

# European Health Systems – a comparison

## The perspective of the innovative pharmaceutical industry

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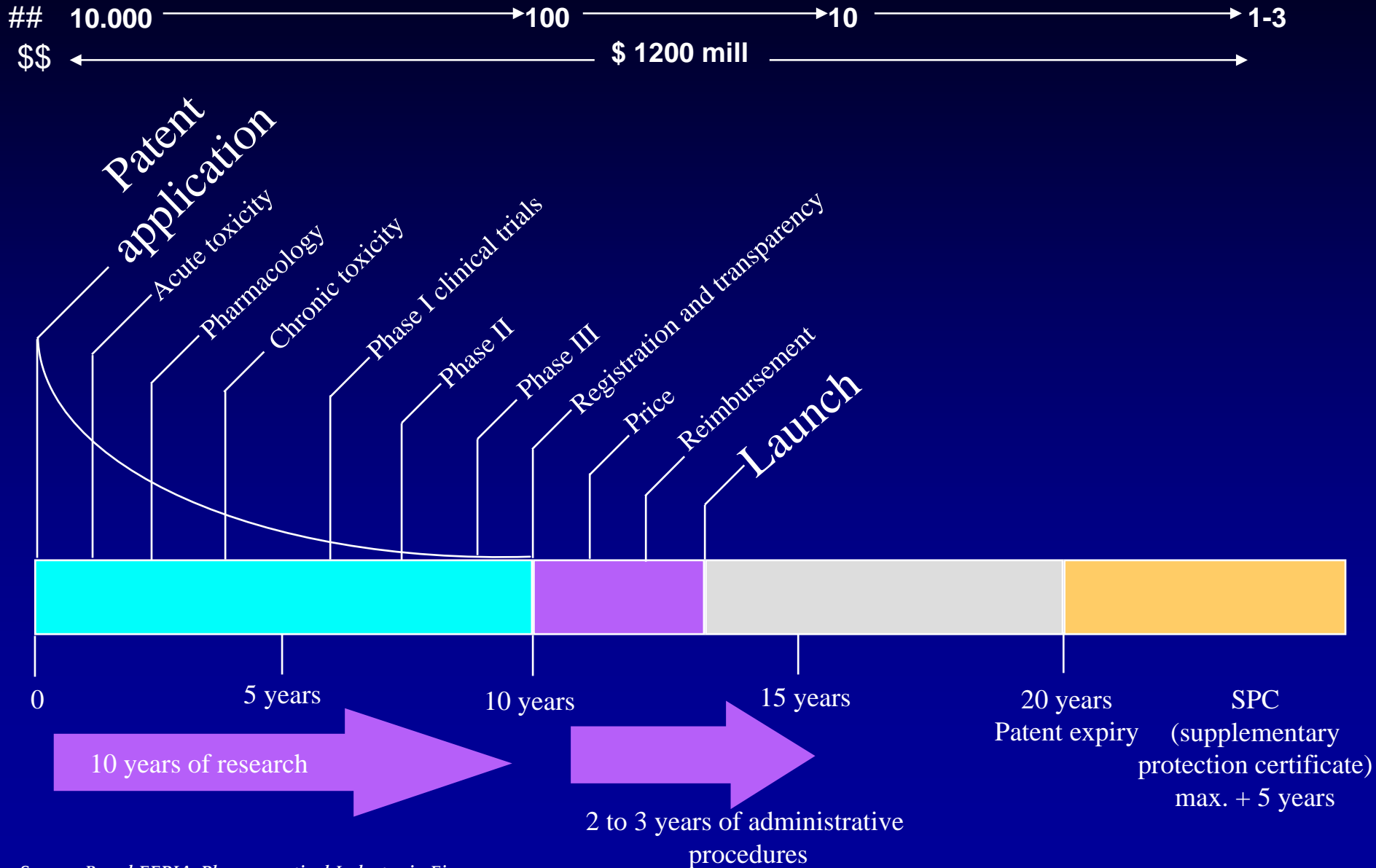
# Topics for discussion

1. **Pharmaceutical innovation: High risk !! High reward ?**
2. **Innovation and cost-containment in the pharmaceutical sector: dilemma or paradox?**
3. **Pharmaceutical industry as part of the solution !?**

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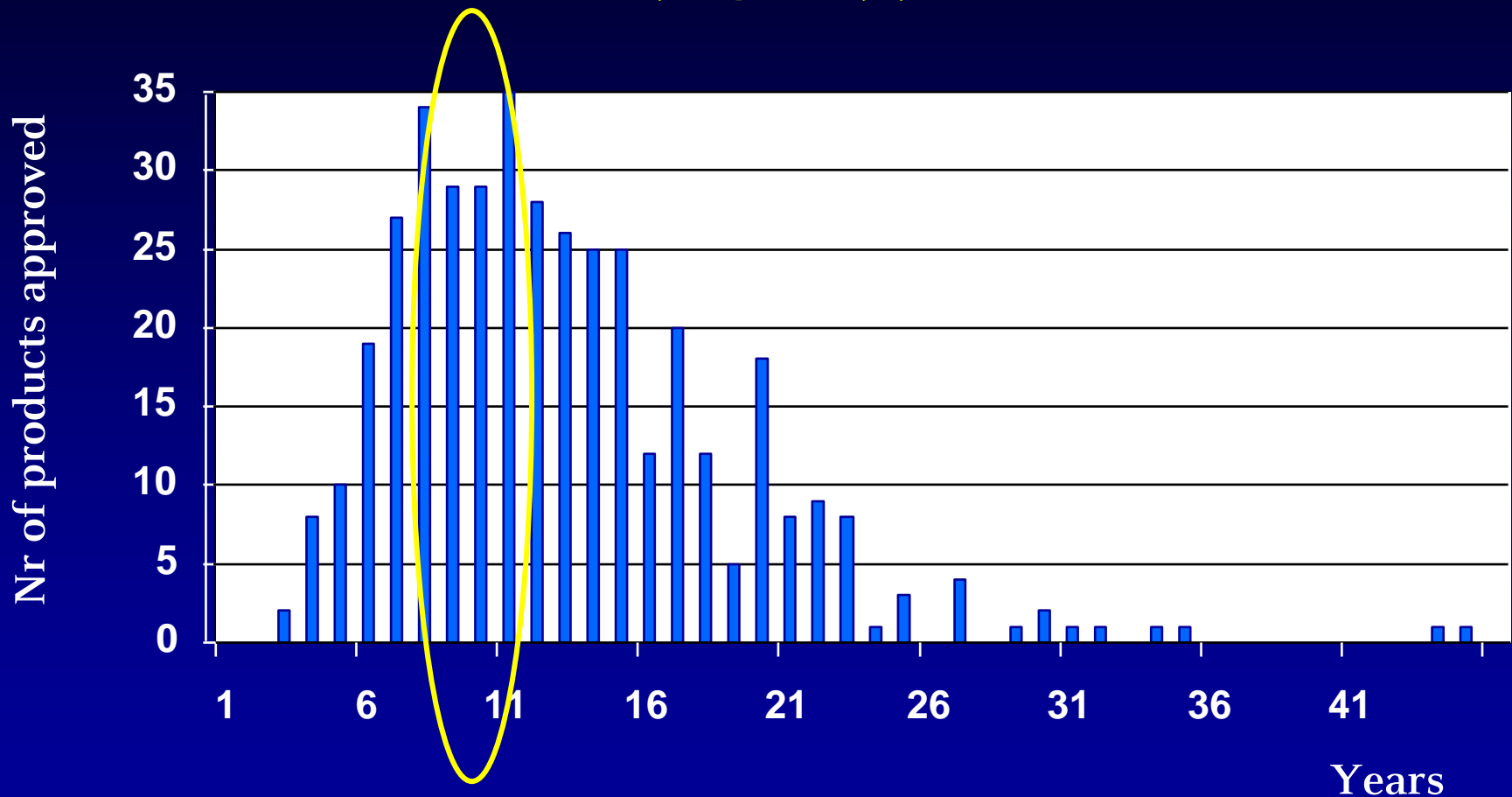
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# From the laboratory to the patient



Source: Based EFPIA, Pharmaceutical Industry in Figures, 2002

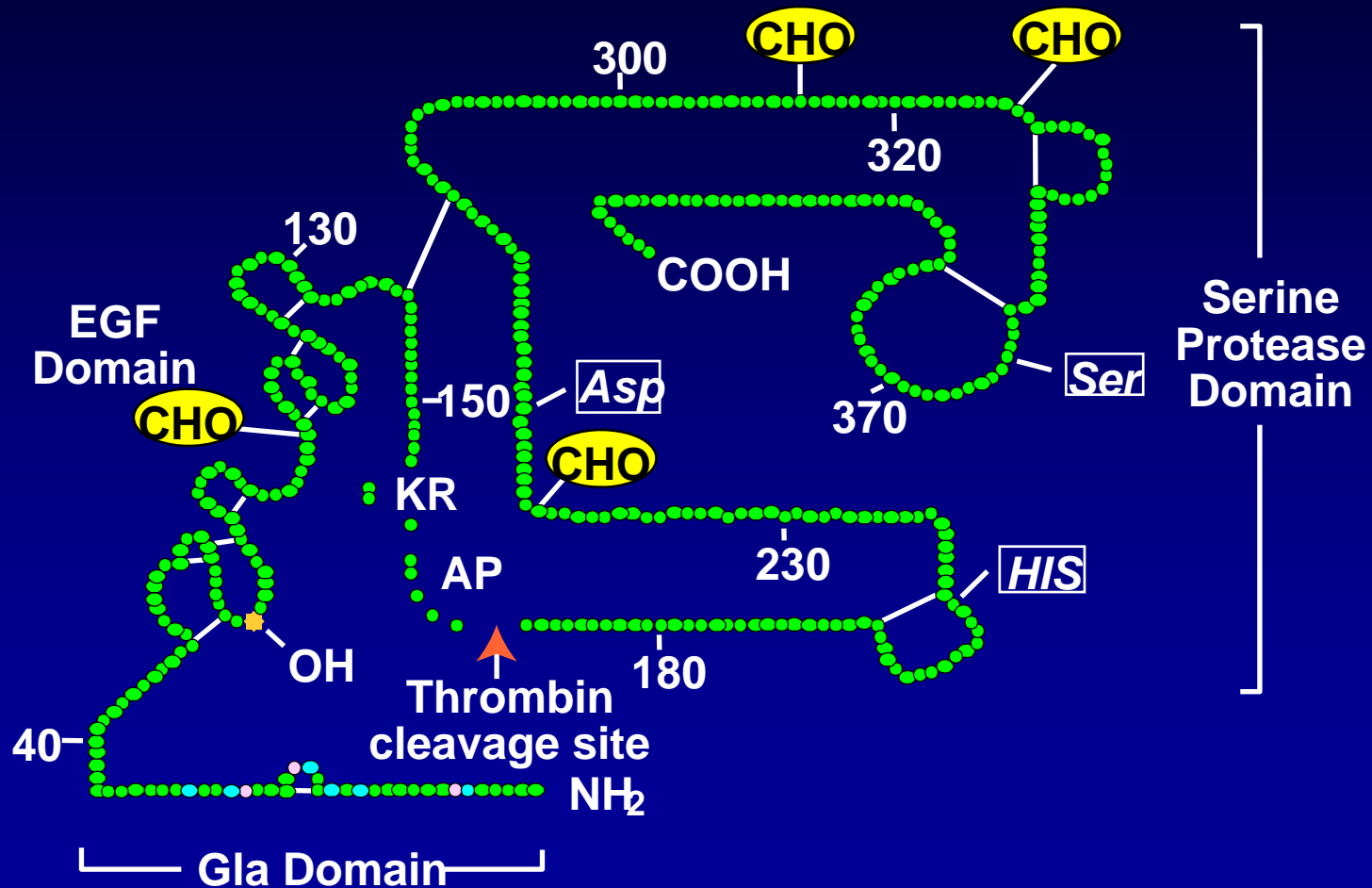
# Time between first human dose and FDA-approval 1963 - 1996



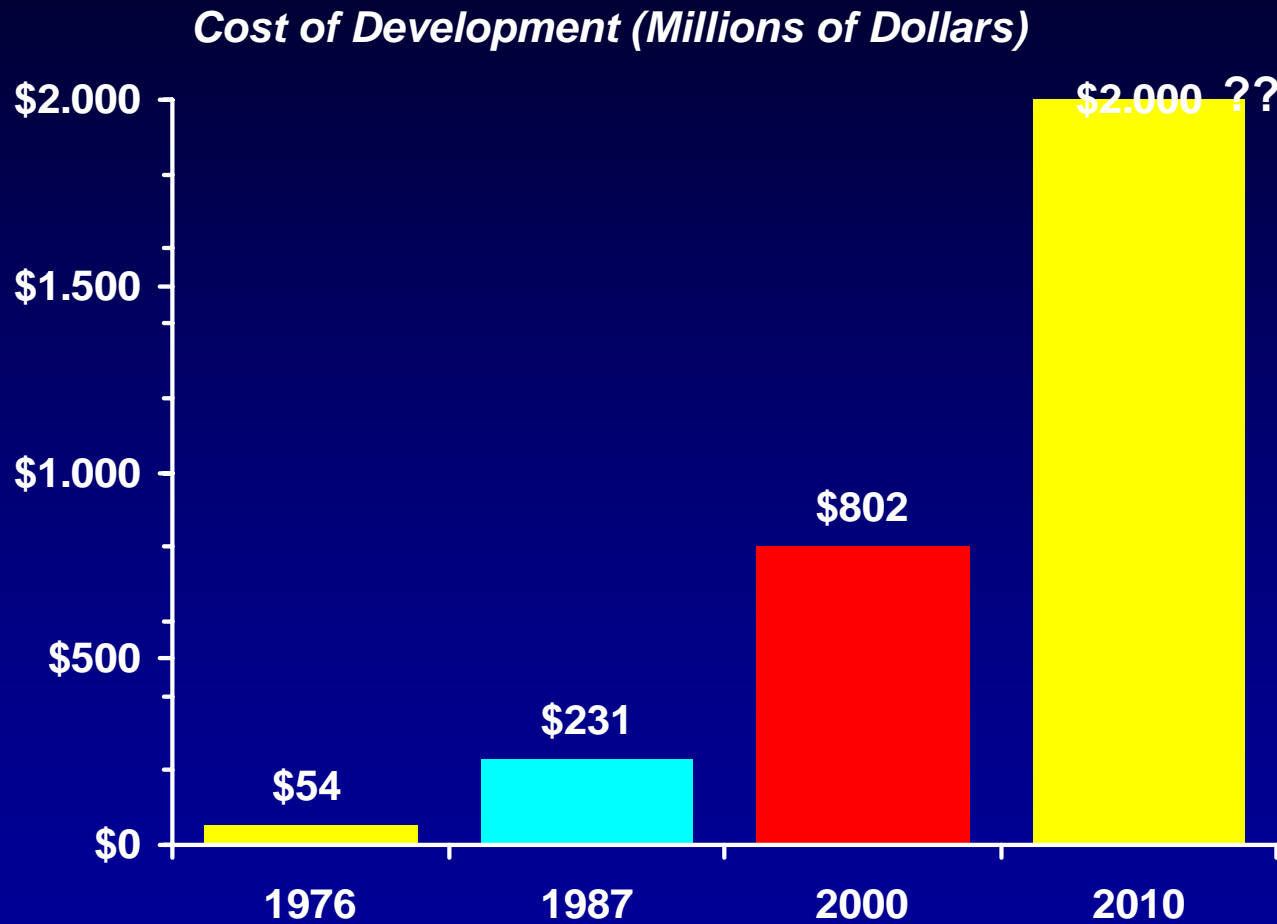
Source: PAREXEL's Pharmaceutical R&D  
Statistical Sourcebook, 1998

Not always as simple as acetyl salicylic acid anymore...

... change towards highly complex biotechnology ...

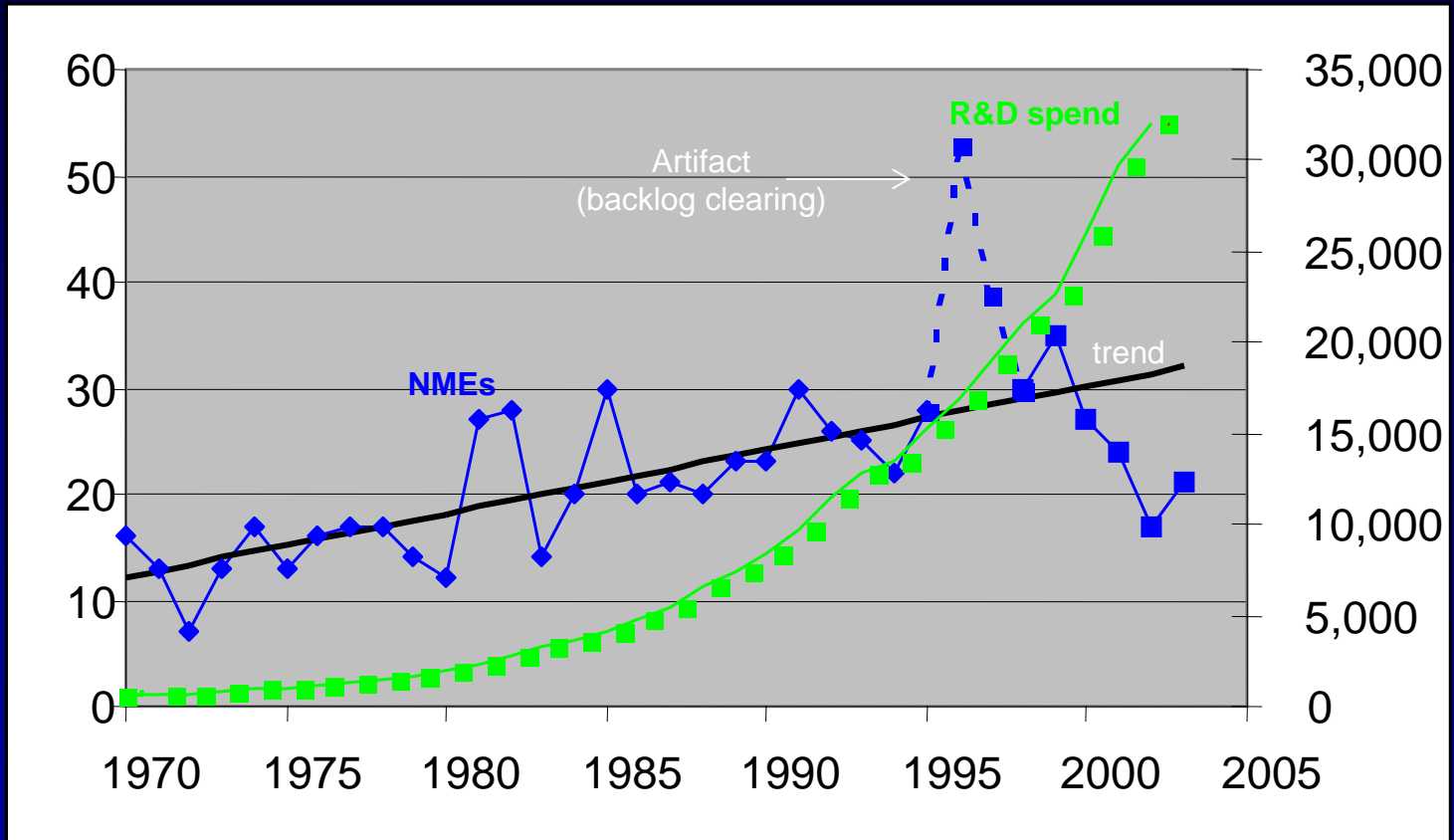


# Cost of developing new drugs skyrocketing



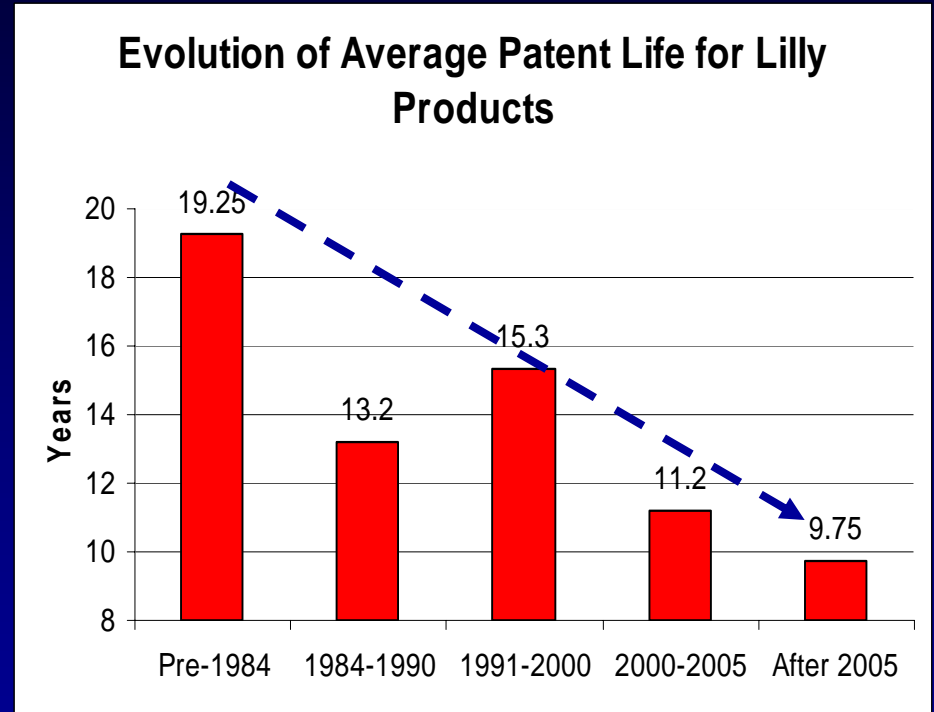
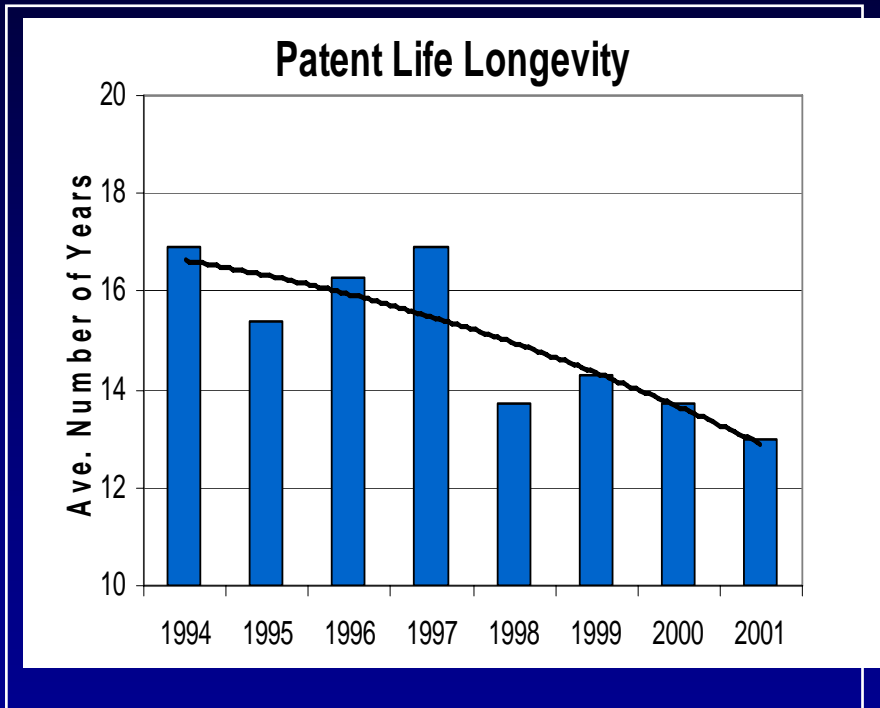
*Sources: DiMasi et al., J. Health Econ 1991 10:107-42, and Tufts Center for the Study of Drug Development 2001.*

# The pharmaceutical R&D productivity conundrum



Source: Food and Drug Administration; PhRMA  
Recreated from Wall Street Journal, April 18, 2002

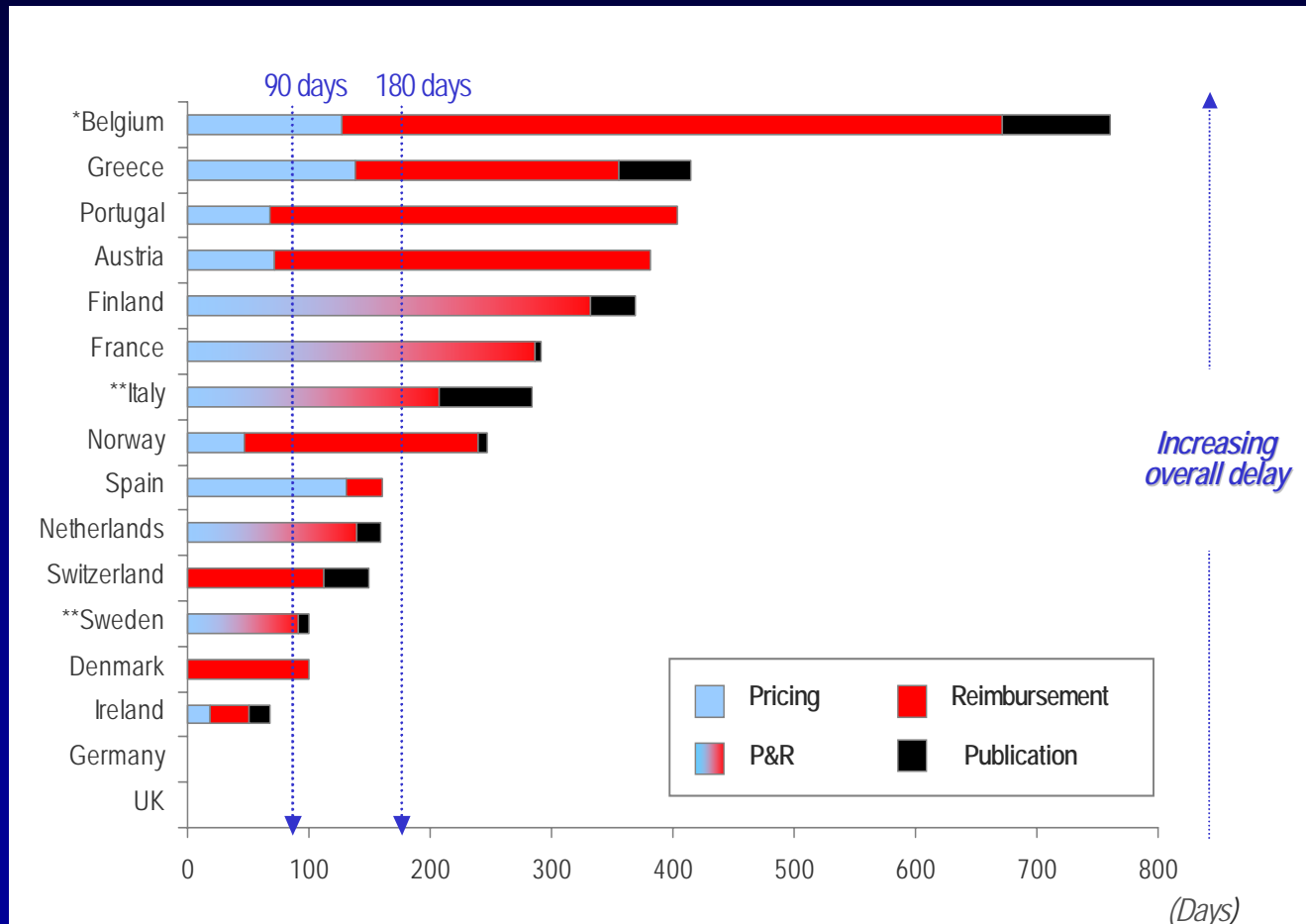
# Length of market exclusivity is decreasing



Sources: Electronic Orange Book, Approved Drug Products, FDA, December 21, 2001; IMS Generic Spectra; American Intellectual Law Association, Testimony of Michael Kirk on H.R. 400 before House Subcommittee On Courts and Intellectual Property, February 26, 1997.  
Lilly: data on file

# Pricing and reimbursement, delays in access

Delays caused by pricing and reimbursement procedures (EFPIA, "Delays to market access in Europe, Nov 2002")



\* Belgium - until January 2002, the transparency commission process had to be conducted before a company could apply for the price of a given product. Since then, both procedures run in parallel

\*\* In Italy and Sweden the pricing and/or reimbursement procedure can start as soon as CPMP opinion is available (for centrally approved medicines only)

# Why innovation?

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Many illnesses cannot be treated sufficiently (e.g. SARS, MS).

Bacteria are becoming resistant to all existing Antibiotics (e.g. MDR-TB or staphylococcal infections).

HIV-inhibitors are toxic and only temporarily effective.

Many, often young people, still die of cancer today.

Overweight becomes epidemic and has high co-morbidity with diabetes mellitus, cardiovascular disease, renal failure, all of which need treatment

Psychiatric illnesses still cause incredible suffering and societal upheaval, even where treatment has improved significantly

Etc.etc.

# It is the industry that brings the majority of drugs to patients

**Private  
Industry  
91%**



**Government  
and University  
9%**

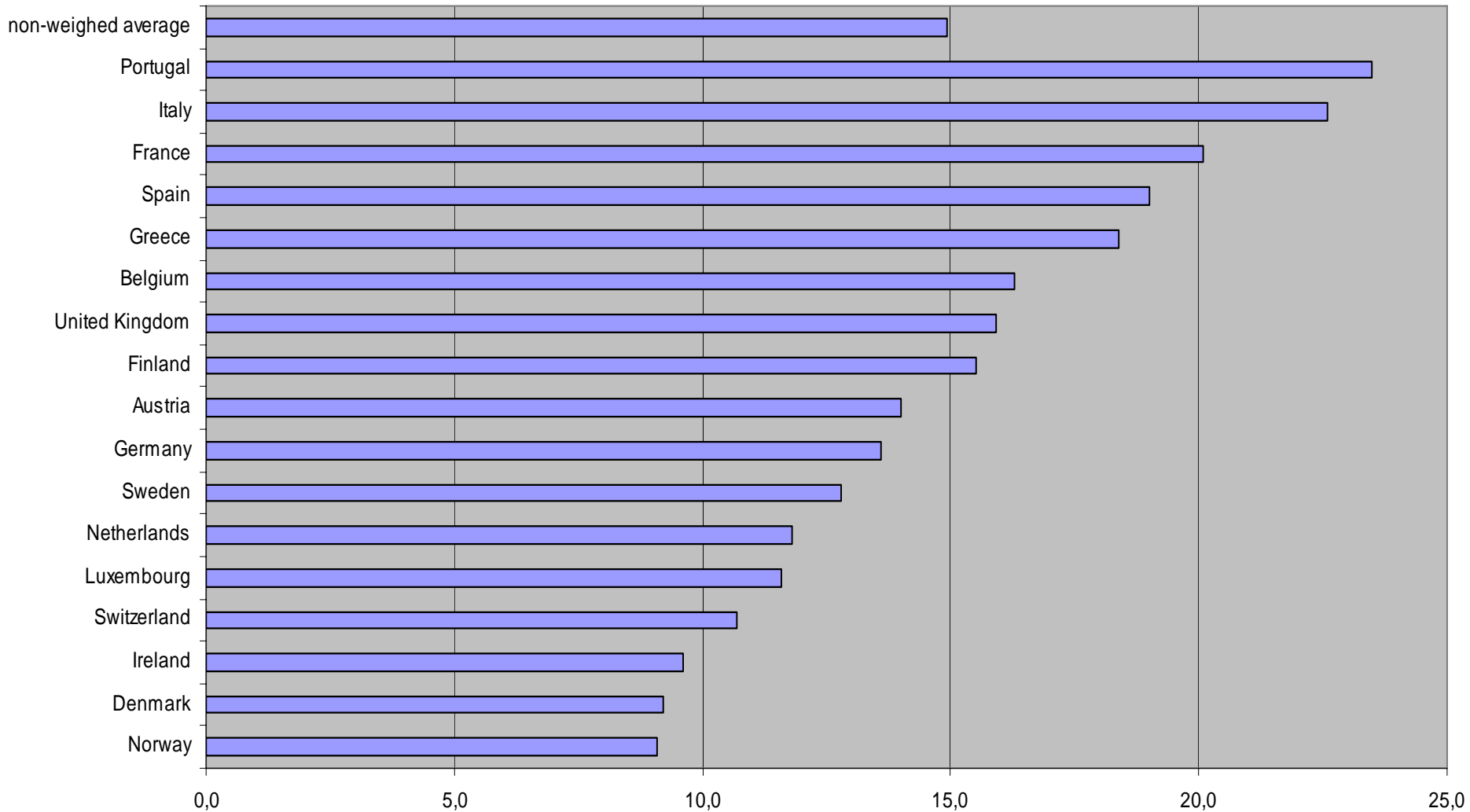
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# Pharmaceutical expenditure as % of total healthcare budget

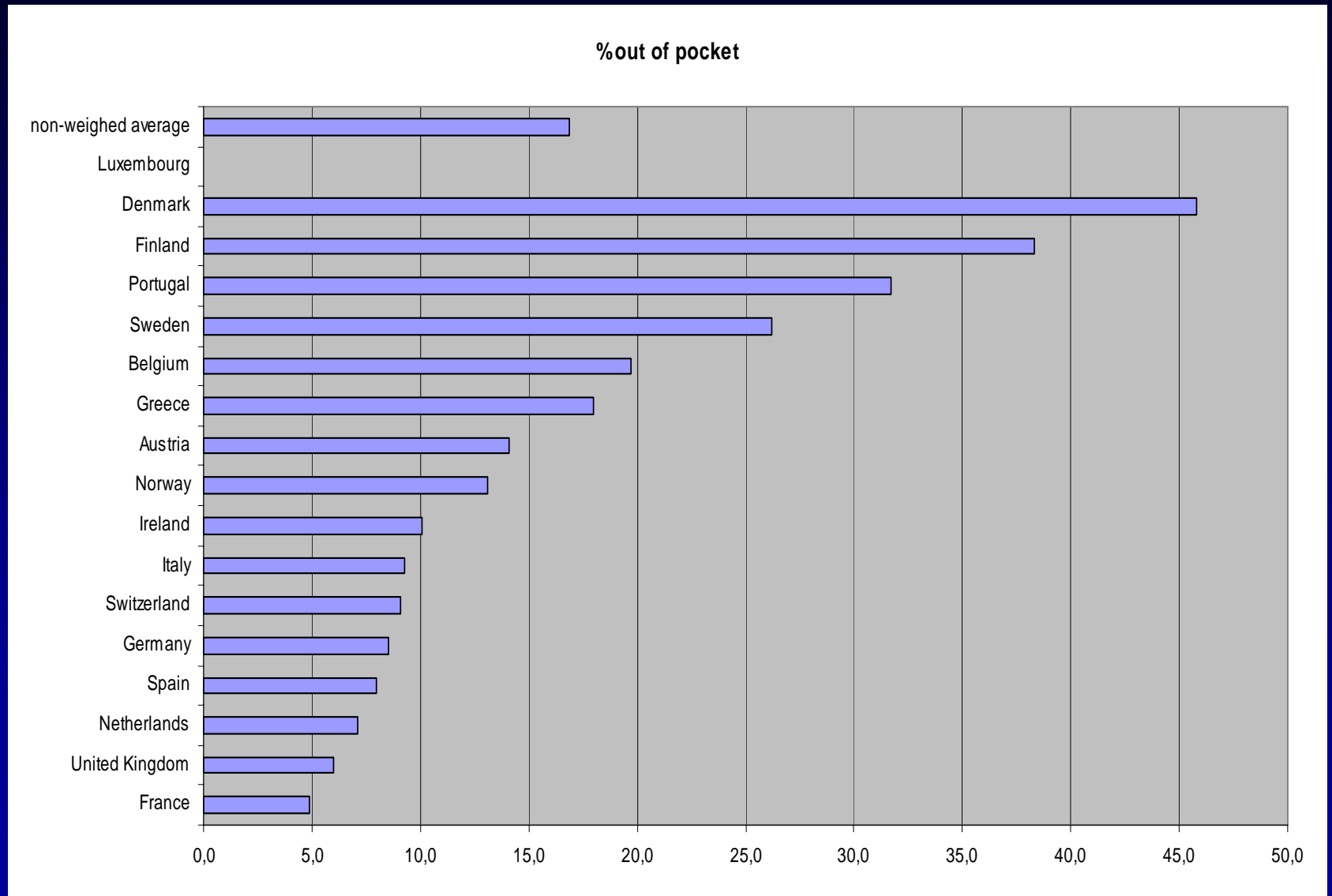
(Source: OECD, Health Data 2003)

pharma as %total health

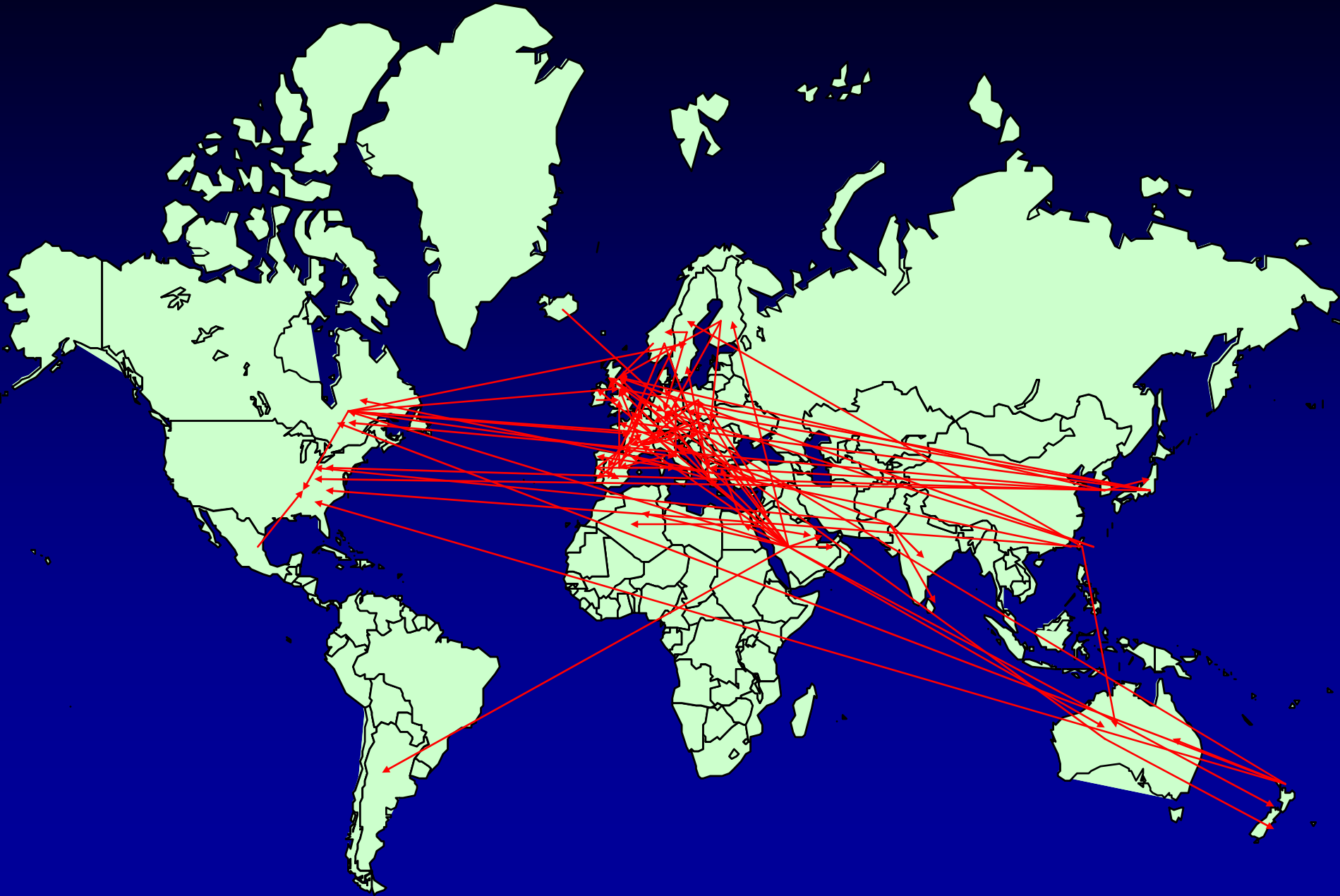


# % out of pocket paid by patients

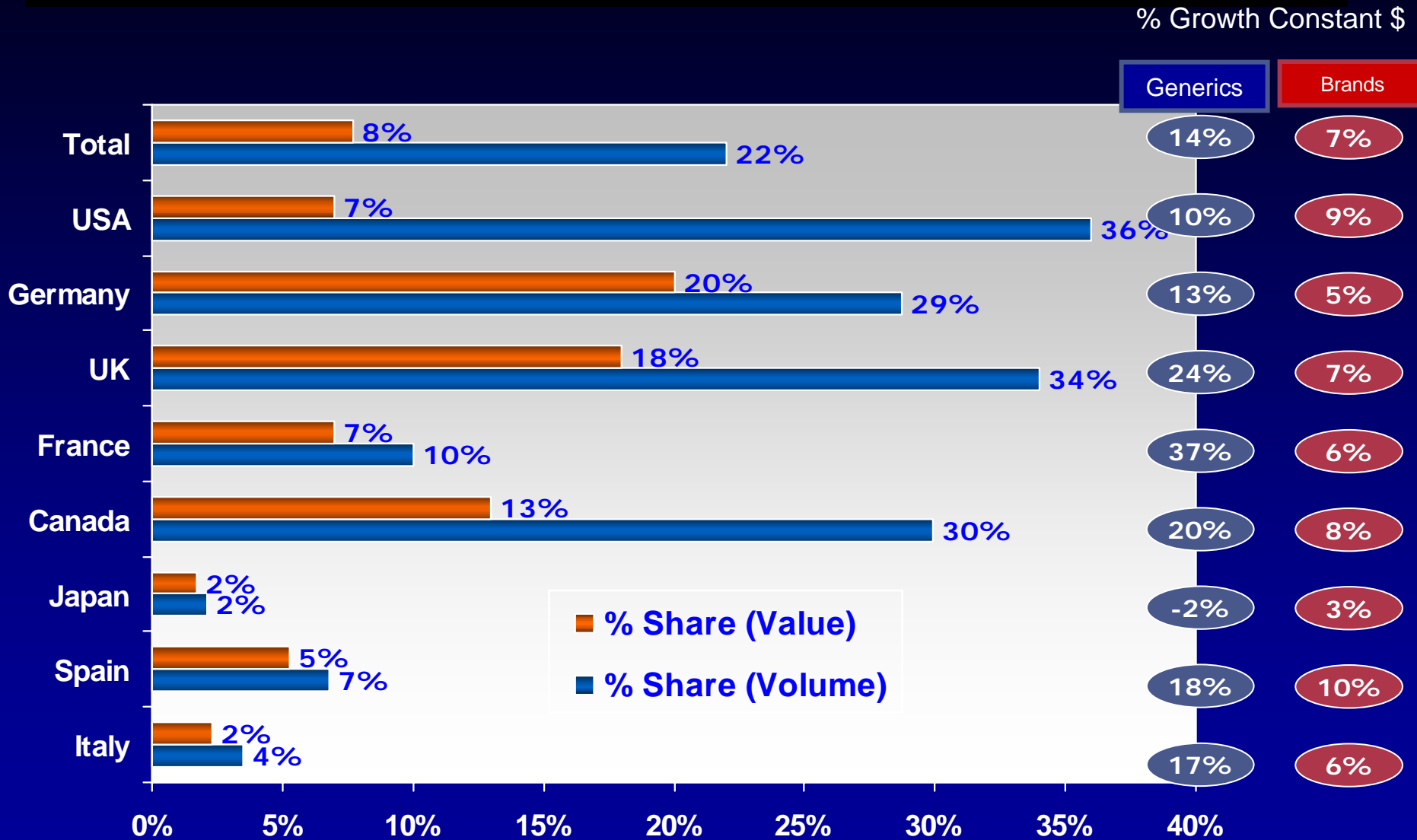
(Source: EFPIA, data on file, 2003)



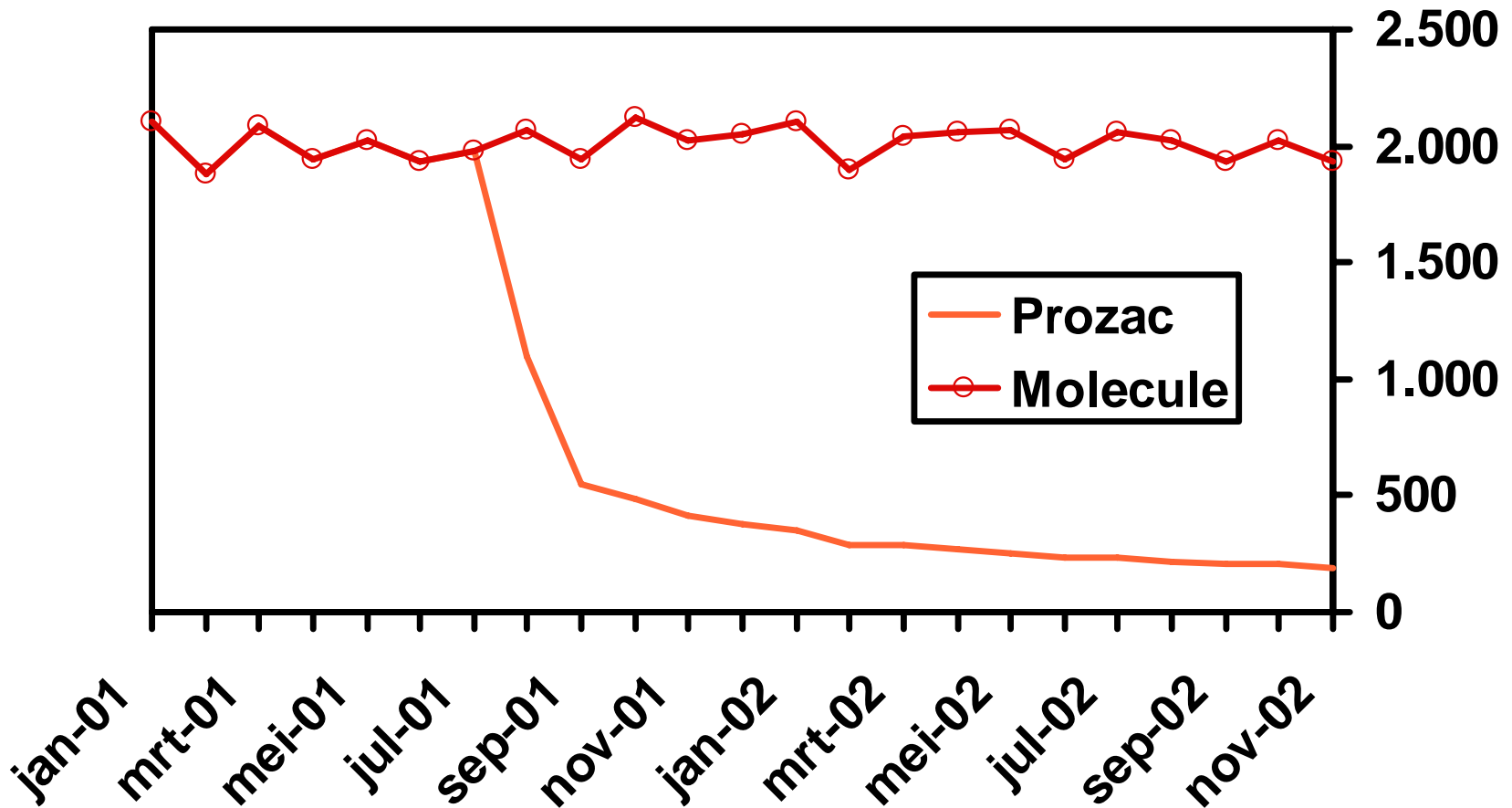
# Formal Price Referencing Today (Source: Wyeth, 2003)



# Generics outgrow Brands



# Impact of Generic Fluoxetine on Prozac



Generic Fluoxetine available 8/7/2001

## Health Care =

- Investment in society
- Investment in future generations
- Symbol of civilization

Medicines are among the most cost-effective  
Interventions in health care management

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# Innovation and medicines

- Value-assessment improving & necessary
- Innovation often step-wise
- Higher value at higher price
- Only innovation when needed

## Option for future :

“targeted, high value” therapeutic model.

- “Right drug for right patient at right time”
- Targeted patient populations
- More “customized” higher value treatment for specific patient populations
- Developing drugs using biomarkers
- Co-development with companion diagnostic or biomarker
- Alliances with diagnostic companies and pharma companies
- Medication as part of disease management programs

# Conclusions

No cost-containment without innovation

Industry, academia, government and insurers can be attractive partners in innovation if we treat each other with competence, respect and trust.

View pharmaceuticals as a valuable component of the healthcare system and contributor to a civilized society.

We commit ourselves to continue deliver innovation that provides an answer to unmet medical needs