CONGRESSO NAZIONALE

78

FIMMG-METIS 2021

MEDICINA GENERALE

CONVENZIONATA, DIRITTO DELL'INDIVIDUO.

RESIDENZIALE E VIDEOCONFERENZA
4 OTTOBRE 2021
9 OTTOBRE 2021

FAD ASINCRONE
12 OTTOBRE 2021
15 NOVEMBRE 2021

SCELTA FIDUCIARIA
PROSSIMITÀ
DOMICILIARITÀ

FIMMG® Federazione Italiana Medici di Famiglia

Metis® DI MEDICINA GENERALE
SOCIETA' SCIENTIFICA DEI MEDICI

Differenze tra originatori ed equivalenti

Alberto Corsini

Definizione di medicinale generico/equivalente

Un medicinale che ha la **stessa composizione qualitativa e quantitativa di sostanze attive** e la **stessa forma farmaceutica** del medicinale di riferimento nonché una ***bioequivalenza*** con il medicinale di riferimento dimostrata da studi appropriati di biodisponibilità, viene definito ***equivalente***.

art. 10, comma 5 DLvo n. 219/06;

Se le forme farmaceutiche sono bioequivalenti

efficacia **e** ***sicurezza clinica*** sono simili e possono essere usate indistintamente in terapia (i.e. **stesse indicazioni terapeutiche**)

JAMA®

Online article and related content current as of December 5, 2008.

Clinical Equivalence of Generic and Brand-Name Drugs Used in Cardiovascular Disease: A Systematic Review and Meta-analysis

Aaron S. Kesselheim; Alexander S. Misono; Joy L. Lee; et al.

JAMA. 2008;300(21):2514-2526 (doi:10.1001/jama.2008.758)

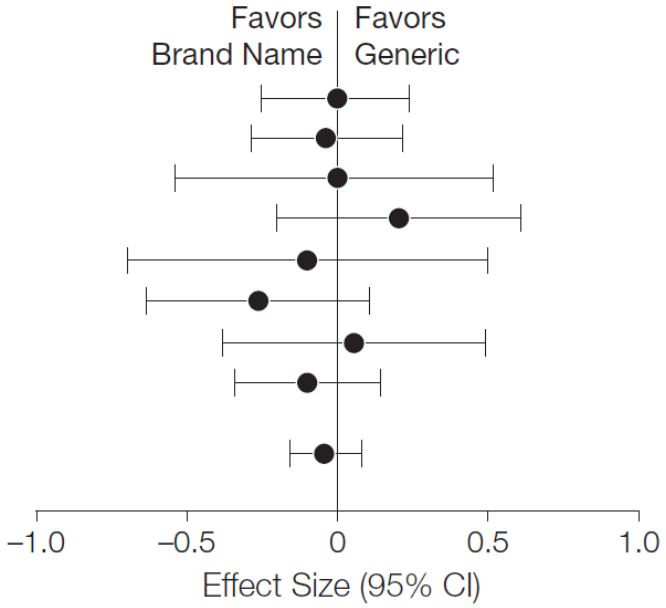
Context Use of generic drugs, which are bioequivalent to brand-name drugs, can help contain prescription drug spending. However, there is concern among patients and physicians that brand-name drugs may be clinically superior to generic drugs.

Study Selection Studies compared generic and brand-name cardiovascular drugs using clinical efficacy and safety end points.

Conclusions Whereas evidence does not support the notion that brand-name drugs used in cardiovascular disease are superior to generic drugs, a substantial number of editorials counsel against the interchangeability of generic drugs.

Drug Class and Meta-analyses of Trials Comparing Generic and Brand-Name Drugs in Cardiovascular Disease

Drug Class	No. Studies	No. Subjects	Effect Size (95% CI)
β-Blockers	6	135	0.00 (–0.24 to 0.25)
Diuretics	10	135	–0.03 (–0.28 to 0.22)
Calcium channel blockers	4	242	0.00 (–0.53 to 0.53)
Antiplatelet agents	2	50	0.21 (–0.19 to 0.61)
ACE inhibitors	1	23	–0.09 (–0.68 to 0.50)
Statins	2	71	–0.25 (–0.62 to 0.12)
α-Blockers	1	43	0.06 (–0.37 to 0.50)
Warfarin	4	138	–0.09 (–0.33 to 0.15)
Overall	30	837	–0.03 (–0.15 to 0.08)



JAMA. 2008;300(21):2514-2526

Compliance

- *La compliance terapeutica , è la misura diretta di come le dosi, gli orari ed i modi di assunzione dei farmaci adottati dal paziente, corrispondono strettamente alla prescrizione originaria del medico*

Aderenza → persistenza

- *Effettiva attuazione della prescrizione terapeutica*

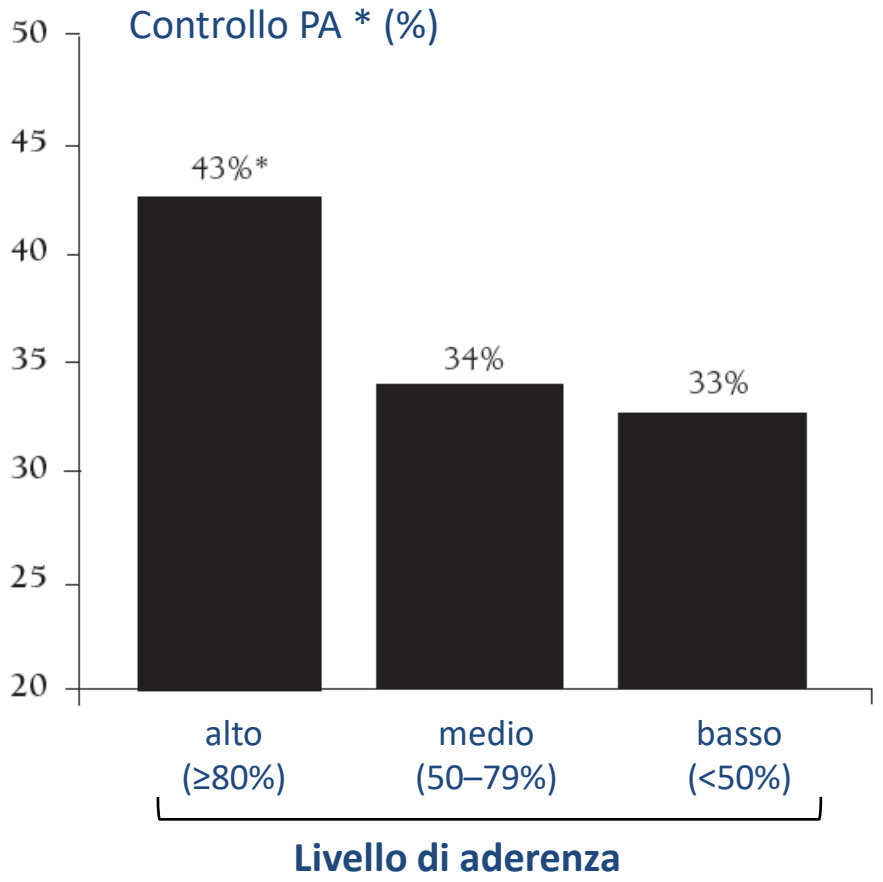
Relazione terapeutica = partecipazione del paziente alle scelte terapeutiche

Persistenza

- *Continuità d'uso del medicinale prescritto nel tempo*
- *Valore alle percezioni del malato e alla sua soddisfazione*
- *Il paziente deve essere messo in condizioni di capire le indicazioni terapeutiche e di concordare le decisioni*

L’aderenza è importante per il controllo pressorio

- Aderenza rappresenta uno dei più importanti fattori per un buon controllo pressorio
- E’ importante monitorare la aderenza del paziente
- Migliorare la aderenza /persistenza significa migliorare la prognosi
- Gli interventi che hanno migliorato la aderenza hanno determinato un risparmio economico e aumentato l’efficienza degli intreventi terapeutici

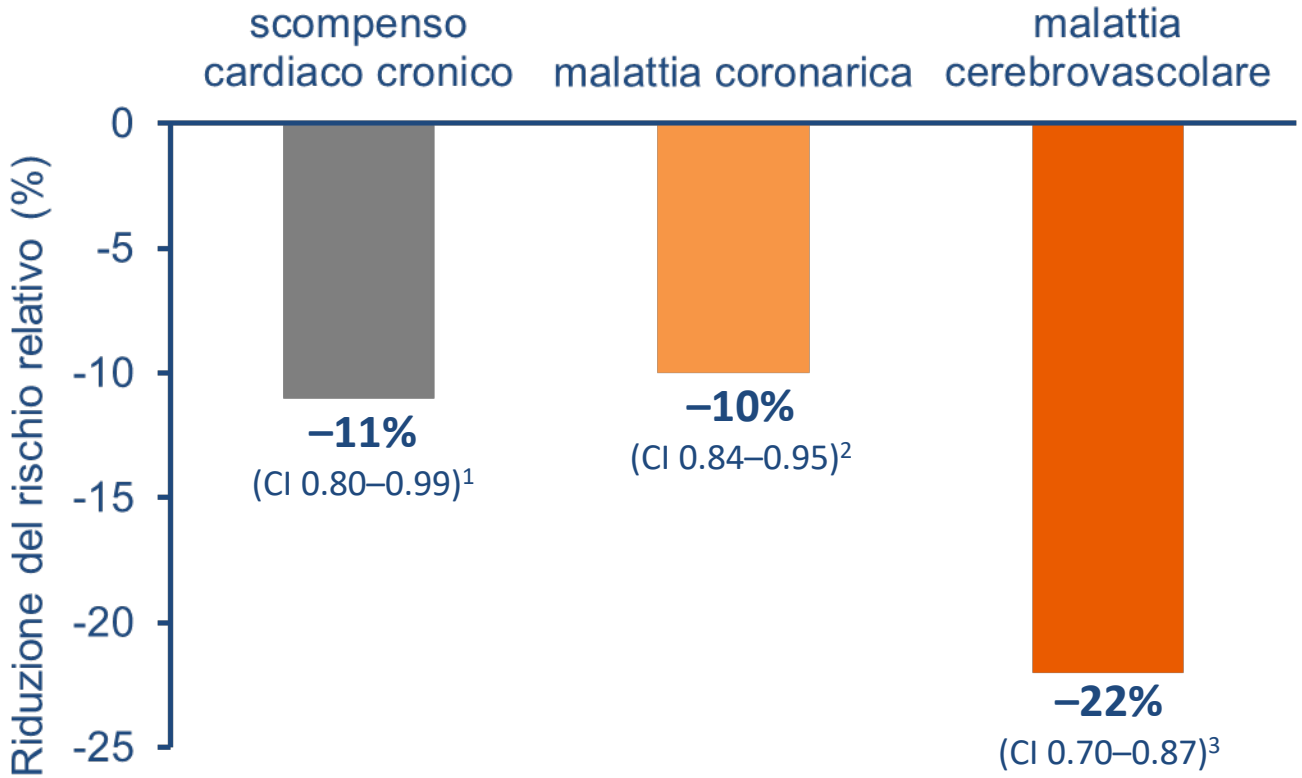


*<140/90 mmHg
(<130/85 mmHg nei diabetici)

Hill, Miller, DeGeest. *J Clin Hypertens* 2010;12:757–64
Bramley, Gerbino, Nightengale and Frech-Tamas *J Manag Care Pharm* 2006;12:239–45

La buona aderenza si associa a minor rischio di eventi

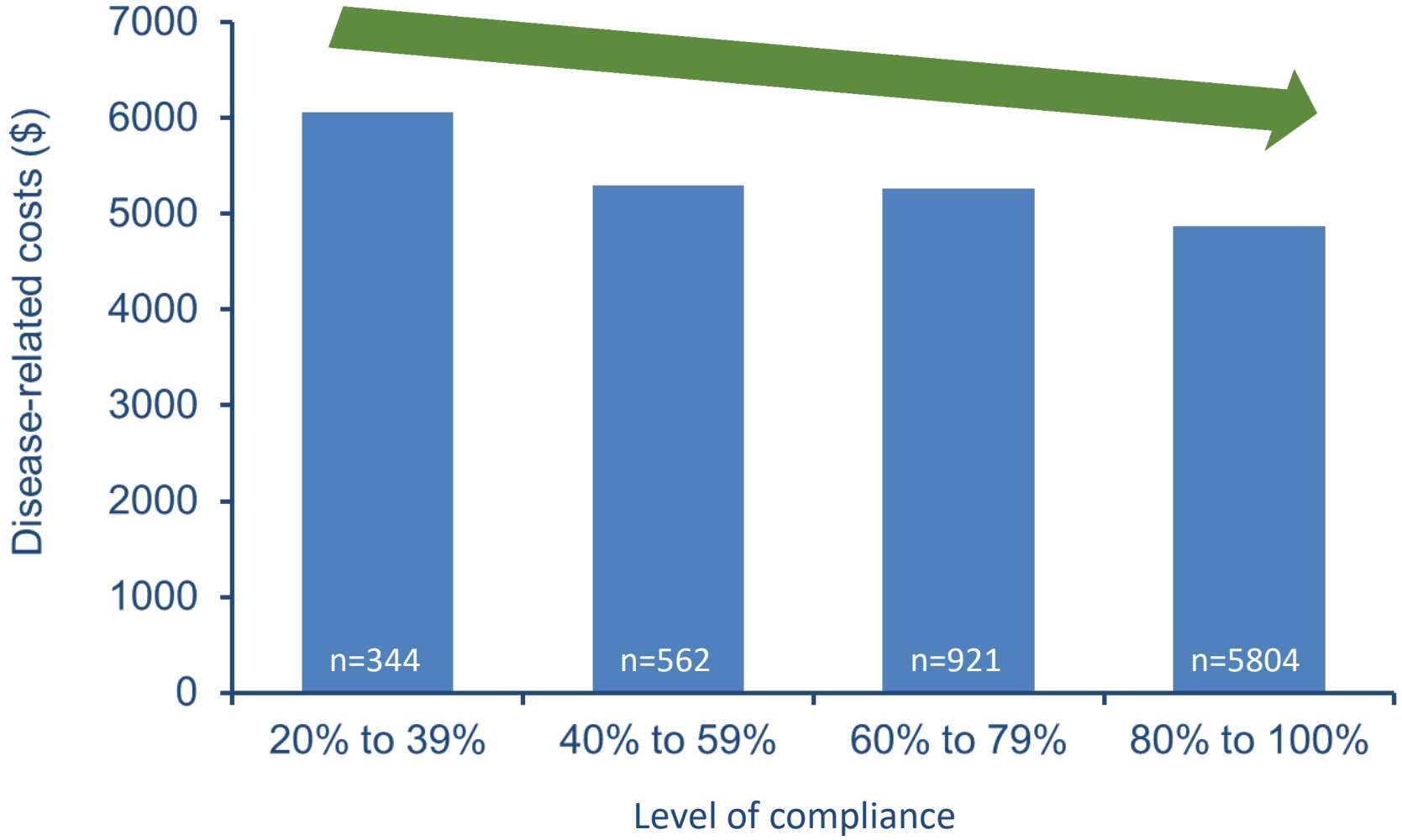
I pazienti con alta aderenza, rispetto a quelli con bassa:



Calcolo aderenza = rapporto di possesso del farmaco :
n totale di confezioni dispensate/durata del follow-up

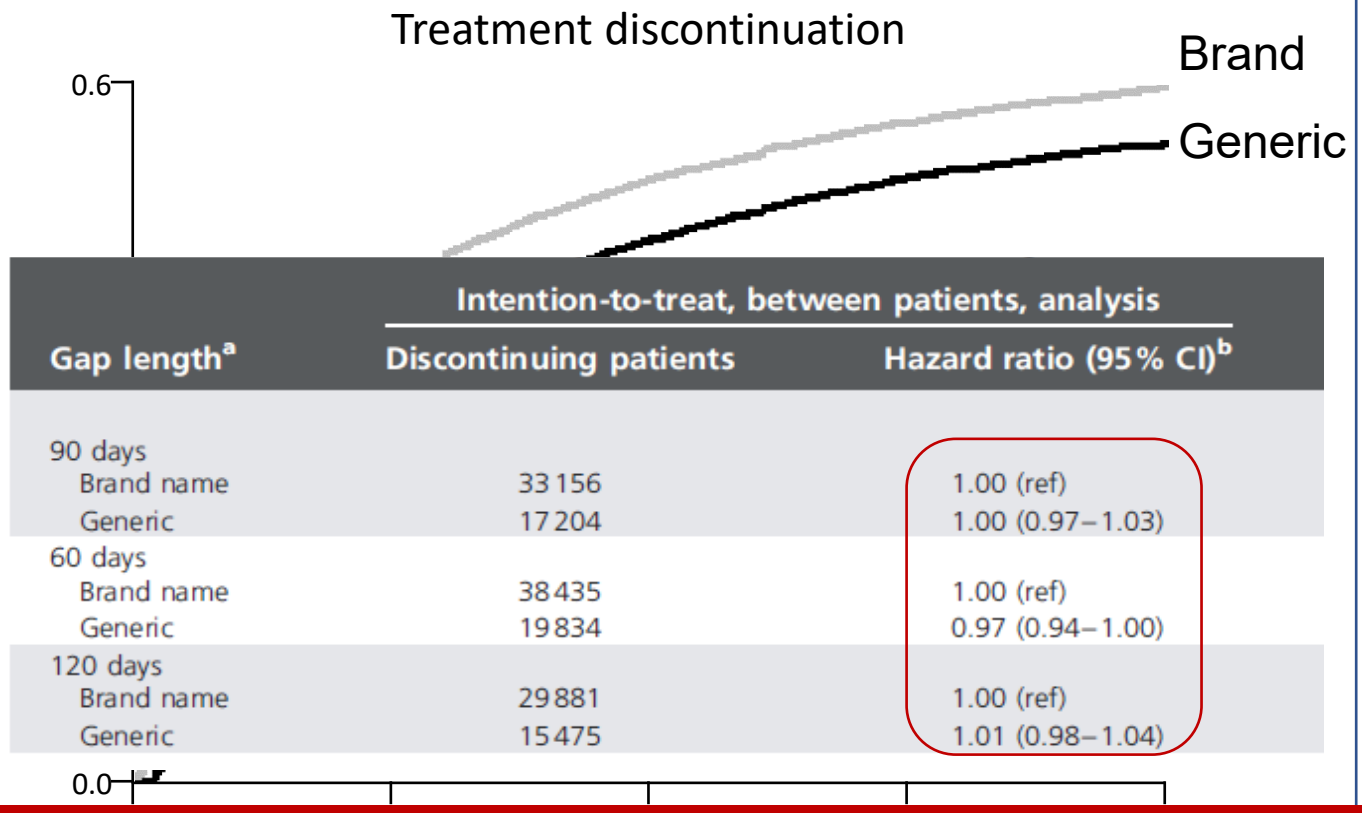
1. Perreault, Dragomir, White, et al. *J Intern Med* 2009;266:207–18
2. Perreault, Dragomir, Roy, et al. *Br J Clin Pharmacol* 2010;69:74–84
3. Kettani, Deragomir, Côté, et al. *Stroke* 2009;40:213–20

Improvements in adherence/compliance are associated with lower healthcare costs



Adapted from Bramlage and Hasford. *Cardiovasc Diabetol* 2009;8:18

Percentuali cumulative di pazienti che interrompono la terapia antipertensiva in relazione ad assunzione di farmaco originatore o generico



Gap length[a]	Intention-to-treat, between patients, analysis: Discontinuing patients	Hazard ratio (95% CI)[b]
90 days		
Brand name	33 156	1.00 (ref)
Generic	17 204	1.00 (0.97–1.03)
60 days		
Brand name	38 435	1.00 (ref)
Generic	19 834	0.97 (0.94–1.00)
120 days		
Brand name	29 881	1.00 (ref)
Generic	15 475	1.01 (0.98–1.04)

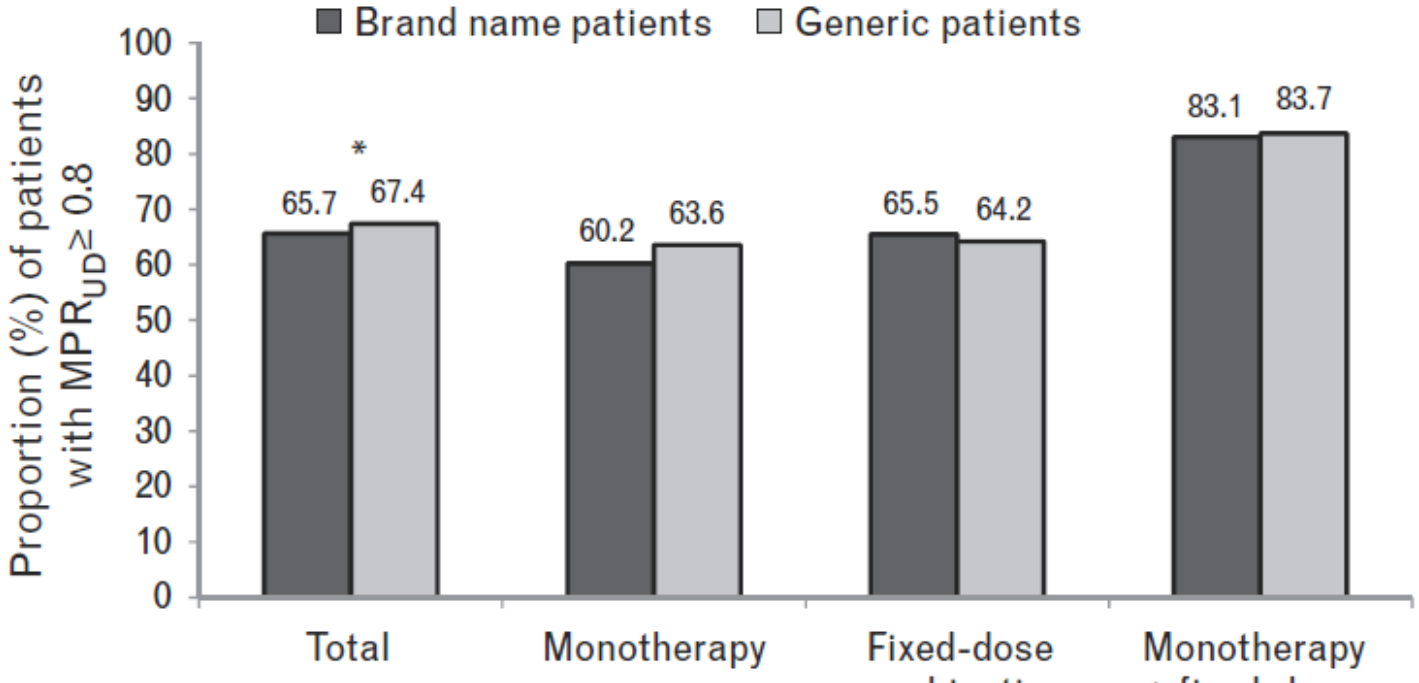
"…Conclusion: Generic products are not responsible for the high rate of discontinuation from antihypertensive drug therapy…"

Generic switch after ramipril patent expiry is not associated with decreased pharmacy refill compliance: a retrospective study using the *DAPI* database

Miriam Ude[a], Katrin Schuessel[b], Renate Quinzler[b], Kristina Leuner[a], Walter E. Müller[a] and Martin Schulz[a,b]

Ude et al, J Hypertens 2011

(1) **Generic ramipril** as first prescription, *n* = 142 690 (64.3%)
(2) **Brand name ramipril** as first prescription *n* = 79 191 (35.7%)



"…In a logistic regression model adjusting for covariates, the probability for noncompliance (MPRUD<0.8) was marginally lower in the generic compared with the brand name group (OR 0.926, 99% CI 0.901–0.951, p<0.001)…"

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PLOS ONE

Off-Patent Generic Medicines vs. Off-Patent Brand Medicines for Six Reference Drugs: A Retrospective Claims Data Study from Five Local Healthcare Units in the Lombardy Region of Italy

Giorgio L. Colombo[1,2]*, Enrico Agabiti-Rosei[3], Alberto Margonato[4], Claudio Mencacci[5], Carlo Maurizio Montecucco[6], Roberto Trevisan[7]

1 Department of Drug Sciences, University of Pavia, Pavia, Italy, **2** S.A.V.E. Studi Analisi Valutazioni Economiche, Milan, Italy, **3** Division of Medicine and Surgery, Spedali Civili, Brescia, Italy, **4** Division of Cardiology, San Raffaele University Hospital, Milan, Italy, **5** Department of Neuroscience, A.O. Fatebenefratelli e Oftalmico, Milan, Italy, **6** Division of Rheumatology, IRCCS Policlinico S Matteo, University of Pavia, Pavia, Italy, **7** Unit of Diabetology, Ospedali Riuniti di Bergamo, Bergamo, Italy

Abstract

The scientific documentation supporting the potential clinical and economic benefits of a growing use of off-patent generic drugs in clinical practice seems to be limited in Italy as yet.

Methods: We compared differences in outcomes between off-patent generic drugs and off-patent brand drugs in real clinical practice. The outcomes were: persistence and compliance with therapy, mortality, and other health resources consumption (hospitalizations, specialist examinations, other drugs) and total costs. Retrospective analysis was carried out by using the administrative databases of five Local Healthcare Units (ASLs - Aziende Sanitarie Locali) in the Lombardy Region of Italy. Data from the five ASLs were aggregated through a meta-analysis, which produced an estimate indicator of the mean or percentage difference between the two groups (branded vs. generic) and their respective significance tests. The therapeutic areas and studied drugs were: diabetes: metformin - A10BA02; hypertension: amlodipine - C08CA01; dyslipidemia: simvastatin - C10AA01; psychiatry: sertraline - N06AB06; cardiology: propafenone - C01BC03; osteoporosis: alendronate - M05BA04.

Results: The 5 Local Healthcare Units (ASL) represent a population of 3,847,004 inhabitants. The selected sample included 347,073 patients, or 9.02% of the total ASL population; 67% of the patients were treated with off-patent brand drugs. The average age was 68 years, with no difference between the two groups. After 34 months of observation, compliance and persistence were in favor to generic drugs in all therapeutic areas and statistically significant in the metformin, amlodipine, simvastatin, and sertraline groups. The clinical outcomes (hospitalizations, mortality, and other health costs) show no statistically significant differences between off-patent generic vs. off-patent brand medicines.

Conclusions: Off-patent generic drugs appear to be a therapy option of choice in Italy as well, based on clinical outcomes and economic consequences, both for the National Health Service and patients, considering that the price difference between brand and generic drugs is completely charged on patients.

COMPLIANCE

Table 3. Analysis of patients' compliance for persistent patients (MPR - Medical Possession Ratio).

	Type	No.	Min	ASL associated with min	Max	ASL associated with max	Mean Diff.	SD	CI 95% Low. Lim.	CI 95% Upp. Lim.	p-value
Metformin	Branded	6410	0.47	Milano city	0.55	Lecco	0.03	0.01	0.02	0.04	<0.0001
A10BA02	Generic	7688	0.46	Lecco	0.58	Melegnano					
Amlodipine	Branded	11435	0.75	Milano city	0.84	Melegnano	0.04	0.01	0.04	0.05	<0.0001
C08CA01	Generic	5101	0.79	Milano city	0.87	Melegnano					
Simvastatin	Branded	6355	0.42	Milano city	0.48	Melegnano e Lecco	0.03	0.01	0.02	0.04	<0.0001
C10AA01	Generic	10133	0.45	Milano city	0.50	Melegnano					
Propafenone	Branded	805	0.62	Milano city	0.72	Melegnano	0.04	0.02	−0.01	0.08	N.S.
C01BC03	Generic	328	0.65	Lecco	0.83	Melegnano					

Colombo GL, Agabiti-Rosei E, Margonato A, Mencacci C, Montecucco CM, et al. (2013) Off-Patent Generic Medicines vs. Off-Patent Brand Medicines for Six Reference Drugs: A Retrospective Claims Data Study from Five Local Healthcare Units in the Lombardy Region of Italy. PLoS ONE 8(12): e82990.

PERSISTENZA

Table 2. Analysis of persistence in therapy: continuation of therapy (DDD duration) for the recommended period of time.

	GAP	Type	No.	Min	ASL associated with min	Max	ASL associated with max	Mean Diff.	SD	CI 95% Low. Lim.	CI 95% Upp. Lim.	p-value
Metformin	90 days	Branded	6410	305.7	Milano city	435.5	Lecco	67.23	6.56	54.38	80.08	<0.0001
A10BA02		Generic	7688	254.3	Lecco	508.4	Melegnano					
Amlodipine	90 days	Branded	11435	367.8	Milano city	441.9	Bergamo	78.69	6.74	65.47	91.91	<0.0001
C08CA01		Generic	5101	441.6	Milano city	535.5	Bergamo					
Simvastatin	90 days	Branded	6355	281.15	Milano city	365.2	Melegnano	79.79	5.89	68.25	91.33	<0.0001
C10AA01		Generic	10133	348.7	Milano city	428.1	Melegnano					
Propafenone	30 days	Branded	805	197.1	Milano city	291.9	Bergamo	9.07	21.08	−32.24	50.39	N.S.
C01BC03		Generic	328	137.5	Lecco	274.0	Bergamo					

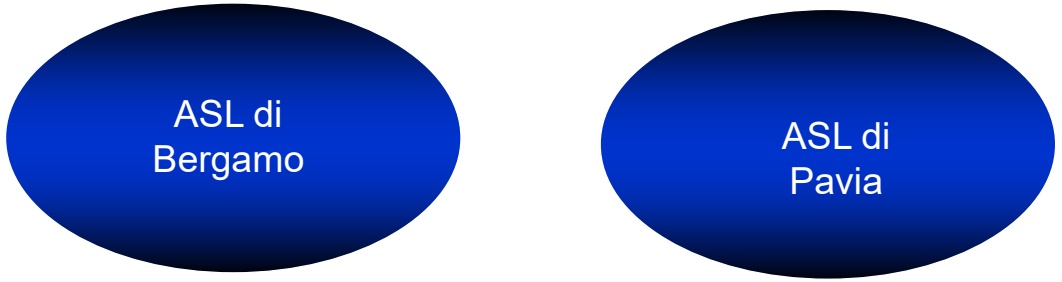
Colombo GL, Agabiti-Rosei E, Margonato A, Mencacci C, Montecucco CM, et al. (2013) Off-Patent Generic Medicines vs. Off-Patent Brand Medicines for Six Reference Drugs: A Retrospective Claims Data Study from Five Local Healthcare Units in the Lombardy Region of Italy. PLoS ONE 8(12): e82990.

Impact of substitution among generic drugs on persistence and adherence: A retrospective claims data study from 2 Local Healthcare Units in the Lombardy Region of Italy

Giorgio L. Colombo [c], Enrico Agabiti-Rosei [b], Alberto Margonato [d], Claudio Mencacci [e], Carlo Maurizio Montecucco [f], Roberto Trevisan [g], Alberico L. Catapano [a,*]

Indagine retrospettiva tramite l'utilizzo di database amministrativi di 2 ASL della regione Lombardia

Flusso della farmaceutica territoriale; Database anagrafica assistiti; Schede di mortalità



OBIETTIVO: STUDIARE LA SOSTITUZIONE DEL FARMACO GENERICO (SOSTITUZIONE ORIZZONTALE) ED INVESTIGARE LE RELAZIONI TRA SOSTITUZIONE ORIZZONTALE E ADERENZA E PERSISTENZA ALLA TERAPIA

Atherosclerosis 2016

Adherence to treatment stratified by generic substitution class, therapeutic area and by ASL

Source: Colombo GL, et al., 2016

		MPR					
			ASL BERGAMO			ASL PAVIA	
THERAPEUTIC AREA	SUBSTITUTION FREQUENCY CLASSES	N	MEAN	SD	N	MEAN	SD
DIABETES	RANGE (1%-15%)	605	0.68	0.23	457	0.84	0.21
	RANGE (15%-30%)	595	0.65	0.25	359	0.76	0.25
	RANGE (30%-45%)	413	0.64	0.25	257	0.71	0.27
	RANGE (45%-60%)	232	0.61	0.27	117	0.68	0.28
	RANGE (≥60%)	241	0.50	0.28	184	0.60	0.30
DYSLIPIDEMIA	RANGE (1%-15%)	430	0.66	0.20	410	0.83	0.22
	RANGE (15%-30%)	586	0.59	0.20	561	0.77	0.25
	RANGE (30%-45%)	477	0.58	0.21	465	0.67	0.28
	RANGE (45%-60%)	410	0.52	0.22	251	0.53	0.22
	RANGE (≥60%)	732	0.46	0.24	643	0.49	0.24
HYPERTENSION	RANGE (1%-15%)	369	0.96	0.09	384	0.98	0.06
	RANGE (15%-30%)	429	0.93	0.14	537	0.96	0.11
	RANGE (30%-45%)	364	0.91	0.15	406	0.94	0.13
	RANGE (45%-60%)	306	0.90	0.16	325	0.91	0.15
	RANGE (≥60%)	441	0.81	0.24	598	0.85	0.21
OSTEOPOROSIS	RANGE (1%-15%)	36	0.92	0.09	37	0.98	0.05
	RANGE (15%-30%)	77	0.86	0.15	66	0.93	0.11
	RANGE (30%-45%)	63	0.88	0.12	48	0.84	0.21
	RANGE (45%-60%)	48	0.77	0.21	43	0.81	0.22
	RANGE (≥60%)	64	0.71	0.27	63	0.71	0.26
PSYCHIATRY	RANGE (1%-15%)	56	0.97	0.09	81	0.98	0.07
	RANGE (15%-30%)	106	0.93	0.12	139	0.96	0.12
	RANGE (30%-45%)	96	0.89	0.18	130	0.91	0.16
	RANGE (45%-60%)	131	0.80	0.25	85	0.82	0.24
	RANGE (≥60%)	326	0.78	0.25	280	0.78	0.28

Persistence of treatment stratified by generic substitution class therapeutic area and by ASL

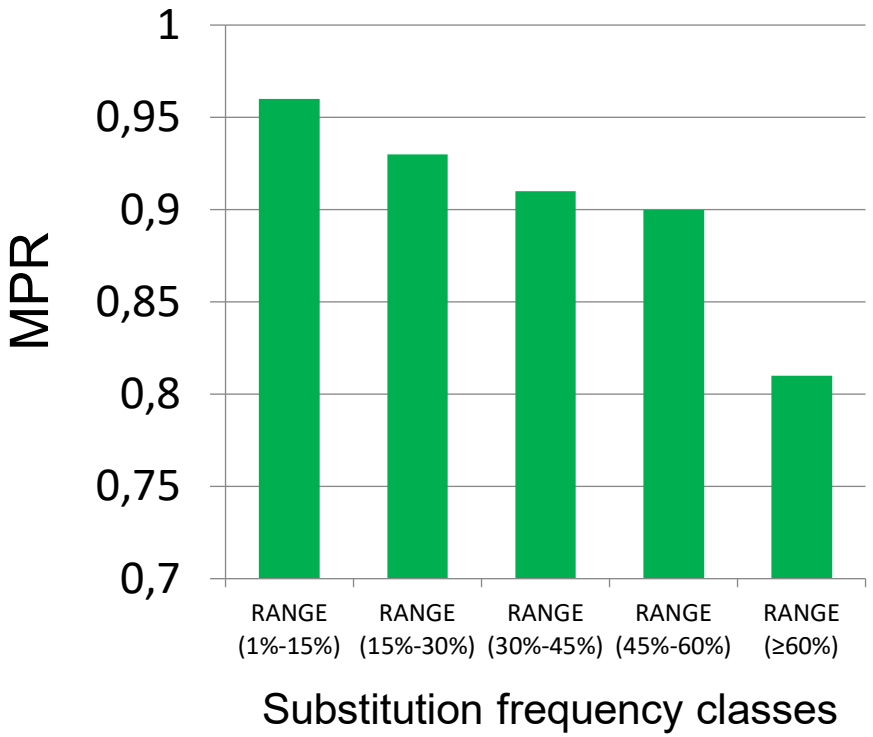
Source: Colombo GL, et al., 2016

		PERSISTENCE (days)					
			ASL BERGAMO			ASL PAVIA	
THERAPEUTIC AREA	SUBSTITUTION FREQUENCY CLASSES	N	MEAN	SD	N	MEAN	SD
DIABETES	RANGE (1%-15%)	605	984.64	212.29	457	988.50	263.98
	RANGE (15%-30%)	595	851.60	316.78	359	867.90	344.50
	RANGE (30%-45%)	413	782.51	359.58	257	694.99	398.36
	RANGE (45%-60%)	232	605.50	413.74	117	747.40	401.98
	RANGE (≥60%)	241	310.51	315.76	184	352.60	355.20
DYSLIPIDEMIA	RANGE (1%-15%)	430	980.66	209.82	410	890.48	319.53
	RANGE (15%-30%)	586	820.88	311.35	561	758.15	376.38
	RANGE (30%-45%)	477	750.85	348.65	465	615.14	400.90
	RANGE (45%-60%)	410	585.23	401.08	251	595.97	412.08
	RANGE (≥60%)	732	371.79	357.76	643	407.06	374.70
HYPERTENSION	RANGE (1%-15%)	369	1021.12	196.89	384	988.09	302.92
	RANGE (15%-30%)	429	882.48	314.32	537	817.60	366.28
	RANGE (30%-45%)	364	782.72	364.22	406	710.08	396.75
	RANGE (45%-60%)	306	615.38	406.90	325	696.23	405.76
	RANGE (≥60%)	441	401.58	374.06	598	448.23	381.11
OSTEOPOROSIS	RANGE (1%-15%)	36	969.28	218.82	37	817.51	350.82
	RANGE (15%-30%)	77	710.52	345.12	66	734.36	359.42
	RANGE (30%-45%)	63	710.76	353.06	48	515.17	410.43
	RANGE (45%-60%)	48	503.00	377.09	43	514.81	391.46
	RANGE (≥60%)	64	367.63	343.12	63	375.24	331.00
PSYCHIATRY	RANGE (1%-15%)	56	815.07	291.03	81	841.30	354.41
	RANGE (15%-30%)	106	566.19	326.88	139	660.93	399.34
	RANGE (30%-45%)	96	481.77	360.16	130	457.92	320.43
	RANGE (45%-60%)	131	320.36	280.15	85	359.11	338.91
	RANGE (≥60%)	326	197.78	171.33	280	247.45	252.37

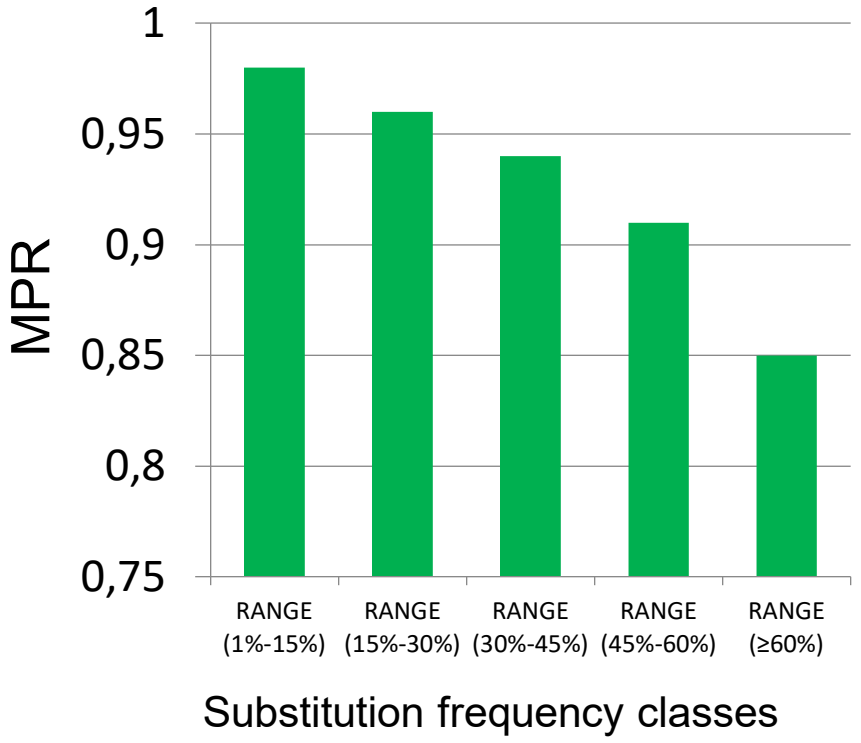
Adherence of treatment stratified by generic substitution class

Hypertension (amlodipine)

ASL BERGAMO



ASL PAVIA

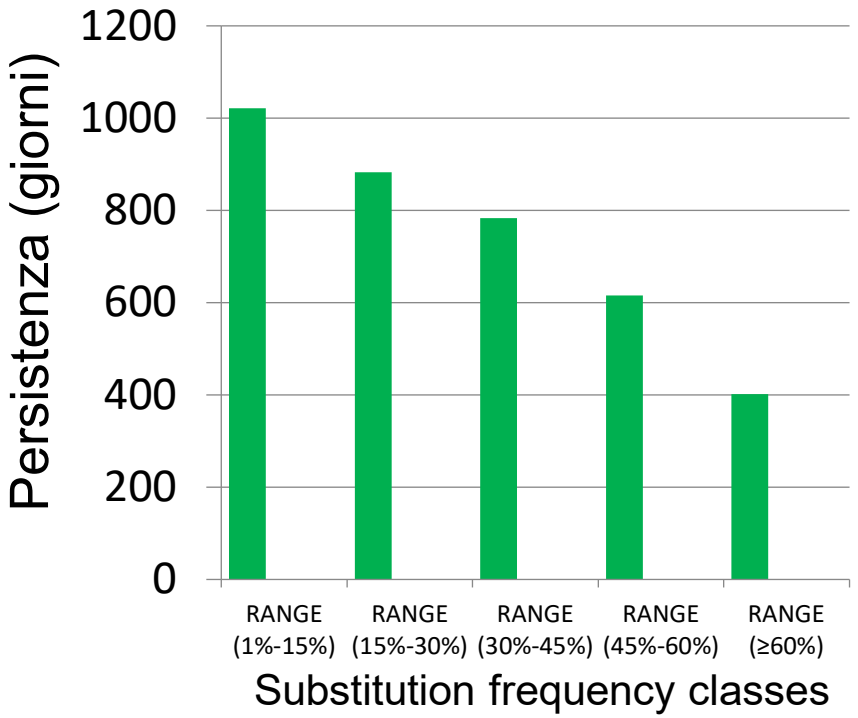


Atherosclerosis 2016

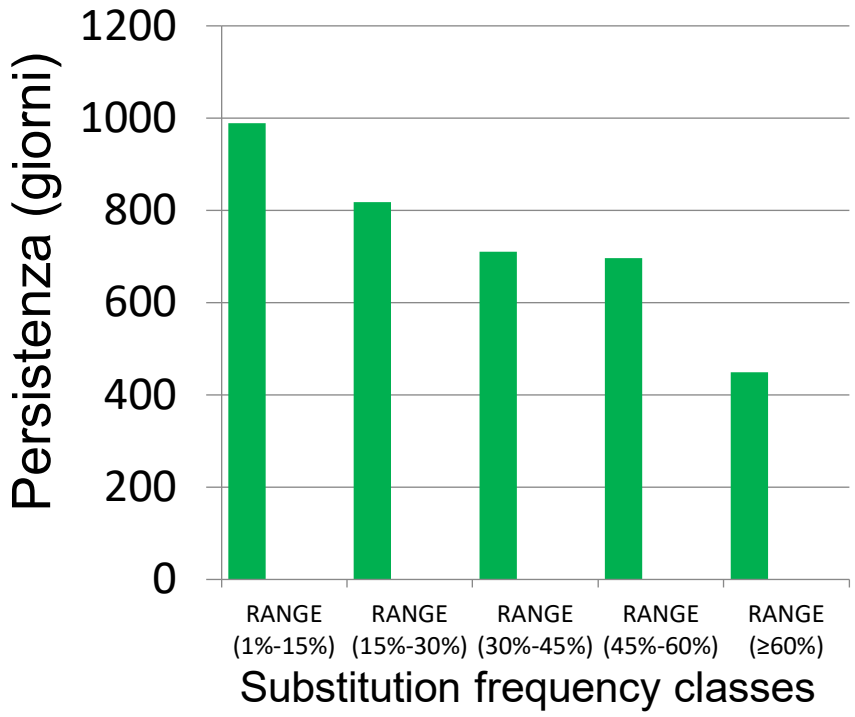
Persistence of treatment stratified by generic substitution class

Hypertension (amlodipine)

ASL BERGAMO



ASL PAVIA



Atherosclerosis 2016

"… Clinicians and decision makers should consider the impact of frequent generic substitutions on persistence and adherence, which may influence efficacy and/or safety.…"

Generic versus brand-name drugs used in cardiovascular diseases

Lamberto Manzoli[1,2] · Maria Elena Flacco[1,2] · Stefania Boccia[3] · Elvira D'Andrea[4] · Nikola Panic[3] · Carolina Marzuillo[4] · Roberta Siliquini[5] · Walter Ricciardi[3,6] · Paolo Villari[4] · John P. A. Ioannidis[7,8,9]

74 randomized trials comparing generic vs brand-name drugs against cardiovascular diseases :

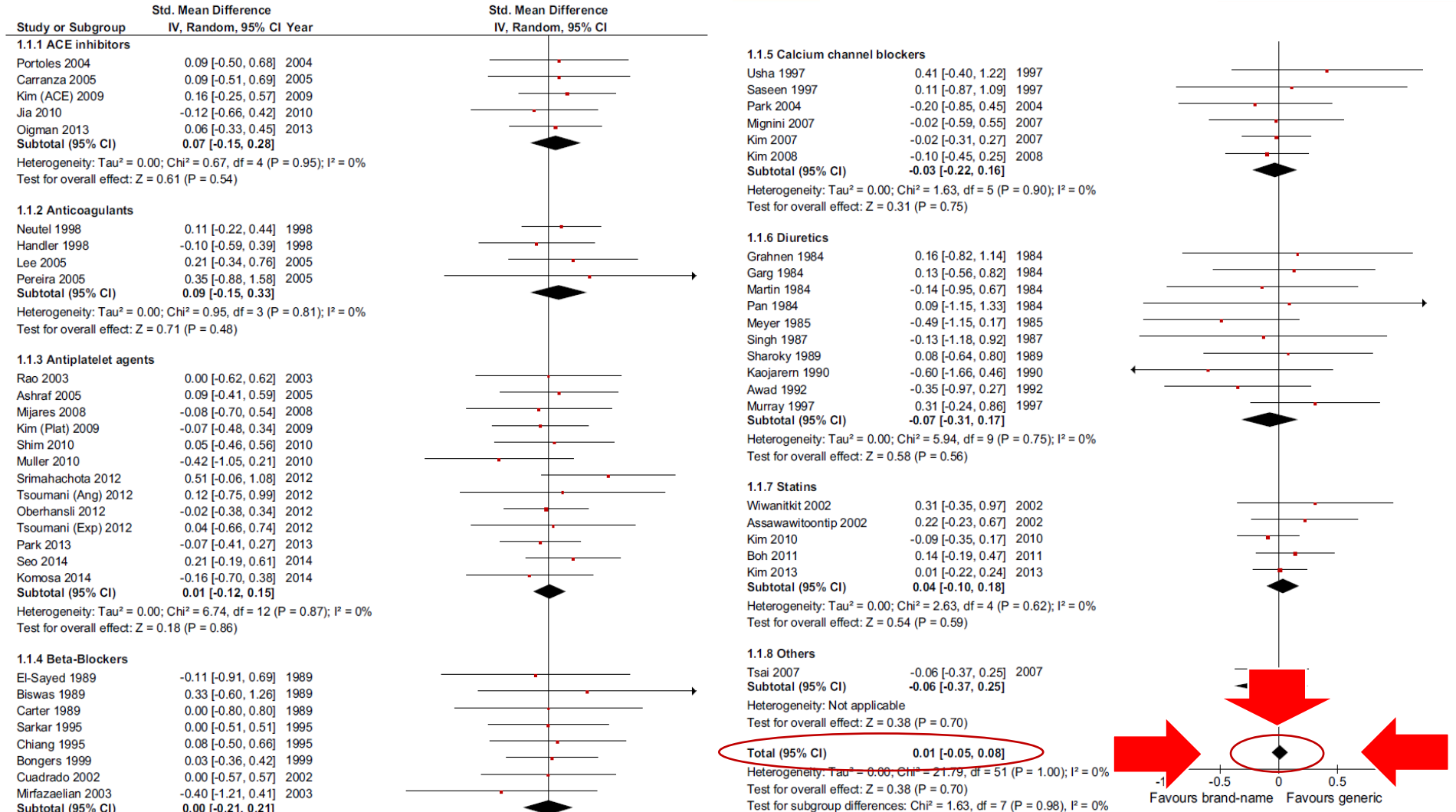
53 trials evaluated at least one efficacy outcome (overall sample 3051),

32 trials measured mild or moderate adverse events (n = 2407),

and 52 reported on serious adverse events (n = 2952).

Eur J Epidemiol. 2015 Nov 30. [Epub ahead of print]

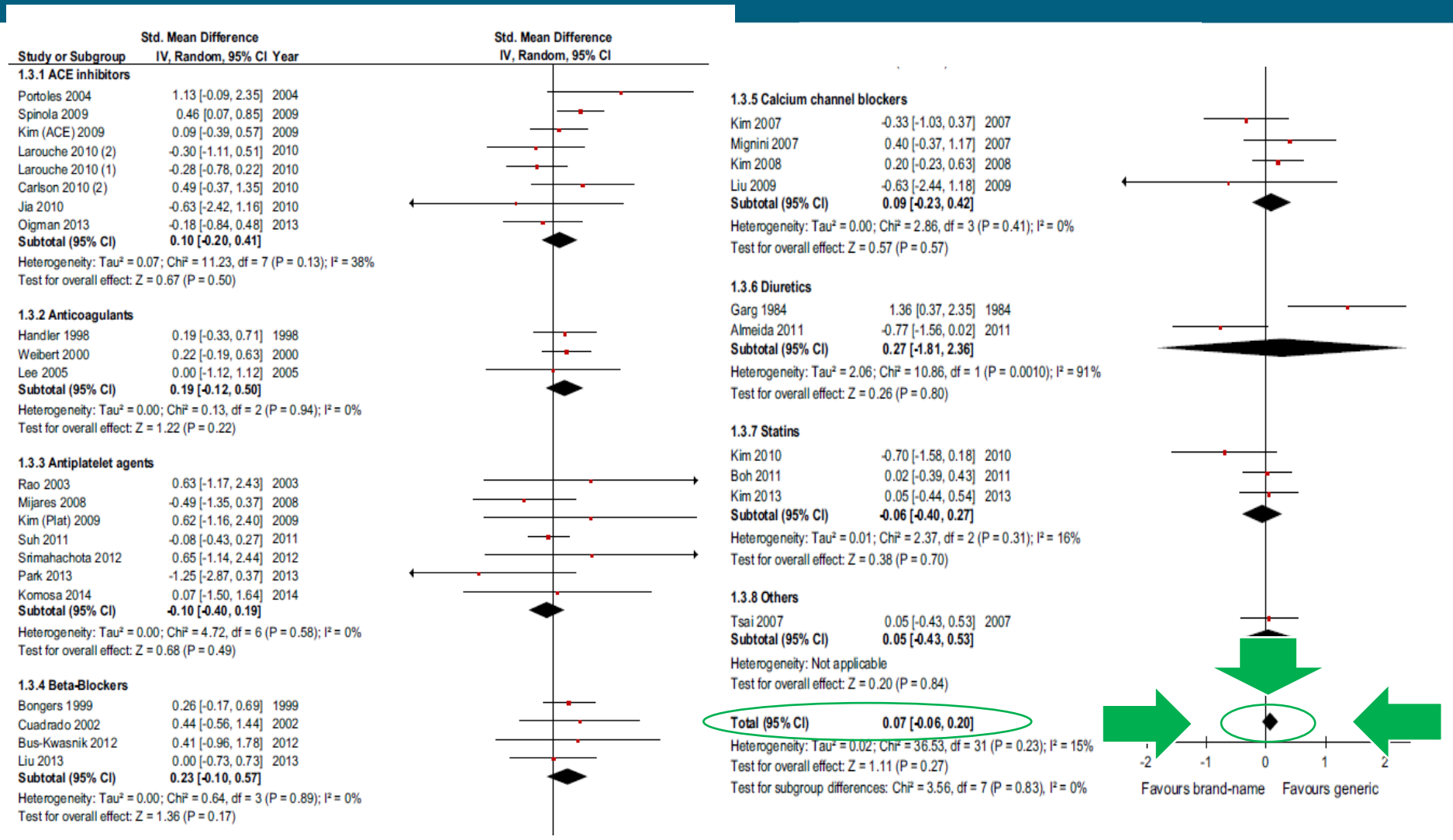
Generic vs Brand name- Efficacy



(Cont)

Eur J Epidemiol. 2015 Nov 30. [Epub ahead of print]

Generic vs Brand name – Adverse events



(Cont)

Eur J Epidemiol. 2015 Nov 30. [Epub ahead of print]

OPEN

Comparative effectiveness of branded vs. generic versions of antihypertensive, lipid-lowering and hypoglycemic substances: a population-wide cohort study

Yuxi Tian[1], Berthold Reichardt[2], Daniela Dunkler[3], Milan Hronsky[3], Wolfgang C. Winkelmayer[4], Anna Bucsics[5], Susanne Strohmaier[3] & Georg Heinze[3*]

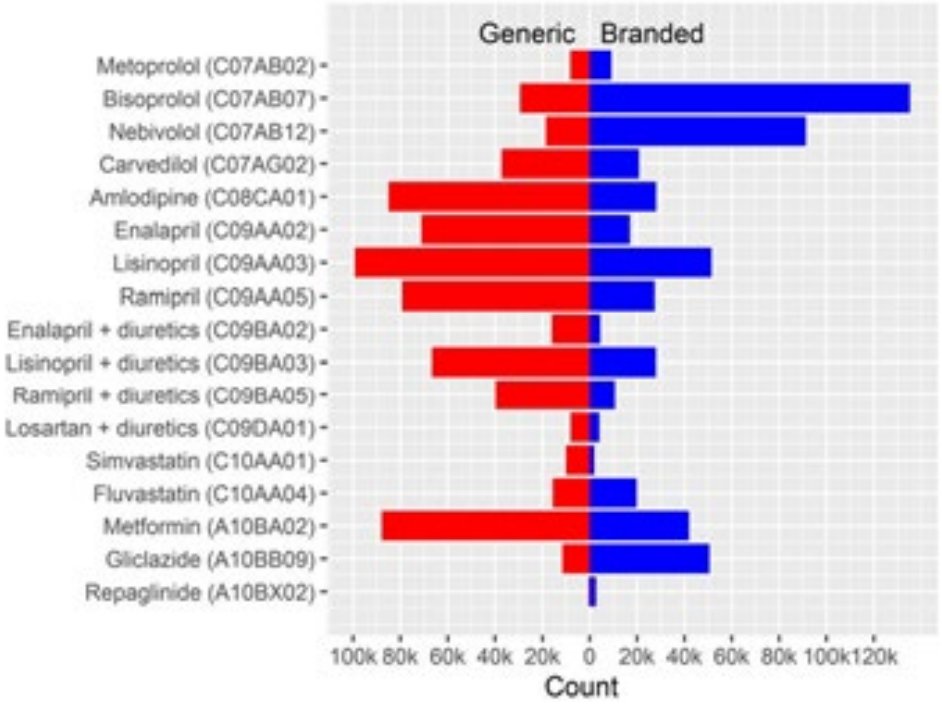
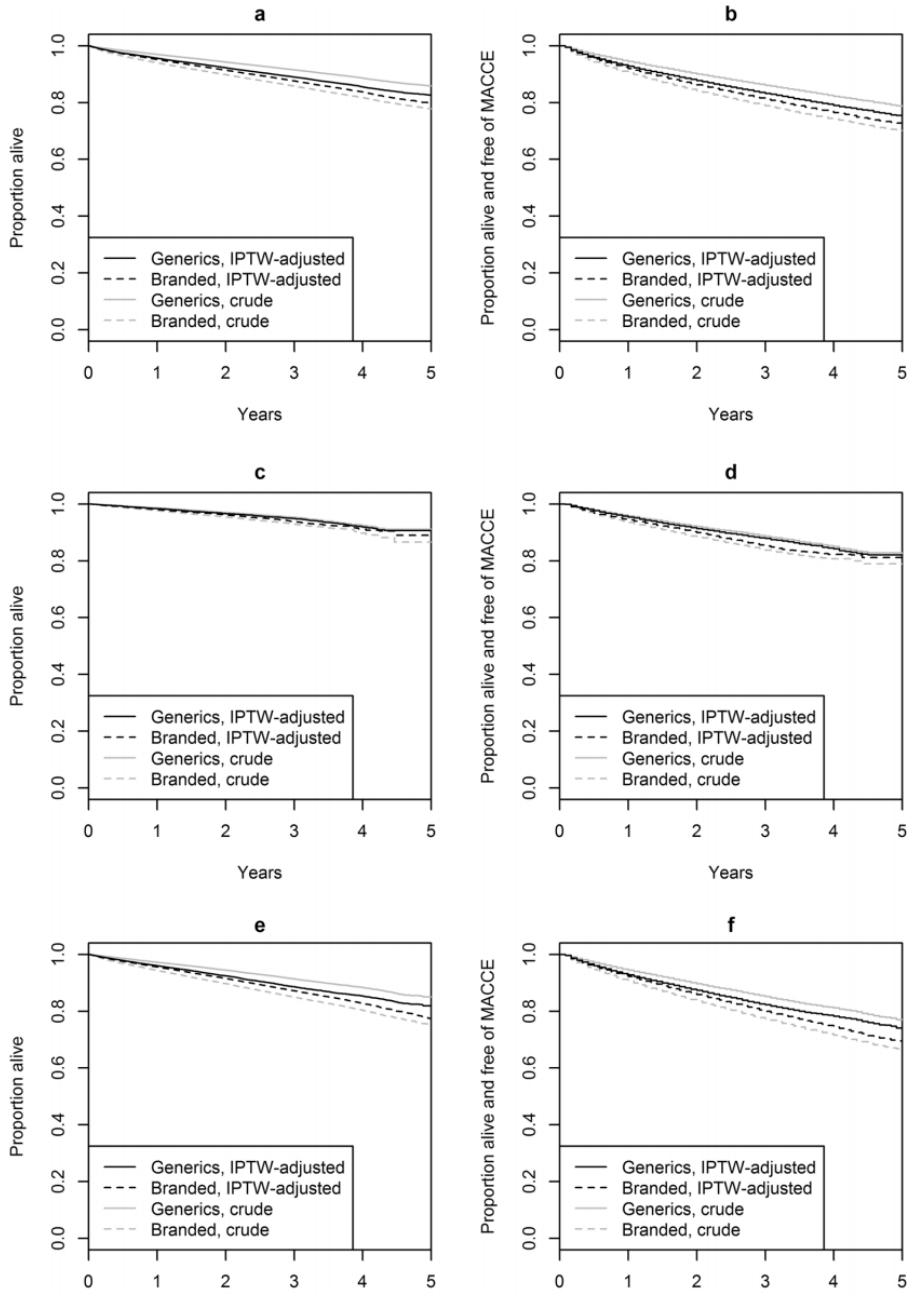


Figure 2. Patient counts (1k = 1,000) for each substance evaluated.

Scientific Reports | (2020) 10:5964

Variable	Branded anti-hypertensive (N = 427,641)	Generic anti-hypertensive (N = 558,508)	Branded lipid-lowering (N = 21,665)	Generic lipid-lowering (N = 25,694)	Branded hypo-glycemic (N = 101,045)	Generic hypo-glycemic (N = 99,993)
Age (years), mean (standard deviation)	64.5 (15.4)	63.3 (14.5)	63.0 (12.8)	62.4 (12.5)	65.0 (13.9)	62.7 (13.5)
Sex: female	54.3%	54.5%	50.3%	54.3%	49.5%	50.2%
Copayment waiver	34.2%	29.9%	30.6%	26.3%	41.1%	38.3%
Hospitalization (ending in last 180 days)	30.0%	19.9%	23.0%	18.1%	26.2%	18.7%
Hospitalization >14 days (ending in last 14 days)	7.3%	2.5%	3.7%	2.0%	5.7%	2.0%
Hospitalization >14 days (ending in last 180 days)	10.8%	5.4%	6.9%	4.6%	9.1%	4.9%
Index year:						
2007	0.7%	0.6%	0.1%	0.4%	1.0%	0.7%
2008	10.1%	9.1%	1.4%	4.5%	11.2%	8.2%
2009	22.4%	22.0%	33.3%	16.9%	22.4%	18.4%
2010	27.0%	24.9%	28.1%	35.5%	25.6%	25.7%
2011	20.6%	23.3%	22.1%	25.4%	22.2%	25.4%
2012	19.2%	20.1%	15.0%	17.3%	17.6%	21.5%
Specialty of prescriber:						
General practitioner	67.7%	78.5%	68.9%	75.4%	77.5%	81.7%
Internal medicine specialist	11.6%	13.3%	12.8%	15.5%	9.7%	10.4%
Hospital	9.8%	3.7%	10.2%	3.7%	5.7%	2.8%
Other	10.8%	4.6%	8.1%	5.4%	7.1%	5.2%
Recent myo-cardial infarction	2.5%	0.6%	3.8%	1.1%	0.9%	0.3%
Recent cerebro-vascular event	2.3%	1.1%	2.3%	1.6%	1.6%	0.6%
Any diagnosis in group of endocrine, nutritional or metabolic diseases or in group of diseases of circulatory system	33.0%	16.6%	25.3%	15.5%	28.0%	15.5%
Previous use of antihypertensive, lipid-lowering or hypoglycemic medicines	67.5%	64.1%	73.0%	69.0%	81.3%	76.4%
Previous use of injectable insulins	1.9%	1.4%	2.0%	1.4%	3.2%	2.5%
Previous use of oral hypoglycemic drugs	12.7%	11.5%	14.6%	13.0%	39.2%	21.6%

Table 1. Characteristics of patients at first index prescription for antihypertensive, lipid-lowering or hypoglycemic treatment.



Survival curves and curves of cumulative MACCE-free survival

(a)for antihypertensive drugs

(c) for lipid-lowering drugs.

(e) for hypoglycemic drugs

Scientific Reports | (2020) 10:5964

European Journal of Internal Medicine 25 (2014) 745–750

Contents lists available at ScienceDirect

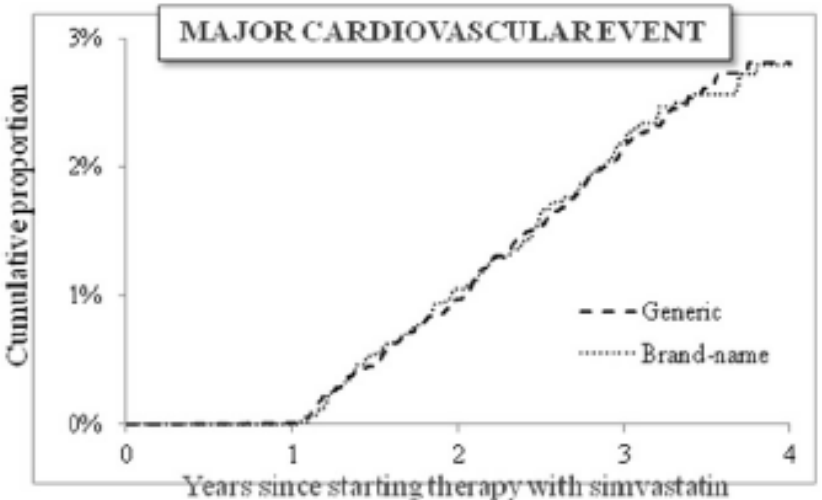
European Journal of Internal Medicine

journal homepage: www.elsevier.com/locate/ejim

Original Article

Are generic and brand-name statins clinically equivalent? Evidence from a real data-base

Giovanni Corrao [a,*], Davide Soranna [a,b], Andrea Arfè [a], Manuela Casula [c], Elena Tragni [c], Luca Merlino [d], Giuseppe Mancia [b,e], Alberico L. Catapano [c,f]



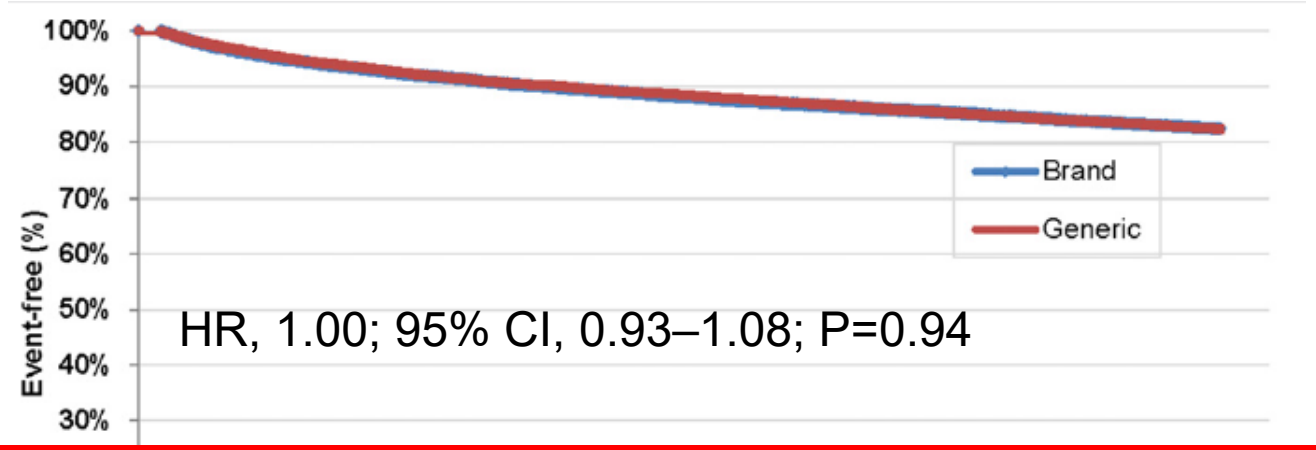
Percentuali cumulative di pazienti che interrompono la terapia (grafico in alto) **e che vanno incontro ad ospedalizzazione per eventi vascolari maggiori** (grafico in basso)

Comparative Effectiveness of Generic Atorvastatin and Lipitor® in Patients Hospitalized with an Acute Coronary Syndrome

Cynthia A. Jackevicius, BScPhm, PharmD, MSc; Jack V. Tu, MD, PhD; Harlan M. Krumholz, MD, SM; Peter C. Austin, PhD; Joseph S. Ross, MD, MHS; Therese A. Stukel, PhD; Maria Koh, MSc; Alice Chong, MSc; Dennis T. Ko, MD, MSc

Population-based cohort study of patients ≥65 years, discharged alive **after acute coronary syndrome (ACS)** hospitalization between 2008 and 2012 in Ontario, Canada, who were **prescribed Lipitor or generic atorvastatin** within 7 days of discharge.
7863 propensity-matched pairs (15 726 patients), mean age was 76.9 years, 56.3% were male, 87.6% had myocardial infarction, and all patients had complete follow-up

- **The primary outcome was 1-year death/recurrent ACS hospitalization.** Secondary outcomes included hospitalization for heart failure, stroke, new-onset diabetes, rhabdomyolysis, and renal failure.



"Conclusions-Among older adults discharged alive after ACS hospitalization, ***we found no significant difference in cardiovascular outcomes or serious, infrequent side effects in patients prescribed generic atorvastatin compared with those prescribed Lipitor at 1 year****. Our findings support the use of generic atorvastatin in ACS, which could lead to substantial cost saving for patients and health care plans without diminishing population clinical effectiveness."*

J Am Heart Assoc. 2016 May 3;5(5). pii: e003146

Comparative Effectiveness of Generic and Brand-Name Statins on Patient Outcomes

A Cohort Study

Joshua J. Gagne, PharmD, ScD; Niteesh K. Choudhry, MD, PhD; Aaron S. Kesselheim, MD, JD, MPH; Jennifer M. Polinski, ScD, MPH; David Hutchins, MBA, MHSA; Olga S. Matlin, PhD; Troyen A. Brennan, MD; Jerry Avorn, MD; and William H. Shrank, MD, MSHS

Medicare beneficiaries aged 65 years or older with prescription drug coverage between 2006 and 2008. A total of 90 111 patients who initiated a statin during the study was identified; 83 731 (93%) initiated a generic drug, and 6380 (7%) initiated a brand-name drug.

Table 2. **Hazard Ratios for Outcomes Among Generic Versus Brand-Name Statin Recipients**

Outcome	Hazard Ratio (95% CI)	
	Unmatched (Crude)	Propensity Score–Matched
Composite end point	0.94 (0.88–1.00)	0.92 (0.86–0.99)

*"…**Conclusion:** Compared with those initiating brand-name statins, patients initiating generic statins were more likely to adhere and had a lower rate of a composite clinical outcome…"*

Ann Intern Med. 2014;161:400-407

PLOS MEDICINE

RESEARCH ARTICLE

Comparative effectiveness of generic and brand-name medication use: A database study of US health insurance claims

Rishi J. Desai[1]*, Ameet Sarpatwari[1], Sara Dejene[1], Nazleen F. Khan[1], Joyce Lii[1], James R. Rogers[1], Sarah K. Dutcher[2], Saeid Raofi[3], Justin Bohn[4], John G. Connolly[4], Michael A. Fischer[1], Aaron S. Kesselheim[1], Joshua J. Gagne[1]

PLoS Med. 2019
Mar 13;16(3)

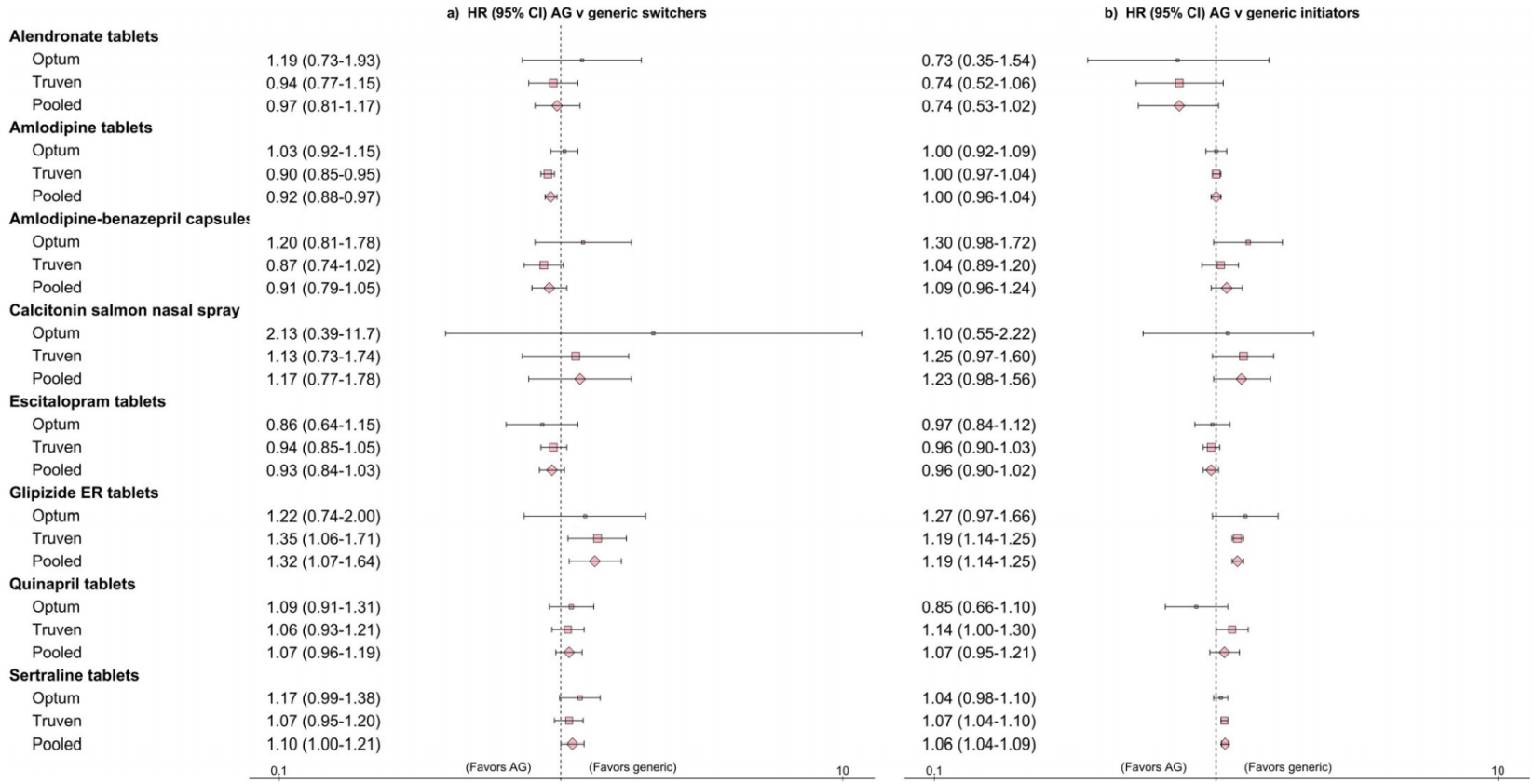


Fig 2. Hazard ratios (HRs) and 95% confidence intervals (CIs) comparing outcomes for patients initiating authorized generics (AGs) versus generics, and patients switching from brand-name products to AGs versus generics, after 1:1 propensity score matching in each database. The outcome for amlodipine tablets, amlodipine-benazepril capsules, and quinapril tablets was a composite endpoint comprising hospitalization for myocardial infarction, ischemic stroke, or coronary revascularization procedures. The outcome for alendronate tablets and calcitonin salmon nasal spray was a composite non-vertebral fracture endpoint comprising humerus, wrist, hip, or pelvis fractures. The outcome for escitalopram tablets and sertraline tablets was hospitalization with a psychiatric condition as the principal discharge diagnosis code. The outcome for glipizide extended release (ER) tablets was initiation of insulin during the follow-up period.

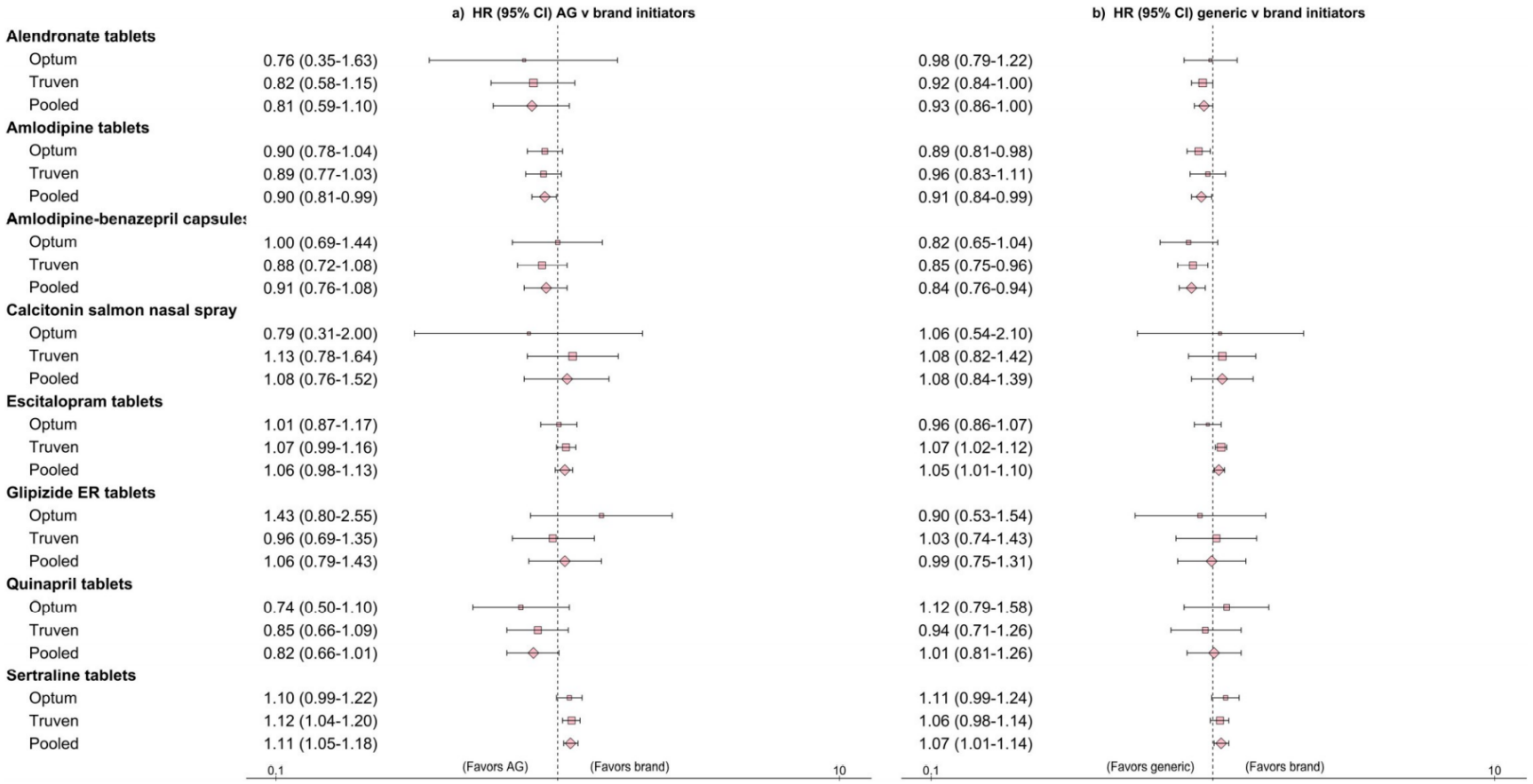


Fig 3. Hazard ratios (HRs) and 95% confidence intervals (CIs) comparing outcomes for authorized generic (AG) versus brand initiators and generic versus brand initiators after 1:1 propensity score matching in each database. The outcome for amlodipine tablets, amlodipine-benazepril capsules, and quinapril tablets was a composite endpoint comprising hospitalizations for myocardial infarction, ischemic stroke, or coronary revascularization procedures. The outcome for alendronate tablets and calcitonin salmon nasal spray was a composite non-vertebral fracture endpoint comprising humerus, wrist, hip, or pelvis fractures. The outcome for escitalopram tablets and sertraline tablets was hospitalization with a psychiatric condition as the principal discharge diagnosis code. The outcome for glipizide extended release (ER) tablets was initiation of insulin during the follow-up period.

PLoS Med. 2019 Mar 13;16(3)

Conclusion

In this study of 8 drug products conducted using 2 large US commercial insurance databases, we observed that use of generics provided comparable clinical outcomes as the brand products. These results could be used in educational interventions aimed at increasing patient and physician confidence in the ability of generic medicines to manage chronic diseases.

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CLINICAL GUIDELINE

Improving Adherence to Therapy and Clinical Outcomes While Containing Costs: Opportunities From the Greater Use of Generic Medications: Best Practice Advice From the Clinical Guidelines Committee of the American College of Physicians

Niteesh K. Choudhry, MD, PhD; Thomas D. Denberg, MD, PhD; and Amir Qaseem, MD, PhD, MHA, for the Clinical Guidelines Committee of the American College of Physicians

"Best Practice Advice: Clinicians should prescribe generic medications, if possible, rather than more expensive brand-name medications."

Annals of Internal Medicine • Vol. 164 No. 1 • 5 January 2016

Farmaci generici/equivalenti

- Aspetti biofarmaceutici
- Farmacologia clinica
- **La realtà sul territorio**

evidence
open access journal published by the GIMBE Foundation
Position Statement GIMBE
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Il sotto-utilizzo dei farmaci equivalenti in Italia

Antonino Cartabellotta[1*], Corrado Iacono[2]
[1]Medico, Fondazione GIMBE, [2]Farmacista, Dipartimento Farmaceutico Azienda USL di Bologna

Ottobre 2016 | Volume 8 | Issue 10 | e1000153

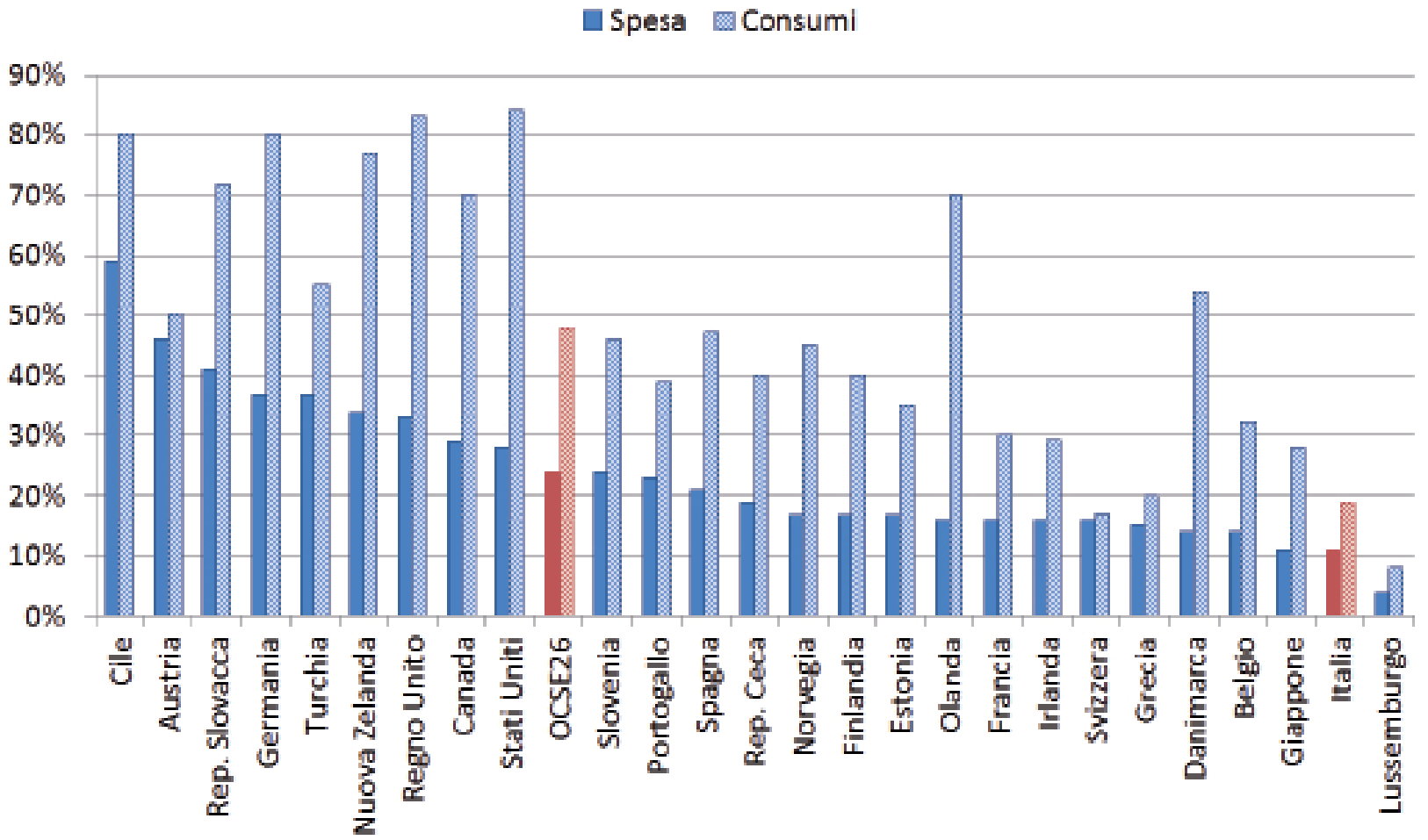
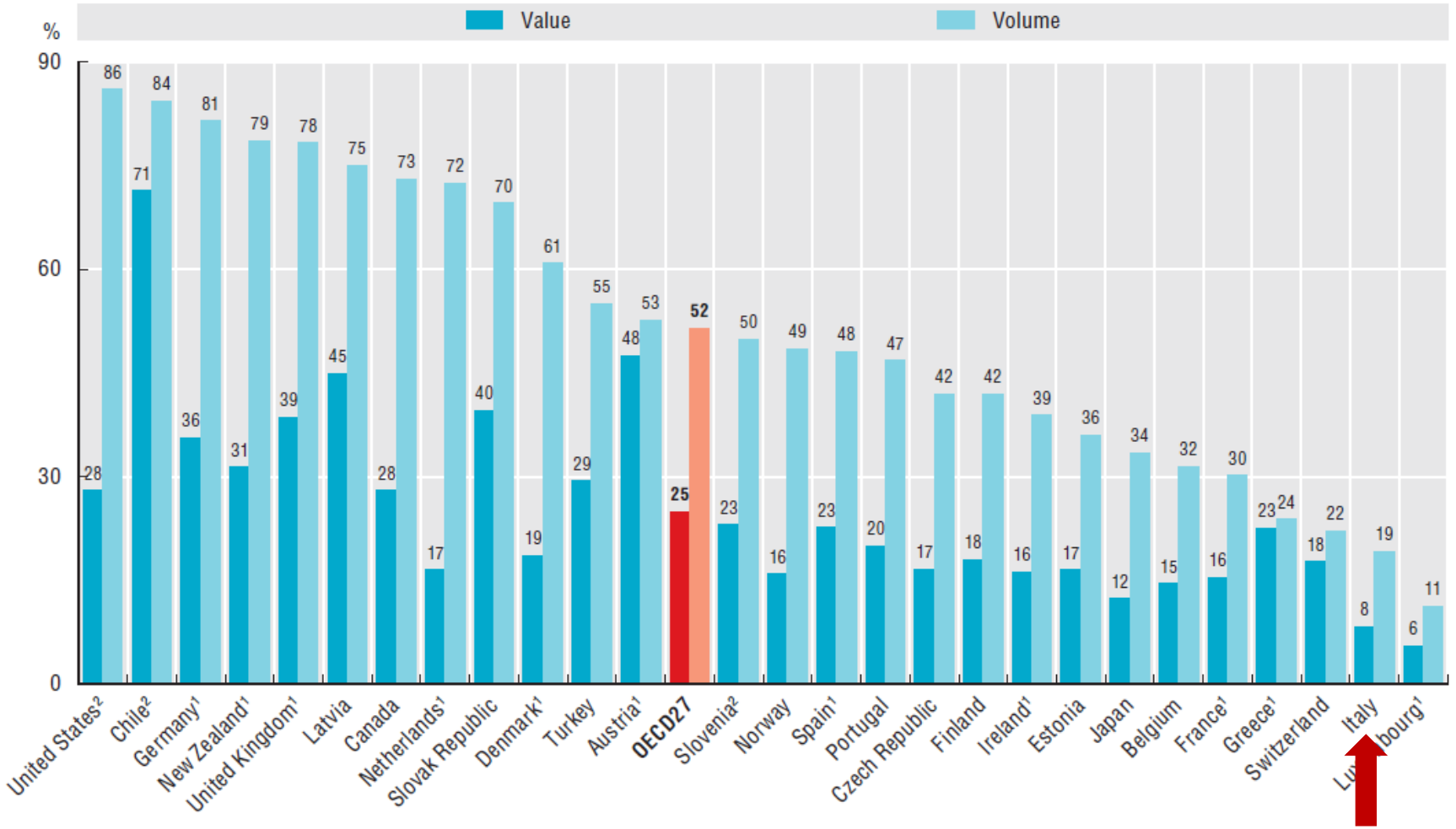


Figura 1. Percentuale di spesa e consumi dei farmaci equivalenti nei paesi dell'OCSE (anno 2013 o più recente)[3]

Share of generics in the total pharmaceutical market, 2015



Health at a Glance 2017
OECD INDICATORS

L'uso dei Farmaci in Italia

Rapporto Nazionale
Anno 2020

OSSERVATORIO NAZIONALE SULL'IMPIEGO DEI MEDICINALI

AIFA AGENZIA ITALIANA DEL FARMACO

Figura 2.1.3. Andamento dell'incidenza della spesa dei farmaci a brevetto scaduto e dei farmaci equivalenti sul totale della spesa classe A-SSN: confronto 2011-2020

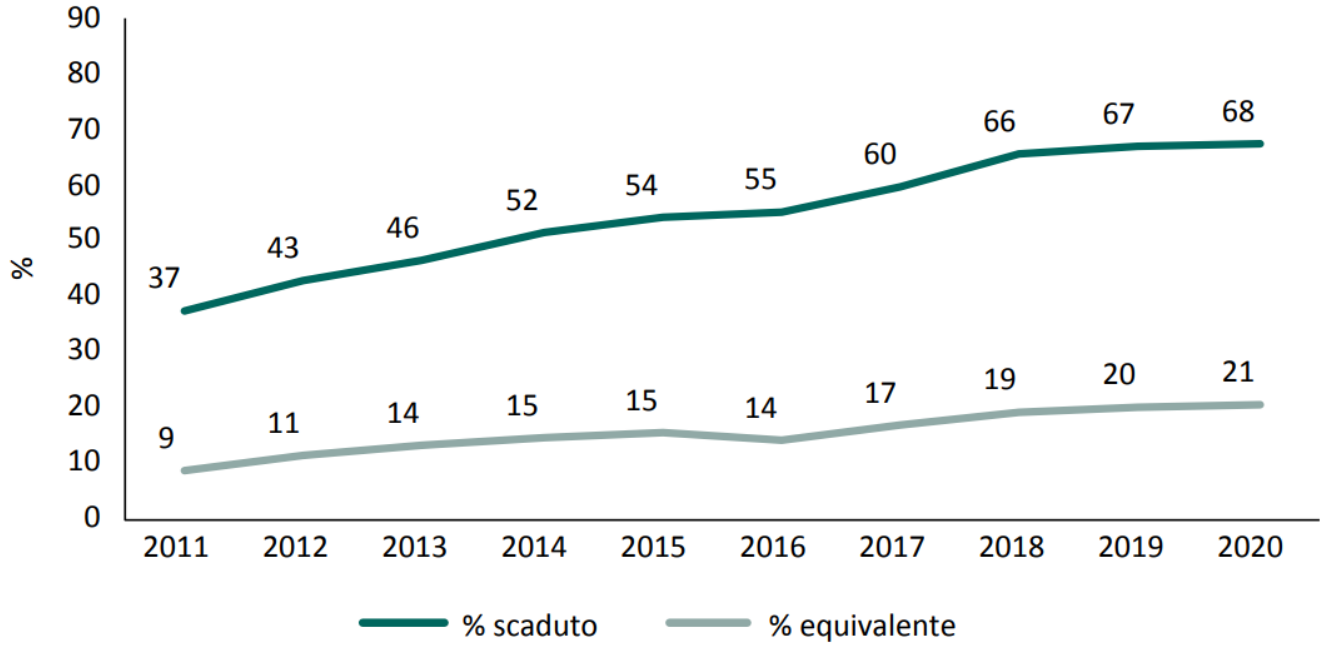


Figura 2.1.4. Andamento dell'incidenza del consumo (dosi) dei farmaci a brevetto scaduto e dei farmaci equivalenti sul totale del consumo dei farmaci classe A-SSN: confronto 2011-2020

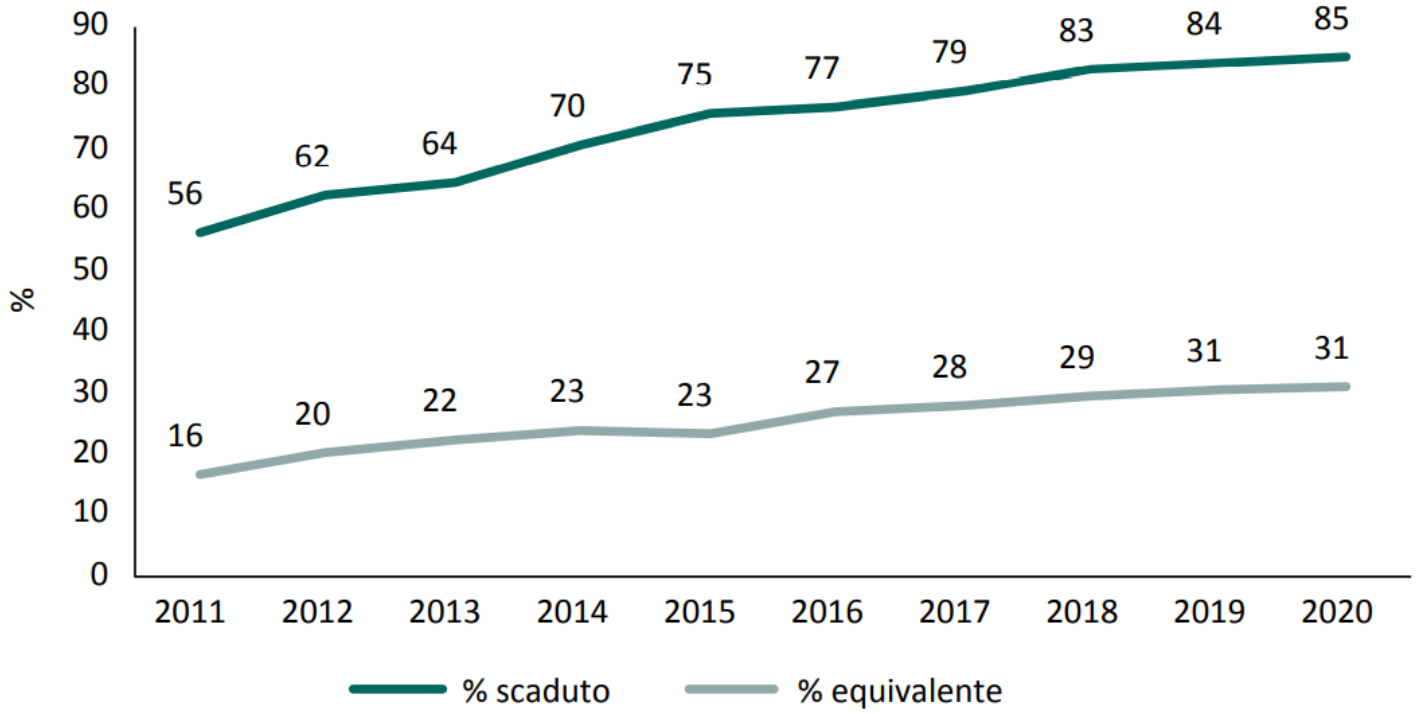
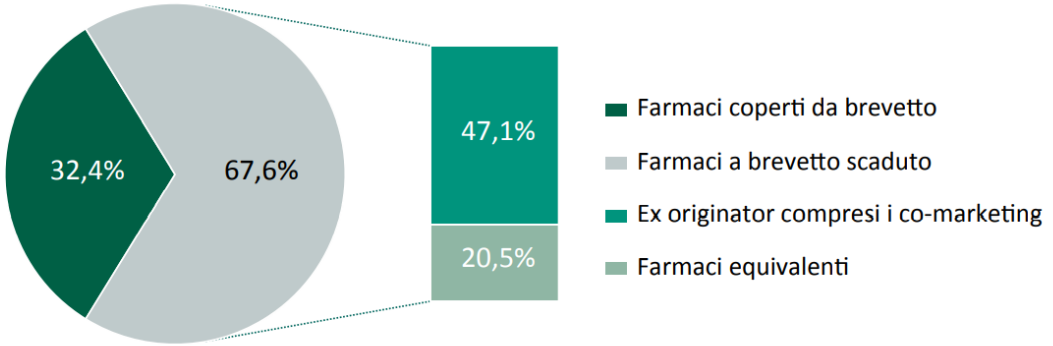
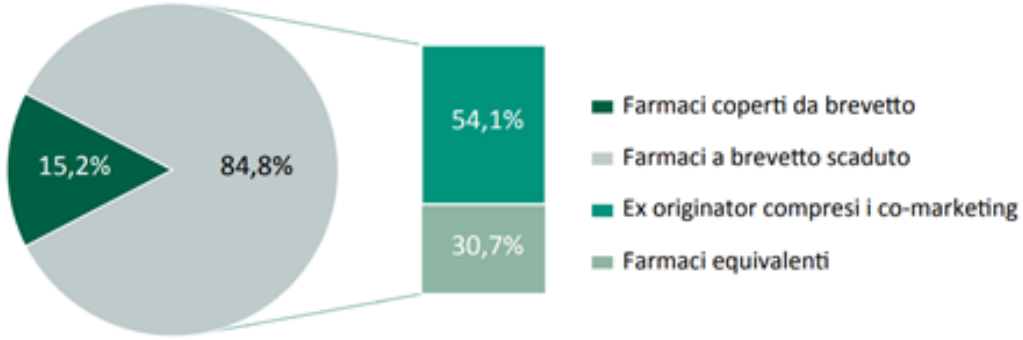


Figura 2.1.1. Spesa dei farmaci erogati in regime di assistenza convenzionata di classe A-SSN distinti per copertura brevettuale nell'anno 2020



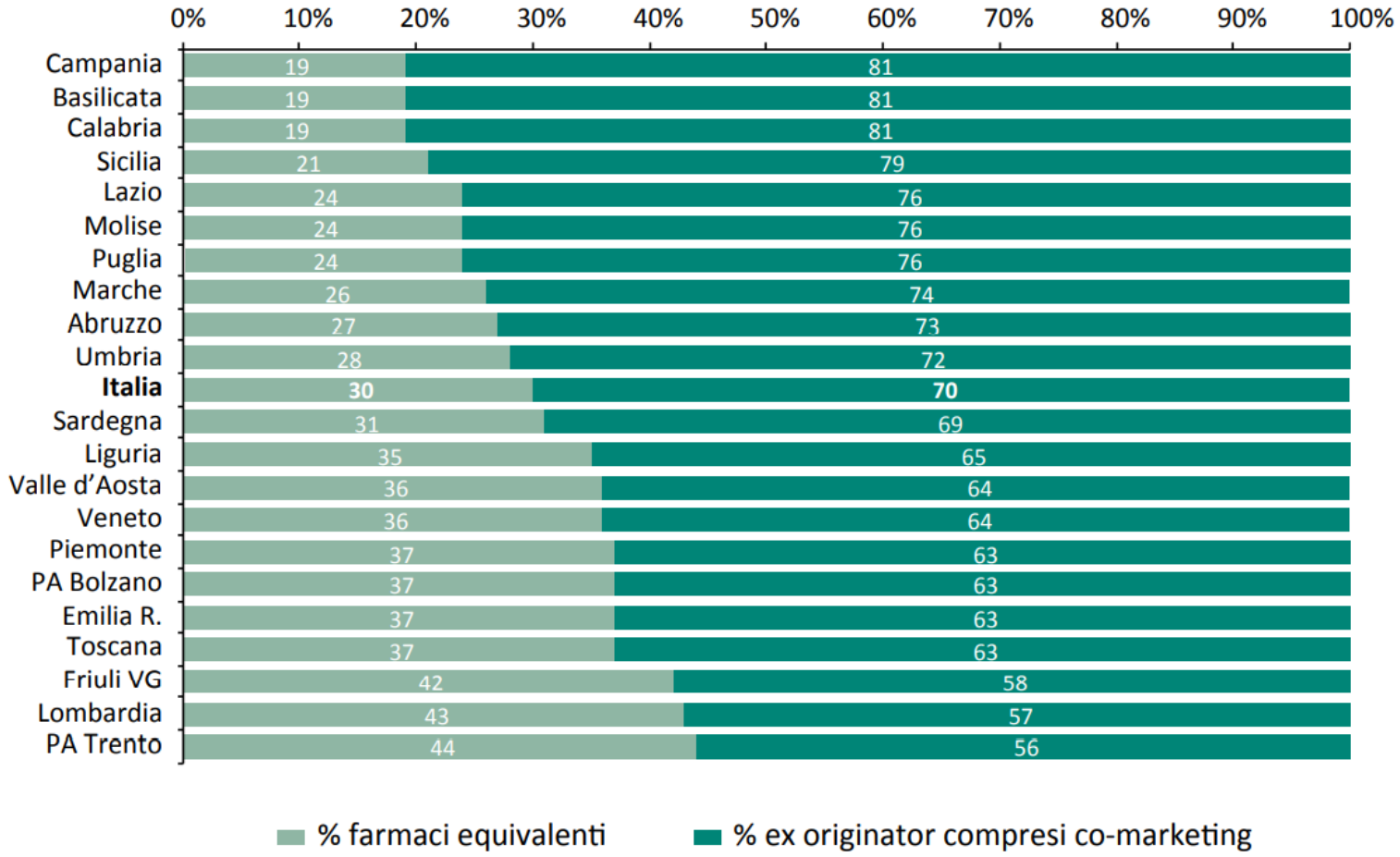
Si intendono farmaci equivalenti i medicinali a base di principi attivi con brevetto scaduto, ad esclusione di quelli che hanno goduto di copertura brevettuale, ai sensi dell'art.1bis del Decreto-legge 27 maggio 2005, n. 87, convertito, con modificazioni, dalla Legge 26 luglio 2005, n. 149

Figura 2.1.2. Consumo dei farmaci erogati in regime di assistenza convenzionata di classe A-SSN distinti per copertura brevettuale nell'anno 2020

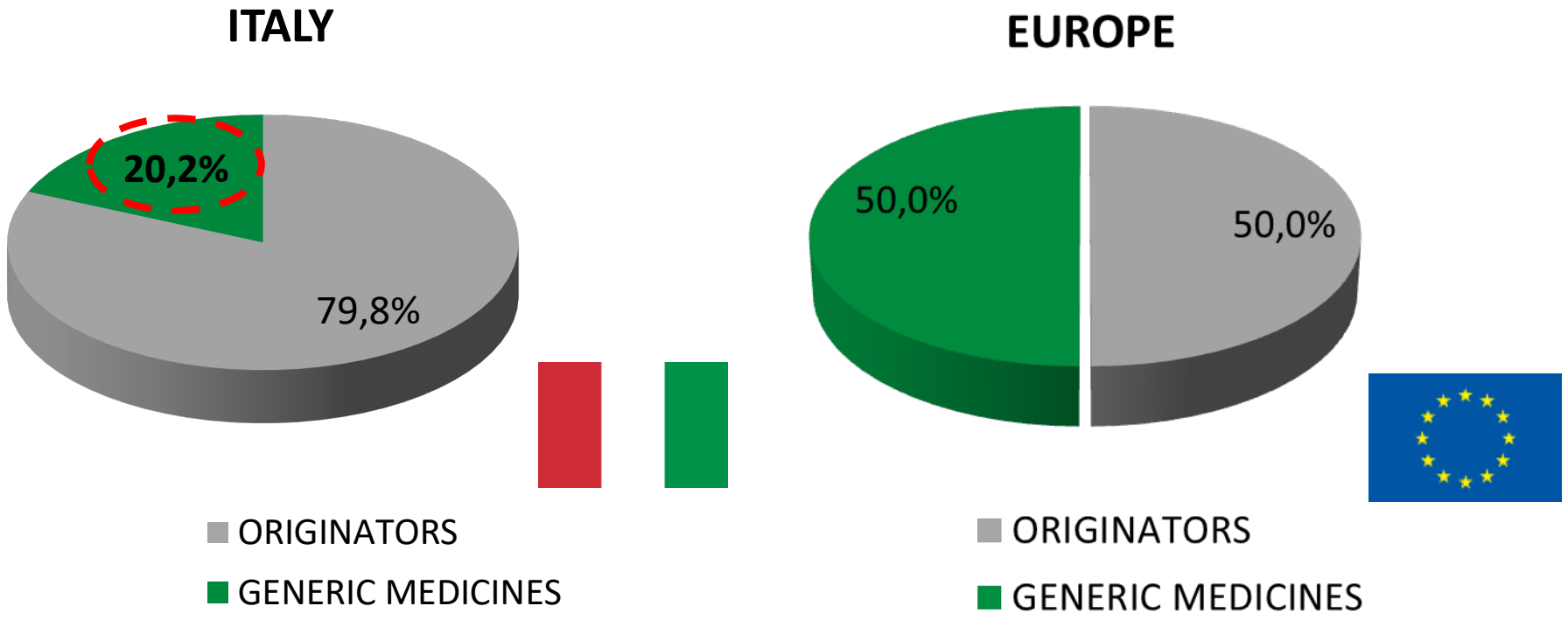


Si intendono farmaci equivalenti i medicinali a base di principi attivi con brevetto scaduto, ad esclusione di quelli che hanno goduto di copertura brevettuale, ai sensi dell'art.1bis del Decreto-legge 27 maggio 2005, n. 87, convertito, con modificazioni, dalla Legge 26 luglio 2005, n. 149

Figura 2.1.5. Composizione per Regione della spesa in regime di assistenza convenzionata 2020 per i farmaci a brevetto scaduto di classe A-SSN



Differenza tra Italia ed Europa



La Penetrazione del mercato in Italia è ancora significativamente INFERIORE rispetto alla MEDIA EUROPEA

Source: IMS – 2015

Does the market share of generic medicines influence the price level? A European Analysis

Dylst et al, Pharmacoeconomics 2011:29 (10): 875 - 882

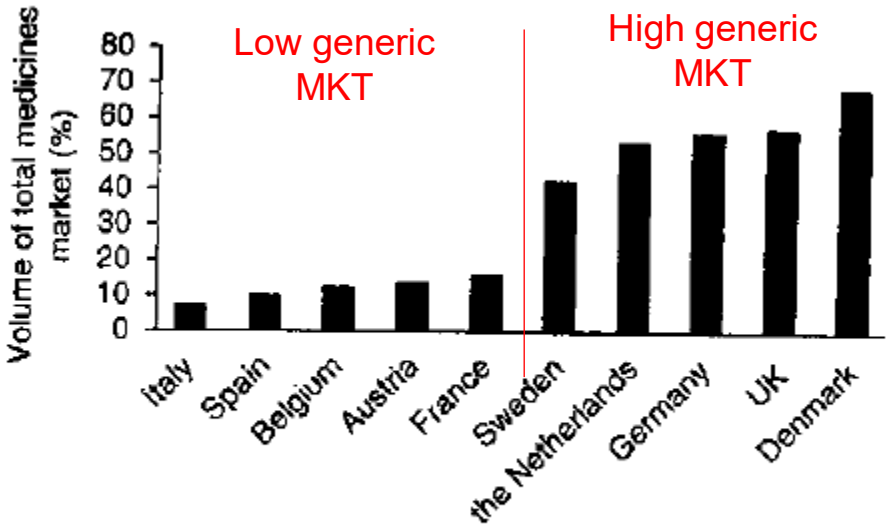


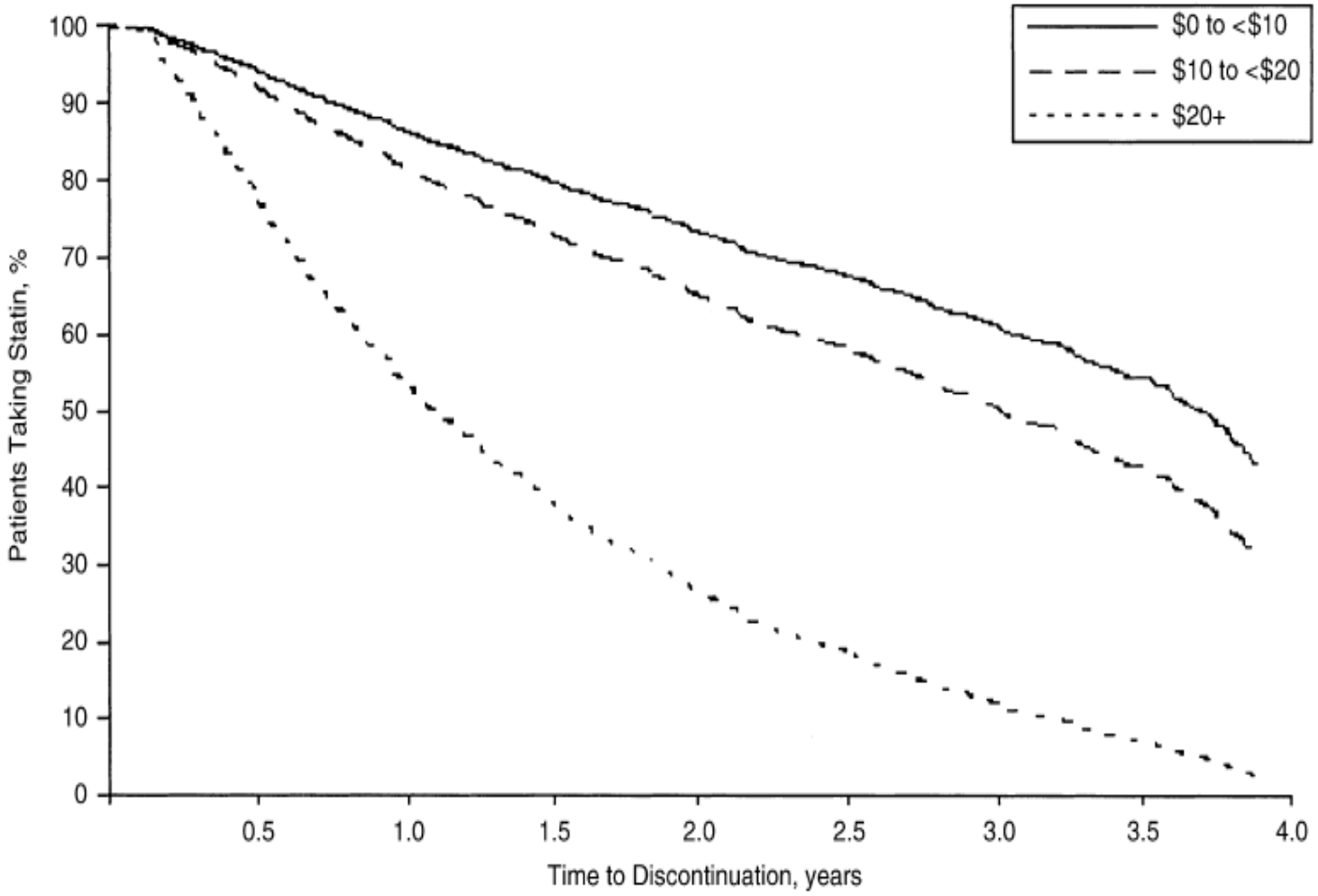
Fig. 1. Generic market shares by volume of total medicines market in 2007.[19]

Overall, market values and medicine prices decrease more in high than in low generic market share countries, although there are some exceptions (e.g. Germany).

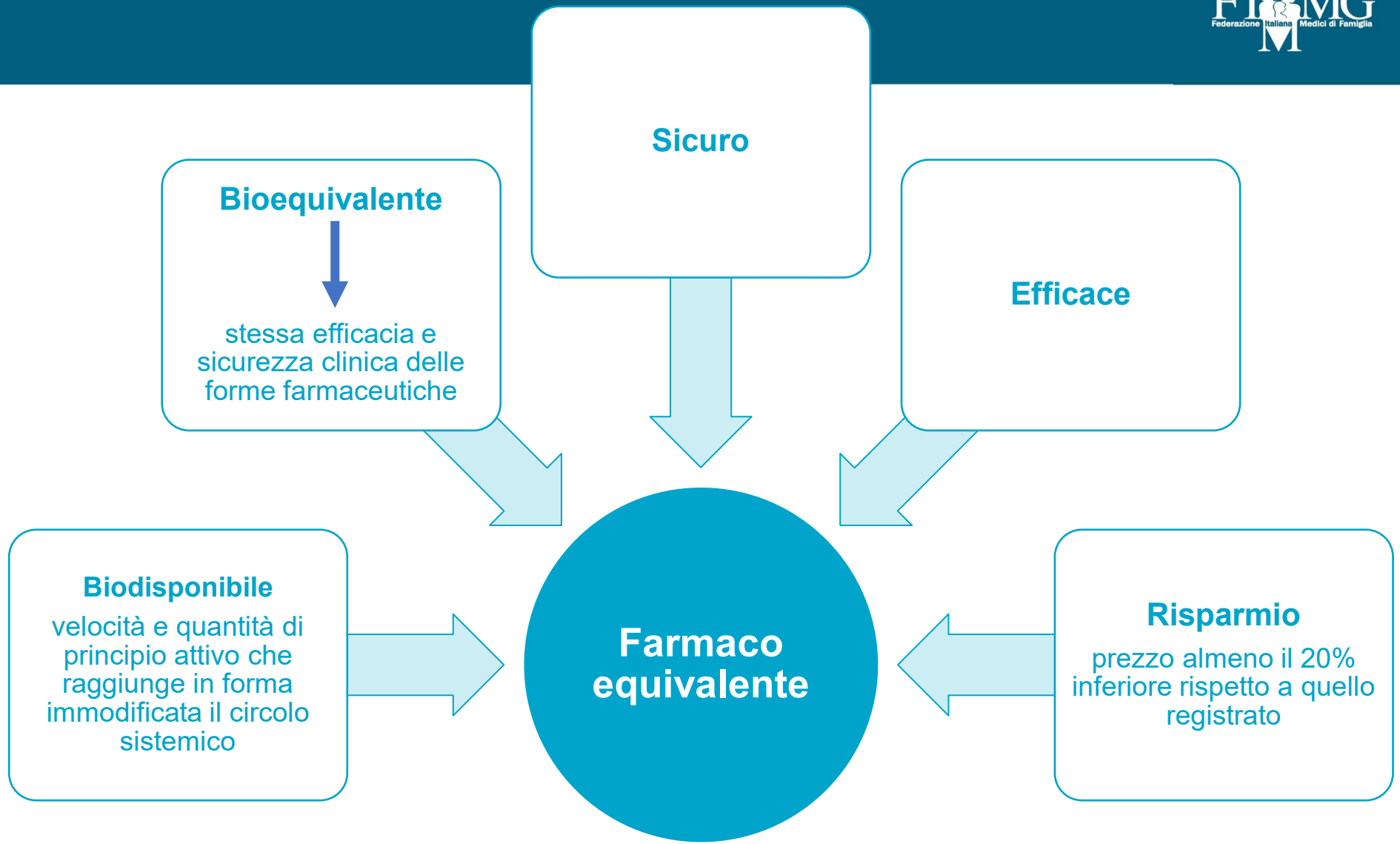
Table I. Evolution of market values and average prices in individual countries (%)

Country	Market value	Average price
Austria	−1.29	−26.13
Belgium	−13.43	−35.47
France	−9.05	−16.38
Italy	1.57	−26.53
Spain	23.58	−21.15
Denmark	−29.50	−53.81
Germany	−5.30	−28.51
Netherlands	−28.97	−45.07
Sweden	−48.72	−57.96
UK	−43.43	−54.71

Relazione tra co-payment (ticket) mensile medio per paziente e aderenza alla terapia con statine



Fonte: Ellis et al., Suboptimal Statin Adherence and Discontinuation, JGIM Volume 19, June 2004


Sicuro
Bioequivalente
stessa efficacia e sicurezza clinica delle forme farmaceutiche
Efficace
Biodisponibile
velocità e quantità di principio attivo che raggiunge in forma immodificata il circolo sistemico
Farmaco equivalente
Risparmio
prezzo almeno il 20% inferiore rispetto a quello registrato

GRAZIE
PER L'ATTENZIONE

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