Zakład Medycyny Rodzinnej
Uniwesytetu Medycznego
w Łodzi

Family Medicine
for English language students of Medical University of Lodz

Seminar 8

Pharmacoeconomics
in Family Medicine

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Our timetable for today

1.1 Pharmacoeconomics - what it seems to be

1.2 Pharmacoeconomic analyses

1.3 Role of pharmacoeconomics in Family Medicine

2.1 Generics and brand name drugs

2.2 Generics instead of brand name drugs - pros and cons

2.3 Benefits and limitation of generic use

3.1 Big Pharma tricks with patenting
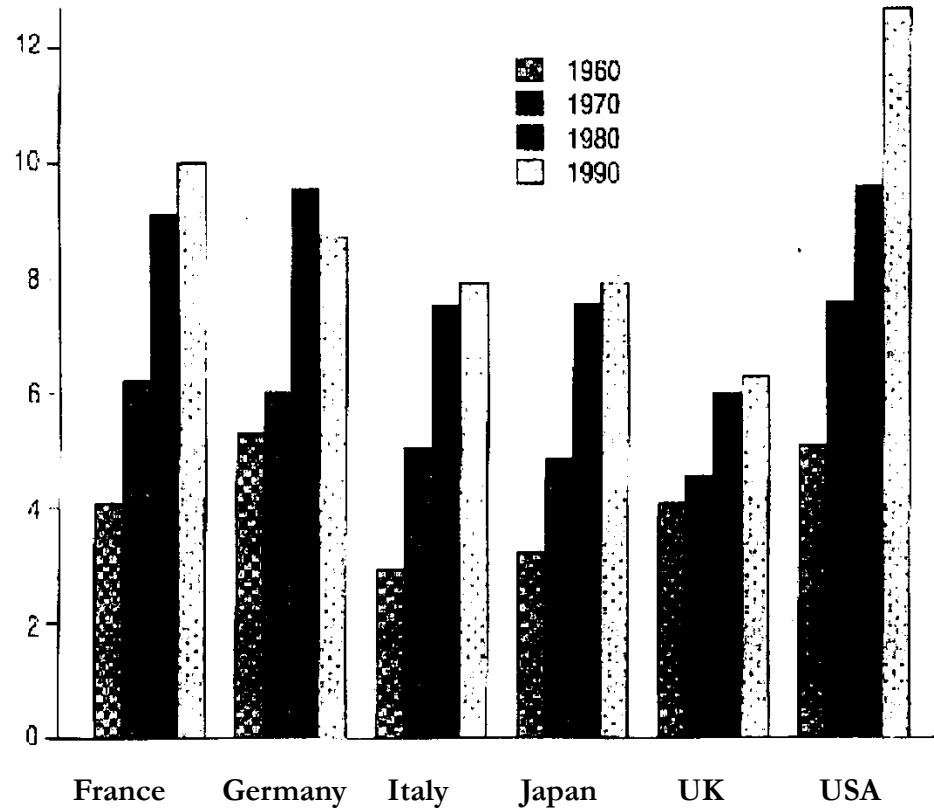
3.2 How to read between the lines - pharmaceutical advertising

3.3 How to find generics Presentation of projects and group discussion

4.1 How to promote the use of generics – students' project

4.2 How to promote the use of generics – presentation and group discussion

4.3 Closing remarks

Healthcare system expenses grow world-wide...

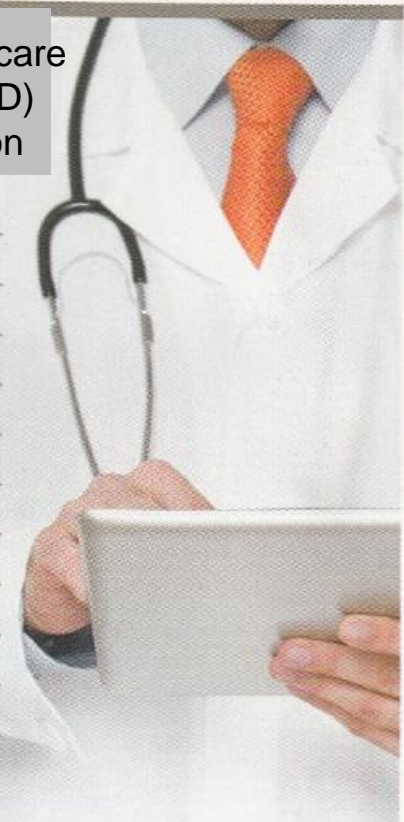Healthcare system expenses as a % of gross domestic product

Źródło: OECD (Organisation for Economic Cooperation and Development), www.oecd.org

Is Polish healthcare system a gobal leader?

The Blumberg agency ranking included:

- Life expectancy (weighted average - 60%)
- Costs of healthcare as % of GDP / person (weighted average - 30%)
- Total costs of health protection (weighted average - 10%)

		Life expectancy	Total healthcare costs (USD) per person
1	Hongkong	83.4	1,409
2	Singapur	81,9	2,286
3	Japonia	82.6	3,958
4	Izrael	81,8	2,426
5	Hiszpania	82.3	3,027
6	Włochy	82.1	3,436
10	Szwecja	81.8	5,331
14	Wielka Brytania	80.8	3,609
19	Francja	81.7	4,952
21	Polska	76.7	899
46	Stany Zjednoczone	78.6	8,608
48	Brazylia	73.4	1,121

Źródlo: Praktyka Lekarska, X 2013, str. 14
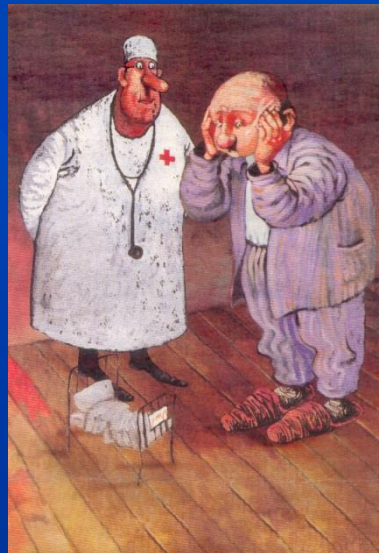
Needs and resources
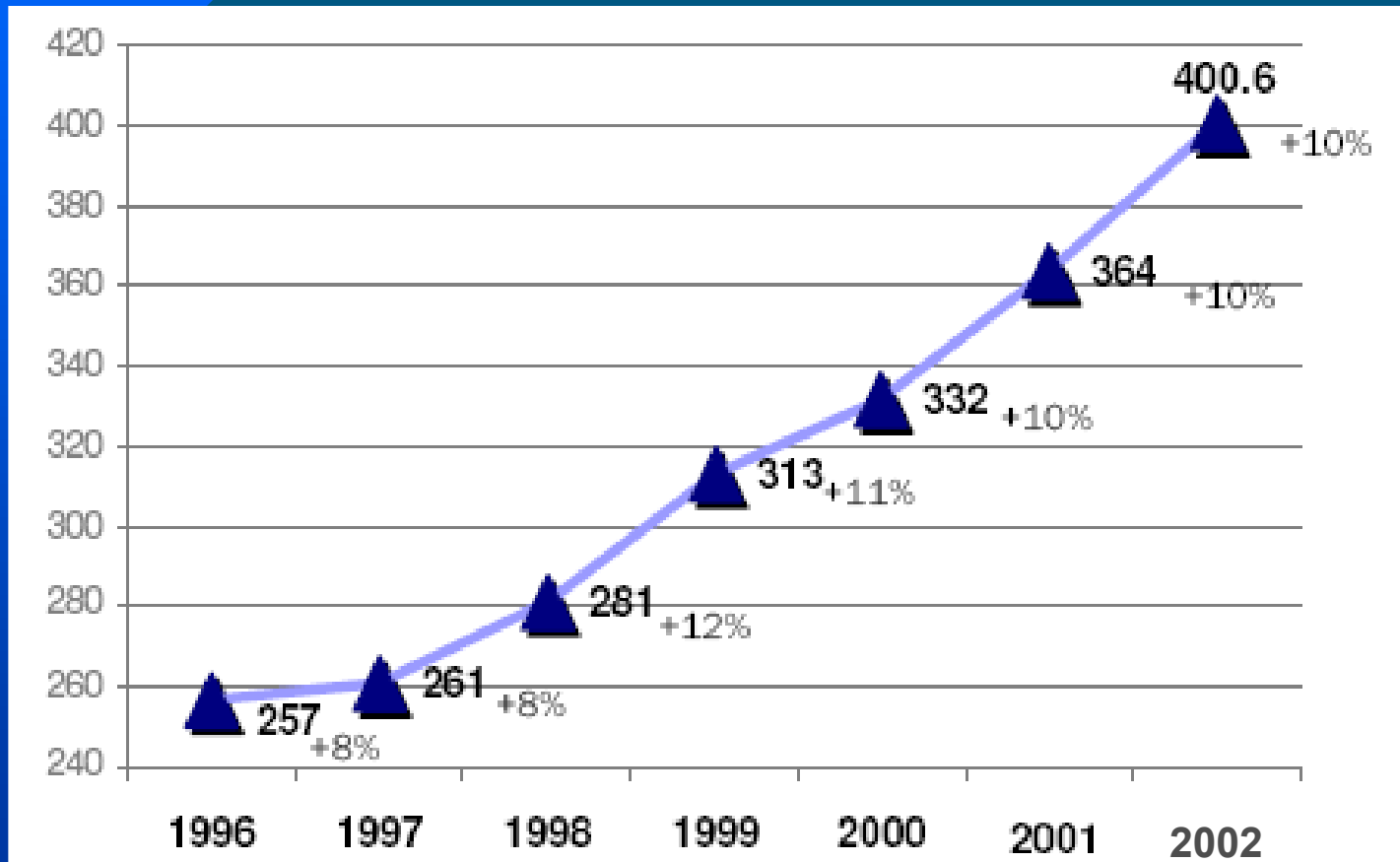

Financial resources

- public
- private

Health related needs

- better screening
- new diagnostic and treatment options
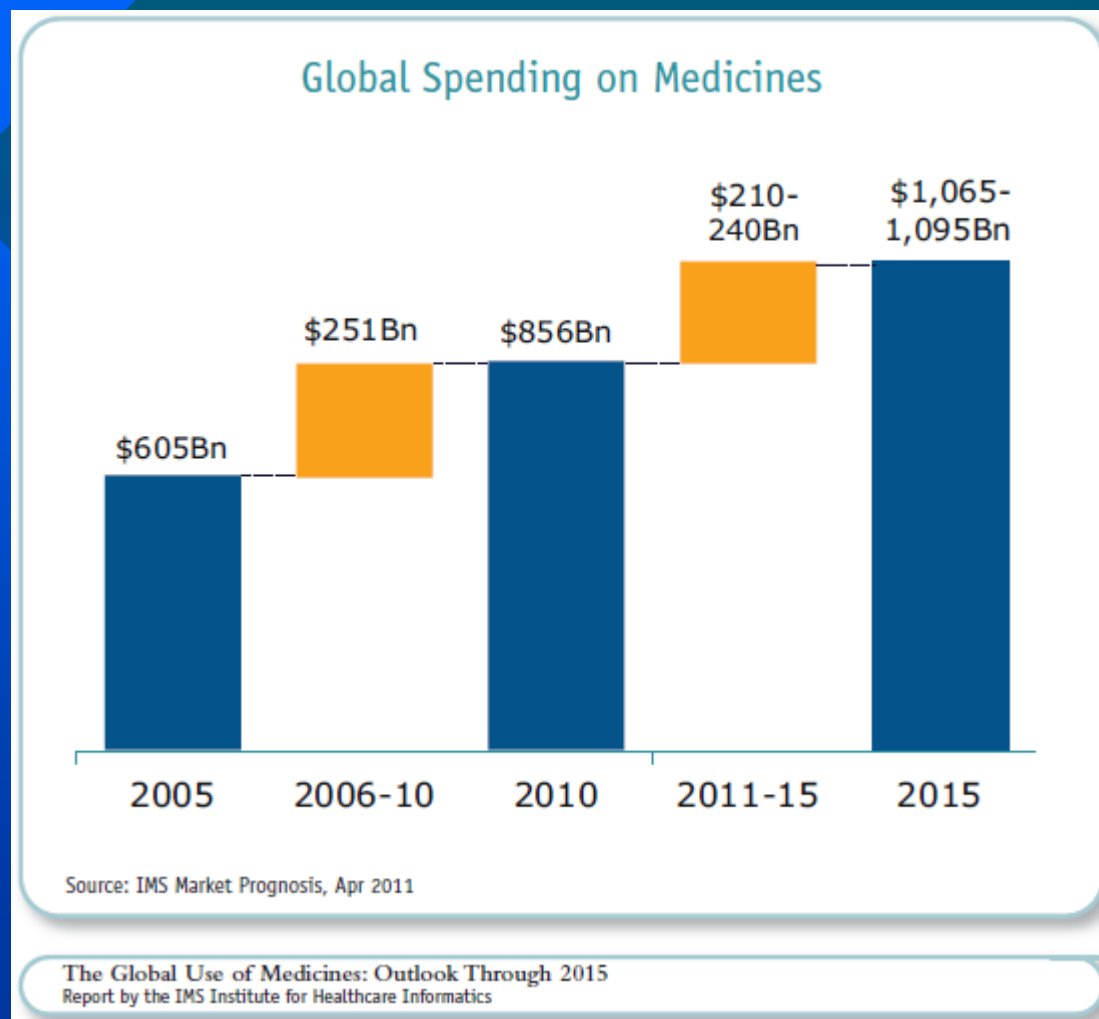- new drugs
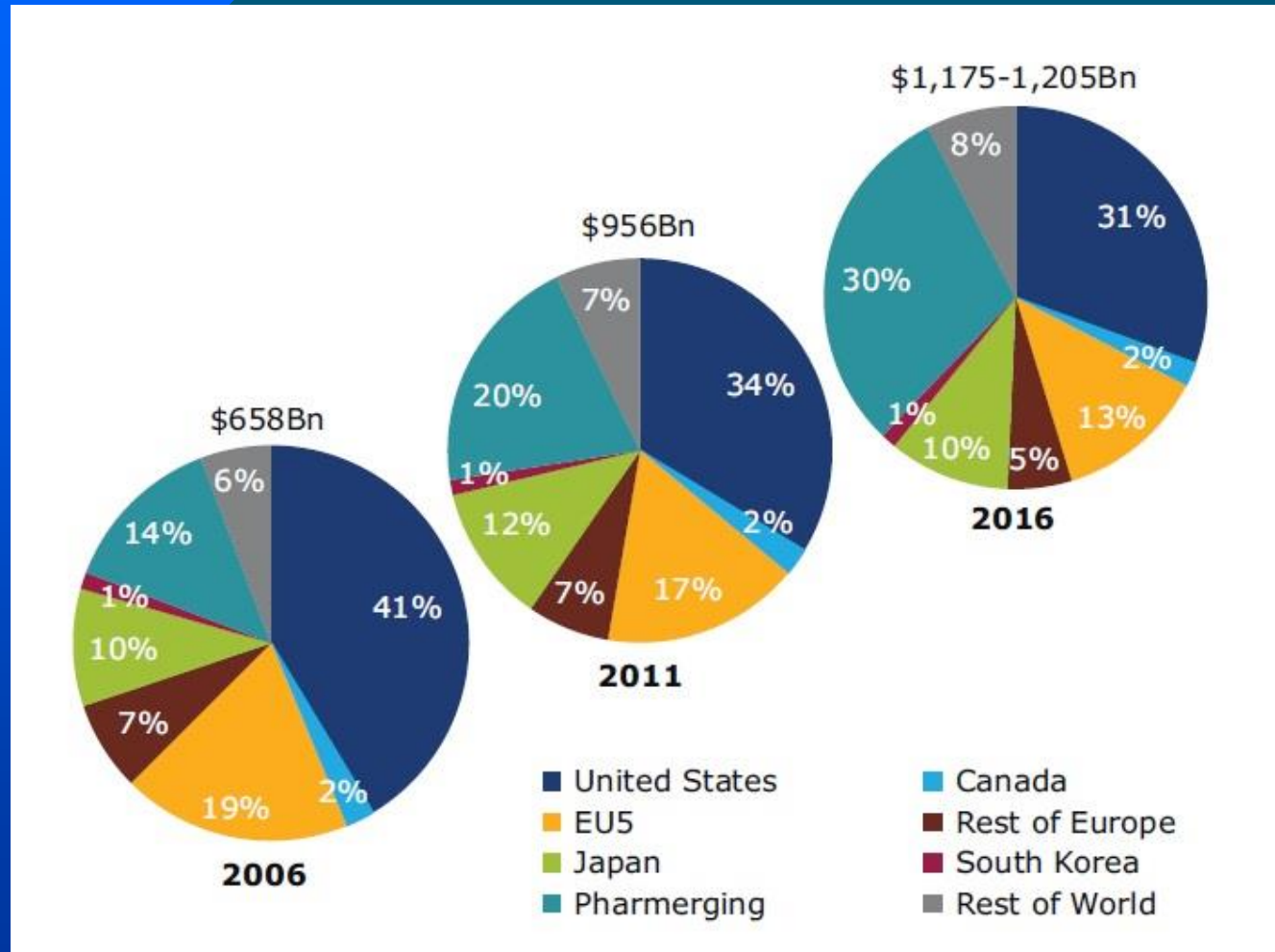- growing old of the societies
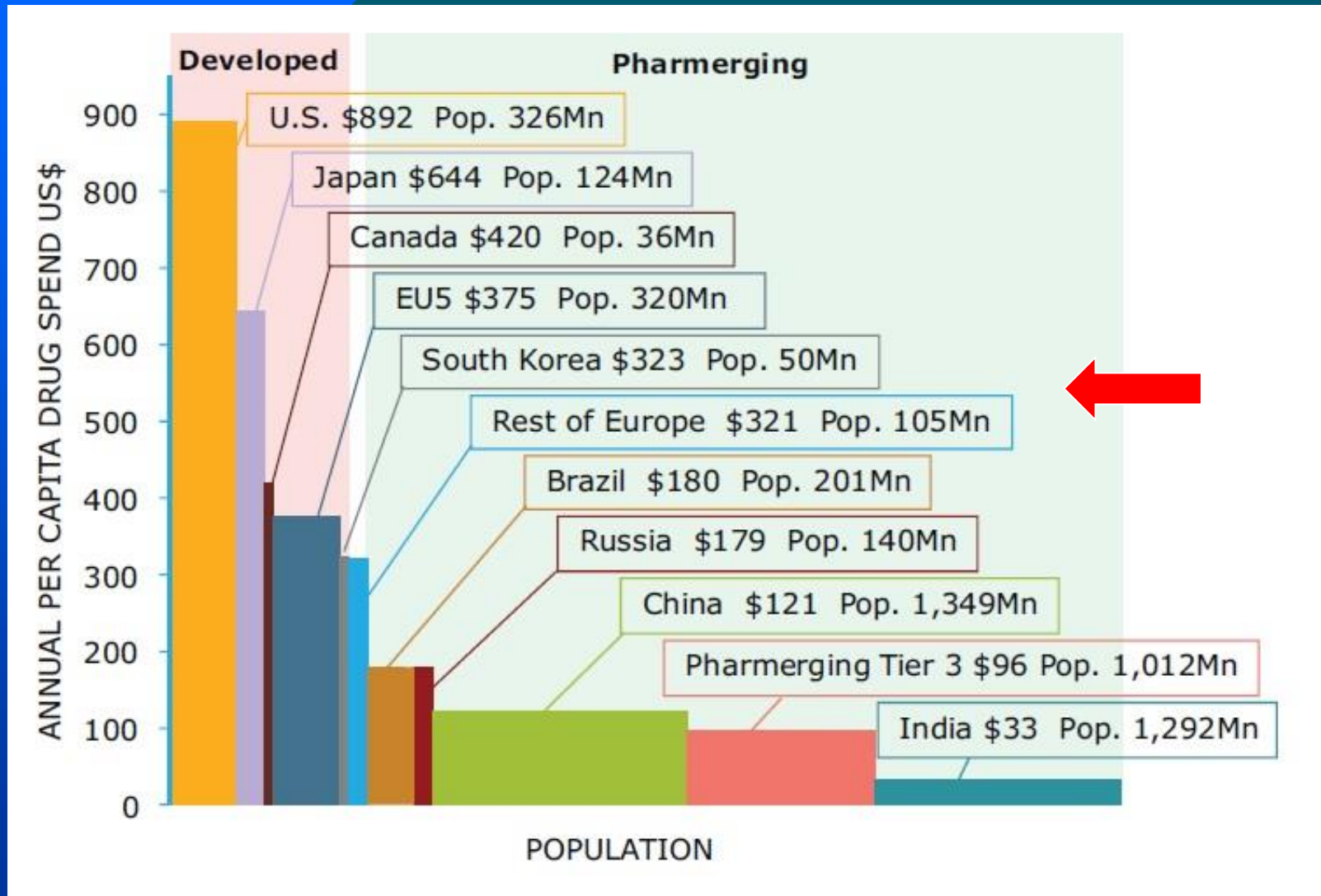
Word drugs sell 1996-2002

(in billions $)

Global spendings on medicines

Global spendings on medicines 2006-2016 (Bn $)

Individual spendings on medicines as for 2005 (in $)

Developed | **Pharmerging**

ANNUAL PER CAPITA DRUG SPEND US$

- U.S. $892 Pop. 326Mn
- Japan $644 Pop. 124Mn
- Canada $420 Pop. 36Mn
- EU5 $375 Pop. 320Mn
- South Korea $323 Pop. 50Mn
- Rest of Europe $321 Pop. 105Mn
- Brazil $180 Pop. 201Mn
- Russia $179 Pop. 140Mn
- China $121 Pop. 1,349Mn
- Pharmerging Tier 3 $96 Pop. 1,012Mn
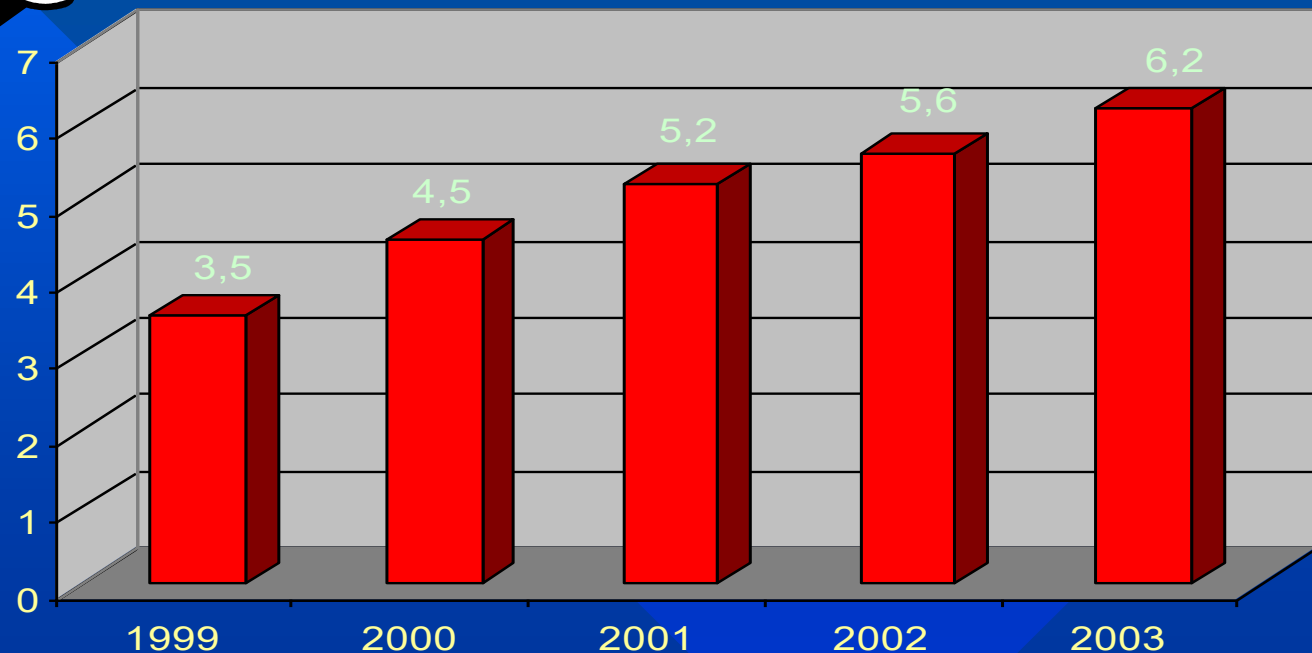- India $33 Pop. 1,292Mn

POPULATION

Source: The Global Use of Medicines: Outlook Through 2016 5, Report by the IMS Institute for Healthcare Informatics

Drug reimbursement in Poland 1999-2005

Sick Found spendings on drugs (Bil PLN)

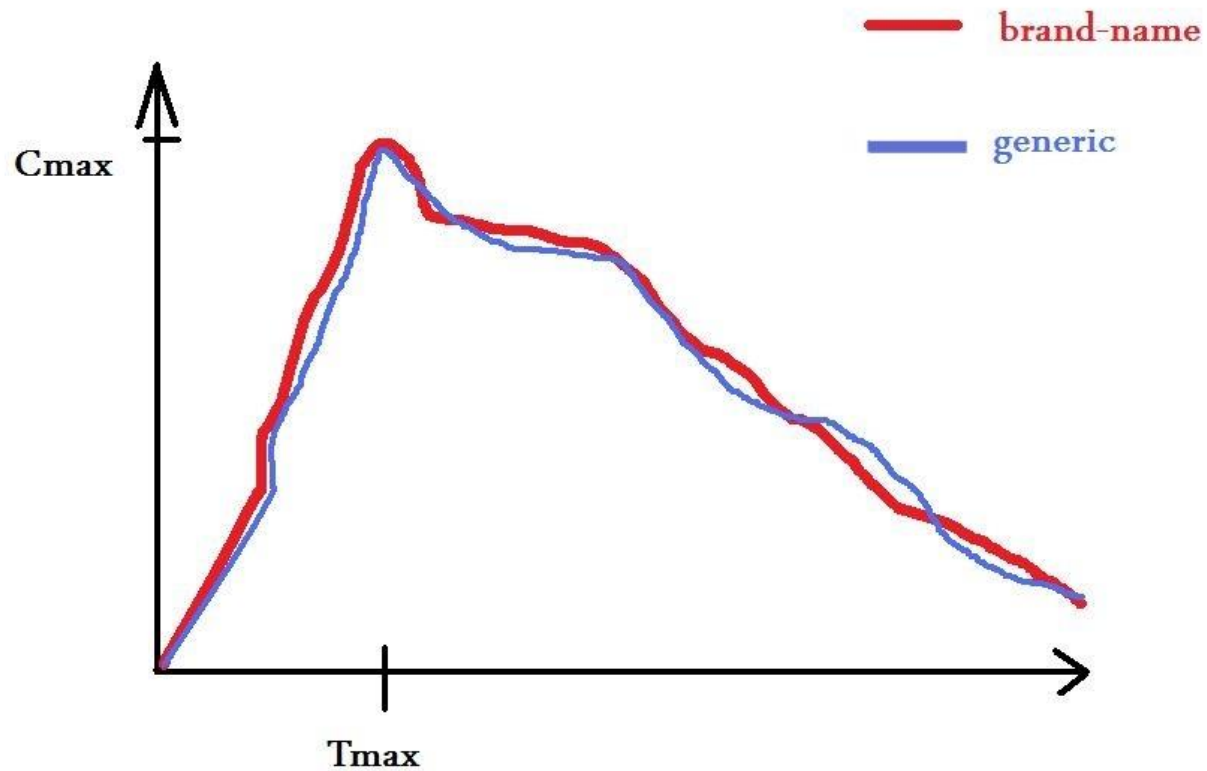| Year	Value
1999	3,5
2000	4,5
2001	5,2
2002	5,6
2003	6,2

„Generic medical product"

- the same qualitative and quantitative composition of active compounds

- the same pharmaceutical form as reference product

- equivalent to the reference product according to the bioavailability studies

source:
EU Directive 2001/83/EC

Bioavailability study results

Generic vs brand name drug

- quality?

- safety?

- cost?

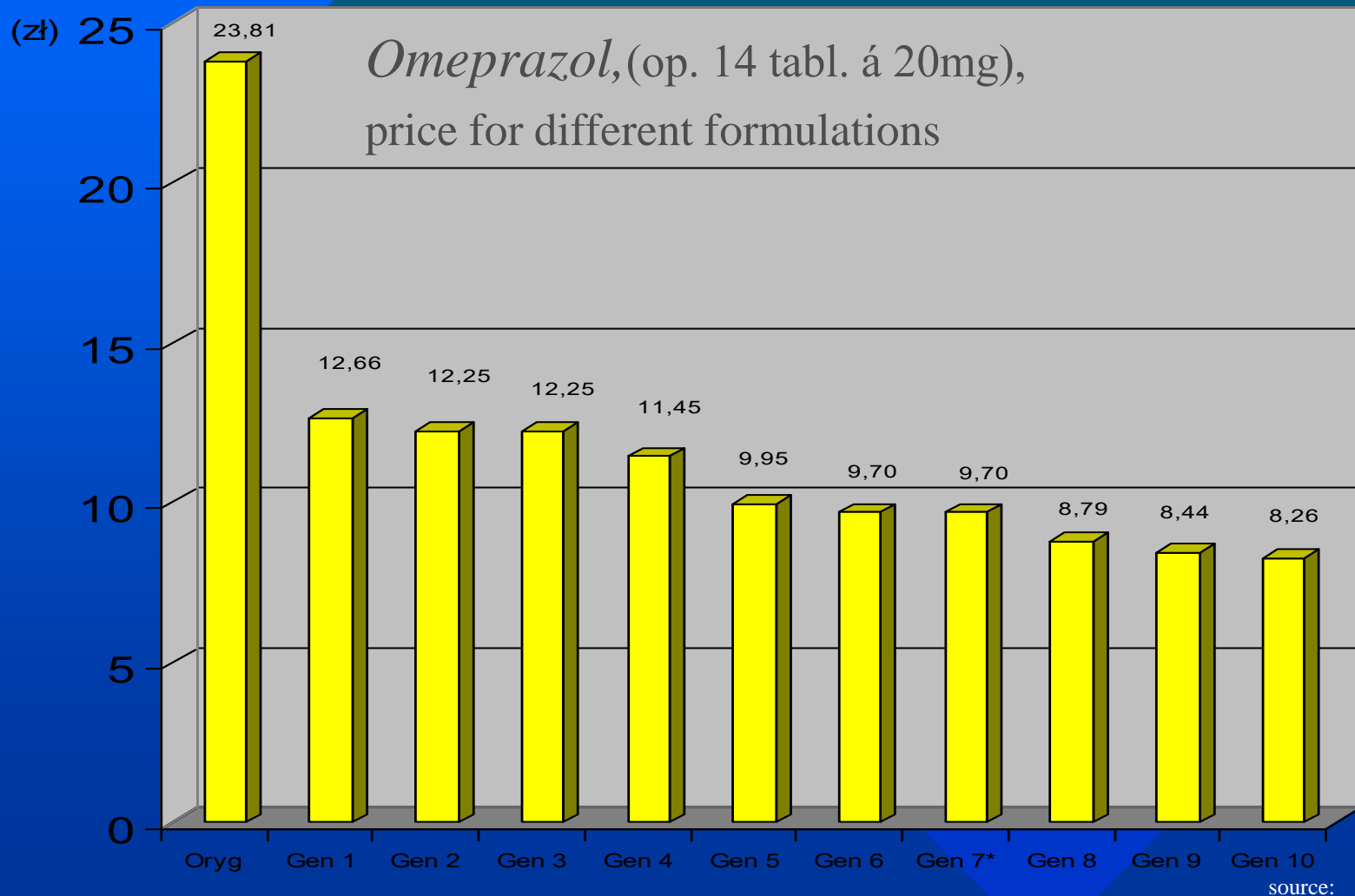# Generic vs brand name drug : COST

NAJWIĘKSZE RÓŻNICE CENOWE* NA PRZYKŁADZIE POPULARNYCH LEKÓW

Lp.	Międzynarodowa nazwa leku	Lek markowy	Cena 1 opakowania (zł)	Lek zastępczy	Cena 1 opakowania (zł)	Stosunek cen
1	nifedipinum	Adalat	54,67	Cordafen	1,94	28,2
2	aciclovir	Zovirax	149,14	Antivir	9,90	15,1
3	ranitidinum	Zantac	114,40	Ranigast	8,32	13,7
4	atenolol	Tenormin	42,90	Atenolol	3,03	14,2
5	diclofenac	Voltaren	11,40	Majamil	1,70	6,7
6	fluconazol	Diflucan	128,65	Fluconazole	15,95	8,0
7	ketotifen	Zaditen	30,69	Ketotifen	3,84	8,0
8	fluoxetina	Prozac	149,94	Fluoxetin	20,28	7,4
9	metoprolol	Betaloc	40,50	Metoprolol	6,59	6,1
10	clotrimazolum	Canesten	13,98	Clotrimazolum	2,33	6,0
11	ciprofloxacinum	Ciprobay	45,78	Cipropol	10,46	4,4
12	ketoconazol	Nizoral	30,26	Ketokonazol	10,40	2,9

* W tabeli podano ceny hurtowe, a więc nie uwzględniające marży aptek

Generic vs brand name drug : COST

Omeprazol, (op. 14 tabl. á 20mg),
price for different formulations

|		
Oryg	23,81
Gen 1	12,66
Gen 2	12,25
Gen 3	12,25
Gen 4	11,45
Gen 5	9,95
Gen 6	9,70
Gen 7*	9,70
Gen 8	8,79
Gen 9	8,44
Gen 10	8,26

(zł)

source:

Generics vs original drugs: PRICE AND MARKET SHARE

Country	Average difference between originator and generic drug price (%)	Generic as a percentage of total market	
		Value	**Volume**
UK	80	18	48
USA	50-90 (1997)	11 (1997)	49 (1997)
Canada	50	14	41
Germany	30 (1997)	27 (1998)	39 (1998)
Denmark	No data	35	60
The Netherlands	20	12	31 (specjalists) 43 (lfam. phys 1998)

source:

King DR, Kanavos P. Croat Med. J 2002; 43(4): 462-9
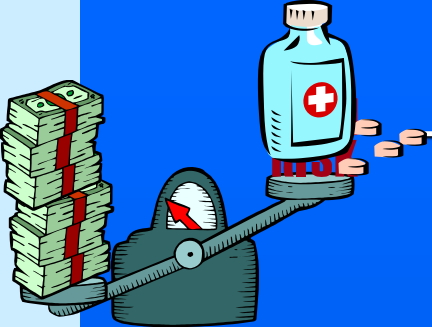
The effect of number of available generics on drug cost

Source	Doxazosin 1mg, 30 tabl.			Simvastatin 20mg, 28 tabl.			Omeprazol 20mg, 14 tabl.		
	Reference drug	# of generics	The cheapest generic	Reference drug	# of generics	The cheapest generic	Reference drug	# of generics	The cheapest generic
Pharmindex Brevier 2001/1	69,88	3	39,58	110,25	2	89,69	68,76	6	46,83
Pharmindex Brevier 2005/1	43,96	8#	29,81	55,87	9	32,99	43,09	10	27,54

source:

Pharmindex Brevier 2001/1 i 2005/1

Generics vs original drugs: COST

Prices of different formulations of bisoprolol (Merck)*

- **Concor (5mg, 30 tabl.) - 24,19 PLN**

- **Concor Cor (5mg, 30 tabl.) - 23,79 PLN**

- **Bisopromerck (5mg, 30 tabl.) - 9,10 PLN**

Source:

ulotka firmy Merck (2005),

* Pharmindex Brevier 2005/1

How to read between the lines
- pharmaceutical advertising

How to read between the lines
- pharmaceutical advertising

source :

How to promote the use of generics?

Method	Canada	Denmark	Germany	The Netherlands	UK	USA	Poland
Reference pricing	+	+	+	+			+
Physician budget			+		+		
Financial incentives for pharmacists	+		+	+	+	+	
Prescribing information system				+	+		
Generic substitution	+	+	+	+		+	+
Patient co-payment	+	+	+		+	+	+

source:

King DR, Kanavos P. Croat Med. J 2002; 43(4): 462-9, zmienione

Types of pharmacoeconomic analyses

- **Cost minimization analysis** (CMA) is applied if the therapeutic value of the new drug is equal to that of the comparator assuming that if the outcomes of the both treatments are equal, then only costs are compared.

- **Cost effectiveness analysis** (CEA) compares different costs and different outcomes of alternative treatments. The objective of the cost effectiveness analysis is to calculate the cost per unit outcome.

- **Cost utility analysis** (CUA) is a comprehensive form of CEA. Recommended outcome measure is quality adjusted life year (QALY), used to calculate the cost per unit outcome achieved incorporating patient preferences.