





<u>OHP-032</u>

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BACKGROUND AND PURPOSE

Truvada[®], an antiretroviral (emtricititabine and tenofovir disoproxil fumarate) indicated for HIV-1, was the 12thmost expensive drug prescribed in Piedmont during 2009-2010, with a growth of 12%. Since July 2011 the Hospital Pharmacy School of Turin has developed a two-year pharmacoeconomic project regarding high cost drugs. This study aimed to provide to the decision maker a management tools for the evaluation of HIV treated patients costs.

MATERIALS AND METHODS

Legislation, epidemiology and pharmacoecomy journal articles were reviewed. For the evaluation of the pharmacoeconomic articles it has been followed the Weighted Drummond's Checklist method. A Budget Impact model, based only on the drug costs, has been built. The naive population (290) has been extrapolated from the incidence data in Piedmont in 2010. The treatment options were relied on the U.S.DHHS guidelines and on the pharmacoeconomic studies.



Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents

January 10, 2011

Developed by the DHHS Panel on Antiretroviral Guidelines for Adults and Adolescents – A Working Group of the Office of AIDS Research Advisory Council (OABAC)

Panel on Antiretroviral Gudelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents HIV-1-infected adults and adolescents. Department of Health and Human Services. January 10, 2011; 1–166.

wailable at http://www.aldsinfo.nih.gov/ContentFiles//

insert page number, table number, etc. if applicable] is emphasized that concepts relevant to HIV management evolve apidy. The Panel has a mechanism to update recommendations on eqular basis, and the most recent information is available on the

IDSinfo Web site (http://aidsinfo.nih.go

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La Torre Method with score applied at Drummond's checklist

/		IIEM	Global weight	Economists	_	Epidemi dogists	p-val uer
z	1	The research question is stated	4	4	4	4	0.99
ğ	2	The economic importance of the research question is stated	3	3	3.5	3	0.56
Z	3	The useupoints of the analysis are clearly stated and justified	4	4	4	3	0.09
STUDY DESIGN	4	The rationale for choosing the alternatives programs or interventions compared is stated	4	4	4	3	0.71 0.10
8	J	The alternatives being compared are clearly described The form of economic evaluation used is stated	4	4		_	
Ę.	6		4	35	4	4	0.46 0.59
5	í	The choice of form of economic evaluation is justified in relation to the question addressed			-		0.39
	0	Total The sources of effectiveness estimates used are stated	26	25.5	26	23	0.40
	8 9	The details of the design and results of effectiveness study are given (if based on a single	4	4 35	4	4	0.40
	-	study) Details of the method of synthesis or meta-analysis of estimates are given (if based on an			-		
ž	10	overview of a mmber of effectiveness study)	3	35	3	4	0.50
Ĕ	11 The primary outcome measures for the economic evaluation are clearly stated 12 Methods to value health states and other benefits are stated		4	4	4	4	0.79
DATA COLLECTION		Details of the subjects from whom evaluations were obtained are given	4	4 25	3.3	4	0.41
1.1		Details of the subjects from whom evaluations were obtained are given Productivity changes (if included) are reported separately	3 2	25	2.5	3 2	0.42
H.	17		2	2	3	2	0.35
ŏ		Quantities of resources are reported separately from their unit costs	3	1	3	3	0.73
₫.	17		4	4	3	4	0.40
₹.	18		3	4	3	3	0.15
		Details of currency of price adjustment for inflation or currency conversion are given	3	25	2.5	3	0.82
	20	Details of any model used are given.	3	35	3	4	0.07
	21	The choice of model used and the key parameters on which it is based are justified	4	35	3	4	0.08
		Tale concerci income anel ane correctly primaries on which it is observe the parabeter	45	_	43.5	48	
Z	22	Time horizon of costs and benefits is stated	4	4	4	4	0.95
2	23	The discount rate is stated	4	4	3	4	0.78
	24 The choice of rates are justified		3	35	3	3	0.66
	25	An explanation is given if costs or benefits are not discounted	3	25	3	3	0.46
1 1 1 1	26	Details of statistical tests and confidence intervals are given for stochastic data	3	3	3	4	0.78
12	27 The approach to sensitivity analysis is given		4	3.5	4	3	0.42
88	28		3	3	3	3	0.62
D INTERPRETATION RESULTS	29	The ranges over which the variables are varied are stated	3	35	3	3	0.22
22	30 Relevant alternatives are compared 31 Incremental analysis is reported		3	4	3	3	0.06
ANALYSIS AND. OF R			3	4	3	2	0.09
n Č		 Major outcomes are presented in a disaggregated as well as aggregated form. The answer to the study question is given. 		25	3.5	3	0.61
2				4	4	4	0.97
2		Conclusions follow from the data reported	4	4	4	4	0.14
\$	35	Conclusions are accompanied by the appropriate caveats	4	35	3.5	4	0.17
2		Total	48	49	47	47	

Table 2: Quality assessment results, according to Drummond's checklist

	STUDY DESIGN	DATA COLLECTION	ANALYSIS AND INTERPRETATION OF RESULTS	FINAL SCORE	TOTAL RELATIVE SCORE *
STUDIO 1 De la Rosa 2008	22	30	38	90	75,6
STUDIO 2 Ovagüez I 2009	26	28	41	95	79,8
STUDIO 3 Brogan A.J. 2010	26	28	40	94	79,0
STUDIO 4 Ravasio R. 2010	26	31	45	102	85,7
STUDIO 5 Anita J. 2011	24	29	36	89	74,8
STUDIO 6 Colombo 2011	24	34	39	97	81,5

<u>RESULTS</u>

The model provides an association of Truvada[®] with:

- 1)efavirenz (NNRTI, Sustiva®)
- 2) atazanavir (PI, Reyataz[®]) + ritonavir (booster PI, Norvir[®])

3)darunavir (PI, Prezista[®]) +ritonavir (booster PI, Norvir[®])

		Towad		Reyataz		Pre	zista/	
		scenario	1 :	scenario 2	2	sce	nario 3	
3	Prezist a®	Truvada ®	Norvir ®	30.64	11 184.		3 243 491.37	
2	Reyata z® 300mg	Truvada ®	Norvir	27.15	9 908.		2 873 344,51	7 949.17€
1	Truvad a®	Sustiva ®		21.78	7 949.	.17	2 305 258.14	The annual naïve patie
Associati on	Drug A	Drug B	Drug C	Hospit al price with IVA (€)	Cost 1 ye tera patio	ear py/	For 290 patients	The daily t naive patie 21.78€ to 3

300mg

/Truvada /

Truvada/

The daily therapy cost for
naive patient varies from
21.78€ to 30.64€.

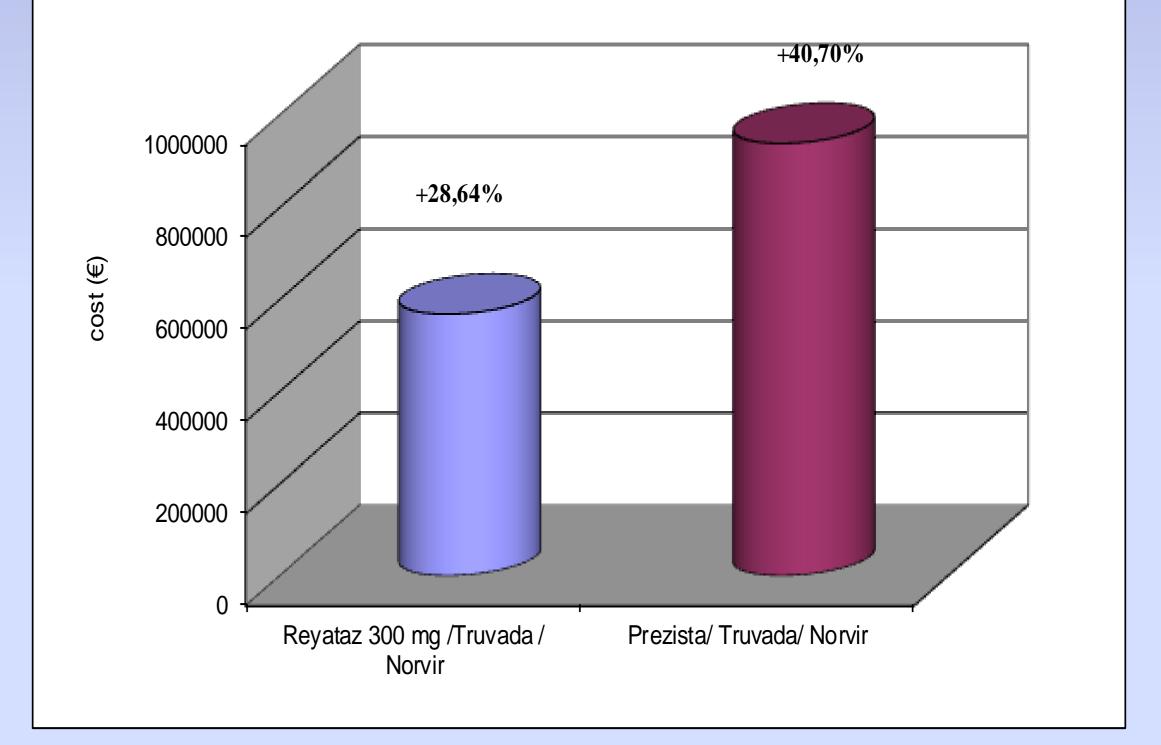
Truvada

The annual expenditure for naïve patient varies from 7 949.17€ to 11 184.45€.

The Budget Impact was calculated considering that the 290 new HIV cases had been treated for one year with one of the therapeutic strategies provided. The variation of expenditure in comparison with Truvada + Sustiva association is:

+24,64% for association 2) atazanavir (PI, Reyataz[®]) + ritonavir (booster PI, Norvir[®])
+40,70% for association 3) darunavir (PI, Prezista[®]) +ritonavir (booster PI, Norvir[®])

Variation of expenditure according to the budget impact expected for the first scenario (Truvada/ Sustiva)



	Sustiva	Norvir	Norvir
Overall Budget Impact	2 305 258.14	2 873 344.51	3 243 491.37
Increase compared with scenario 1		568 086.37	938 233.23
% increase		24,64%	40,70%
Increase compared with scenario 2			370 146.86
% increase			12,88%

Truvada/

Sustiva

The third therapy is the most expensive (3 243 491.37€) and produce an increase in the annual expenditure of a **40.70**% (938 233.23€) as compared with the first therapy (2 305 258.14€).

<u>CONCLUSIONS</u>

The Budget Impact analysis will be used to carry out the pre-assessments of expenditure in order to set up health care programmes for the allocation of the economic resources. A pharmacoeconomic analysis of cost-effectiveness will be performed between the associations Truvada+Reyataz and Truvada+Sustiva.

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