Procurement policies for pharmaceuticals: The international experience

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Outline

- National Pharmaceutical Policy Objectives
- Understanding intervention in pharmaceutical markets
- Procurement in in-patent drugs
- Procurement in off-patent drugs

Prior assumptions

1. **Health system level**: There exists a third party payer at national, regional or local level
2. **National Drug Policy**: A reimbursement function exists in the context of the health care system, deciding which medicines to cover, at what price, and at what co-payments, subject to a number of criteria
3. **Regulatory framework**: The institutional/regulatory framework is adequate to guarantee safety, efficacy, quality of new medicines and bioequivalence or/and biosimilarity of off-patent medicines

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Objectives of a National Drug Policy (NDP)

- From a planner's perspective, pharmaceutical purchasing adheres to the broad health system objectives:
  - **Equity**: equal treatment for equal need
  - **Macro-economic efficiency**: adhere to a constrained budget
  - **Micro-economic efficiency**: resource allocation and value for money
- The objectives of a **national drug policy** are to ensure:
  - **Equity in Access**: equitable availability and affordability of essential drugs
  - **Quality**: the quality, safety and efficacy of all medicines
  - **Rational use**: the promotion of therapeutically sound and cost-effective use of drugs by health professionals and consumers.

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Components and objectives of NDP

Components/Objectives	Access	Quality	Rational use
Selection of essential drugs	✓	(✓)	✓
Affordability	✓		
Drug financing	✓		
Supply systems	✓		(✓)
Regulation and quality assurance		✓	✓
Rational use			✓
Research	✓	✓	✓
Human resources	✓	✓	✓
Monitoring and evaluation	✓	✓	✓

✓: Direct link; (✓): indirect link

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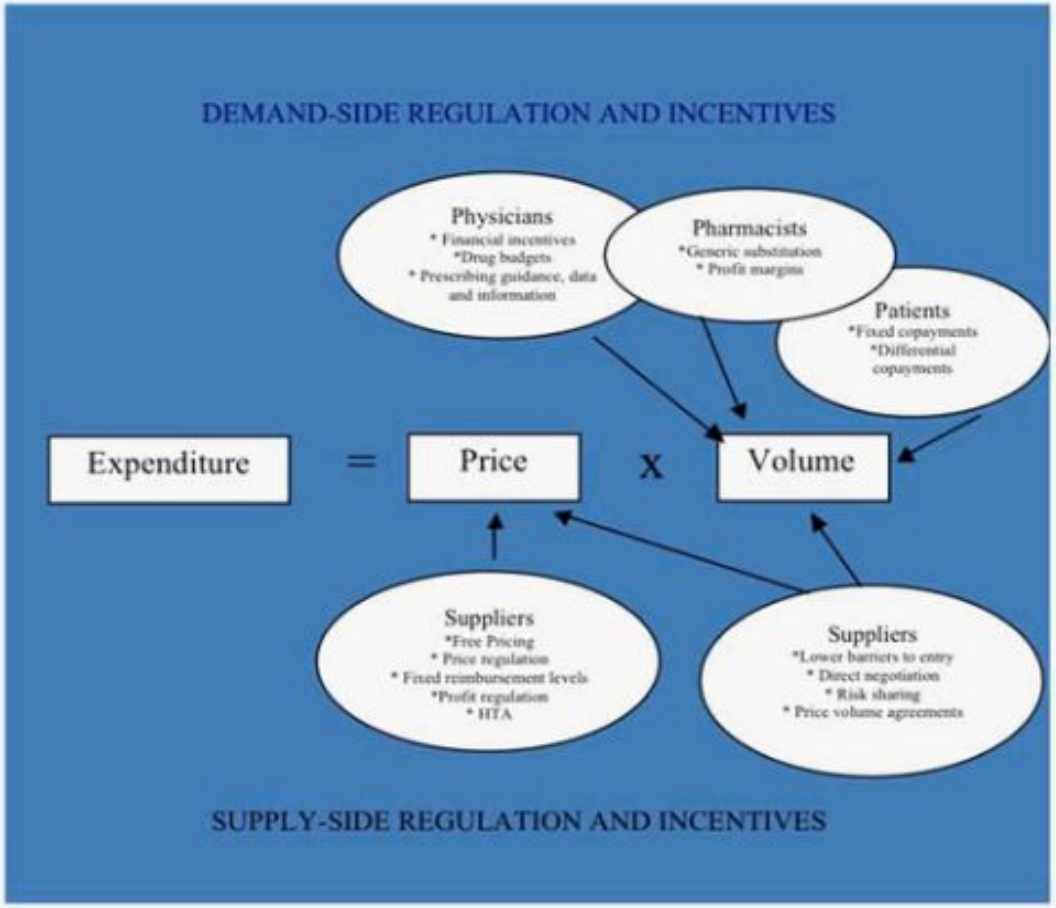
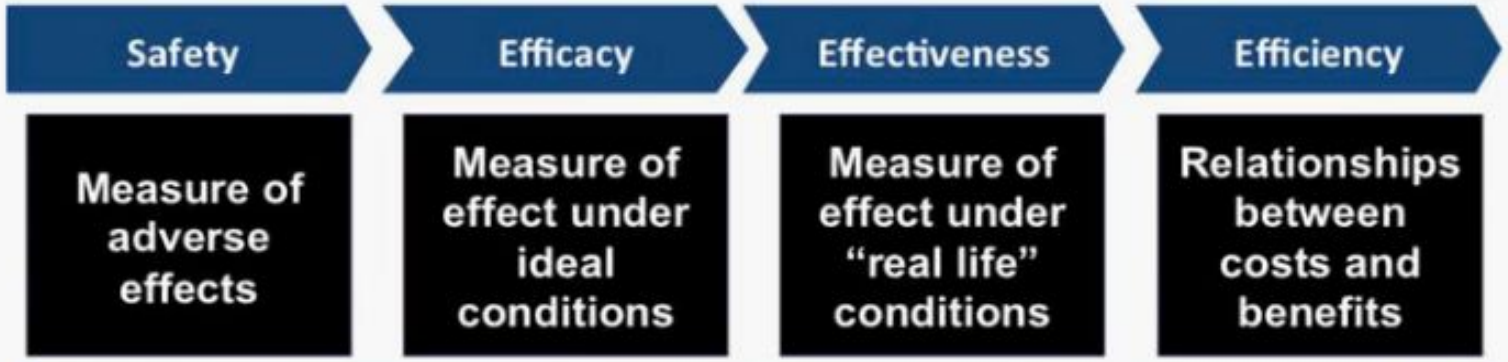
2. Understanding intervention in pharmaceutical markets

2. How do we intervene in pharmaceutical markets?



1. What do decision-makers want?

- Safety and Efficacy are *first* steps to provide evidence for a new drug; **Effectiveness** and **Efficiency** need to be proven



- Efficacy does not imply effectiveness and effectiveness does not imply efficiency
- Safety and efficacy are the competence of regulators, effectiveness and efficiency are the competence of payers/insurers
- Use of Health Technology Assessment to assess value
- Different methods of value assessment in the context of HTA

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3. What criteria do we use to admit pharmaceuticals into reimbursement (include in positive list)?

Criteria	UK	GER	FRA	SPA	NET	POL	ITA	CAN
Clinical	✓	✓	✓	✓	✓	✓	✓	✓
Budgetary	✓	✓	✓	✓	✓	✓	✓	✓
CEA	✓	✓	✓		✓		✓	✓
Industrial policy	✓	✓	✓	✓				✓
Defining who benefits most	✓	✓	✓	✓	✓	✓	✓	✓
Volume	✓	✓	✓	✓	✓	✓	✓	✓
Foreign prices	✓	✓	✓	✓	✓	✓	✓	✓
OTC exclusion	✓	✓	✓	✓	✓		✓	✓
Tender	✓	✓	✓	✓	✓	✓	✓	✓

- Evidence-based reimbursement
- Negotiation on the basis of multiple criteria
- Policies differ depending on national priorities
- Ability to negotiate reimbursement terms through a variety of schemes

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- **Theoretically, Monopoly Power can be controlled through Price Regulation; traditionally we have 4 key methods to arrive at affordable prices**

- **Rate of Return (RoR) Regulation**
  - Pharmaceutical Price Regulation Scheme (UK)
- **Price Setting and negotiation**
  - External Price Referencing (Spain, France, Germany, Turkey, Brazil, Canada, Korea, etc)
  - Cost-Plus Pricing (India, Pakistan, Iran)
- **Value Assessment through Health Technology Assessment**
  - Cost-effectiveness pricing (England, Scotland, Netherlands, Sweden, Australia, etc)
  - Assessment of Clinical Benefit (France, Germany)
  - Value-based pricing (England, Sweden)
- **Controlling use**
  - Use of volume caps or price volume agreements (France)

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Formal Use of HTA

Decision-making in HTA

- Economic evaluation vs clinical benefit assessment
- What kind of judgements are we making with cost effectiveness analysis?
  - Scientific judgements
    - Reliability of the evidence-base
    - Appropriateness of sub-groups
    - Generalisablity
    - Capture of quality of life
    - Handling uncertainty
  - Social value judgements
    - Severity of disease
    - End of life interventions ("rule of rescue")
    - Age
    - Innovativeness of the technology
    - Health inequalities
    - Social value judgements taken into account, **but** there is lack of appropriate metrics

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Similarities and differences in HTA recommendations

- 31 drug-indication pairs: 10 orphan, 13 cancer, 8 CNS
- 61% (19/31) different HTA recommendations
- ASMR V considered as a negative recommendation (no added benefit)
- ASMR in France:
  - II-V orphan drugs
  - III-IV cancer drugs
  - III-V CNS drugs
  - Some cases with negative recommendation (DNL)

⇒ **Why such differences?**

⇒ **<u>SOME</u> differences in evidence**

⇒ **<u>MANY</u> differences in its interpretation**

⇒ **<u>SIGNIFICANT</u> other considerations**

HTA recommendations L: list; LWC: list with conditions; DNL: do not list		NICE England	SMC Scotland	TLV Sweden	HAS France (SMR/ASMR)
ORPHAN DRUGS	Eltrombopag	DNL	LWC	LWC	substantial/II
	Romiplostim	LWC	LWC	LWC	substantial/II
	Everolimus	DNL	DNL	L	substantial/IV
	Lenalidomide	LWC	LWC	L	substantial/III
	Mifamurtide	LWC	L	LWC	insufficient/DNL
	Azacitidine	LWC	LWC	NA	substantial/II
	Imatinib	DNL	LWC	NA	substantial/III
	Mannitol dry	LWC	DNL	NA	weak/V
	Ofatumumab	DNL	DNL	NA	moderate/V
	Trabectedin	LWC	DNL	NA	substantial/V
CANCER DRUGS	Abiraterone	LWC	DNL	LWC	substantial/III
	Bendamustine	L	DNL	L	substantial/III
	Erlotinib	DNL	L	DNL	DNL
	Gefitinib	LWC	L	DNL	substantial/IV
	Pazopanib	LWC	L	LWC	DNL
	Bevacizumab	DNL	NA	DNL	substantial/IV
	Cabazitaxel	DNL	NA	DNL	substantial/III
	Eribulin	DNL	NA	DNL	substantial/IV
	Erlotinib	LWC	N/A	L	substantial/IV
	Ipilimumab	LWC	NA	L	substantial/IV
	Pemetrexed	LWC	N/A	DNL	substantial/IV
	Rituximab	L	N/A	L	substantial/IV
	Vemurafenib	LWC	DNL	DNL	substantial/III
CNS DRUGS	Alemtuzumab	L	L	L	NA
	Dimethyl fumarate	LWC	L	LWC	substantial/V
	Fingolimod	LWC	LWC	L	substantial /IV
	Nalmefene	LWC	L	DNL	NA
	Natalizumab	L	L	L	substantial/III
	Retigabine	L	L	L	substantial/V
	Teriflunomide	LWC	L	DNL	substantial/V
	Varenicline tartrate	L	L	L	substantial

Source: LSE, 2016

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Impact of Health Technology Assessments

- Can lead to a refusal to reimburse or cover the technology concerned
- More often it leads to restrictions to access to technologies (eg 2nd or 3rd line use, only for some patient groups, etc.)
- Some restrictions are harder to enforce than others, and the implementation of recommendations is not automatic
- Sometimes the *mere intention* to conduct an HTA can impact on use of the product

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What can be learned from the use of HTA in different settings?

- Higher **willingness to pay** in some cases
- Additional **criteria** beyond economic evaluation
- Separate **purchasing** procedures (e.g. for orphans)
- Special **budgets** or schemes
- Patient Access Scheme (PAS)/**Risk Sharing** Agreements (e.g. for cancer or non-cancer drugs)
- Early **access schemes** (France, Italy)
- '**Outside DRG**' policy

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Using Decision Analysis & MCDA

MCDA has emerged as a likely alternative to address the current shortcomings of HTA based on Economic Evaluation

- Comprehensive: Incorporation of several dimensions of value in an explicit manner
- Transparent: Clear process for judgements and preference elicitation, including the importance of the criteria
- Encompassing: Ability to include all relevant stakeholders in all stages

Methodological robustness

- Problem structuring
- Model building
  - Criteria & attribute selection
- Model Assessment
  - Construction of value judgments (scoring and weighing)
  - Criteria to subscribe to certain principles (unambiguous, comprehensive, preference independent
- Model appraisal
  - Aggregation
  - Result analysis
  - Sensitivity analysis
- Action plans
  - Resource allocation & priority setting

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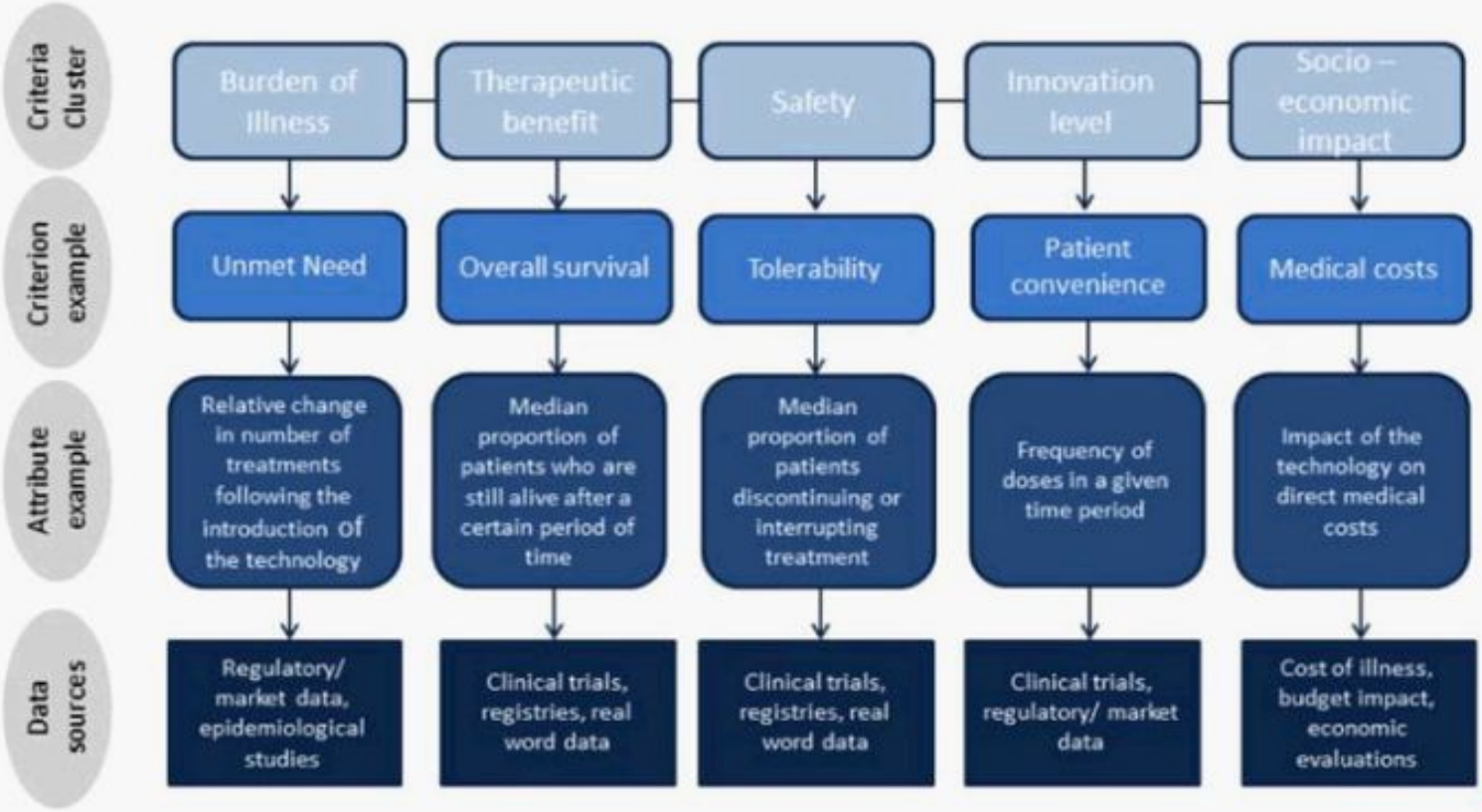
The Advance Value Framework



Risk Sharing and Managed Entry Agreements

WHY?

- Disagreement or uncertainty on therapeutic value
- Uncertainty on dose in daily practice
- Uncertainty as to who might benefit most and possibly larger patient numbers
- Reduce decision uncertainty, enable effectiveness evidence to enter decision-making, improve affordability (through P/Q or discounting, etc.). Examples:

Financial

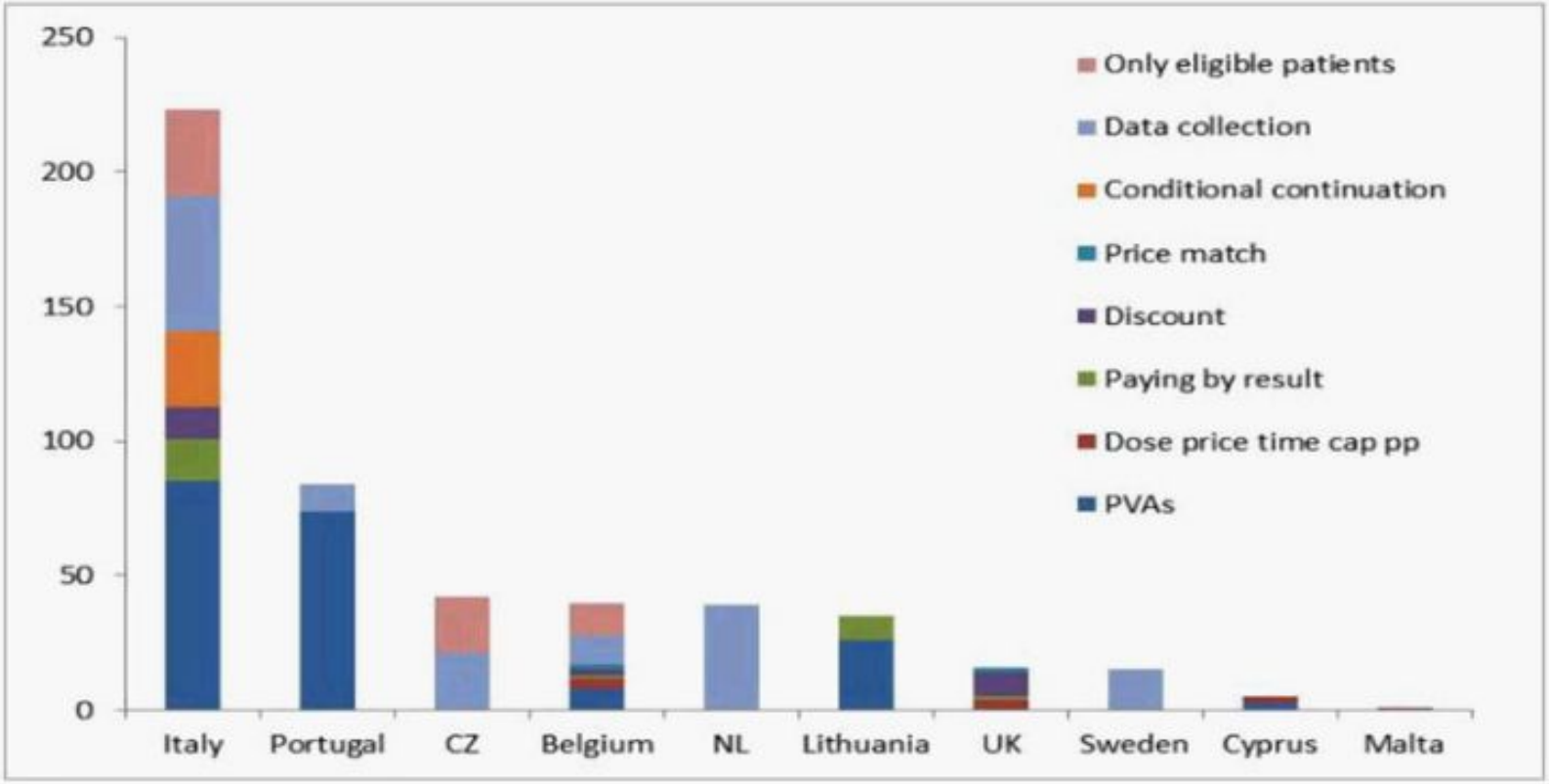
Outcomes-related

Combination of both

Risks addressed by individual schemes

	Right patients	Uncertain clinical value	Low cost effectiveness	Budget overspend
Coverage with ED	✓	✓	✓	x
Conditional coverage	✓	✓	✓	✓
Outcome guarantee	✓	✓	✓	x
Price-volume deal	x	x	x	✓

Price differentiation based on negotiation and value endpoints: impact of Managed Entry Agreements (MEAs)



Source: Ferrario & Kanavos, European Commission, 2013

MEAs: Evidence on impact

Country	Financial Scheme	Health outcome-based schemes
	**Price-volume agreements** •Are most frequently used and nearly all innovative drugs entering the French market are part of such an agreement •2012 savings of €327.5 million in clawbacks **Daily cost of treatment** •Aim is to ensure that actual treatment cost per patient remains the same as the forecasted one •Target daily cost is set based on the range of doses or posology	1. **Study requirement: limited; study on real-life use** • **Glitazones:** The manufacturer claimed that they would delay the need for insulin. ➢ **Results:** Claim not attained in real-life, price adjusted downwards • **Risperidone**: The manufacturer claimed they it increase patient compliance and therefore less hospitalisations. ➢ **Results**: supported company's claim and the conditionally granted higher price was maintained 2. **Risk-sharing agreement: very limited; involve assessment of real-life effectiveness**
	**Theoretical payback** in **2012: €43.6 million** •22% of claimed payback was not validated by pharmaceutical companies •11% was not claimed back by hospitals **Actual clawback in 2012: €31.3 million** •Representts around **5 %** of the total drug spend involved (limited to the indications) in MEAs	Three types of outcomes-based risk sharing agreements in operation: •Payment by results (PbR) •Risk sharing •Cost-sharing Impact has not been quantified across the range of agreements made
	**Dose/time caps** •No available evidence on impact but in England they have led to improved access by bringing the ICER within WTP thresholds **Free doses** •No available evidence but in England they have led to access by bringing the ICER within WTP	**Risk-sharing scheme for multiple sclerosis:** Final results expected in 2016 **Achievements so far**: access for patients, fair prices for the NHS, training of MS nurses, methodological developments in the analysis of MS drugs with potential to be applied in other areas **Challenges:** Complex to implement, too high expectations that the scheme had to deliver quickly, methodological challenges

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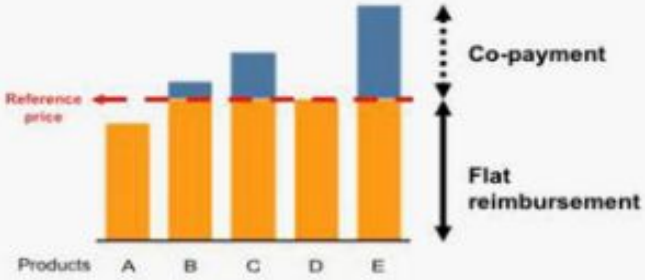
Supply-side procurement modalities for off-patent medicines

- Price capping
  - Price of generics is x% lower than the originator brand
- Internal reference pricing (IRP)
  - Clustering and reimbursement of lowest
  - Molecular reference pricing
  - Therapeutic reference pricing
  - Managed competition
- Free pricing & competition
  - No intervention; the market will make adjustments
- Tendering

How does internal reference pricing work? What is its impact?

Principles of Reference Pricing

- Reference pricing determines maximum reimbursement price



- Reference pricing limits further price competition
- Both original and generic prices will converge to the reference price

- Price reductions are expected to the tune of 40-60% through internal reference pricing
- Therapeutic reference pricing, where it can be applied without contestability, can reduce prices even further
- Beyond the first wave of price reductions, generic prices remain relatively stable in countries with reference pricing and decline slowly (some Canadian provinces, Germany, France, Spain, Italy)
- Significant reduction of generic prices over time in countries without reference pricing (UK, US)

Caveats

1. Under Reference Pricing, Insurance is a Price Taker not a Price Setter

2. Potential for Collusion (tacit) to keep Price Levels unchanged over Time

Tendering in outpatient market and how it works

- Providers place their bids
- Supply and demand curves are based on reservation prices. A consumer's reservation price is the maximum amount the consumer is willing to spend on an item. A producer's reservation price is the minimum amount the producer (industry) is willing to accept for an item.
- Lowest price wins
- Winner gets to serve the whole market (or the part of the market the particular fund covers)
- M.E.A.T. the only criterion
- M.E.A.T. one of the criteria
    - Others being quality, ability to supply a share of the market, non-exclusion of competition
- In practice tendering leads to lower prices than IRP
- Successful in the short run
- Might threat to competition in the long run

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Impact of tendering on price of generics, The Netherlands

Item	PRICE				CHANGE IN PRICE		
	May-08	Jun-08	Sep-11	Feb-12	May-June 08	May 2008 - Sept 2011	May 2008 - Feb 2012
Omeprazole tab/cap, 20mg	€ 0.36	€ 0.05	€ 0.02	€ 0.02	-88%	-94%	-94%
Alendroninezuur tab, 70mg	€ 4.99	€ 0.36	€ 0.07	€ 0.04	-93%	-99%	-99%
Omeprazole tab/cap, 40mg	€ 0.65	€ 0.09	€ 0.04	€ 0.03	-86%	-94%	-95%
Paroxetine tab, 20mg	€ 0.37	€ 0.07	€ 0.03	€ 0.03	-82%	-92%	-92%
Simvastatin tab, 40mg	€ 0.27	€ 0.04	€ 0.02	€ 0.01	-84%	-93%	-96%
Pravastatin tab, 40mg	€ 0.54	€ 0.13	€ 0.05	€ 0.03	-76%	-91%	-94%
Simvastatin tab, 20mg	€ 0.17	€ 0.03	€ 0.01	€ 0.01	-85%	-94%	-94%
Tamsulosine tab/cap, 0.4mg	€ 0.34	€ 0.07	€ 0.03	€ 0.03	-80%	-91%	-91%
Amlodipine tab, 5mg	€ 0.19	€ 0.03	€ 0.01	€ 0.01	-85%	-95%	-95%
Citalopram tab, 20mg	€ 0.34	€ 0.04	€ 0.02	€ 0.02	-88%	-94%	-94%

Sources: SFK; Kanavos et al. 2009 (EMINet); Kanavos et al. 2011 (EMINet)

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Elements of an "optimal" generic policy

- Faster access through Bolar provisions
- Robust regulatory authority
- Frequent price regulation (price capping); necessary?
- Reimbursement regulation (e.g. reference pricing, for moderate to significant savings over the long term)
- Tendering (esp in out-patient markets, for significant savings in the short term
- Free price competition (works in insurance environments?)
- "Managed" competition
- Emphasis on generic prescribing, but few attempts at enforcement
- Incentives/disincentives to promote generic prescribing
- Regressive margins for pharmacists provide incentive to dispense generically, but they may result in higher cost generic being dispensed
- Discounting practices and the clawback
- Generic substitution: major policy emphasis internationally
- Differential co-payments

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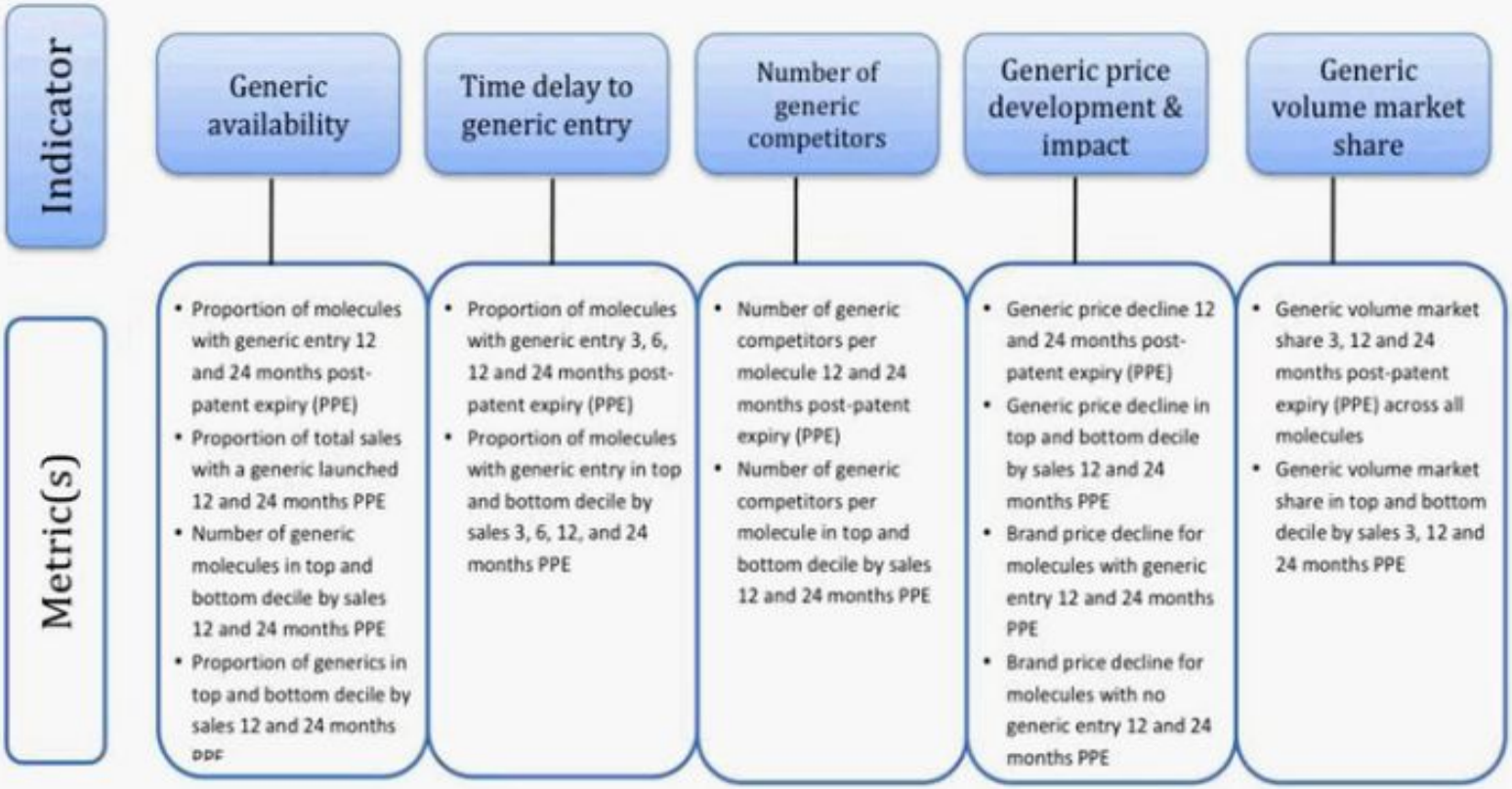
Methodological framework comprising indicators and metrics for performance measurement in off-patent markets



***Source*: P Kanavos, 2014**

Price indices (volume-adjusted[1]) measuring price developments 12 and 24 months post-patent expiry for generics and patent-expired originator brands

	Price index for generics						Price index for patent-expired originator brands			
	All molecules with generic entry except originator brand		All molecules with generic entry (except originator) in the top decile by sales		All molecules with generic entry (except originator) in the bottom decile by sales		Nominal price developments for originator brands affected by generic entry		Nominal price developments for originator brands not affected by generic entry[2]	
	12 months	24 months	12 months	24 months	12 months	24 months	12 months	24 months	12 months	24 months
UK	60.6	34.9	54.3	26.5	76.7	56.5	99.1	96.8	107.8	103.4
Denmark	42.9	31.2	18.6	19.4	43.3	34.8	105.9	102.6	117.5	118.5
Germany	61.8	56.1	48.4	43.4	93.8	85.6	105.1	106.2	103.8	103.4
The Netherlands	61.7	58.5	42.9	45.6	77.1	69.4	91.5	85.6	98.2	98.4
Finland	50.5	36.9	30.3	22.7	59.8	45.1	88.5	75.8	94.0	100.3
Austria	61.5	59.9	53.6	53.3	66.4	64.8	83.9	76.1	111.3	109.8
France	69.5	66.3	56.8	53.8	85.2	80.4	98.1	94.5	111.7	114.4
Spain	68.1	61.3	66.5	58	68.8	62.1	101.7	98.6	100.9	101.6
Sweden	40.6	29.4	32.5	15.6	55.2	52.2	93.4	93.9	112.1	101.5
Italy	84.2	79.0	85.5	78.0	93.0	89.0	86.8	84.8	99.6	100.4
Greece	81.2	79.8	82.2	73.3	94.1	87.2	103.2	103.4	103.5	104.8
Portugal	67.9	66.8	57.7	55.5	82.7	72.4	97.3	95.7	102.9	105.3

Notes: [1]Own country weights are used. [2]The molecules that did not have generic entries 24 months post-patent expiry were as follows: UK (48), Denmark (36), Germany (46), the Netherlands (30), Austria (58), Finland (41), France (67), Spain (57), Sweden (58), Italy (66), Greece (43), Portugal (30).

***Source*: P Kanavos, 2014**

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Why choose different strategies to address the issue of pharmaceutical costs?

- Choice of strategy is dependent on a number of parameters including policy objectives. Strategies vary …
  - … By market segment (originator vs generic)
  - … By type of stakeholder involved (IRP vs tendering)
  - … By type of outcome sought, eg. Encourage competition vs increase efficiency vs achieve lowest possible price (cost containment)

Conclusions

- Many different strategies to procure medicines, none perfect
- Significant differences between procurement strategies for in-patent vs off-patent medicines
- Supply-side strategies need to be complemented with action on the demand-side