation and reported in 2007 US dollars

* Subtotals for 2007–2011 top 12 reflect the top funders for those respective years, not the top 12 for 2012

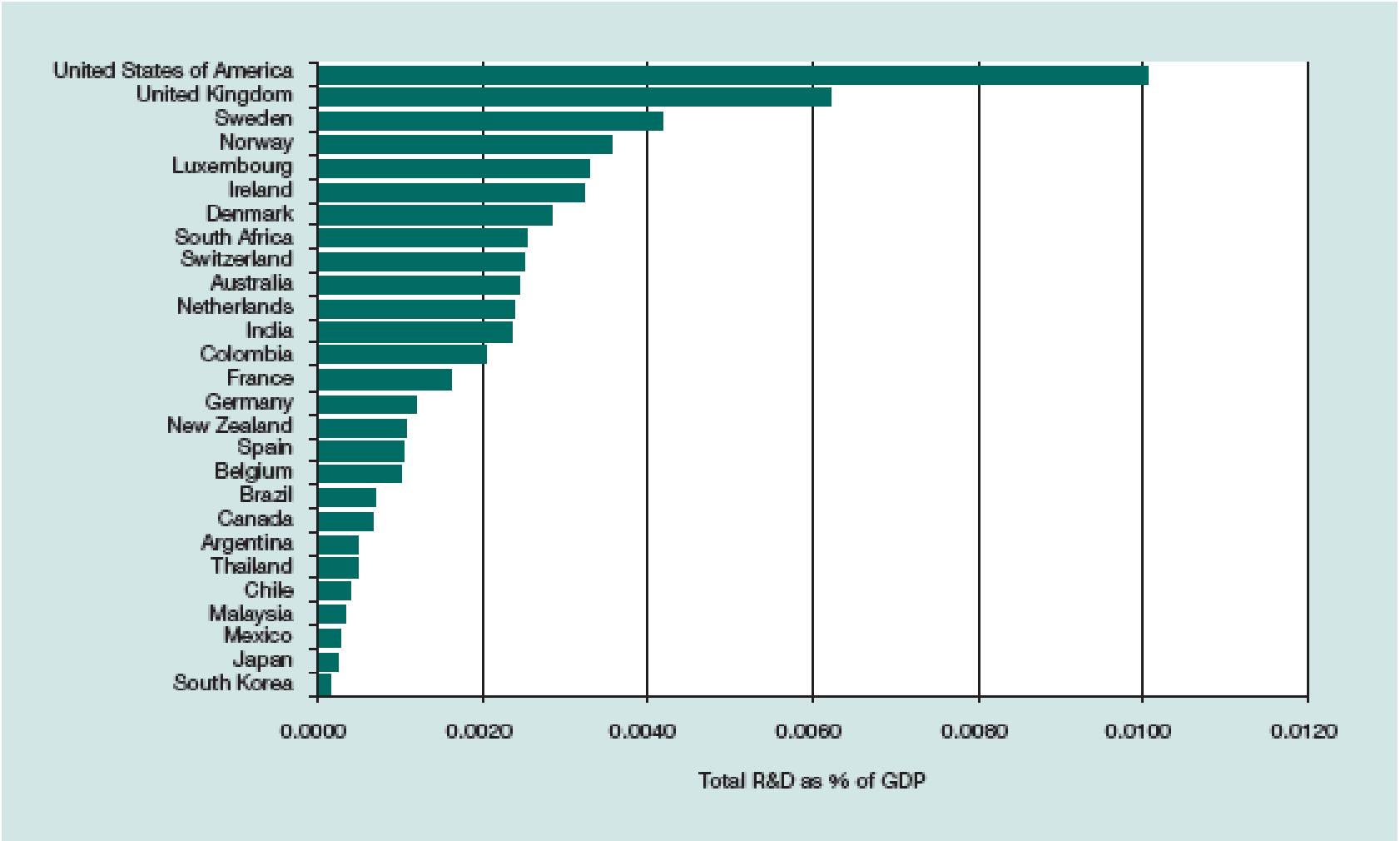
Funding organisation did not participate in the survey for this year. Any contributions listed are based on data reported by funding recipients so may be incomplete

$630 m from Philanthropic funding

Source G-Finder 2012

Funder	US$ (millions)^						Percentage of total (%)					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Gates Foundation	452.1	617.0	557.5	455.8	447.9	444.1	84.0	86.1	86.5	80.2	78.5	70.4
Wellcome Trust	60.0	60.9	65.1	80.5	94.8	147.8	11.1	8.5	10.1	14.2	16.6	23.4
GAVI	10.1	14.8		2.1		8.4	1.9	2.1		0.4		1.3
MSF	7.2	7.3	4.6	4.7	5.2	5.7	1.3	1.0	0.7	0.8	0.9	0.9
UBS Optimus Foundation	0.5	1.1	1.1	7.4	5.3	3.3	0.1	0.2	0.2	1.3	0.9	0.5
Funds raised from the general public	2.1	1.2	0.4	0.3	0.5	0.3	0.4	0.2	0.1	0.1	0.1	0.1
All other philanthropic organisations	6.3	14.3	15.6	17.3	17.0	21.4	1.2	2.0	2.4	3.0	3.0	3.4
Total philanthropic funding	538.3	716.5	644.3	568.1	570.6	631.0	100.0	100.0	100.0	100.0	100.0	100.0

Comparison with GDP to Measure real investments



Source: G-Finder.

The big three and the others !!

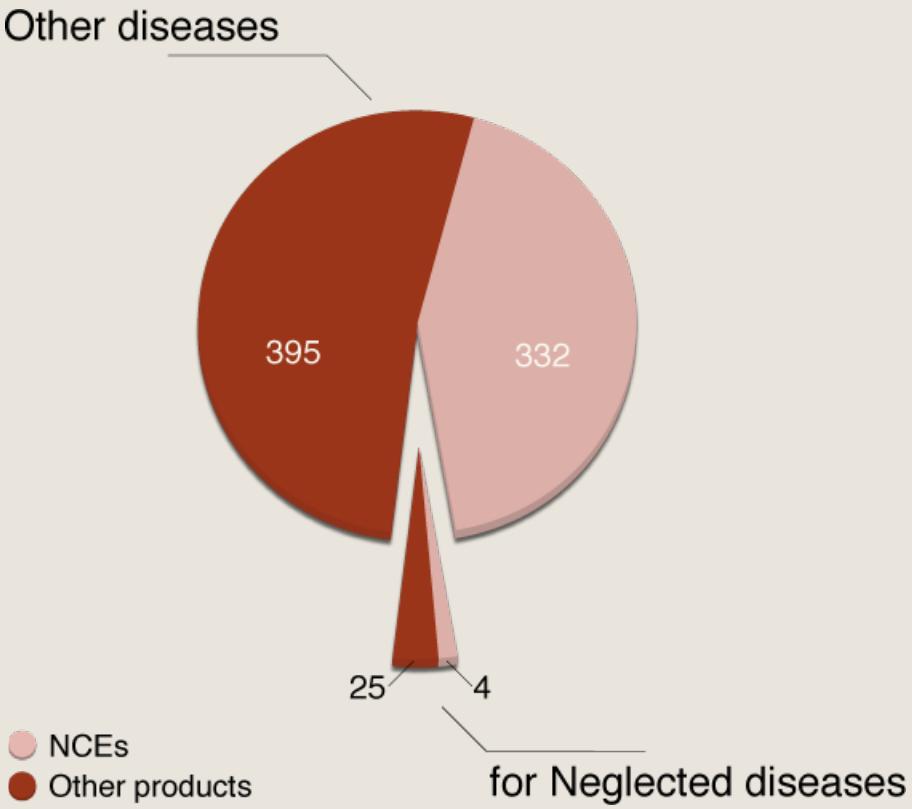
Disease or R&D area	US$ (millions)^						Percentage of total (%)					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
HIV/AIDS	934.2	919.5	959.4	891.2	865.1	880.1	54.0	51.8	47.1	46.3	45.6	45.8
Malaria	216.7	232.5	263.2	287.7	266.4	259.3	12.5	13.1	12.9	14.9	14.2	13.5
Tuberculosis	220.6	209.4	310.1	286.1	257.2	249.3	12.7	11.8	15.2	14.9	13.7	13.0
Kinetoplastids	45.9	79.4	95.0	96.0	87.1	84.6	2.7	4.5	4.7	5.0	4.6	4.4
Diarrhoeal diseases	43.8	60.4	91.4	75.6	82.7	77.2	2.5	3.4	4.5	3.9	4.4	4.0
Dengue	58.2	49.4	75.1	61.6	63.1	63.1	3.4	2.8	3.7	3.2	3.4	3.3
Helminths (worms & flukes)	37.3	32.6	47.4	45.3	43.8	53.8	2.2	1.8	2.3	2.4	2.3	2.8
Salmonella infections	9.1	26.1	32.3	33.3	29.4	35.4	0.5	1.5	1.6	1.7	1.6	1.8
Bacterial pneumonia & meningitis	10.0	9.6	12.1	16.2	25.3	15.4	0.6	0.5	0.6	0.8	1.3	0.8
Leprosy	3.5	3.6	6.2	3.5	4.0	9.2	0.2	0.2	0.3	0.2	0.2	0.5
Trachoma	<0.1	1.8	1.8	2.6	5.5	8.1	0.0	0.1	0.1	0.1	0.3	0.4
Buruli ulcer	2.2	1.5	1.5	3.7	3.4	3.4	0.1	0.1	0.1	0.2	0.2	0.2
Rheumatic fever	1.7	1.1	1.4	1.6	0.8	0.9	0.1	0.1	0.1	0.1	0.0	0.0
Platform technologies	3.6	5.5	6.8	10.0	10.6	23.2	0.2	0.3	0.3	0.5	0.6	1.2
Adjuvants and immunomodulators	<0.1	0.7	2.6	3.8	1.8	16.1	0.0	0.0	0.1	0.2	0.1	0.8
General diagnostic platforms	1.0	1.9	1.8	5.1	8.3	6.7	0.1	0.1	0.1	0.3	0.4	0.3
Delivery technologies and devices	2.5	2.8	2.4	1.2	0.4	0.4	0.1	0.2	0.1	0.1	0.0	0.0
Core funding of a multi-disease R&D organisation	96.8	87.3	66.9	69.8	85.6	65.6	5.6	4.9	3.3	3.6	4.6	3.4
Unspecified disease	47.7	56.6	68.1	41.1	57.0	92.9	2.8	3.2	3.3	2.1	3.0	4.8
Total public funding (HICs/multilaterals)	1,731	1,776	2,039	1,925	1,877	1,921	100.0	100.0	100.0	100.0	100.0	100.0

^ Figures are adjusted for inflation and reported in 2007 US dollars

tiative

Fatal Imbalance Remains Despite Progress Over a Decade

756 products developed (excluding vaccines) (2000-2011)



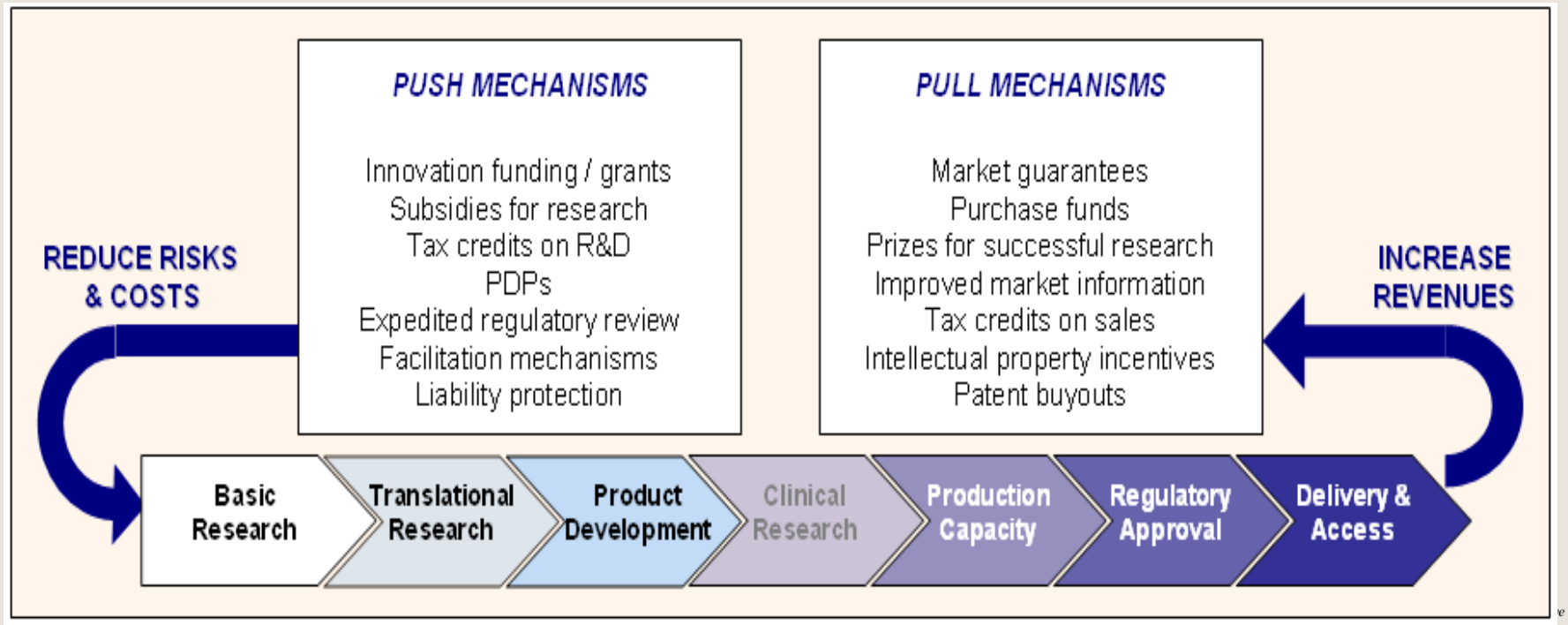
Source: 'The drug and vaccine landscape for neglected diseases (2000-2011): a systematic assessment' Pedrique B et al. *Lancet*, Oct 2013

- 3.8% of new products for neglected diseases (reformulations, combinations)
- 1.2% of NCEs for neglected diseases
- Only 1.4% clinical trials (of nearly 150,000 trials) focus on neglected diseases
- Only 1% of global health investment for neglected diseases*

*Source: 'Mapping of available health research and development data: what's there, what's missing, and what role is there for a global observatory?' Rottingen et al. *Lancet*, May 2013

A combination of PUSH and PULL mechanisms to ensure sustainability

- How can the global community best expand global financial support for global health R&D, especially for late-stage product development/clinical trials and possibly operational research/implementation sciences?
- What level of public funding needed ?
- How to prioritize investments for R&D ?

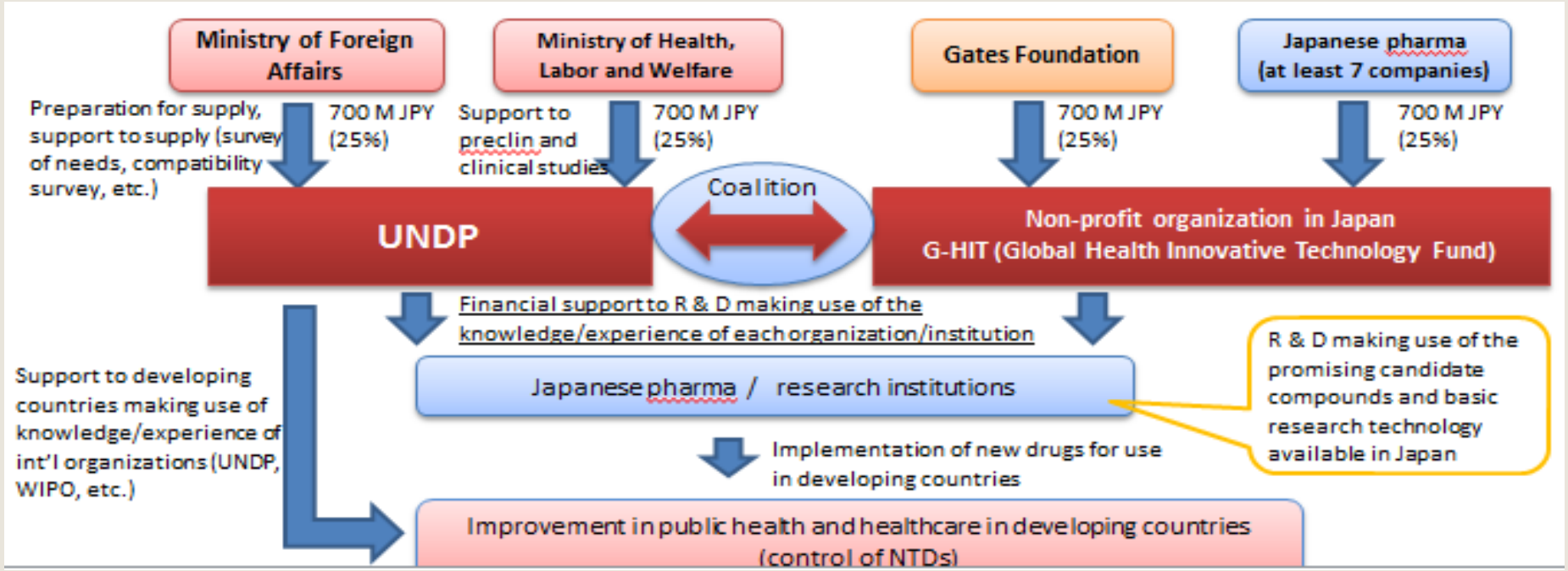


1. Enlarge engagement from governements…

- Beyond traditional donors
  - United Kingdom, France, The Netherlands, Spain, United States, Nordic countries.
- Emerging countries.
  - Brazil, India, China…
- Science and technology dpt & aid agencies
  - German Federal Ministry of Education and Research (BMBF) and the UK Medical Research Council (MRC)

DNDi
Drugs for Neglected Diseases *initiative*

2. GHIT: New parternship to leverage financing & competencies

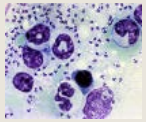


- Innovative partenership including MFA, MOH, pharmaceutical companies & BMGF; scope HIV/AIDS, malaria, TB and NTDs; all technologies
- US $25 M / year ; equal contribution from founders

DNDi
Drugs for Neglected Diseases *initiative*

Product Development Partnerships (PDPs): Filling the Gaps in Translational Research and Product Development

PDPs work across different diseases and modalities

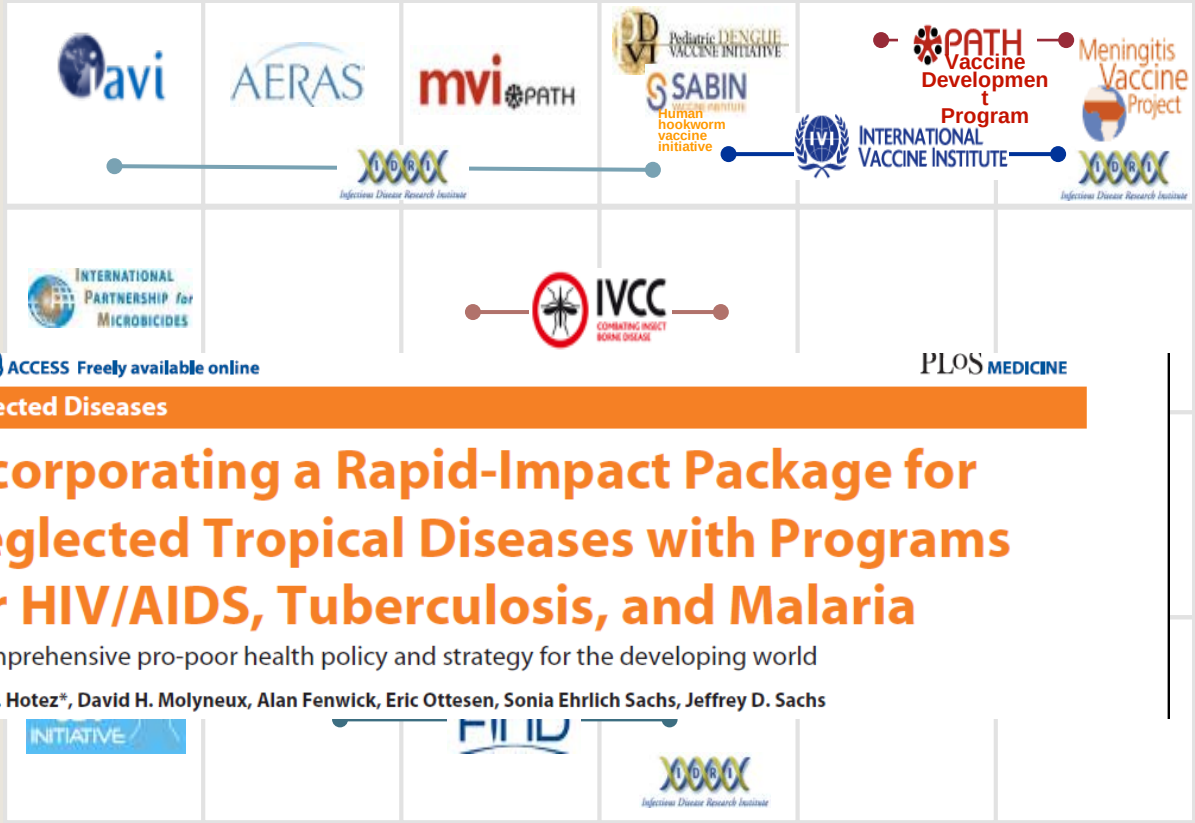


Vaccine

Microbicides & preventatives

Therap
pr

Diagnostics



OPEN ACCESS Freely available online

PLOS MEDICINE

Neglected Diseases

Incorporating a Rapid-Impact Package for Neglected Tropical Diseases with Programs for HIV/AIDS, Tuberculosis, and Malaria

A comprehensive pro-poor health policy and strategy for the developing world

Peter J. Hotez*, David H. Molyneux, Alan Fenwick, Eric Ottesen, Sonia Ehrlich Sachs, Jeffrey D. Sachs

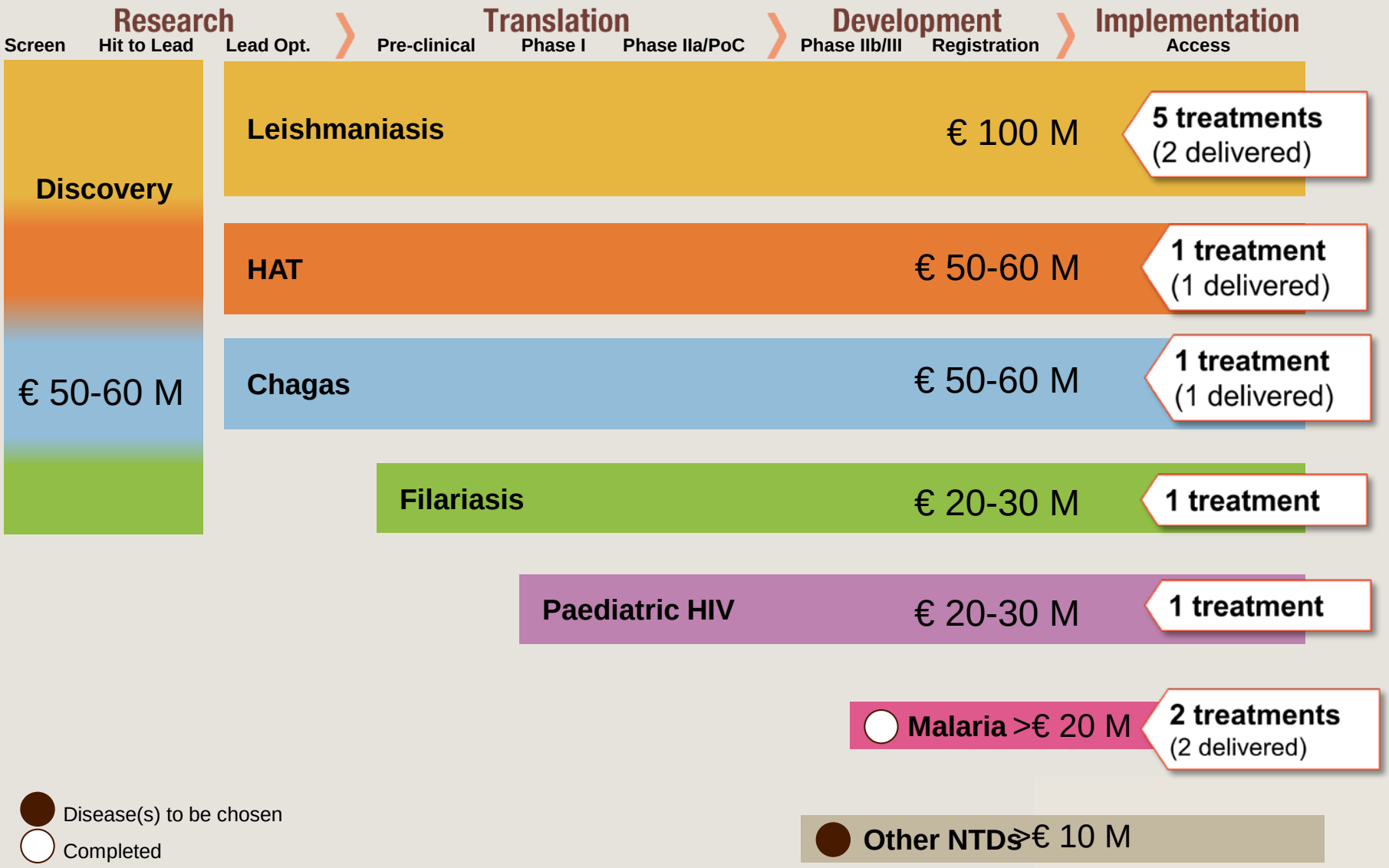
HIV/AIDS TB Malaria NTD Diarrhea Respiratory

Source: Bill & Melinda Gates foundation & BCG The Boston Consulting Group

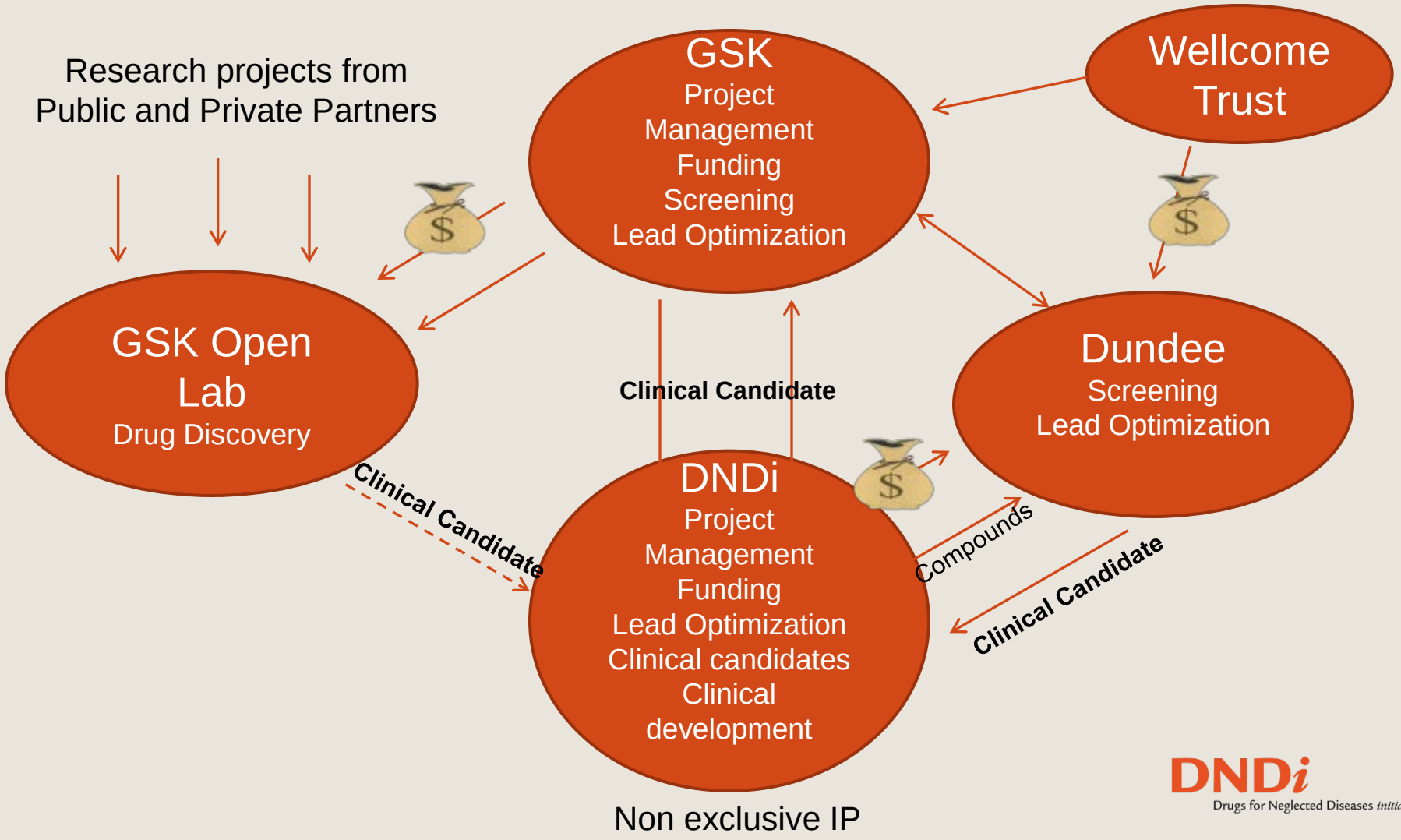
DNDi Drugs for Neglected Diseases initiative

Disease Scope & Level of Investment

€ 400M for 2003-2018 => 11 to 13 Treatments by 2018

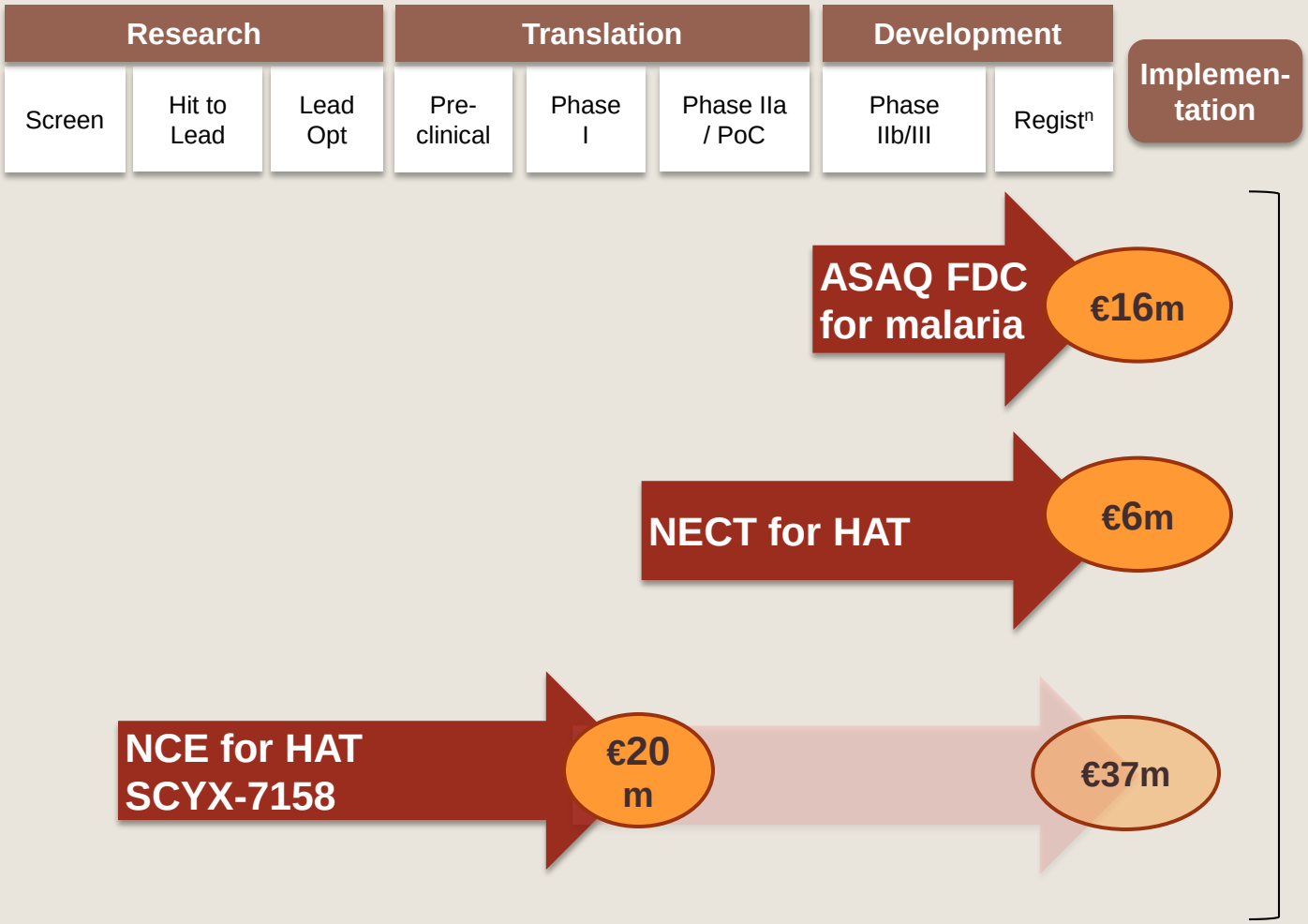


An Innovative Partnership Model for drug research



DNDi
Drugs for Neglected Diseases *initiative*

PDPs…Towards a Cost effective model



Outcomes

300 M treatments delivered since 2007

96% in DRC stage 2

Impact

Support to WHO elimination Roadmap by 2020

DNDi
Drugs for Neglected Diseases *initiative*

Trust-based Donor Relations & Diversification & 55% public funders

Core Funding (59%) - €164.9M / $222.7M

- United Kingdom – DFID (€73.7M) – ($99.5M)
- Médecins Sans Frontières (€65.8M) – ($89M)
- Spain – AECID (€12M) – ($16.2)
- Switzerland – SDC (€10.4M) – ($14M)
- Other Private Foundations - Rockefeller, Slim, Starr (€3M) – ($4M)

Portfolio Funding (15%) – €42.5M / $57.4M

- Netherlands – DGIS (€17M) – ($23M)
- France – AFD & MAEE (€14.3M) – ($19.3M)
- Germany – KFW & GTZ (€9M) – ($12.1M)
- Norway – NORAD (€1.8M) – ($2.4M)
- Brazil – MoH (€0.4M) – ($0.5M)

Project Funding (26%) – €76.8M / $103.7M

- Bill & Melinda Gates Foundation (€45.2M) – ($61M)
- UNITAID (€13.1M) – ($17.7M)
- Wellcome Trust (€4.3M) – ($5.8M)
- European Union – FP5,6,7& EDCTP (€4.4M) – ($6M)
- Medicor Foundation (€2.3M) – ($3.1M)
- Japan GHIT Fund (€2.3M) – ($3.1M)
- USA – NIH/NIAID (€1.8M) - ($2.4M)
- Switzerland – Canton de Genève (€1.5M) – ($2M)
- UBS Optimus Foundation (€1.4M) – ($1.9M)
- The Global Fund – AMFm (€0.5M) – ($0.7M)

DNDi
Drugs for Neglected Diseases *initiative*

4) IMI: Precompetitive platform

- Precompetitive platform, joint partnership between EU & European Pharma
- **Matching Fund Eur 3 billion (2014/2023)**
- To contribute to R&D by collaboratively developing technologies to overcome bottlenecks in the overall research process.
- Priorities : antimicobial resistances; neurodegenartive, chronic pain; diabetes, mental health
- Sharing knowledge & open innovation

5. EDCTP 2 , an unique platform to strenghten Capacities & Tech Transfert

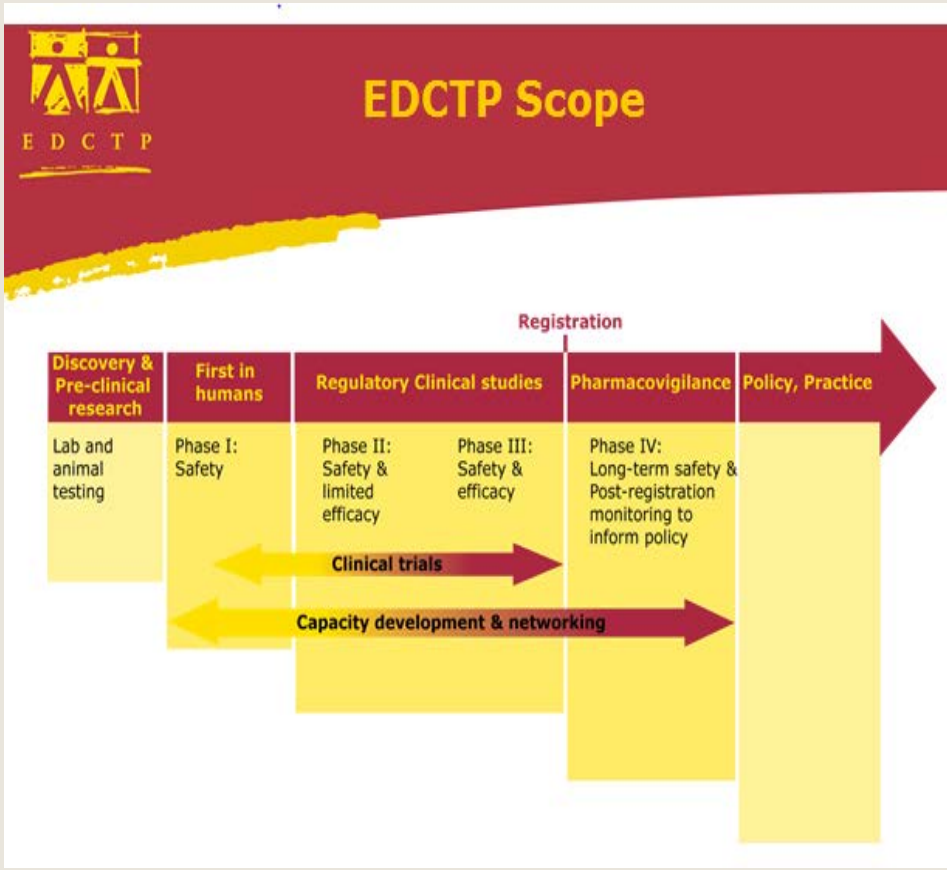
• To accelerate R&D of new or improved diagnostics, drugs, microbicides and vaccines for HIV/AIDS, TB, malaria, and ….NTDs !!

• To coordinate the European national programmes to conduct with sub-Saharan partners relevant clinical trials (phase II and III)

• To strengthen clinical trial capacities

• The European Council has approved a budget 683 ME (2014/2023)

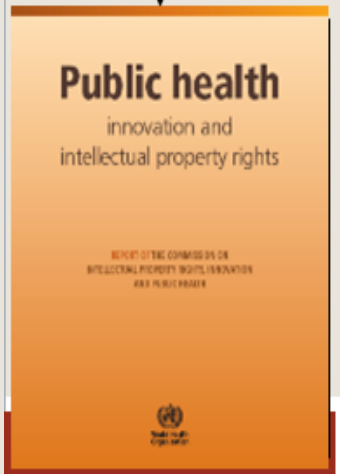
• A unique platform for dialogue with African scientists & to bridge the gap between North and South



DNDi
Drugs for Neglected Diseases *initiative*

A global framework

2003	2006	2008	2010
Resolution WHA56.27	**Resolution WHA59.24**	**Resolution WHA61.21**	**Resolution WHA63.28**
Intellectual property rights, innovation and public health	*Public Health, innovation, essential health research and intellectual property rights: towards a global strategy and plan of action*	*Global strategy and plan of action on public health, innovation and intellectual property*	*Establishment of a consultative expert working group on research and development: financing and coordination*
↓	↓	↓	↓
Commission on Intellectual Property Rights, Innovation and Public Health	Intergovernmental Working Group	Expert Working Group on Research and Development: Financing and Coordination	Consultative Expert Working Group on Research and Development: Financing and Coordination
↓	↓	↓	↓



DNDi
Drugs for Neglected Diseases *initiative*

THANK YOU

www.dndi.org