

Sanofi

Global Pharmaceutical company in Japan

March 17, 2014

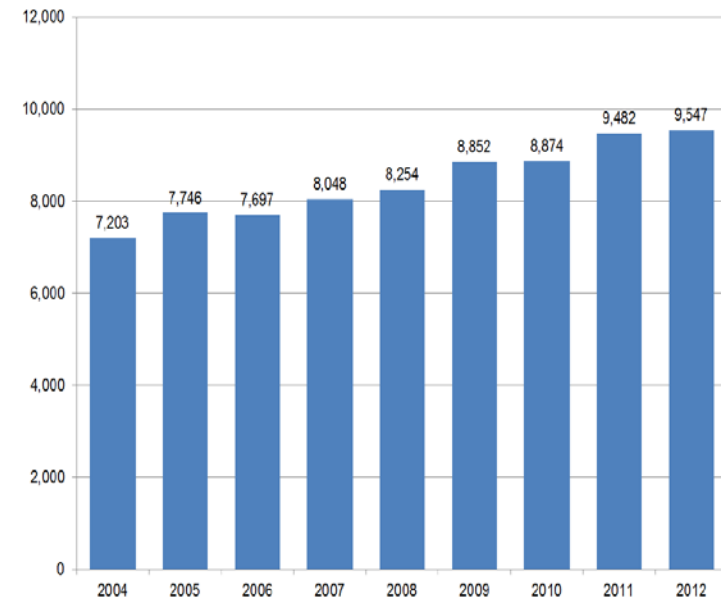
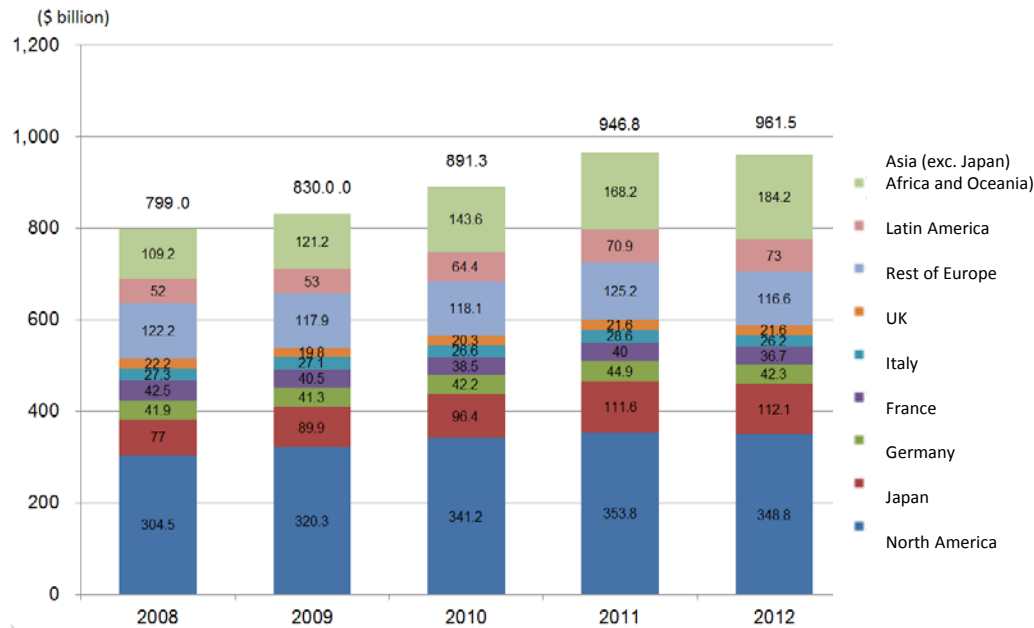
Agenda

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 2. Introduction to Sanofi
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 4. Challenges in pharmaceutical innovation
 5. Past issues and recent improvements
 6. Improvements in the innovation environment
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 8. Public-Private Partnerships in healthcare for innovation
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1. Pharmaceutical market overview

Global: 4% annual growth (2008-2012)

Japan: 3.5% annual growth (2004-2012)



- 2.6 times growth between 1997 and 2007: \$255 billion to \$667 billion¹
- Global pharmaceutical market in 2012: \$962 billion
- Japan pharmaceutical market in 2012: \$93 billion

2. Introduction to Sanofi

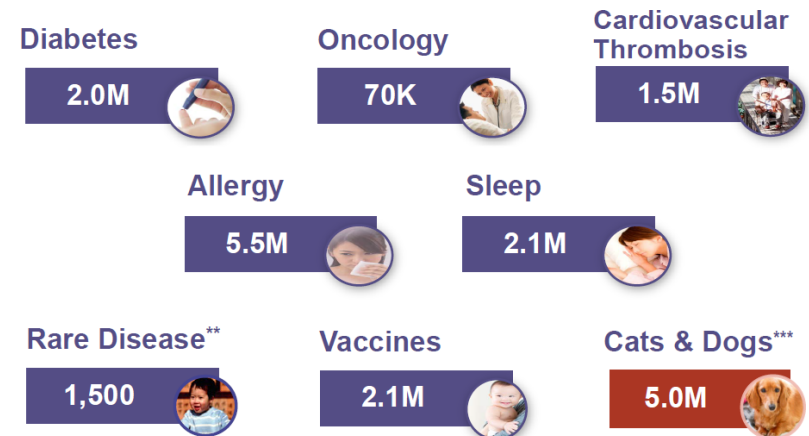
Sanofi

- Global integrated healthcare company engaged in the research, development, manufacturing and marketing of healthcare products.
- 110,000 employees in 100 countries
- \$38.2 billion sales in 2012

Sanofi Japan

- 2,700 employees
- \$3.1 billion

All for more than 13M Patients* in Japan



Patient numbers are calculated internally based on several industry data

*Patients mean those who use our products for prevention, cure and healthcare in general

**Patients in lysosome disease and patients using Thyrogen

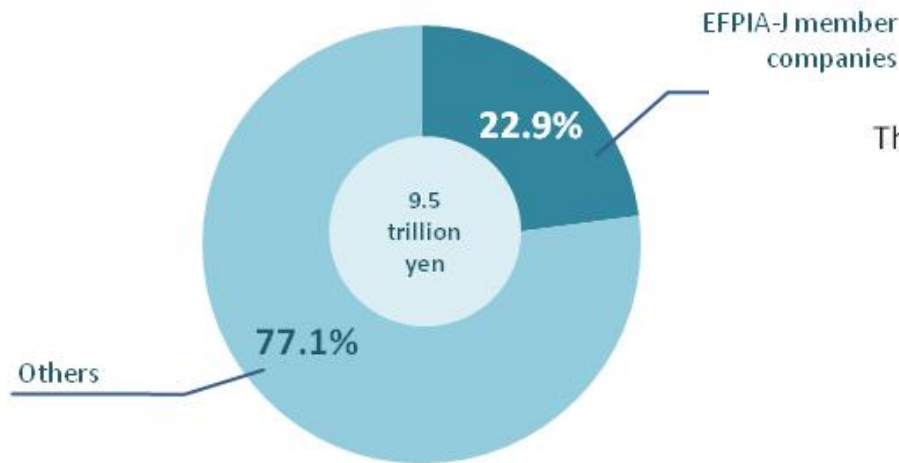
***The numbers are calculated from the market share of two major products, Frontline and Cardomec

3. Introduction to EFPIA Japan

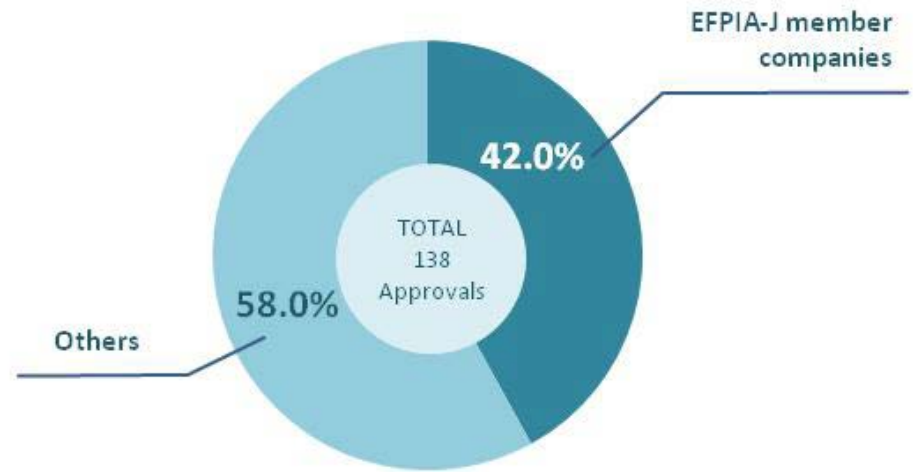
EFPIA Japan – 24 members

Sales and Development of New and Innovative Products

EFPIA Member Companies in Japan Sales (2011)



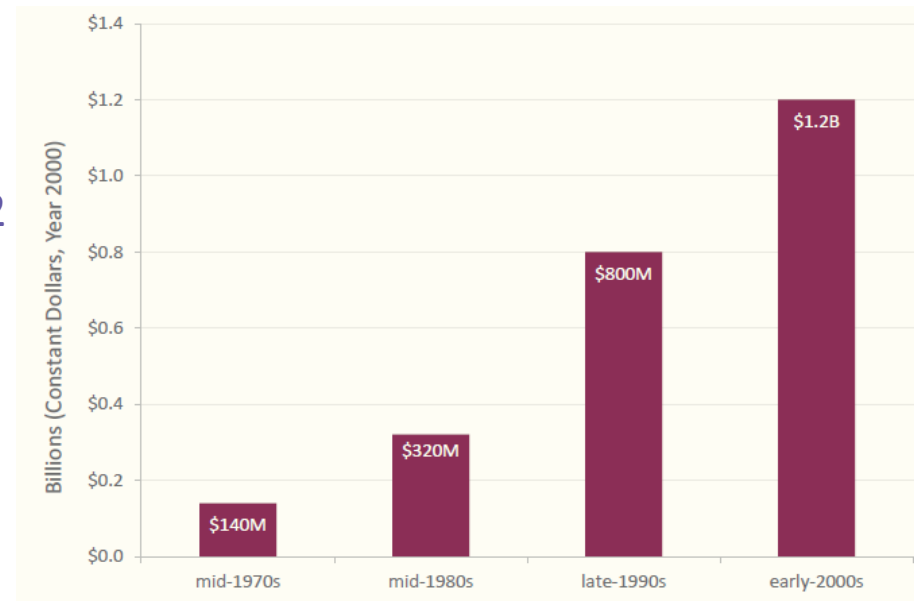
The Number of the Marketed New Drugs (2009-2011)



4. Challenges in pharmaceutical innovation

- Drug development ¹
 - Duration: 9 to 17 years
 - Probability of success:
 - 1/20,000
- Cost for drug development ²
 - Average cost: \$1.2 billion
- Unmet medical needs ³
 - Number of diseases: 30,000
 - Treatment available: 1/4

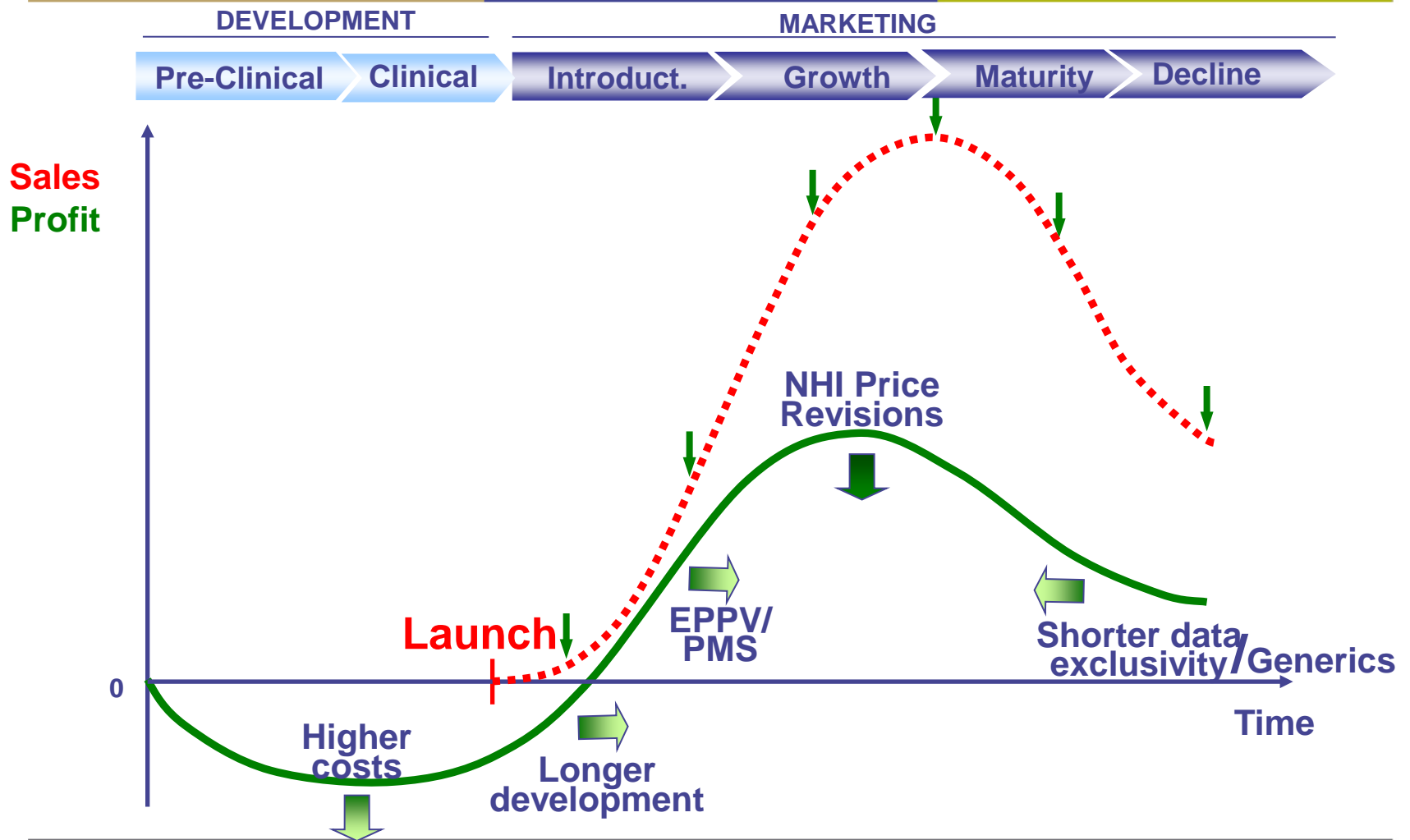
Average cost to develop one new medicine - Including the cost of failure



1) JPMA databook 2009
2) PhRMA 2013 Profile
3) New drug for tomorrow, JPMA 2010

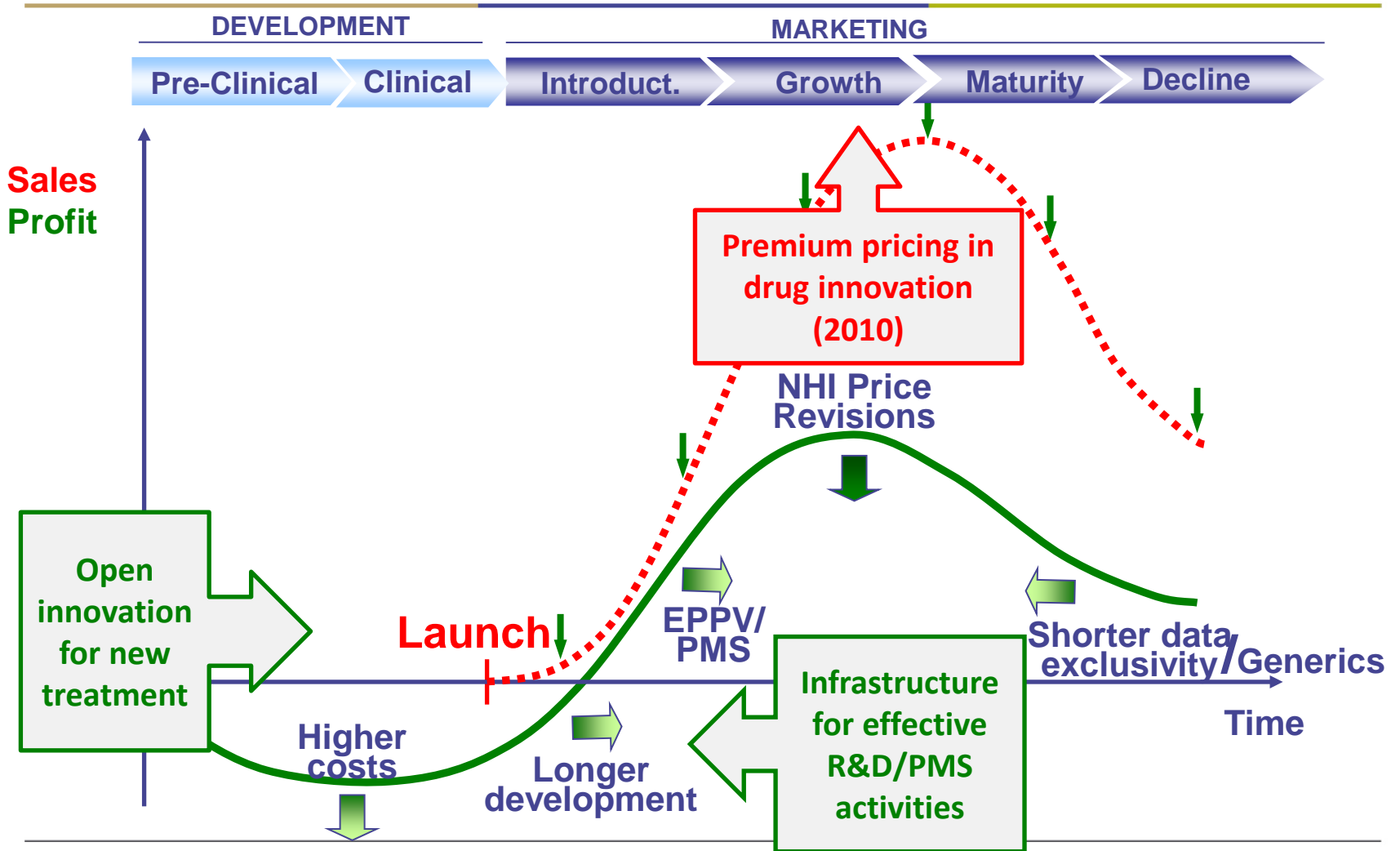
5. Past issues and recent improvements

Situation in 2006: Strong Pressure on ROI



5. Past issues and recent improvements

Current business environment

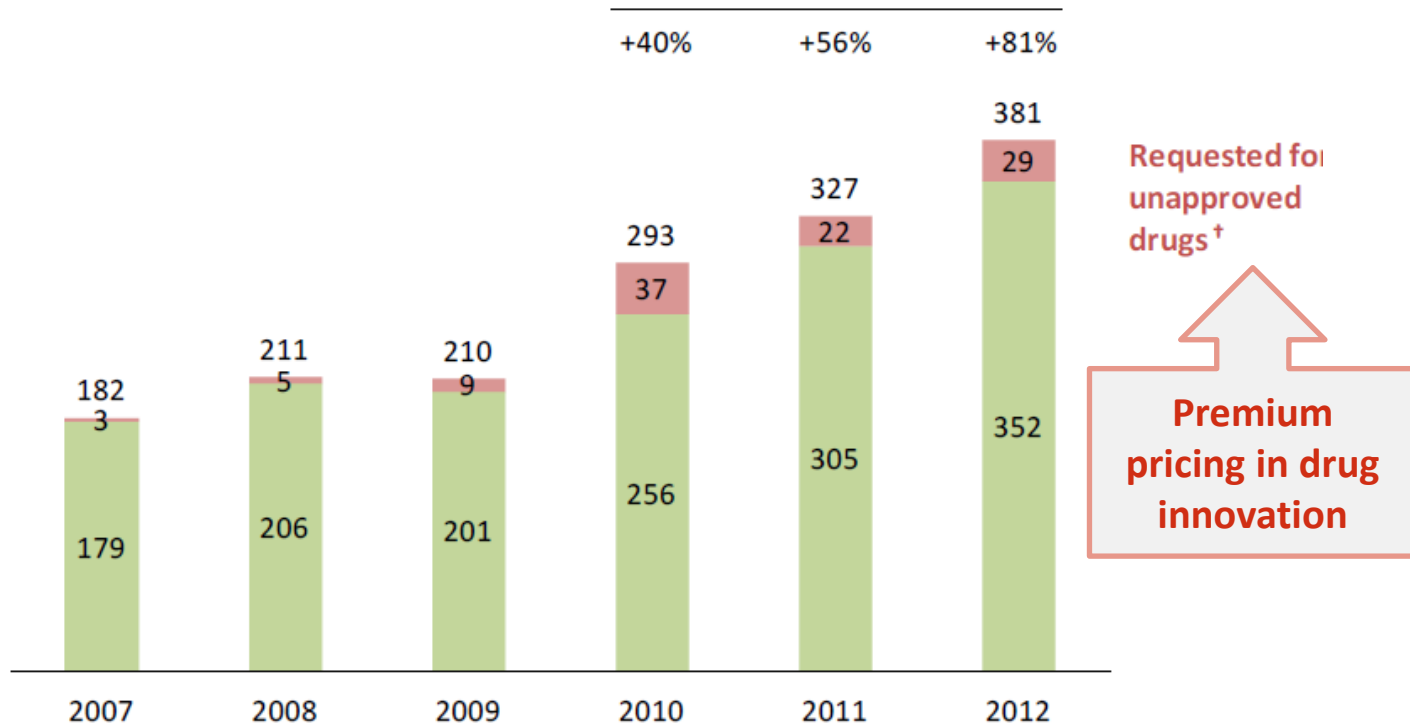


6. Improvements in the innovation environment

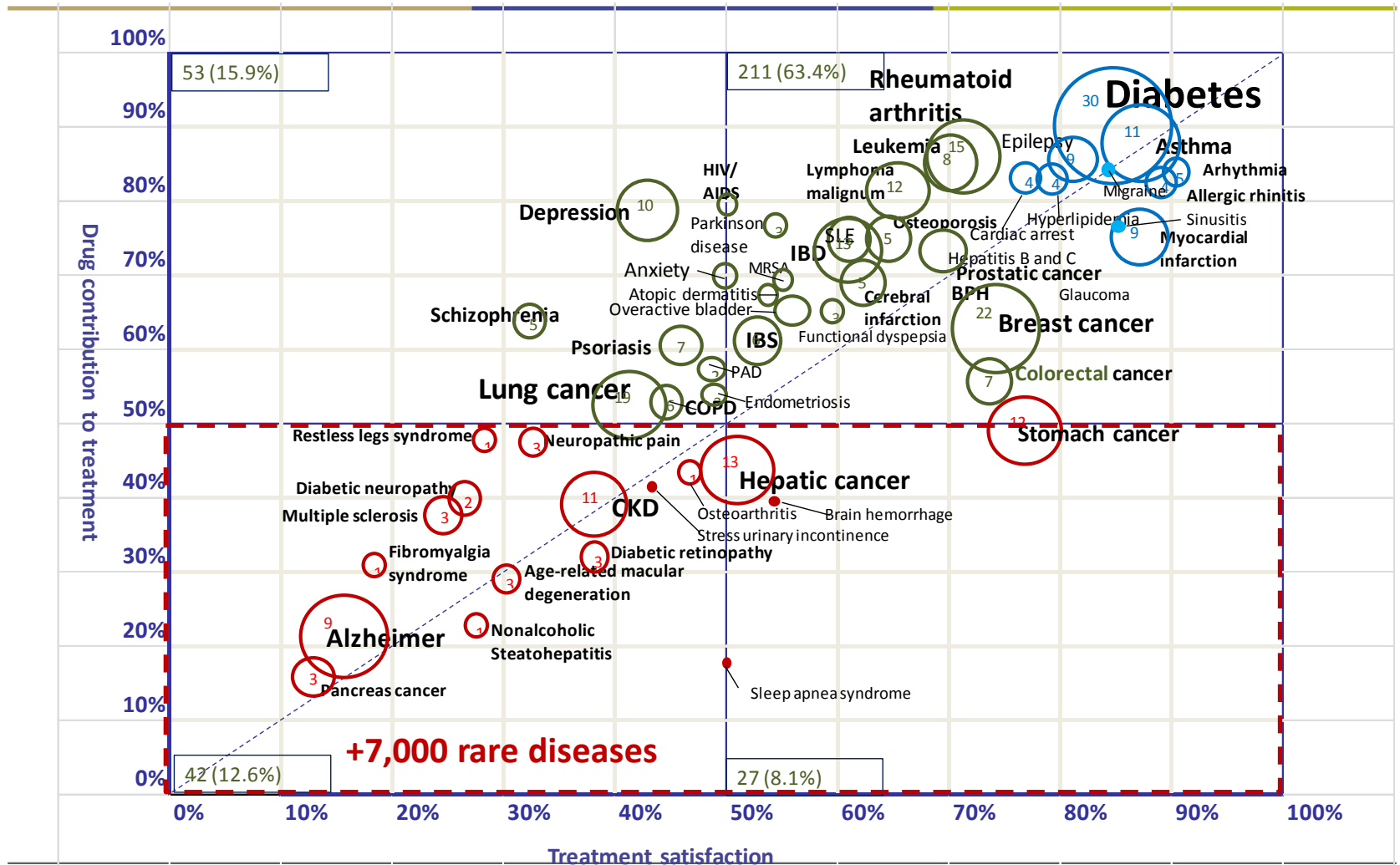
- Premium price in drug innovation: Implemented in 2010 (impermanent)
- Number of drug development projects: 81% Increased (2009 vs. 2012)
- Investment for drug development: 35% increased (2009 vs. 2012)

< Number of drug development projects >

Changes vs. 2009



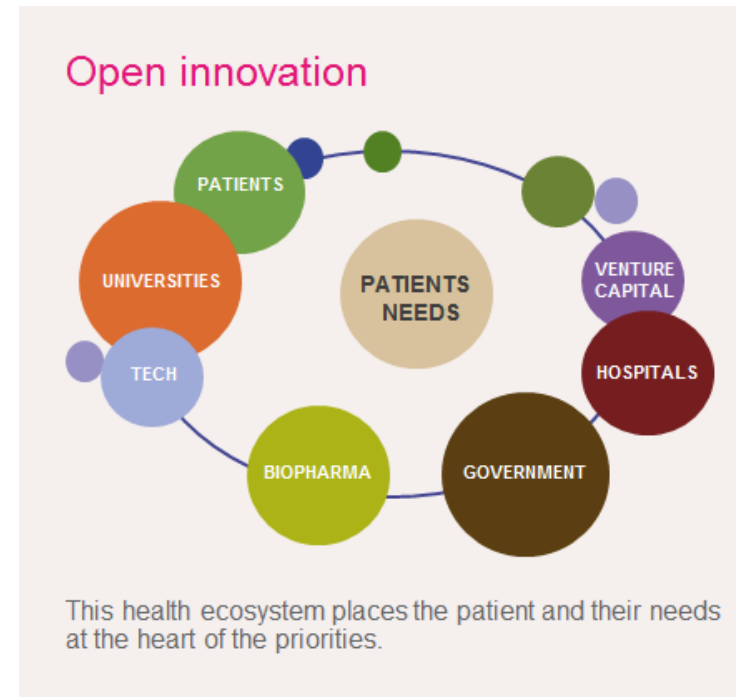
7. Many Unmet medical needs remain



BPH: Benign prostatic hypertrophy, COPD: Chronic obstructive pulmonary disease, IBS: Irritable bowel syndrome, PAD: Peripheral artery disease, SLE: systemic lupus erythematosus
 Note: Among the new drugs (drugs with new active ingredients and drugs with new indications) being developed by 20 companies ranked top in terms of domestic drug sales amount in fiscal 2012, which are in the development stage from phase I to approval application as of January 2013, 333 drugs related to 60 diseases surveyed for degree of treatment satisfaction in fiscal 2010 are targeted (prepared based on "Report of Domestic Base Technology Survey Results in Fiscal 2010 – Prospect of Medical Needs in 2020 –" of Japan Health Sciences Foundation and published materials of each company). Source: "Drug Approval/Development Status Related to Unmet Medical Needs", News No. 38 (March 2013) from Public Policy Institute, Office of Pharmaceutical Industry Research

8. Public Private Partnerships (PPPs) in healthcare for innovation

- PPPs involve collaboration between industry, academia, biotech companies, regulators, and patients' organizations.
- Links know-how and resources of the pharmaceutical industry with external pools of knowledge.
- Attractive means to leverage resources dispersed across industry, academia, and voluntary health organisations in order to address multiple challenges in an era of constrained resources.



9. The Innovative Medicines Initiative (IMI)

- Europe's largest public-private R&D initiative
- 2 billion euro (JPY2400 *oku*) investment for 10 years
- 40+ public-private consortia, launched in 2009
- 1,000+ jobs created
- Currently involved:
 - 363 EFPIA teams
 - 594 academic and research teams
 - 109 SMEs
 - 9 regulators
 - 18 patient organizations



9. The Innovative Medicines Initiative (IMI) Results to date

| | |
|---|---|
| Validated models and biomarkers | <ul style="list-style-type: none">• Alzheimer's• Diabetes• Schizophrenia• Asthma |
| Robust tools | <ul style="list-style-type: none">• Drug safety prediction, prevention and monitoring |
| Establishment and regulatory submission of key standards and tools | <ul style="list-style-type: none">• Drug development in infectious diseases• COPD• Diabetes |
| Improved clinical trial design & process | <ul style="list-style-type: none">• Schizophrenia• Autism |
| Major R&D programs | <ul style="list-style-type: none">• Antimicrobial resistance |
