Performance measurement in pharmaceutical policy: Towards value-driven pharmaceutical policy

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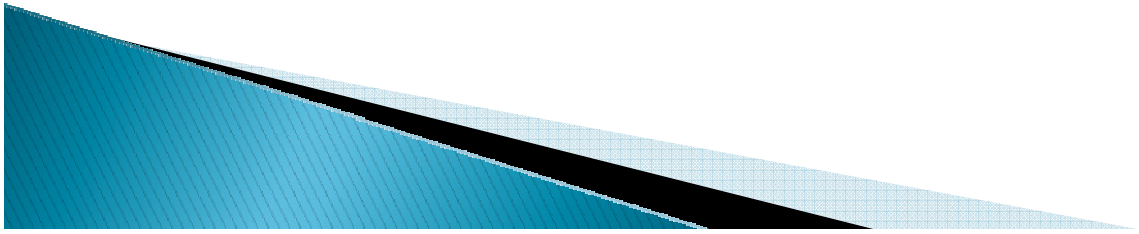


Outline

Focus: two areas of pharmaceutical policy

1) Generic pharmaceutical policy
   - Indicators for evaluating effectiveness of generic policies

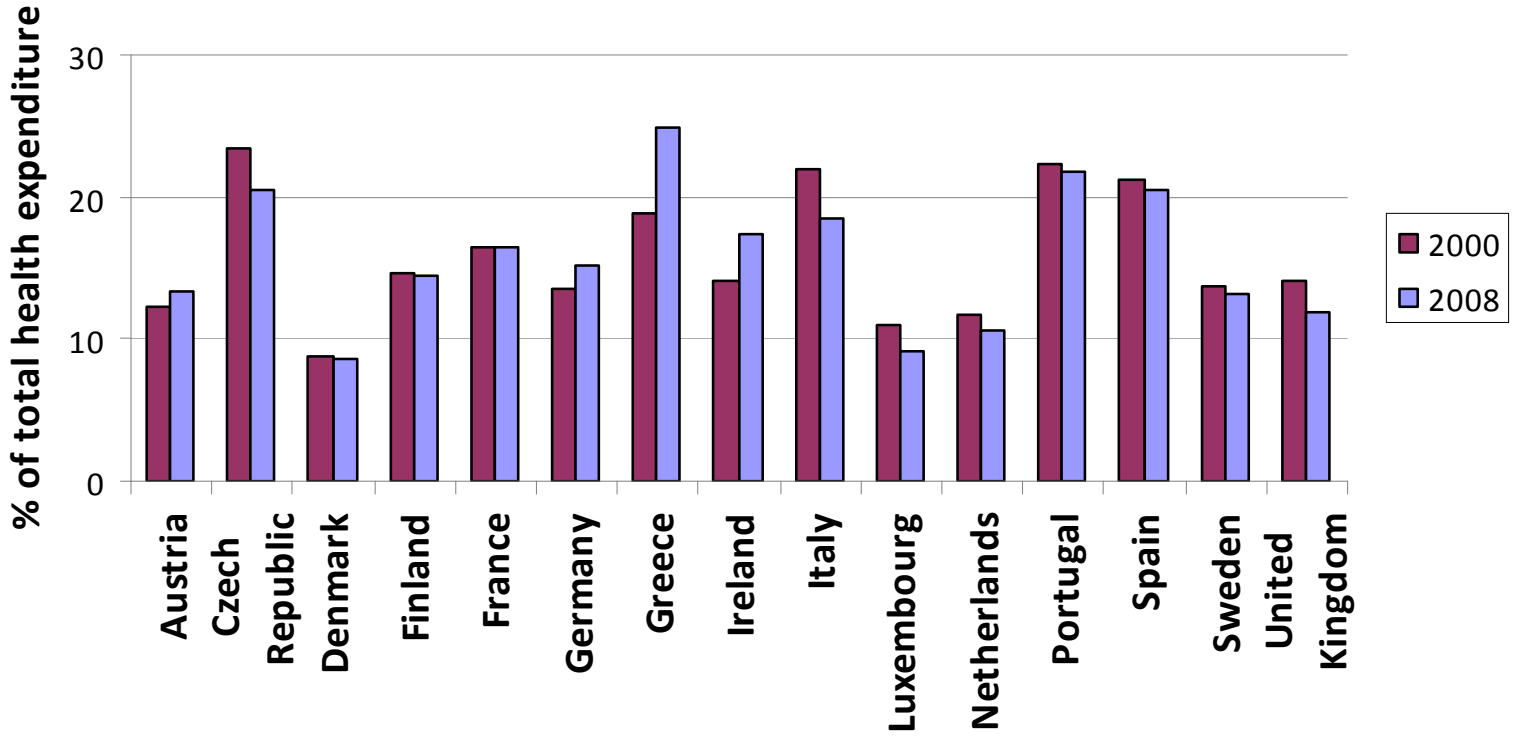
   a) Generic price differentials across countries
   b) Generic availability
   c) Time delay to generic entry
   d) Number of generic competitors
   e) Generic price evolution
   f) Evolution of generic market share

2) Health Technology Assessments (HTAs)
   - Investigating differences between HTA agencies

   a) Central Nervous System Drugs
   b) Cancer medicines
   c) Medicines for rare cancers and rare indications

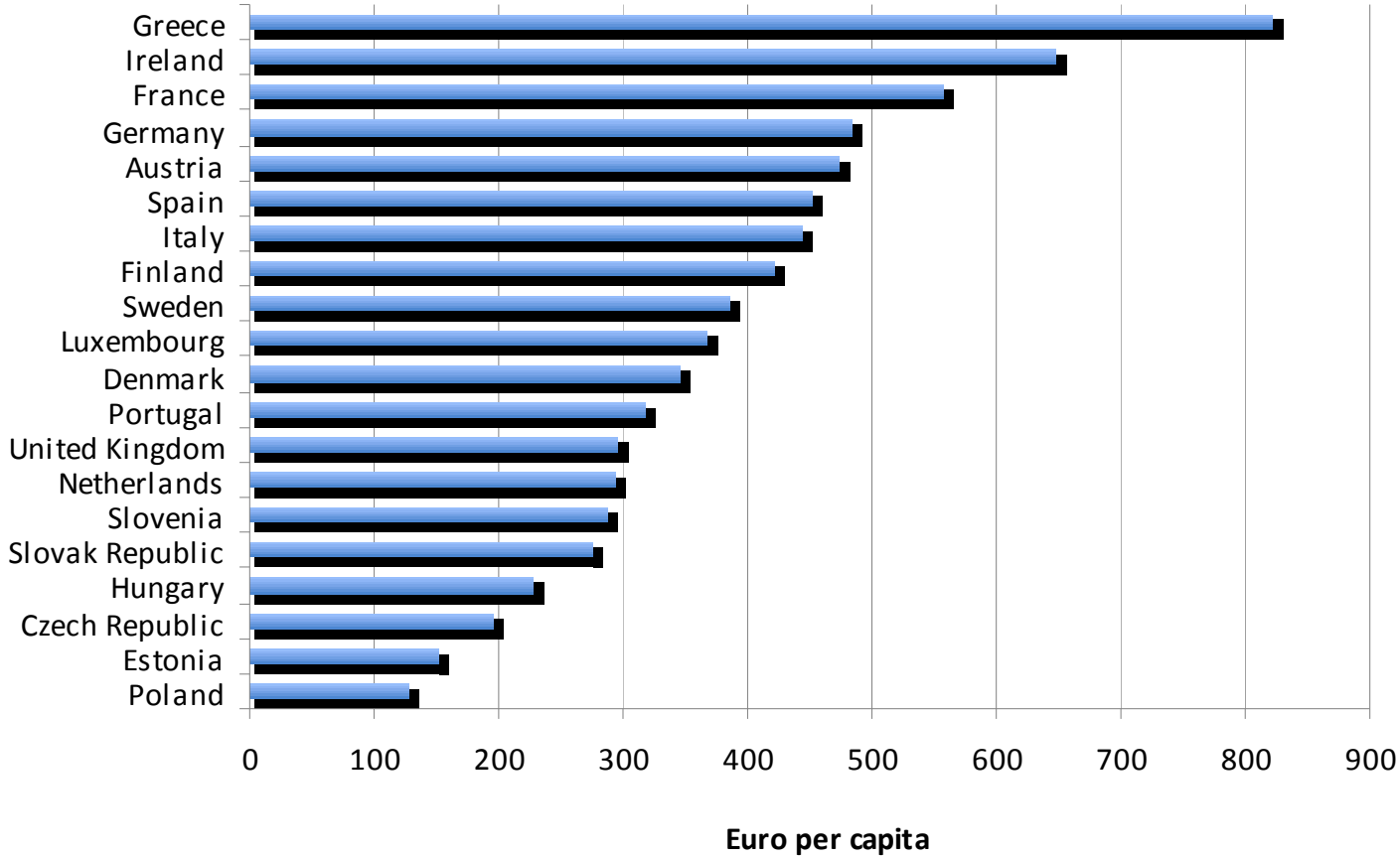
Background (1)

- Pharmaceutical expenditure as a proportion of total health expenditure (2000 and 2008)



Background (2)

- Total pharmaceutical expenditure, per capita at current exchange rate (2008)



Note: 2009 data for Greece shows a total pharmaceutical expenditure of 821 euro/ capita.

Background (3)

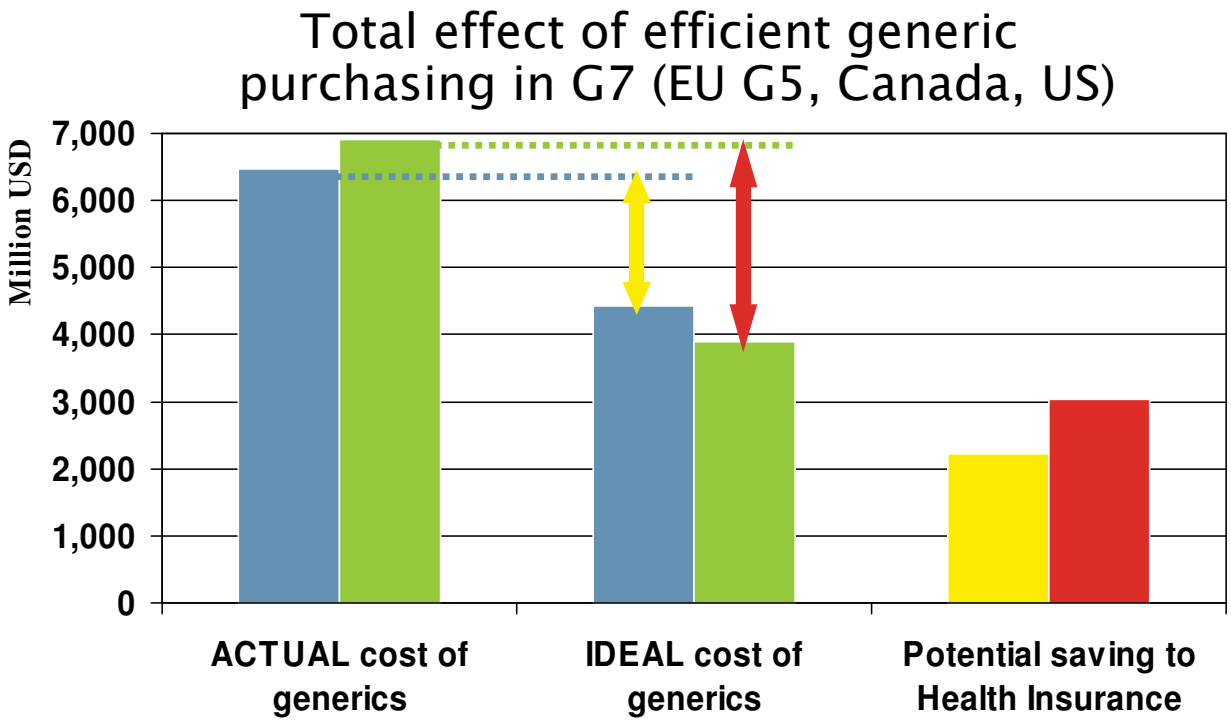
Example of generic policies

	Reference pricing scheme (RPS)	Generic substitution		Generic prescribing	
		Mandatory/ Allowed/ Not allowed	Specifications	Mandatory /Allowed / Not allowed	Specifications
Austria	No RPS	NA	Not permitted by law	NA	Doctors must prescribe using brand/ original name.
Finland	42%, 72%, 100% depending on disease and medicine (since 2008)	M	Mandatory since 2003, but can be refused by patient or doctor (with medical evidence)	A	No incentive for doctors.
Germany	RP function of ex-factory price, dosage, size, number of generic competitors (originally 1989)*	M	Mandatory since 2002 unless forbad by prescribing physician*	A	Not obliged, but incentivized
Sweden	No RPS	M	Mandatory, but doctors may object on medical grounds.	A	
United Kingdom	No RPS	A	Must issue prescription but can dispense parallel import; no legal regulation on the use of generics	A	Promoted through good practice guidelines

(*Pharma Reports* published by the Pharmaceutical Pricing and Reimbursement Information network, 2007)

Background (4)

- Savings forgone: $3 billion or 43% could be saved (on generic sales of $7 billion in 2004), provided generics are sufficiently prescribed and offered at competitive prices



(Kanavos, Costa-Font, Seeley 2008)

Background (5)

- Uptake of HTA
  - Due to rising health care costs, increasing numbers of countries have implemented Health Technology Assessments (HTAs)
  - HTA agencies use a variety of criteria to assess health technologies, and differ in their role from advisory to regulatory

Current practice

- Switzerland
- Sweden
- Finland
- The Netherlands
- England & Wales [NICE]
- Portugal
- Norway
- Baltic states (Estonia, Latvia, Lithuania)
- Poland
- Hungary

Under preparation or rising in influence

- France
- Greece
- Italy
- Spain
- Slovenia
- Czech Republic
- Slovakia

LSE

Generic pharmaceutical policy

- What is the impact of generic pharmaceutical policies?

  (forthcoming European Observatory)

What is the impact of generic pharmaceutical policies?

Countries: Austria, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Portugal, Spain, Sweden and the United Kingdom

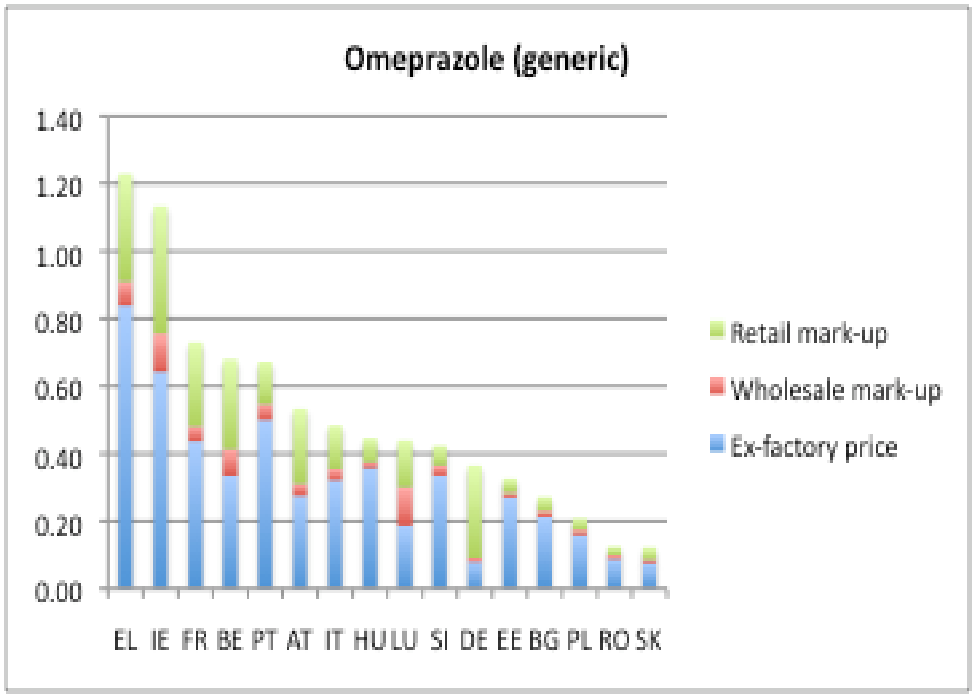
Study period: 2000-2010, using molecules and combinations which lost protection from Jan. 2000 to Dec. 2008

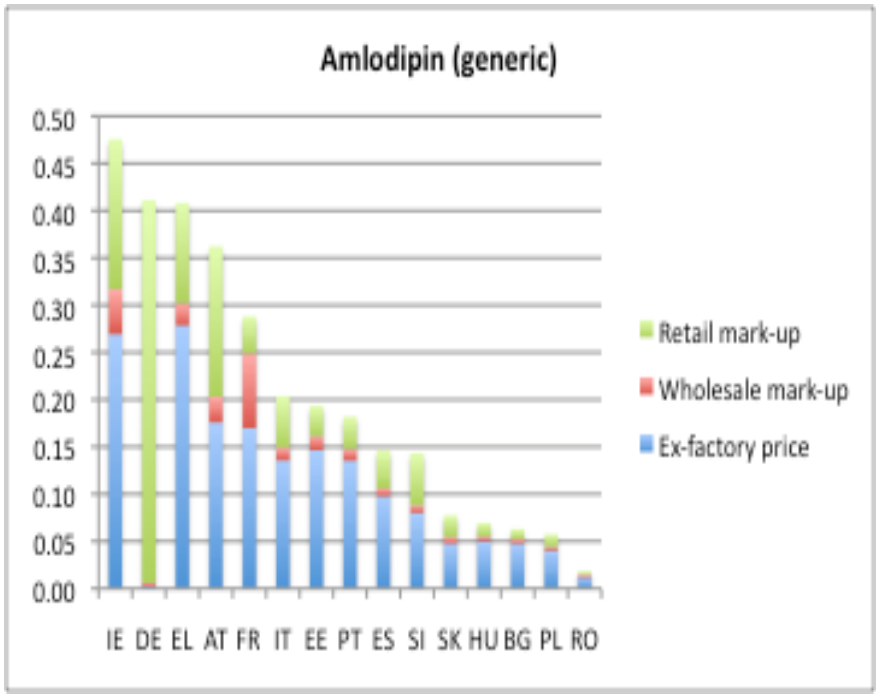
Endpoints:

a) Generic price differentials across countries
b) Generic availability
c) Time delay to generic entry
d) Number of generic competitors
e) Generic price evolution
f) Evolution of generic market share

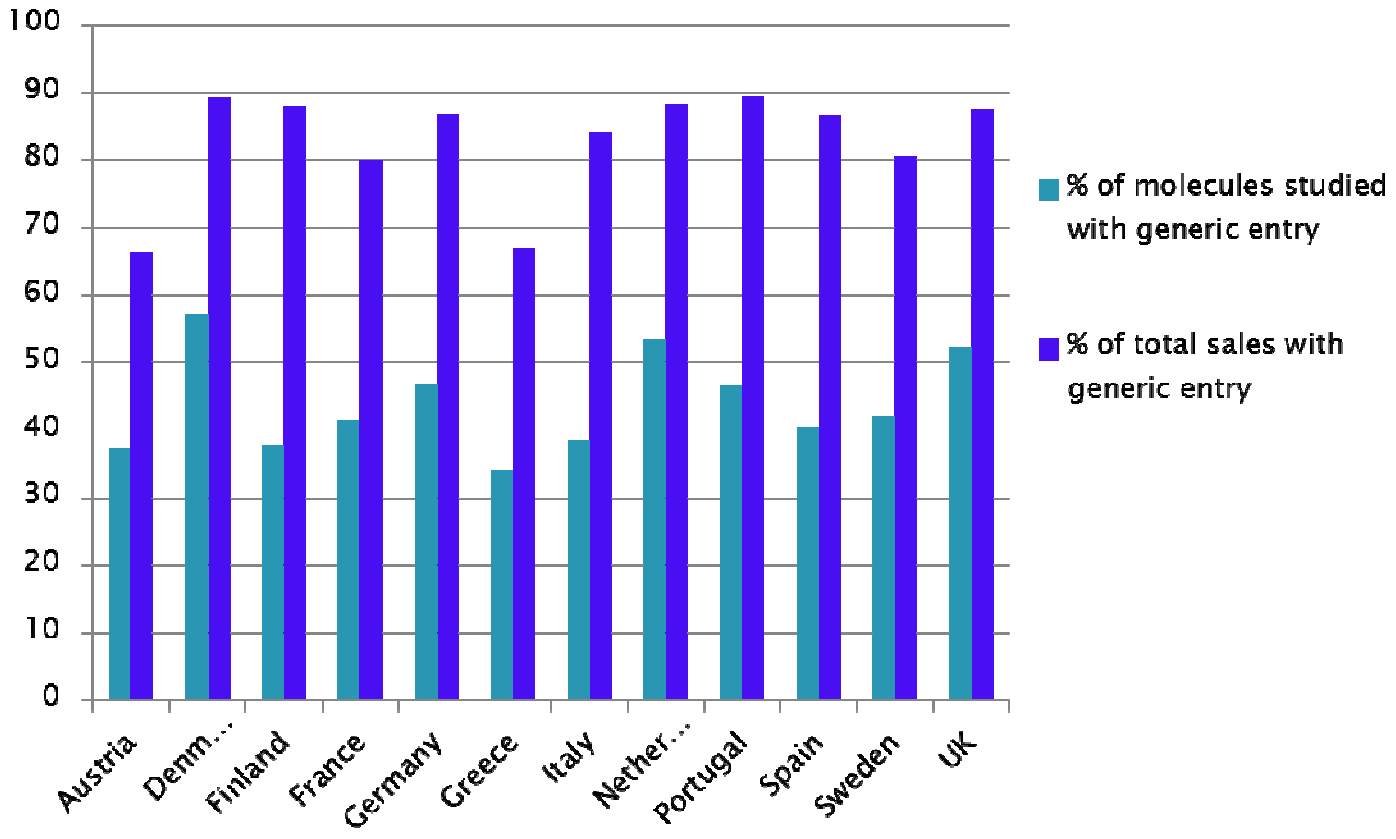
Evidence: Generic price differentials

- On the molecule level it is evident that there are significant price differences for generics between Member States. These price differentials are greater in generics than in the equivalent branded pharmaceuticals.





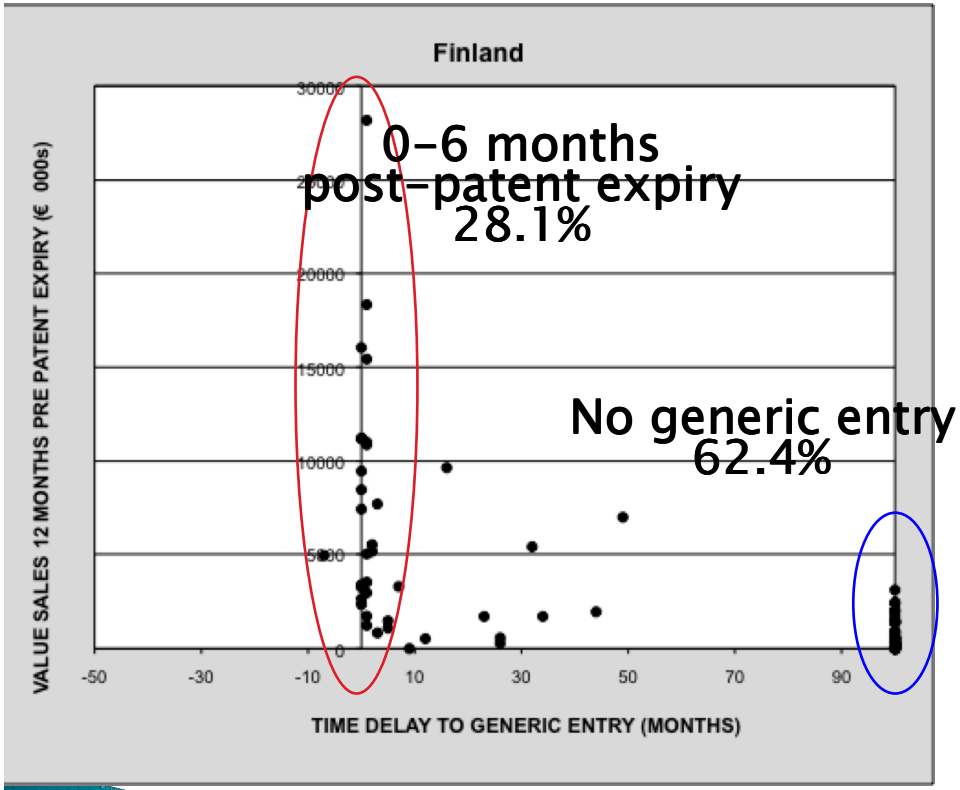
Evidence: Generic availability

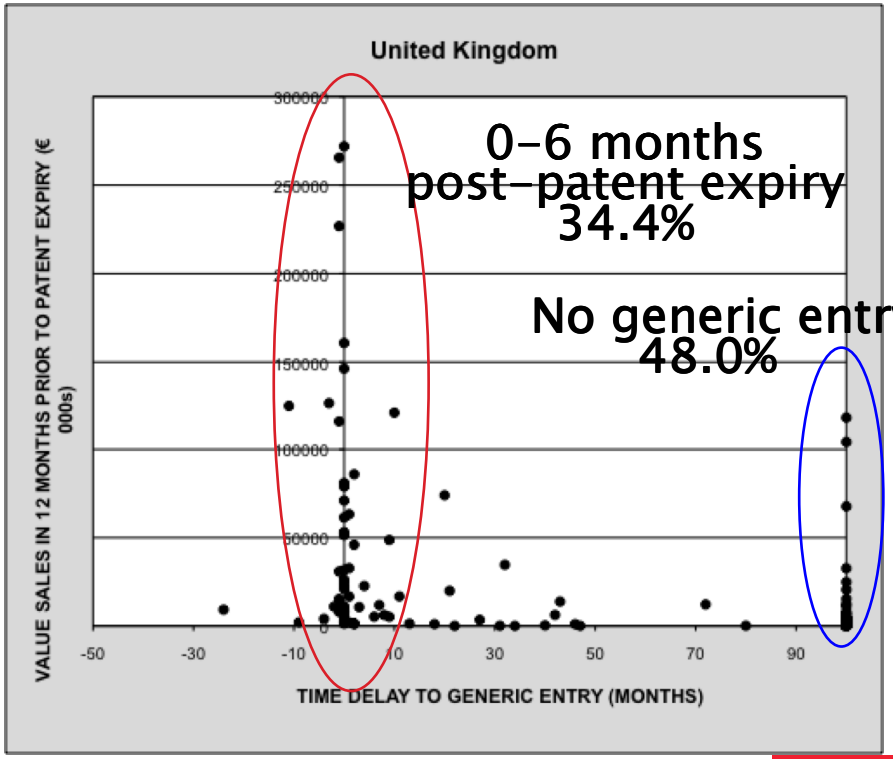


- Availability of generic alternatives varies significantly across EU Member States, with the greatest availability in the Denmark and the UK, and the lowest in Greece.

Evidence: Time delay

- There is a distinct correlation between the size of molecule, by value sales, and **time delay to generic entry**
  (n= on average115 molecules)





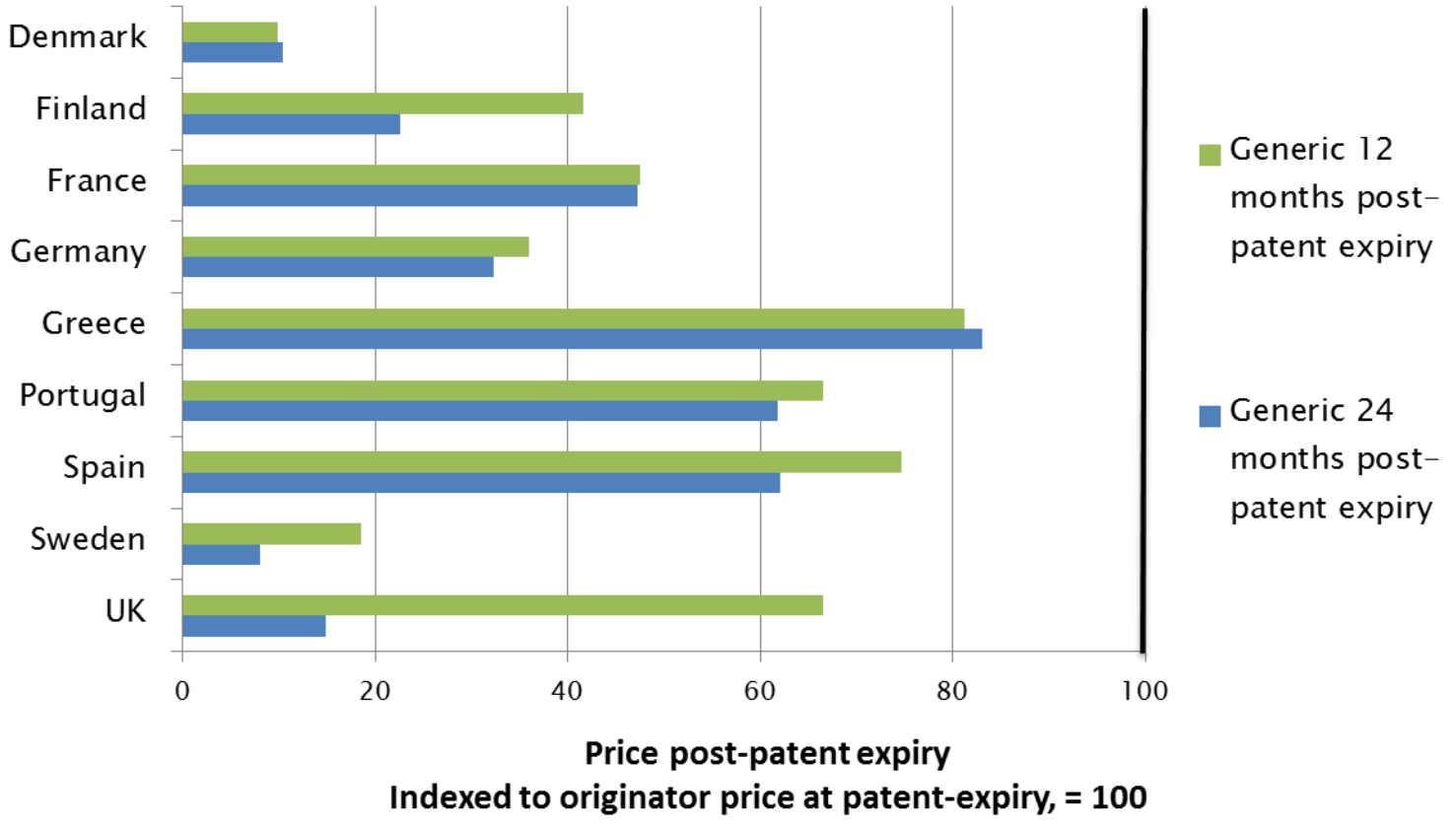
Evidence: Number of generic entries

- For example, on average, molecules in the top 20% top German market face 19-20 generic competitors 12 months post-patent expiry, compared to 1-2 in Portugal and Greece.

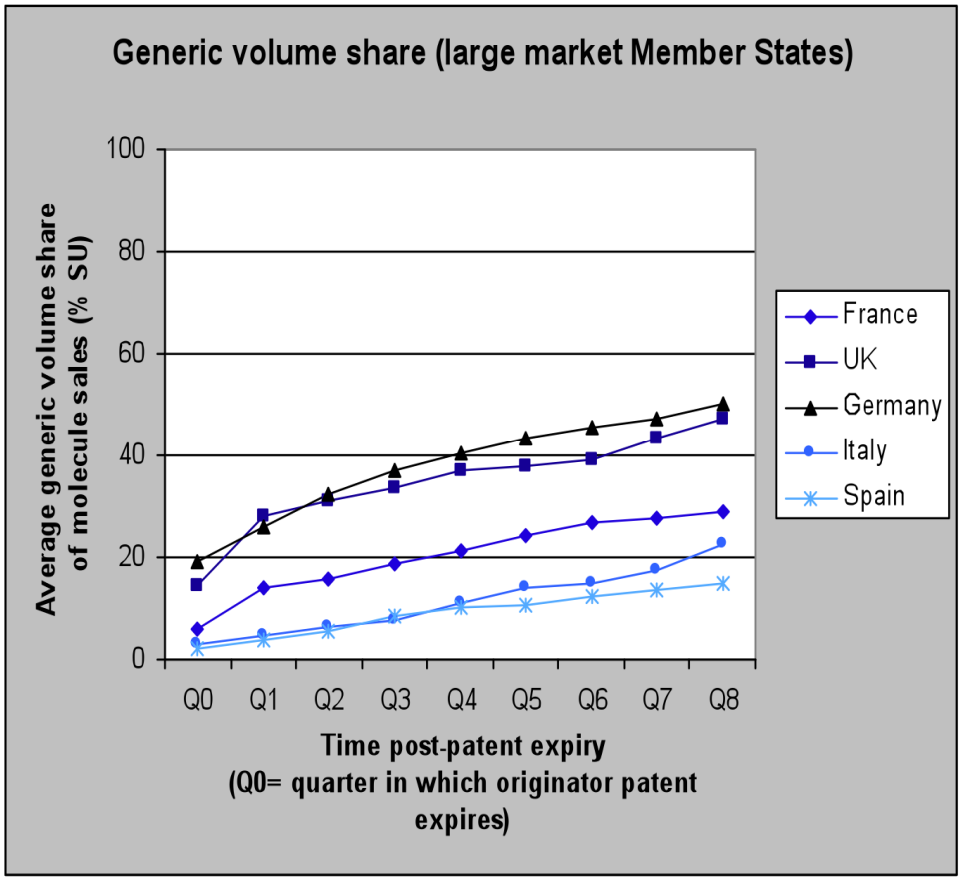
	Top 20% of market (value sales)			Bottom 10% of market (value sales)		
	Total no. molecules	No. of generic competitors 12 months post-patent expiry (average)*	No. of generic competitors 24 months post-patent expiry (average)*	Total no. molecules	No. of generic competitors 12 months post-patent expiry (average)*	No. of generic competitors 24 months post-patent expiry (average)*
France	3	13.33	16.50	99	1.18	2.00
Germany	4	19.67	25.33	82	3.28	4.14
Italy	4	n/a**	n/a**	110	0.89	1.78
Spain	4	5.33	9.00	73	1.57	2.00
UK	3	4.00	4.67	97	1.41	1.53
Austria	5	5.25	8.00	107	1.71	2.38
Denmark	3	6.33	6.67	59	0.76	1.86
Finland	3	3.00	6.50	66	1.44	1.89
Greece	4	1.00	2.50	43	1.00	2.00
Netherlands	2	7.00	8.50	69	3.10	3.88
Portugal	3	1.50	3.00	40	0.60	1.25
Sweden	2	5.50	8.50	85	0.86	1.35

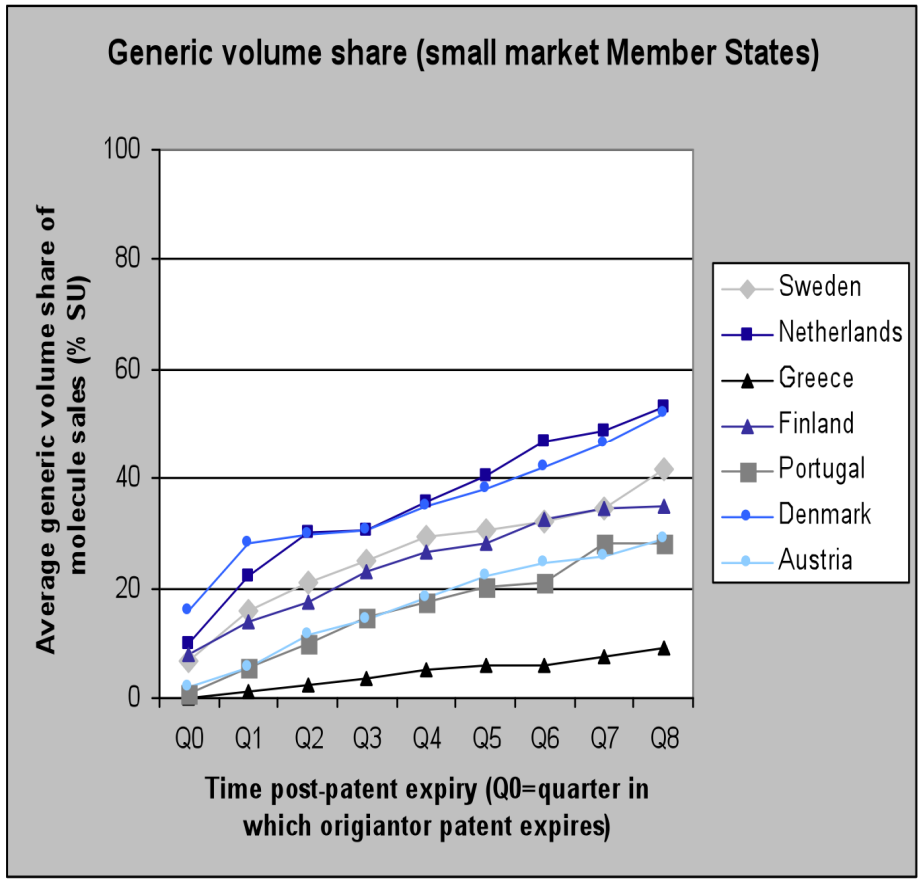
Evidence: Price evolution post-patent expiry

- The change in originator and generic prices varies between Member States.
- There is more change in average generic price (per SU) 12 and 24 months post-patent expiry than in the average price of the originator.
- Example: Simvastatin (IMS data)



Evidence: Generic volume share





- Generic volume share varies across Member States, but the most evident trend, common to all, is the relative increase of generic volume share over time
  (n= on average 115)

Generic policies in EU countries

Indicators

- Availability and entry: Between 11-39% of sales do not face generic competition within 24 months following originator patent expiry.
- Price evolution: in general generic prices decline over time post-patent expiry but to varying extents across countries
- Price differentials: significant variation in generic prices across Europe
- Volume share: generic volume share grows post-patent expiry but is greatest in Germany, UK and the Netherlands

Potential policy implications

- Regardless of the size of pharmaceutical market, there is considerable potential for faster generic entry and more generic competition, particularly for molecules at the lower end of the market.

The impact of Health Technology Assessment (HTA)

- Investigating differences between HTA agencies

The impact of health technology assessments: an international comparison (Euro Observer, 2010)

Countries: England, Scotland, Canada, Australia, France, and Sweden

Period: HTA appraisals between 2007 and 2009

Aim:

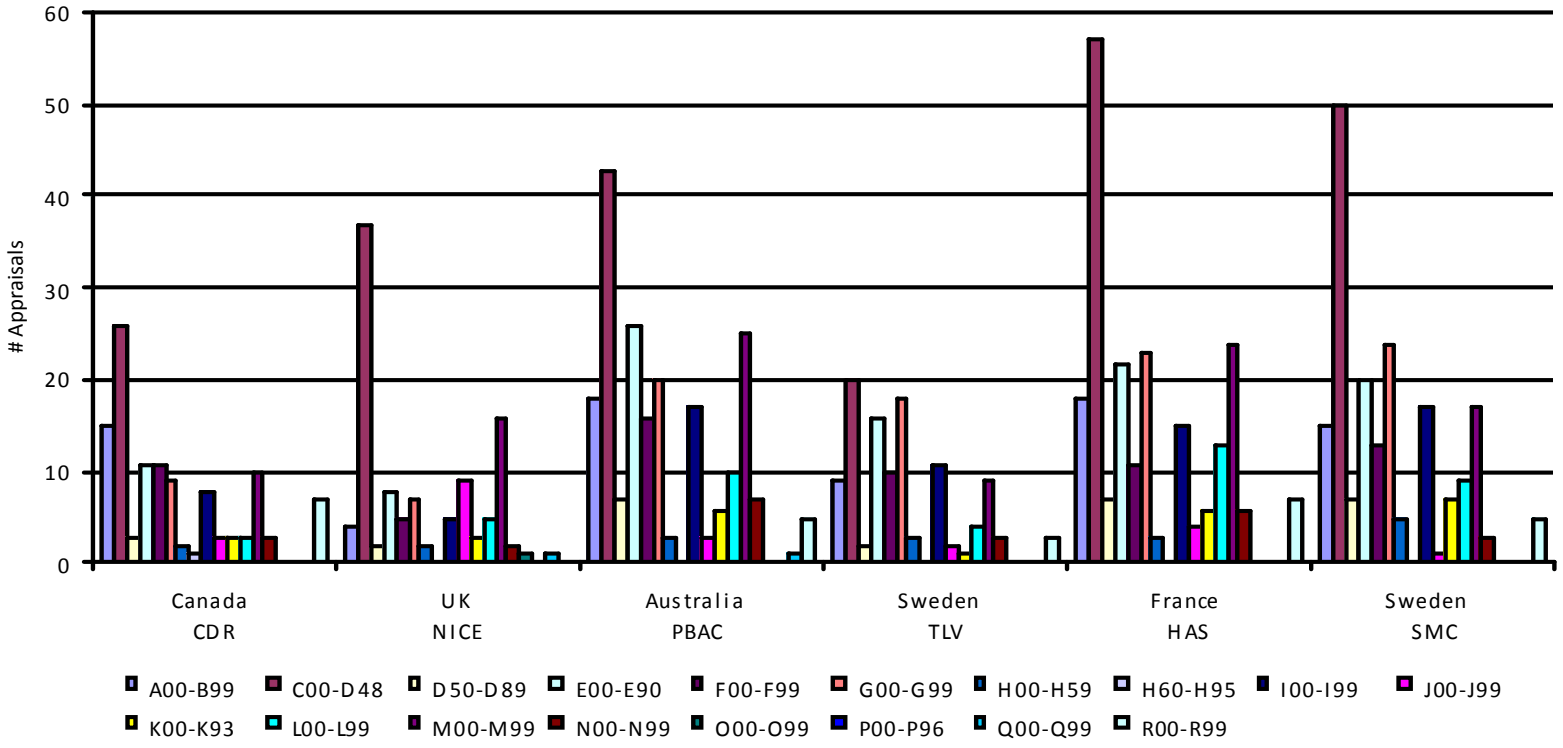
- to understand the rationale for decision-making in the respective countries.
- to identify what influences HTA recommendations

Endpoints:

- similarities and differences across agencies
- understand why these differences occur and the rationale for decision-making

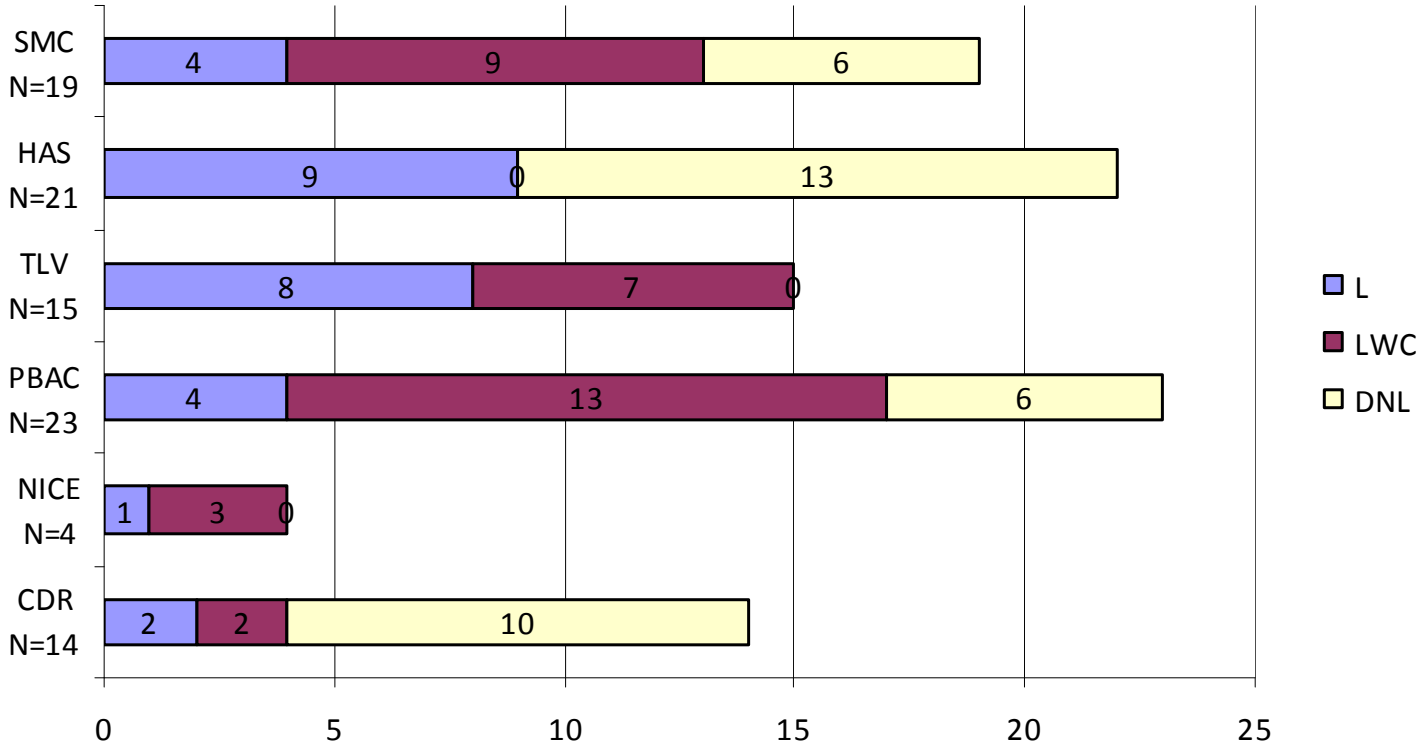
Evidence: Appraisal per ICD code per agency

- Certain ICD classes are appraised more often than others.
- Differences in the proportion of appraisals per ICD code per agency



Evidence: Appraisal by agency and outcome (CNS)

- Substantial differences in the proportion of positive and negative appraisals across countries
  (Identified as *List, List With Criteria or Do Not List*)



Evidence: Central nervous system drugs (CNS)

GENERIC NAME	INDICATION	CDR	NICE	PBAC	TLV	HAS	SMC
Paliperidone	Schizophrenia	DNL		L	L	V	DNL
Escitalopram oxalate	Major depressive disorder	DNL		LWC		IV	L
Levodopa / carbidopa	Parkinson's disease	DNL		DNL	LWC	IV	DNL
Galantamine	Alzeihmer's disease		LWC	DNL	L	V	
Zonisamide	Epilepsy			LWC	LWC	V	LWC
Aprepitant	Chemo-induced N/V, MEC	DNL		L	L	V	DNL
Natalizumab	Multiple Sclerosis	LWC	L	LWC	L	III	LWC

Source: Euro Observer 2010.

Different recommendations given for the same drugs and same indications.

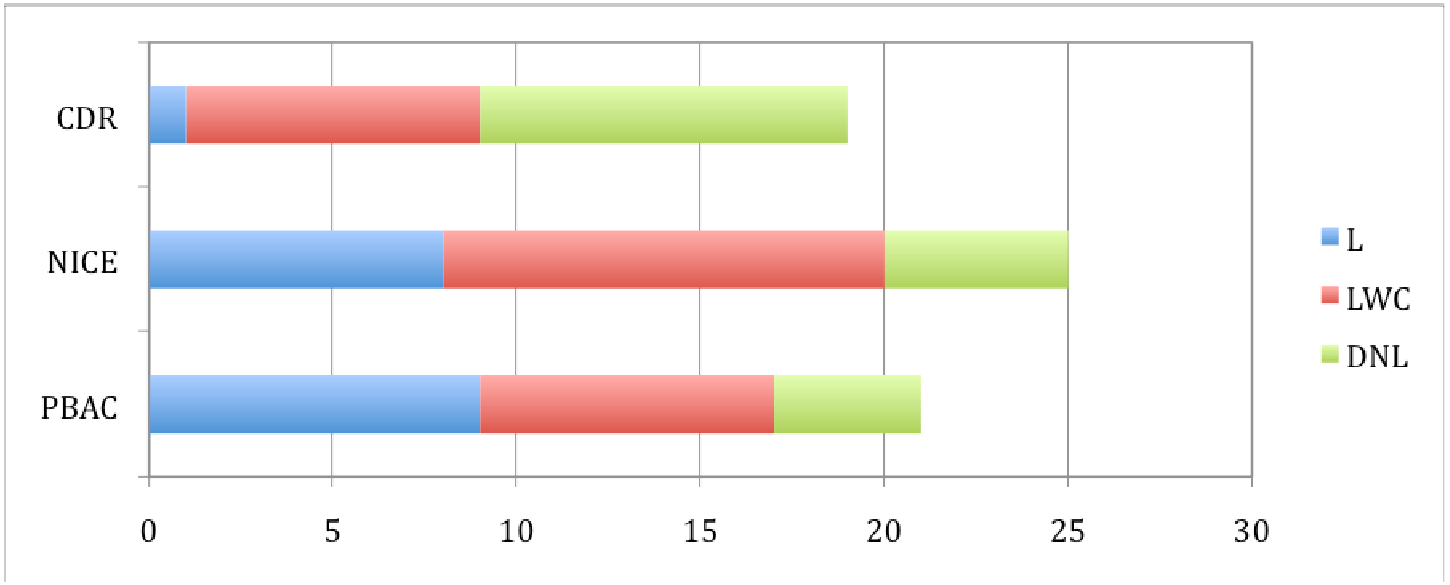
Evidence: Case study *Paliperidone*

			CDR	NICE	PBAC	TLV	HAS	SMC
Types of evidence considered	Efficacy	General assessment				x		
		Main endpoints	3		1			
		Primary and secondary endpoints					5	8
	Safety	General assessment	x		x	x	x	
		Detailed assessment			2		9	8
	Economical	Cost/patient/year			< $15'000			
		Cost/day	paliperidone 3-12mg vs risperidone 4-10mg			paliperidone all doses vs risperidone 5mg	N/A	
		Cost-utility analysis					N/A	vs 3 comparators, olanzapine as main comparaots
Comparators & Clinical Trials		Placebo	x				x	x
		Therapeutic comparator	x		x	x		
		Placebo-controlled (3 with active olanzapine active control arm)	5				5	3
		Head-to-head comparisons (olanzapine)			4	1		
		Other			9			
		Extensions (Placebo)	2				2	2

Source: Euro Observer 2010.

Evidence: Cancer medicines

- Qualitative examination of agency decision-making suggests that the same bodies of evidence were used, but of 21 pairings 7 had divergent outcomes (Canada, England, Australia). Differences are attributed to
  - varying use/ interpretation of evidence
  - acceptability of special considerations
  - the relationship of pricing and reimbursement decisions



Source: Euro Observer 2010.

Evidence: Drugs for rare cancers and rare indications

Drug/ Indication	ICD10	Appraisal Outcome					
		CDR	NICE	PBAC	TLV	HAS	SMC
Dasatinib Chronic myeloid leukemia	C92.0			LWC	L	LWC	DNL
Dasatinib Chronic myeloid leukemia	C92.1	LWC			L	LWC	LWC
Imatinib mesylate Gastrointestinal stromal tumour (GIST)	C26.9	Case by case	LWC		L	LWC	DNL
Nilotinib Chronic myeloid leukemia	C92.1		Ongoing	LWC	L	LWC	LWC
Sildenafil citrate Pulmonary arterial hypertension	I27	LWC		LWC	L	LWC	LWC
Sorafenib tosylate Pulmonary arterial hypertension	I27	DNL		LWC	L	V	LWC
Sorafenib tosylate Heptocellular carcinoma	C22	LWC	DNL	LWC	Case by case	LWC	DNL
Sorafenib tosylate Renal cell carcinoma (RCC)	C64	DNL	DNL	DNL	L	LWC	DNL
Temsirolimus Renal cell carcinoma (RCC)	C64	DNL	DNL	DNL		LWC	

HAS: ASMR V

Different recommendations given for the same drugs and same indications.

Discussion: Understanding the impact of differences in HTA outcomes across countries

- Through cross-country comparisons, the following differences were identified:

1. the reasons for recommending or not a drug
2. the clinical studies, and number of studies considered for the HTA appraisal
3. the clinical endpoints considered, with different levels of emphasis put on the endpoints (efficacy and safety)
4. the economic models considered in the HTA appraisals

Overall conclusions

Generic pharmaceutical policies

- Low-cost generic alternatives can -still- offer significant savings to governments and health insurers
- A mix of supply and demand-side measures are required to encourage minimal delays to generic entry post-patent expiry, increase price competition and improve generic volume capture.
- Various countries offer examples of successful generic policies, but not across all endpoints

Health Technology Assessment

- Impact of mixed HTA outcomes => indication that an international "postcode lottery" exists in terms of access to treatments
- Need for clear and transparent processes, clear guidelines, stakeholder involvement, and international collaboration to minimize unnecessary negative recommendations