

Meccanismi di generazione delle disuguaglianze di salute nei percorsi assistenziali

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Corso "Health Equity Audit", Bari 6-9 ottobre 2015

- Responsabilità del **governo clinico nella generazione o moderazione** delle disuguaglianze di salute
- **Evidenze** dell'esistenza di tali disuguaglianze in Italia

La riforma del Servizio Sanitario Nazionale

DECRETO LEGISLATIVO 19 GIUGNO 1999, N. 229

Art.1 Comma 2.

Il Servizio sanitario nazionale assicura, attraverso risorse pubbliche e in coerenza con i principi e gli obiettivi indicati dagli articoli 1 e 2 della legge 23 dicembre 1978, n.833, i **livelli essenziali e uniformi di assistenza** definiti dal Piano sanitario nazionale nel rispetto dei principi della dignità della persona umana, del bisogno di salute, dell'**equità nell'accesso all'assistenza, della qualità delle cure e della loro appropriatezza** riguardo alle specifiche esigenze nonché dell'economicità nell'impiego delle risorse.

Equità



Posizione socioeconomica, accesso e qualità delle cure

Complessa interazione tra



Source: Fiscella K, Med Care 2004

FASI DEI PERCORSI ASSISTENZIALI

Riconoscimento del bisogno
e primo contatto

Diagnosi

Terapia

Monitoraggio e prevenzione complicanze

*acuto
vs
cronico*

Livelli diversi

Assistenza di base o primaria

Assistenza ospedaliera

Continuità delle cure – integrazione
ospedale territorio

Come **MISURARE** le disuguaglianze nei percorsi assistenziali

?

INDICATORI

Tempestività

Appropriatezza

Efficacia

Continuità

Livelli diversi

Assistenza di base o primaria

Assistenza ospedaliera

Continuità delle cure – integrazione
ospedale territorio

INDICATORI

Variabili ad alto contenuto informativo
che consentono la valutazione sintetica
di fenomeni complessi

Orientare
decisioni

CARATTERISTICHE

- CHIARO
- SIGNIFICATO CLINICO
- VALIDO
- AFFIDABILE
- RIPRODUCIBILE
- FACILMENTE MISURABILE
- FACILMENTE UTILIZZABILE
- UTILE PER CONFRONTI
- UTILE PER STIMOLARE MIGLIORAMENTO

INDICATORI

Bassa vs alta
COMPLESSITA'



- Razionale
- Definizione
- Misura (**numeratore** e **denominatore**)
- Fonte dei dati
- Tempo di riferimento
- Standard di riferimento

Cosa abbiamo in ogni misura di occorrenza di caso o evento



Numeratore

Es: caso o evento

Denominatore

popolazione in
studio

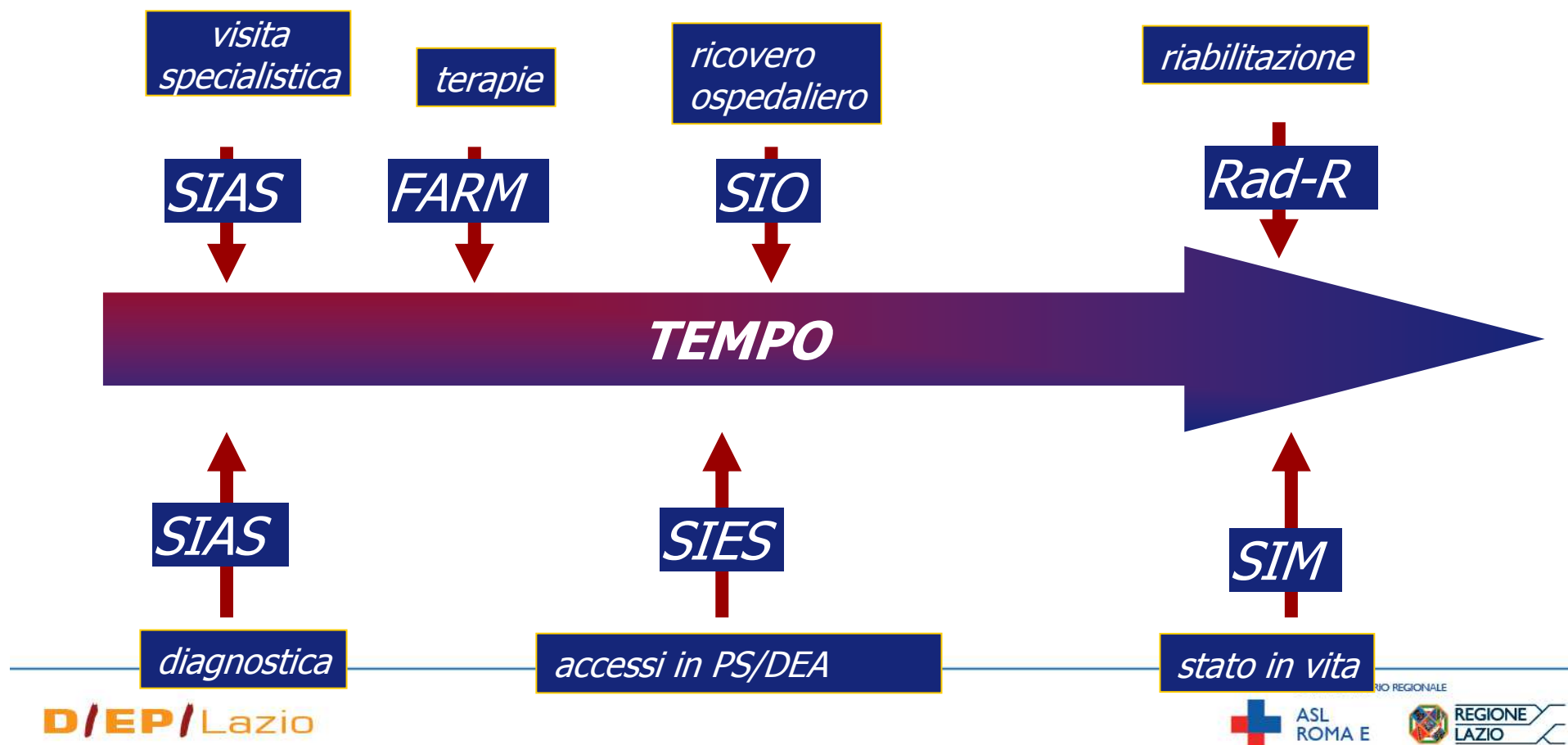
misurazioni 

misure

USO INTEGRATO SIS

procedure di record-linkage

Approccio longitudinale



Meccanismi delle diseguaglianze

- ➡ **Accesso a trattamenti efficaci ed appropriati**
a parità di bisogno (e domanda espressa)
- ➡ **Efficacia dei trattamenti**
a parità di accesso
- ➡ **Vulnerabilità a trattamenti inefficaci e inappropriati**
a parità di condizioni di salute

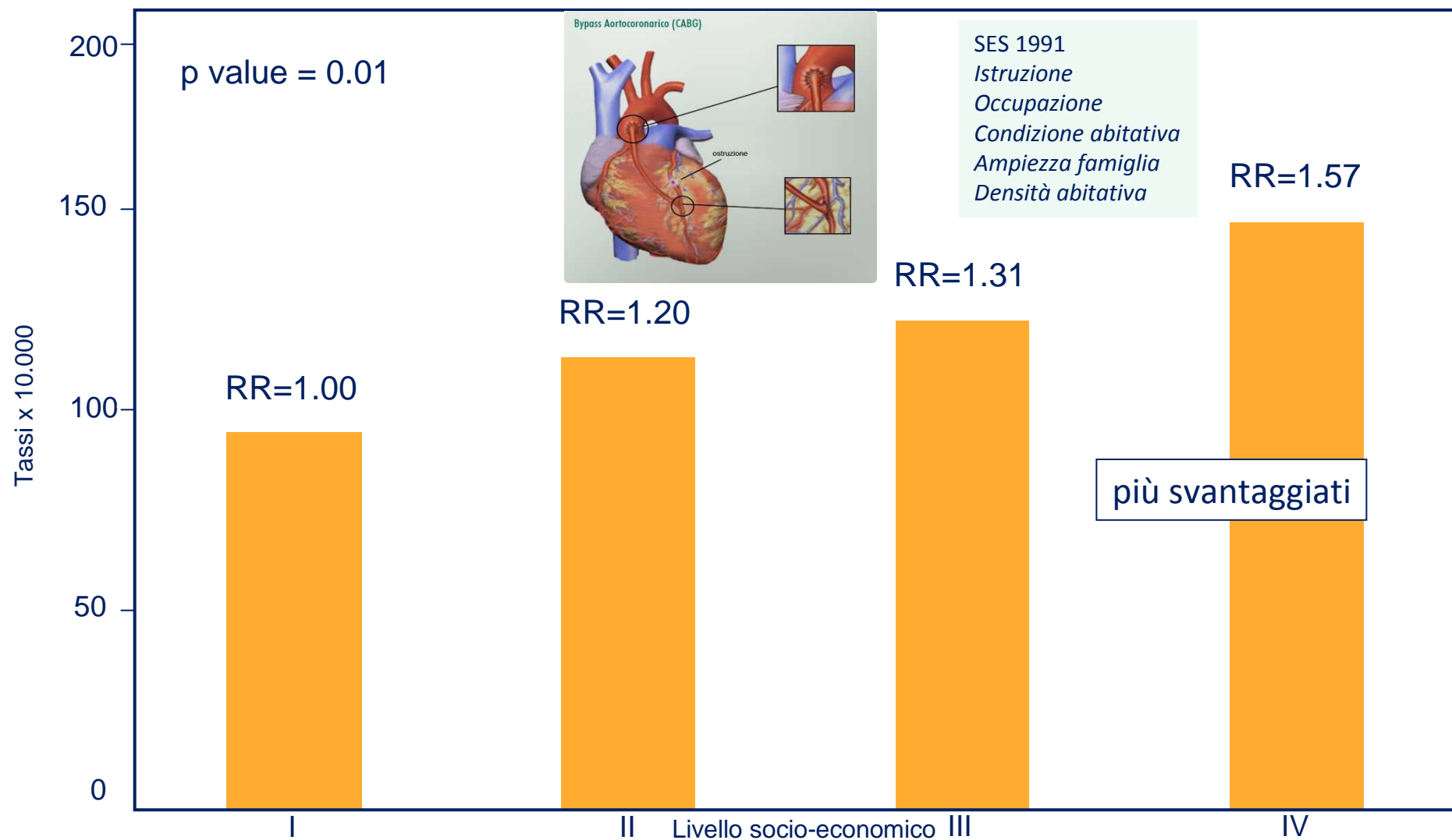
1. Accesso a trattamenti appropriati ed efficaci

Quali evidenze?

a. assistenza ospedaliera

Malattie ischemiche del cuore e livello socio-economico.

Tassi standardizzati di ospedalizzazione. Uomini, Roma 1996-1997 (età 35+ anni) circa 20.000 ricoveri totali

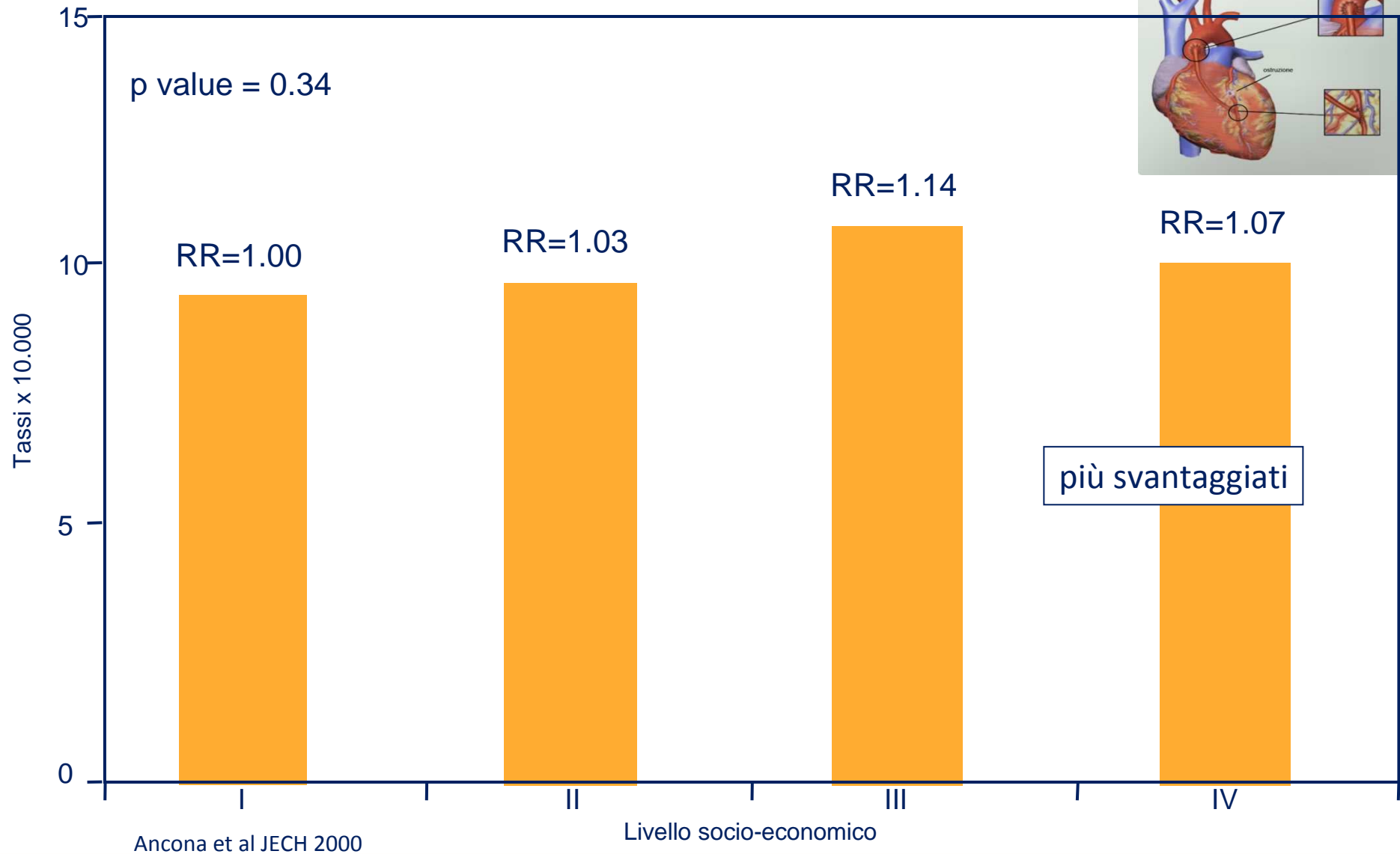


Ancona et al JECH 2000

Small area-socioeconomic index census based 1991 (Michelozzi et al JECH 1999)

Bypass aortocoronarico e livello socio-economico.

Tassi standardizzati di ospedalizzazione. Uomini, Roma 1996-1997 (n=1875)



Rapporto tra bypass e malattie ischemiche del cuore.

Tassi standardizzati di ospedalizzazione per sesso, Roma 1996-1997

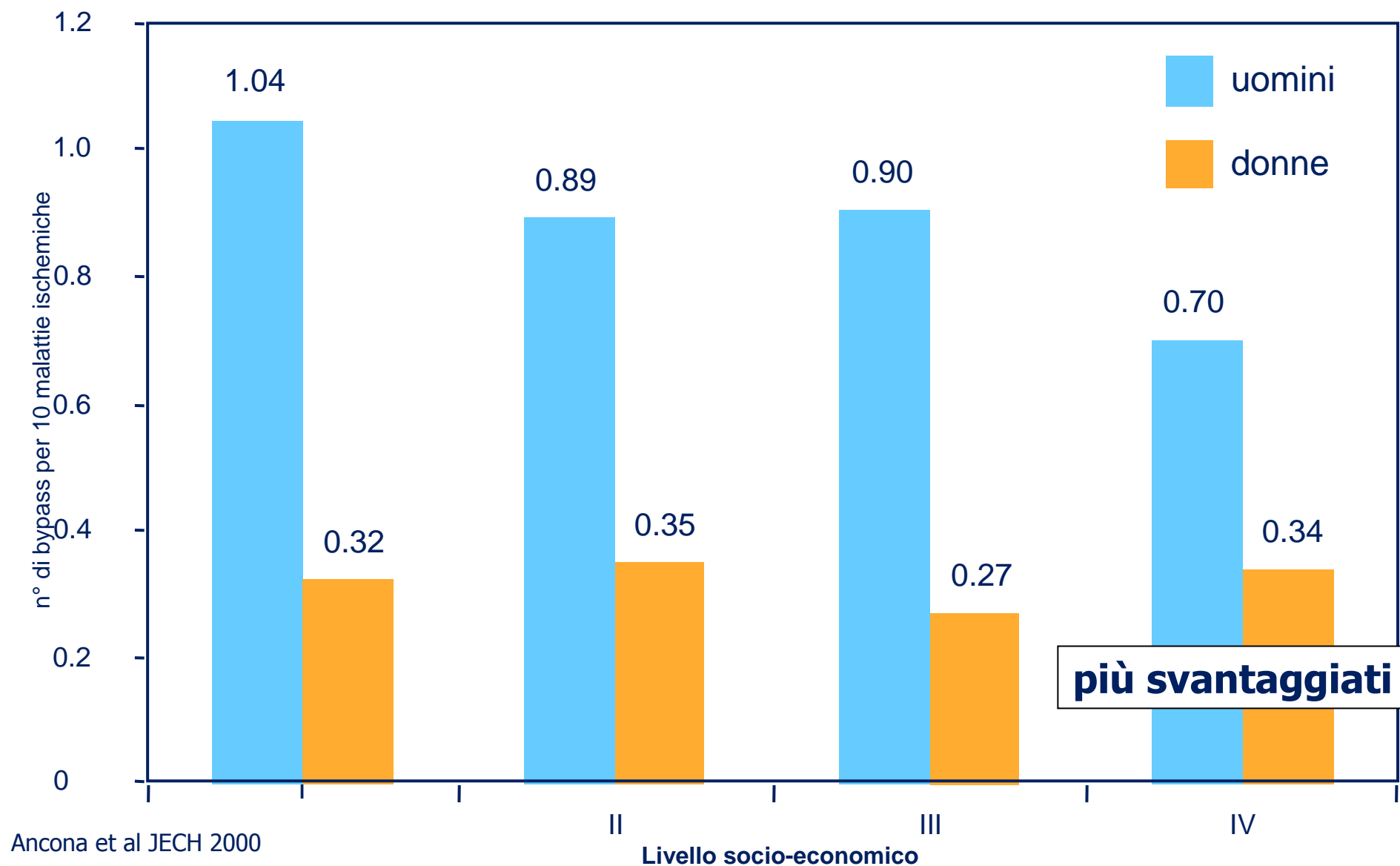


Table 3: Effect of patients personal characteristics on risk of non admission to Coronary Care Unit (C/

	Patients	% directly admitted to CCU	OR	95% C.I.	95% C.I.	95% C.I.
Gender						
Male	6243	56.7	1.00			
Female	2884	47.9	0.70			
Age (years)						
<50	673	67.9	1.00			
50–64	2665	62.7	0.79			
65–74	2606	55.1	0.58			
75–84	2234	44.8	0.35			
85+	949	37.7	0.29			
Charlson's comorbidity index						
0	4516	60.2	1.00			
1	2807	53.1	0.75			
2	1117	41.4	0.47			
3+	687	36.8	0.38			
SES level						
I	1523	52.6	1.00		1.00	
II	2840	53.5	1.04	0.91 – 1.17	0.90	0.75 – 1.09
III	2603	54.8	1.09	0.96 – 1.24	0.79	0.65 – 0.95
IV	1883	54.7	1.09	0.95 – 1.25	0.81	0.66 – 0.99

OR: Crude Odds Ratio

OR*: Odds Ratio adjusted for age, gender, severity of illness, and SES. Random effect model with admitting hospital as clustering variable

Pazienti con IMA, diagnosi principale, 18+ aa, residenti a Roma. 1997-2000

Indicatore PSE a livello di sezione di censimento (1991)

Minore accesso tra i più svantaggiati



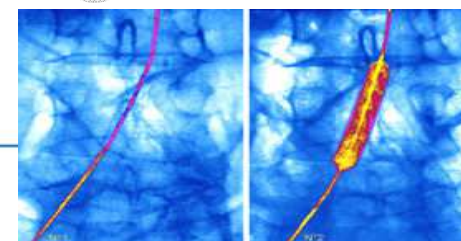
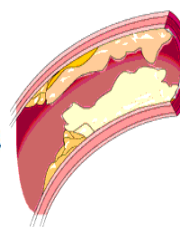
Associazione tra posizione socio-economica e intervento di PTCA dopo IMA. Roma 1998-2000 (n=8467 pz primo evento di IMA, età 35+)

	Men				Women				All			
Area based deprivation status	Risk (%)	Adjusted OR/HR	95% CI		Risk (%)	Adjusted OR/HR	95% CI		Risk (%)	Adjusted OR/HR	95% CI	
PTCA*†												
1 (privileged)	11.0	1.00			5.7	1.00			9.5	1.00		
2	10.9	0.97	0.75	1.27	7.9	1.43	0.83	2.45	10.0	1.05	0.83	1.34
3	11.1	0.94	0.73	1.22	5.8	0.98	0.56	1.73	9.6	0.95	0.75	1.21
4 (deprived)	9.0	0.75	0.56	1.01	5.1	0.83	0.45	1.53	7.8	0.77	0.59	0.99
p value trend		0.05				0.14				0.02		

	Men				Women				All			
Educational attainment	Risk (%)	Adjusted OR/HR	95% CI		Risk (%)	Adjusted OR/HR	95% CI		Risk (%)	Adjusted OR/HR	95% CI	
PTCA*†												
at least 13 years	14.0	1.00			8.0	1.00			12.9	1.00		
8-12 years	11.3	0.86	0.70	1.06	8.0	1.06	0.64	1.76	10.5	0.89	0.74	1.08
less than 8 years	7.7	0.70	0.55	0.90	5.3	0.88	0.52	1.47	6.7	0.73	0.58	0.90
p value for trend		0.01				0.50				0.004		

Small area-socioeconomic index census based 1991
Educational level

Picciotto S et al JECH 2006; 60: 37-43



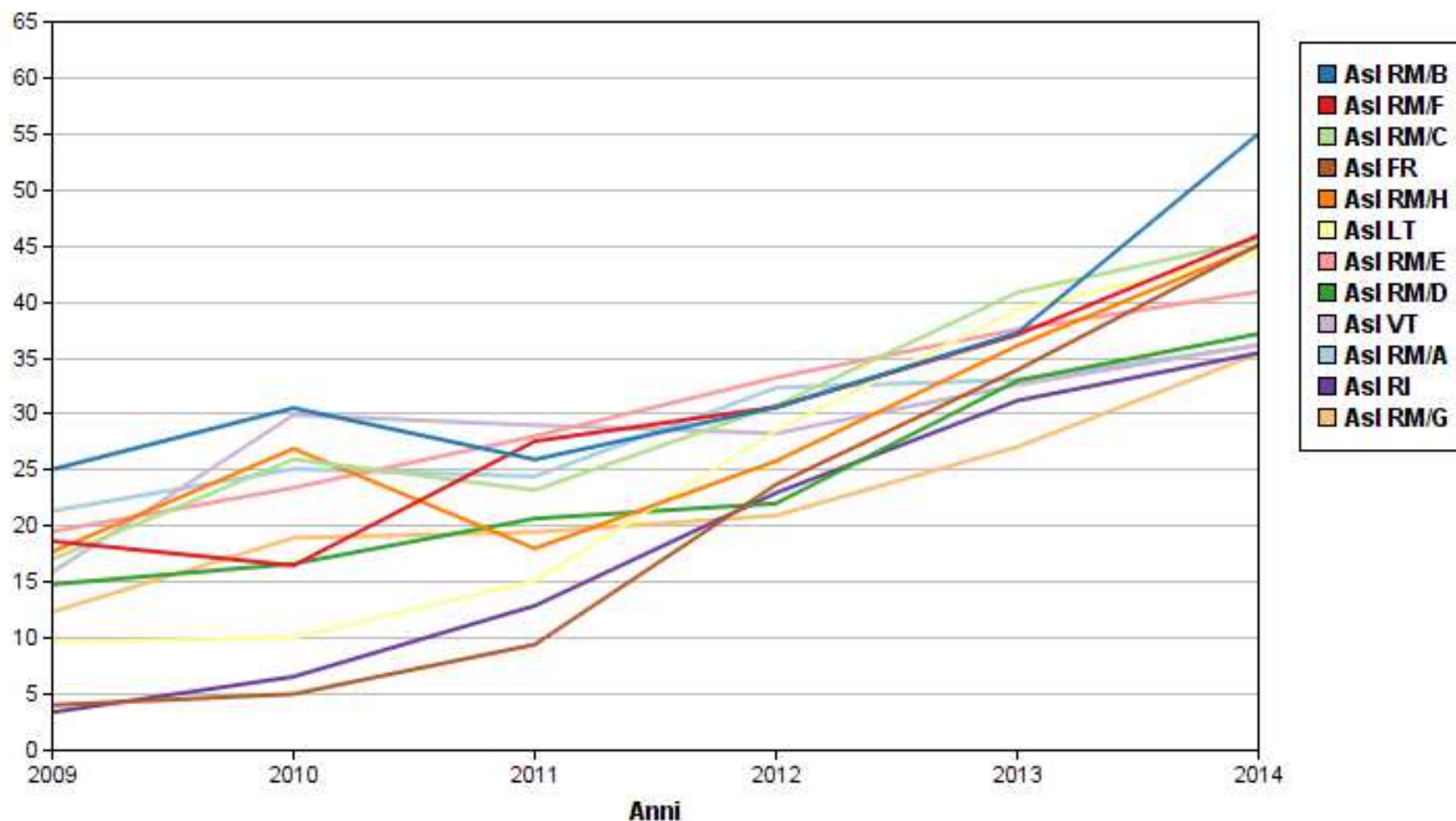
Procedure di rivascolarizzazione coronarica in pazienti con STEMI, per livello di istruzione Piemonte, 2008 - Odds Ratio e intervalli di confidenza al 95%

	Angiography		PCI		CABG	
	OR*	IC 95%	OR*	IC 95%	OR*	IC 95%
Educational level						
High	1		1		1	
Medium	0.77	0.51-1.15	0.77	0.57-1.04	1.26	0.69-2.31
Low	0.58	0.40-0.83	0.59	0.45-0.79	1.22	0.66-2.24
Missing	0.56	0.36-0.89	0.77	0.54-1.10	0.47	0.17-1.30

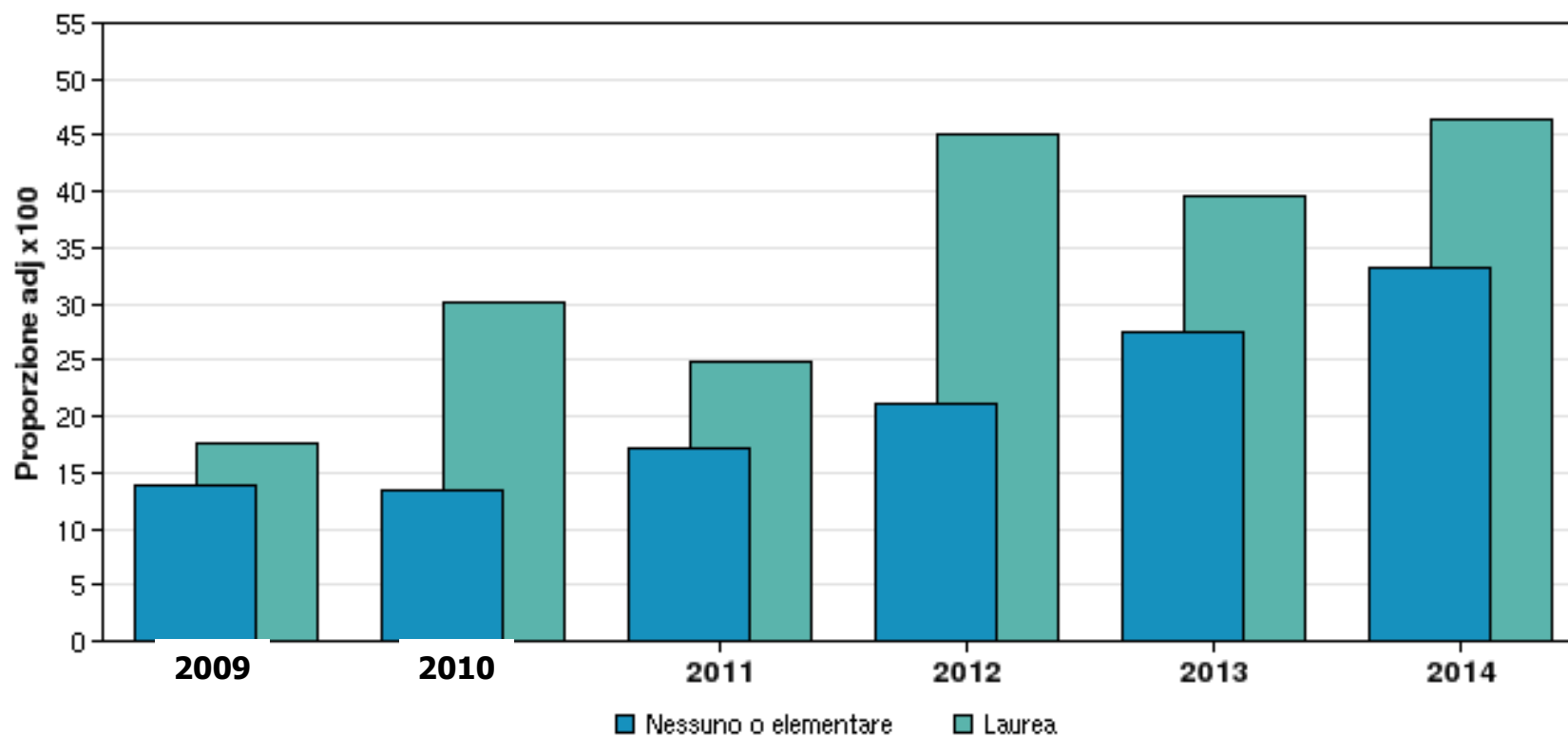
* Adjusted for: gender, age, admitting ward, Charlson index

Gnavi et al, Int J Cardiol 2014

STEMI: % ricoveri con PTCA entro 90 minuti (da accesso nella struttura di ricovero) per ASL di residenza



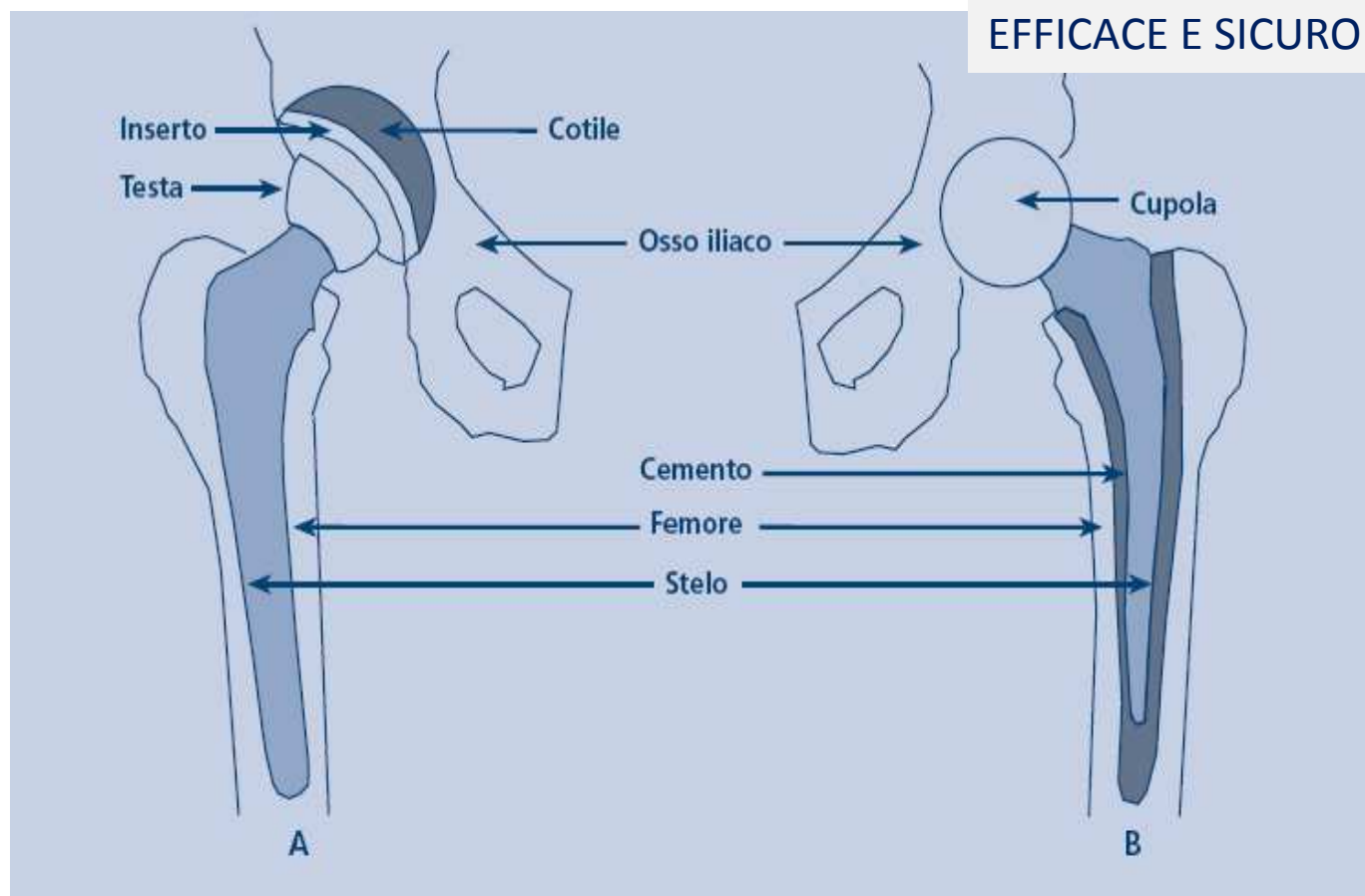
STEMI: proporzione di trattati con PTCA entro 90 minuti - Analisi con variabili cliniche (struttura di ricovero). Lazio 2009-2014



P.Re.Val.E edizione 2015

Schema di protesi d'anca (*metallo o ceramica*):
A) totale non cementata; B) parziale cementata.

L'impianto di protesi articolare (artroplastica o artroprotesi) è un intervento chirurgico mediante il quale un'articolazione danneggiata, dolorosa, malfunzionante o comunque malata viene sostituita con una struttura artificiale.

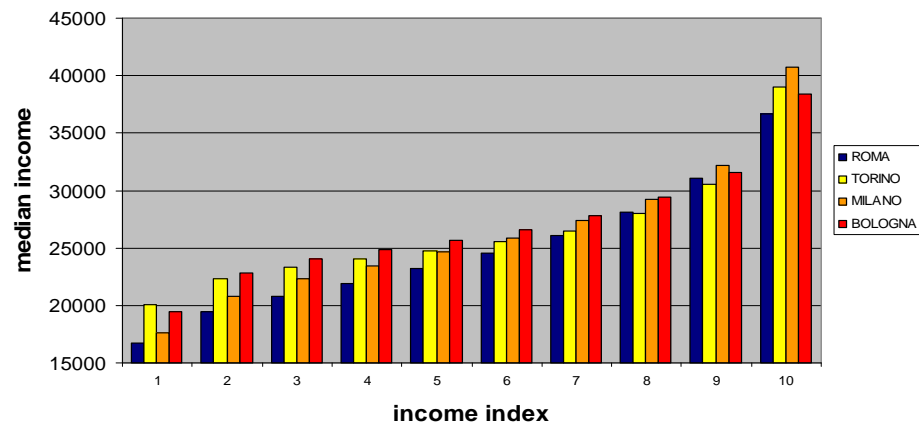


The influence of socioeconomic status on utilization and outcomes of elective total hip replacement: a multicity population-based longitudinal study

Torino
Milano
Bologna
Roma

NERA AGABITI¹, SALLY PICCIOTTO¹, GIULIA CESARONI¹, LUIGI BISANTI², FRANCESCO FORASTIERE¹, ROBERTA ONORATI³, BARBARA PACELLI⁴, PAOLO PANDOLFI⁴, ANTONIO RUSSO², TERESA SPADEA³ AND CARLO A. PERUCCI¹ ON BEHALF OF THE ITALIAN STUDY GROUP ON INEQUALITIES IN HEALTH CARE*

**Indicatore di PSE:
reddito mediano per
sezione di censimento**



**Intervento di sostituzione protesica dell'anca.
Torino, Milano, Roma, Bologna 1997-2000. N= 6140. Età > 65aa.**

Minore accesso
tra i più poveri

Table 2 Hospitalization for total hip replacement (rates per 1000 inhabitants) and association (rate ratios, RR) with income levels

Income level REDDITO	Men			Women			Men and Women		
	Rate	RR	95% CI	Rate	RR	95% CI	Rate	RR	95% CI
<u>65+ years of age</u>									
I high	1.19	1.00		1.82	1.00		1.51	1.00	
II	1.27	1.01	0.88–1.17	1.92	1.02	0.93–1.13	1.59	1.02	0.94–1.11
III	1.15	0.91	0.79–1.05	1.88	1.05	0.96–1.15	1.51	1.01	0.93–1.09
IV	1.25	0.99	0.86–1.14	1.88	1.01	0.92–1.11	1.57	1.01	0.93–1.09
V low	1.04	0.85	0.73–0.98	1.59	0.88	0.80–0.97	1.31	0.87	0.81–0.95
P trend		0.04			0.02			0.002	
<u>65–74 years of age</u>									
I high	0.86	1.00		1.23	1.00		1.04	1.00	
II	0.88	1.02	0.86–1.21	1.37	1.08	0.95–1.22	1.12	1.06	0.95–1.17
III	0.84	0.92	0.77–1.09	1.30	1.11	0.98–1.26	1.07	1.04	0.94–1.15
IV	0.87	0.99	0.84–1.18	1.28	1.06	0.93–1.19	1.07	1.03	0.93–1.14
V low	0.74	0.86	0.71–1.02	1.19	1.01	0.89–1.14	0.96	0.96	0.86–1.06
P trend		0.11			0.94			0.36	
<u>75+ years of age</u>									
I high	0.34	1.00		0.58	1.00		0.46	1.00	
II	0.39	1.01	0.78–1.29	0.55	0.96	0.83–1.12	0.47	0.97	0.86–1.11
III	0.31	0.89	0.69–1.14	0.58	0.98	0.85–1.13	0.44	0.96	0.84–1.08
IV	0.38	0.97	0.76–1.25	0.60	0.96	0.83–1.12	0.49	0.96	0.85–1.09
V low	0.30	0.84	0.64–1.09	0.39	0.73	0.63–0.85	0.35	0.76	0.66–0.86
P trend		0.20			<0.001			<0.001	

Rates and RR are standardized for age, gender, and city of residence.

Agabiti N et al. IJQHC 2007

CMAJ

RESEARCH

Effect of early surgery after hip fracture on mortality and complications: systematic review and meta-analysis

Nicole Sim
Emil Scher

Previously published

management of hip fracture in adults

METHODS, EVIDENCE & GUIDANCE

line Centre

OPEN ACCESS

RESEARCH ARTICLE

Timing Matters in Hip Fracture Surgery: Patients Operated within 48 Hours Have Better Outcomes. A Meta-Analysis and Meta-Regression of over 190,000 Patients

Lorenzo Moja , Alessandra Piatti, Valentina Pecoraro, Cristian Ricci, Gianni Virgili, Georgia Salanti, Luca Germagnoli, Alessandro Liberati †, Giuseppe Banfi

VIEWS

CITATION

SAVES

7

Accesso all'intervento per frattura di femore entro 48 ore Roma 2006-07 (65+ anni, n=5051)

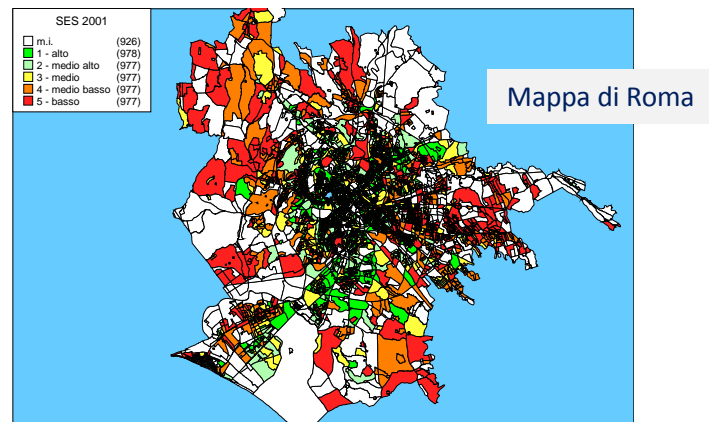
Minore tempestività
nell'accesso tra i più
svantaggiati

Table 3 Proportion of interventions within 48 h and crude and adjusted HRs by socioeconomic position

Socioeconomic position	Admissions (n)	Interventions within 48 h (%)	Crude HR	P-value	Adjusted HR ^a	P-value
I (high)	1187	9.0	1		1	
II (intermediate)	3122	6.1	0.66	0.001	0.69	0.002
III (low)	742	2.8	0.31	0.000	0.32	0.000

^aAdjusted for: age, gender, COPD, other forms of chronic ischemic heart diseases, blood disorders, blood disorders current admission (CA), cerebrovascular diseases, cerebrovascular diseases CA.

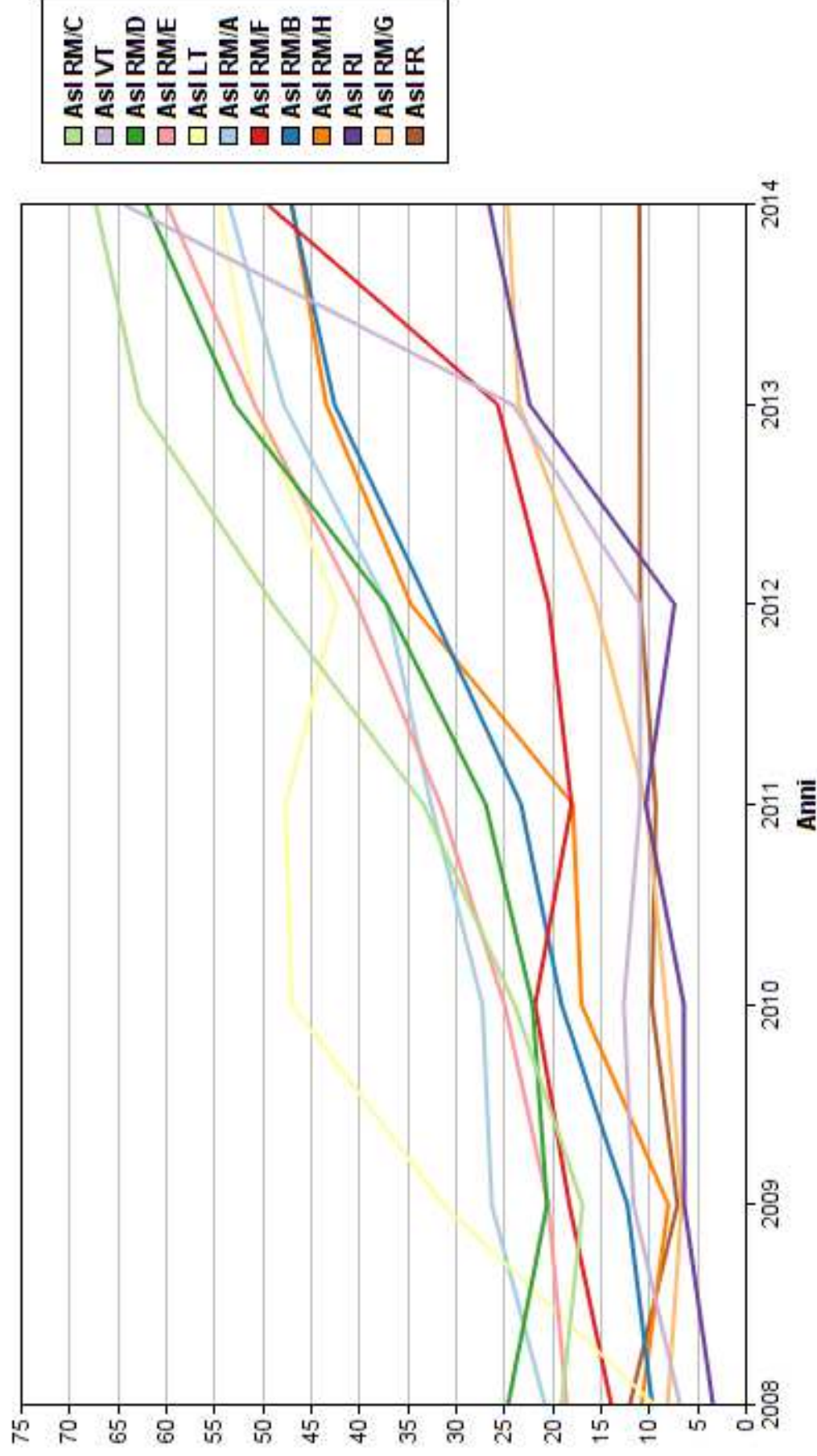
Small area-socioeconomic index census based 2001 (Cesaroni 2006)



- ✓ Occupazione
- ✓ Istruzione
- ✓ Condizione abitativa
- ✓ Composizione familiare
- ✓ Immigrazione

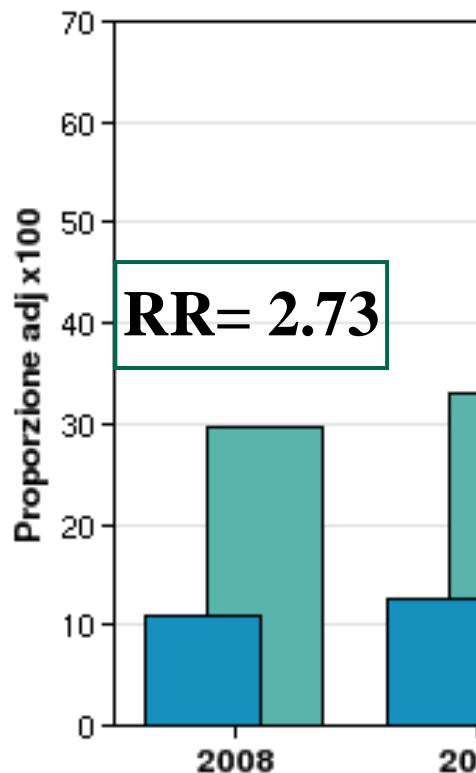
Barone et al IJQSHC 2009

Frattura del collo del femore: intervento chirurgico entro 2 giorni



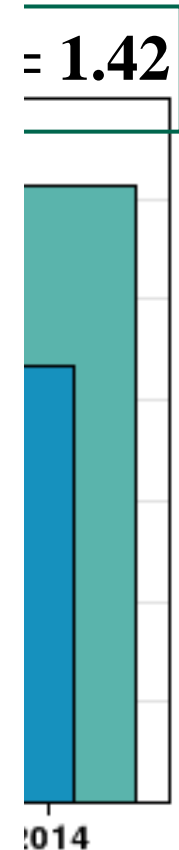
Frattura del collo del femore: intervento chirurgico entro 2 giorni e titolo di studio.

Lazio



**4 volte per gli
anziani di basso
livello di
istruzione vs**

**2 volte per gli
anziani con laurea**



TUMORE del POLMONE e ACCESSO alle CURE

Piemonte 2000-03

Table 3

Factors associated to the initial pattern of care, in a cohort of NSCLC, by stage at diagnosis. Turin, Italy, 2000–2003.

stadio avanzato

Independent variables ^a	Early stage (reference: surgery) stadio iniziale				Advanced stage (reference: curative care ^b) stadio avanzato	
	CH and/or RT		Other NCC		Other NCC	
	OR ^c	(95% CI ^d)	OR ^c	(95% CI ^d)	OR ^c	(95% CI ^d)
Age						
<65	1.00	–	1.00	–	–	–
65–69	0.89	(0.60, 1.32)	0.98	(0.57, 1.67)	1.65	(1.07, 2.56)
70–74	1.17	(0.78, 1.73)	2.47	(1.52, 4.01)	1.99	(1.32, 2.99)
>75	1.58	(1.02, 2.44)	12.67	(7.89, 20.33)	7.41	(5.09, 10.8)
Gender						
Male	1.00	–	1.00	–	–	–
Female	0.8	(0.55, 1.16)	1.03	(0.69, 1.55)	0.96	(0.68, 1.35)
Educational level						
High	1.00	–	1.00	–	–	–
Intermediate	0.98	(0.64, 1.50)	1.48	(0.90, 2.45)	0.8	(0.51, 1.25)
Low	1.63	(1.08, 2.44)	2.34	(1.46, 3.76)	0.94	(0.63, 1.41)
Missing	2.20	(1.25, 3.88)	4.49	(2.41, 8.39)	1.03	(0.63, 1.68)
Marital status						
Married	1.00	–	1.00	–	–	–
Other	1.18	(0.80, 1.74)	2.26	(1.51, 3.38)	1.98	(1.42, 2.76)
Missing	3.09	(0.86, 11.09)	4.24	(1.16, 15.48)	1.69	(0.84, 3.41)
Comorbidity						
Charlson Index unit increase	1.18	(1.00, 1.38)	1.45	(1.22, 1.71)	1.08	(0.94, 1.23)

CH, chemotherapy; RT, radiotherapy; NCC, non-curative care.

^a Multivariable multinomial logistic regression model. Each variable is adjusted for all the others in the model.

^b Curative care includes: chemotherapy, radiotherapy and surgery.

^c OR, Odds ratio.

^d 95% CI, 95% confidence interval.

TUMORE del POLMONE e SOPRAVVIVENZA

Piemonte 2000-03 (follow up 5 anni)

Table 4

Multivariable analysis of survival of a cohort of incident NSCLC cases, by stage at diagnosis. Turin, Italy, 2000–2003.

Independent variables ^a	Early stage			Advanced stage		
	HR ^b	(95% CI ^c)	P value	HR ^b	(95% CI ^c)	P value
Age						
<65	1.00	–	–	1.00	–	–
65–69	1.27	(1.03, 1.55)	0.023	0.99	(0.82, 1.19)	0.879
70–74	1.14	(0.94, 1.38)	0.182	1.06	(0.88, 1.27)	0.537
>75	1.21	(1.01, 1.44)	0.040	1.01	(0.84, 1.21)	0.922
Gender						
Male	1.00	–	–	1.00	–	–
Female	0.92	(0.79, 1.07)	0.263	0.86	(0.74, 1.00)	0.057
Educational level						
High	1.00	–	–	1.00	–	–
Intermediate	1.12	(0.92, 1.37)	0.253	0.96	(0.79, 1.16)	0.645
Low	1.01	(0.84, 1.21)	0.948	0.87	(0.73, 1.04)	0.129
Missing	1.15	(0.91, 1.46)	0.230	1.18	(0.95, 1.47)	0.141
Marital status						
Married	1.00	–	–	1.00	–	–
Other	1.27	(1.09, 1.47)	0.002	1.07	(0.92, 1.25)	0.366
Missing	1.37	(0.99, 1.90)	0.061	1.35	(0.98, 1.87)	0.071
Comorbidity						
Charlson Index unit increase	1.02	(0.97, 1.08)	0.435	1.09	(1.02, 1.16)	0.013
Patterns of care						
Surgery	1.00	–	–	1.00 ^d	–	–
CH and/or RT	3.16	(2.63, 3.79)	<.0001			
Other non-curative care	5.56	(4.55, 6.78)	<.0001	3.15	(2.71, 3.67)	<.0001

no differenza per livello socioeconomico



TUMORE DELLA MAMMELLA e ACCESSO alle CURE

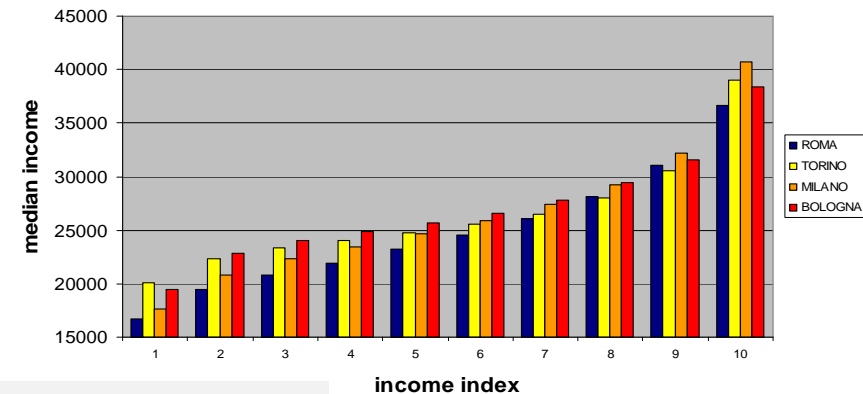
Piemonte 2000-04, N= 16022

ref: chirurgia conservativa+ radio	BCS w/o RT		Mastectomy	
	OR	95% CI	OR	95% CI
Age	nessuna associazione con SEP			
<50	1		1	
50–59 ^a	0.92	0.80–1.05	0.78	0.70–0.88
60–69 ^a	0.89	0.77–1.02	0.83	0.73–0.95
70–79	1.54	1.29–1.85	1.90	1.52–2.38
≥80	16.39	12.06–22.26	12.50	9.86–17.77
Educational status				
Secondary or more	1		1	
Intermediate	0.94	0.81–1.09	0.91	0.80–1.04
Primary	1.00	0.82–1.22	1.03	0.89–1.20
Unknown	1.14	0.85–1.52	1.10	0.84–1.44

Tenendo conto di: età, stadio, ospedale, distanza, comorbidità.

Rosato et al Breast Cancer Res Treat 2009

b. assistenza territoriale



REDDITO mediano 4 città

Open Access

Research article

Income level and chronic ambulatory care sensitive conditions in adults: a multicity population-based study in Italy

Nera Agabiti^{*1}, Monica Pirani², Patrizia Schifano¹, Giulia Cesaroni¹, Marina Davoli¹, Luigi Bisanti³, Nicola Caranci⁴, Giuseppe Costa⁵, Francesco Forastiere¹, Chiara Marinacci⁶, Antonio Russo³, Teresa Spadea⁵, Carlo A Perucci¹ and Italian Study Group on Inequalities in Health Care

2009

Address: ¹Epidemiology Department, Local Health Authority RM/E, Rome, Italy, ²Modena Cancer Registry, Modena, Italy, ³Epidemiology Department, Local Health Authority; Milan, Italy, ⁴Regional Agency for Health and Social Care - Emilia Romagna Region, Bologna, Italy, ⁵Epidemiology Department, Piedmont Region, Turin, Italy and ⁶Epidemiology Department, Local Health Authority, La Spezia, Italy

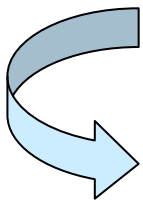
Participating cities: Turin, Milan, Bologna, Rome
year 2000, study population aged 20-64 years

9384 hospital admissions for six chronic conditions: diabetes, hypertension, congestive heart failure, angina pectoris, chronic obstructive pulmonary disease and asthma

OSPEDALIZZAZIONI POTENZIALMENTE EVITABILI

Ambulatory Care Sensitive Conditions (ACSC)

ricoveri che potrebbero essere evitati da una appropriata e tempestiva assistenza primaria, mediante la prevenzione della condizione morbosa, il controllo degli episodi acuti, la gestione della malattia cronica.



utilizzate come indicatore indiretto dell'accesso e della qualità dell'assistenza primaria

ACSC - popolazione \geq 20 anni

Angina pectoris *

Appendicite acuta con complicazioni *

Asma *

Deficienze nutrizionali

Diabete *

Amputazioni arti inferiori in diabete *

Disordini metabolismo idro-elettrolitico *

Infezioni tratto urinario *

Scompenso cardiaco *

Ipertensione *

Malattie infiammatorie ovaio e trombe di falloppio

Malattie polmonari croniche ostruttive *

Polmonite batterica *

Ulcera perforata con emorragia

- *"Primary Prevention Indicators"* rapporto AHRQ

Table 2: Age standardised rates (per 10,000 inhabitants) and Rate Ratios (RR, 95% CI) for selected chronic conditions - Adults ages 20-64. Year 2000

Characteristic	Diabetes				Hypertension (without procedures)				Congestive Heart Failure (without procedures)				Angina (without procedures)			
	N	rate (95%CI)			N	rate (95%CI)			N	rate (95%CI)			N	rate (95%CI)		
	1.648	4,6	4.4-5.0		1.546	4,3	4.1-4.5		1.321	3,6	3.4-3.8		2.423	6,7	6.4-7.0	
Characteristics	%	rate	RR	95% CI	%	rate	RR	95% CI	%	rate	RR	95% CI	%	rate	RR	95% CI
Income (quintiles)																
I high	13,6	3,0	1,00		16,7	3,4	1,00		9,4	1,6	1,00		14,8	4,6	1,00	
II	14,2	3,2	1,08	0.87-1.34	17,0	3,5	1,00	0.80-1.26	16,4	2,9	1,80	1.44-2.24	19,6	6,3	1,33	1.13-1.57
III	18,1	4,2	1,46	1.19-1.80	19,4	4,2	1,19	0.95-1.48	18,9	3,4	2,18	1.76-2.71	19,9	6,7	1,43	1.21-1.68
IV	20,5	4,9	1,68	1.37-2.07	21,5	4,8	1,33	1.06-1.68	24,8	4,7	2,97	2.41-3.65	20,4	7,1	1,53	1.31-1.79
V low	33,6	8,4	2,77	2.29-3.36	25,4	5,9	1,64	1.31-2.04	30,4	6,0	3,78	3.09-4.62	25,3	9,3	1,97	1.70-2.30
linear test for trend				< 0.001								< 0.001				< 0.001

Table 3: Age standardised rates (per 10,000 inhabitants) and Rate Ratios (RR, 95% CI) for selected chronic conditions - Adults ages 20-64. Year 2000

Characteristic	COPD				Asthma				Overall			
	N	rate (95%CI)			N	rate (95%CI)			N	rate (95%CI)		
	1.764	4,9	4.6-5.1		682	2,0	1.8-2.1		9.384	26,1	25-6-26.6	
Characteristics	%	rate	RR	95% CI	%	rate	RR	95% CI	%	rate	RR	95% CI
Income (quintiles)												
I high	9,6	2,2	1,00		13,1	1,3	1,00		13,0	42,3	1,00	
II	14,2	3,3	1,40	1.09-1.80	15,8	1,5	1,22	0.92-1.62	16,5	28,5	1,26	1.14-1.40
III	19,9	4,8	1,97	1.53-2.53	20,5	2,1	1,62	1.25-2.12	19,4	25,3	1,54	1.40-1.71
IV	19,4	4,8	2,13	1.68-2.71	21,7	2,2	1,73	1.33-2.25	21,1	20,7	1,75	1.59-1.94
V low	36,9	9,7	4,23	3.37-5.31	28,9	3,0	2,37	1.84-3.04	29,9	15,9	2,59	2.35-2.85
linear test for trend				< 0.001				< 0.001				

PREVENZIONE SECONDARIA POST INFARTO

Key priorities for implementation

A number of key priority recommendations have been identified for implementation and these are listed below.

- After an acute myocardial infarction (MI), confirmation of the diagnosis of acute MI and results of investigations, future management plans and advice on secondary prevention should be part of every discharge summary.

1.1 Lifestyle changes after a myocardial infarction (MI)

1.2 Cardiac rehabilitation after an acute MI

1.3 Drug therapy after an MI

Drug therapy is an important part of the treatment that should be offered for secondary prevention after MI. This section makes specific recommendations about which drugs should be offered. However, interventions that are specific to the early phase of acute MI are not included. The majority of drugs are intended as long-term therapy, and it is clearly stated if any drugs should be routinely discontinued after an interval.

1.3.1 Overall drug therapy recommendation

Offer all people who have had an acute MI treatment with the following drugs:

- ACE (angiotensin-converting enzyme) inhibitor
- dual antiplatelet therapy (aspirin plus a second antiplatelet agent)
- beta-blocker
- statin. [2007, amended 2013]


National Institute for
Health and Clinical Excellence

Issued: November 2013

MI: secondary prevention

Secondary prevention in primary and secondary care for patients following a myocardial infarction

NICE clinical guideline 172

Long term survival after evidence based treatment of acute myocardial infarction and revascularisation: follow-up of population based Perth MONICA cohort, 1984-2005

Tom Briffa, S Hickling, M Knuiman, M Hobbs, J Hung, F M Sanfilippo, K Jamrozik and P L Thompson

BMJ 2009;338:b36
doi:10.1136/bmj.b36

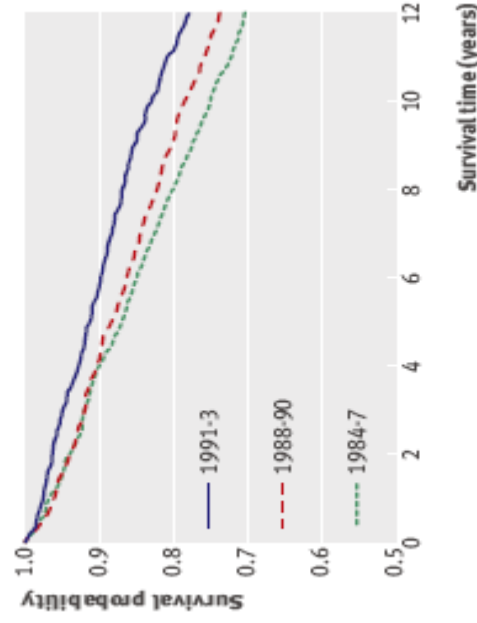


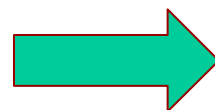
Fig 1 | Kaplan-Meier all cause mortality in 28 day survivors of acute myocardial infarction: Perth MONICA cohort 1984-93

Conclusion The improving trends in 12 year survival after a definite acute myocardial infarction are associated with progressive use of evidence based treatments during the initial admission to hospital and in the 12 months after the event. These changes in the management of acute myocardial infarction are probably contributing to the continuing decline in mortality from coronary heart disease in Australia.

FARMACEUTICA TERRITORIALE

- farmaci distribuiti dalle farmacie territoriali pubbliche e private
- popolazione residente
- farmaci a carico del SSN -farmaci classe A (copertura 95%)
- sistema a regime nel Lazio dal 2006
- ATC codes

A livello individuale



RICETTA

data acquisto
principio attivo
quantità



Terapia evidence-based nel post-infarto. Lazio 2006-2007 **N= 3920. Età 35-80 aa. Indicatore di PSE a livello di sezione di** **censimento (dati cens. 2001)**

Tabella 4. Results of the logistic regression model: patients with chronic polytherapy, number, percentage, crude and adjusted OR and 95% CI

overall polytherapy=42.4%

		Cohort		Patients with ≥ 6 boxes/365 days of individual follow-up				
				USO CRONICO				
n.3920 IMA dimissioni Follow up: 12 mesi		n	n	%	OR	95%CI	OR _{adj} *	95%CI
Gender	males	2870	1273	44.4	1.00		1.00	
	females	1050	388	37.0	0.74	0.64 - 0.85	0.84	0.72 - 0.99
Age (years)	35-55	830	374	45.1	1.00		1.00	
	56-70	1705	771	45.2	1.01	0.85 - 1.19	0.99	0.83 - 1.18
	71-80	1385	516	37.3	0.72	0.61 - 0.86	0.82	0.68 - 0.99
Socio-economic level	high	608	250	41.1	1.00		1.00	
	medium-high	734	307	41.8	1.03	0.83 - 1.28	1.00	0.80 - 1.26
	medium	831	349	42.0	1.04	0.84 - 1.28	1.02	0.82 - 1.26
	medium-low	849	374	44.1	1.13	0.91 - 1.39	1.12	0.90 - 1.38
	low	898	381	42.4	1.06	0.86 - 1.30	1.04	0.85 - 1.30

* adjusted for gender, age, SEP, revascularisation procedures, discharge from specialised ward, diabetes, lipid disorders, hypertensive disease, COPD, renal disease

Kirchmayer et al J Clin Pharmacy Therapeutics, 2011

STATINE E PREVENZIONE SECONDARIA DELLA CARDIOPATIA ISCHEMICA. Torino 2001-02 (n=7446, età 30-85)

Uso di statine: almeno 1 prescrizione nei 3 mesi successivi alla dimissione

Table 3 Prevalence rate ratios (PRR) for the prescribing of statins among persons with ischaemic heart disease, by age class; Turin, Italy; 2001-02

Age class (in years)	30-64		65-74		75-85	
Variable	PRR	95% CI	PRR	95% CI	PRR	95% CI
Gender						
Men	1		1		1	
Women	0.95	(0.84-1.07)	1.11	(0.99-1.24)	1.54	(1.29-1.84)
Educational level						
Elementary or lower	1		1		1	
Middle school	1.05	(0.95-1.15)	1.11	(0.99-1.25)	1.29	(1.08-1.54)
High school/college	0.92	(0.82-1.03)	1.00	(0.86-1.16)	1.38	(1.11-1.72)
Marital status						
Married	1	(0.55-0.83)	1		1	
Unmarried	0.68	(0.64-1.05)	0.80	(0.61-1.06)	0.52	(0.33-0.82)
Widowed	0.82	(0.57-0.94)	1.00	(0.87-1.14)	0.65	(0.54-0.79)
Separated/divorced	0.73		1.28	(1.00-1.63)	0.75	(0.40-1.40)
Main diagnosis						
AMI (main diagnosis at discharge)	1		1		1	
IHD (chronic - main diagnosis)	0.85	(0.76-0.96)	0.88	(0.77-1.00)	0.92	(0.74-1.14)
IHD (not main diagnosis)	0.63	(0.50-0.78)	0.66	(0.54-0.79)	0.57	(0.44-0.74)
Revascularization						
No	1		1		1	
Yes	1.36	(1.24-1.49)	1.38	(1.24-1.54)	1.49	(1.24-1.80)
Diabetes						
No	1		1		1	
Yes	1.00	(0.89-1.13)	1.21	(1.07-1.36)	1.04	(0.85-1.30)
Discharge ward						
Cardiology	1		1		1	
Other	0.60	(0.49-0.73)	0.62	(0.52-0.75)	0.56	(0.44-0.70)

All of the variables have been reciprocally adjusted.

Fonte PSE= registro di popolazione torinese (censimento 1991)

Overall use 31%

Andamento temporale della terapia antiaggregante post-intervento di rivascolarizzazione coronarica, per PSE

Roma 2006-07 (n=5901, età: 18+). Follow-up 12 mesi

Indicatore di PSE a livello di sezione di censimento (cens. 2001)

Il 66% dei pazienti segue la terapia appropriata nell'anno successivo alla PTCA

PSE	n.	I SEMESTRE		II SEMESTRE		RIDUZIONE
		n	(%)	n	(%)	%
ALTA	1.017	715	(70,30)	606	(59,59)	-15,24
MEDIO-ALTA	1.143	829	(72,53)	676	(59,14)	-18,46
MEDIA	1.215	888	(73,09)	683	(56,21)	-23,09
MEDIO-BASSA	1.255	898	(71,55)	698	(55,62)	-22,27
BASSA	1.271	905	(71,20)	717	(56,41)	-20,77
TOTALE	5.901	4.235	(71,77)	3.380	(57,28)	-20,19

Mayer et al Ep&Prev 2014

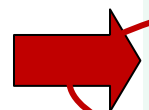
Associazione tra PSE e terapia antiaggregante piastrinica

Roma 2006-07 (n=5901)

PSE	TERAPIA ANTIAGGREGANTE 0-12 MESI						
	n.	% terapia appropriata	OR grezzo (IC95%)	p	OR aggiustato* (IC95%)	p	p trend
ALTA	1.017	68,24	1,19 (1,00-1,41)	0,056	1,26 (1,05-1,51)	0,011	0,002
MEDIO-ALTA	1.143	67,10	1,13 (0,95-1,33)	0,168	1,16 (0,98-1,38)	0,084	
MEDIA	1.215	65,51	1,05 (0,89-1,24)	0,574	1,10 (0,93-1,30)	0,272	
MEDIO-BASSA	1.255	63,67	0,97 (0,82-1,14)	0,686	0,99 (0,84-1,17)	0,936	
BASSA	1.271	64,44	1,00				
* aggiustamento per genere, età, malattie cerebrovascolari, anemie, malattie vascolari e l'essere un nuovo utilizzatore di farmaci antiaggreganti.							

meccanismi delle diseguaglianze

accesso a trattamenti efficaci ed appropriati
a parità di domanda espressa



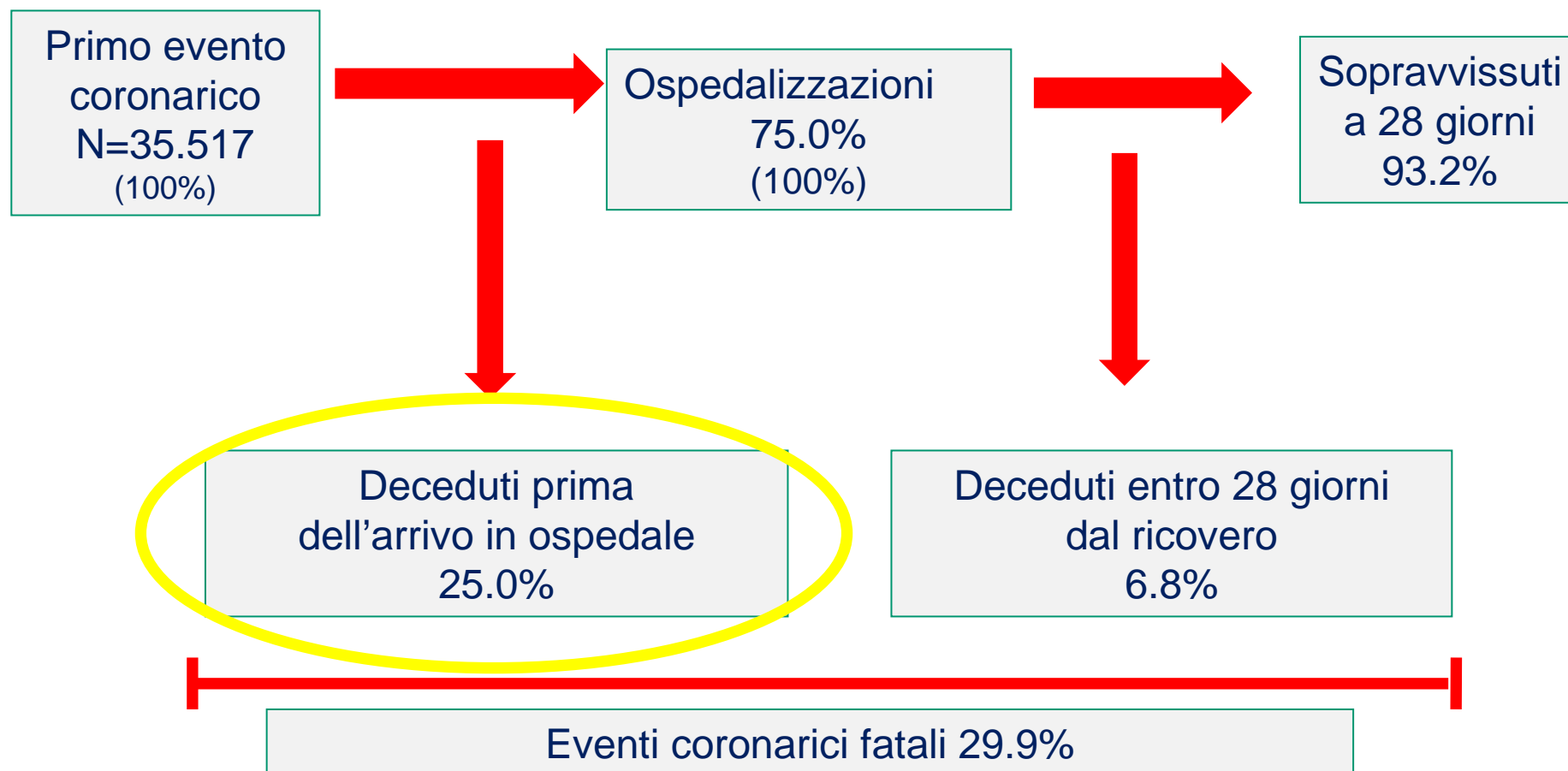
efficacia dei trattamenti
a parità di accesso

vulnerabilità a trattamenti inefficaci e inappropriati
a parità di condizioni di salute

PRIMO EVENTO CORONARICO

Lazio 2006-09

Picciotto S et al JECH 2006; 60: 37-43



Infarto del miocardio: mortalità out-of-hospital per livello socioeconomico

Table 2 Area based deprivation status and incidence of first coronary events in Rome, 1998–2000: age standardised annual rates (per 100000 residents), age adjusted relative risks and confidence intervals (95% CI)

Area based deprivation status*	Men				Women			
	Number of cases	Adjusted rate†	Relative risk‡	95% CI	Number of cases	Adjusted rate†	Relative risk‡	95% CI
Out of hospital deaths								
1 (privileged)	428	69.1	1.00		258	22.3	1.00§	
2	719	71.2	1.02	0.98 to 1.15	450	25.7	1.18§	1.05 to 1.37
3	692	81.2	1.13	1.00 to 1.28	383	28.8	1.29§	1.10 to 1.51
4 (deprived)	505	97.8	1.36	1.20 to 1.55	249	32.2	1.35§	1.14 to 1.61

Small area-socioeconomic index census based 1991

Picciotto S et al JECH 2006; 60: 37-43

Infarto del miocardio: No evidenza di associazione con esiti (mortalità a 30 giorni e a un anno)

Roma 1998-2000 (n= 8467, età 35+)

Table 4 Association between neighbourhood based SES and outcome of first AMI hospitalisation in Rome, 1998–2000

Area based deprivation status	Men			Women				All			
	Risk (%)	Adjusted OR/HR	95% CI	Risk (%)	Adjusted OR/HR	95% CI		Risk (%)	Adjusted OR/HR	95% CI	
PTCA*†											
1 (privileged)	11.0	1.00		5.7	1.00			9.5	1.00		
2	10.9	0.97	0.75 1.27	7.9	1.43	0.83 2.45		10.0	1.05	0.83 1.34	
3	11.1	0.94	0.73 1.22	5.8	0.98	0.56 1.73		9.6	0.95	0.75 1.21	
4 (deprived)	9.0	0.75	0.56 1.01	5.1	0.83	0.45 1.53		7.8	0.77	0.59 0.99	
p value trend		0.05			0.14				0.02		
Short term fatality ‡											
1 (privileged)	13.7	1.00		17.5	1.00			14.8	1.00		
2	11.3	0.86	0.67 1.10	18.2	1.18	0.84 1.66		13.4	0.96	0.78 1.17	
3	10.5	0.86	0.67 1.11	19.9	1.47	1.04 2.07		13.1	1.04	0.85 1.28	
4 (deprived)	10.8	0.91	0.69 1.19	18.5	1.35	0.94 1.94		13.2	1.04	0.84 1.29	
p value trend		0.57			0.05				0.47		
First year fatality†§¶											
1 (privileged)	6.9	1.00		9.9	1.00			7.8	1.00		
2	6.9	1.08	0.77 1.50	12.4	1.50	0.97 2.32		8.4	1.23	0.95 1.60	
3	7.0	1.27	0.91 1.76	10.5	1.31	0.83 2.06		7.9	1.29	0.99 1.68	
4 (deprived)	6.6	1.23	0.86 1.75	10.4	1.36	0.85 2.17		7.7	1.27	0.96 1.69	
p value trend		0.15			0.46				0.12		
Rehospitalisation for AMI (1 year)†§¶											
1 (privileged)	3.1	1.00		4.1	1.00			3.4	1.00		
2	4.2	1.33	0.83 2.13	4.1	1.02	0.51 2.04		4.2	1.22	0.83 1.80	
3	3.1	0.98	0.60 1.59	3.1	0.79	0.37 1.66		3.1	0.91	0.60 1.37	
4 (deprived)	3.4	1.06	0.63 1.78	3.7	0.94	0.44 1.98		3.5	1.01	0.66 1.54	
p value trend		0.59			0.67				0.46		
Rehospitalisation for other cardiac cause (1 year)†§¶											
1 (privileged)	16.3	1.00		16.1	1.00			16.3	1.00		
2	17.1	1.04	0.84 1.29	14.6	0.86	0.60 1.24		16.4	0.99	0.82 1.19	
3	17.1	1.04	0.84 1.29	19.1	1.12	0.79 1.58		17.7	1.06	0.88 1.27	
4 (deprived)	15.6	0.93	0.74 1.17	17.5	0.99	0.68 1.42		16.2	0.94	0.77 1.14	
p value trend		0.48			0.54				0.73		

Mortalità a 30 giorni e a 1 anno dalla dimissione dopo primo infarto STEMI, per livello di istruzione Piemonte, 2008 - Odds Ratio e intervalli di confidenza al 95%

	30-day mortality		1-year mortality	
	OR*	IC 95%	OR*	IC 95%
Educational level				
High	1		1	
Medium	0.99	0.36-2.73	1.2	0.69-2.08
Low	1.71	0.71-4.12	1.29	0.79-2.10
Missing	1.07	0.34-3.34	1.01	0.53-1.90

* Adjusted for: gender, age, admitting ward, Charlson index

Gnavi et al, Int J Cardiol 2014

Mortalità a 30 giorni dopo chirurgia cardiovascolare per reddito (indicatore di area). Torino, Milano, Roma, Bologna 1997-2000.

Table 3 Association between income and in-hospital 30-day mortality after elective cardiovascular surgery

	Area-based income index (quintiles)				p Trend
	I high	II	III	IV	V low
Coronary artery bypass grafting					
%	2.8	3.5	4.0	2.7	5.1
OR* (95% CI)	1.00	1.21 (0.77 to 1.91)	1.42 (0.91 to 2.22)	0.89 (0.55 to 1.43)	1.93 (1.23 to 3.05)
OR† (95% CI)	1.00	1.13 (0.74 to 1.72)	1.26 (0.84 to 1.89)	0.84 (0.54 to 1.30)	1.69 (1.15 to 2.48)
Valve replacement					
%	4.3	5.0	6.1	6.2	6.5
OR* (95% CI)	1.00	1.11 (0.56 to 2.20)	1.34 (0.70 to 2.56)	1.41 (0.74 to 2.69)	1.65 (0.86 to 3.18)
OR† (95% CI)	1.00	1.08 (0.57 to 2.05)	1.28 (0.70 to 2.36)	1.30 (0.72 to 2.37)	1.52 (0.83 to 2.77)
Carotid endarterectomy					
%	0.6	1.4	1.3	0.5	0.5
OR* (95% CI)	1.00	2.76 (0.98 to 7.75)	2.46 (0.87 to 6.91)	0.87 (0.26 to 2.88)	0.97 (0.30 to 3.10)
OR† (95% CI)	1.00	3.01 (0.96 to 9.50)	2.61 (0.84 to 8.09)	0.69 (0.18 to 2.59)	0.96 (0.27 to 3.43)
Major vascular bypass					
%	11.2	9.3	10.4	7.4	6.9
OR* (95% CI)	1.00	0.38 (0.05 to 3.21)	0.71 (0.11 to 4.73)	0.35 (0.05 to 2.72)	0.51 (0.08 to 3.47)
OR† (95% CI)	1.00	0.60 (0.26 to 1.37)	0.81 (0.37 to 1.76)	0.49 (0.21 to 1.12)	0.58 (0.26 to 1.29)
Repair of unruptured abdominal aorta aneurysm					
%	2.7	5.1	3.8	3.7	5.1
OR* (95% CI)	1.00	1.98 (1.03 to 3.80)	1.40 (0.70 to 2.80)	1.48 (0.74 to 2.95)	2.03 (1.03 to 3.97)
OR† (95% CI)	1.00	1.81 (0.90 to 3.62)	1.24 (0.61 to 2.55)	1.22 (0.58 to 2.58)	1.68 (0.82 to 3.43)

*OR, two-level logistic regression (hospital and subject). OR adjusted for city of residence, gender, age and comorbidities.

†OR single level logistic regression. OR adjusted for city of residence, gender, age, comorbidities and hospital.

Agabiti et al JECH 2008

Frattura di femore nell'anziano

Roma 2006-07 (n=5051)

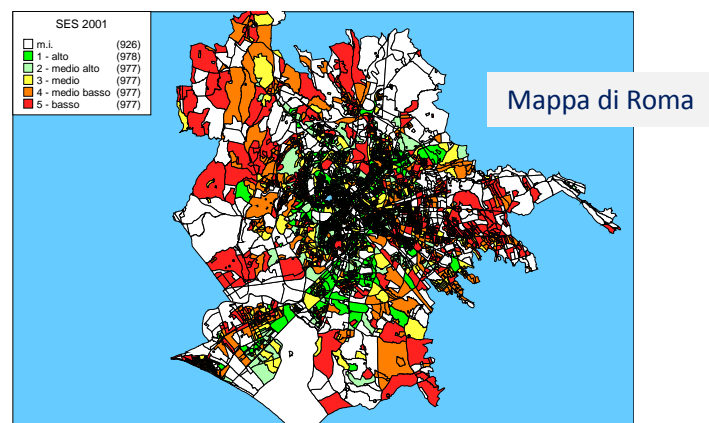
*Maggiore mortalità a 30 giorni
tra i più svantaggiati*

Table 2 Thirty-day mortality rate and crude and adjusted relative risks by socioeconomic position

Socioeconomic position	Admissions (n)	30-day mortality rate (%)	Crude relative risk	P-value	Adjusted relative risk ^a	P-value
I (high)	1187	5.0	1		1	
II (intermediate)	3122	6.2	1.24	0.143	1.24	0.14
III (low)	742	7.7	1.55	0.019	1.51	0.03

^aAdjusted for: age, gender, COPD, diabetes, cerebrovascular diseases, cerebrovascular diseases current admission (CA), dementias, dementias CA, chronic renal diseases, chronic renal diseases CA.

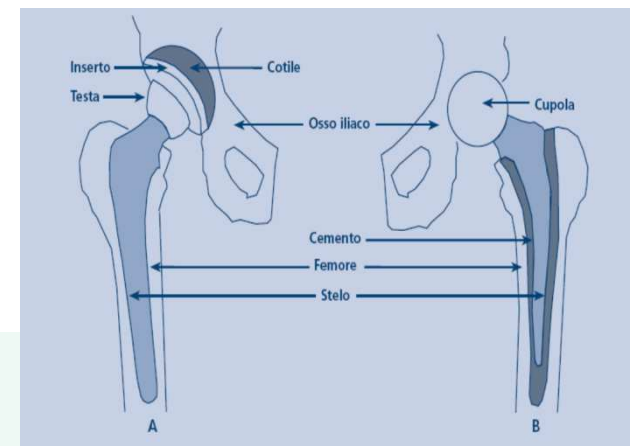
Small area-socioeconomic index census based 2001 (Cesaroni 2006)



Barone et al IJQSHC 2009

- ✓ Occupazione
- ✓ Istruzione
- ✓ Condizione abitativa
- ✓ Composizione familiare
- ✓ Immigrazione

ESITI **dell'intervento** **di protesi d'anca in elezione**



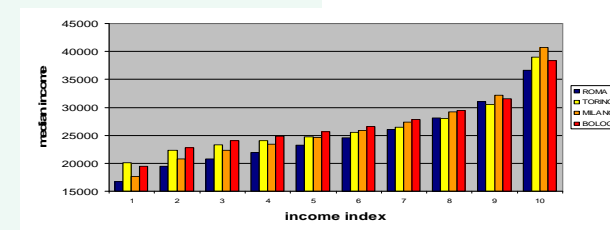
BREVE TERMINE

***Aumentato rischio tra i più “poveri” di
eventi avversi acuti di tipo medico
ulcere da decubito***



LUNGO TERMINE (4 anni)

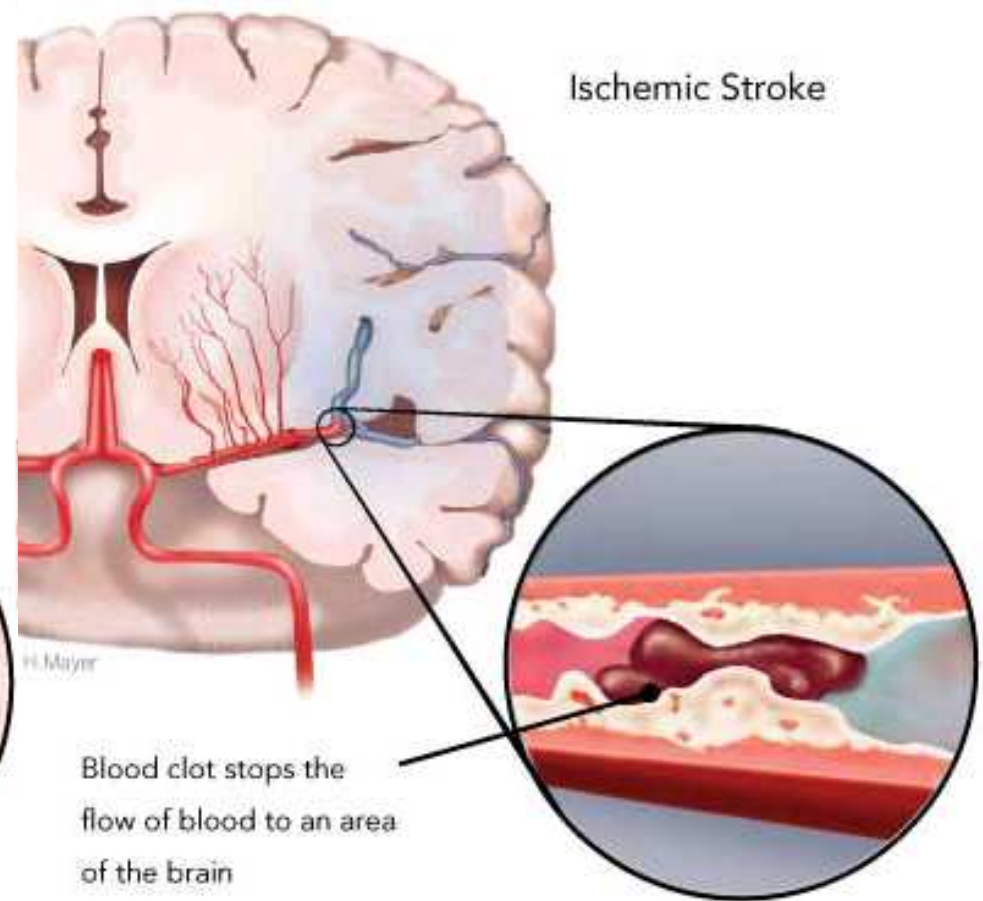
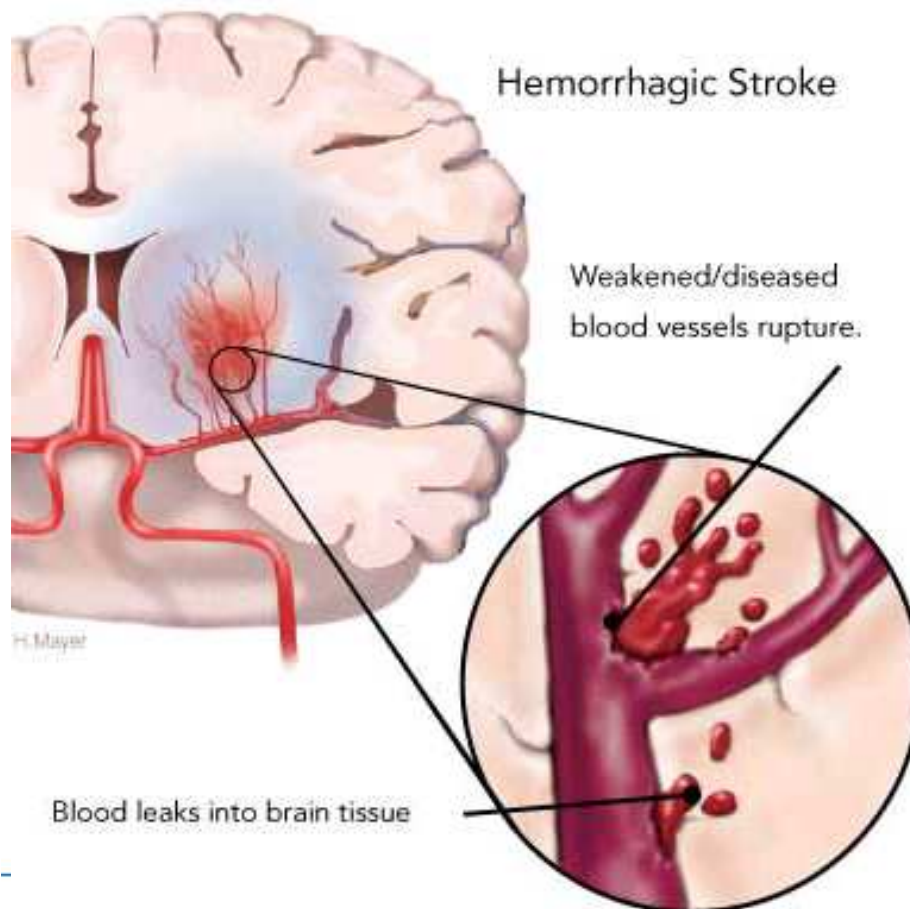
***Nessuna differenza significativa per
re-intervento
mortalità***



Torino, Milano, Roma, Bologna 1997-2000. N= 6140. Età > 65aa.

Cos'è l'ictus

Evento vascolare cerebrale patologico con conseguente danno acuto della funzionalità encefalica focale o generalizzata



ICTUS CEREBRALE: INCIDENZA PER LIVELLO SOCIOECONOMICO

Totale eventi: 10033 (75% ischemico)
Roma 2001-2004
Popolazione residente età 35-84 aa

Table 2. Area-Based SEP Index and Incidence of First Stroke in Rome, 2001–2004: Age-Adjusted Rates, Age-Adjusted Rate Ratios, and 95% CIs

SEP	Men				Women			
	No. of Cases	Adjusted Rates	Rate Ratios	95% CI	No. of Cases	Adjusted Rates	Rate Ratios	95% CI
Total ischemic stroke events								
1 (high)	620	83.7	1.00		616	67.7	1.00	
2	731	95.6	1.14	1.03–1.27	670	72.7	1.07	0.96–1.20
3	835	111.2	1.33	1.20–1.47	744	84.8	1.25	1.13–1.39
4	848	121.8	1.46	1.31–1.62	724	93.4	1.38	1.24–1.53
5 (low)	910	146.9	1.76	1.59–1.95	809	116.8	1.72	1.55–1.91

Cesaroni et al, Stroke 2009

Esiti: Ictus ischemico

Table 3. Association Between Area-Based SEP and Outcome of First Ischemic and Hemorrhagic Stroke Hospitalization in Rome, 2001–2004

SEP	Men <i>men</i>			Women <i>women</i>		
	Risk (%)	OR*	95% CI	Risk (%)	OR*	95% CI
Ischemic stroke						
Short-term fatality (30 days)						
1 (high)	13.2	1.00		17.7	1.00	
2	14.3	1.17	0.84–1.63	14.4	0.79	0.58–1.08
3	12.9	1.08	0.78–1.50	14.0	0.79	0.58–1.08
4	12.9	1.18	0.86–1.62	12.6	0.72	0.53–0.99
5 (low)	12.7	1.23	0.90–1.69	13.4	0.82	0.61–1.10
First-year fatality						
1 (high)	13.2			15.0		
2	12.2	0.97	0.67–1.40	17.8	1.24	0.88–1.76
3	12.6	1.06	0.75–1.50	15.1	1.06	0.74–1.52
4	9.6	0.82	0.57–1.18	15.3	1.12	0.79–1.60
5 (low)	11.6	1.10	0.77–1.57	15.9	1.26	0.89–1.78
Rehospitalization for cardiovascular disease (1 year)						
1 (high)	22.3			24.2		
2	25.0	1.17	0.88–1.55	20.3	0.80	0.59–1.08
3	26.5	1.28	0.97–1.67	20.0	0.79	0.59–1.06
4	24.3	1.15	0.87–1.51	25.6	1.09	0.82–1.45
5 (low)	26.6	1.31	1.00–1.72	20.5	0.82	0.62–1.09
Rehospitalization for stroke (1 year)						
1 (high)	11.8			12.9		
2	14.8	1.30	0.91–1.85	10.6	0.81	0.55–1.19
3	17.0	1.53	1.10–2.14	10.7	0.81	0.55–1.19
4	17.0	1.54	1.10–2.15	15.5	1.24	0.87–1.78
5 (low)	16.6	1.50	1.07–2.09	13.1	1.02	0.71–1.46

Totale eventi: 10033 (75% ischemico)
Roma 2001-2004

Esiti: Ictus emorragico

Hemorrhagic stroke		<i>men</i>			<i>women</i>		
Short-term fatality (30 days)							
1 (high)	32.3	1.00			34.9	1.00	
2	29.1	0.86	0.58–1.28		35.7	1.06	0.71–1.57
3	27.9	0.82	0.55–1.23		30.5	0.84	0.56–1.28
4	26.8	0.75	0.50–1.13		29.4	0.80	0.54–1.19
5 (low)	27.3	0.82	0.55–1.23		34.5	1.05	0.70–1.57
First-year fatality							
1 (high)	17.4				20.7		
2	20.6	1.30	0.72–2.35		20.8	1.10	0.61–2.00
3	20.2	1.23	0.69–2.21		24.5	1.38	0.77–2.48
4	25.9	1.59	0.90–2.80		16.1	0.86	0.47–1.57
5 (low)	15.3	0.93	0.51–1.70		18.0	1.15	0.64–2.08
Rehospitalization for cardiovascular disease (1 year)							
1 (high)	13.6				14.1		
2	16.1	1.22	0.65–2.30		18.1	1.32	0.70–2.50
3	19.6	1.55	0.82–2.92		12.2	0.84	0.42–1.69
4	19.2	1.49	0.81–2.72		14.3	1.00	0.52–1.91
5 (low)	19.1	1.52	0.82–2.81		24.4	1.85	1.01–3.40
Rehospitalization for stroke (1 year)							
1 (high)	9.9				11.1		
2	8.9	0.90	0.42–1.92		13.9	1.26	0.62–2.56
3	15.5	1.68	0.82–3.45		9.4	0.81	0.37–1.77
4	15.0	1.61	0.80–3.22		11.9	1.05	0.51–2.15
5 (low)	11.6	1.21	0.59–2.49		18.0	1.61	0.81–3.18

*OR adjusted for age as a continuous variable.

Cesaroni et al, Stroke 2009

meccanismi delle diseguaglianze

accesso a trattamenti efficaci ed appropriati
a parità di bisogno (e domanda espressa)

efficacia dei trattamenti
a parità di accesso

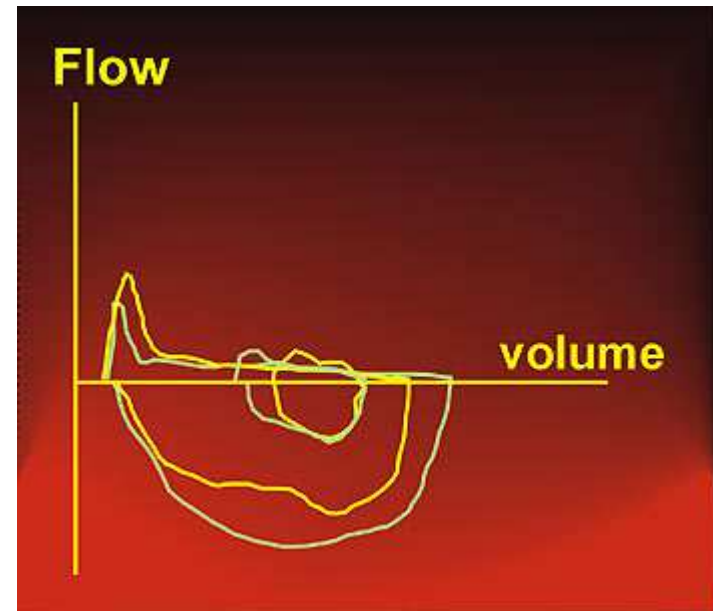


vulnerabilità a trattamenti inefficaci e inappropriati
a parità di condizioni di salute

BRONCOPNEUMOPATIA CRONICA OSTRUTTIVA - BPCO

Malattia caratterizzata da ostruzione delle vie aeree al flusso. La condizione non è reversibile, è progressiva e si associa ad una abnorme risposta infiammatoria a stimoli inalatori nocivi.

Fattore di rischio principale:
fumo di sigaretta



BRONCOPNEUMOPATIA CRONICA OSTRUTTIVA - BPCO

Nel MONDO: QUINTA causa di morte

(dopo ischemiche cuore, cerebrovascolari, infezioni basse vie respiratorie e HIV-AIDS).

In EUROPA: TERZA causa di morte (8%)

(dopo cardiovascolari 40% e tumori 25%).

E' in aumento: si stima nel 2030 sarà nel mondo
al TERZO posto come causa di morte e entro il 2020 al QUINTO
come causa di disabilità

(dopo HIV-AIDS, depressione, ischemiche cuore, incidenti, perinatale, cerebrovascolari).

Fonti: 1) WHO - Eurostat 2006 - www.eurostat.it; 2) Mathers CD et al, Projections of Global Mortality and Burden of Disease from 2002 to 2030 - WHO 2006 www.medicinesplusjournals.org

3) Lopez et al. Lancet 2006; 367:1747 (Global and regional burden of disease and risk factors, 2001: systematic analysis of population health data)

Global Initiative for Chronic Obstructive Lung Disease



GLOBAL STRATEGY FOR THE DIAGNOSIS,
MANAGEMENT, AND PREVENTION OF
CHRONIC OBSTRUCTIVE PULMONARY DISEASE

2006

EXECUTIVE SUMMARY

Guidelines

Global Strategy for Diagnosis, Management, and
Prevention of COPD

January 2009

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FARMACI

Prima scelta

VIA INALATORIA

LONG-ACTING

**(beta-2-agonisti, anticolinergici,
cortisonici) EVIDENZA A**

Seconda scelta

via sistemica

Xantine

EVIDENZA B; potenziale tossicità

Quale applicazione
nella pratica
clinica ?

Quali differenze tra
sottogruppi di
popolazione?

Roma 2005-2009, pz dimessi per BPCO riacutizzata
Fonte dei dati: SDO e Farmaceutica territoriale

Gravità BPCO

- *Insufficienza respiratoria*
- *Procedure invasive respiratorie*
- *Riacutizzazioni BPCO*
- *Ossigeno terapia*

**12 mesi
precedenti
SIO/FARM**

Patologie Concomitanti

- *Patologie respiratorie*
 - ✓ *Asma*
 - ✓ *Altre croniche respiratorie*
- *Patologie cardio e cerebrovascolari*
 - ✓ *Ipertensione arteriosa*
 - ✓ *Scompenso cardiaco*
 - ✓ *Patologie cardiache croniche*
 - ✓ *Malattie cerebrovascolari*
 - ✓ *Malattie vascolari*
- *Altre patologie*
 - ✓ *Diabete*
 - ✓ *Nefropatie croniche*
 - ✓ *Malattie psichiatriche*
 - ✓ *Malattie dell'apparato digerente*

**9 anni
precedenti
SIO**

Roma 2005-2009, pz dimessi per BPCO riacutizzata
Fonte dei dati: SDO e Farmaceutica territoriale

Risultati – Terapia con minore evidenza di efficacia (6 mesi successivi alla dimissione)

Terapia con xantine

NON Gravi

	%	OR grezzo	OR adj*	95% CI	
High	5,3	1,00	1,00		
II	6,6	1,25	1,19	0,65	2,15
III	5,5	1,03	1,06	0,58	1,91
IV	7,0	1,33	1,33	0,77	2,30
Low	9,3	1,82	1,92	1,15	3,20

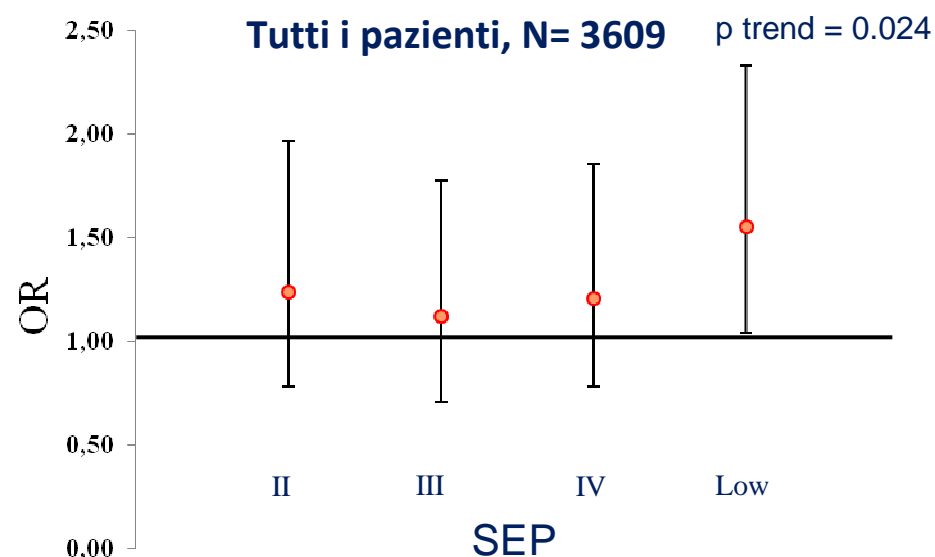
* p trend = 0.0101

Gravi

	%	OR grezzo	OR adj*	95% CI	
High	23,8	1,00	1,00		
II	28,9	1,30	1,34	0,63	2,87
III	28,4	1,27	1,28	0,60	2,75
IV	26,2	1,14	1,01	0,49	2,08
Low	24,3	1,03	1,01	0,51	2,00

* p trend = 0.551

Maggiore rischio di farmaci inappropriati tra i più svantaggiati



Risultati – Terapia inappropriata (6 mesi successivi alla dimissione)

Terapia con xantine e β_2

NON Gravi

	%	OR grezzo	OR adj*	95% CI	
High	1,1	1,00	1,00		
II	2,9	2,59	2,37	0,76	- 7,37
III	2,2	1,97	2,03	0,65	- 6,37
IV	3,0	2,71	2,68	0,91	- 7,89
Low	3,5	3,16	3,35	1,18	- 9,52

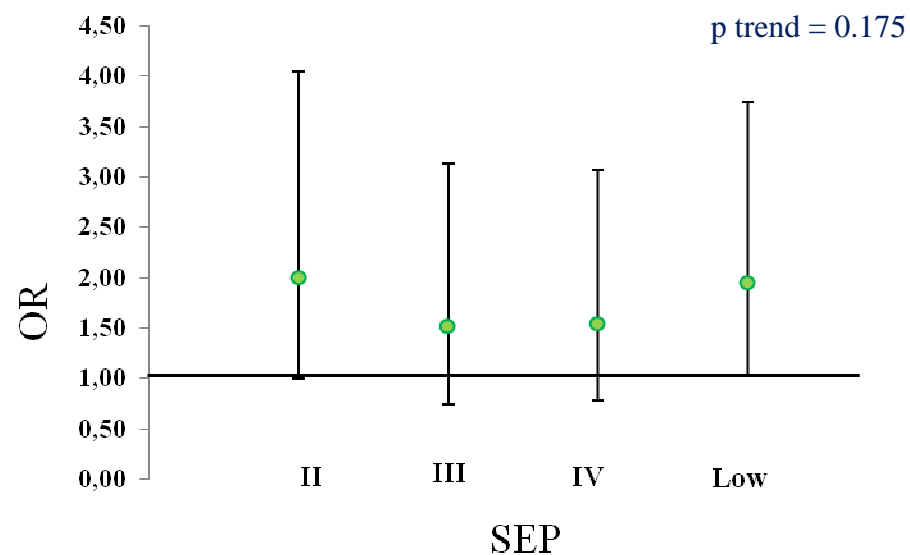
* p trend = 0.016

Gravi

	%	OR grezzo	OR adj*	95% CI	
High	12,7	1,00	1,00		
II	21,7	1,90	1,90	0,75	- 4,80
III	16,0	1,31	1,29	0,49	- 3,38
IV	13,1	1,04	0,91	0,36	- 2,32
Low	14,3	1,15	1,18	0,50	- 2,80

* p trend = 0.505

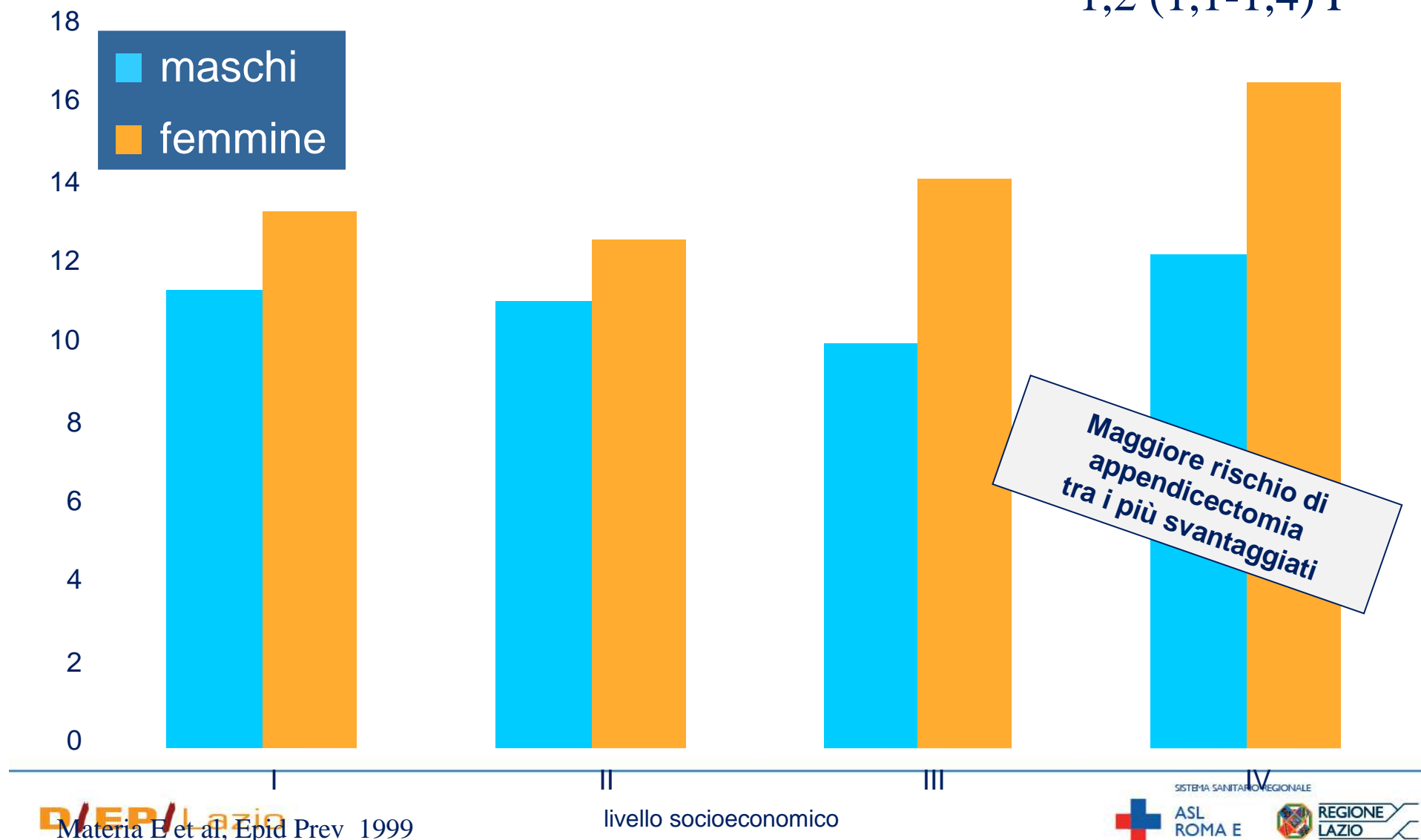
Maggiore rischio di
farmaci inappropriati
tra i più svantaggiati



Bauleo et al, AIE 2011

Tassi standardizzati di ospedalizzazione per sesso e posizione socioeconomica (età < 18 anni): APPENDICECTOMIA

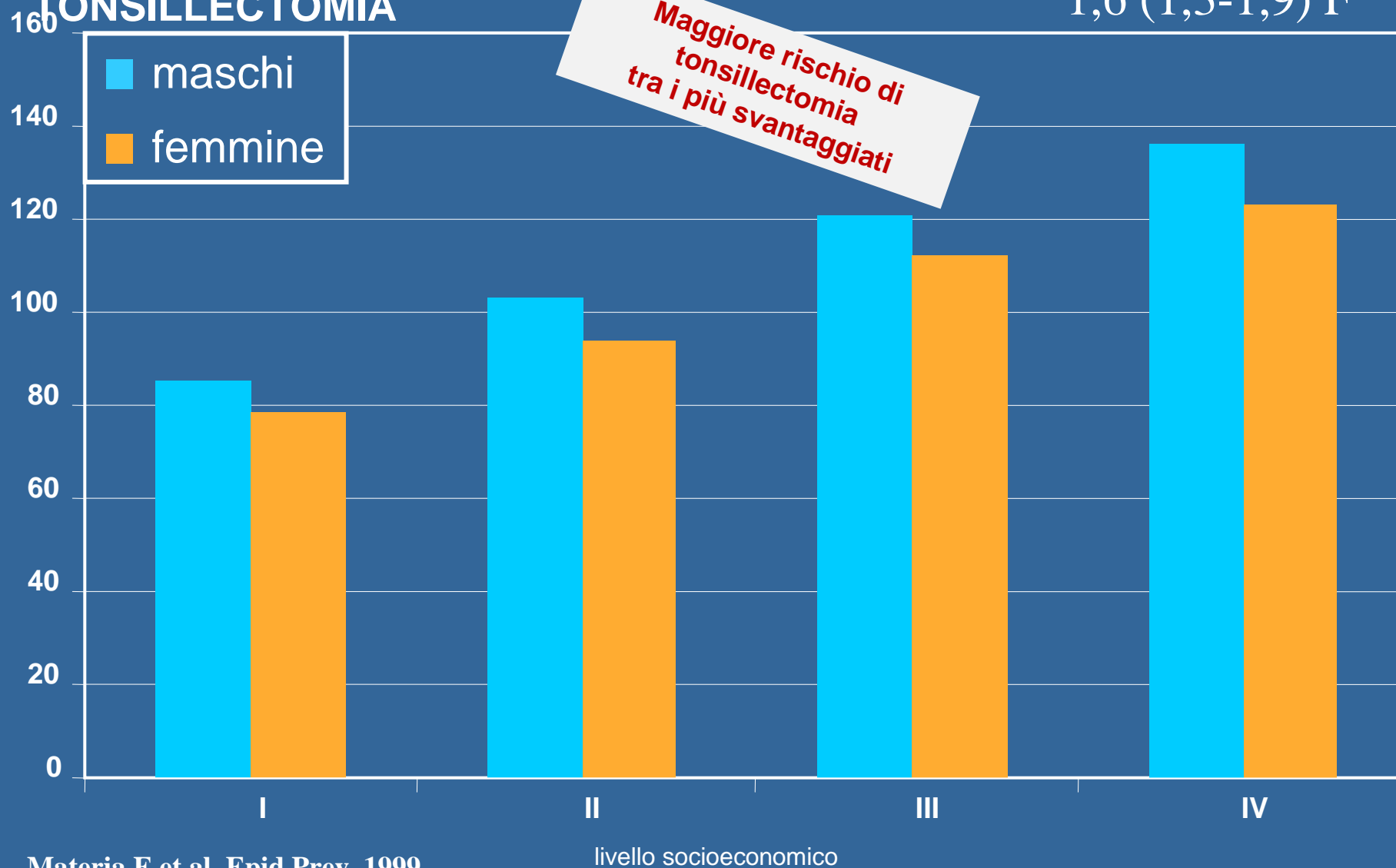
RR IV vs I: 1,1 (0,9-1,3) M
1,2 (1,1-1,4) F



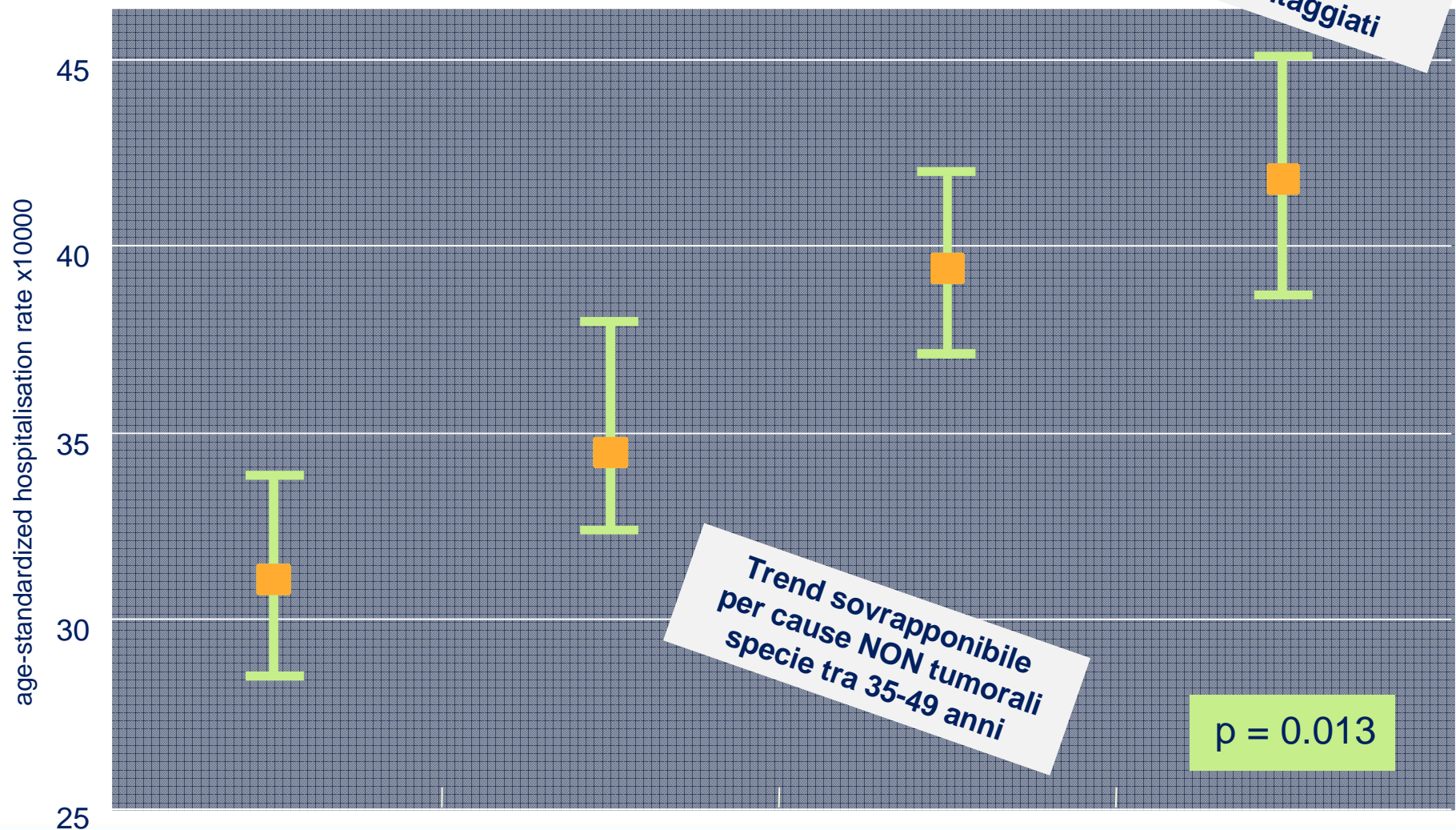
Tassi standardizzati di ospedalizzazione per sesso e posizione socioeconomica (età < 18 anni) :

RR IV vs I: 1,6 (1,4-1,9) M
1,6 (1,3-1,9) F

TONSILLECTOMIA



Isterectomia per tutte le cause

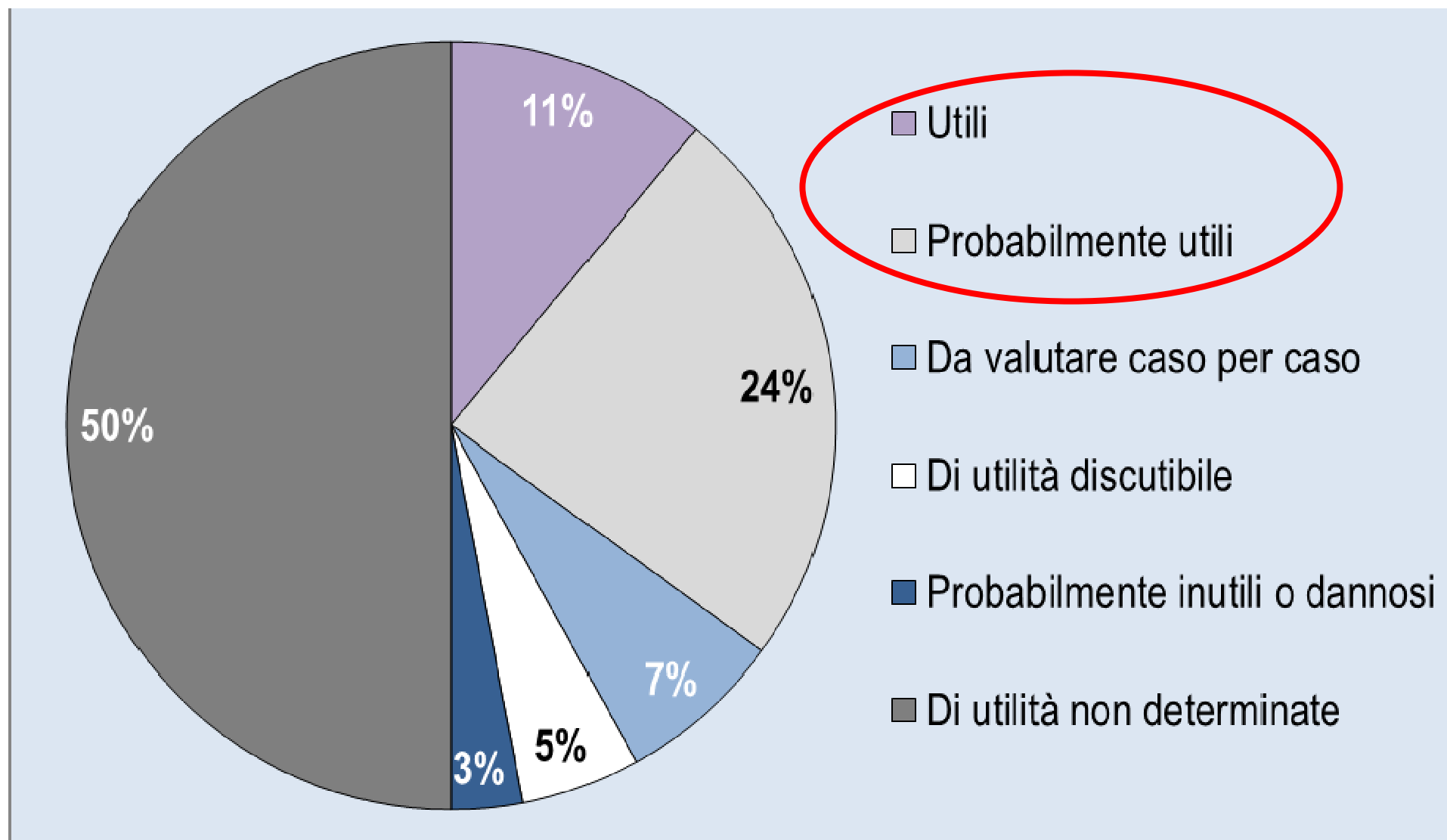


Evidenze di **forti limitazioni all'accesso** a procedure diagnostiche e terapeutiche efficaci ed appropriate

Evidenze di **minore associazione negli esiti** di procedure chirurgiche e nel follow-up di eventi acuti

Evidenza di **maggiore vulnerabilità** a prestazioni inappropriate

Qualche evidenza di **possibili disuguaglianze** nei percorsi di patologie **croniche**



Efficacia di 3000 trattamenti, risultati da studi controllati randomizzati selezionati da Clinical Evidence. 2015