

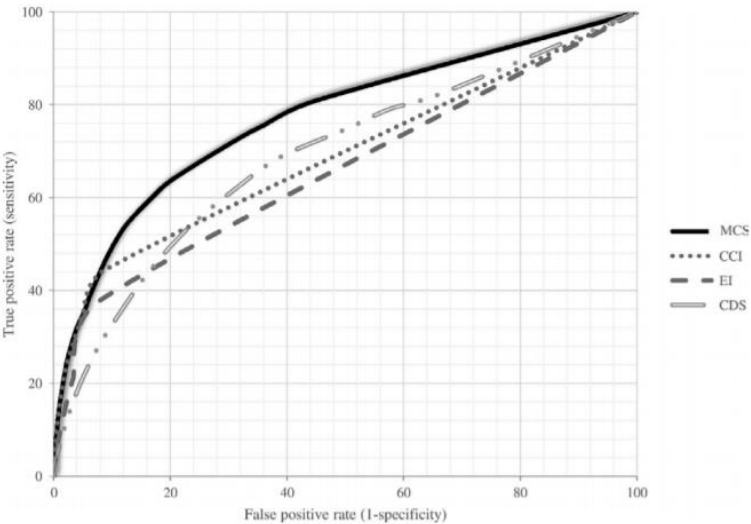


# Prispevek RWE k znanju o srčnožilnih bolezni: Observatorij srčnožilnih bolezni v Trstu

**Andrea Di Lenarda**  
Cardiovascular Center, Trieste, ASUGI

BMJ Open Developing and validating a novel multisource comorbidity score from administrative data: a large population-based cohort study from Italy

Giovanni Corrao,<sup>1,2</sup> Federico Rea,<sup>1,2</sup> Mirko Di Martino,<sup>3</sup> Rossana De Palma,<sup>4</sup> Salvatore Scondotto,<sup>1,5</sup> Danilo Fusco,<sup>3</sup> Adele Lallo,<sup>3</sup> Laura Maria Beatrice Belotti,<sup>4</sup> Mauro Ferrante,<sup>6</sup> Sebastiano Pollina Addario,<sup>1,5</sup> Luca Merlino,<sup>1,7</sup> Giuseppe Mancia,<sup>8</sup> Flavia Carle<sup>1,9</sup>



**Figure 2** Receiver operating characteristic (ROC) curves comparing discriminant power of multisource comorbidity score (MCS), Charlson Comorbidity Index (CCI), Elixhauser Index (EI) and Chronic Disease Score (CDS) in predicting 1-year survival among National Health System (NHS) beneficiaries (internal validation set).

Starejši?  
Multimorbidnost?  
Srčnožilni bolniki?  
...

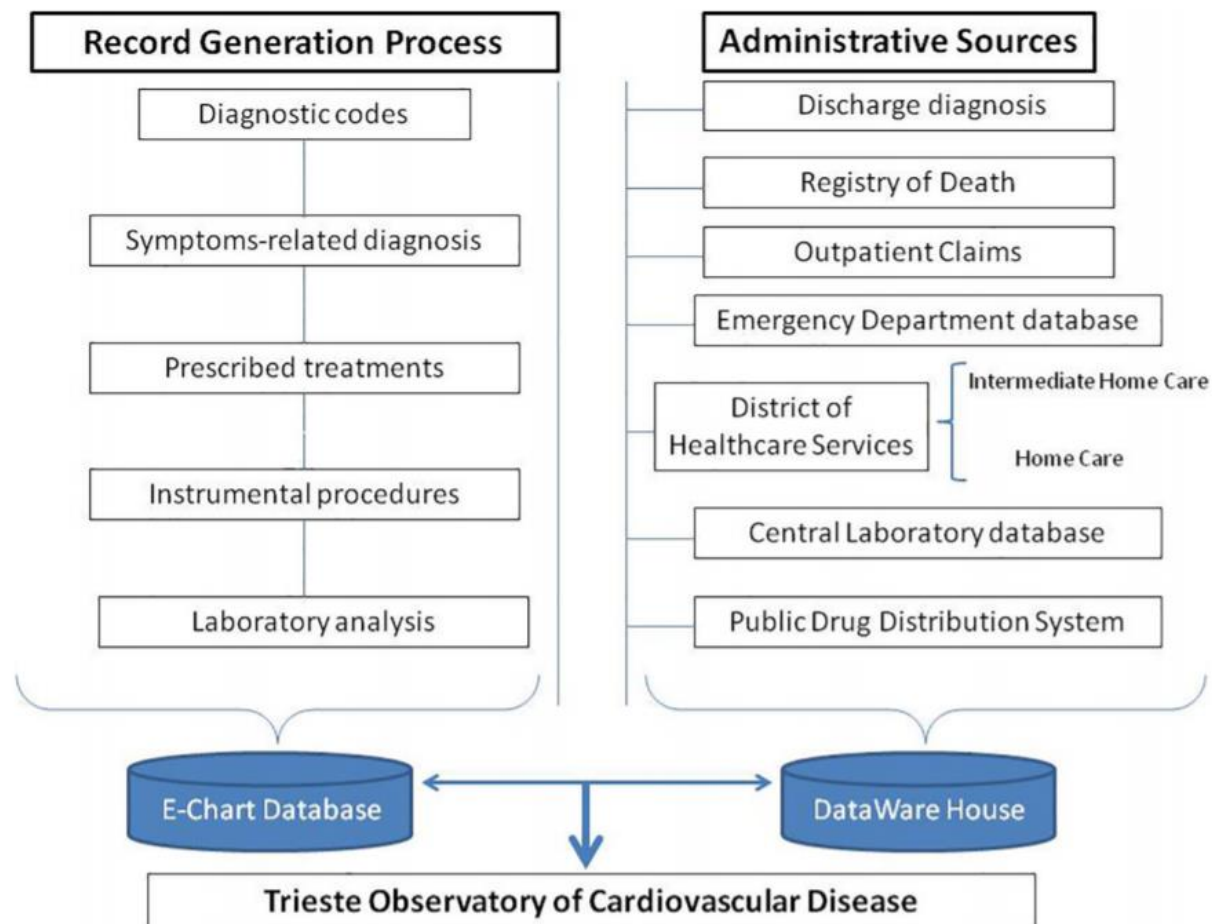
**Table 1** Assignment of weights in building the multisource comorbidity score (MCS) through a time-to-death multivariate Weibull model

Disease/condition	Regression coefficient (SE)	Weight
Metastatic cancer	1.63 (0.04)	18
Alcohol abuse	0.99 (0.16)	11
Cancer, without metastasis	0.91 (0.03)	10
Tuberculosis	0.88 (0.28)	10
Psychoses	0.77 (0.05)	8
Liver disease	0.72 (0.05)	8
Anxiety medication	0.52 (0.23)	6
Weight loss	0.51 (0.12)	6
Dementia	0.51 (0.06)	6
Malignancy medication	0.49 (0.05)	5
Parkinson's disease	0.49 (0.09)	5
Lymphoma	0.46 (0.08)	5
Hemiplegia and hemiparesis	0.46 (0.09)	5
Coagulation defects	0.43 (0.10)	5
Disorders of fluid, electrolyte and acid-base balance	0.40 (0.06)	4
Kidney diseases	0.39 (0.04)	4
Kidney dialysis	0.36 (0.17)	4
Heart failure	0.35 (0.02)	4
Other neurological diseases	0.32 (0.07)	3
Rheumatoid arthritis	0.27 (0.11)	3
Anaemias	0.26 (0.04)	3
Cerebrovascular diseases	0.25 (0.03)	3
Diabetes	0.20 (0.02)	2
Vascular diseases	0.20 (0.05)	2
Gout	0.18 (0.03)	2
Epilepsy	0.18 (0.03)	2
Chronic pulmonary diseases	0.16 (0.02)	2
Peptic ulcer	0.16 (0.02)	2
Acute myocardial infarction	0.11 (0.04)	1
Coronary and peripheral vascular disease	0.11 (0.02)	1
Valvular diseases	0.10 (0.06)	1
Arrhythmia	0.09 (0.02)	1
Obesity	0.08 (0.10)	1
Hypothyroidism	0.07 (0.09)	1

## Editorial

### Administrative database, observational research and the Tower of Babel

Annamaria Iorio <sup>a,b</sup>, Gianfranco Sinagra <sup>a</sup>, Andrea Di Lenarda <sup>a,\*</sup>



**Fig. 1.** Trieste Observatory of Cardiovascular Diseases is an example of population-based databases in which administrative data and clinical information are integrated within observational networks.

# Agenda

## (3 primeri)

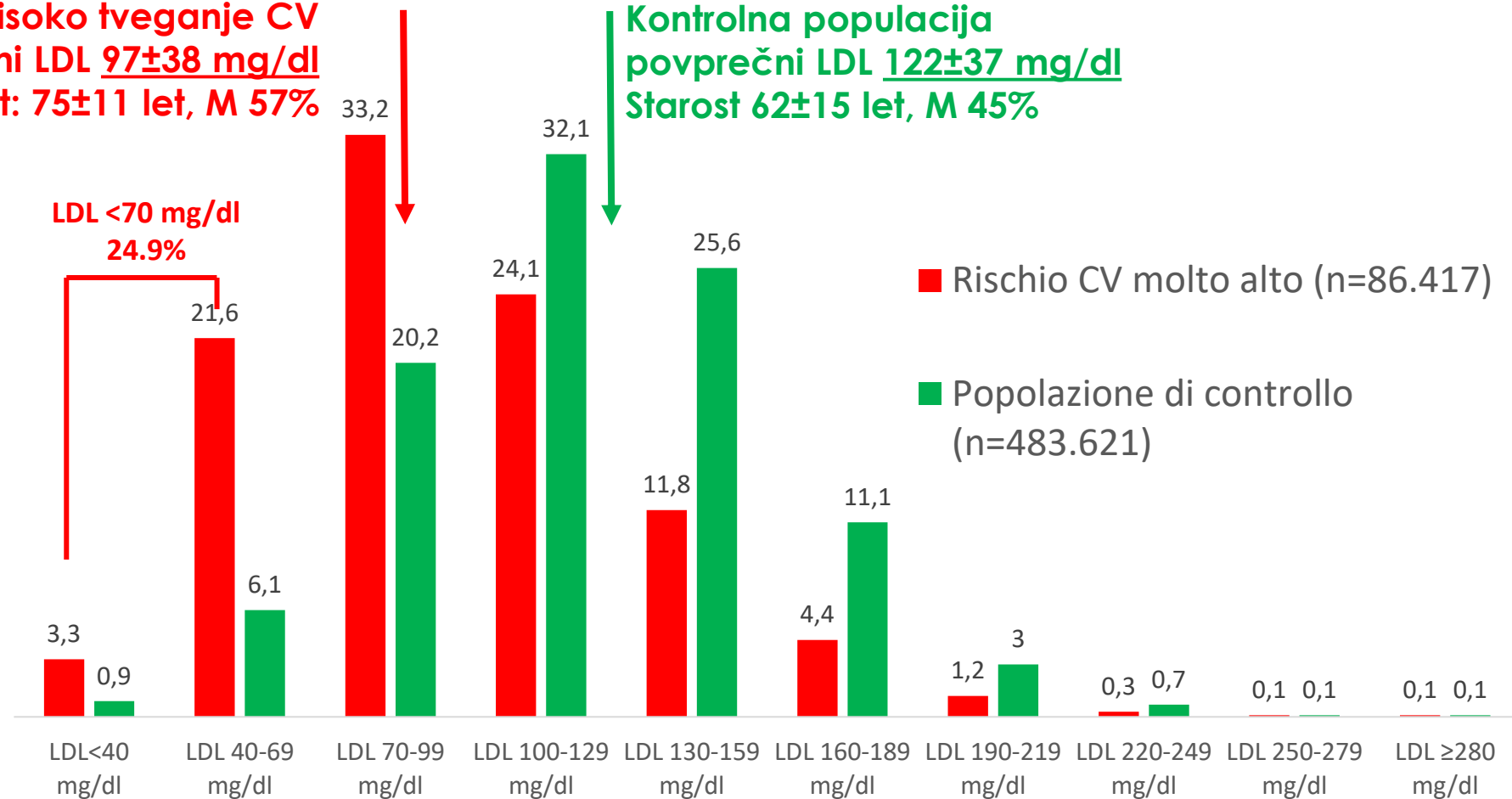
- Lipidni profil, zdravljenje in tveganje CV (srčnožilne bolezni)
- Atrialna fibrilacija in zdravljenje NOAC
- Srčnožilni bolniki, Multimorbidnost, zdravljenje in rezultati

# Distribucija LDL na podlagi tveganja CV

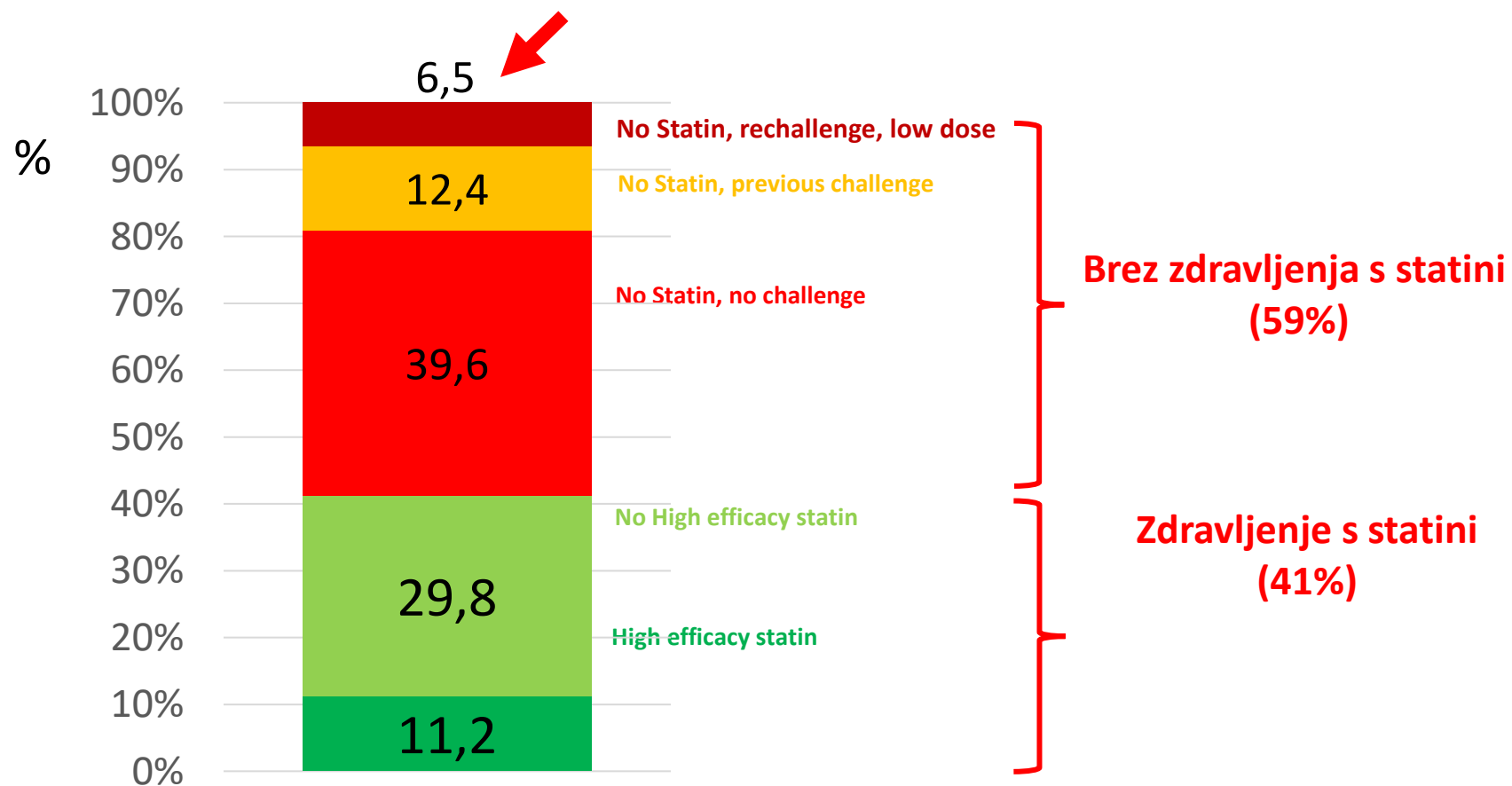
(zadnji razpoložljivi LDL - 2009-2018 v 570.038/845.669 primerih:  
67.4% izmed  $\geq 35$  let starosti v populaciji FVG)

**Zelo visoko tveganje CV**  
povprečni LDL  $97 \pm 38$  mg/dl  
Starost:  $75 \pm 11$  let, M 57%

**Kontrolna populacija**  
povprečni LDL  $122 \pm 37$  mg/dl  
Starost  $62 \pm 15$  let, M 45%



# Predpisovanje statinov in (možne) intolerance v regiji Furlanija Julijska Krajina (n=98618)



# Agenda

## (3 primeri)

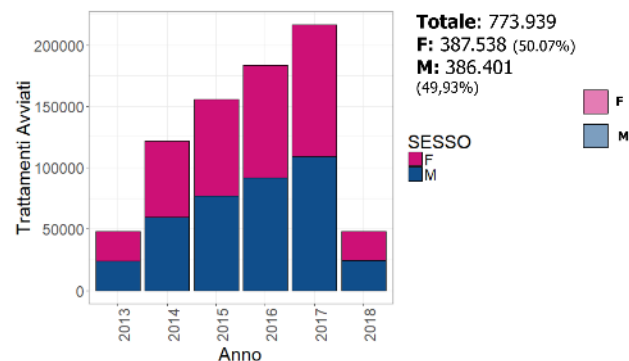
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## Non-vitamin K antagonist oral anticoagulation agents in patients with atrial fibrillation: Insights from Italian monitoring registries



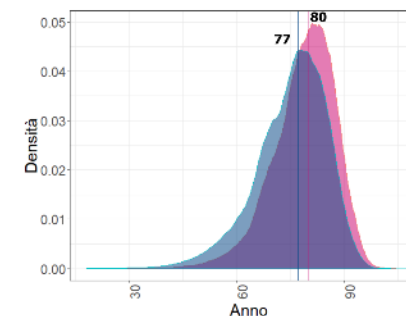
P.P. Olimpieri<sup>a</sup>, A. Di Lenarda<sup>b,\*</sup>, F. Mammarella<sup>a,\*</sup>, L. Gozzo<sup>a</sup>, A. Cirilli<sup>a</sup>, M. Cuomo<sup>a</sup>, M.M. Gulizia<sup>c</sup>, F. Colivicchi<sup>d</sup>, G. Murri<sup>d</sup>, D. Gabrielli<sup>e,1</sup>, F. Trotta<sup>a,1</sup>

## Trattamenti avviati (FANV) Anno e Genere – nuovi trattamenti



**BLITZ AF**  
**(n=4126)**  
**M 59.4%**

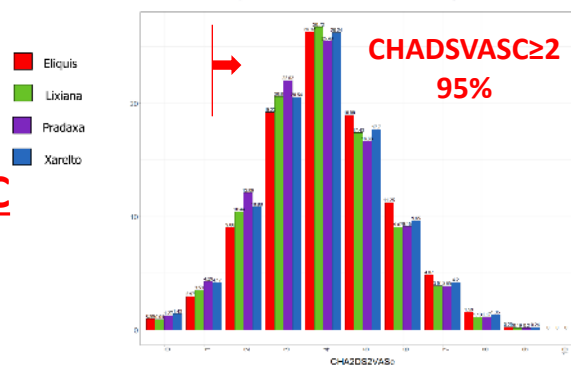
## Trattamenti avviati (FANV) Distribuzione età



**BLITZ AF**  
**(n=4126)**  
**Age**  
**74±11 years**

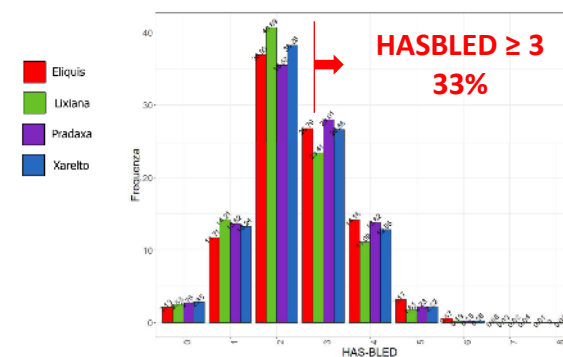
SESSO	MINIMO	1° QUANTILE	MEDIANA	3° QUANTILE	MASSIMO	MEDIA	DEV. STD
F	19	74	80	85	109	79	9
M	18	69	77	82	103	75	10

## Distribuzione punteggio CHA2DS2VASC



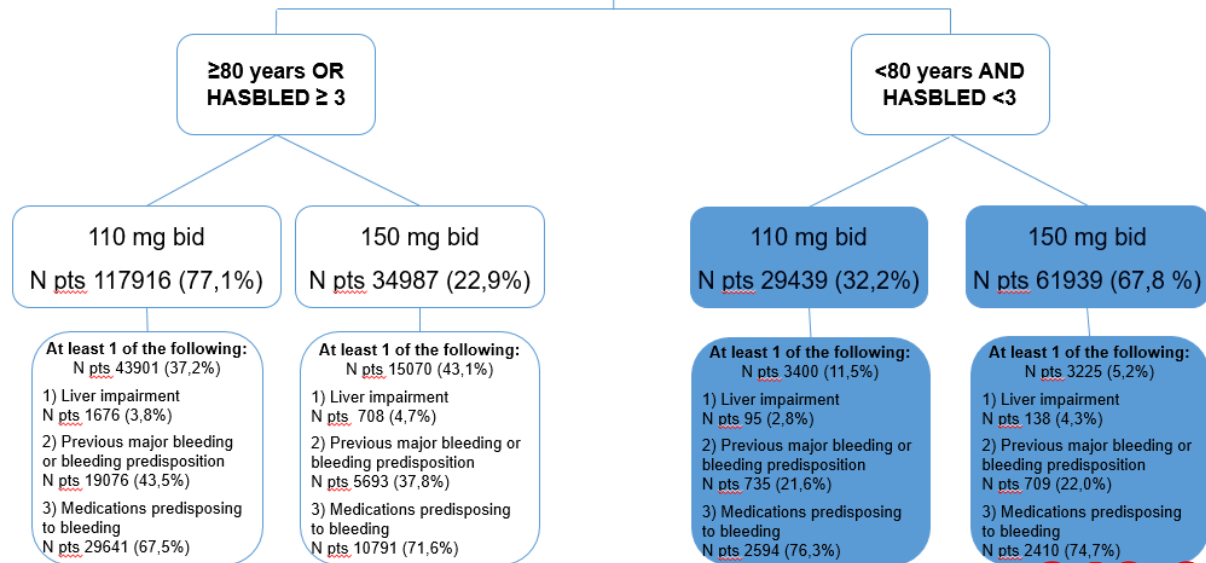
**BLITZ AF**  
**(n=4126)**  
**CHADSVASC**  
**≥ 2 83%**

## Distribuzione punteggio HAS-BLED

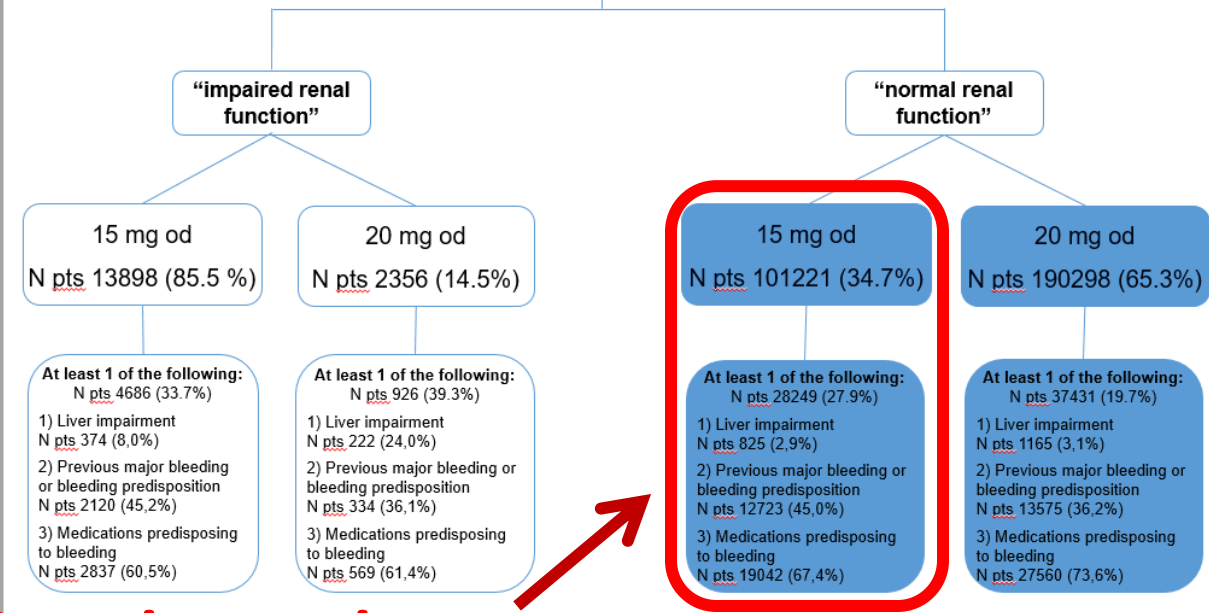


**BLITZ AF**  
**(n=4126)**  
**HASBLED ≥ 3**  
**13%**

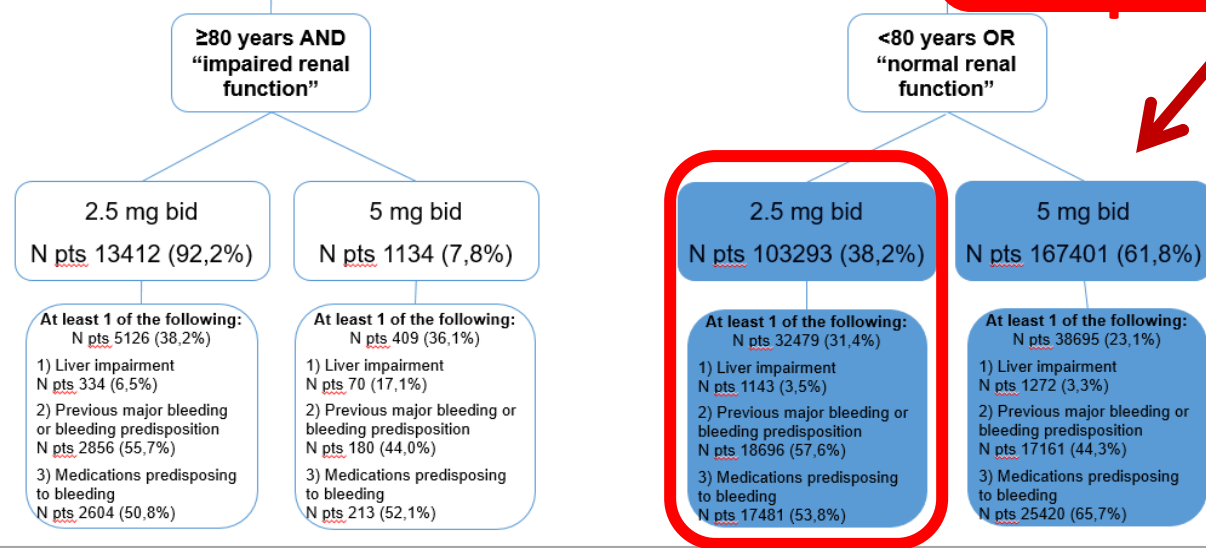
## Dabigatran



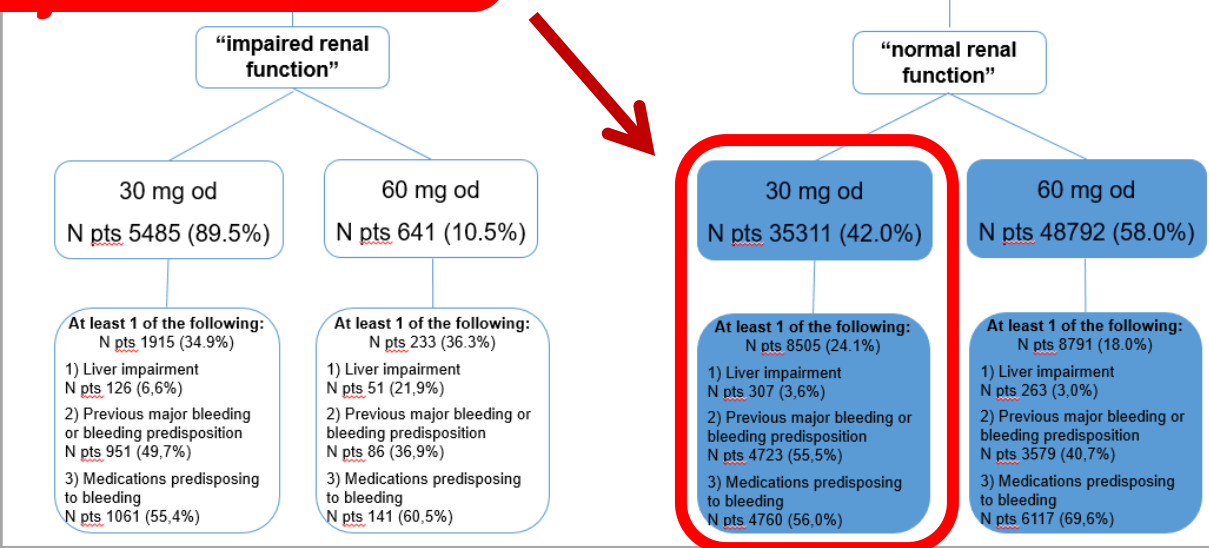
## Rivaroxaban



## Apixaban



## Edoxaban



**240.000 pacientov je imelo potencialno premajhne doze**

# Agenda

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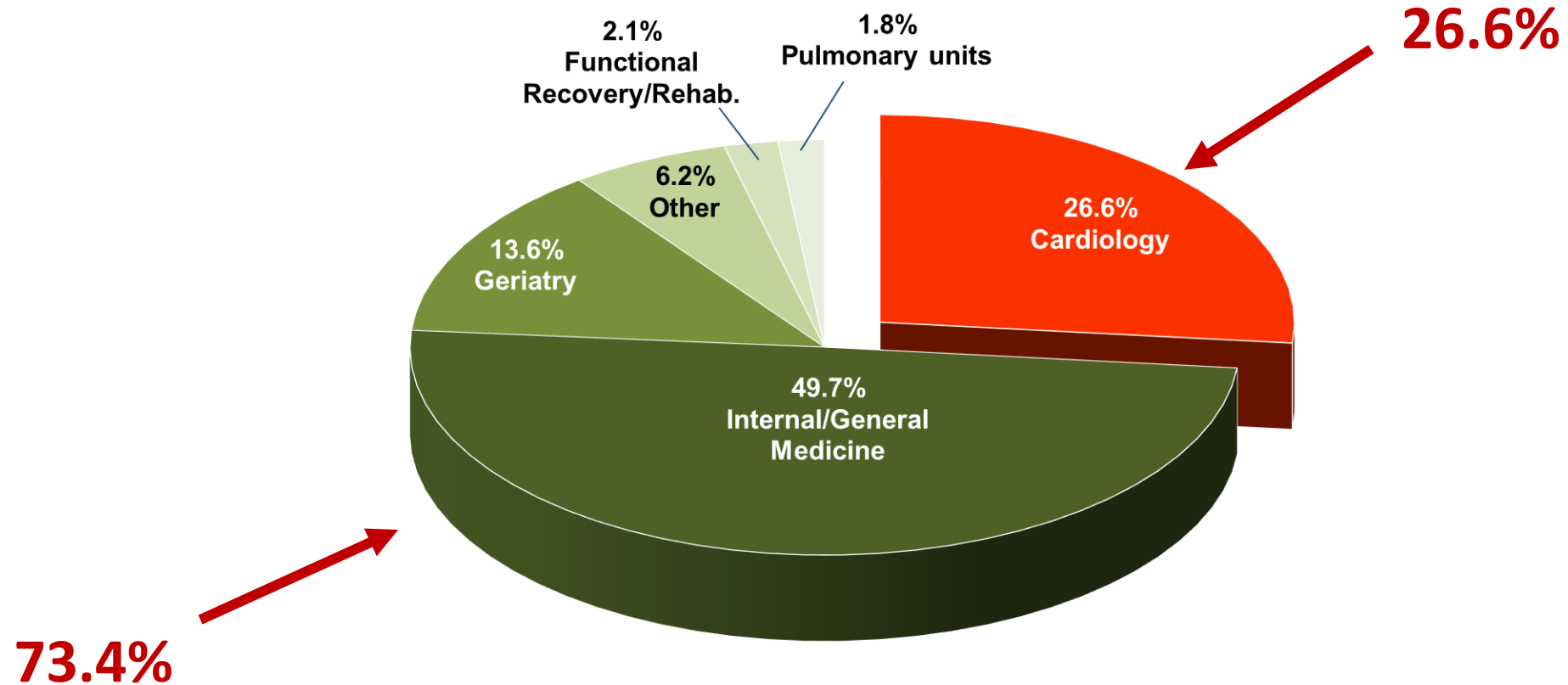
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## The real-world evidence of heart failure: findings from 41 413 patients of the ARNO database

Aldo P. Maggioni<sup>1,\*</sup>, Francesco Orso<sup>1,2</sup>, Silvia Calabria<sup>3</sup>, Elisa Rossi<sup>4</sup>, Elisa Cinconze<sup>4</sup>,  
Samuele Baldasseroni<sup>5</sup>, and Nello Martini<sup>6</sup>, on behalf of the ARNO Observatory<sup>†</sup>



### Kje so pacienti z AHF zdravljeni?



# Rezultati zdravljenja pacientov

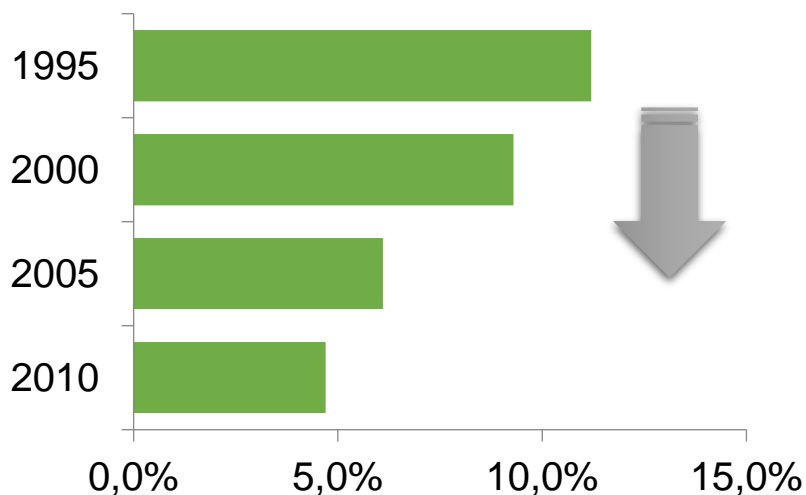
## Raziskava ANMCO – registri in RWE

5963 novih HF pacientov; cohorta 2009-2010; regija FVG

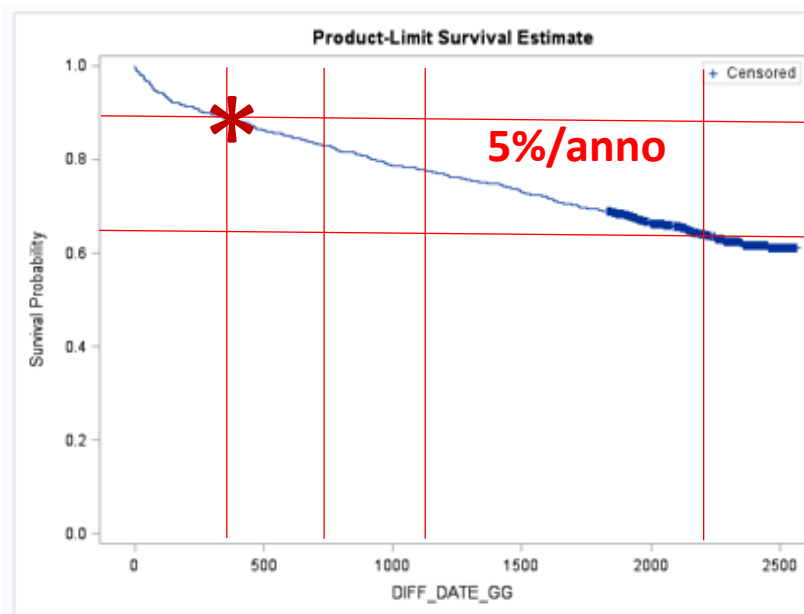
HF pacienti <70 yo

HF pacienti ≥70 yo

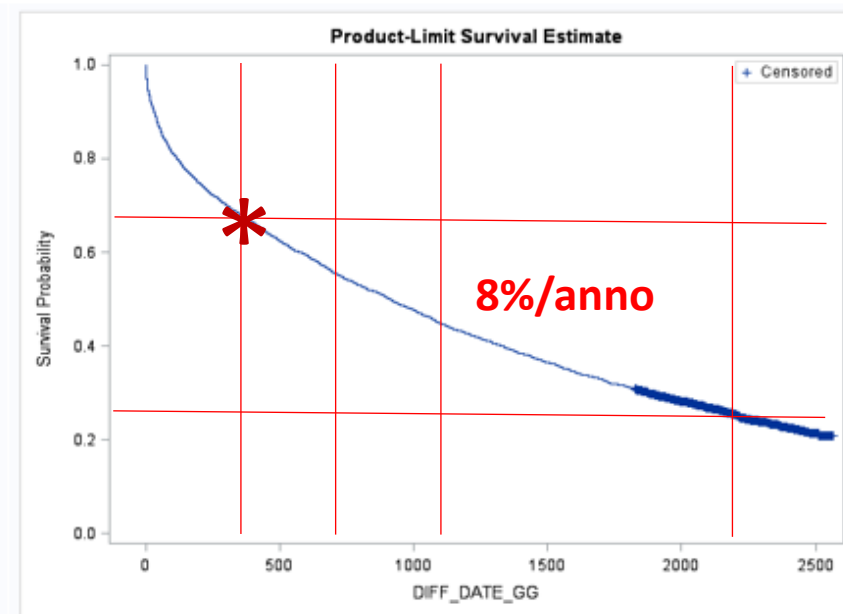
IN-HF register kardiologije  
kronični HF – smrtnost v 1  
letu



smrtnost v 1  
letu <5%!



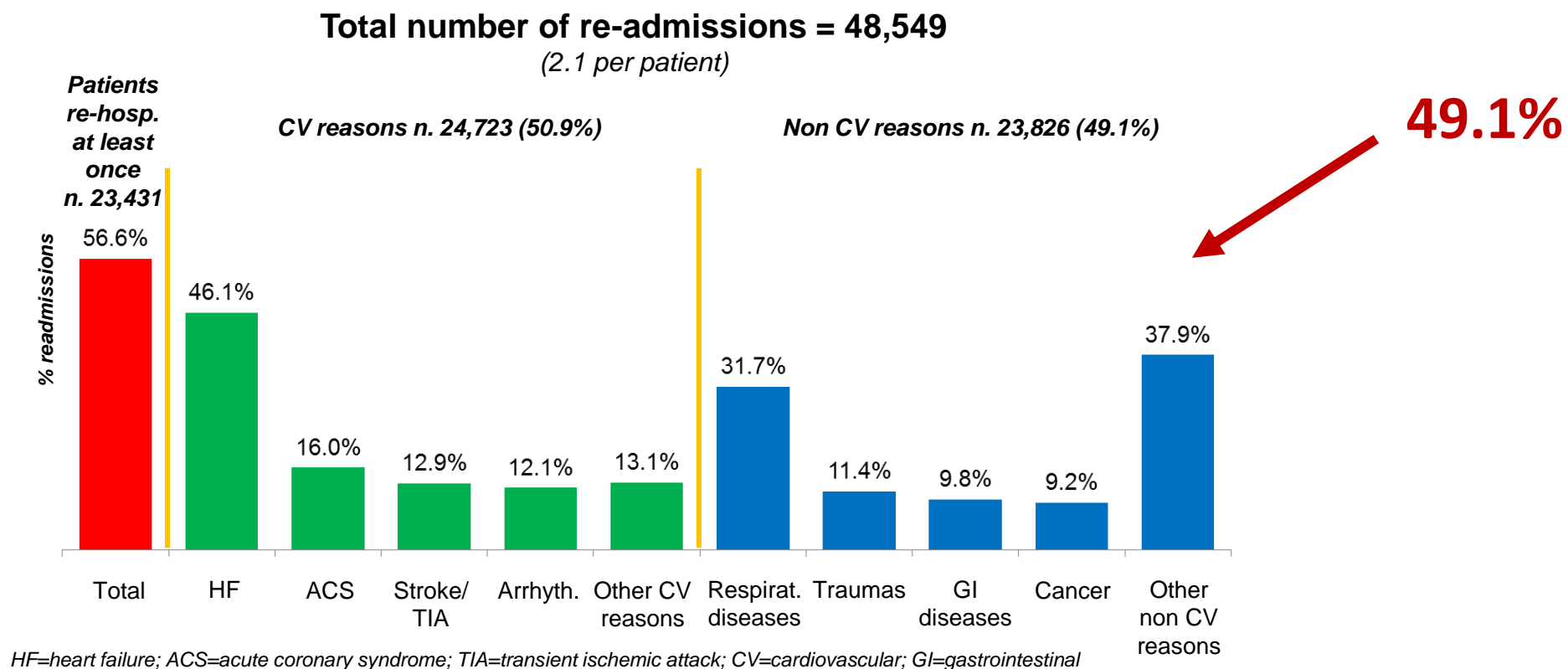
smrtnost v 1  
letu ≈10%!



smrtnost v 1  
letu >30%!

# The real-world evidence of heart failure: findings from 41 413 patients of the ARNO database

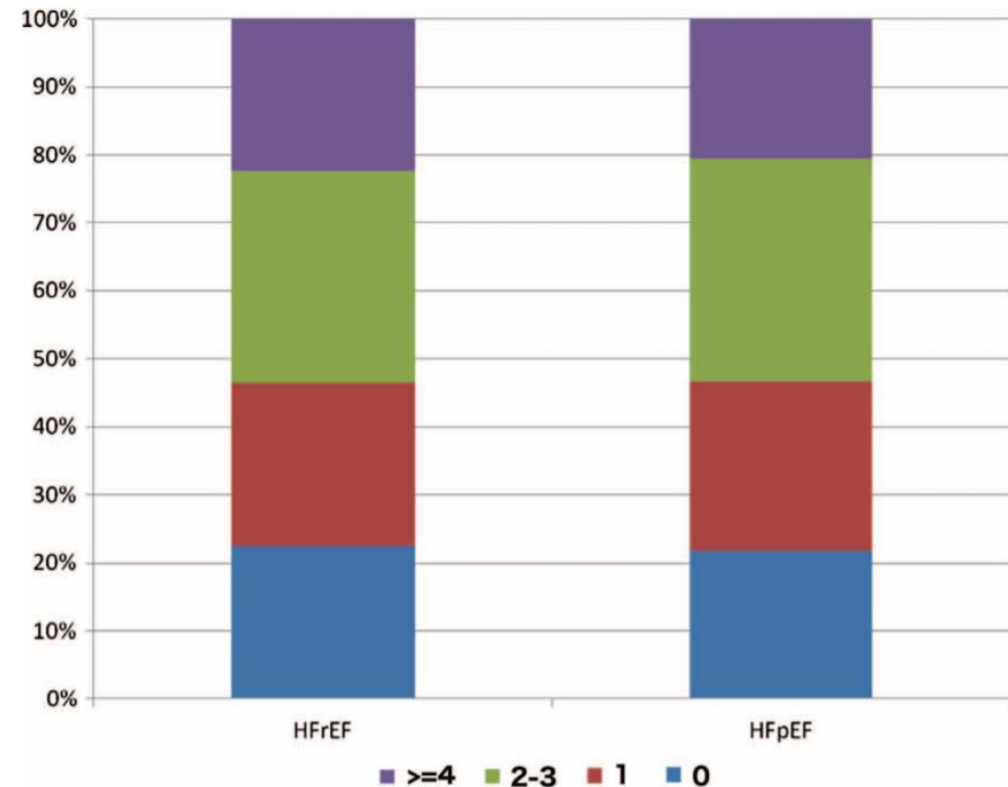
Aldo P. Maggioni<sup>1,\*</sup>, Francesco Orso<sup>1,2</sup>, Silvia Calabria<sup>3</sup>, Elisa Rossi<sup>4</sup>, Elisa Cinconze<sup>4</sup>,  
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# Prevalence and prognostic impact of non-cardiac co-morbidities in heart failure outpatients with preserved and reduced ejection fraction: a community-based study

Annamaria Iorio<sup>1,2</sup>, Michele Senni<sup>1\*</sup>, Giulia Barbati<sup>2</sup>, Stephen J. Greene<sup>3</sup>, Stefano Poli<sup>2</sup>, Elena Zambon<sup>2</sup>, Concetta Di Nora<sup>2</sup>, Giovanni Cioffi<sup>4</sup>, Luigi Tarantini<sup>5</sup>, Antonello Gavazzi<sup>6</sup>, Gianfranco Sinagra<sup>2</sup>, and Andrea Di Lenarda<sup>7</sup>

Povprečna starost 77 let

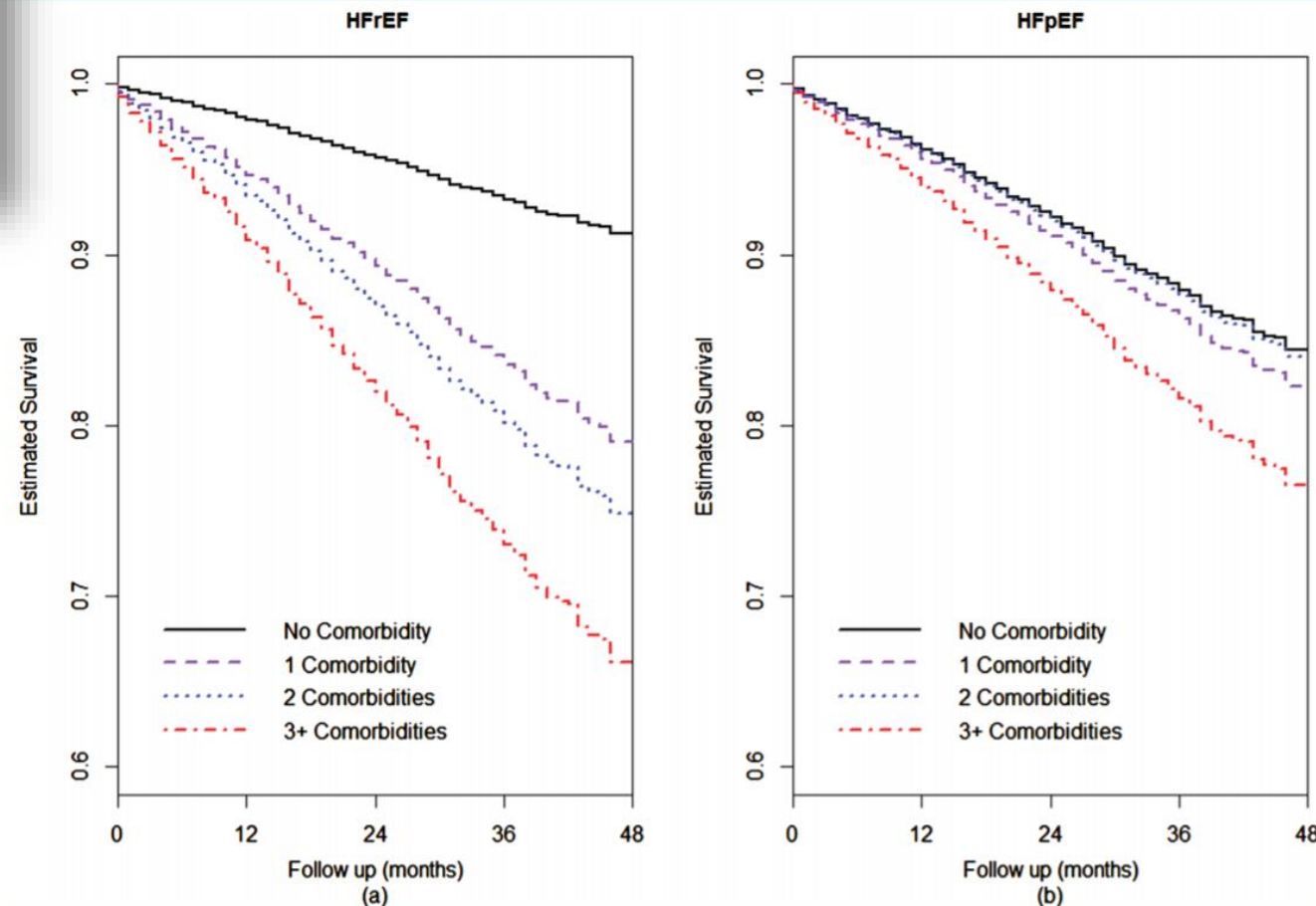


**Figure 2** Co-morbidity load (0, 1, 2, 3, ≥4 co-morbidities) according to left ventricular ejection fraction groups. HFpEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction.

# Prevalence and prognostic impact of non-cardiac co-morbidities in heart failure outpatients with preserved and reduced ejection fraction: a community-based study

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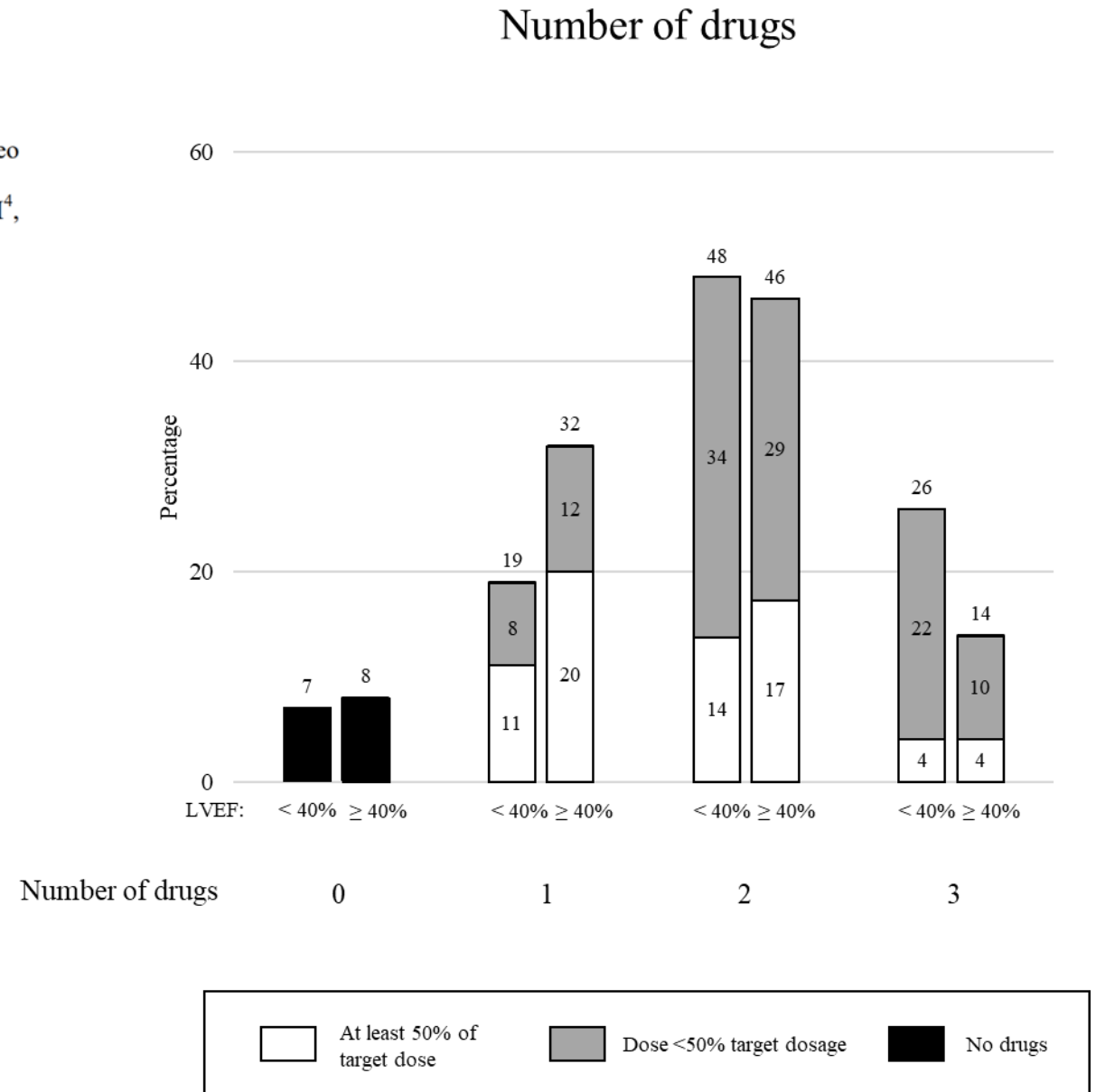
**Figure 3** Estimated survival curves from the Cox model according to co-morbidity load (0, 1, 2,  $\geq 3$  co-morbidities) in patients with heart failure with reduced (HFrEF, A) and preserved ejection fraction (HFpEF, B).

**Patients' adherence to disease modifying treatment in a community based-sample of patients  
with chronic heart failure**

\*Federico REA<sup>1,2</sup>, \*Annamaria IORIO<sup>3,4</sup>, Giulia BARBATI<sup>5,1</sup>, Riccardo BESSI<sup>3</sup>, Matteo CASTRICHINI<sup>3</sup>, Vincenzo NUZZI<sup>3</sup>, Arjuna SCAGNETTO<sup>5</sup>, Elena PERUZZI<sup>6</sup>, Michele SENNI<sup>4</sup>, Giovanni CORRAO<sup>1,2</sup>, Gianfranco SINAGRA<sup>3</sup>, Andrea DI LENARDA<sup>3</sup>

Eur Heart J 2020, submitted

V registru opazovanj skupnosti,  
je bilo pregledanih 2528  
zunanjih pacientov s HF (srednja  
starost 76, 58% moških). 609 od  
teh je imelo LVEF < 40%.



*...Pristopi strojnega učenja so v svojem bistvu črne škatle, v katerih ni mogoče določiti „zakaj algoritem deluje tako kot deluje“*



- Nelinearnosti (preprosti rezultati vs kompleksni modeli)
- Interakcije/asociacije
- Število dogodkov/spremenljivk