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A cost/benefit analysis of self-care initiatives in the European Union – who gains, who loses?

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PPRI Conference: Vienna, 12 October 2015

Outline

- » Background
 - » Health system context and rationale of self-care
 - » Definition of self-care
 - » Minor ailments
- » Methodology of cost/benefit analysis
- » Results
- » Conclusions and recommendations
- » Limitations

Health system context & rationale for self-care

Structural considerations

- » Provider-centred structures of most EU health systems not geared towards care of chronic, minor and/or self-limiting diseases

- » Promotion of patient involvement → substitution of consultations with health professionals (esp. GPs)

Chronic diseases

→ day-to-day management

Economic considerations

- » Cost containment to ensure fiscal stability
- » Potential to increase in efficiency and effectiveness of care

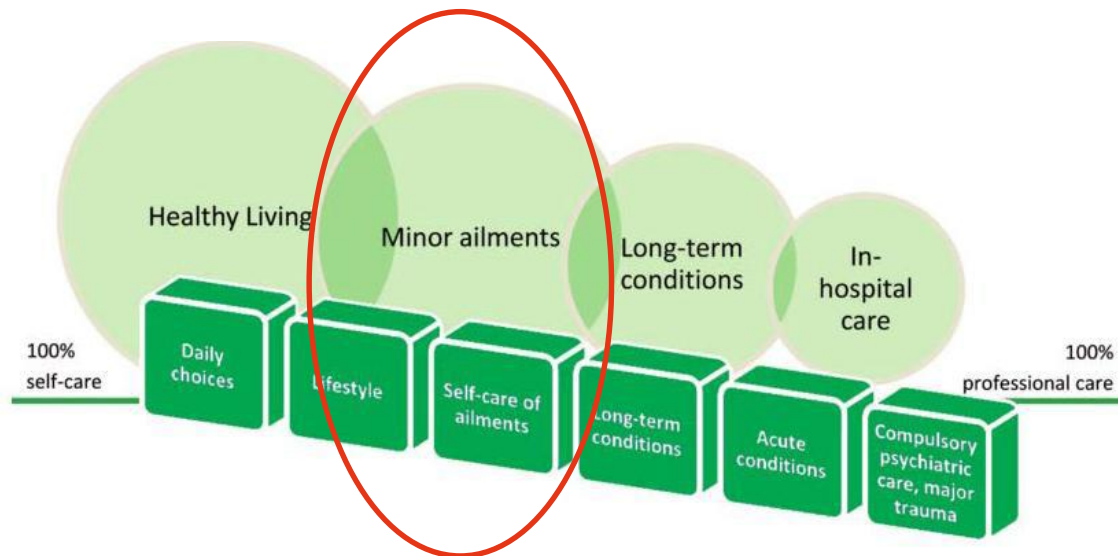
Minor and/or self-limiting conditions

→ Treatment by simple low risk actions



Definition of self-care

Self-care is what individuals, families and communities do with the intention to promote, maintain, or restore health and to cope with illness and disability with or without the support of health professionals such as pharmacists, doctors, dentists and nurses. It includes, but is not limited to self-prevention, self-diagnosis, self-medication and self-management of illness and disability.”



Minor ailments (Welle–Nilsen et al. 2011)

- » Minor and/or self-limiting conditions that are manageable by the patients
- » Patients can handle these conditions by themselves by simple actions that do not necessarily require a doctor:
 - » Seeking advice from a pharmacist (or other health professionals)
 - » Taking non-prescription medication (OTC)
 - » Staying in bed
 - » Doing nothing
- » Minor ailments in focus of the study:
 - » Athlete's foot
 - » Cold
 - » Cough
 - » Indigestion/heartburn
 - » Lower urinary tract infection (UTI)

CBA Methodology I – Identification and selection of self-care initiatives

- » Identification and selection of self-care initiatives
 - » Identification of European self-care initiatives via thorough hand search (>40 results)
 - » Pre-selection by defined criteria (national focus, universal approach, public)
 - » Selection of 7 initiatives for analysis according to the adapted RE-AIM framework
 - » Final selection for initiatives to be included in CBA
 - » Minor ailment schemes (MAS)
 - » Non-medical prescribing (NMP)
 - » NHS choices – internet-based information portal

Name of initiative	R	Eff	Ad	I	M	Acc	Eq
Améli-Santé	?	?	?	?	?	?	?
Latvian telehelpline	≈	?	≈	?	✓	?	≈
Zelfzorg.nl	?	?	?	?	?	?	?
NHS Choices	✓	✓	≈/?	✓	✓	≈/?	≈/?
NHS 111	✓	?	≈	≈	✓	✓	✓
Minor ailment scheme	?	✓	≈	✓	✓	≈	✓
NMP/PIP	✓	✓	✓	✓	✓	✓/≈	?

✓: high; ≈: moderate; ?: unclear; !: low

R: Reach; Eff: Effectiveness; Ad: Adoption; I: Implementation; M: Maintenance; Acc: Access; Eq: Equity

CBA Methodology V – Economic evaluation of self-care initiatives

- » Overall aim of CBA
 - » Comparing the economic consequences (‘potential savings’) of a shift in utilization and the costs of the self-care initiatives (per minor ailment)
- » Methodological approach
 - » Analysis focused on shifted cases which allows to calculate break-even points for take-up needed:
 - » Multi-stakeholder perspective for costs and benefits
 - » Patient
 - » Society
 - » Provider (pharmacist, physician)
 - » System

CBA Methodology VI – Model conceptualisation

- » Patient has 3 options
 - » Option 1: Physician/GP visit + medication
 - » Option 2: Self-care with medication (OTC products)
 - » Option 3: Self-care without medication

- » Assumptions
 - » ‘Shift’ from option 1 to option 2 due to initiatives
 - » Focus on relative change based on the overall cases of option 1 (epidemiological data on cases of certain minor ailments not available and/or inconsistent)
 - » Self-care initiatives have no impact on patients in option 3
 - » Same health outcome in option 1 and 2

CBA Methodology VII – Conceptual framework

		Cost and benefits for each initiative			Relevance and direction of costs and benefits depending on perspective				
		MAS	NHS Choices	NMP/PIP	Patient	Provider (Pharmacy)	Provider (Physician)	Public Payer	Society
Costs	Pharmacy training costs	x	n/a	x		x (-)			x (-)
	Pharmacy time costs	x	x	x		x (-)			x (-)
	Governance costs	x	x	x				x (-)	x (-)
	Medicine prices	x	x	x	x (+/-) *			x (-/+) *	**
	Remuneration of pharmacies	x	n/a	n/a		x (+)		x (-)	**
Benefits	Non-monetary benefits	non monetised			x (+)				x (+)
	Time savings to patients	x	x	x	x (+)				x (+)
	Cost savings from reduced GPs' time	x	x	x			x (-)	x (+)	**

x ... relevant; n/a ... non applicable; x (+) ... relevant with positive effect (additional benefits outweigh additional costs); x (-) relevant with negative effect (additional costs outweigh additional benefits); x (+/-) relevant with positive or negative effect depending on the particular ailment/patient group; * ... no effect in the case of non-medical prescribing; ** ... effects factored out on societal level

CBA Methodology VIII – General assumptions

» Number and type of pharmaceuticals dispensed to patients

Minor ailment	Number and type of pharmaceuticals dispensed to patient				
	GP + pharmacy	Pharmacy only (without initiative)	Pharmacy only (with MAS)	Pharmacy only (with NHS Choices)	Pharmacy only (with NMP/PIP)
Athlete's foot	1 OTC + 1 Rx	2 OTC	2 OTC	2 OTC	1 OTC + 1 Rx
Cold*	2 OTC	2 OTC	2 OTC	2 OTC	2 OTC
Cough	1 OTC + 1 Rx	2 OTC	2 OTC	2 OTC	1 OTC + 1 Rx
Heartburn	1 OTC + 1 Rx	2 OTC	2 OTC	2 OTC	1 OTC + 1 Rx
Urinary tract infection**	1 Rx	-	-	-	1 Rx

* ... no Rx products for cold available
** ... no OTC products for urinary tract infection available

» Average time spent at encounter in minutes

	GP's office	Pharmacy after GP	Pharmacy only	Pharmacy with initiative
Minor ailment scheme	30	5	7	12 (10;15)
NHS Choices	30	5	7	7 (5;10)
Non-medical prescribing	30	5	7	18 (15;20)
Travelling time (both ways)	30	10	20	20

Results – CBA of self-care systems

» Average pharmaceutical price (OOP) for patients

Minor ailment (pharmaceuticals)	Rx or OTC	Average pharmaceutical price for patient (in UK £)...		
		(minimum price; maximum price)		
		<i>... without prescription (OTCs only)</i>	<i>... with prescription if obliged to pay prescription charges</i>	<i>... with prescription if exempt from prescription charges</i>
Athlete's foot (Lamisil, Canesten, Daktarin, Sporanox,, Griseofulvine)	OTC	5.08 (3.58; 7.33)	5.08 (3.58; 7.33)	1.24 (0;4.38)
	POM	n.a.	8.05 (8.05; 8.05)	0.00 (0.00; 0.00)

» Different OOP

	with prescription charges:	without prescription charges:
GP + Pharmacy: 1 OTC + 1 POM	GBP 13.13	GBP 1.24
Pharmacy only (triggered by NHS choices). 2 OTC	GBP 10.16	GBP 10.16
Impact of shift on OOP	GBP – 2.97 (savings)	GBP 8.93* (additional costs, *rounded)

Results – CBA of self-care systems

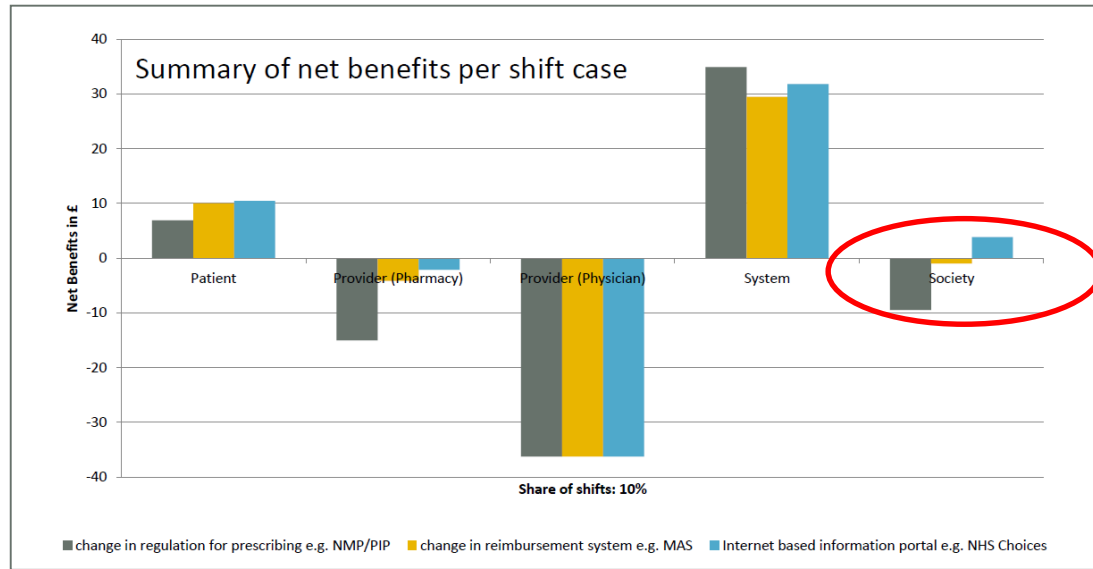
» Costs and benefits
per shifted case
(NHS choices)

7 min consultation time
instead of 5 min
→ + 2 min

27 min waiting time +
travel instead of 75 min
→ + 63 min

		Summary of costs and benefits per shift case (in UK £) ... (lower boundary; upper boundary)			
		5% (n=2,500,000)	10% (n=5,000,000)	20% (n=10,000,000)	
Costs	Share of shifts				
	Pharmacy training costs			n/a	
	Pharmacy time costs			2.13 (0.00; 5.93)	
	Governance costs		6.00 (6.00; 10.00)	3.00 (3.00; 5.00)	1.50 (1.50; 2.50)
	medicine costs: Patient exempt from prescription charges	Athlete`s foot		8.93 (7.16; 10.28)	
		Cold		3.23 (1.38; 0.00)	
		Cough		4.52 (2.99; 6.78)	
		Heartburn		2.79 (1.69; 3.69)	
		Urinary tract infection		0.00 (0.00; 0.00)	
	Medicine costs: Patient obliged to pay prescription charges	Athlete`s foot		-2.97 (-4.47; -0.72)	
		Cold		0.00 (0.00; 0.00)	
		Cough		-3.53 (-5.06; -1.27)	
		Heartburn		-5.73 (-6.36; -4.36)	
		Urinary tract infection		-8.05 (-8.05; -8.05)	
	Remuneration of pharmacies			n/a	
Benefits	Non-monetary benefits			- (not monetised)	
	Time savings to patients			8.97 (9.34; 8.41)	
	Cost savings from reduced GPs` time			36.27 (36.27; 36.27)	

Results – CBA of self-care systems



		Net societal benefit per shift case (in UK £) ...		
		MAS	NMP/PIP	NHS Choices
Share of shifts	5 %	-2.50	-12.02	0.83
	10 %	-0.99	-9.49	3.83
	20%	-0.21	-8.22	5.33
Break-even share of shifts as percentage of GP consultation due to minor ailments only		27.5%	n/a	4.4%

Results – CBA of self-care systems

- » Patient
 - » **Positive net impact**
 - » Due to time savings
 - » Over-compensates for higher OOPs if $P(\text{med w init}) > P(\text{med w/o init})$
- » Provider (Pharmacy)
 - » Generally* **negative net impact** (rather low)
 - » In particular due to training costs for MAS and NMP/PIP
 - » ALSO: Higher amount of consultation time for shift cases (no GP prescription)
 - » *Time (and training) costs may be remunerated → Additional costs for the system
- » Provider (Physician)
 - » **Negative net impact** (substantial)
 - » Immediate impact in case of FFS, mediate impact in case of salaried GPs due to adjustments in capacity
- » System (Payer)
 - » **Positive net impacts** (substantial)
 - » Due to reduced costs for GP remuneration and medication (Rx, allowances)
 - » Over-compensates (initial and operating) costs of initiatives and additional remunerations for providers (if applicable)
- » Society
 - » **Positive net impact** in case of sufficient shift rates for NHS Choices and MAS
 - » **Negative net impact** for NMP/PIP

Disclaimer:

The presentation is based on the report 'A Cost/Benefit analysis of self-care systems in the European Union' which was commissioned and financed by CHAFAEA/DG SANTE. The information and views in this presentation do not reflect an official opinion of the European Commission.

Limitations – CBA of self-care systems

- » Insufficient information on
 - » Incidence and prevalence of minor ailments
 - » In particular for ailments treated with option 2 and 3
 - » Costs and cost-relevant information
 - » Time spent at encounter, travel time, training costs and time
 - » UK: Unit costs for health and social care available
 - » Information on governance costs of initiatives and user take-up
 - » Problem: Avoided GP consultations hardly detectable by routine data
- » Context-sensitivity of analysis
 - » Regulation on prescription charges
 - » Exemptions, alternative payment mechanisms (prepayment certificates), payment if $P(Rx) < \text{prescription charge}$, ...
 - » Remuneration of providers
 - » FFS vs. salaried
- » Fundamental assumptions
 - » Equal outcomes (option 1 and option 2)
 - » Due to self-limiting character endpoints of ailments are equal
 - » BUT: Also equal outcomes in terms of time to recovery (productivity loss) and in terms of pain/suffering? → societal/non-monetary costs not factored in
 - » No change from option 3 to option 2
 - » Might be relevant in particular for the case of NHS choices
 - » Number and type of medication prescribed by GPs / recommended by pharmacist (if pharmacy only encounter)



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