ΓΙΑ ΤΑ ΟΙΚΟΝΟΜΙΚΑ & ΤΙΣ ΠΟΛΙΤΙΚΕΣ ΥΓΕΙΑΣ
forum
Β΄ Περίοδος/ 12η Συνάντηση
«Διαχείριση, έλεγχος και αξιολόγηση της φαρμακευτικής καινοτομίας»
Σπέτσες, Ξενοδοχείο Spetses
2-4 Οκτωβρίου 2015

Πολιτική και κοινωνικοοικονομική προσέγγιση της καινοτομίας στη φαρμακευτική περίθαλψη

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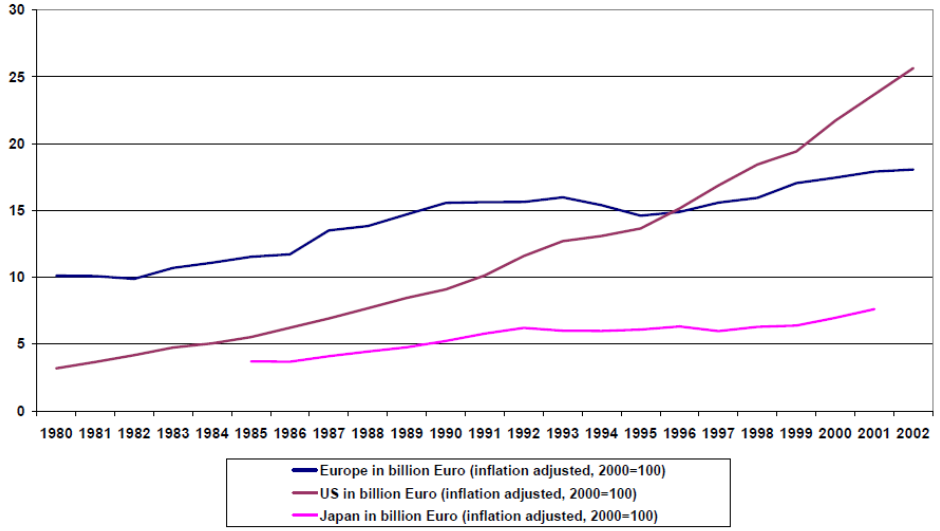
Innovation can be defined as “technological progress that leads to the creation of an entirely new product or a reduction in the cost of producing or an increase in the therapeutic value of an existing product”.

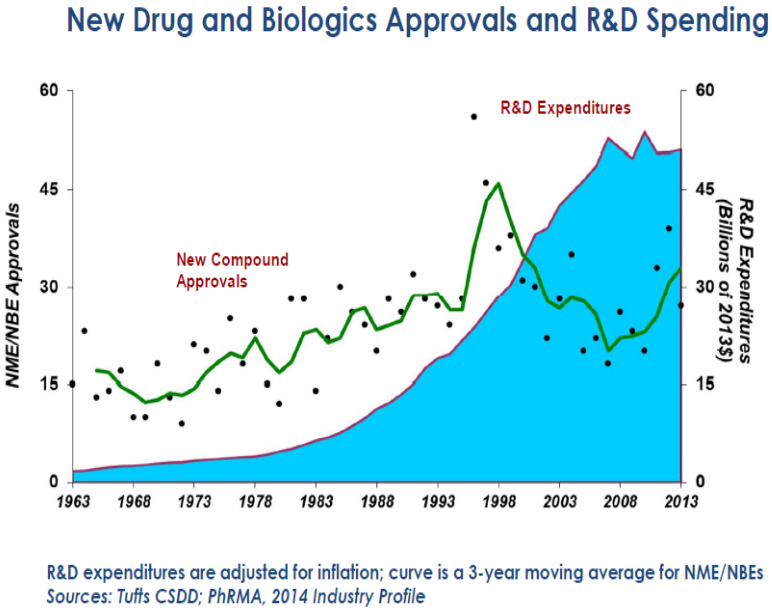
European Commission (2004). Innovation in the pharmaceutical sector. Available at http://ec.europa.eu/health/files/pharmacos/docs/doc2004/nov/eu_pharma_innovation_25-11-04_en.pdf

R&D investment increasing, while P&R approvals becoming increasingly challenging

Sustainable business model?

Pharmaceutical R&D expenditure 1980 to 2003 in billion Euro (adjusted for inflation 2000=100)

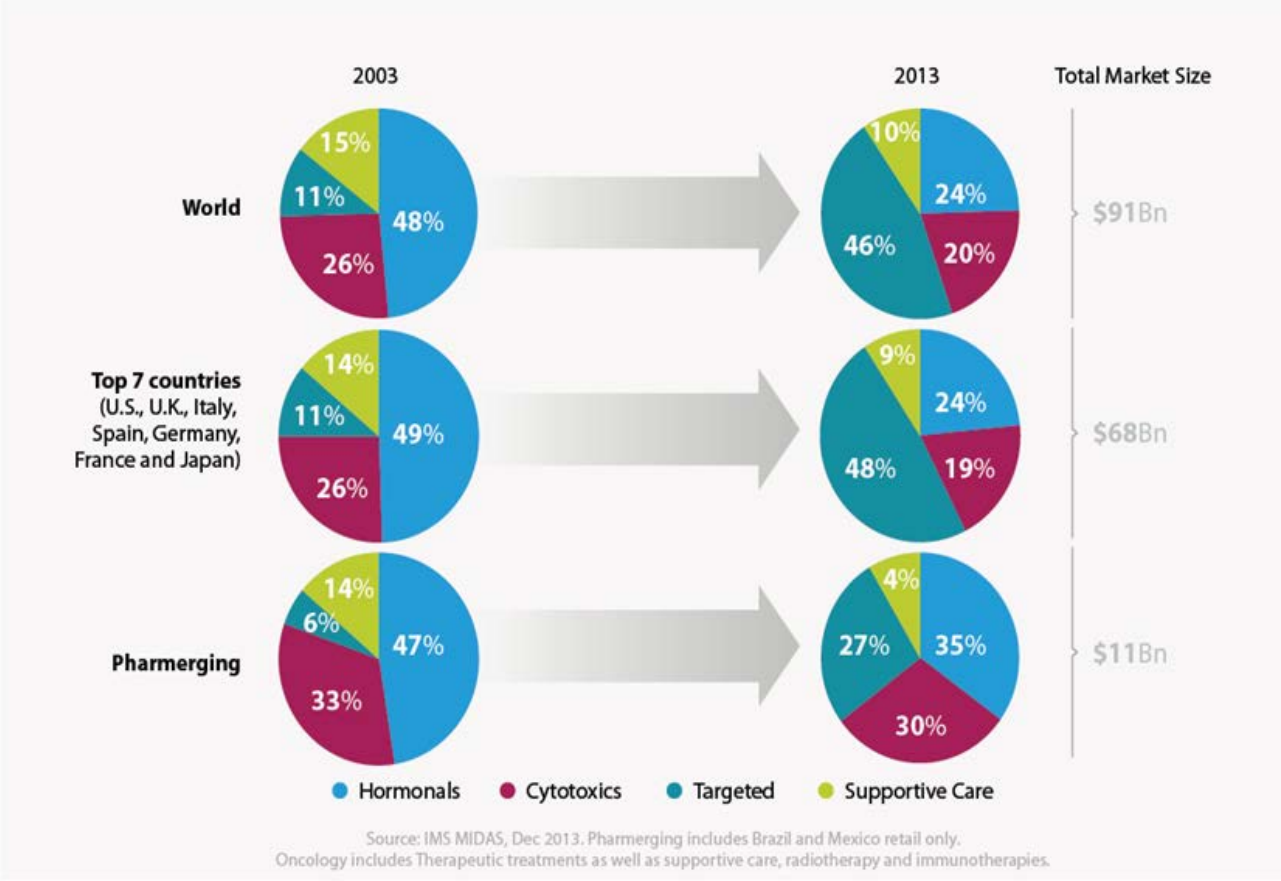




European Commission (2004). Innovation in the pharmaceutical sector. Available at http://ec.europa.eu/health/files/pharmacos/docs/doc2004/nov/eu_pharma_innovation_25-11-04_en.pdf

Targeted therapies have significantly increased their share over the past 10 years

Transformation of oncology treatment modalities, 2003-2013



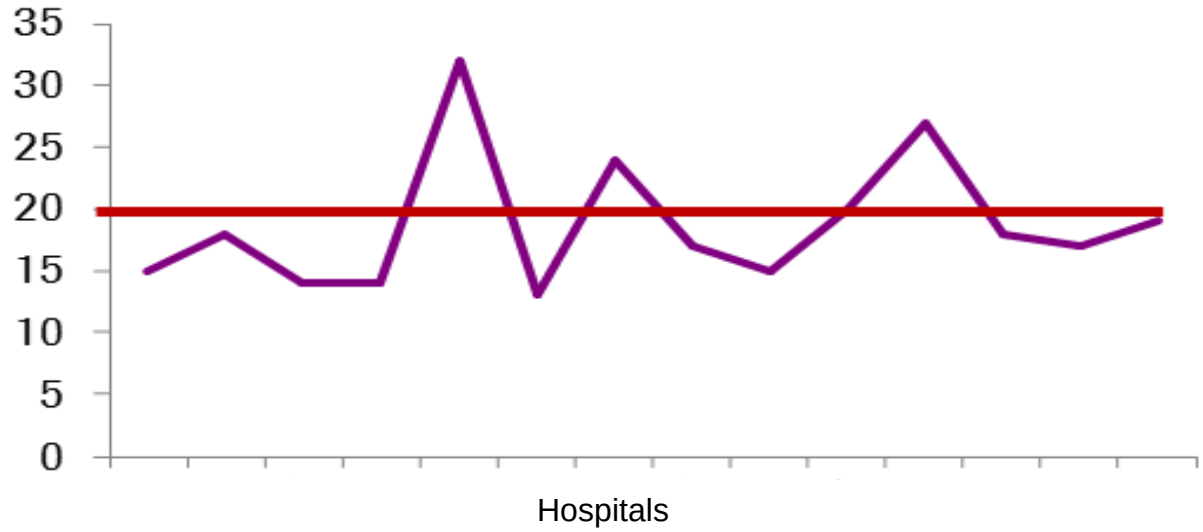
73% of **cancer medicines** in the pipeline have the potential to be **personalized medicines**

IMS (2014). Innovation in cancer care and implications for health systems: Global oncology trend report. Available at http://http://www.imshealth.com

Phrma (2015). Cancer Medicines: Value in Context. Available at http://www.phrma.org/sites/default/files/pdf/cancer_chart_pack.pdf

The validity of the tests being utilized is questionable

HER2 positivity rate in Greece

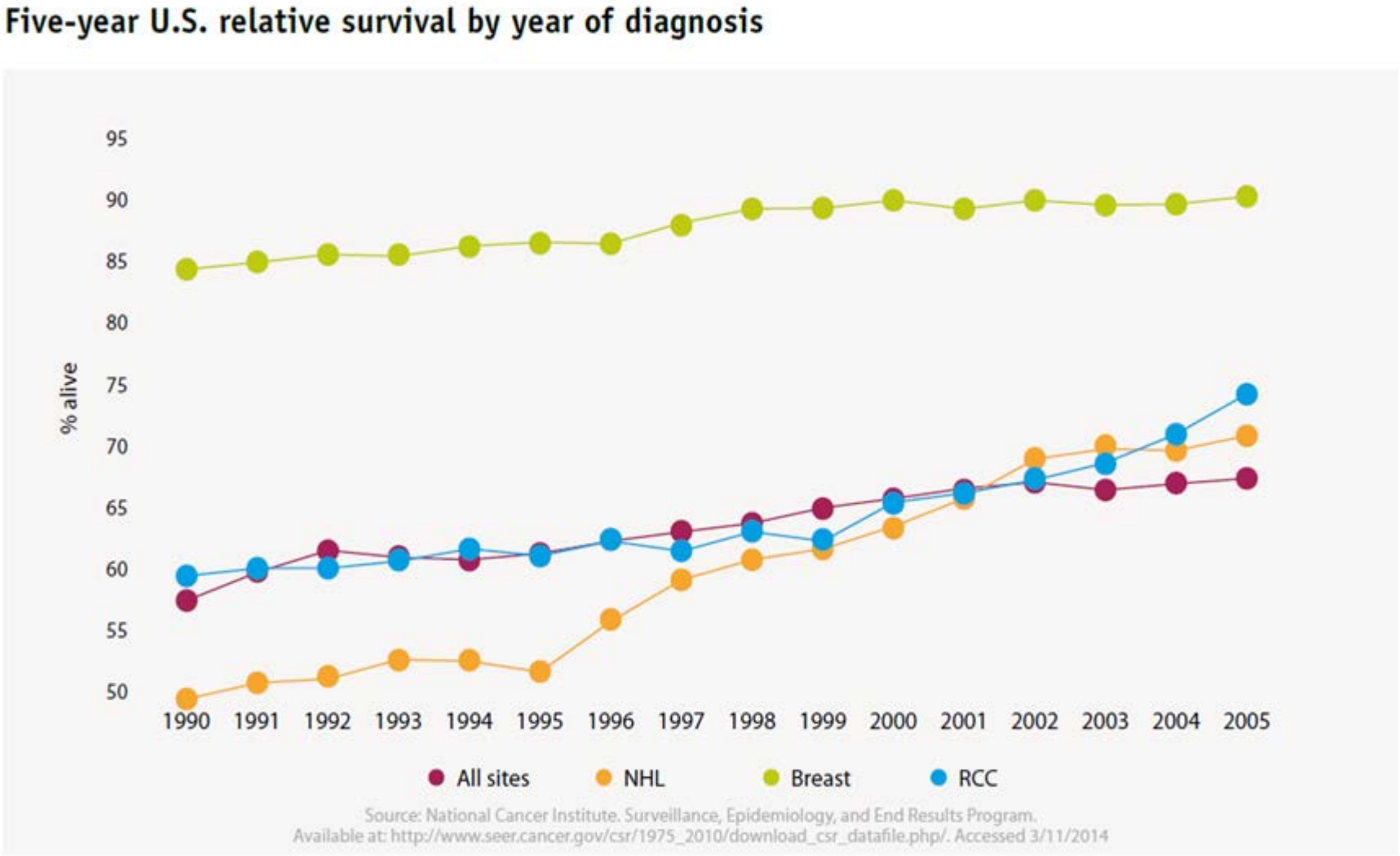


False negative

False Positive

Πηγή: Μητρώο ασθενών παθολογοανατόμων

Cancer survival is increasing steadily as detection and treatment improve



IMS (2014). Innovation in cancer care and implications for health systems: Global oncology trend report. Available at http://http://www.imshealth.com

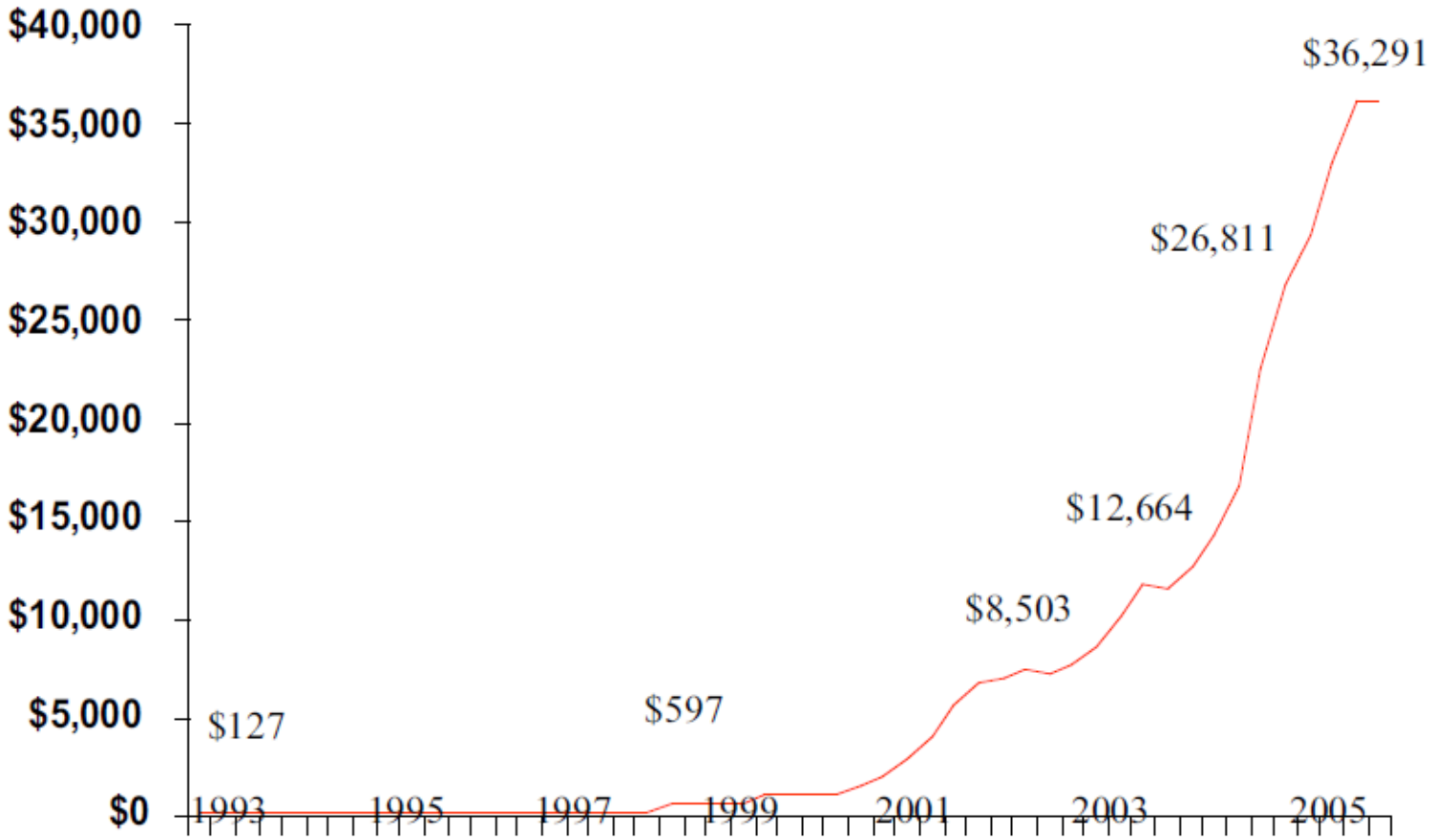
Medical innovation reducing cancer mortality

- Imaging innovation and drug innovation jointly explain about 70% of the decline in cancer mortality
  - **27%** of the mortality decline is attributable to **drug innovation**
  - **40%** of the decline is attributable to (lagged) **imaging innovation**

Lichtenburg, F. (2010). Has medical innovation reduced cancer mortality? National Bureau of Economic Research.

The evolution of the cost of therapy: Colorectal cancer

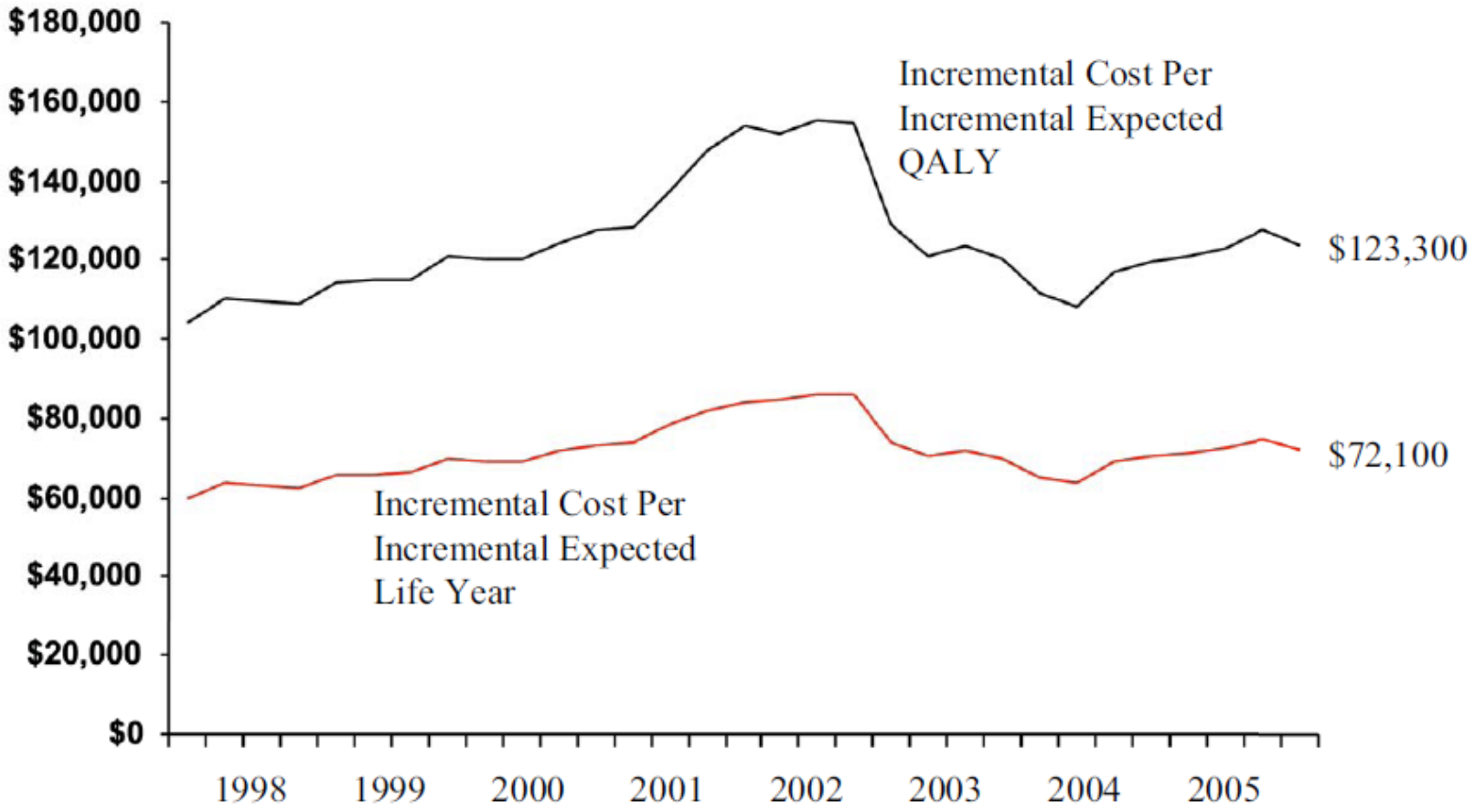
Cost of treatment adjusted based on market share and price index



Lucarelli C., and Nicholson N., (2009). A Quality-Adjusted Price Index for Colorectal Cancer Drugs National Bureau of Economic Research.

Cost-effectiveness index

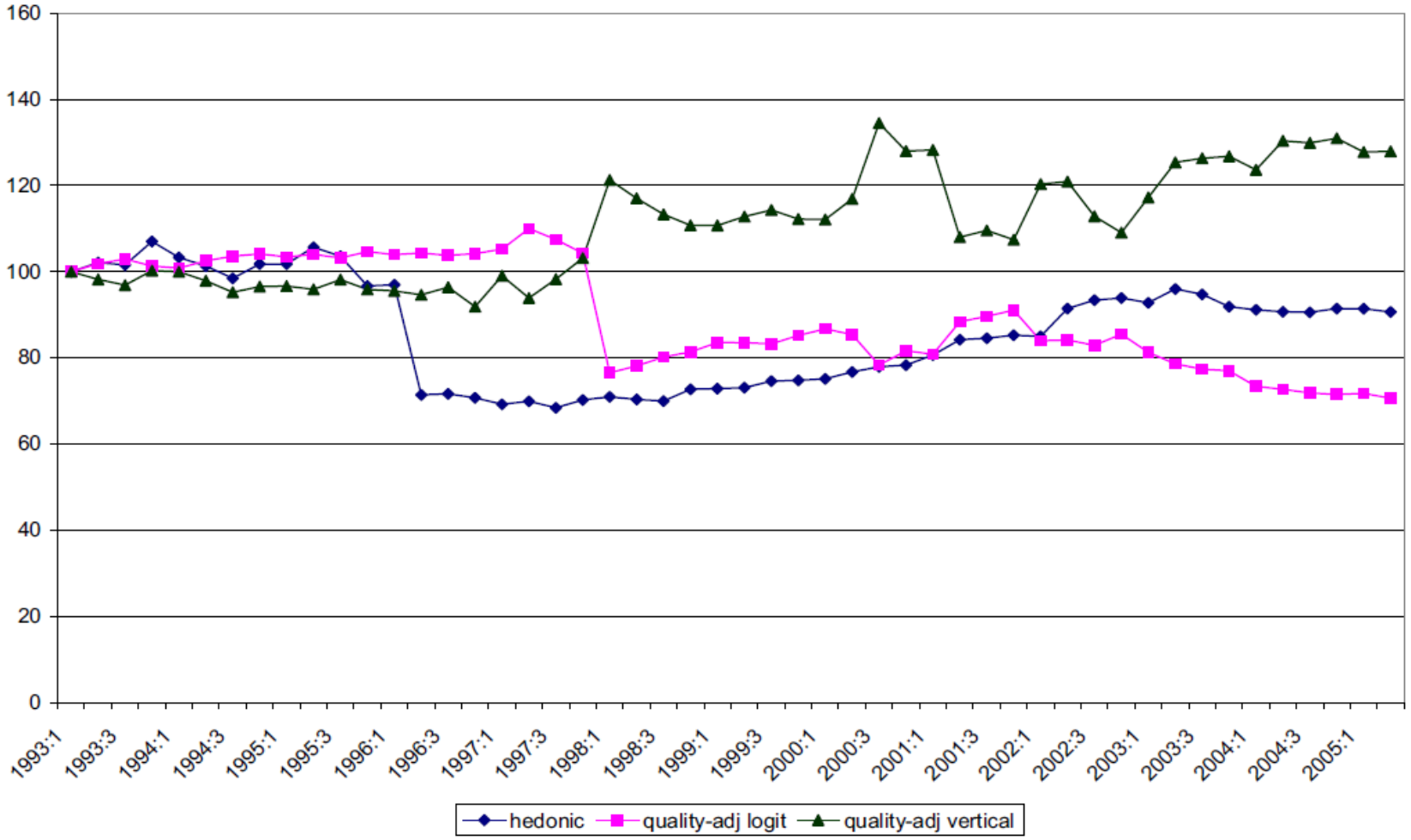
Incremental cost-effectiveness per QALY and per LYG for first line therapy



Lucarelli C., and Nicholson N., (2009). A Quality-Adjusted Price Index for Colorectal Cancer Drugs National Bureau of Economic Research.

Quality adjusted price indices of oncology therapies: colorectal cancer

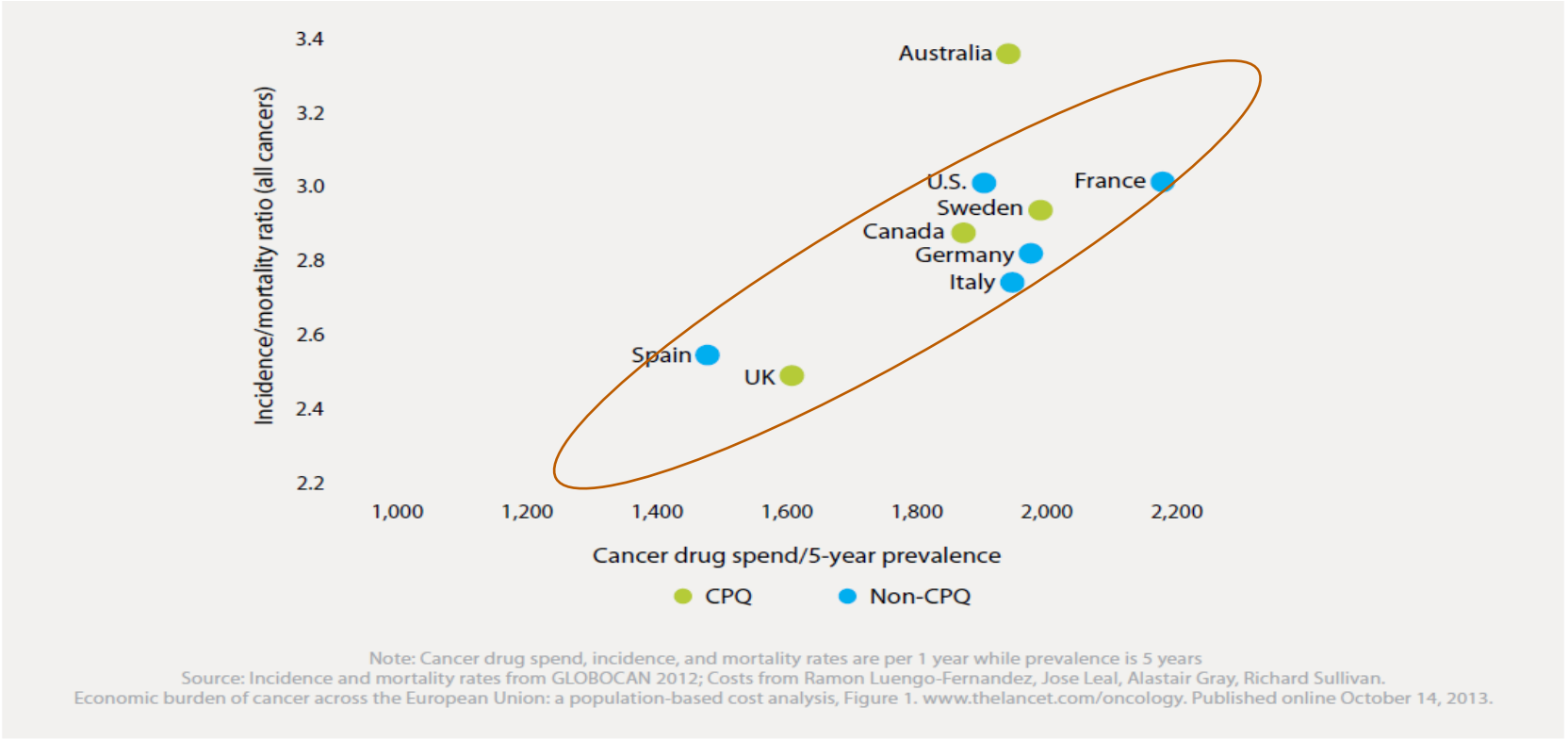
Hedonic and quality adjusted price indices



Lucarelli C., and Nicholson N., (2009). A Quality-Adjusted Price Index for Colorectal Cancer Drugs National Bureau of Economic Research.

It's worth investing…
Decrease in mortality as cancer drug spend remains

Cancer drug spend vs. clinical outcome measured as ratio of incidence to mortality



Note: Cancer drug spend, incidence, and mortality rates are per 1 year while prevalence is 5 years
Source: Incidence and mortality rates from GLOBOCAN 2012; Costs from Ramon Luengo-Fernandez, Jose Leal, Alastair Gray, Richard Sullivan. Economic burden of cancer across the European Union: a population-based cost analysis, Figure 1. www.thelancet.com/oncology. Published online October 14, 2013.

- These differences may also arise from a combination of factors, including stage at diagnosis, time to referral to a specialist, and effectiveness of surgical and other interventions

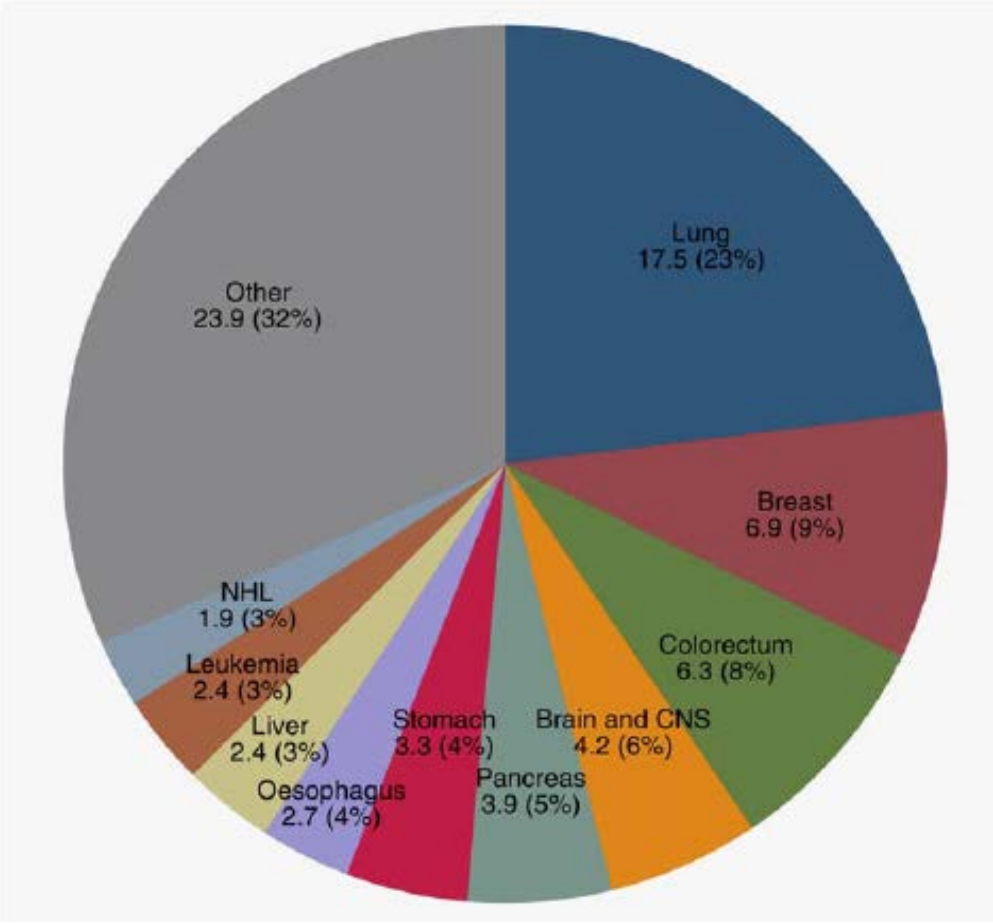
IMS (2014). Impact of cost-per-QALY reimbursement criteria on access to cancer drugs. Available at http://http://www.imshealth.com

Cost per QALY countries tend to have worse outcomes

Incidence/mortality ratios as an indicator of survival outcomes

IMS (2014). Impact of cost-per-QALY reimbursement criteria on access to cancer drugs. Available at http://http://www.imshealth.com

Societal and financial burden of cancer across Europe is significant



Premature mortality cost (in € billion (%)) in Europe according to site

- €75 billion lost in Europe in 2008 , equating to an average cost per premature cancer-related death of €219,241
- In absolute terms this represents a significant loss to European Economies, 0.58% of total GDP across Europe

Hanly P, Soerjomataram I., and Sharp L. (2015)/ Measuring the societal burden of cancer: The cost of lost productivity due to premature cancer-related mortality in Europe. Int. J. Cancer: 136, E136–E145

Decreasing pharmaceutical prices is not the answer

Increases in pharmaceutical expenditure mainly attributed to prescribing choices and increases in volume of consumption

Percentage change in real pharmaceutical expenditure and its components in selected countries.

Country	Sweden	Sweden	Italy	Taiwan	China	Greece	Sudan
Type of expenditure in the analysis	Outpatient	Inpatient and outpatient		prescription drugs	Inpatient*	inpatient and outpatient	inpatient and outpatient†
Period of study	1990-1995	1990-2000	2000-2001	1997-2001	2003-2007	2000-2004	2006–2010
Authors	Gerdham et al. 1998[15]	Gerdham and Lundin 2004[17]	Addis and Magrini 2002[16]	Hsieh and Sloan 2008[18]	Wu et al. 2013[19]	Lambrelli and O'Donnell[20]	Mousnad et al. 2013[21]
Real pharmaceutical expenditure‡	50%	119%	13.5%	56%	9%	39.5%	66.3%
Price component‡	-9%	-7%	-1%	-18%	-33%	-10%	6.7%
Quantity component ‡ (DDDs)§	27%	41%	9.5%	20%	10%	31%	91.0%
Prescribing choices component‡	30%	67%	4.8%	59%	48%	18%	-18.4%

*| anti-infective drugs, † medicine expenditure of the National Health Insurance Fund, ‡% change, §DDDs: Defined Daily Doses.

*Karampli et al, 2014

Impact of Price Regulation on Pharmaceutical Innovation

Decreases will lead to lower cumulative innovative output

- **When implementing cost-based price controls, annual innovative productivity in the model fell by between 67% and 73%** relative to baseline (the model without price controls); **cumulative innovative output fell by between 30% and 37%.**

- Simulation experiments were also run assuming **less extreme forms of pharmaceutical price regulation**. These experiments produced smaller reductions in innovative output: **annual and cumulative innovative productivity fell by between 21% and 49% and 6% and 24%,** respectively.

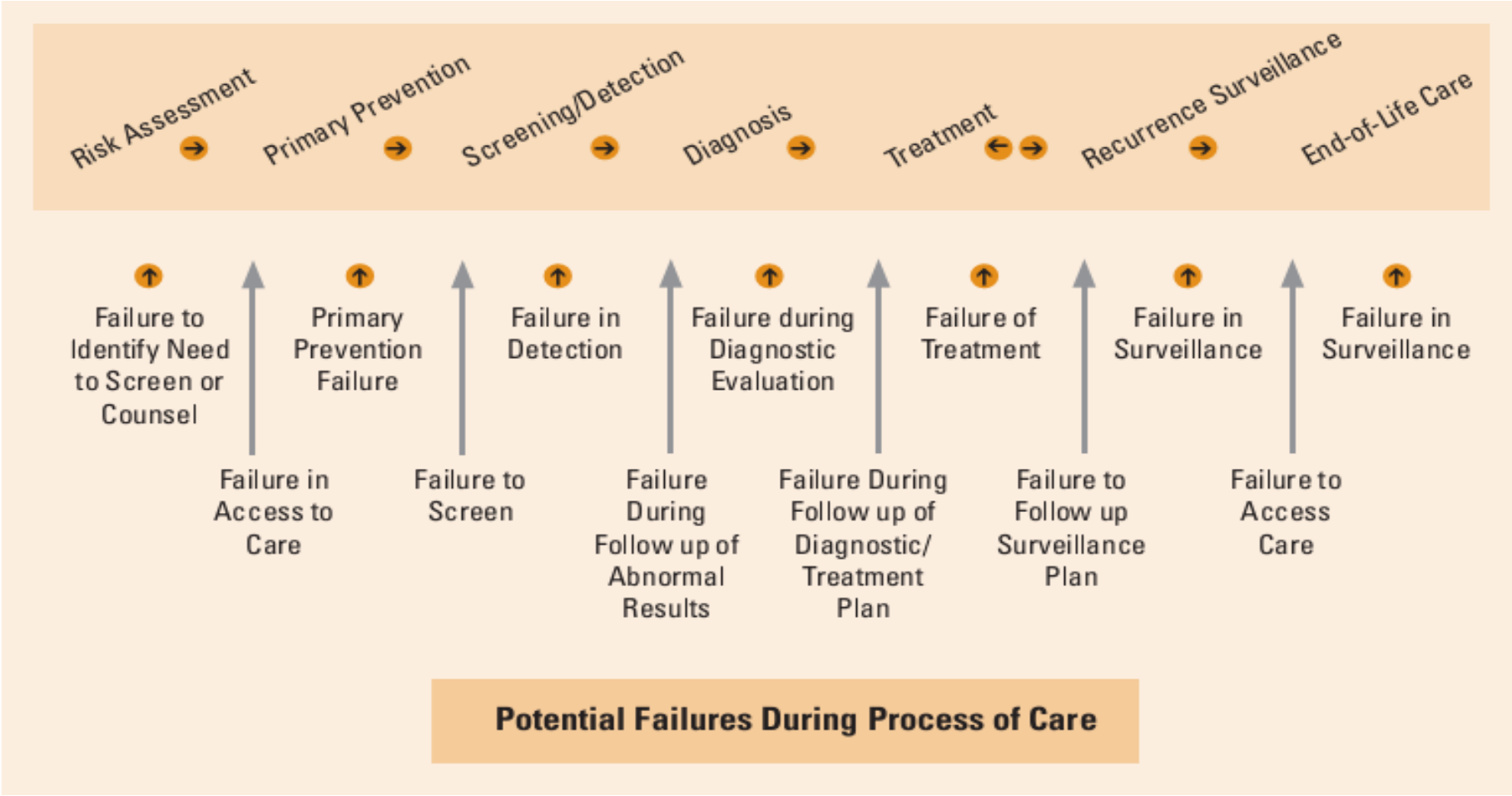
- *"...cutting prices by 40% to 50% in the United States will lead to between 30% and 60% fewer R&D projects being undertaken in the early stage of developing a new drug. Relatively modest price changes, such as 5% or 10%, are estimated to have relatively minor impact on the incentives for product development - perhaps a negative 5%."*

Vernon, JA, (2003). Simulating the Impact of Price Regulation on Pharmaceutical Innovation, Pharmaceutical development and Regulation,1 (1): 55-65

Francis DR (2015). The Effect of Price Controls on Pharmaceutical Research. National Bureau of Economic Research.

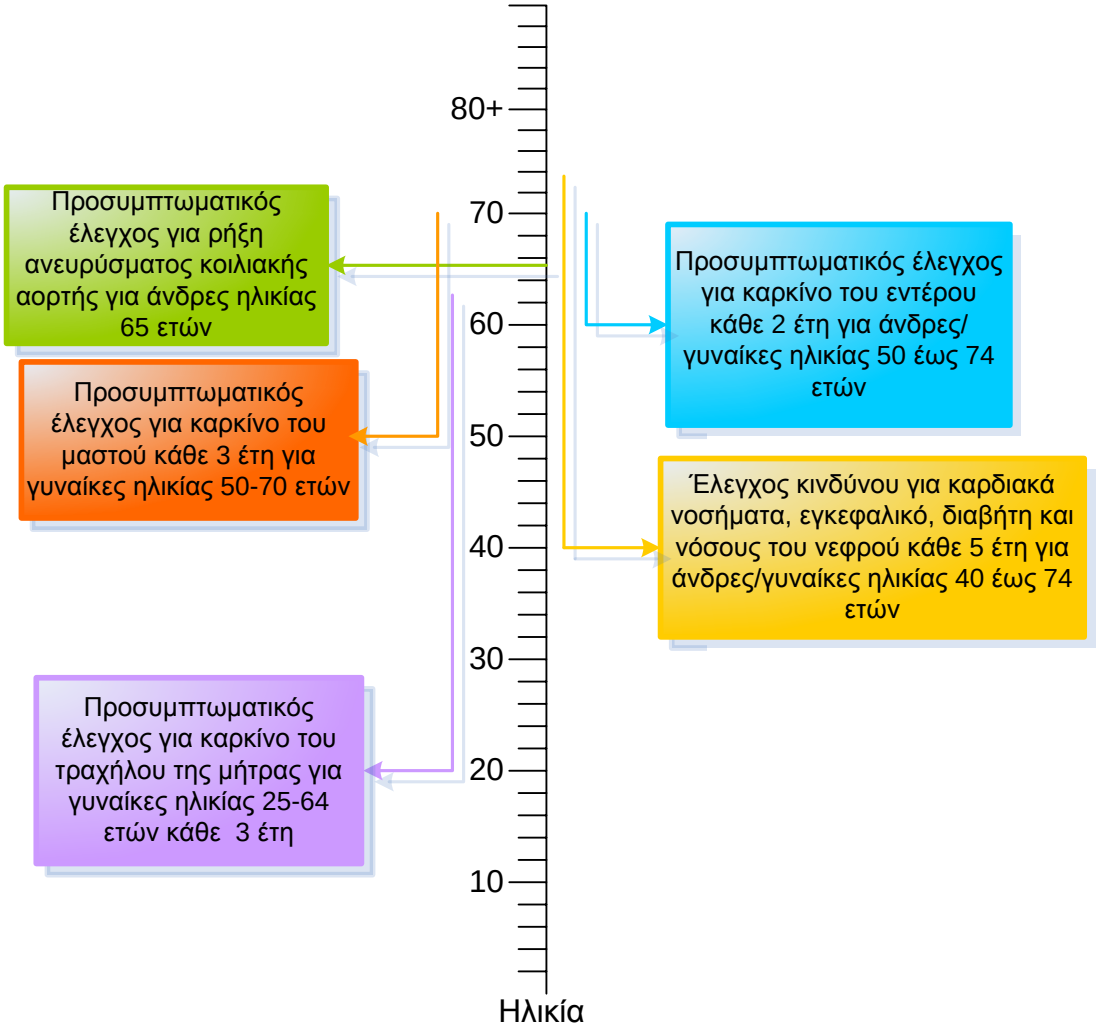
Patient journey and system failures

Improvements in risk-assessment, screening/detecting will positively impact healthcare



Zapka, J. G., Taplin, S. H., Solberg, L. I., Manos, M. M. (2003). Framework for Improving the Quality of Cancer Care: the Case of Breast and Cervical Cancer Screening." Cancer Epide-miol Biomarkers Prev12 (1): 4-13.

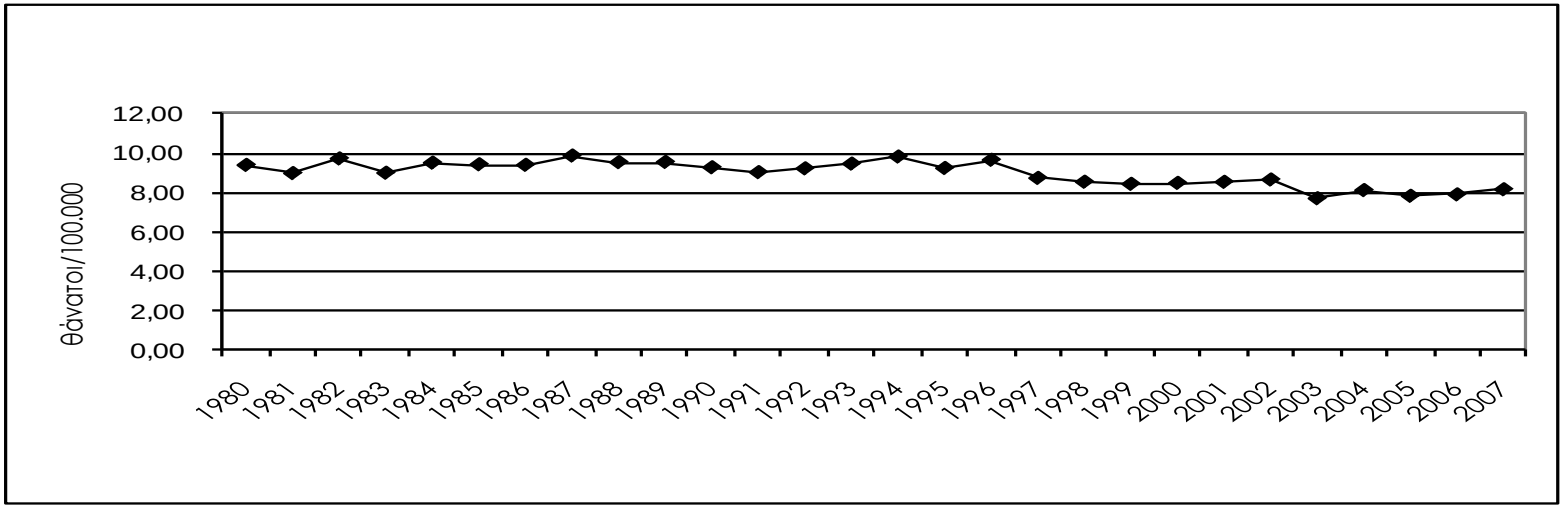
Adoption of screening programs can lead to fewer costly oncology treatments



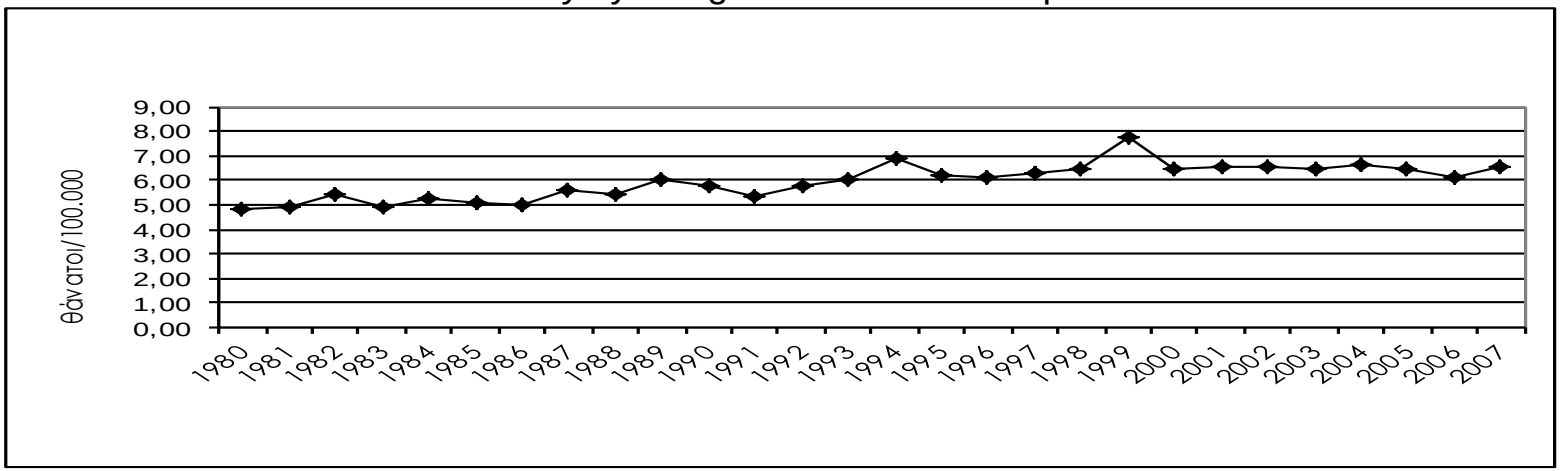
Skroumpelos et al (2013).Recommending organized screening programs for adults in Greece: A Delphi consensus study. Health Policy 109:38– 45

Low rates of screening in Greece have lead to small improvements in rates of mortality

Standardized avoidable mortality by malignant breast neoplasms



Standardized avoidable mortality by malignant colorectal neoplasms

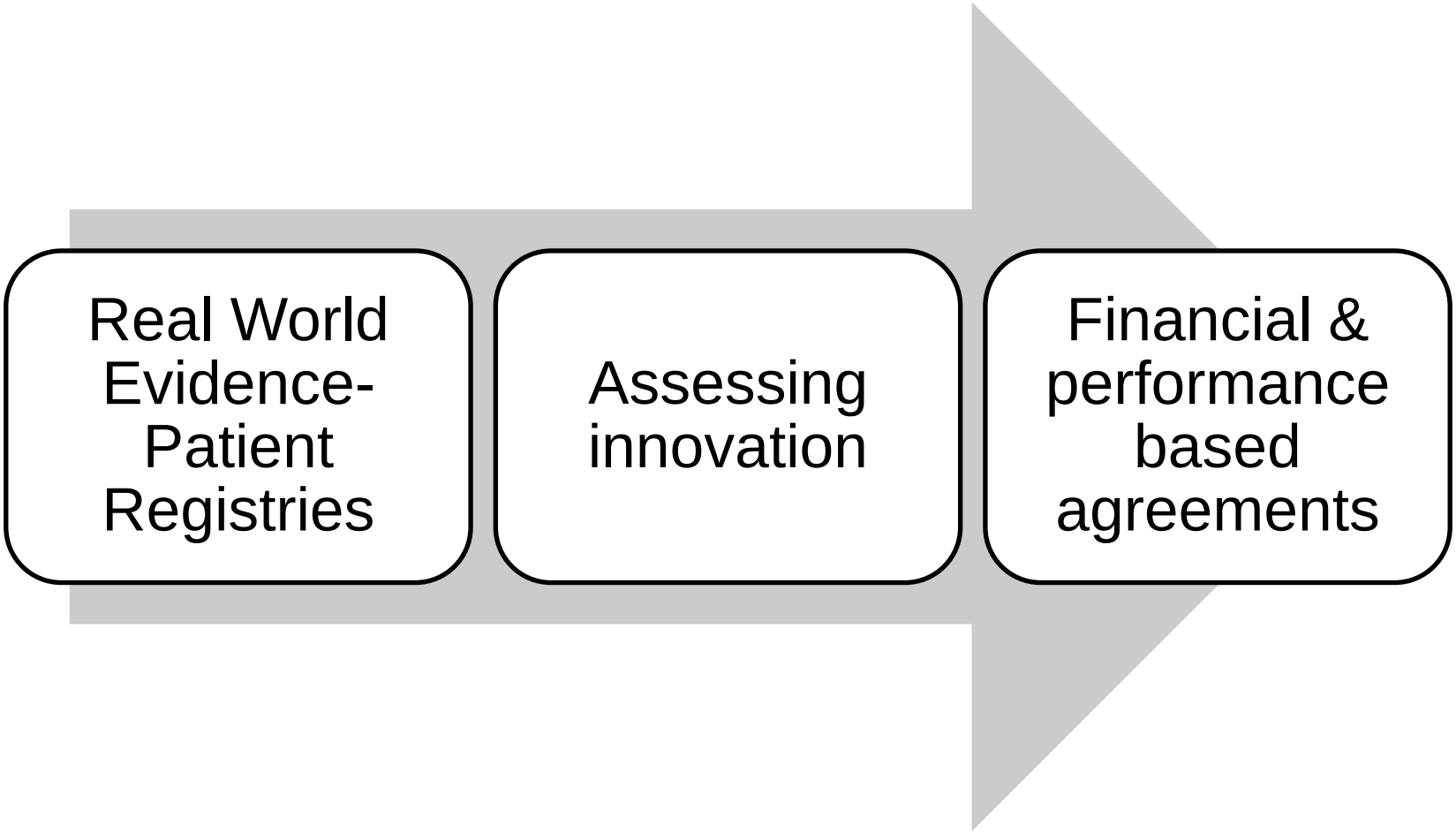


Πηγή: ΕΣΔΥ, 2010

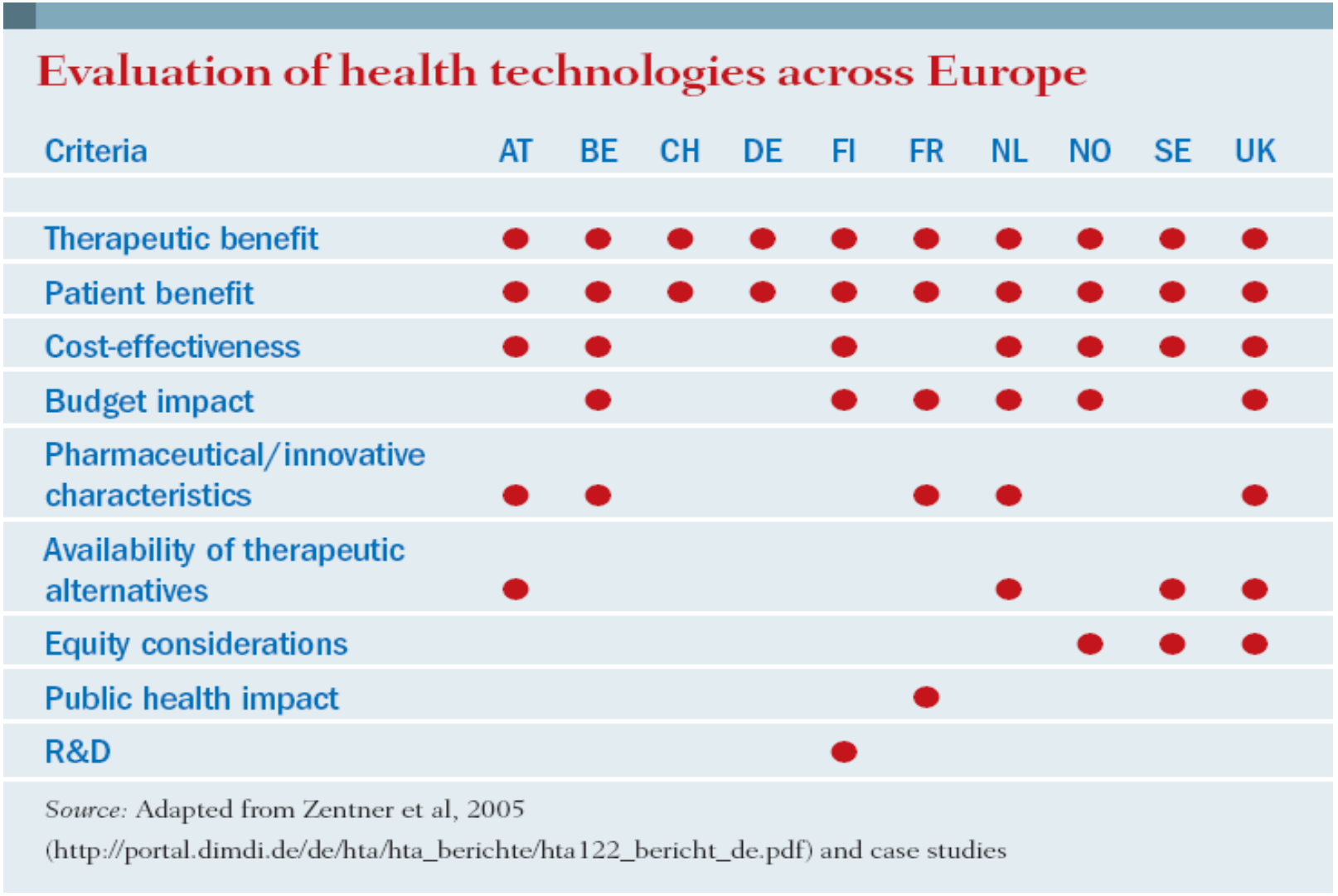
Moving in the right direction - Make room for innovation

- Remove horizontal measures!
- Efficient use of generics - improve off-patent competition
- Change prescription habits-therapeutic protocols

Managing Innovation



Recognition and assessment of innovation



Evaluation of health technologies across Europe

Criteria	AT	BE	CH	DE	FI	FR	NL	NO	SE	UK
Therapeutic benefit	●	●	●	●	●	●	●	●	●	●
Patient benefit	●	●	●	●	●	●	●	●	●	●
Cost-effectiveness	●	●			●		●	●	●	●
Budget impact		●			●	●	●	●		●
Pharmaceutical/innovative characteristics	●	●				●	●			●
Availability of therapeutic alternatives	●						●		●	●
Equity considerations								●	●	●
Public health impact						●				
R&D					●					

Source: Adapted from Zentner et al, 2005 (http://portal.dimdi.de/de/hta/hta_berichte/hta122_bericht_de.pdf) and case studies

Financial and Performance based agreements

Value Based Pricing

Outcomes Based Pricing

Pay for Performance

Risk-Sharing

Multi-Indication Pricing

Ευχαριστώ θερμά για την προσοχή σας!