

Epidemiology of HF in Romania

Ovidiu Chioncel

Bucharest, Romania

STUDIUL ROMÂNESC DE PREVALENȚĂ A INSUFICIENȚEI CARDIACE ÎN POPULAȚIA ARONDATĂ MEDICILOR DE FAMILIE

Cezar Macarie, Ovidiu Chioncel

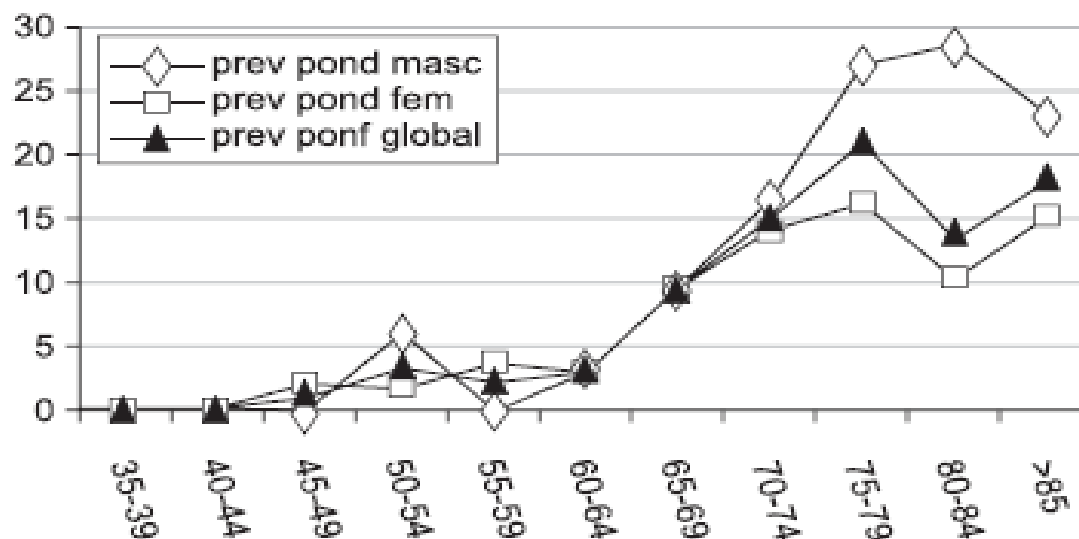
Institutul de Boli Cardiovasculare „Prof. Dr. C. C. Iliescu”, București

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B. Prevalență standardizată (4,76%)



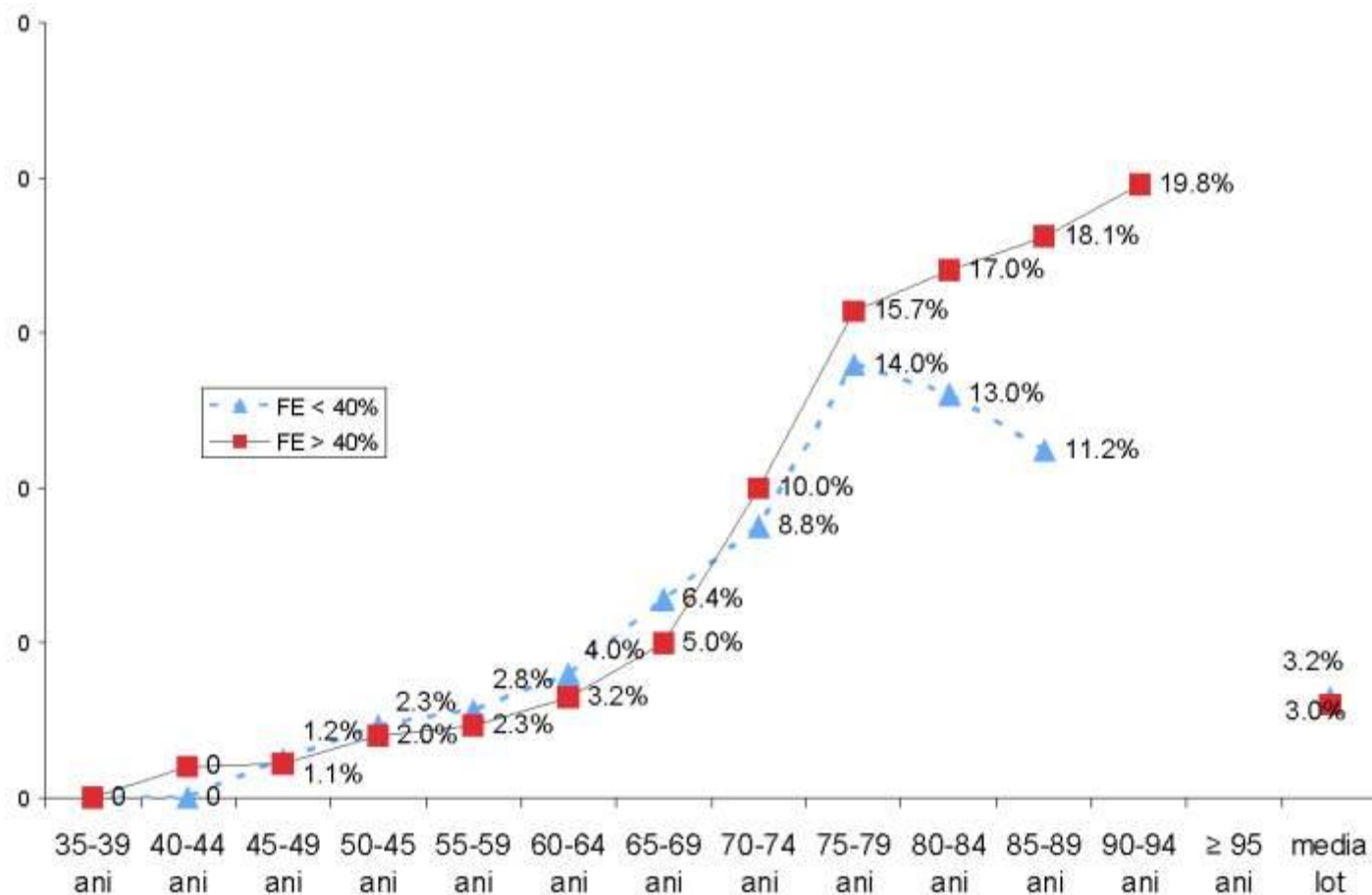
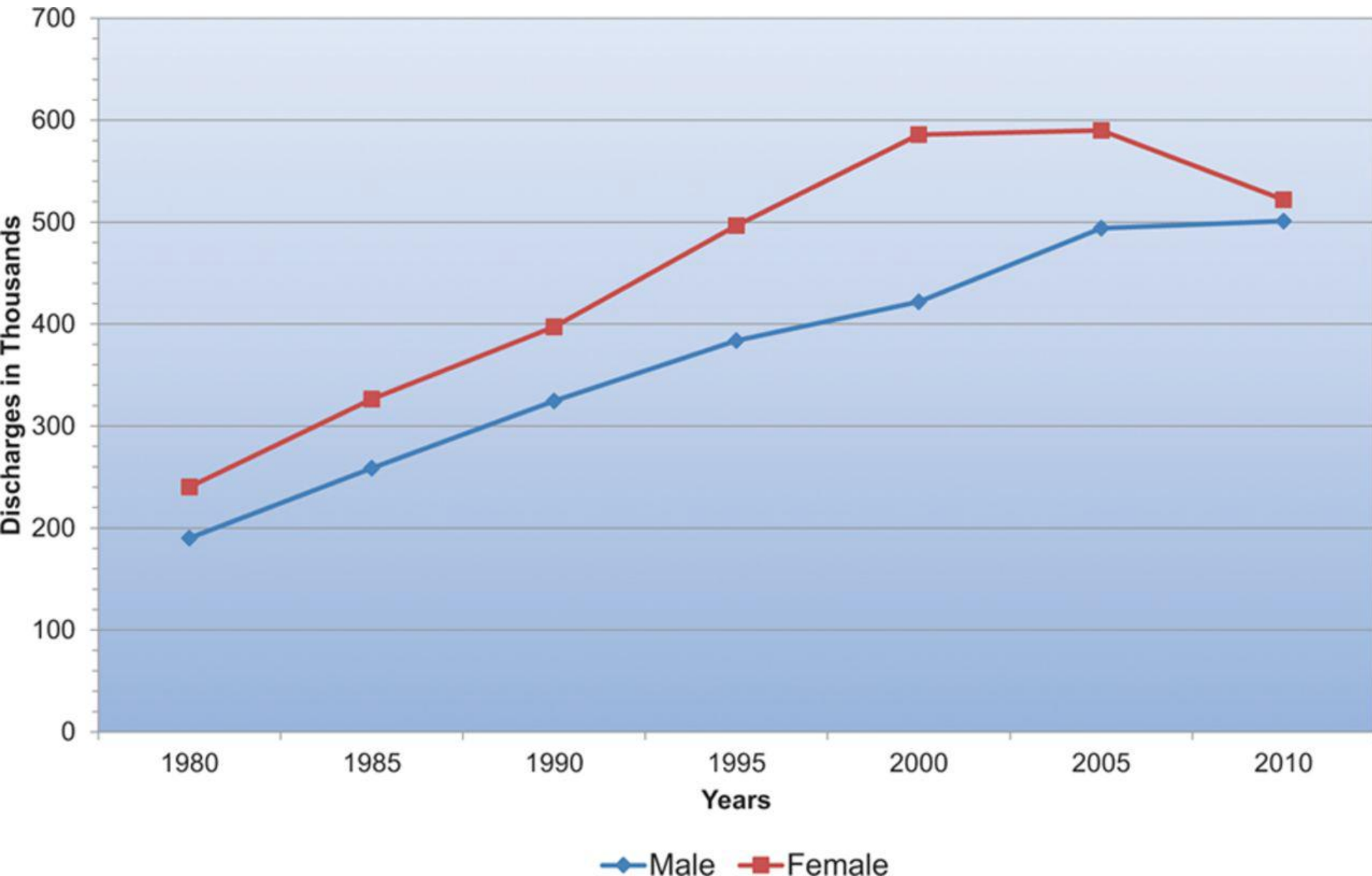


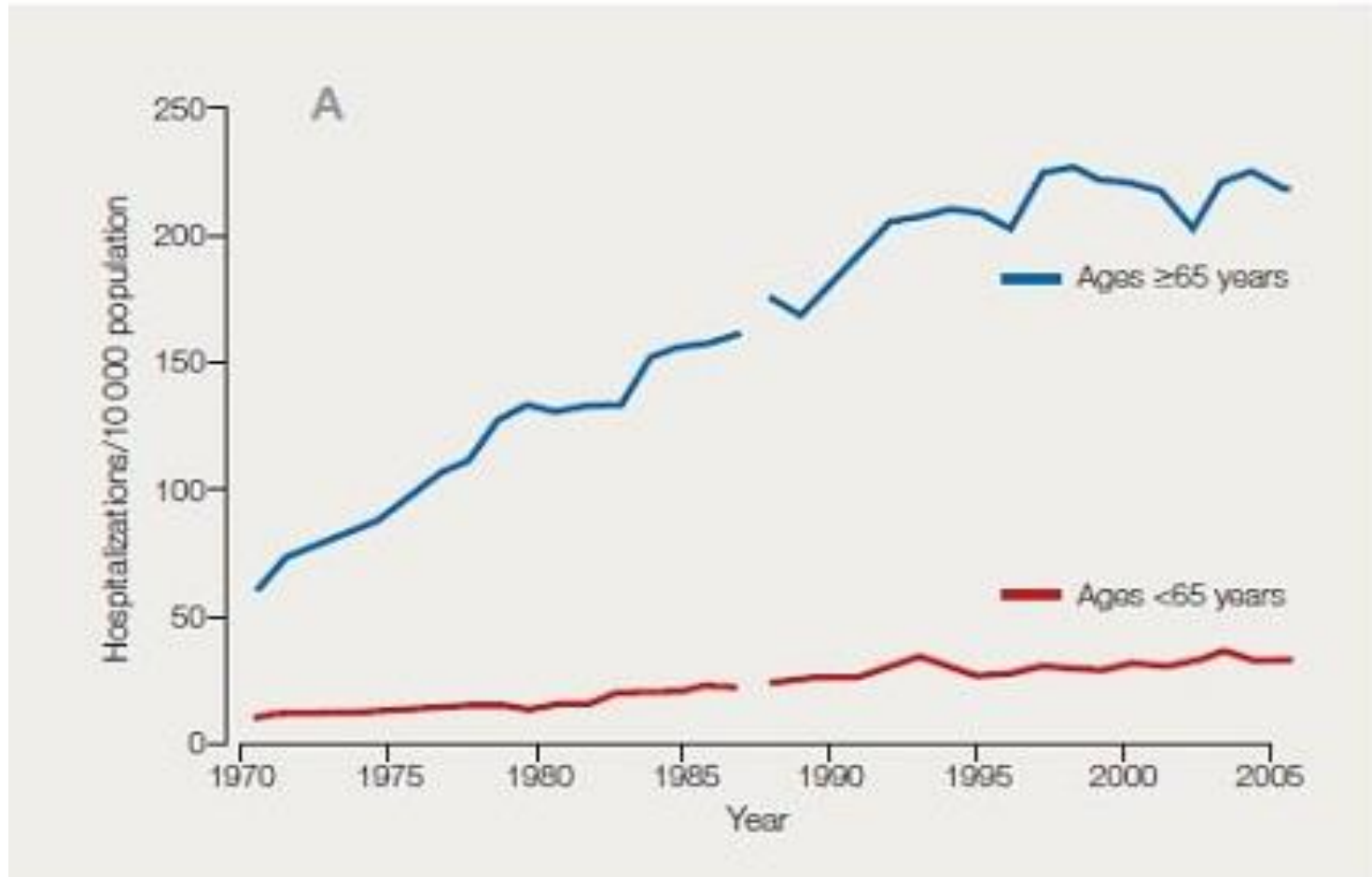
Fig.9 . Prevalenta disfunctiei sistolice si a disfunctiei diastolice de VS in lotul in studiu

Trends for HF prevalence US 2012

Heart and Stroke statistics AHA 2012

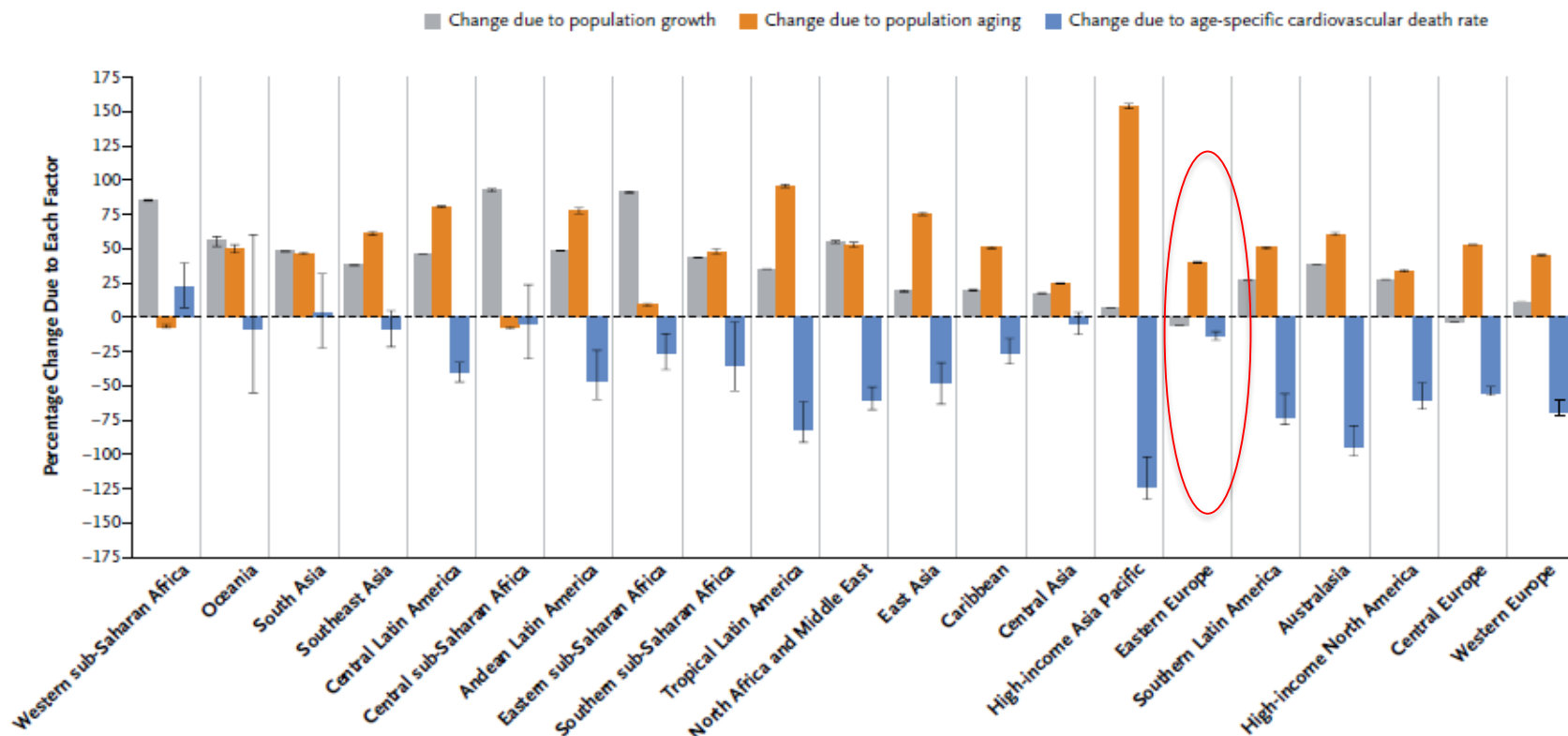


Hospitalization rates for HF in the USA from 1971-2006



Heart and Stroke statistics AHA 2012

Changes in Population Growth, Population Aging, and Rates of Age-Specific Cardiovascular Death to Changes in Cardiovascular Mortality, 1990–2013



Percentage Change in Cardiovascular Disease Deaths (1990–2013)
 Additional Cardiovascular Disease Deaths in 2013 vs. 1990









10.9	97.5	97.4	90.2	87.2	80.5	80.4	73.9	55.9	49.6	47.2	47.1	44.3	38.1	37.2	21.1	4.7	4.6	1.5	-5.2	-12.8
167,685	10,722	1,757,907	630,419	149,646	56,313	27,038	161,463	43,372	140,418	294,430	1,221,994	38,073	85,306	138,018	288,032	9,713	3,769	21,370	(33,423)	(194,351)

2005-2017

3 European Registries

1 Global registry

7 National Registries/observational studies/snapshots

	RO-AHFS¹¹ <i>(2008-2009)</i>  13 sites 1y all consecutive	EHFS II⁷ <i>(2004-2005)</i>  133 sites 20pts/site	Italian AHF⁶ <i>(2004)</i>  206 sites 3m consecutive	HF pilot¹⁰ <i>(2009-2010)</i>  137 sites periodic	ALARM HF² <i>(2006-2007)</i>  666 sites 5-8pts/site	OFICA³ <i>(2009)</i>  170 sites 1d	AHEAD⁹ <i>(2006-2009)</i>  7 sites -	IN-HF Outcome⁵ <i>(2007-2009)</i>  61 sites 1y-
Overall cohort (N)	N=3224	N=3580	N=2807	N=1892	N=4953	N=1468	N=4153	N=1855
Overall cohort-								
In-hospital ACM(%)	7.7	6.7	7.3	3.8	12	8.2	12.7	6.2

<i>RO-AHFS</i>	<i>HF-pilot ESC(RO)</i>	<i>HF-LT ESC(RO)</i>	<i>SONIC-RO</i>
2008-2009	2009-2010	2011-2013	2012
3224pts	578pts	505pts	1222 pts
1 year-all consecutive	Periodic consecutive	Periodic consecutive	1 month-all consecutive
13 sites	11 sites	8 sites	41 sites
Chart review	Chart review	Chart review	Chart review
5% central validation	10% central validation	10%central validation	100% central validation
Diagnosis at admission	Diagnosis at admission	Diagnosis at admission	Diagnosis at admission
EF>45%=33.9%	EF>45%=33.9%	EF>45%=33.9%	EF>45%=33.9%

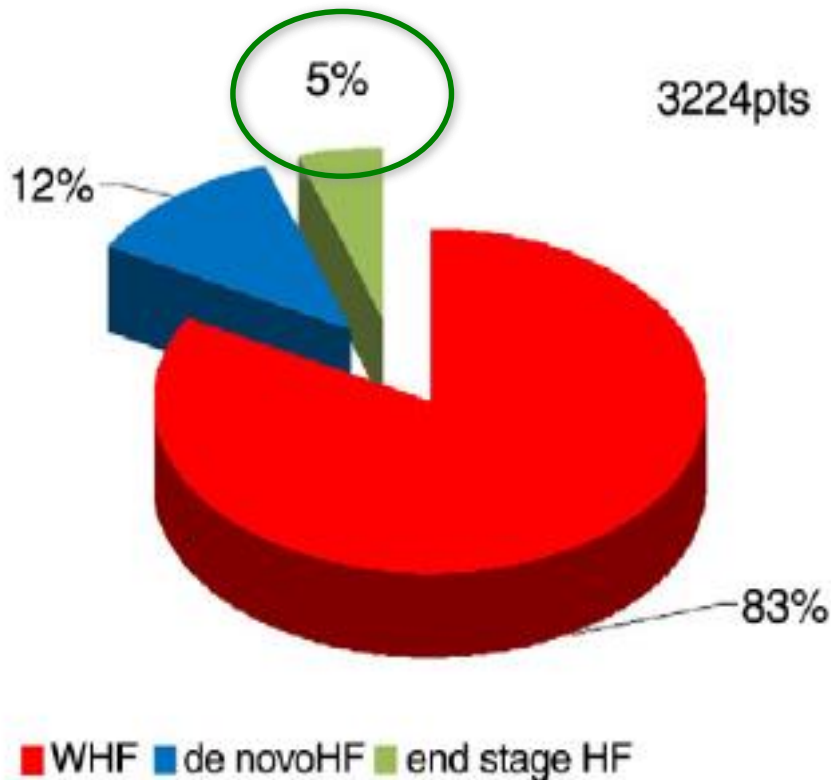
Less than 5%- end stage HF

Congestive Heart Failure

The Romanian Acute Heart Failure Syndromes (RO-AHFS) Registry

Ovidiu Chioncel, MD,^{a,i} Dragos Vinereanu, MD,^{b,i} Mihai Datcu, MD,^{c,i} Dan Dominic Ionescu, MD,^{d,i} Radu Capalaneanu, MD,^{e,i} Ioan Brukner, MD,^{f,i} Maria Dorobantu, MD,^{g,i} Andrew Ambrosy, BS,^{h,i} Cezar Macarie, MD,^{a,i} and Mihai Gheorghide, MD^{h,i} *Bucuresti, Iasi, Craiova, and Cluj Napoca, Romania; and Chicago, IL*

AHFS Classification



Aims The objective of the RO-AHFS registry was to evaluate the epidemiology, clinical presentation, inpatient management, and hospital course in a population hospitalized for acute heart failure syndromes.

Methods During a 12-month period, 13 Romanian medical centers enrolled all consecutive patients hospitalized with a primary diagnosis of AHFS. Patients were classified into the following 5 clinical profiles at admission: acute decompensated heart failure, cardiogenic shock, pulmonary edema, right heart failure, and hypertensive heart failure. Statistical significance was assessed using Fisher exact test or the χ^2 test for categorical variables and a 1-way analysis of variance for continuous variables. Independent predictors of in-hospital all-cause mortality (ACM) were identified using a multivariate logistic regression model.

Results A total of 3,224 consecutive patients hospitalized with AHFS were enrolled. The cohort had a mean age of 69.2 ± 11.8 years and 56% were men. The mean left ventricular ejection fraction was $37.7\% \pm 12.5\%$. The percentage of patients treated with evidence-based heart failure therapies increased from admission to discharge, but even at discharge, only 56%, 66%, and 54% of patients were on a β -blocker, an angiotensin-converting enzyme inhibitors or an angiotensin receptor blocker, and a mineralocorticoid receptor antagonist, respectively. In-hospital ACM was 7.7% with substantial variation between sites (4.1%-11.0%). Increasing age, inotrope therapy, the presence of life-threatening ventricular arrhythmias, and elevated baseline blood urea nitrogen were all found to be independent risk factors for in-hospital ACM, whereas elevated systolic blood pressure and baseline treatment with a β -blocker had a protective effect.

Conclusions The RO-AHFS study found substantial variation both among sites and between Romania and other European countries. National and regional registries have important clinical implications for patient care and the design and conduct of global clinical trials. [Am Heart J 2011;162:142-153.e1.]

Table I. RO-AHFS compared with previous HF registries















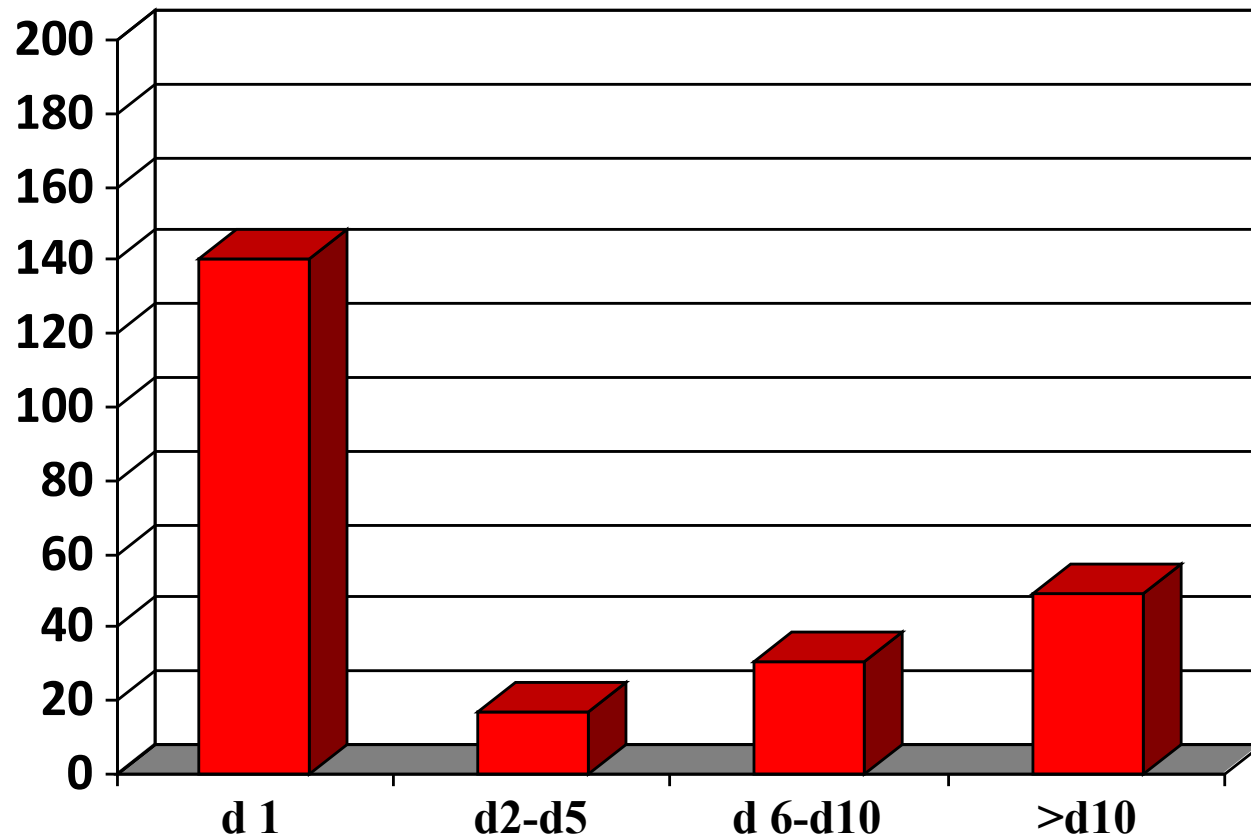
	RO-AHFS 	EHFS II¹³ 	EFICA¹⁴ 	Italian AHF¹² 	ADHERE¹⁶ 	OPTIMIZE-HF¹⁵ 	ATTEND³³ 
Demographics							
Mean age (y)	69	70	73	73	75	73	73
Men	56	61	59	60	49	48	59
Severity/etiology							
LVEF (mean \pm SD)	37.7 \pm 12.5	38 \pm 15	38 \pm 15	NA	34.4 \pm 16.1	39.0 \pm 17.6	NA
Ischemic	61	54	61	46	NA	46	33
Hypertensive	44	NA	15	15	NA	23	18
Medical history							
HTN	67	62	60	66	74	71	71
Dyslipidemia	40	NA	30	NA	37	32	35
Diabetes mellitus	33	33	27	38	44	42	34
Smoking	25	NA	34	15	14	NA	44
Atrial fibrillation	44	39	25	21	31	31*	40
Vitals							
HR (beats/min)	99	95	NA	97	NA	87	100
SBP (mm Hg)	143	135	126	141	144	143	146
IV therapies/procedural interventions							
Diuretics	80	84	87	95	92	NA	81
Nitrates	33	38	50	51	9	NA	26
Inotropes	18	30	53	25	15	15	20
IABP	0.2	<1	NA	NA	NA	NA	3
PCI/CABG	2/0.4	8/2	NA	5.5 [†]	8/NA	NA	9/1
ICD/PM	0.3/1.9	1/3	NA	NA	NA	9/NA	3/5
Hospital course							
Median LOS (d)	8.4 [‡]	9	15	9	4	6.4 [‡]	21
In-hospital ACM	7.7	6.7	28	7.3	3.8	3.8	7.7

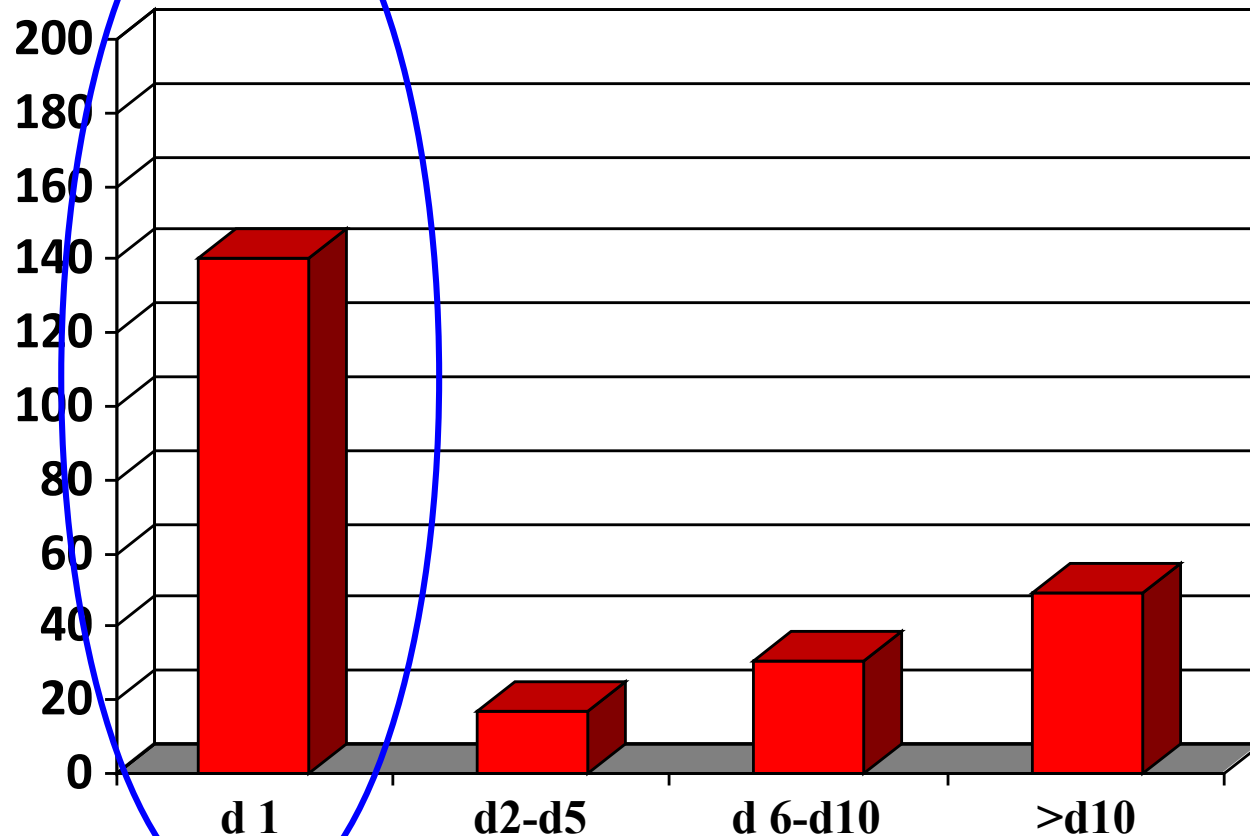
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Fatal events according to day of hospitalization

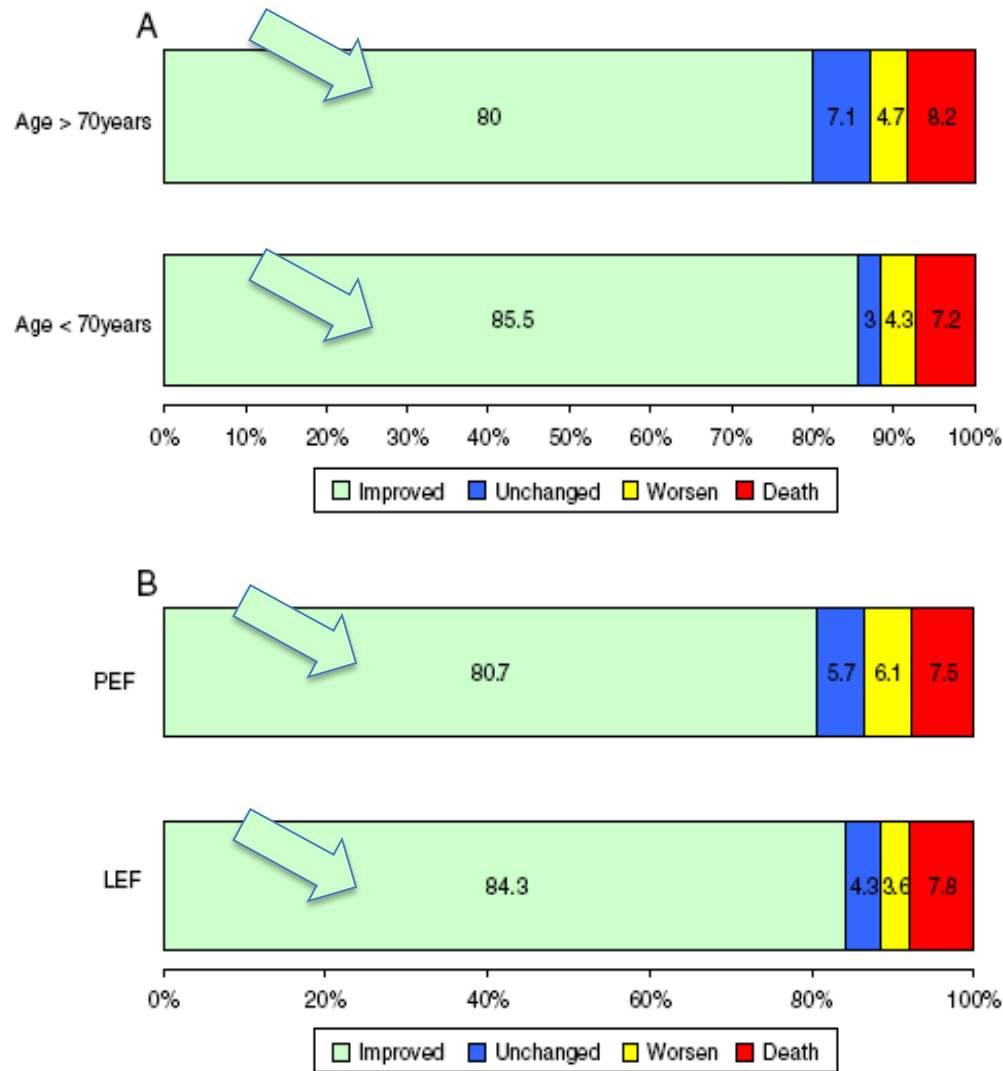


Fatal events according to day of hospitalization



Most of the deaths occurred in the first day of hospitalization

15-20% of patients had “no clinical improvement” irrespective of age or LVEF



Patient self-assessed at discharge stratified by age (A) and EF (B).

Congestive Heart Failure

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Ovidiu Chioncel, MD,^{a,i} Dragos Vinereanu, MD,^{b,i} Mihai Datcu, MD,^{c,i} Dan Dominic Ionescu, MD,^{d,i} Radu Capalneau, MD,^{c,i} Ioan Brukner, MD,^{f,i} Maria Dorobantu, MD,^{g,i} Andrew Ambrosy, BS,^{h,i} Cezar Macarie, MD,^{a,i} and Mihai Gheorghiade, MD^{h,i} *Bucuresti, Iasi, Craiova, and Cluj Napoca, Romania; and Chicago, IL*

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The Romanian Acute Heart Failure Syndromes (RO-AHFS) Registry

WHF with previous HF hospitalization in last year, no ACS at admission

11 academic hospitals

29 community hospitals

SONIC RO

essential variables
N=25pts

essential variables
N=88pts

**Differences in pattern of care between
academic and regional hospitals**

Transfers, N=11 pts

Discharge at home, N=330pts

Transfers, N=85 pts

Discharge at home, N=762pts

WHF with previous HF hospitalization in last year, no ACS at admission

11 academic hospitals

N=396pts

Not validated
HF diagnosis
N=23 pts

Missing data for
essential variables
N=25pts

N=348pts

ICU/CCU-62.8%
Cardiology ward-37.2%

Deaths N=7pts (1.9%)

Transfers, N=11 pts

Discharge at home, N=330pts

29 community hospitals

N=1048pts

Not validated
HF diagnosis
N=95 pts

Missing data for
essential variables
N=88pts

N=865pts

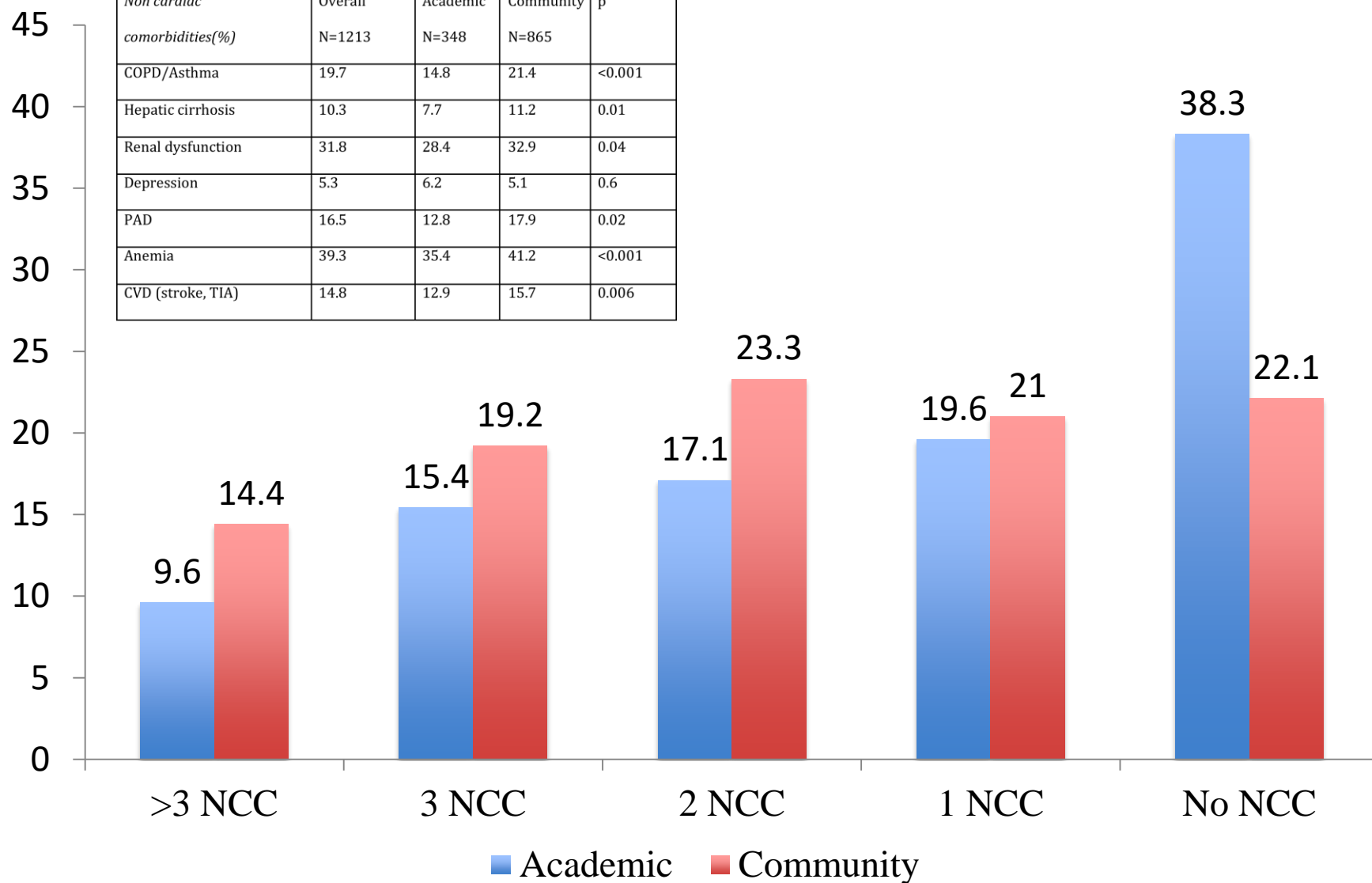
ICU/CCU-54.7%
Cardiology ward-45.3%

Deaths N=18pts (2.1%)

Transfers, N=85 pts

Discharge at home, N=762pts

<i>Non cardiac comorbidities(%)</i>	Overall N=1213	Academic N=348	Community N=865	p
COPD/Asthma	19.7	14.8	21.4	<0.001
Hepatic cirrhosis	10.3	7.7	11.2	0.01
Renal dysfunction	31.8	28.4	32.9	0.04
Depression	5.3	6.2	5.1	0.6
PAD	16.5	12.8	17.9	0.02
Anemia	39.3	35.4	41.2	<0.001
CVD (stroke, TIA)	14.8	12.9	15.7	0.006



Relation between comorbidities and use of evidence based therapies in patients with in-hospital heart failure- data from the SONIC-RO study

Elena-Laura Antohi, MD¹, Dan Dobreanu MD², Dragos Vinereanu, MD³, Gabriel Tatu-Chitoiu, MD⁴, Dan Deleanu, MD¹, Cezar Macarie, MD¹, and Ovidiu Chioncel, MD¹ on behalf of the IHHF-RO Study Investigators

¹Institute of Emergency for Cardiovascular Diseases "Prof. Dr. C.C. Blaciu", Bucharest, Romania; ²Institute for Cardiovascular Diseases, Tg. Mures, Romania; ³Emergency University Hospital, Bucharest, Romania;

Table 2. Rate of use of EBT at admission and discharge, by number of NCCM.

	Group 1 N=399	Group 2 N=508	Group 3 N=231	Group 4 N=69	Group 5 N=15
ACEI/ARB at admission (%)	48,37	50,19	51,94	49,27	40
ACEI/ARB at discharge (%)	55,63	56,47	55,84	53,62	53,33
Beta-blocker at admission (%)	64,91	61,37	58,87	56,52	66,66
Beta-blocker at discharge (%)	74,18	72,94	70,56	71,01	80
Mineral receptor antagonist at admission (%)	43,10	43,52	41,55	42,02	40
Mineral receptor antagonist at discharge (%)	53,88	53,89	53,90	53,91	53,92

In-hospital procedures HF pilot study 2010-2011

	<i>Romania</i>	Altele EU	<i>Odds Ratio [95% IC]</i>
<i>Coronarografie (%)</i>	5.18	26.43	0.15 [0.09 - 0.24] **
<i>PCI/CABG (%)</i>	2.17	10.97	0.18 [0.09 - 0.37] **
<i>Cateterism Drept (%)</i>	0.27	4.79	0.05 [0.01 - 0.39] **
<i>CRT (%)</i>	0.54	4.10	0.13 [0.03 - 0.52] **
<i>ICD (%)</i>	0.27	6.10	0.04 [0.01 - 0.30] **

ORIGINAL ARTICLE

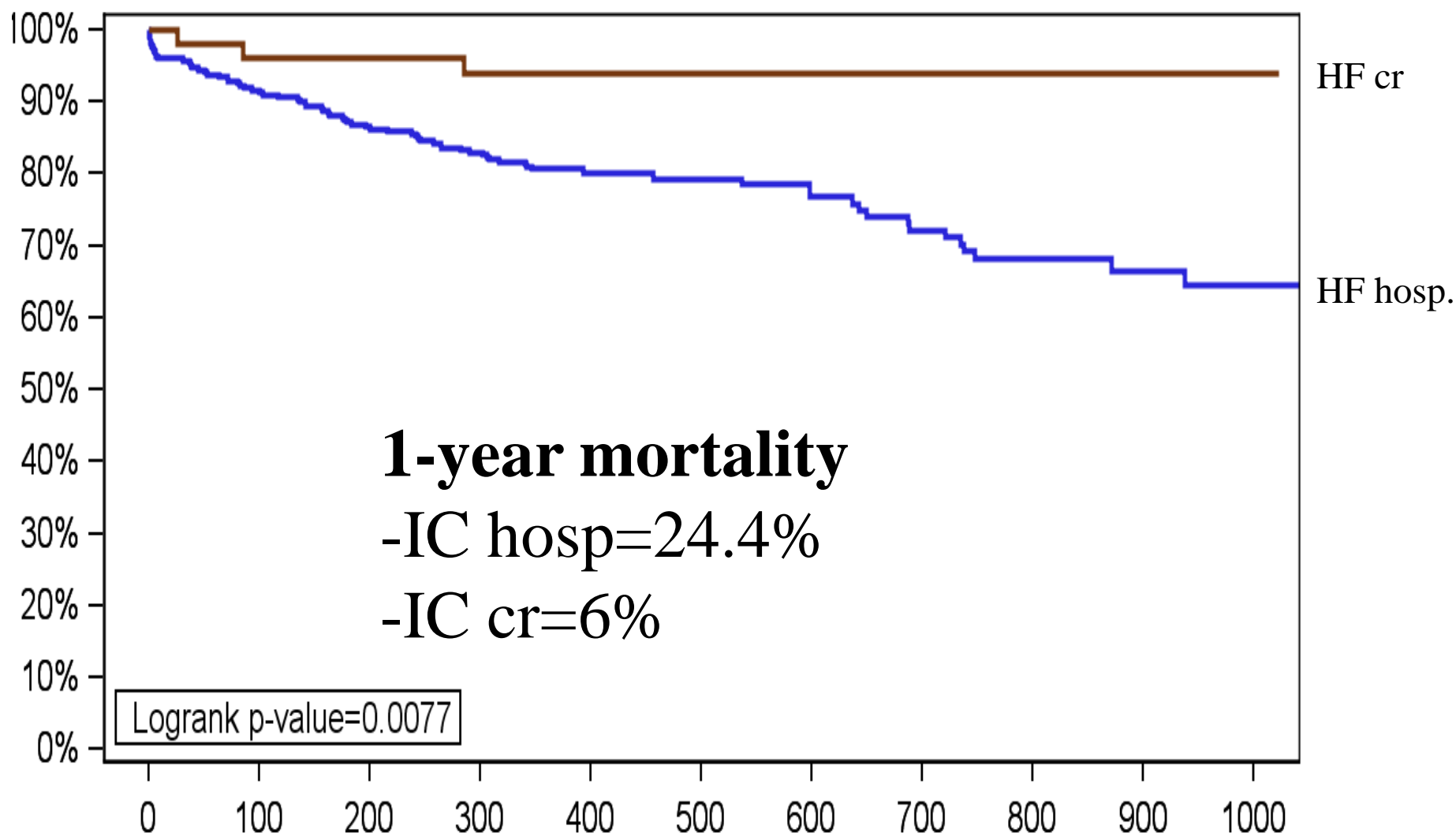
Characteristics of patients with heart failure from Romania enrolled in - ESC-HF long-term (ESC-HF-LT) registry

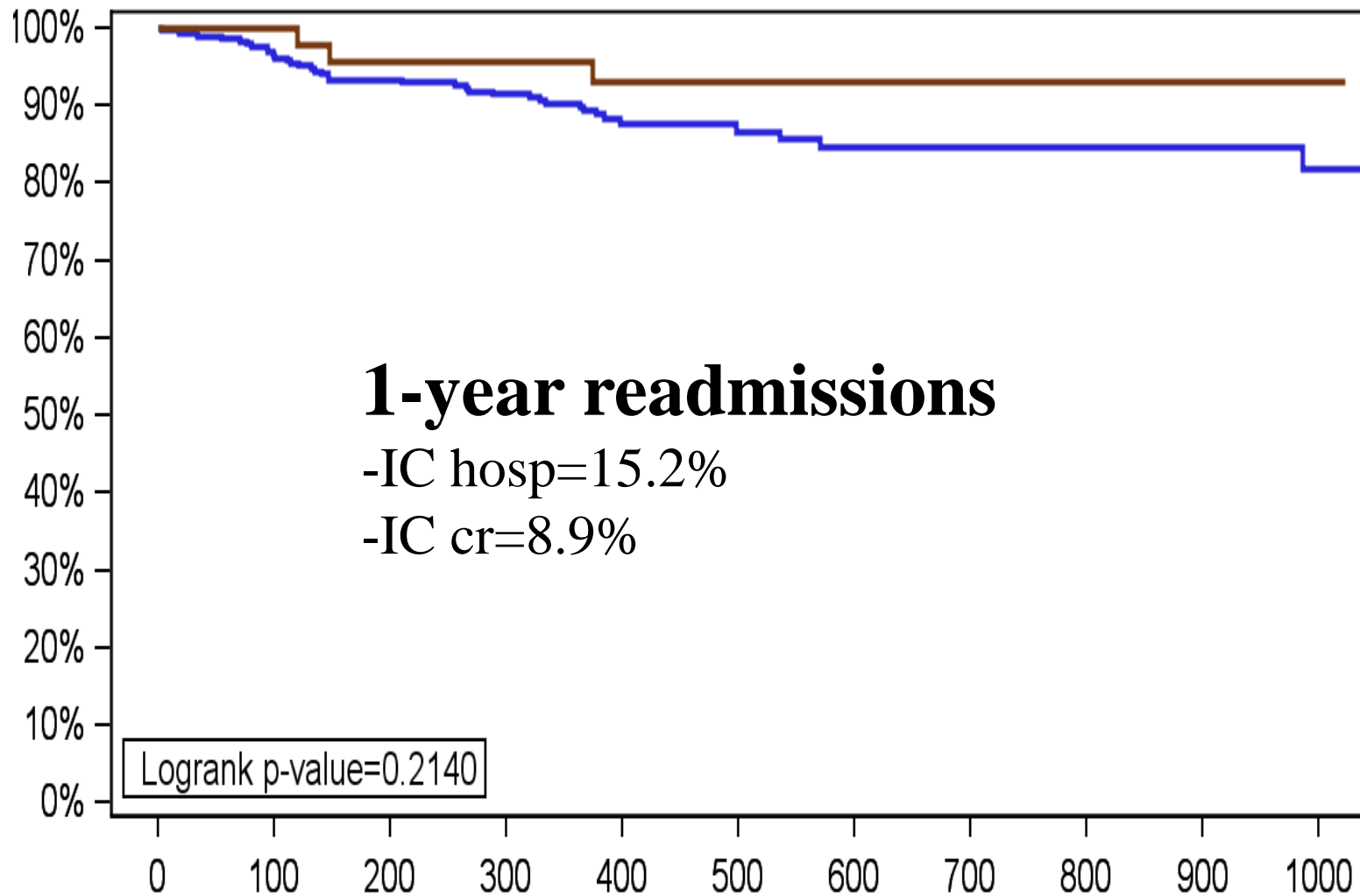
Ovidiu Chioncel¹, Gabriel Tatu-Chitoiu², Ruxandra Christodorescu³, Ioan Mircea Coman¹, Dan Deleanu¹, Dragos Vinereanu⁴, Cezar Macarie¹, Marisa Crespo⁵, Cecile Laroche⁶, Thierry Fereirra⁶, Aldo Maggioni⁷, Gerasimos Filippatos⁸

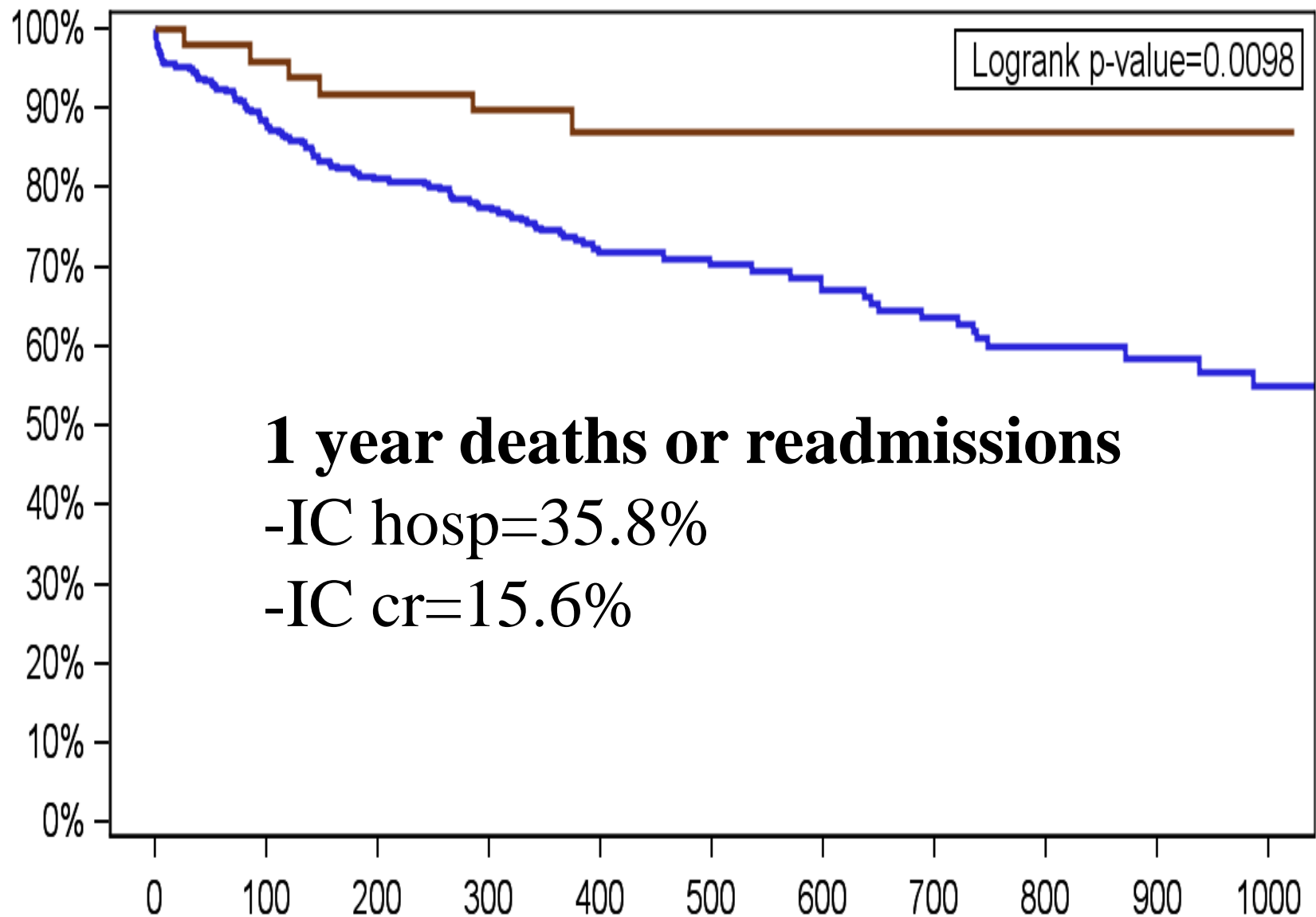
Abstract: The ESC-HF Long-Term (ESC-HF-LT) Registry is a permanent, prospective, observational study conducted in 211 Cardiology Centers of 21 European and Mediterranean countries, members of the European Society of Cardiology (ESC). The present manuscript aims to assess 1-year outcomes of patients with HF, both acute and chronic, in the subset of patients enrolled in Romania, and to compare to the rest of patients enrolled in the registry.

From May 2011 to April 2013, a total of 12 440 patients were enrolled, 40.5% with acute HF and 59.5% with chronic HF. A number of 380 patients were enrolled in 10 Romanian centers, 329 with acute HF and 51 with chronic HF. In Romania, 1-year mortality was substantially higher in patients with acute HF compared to chronic HF patients (22.4% vs 6%), data similar to the rest of European countries. Notably, a proportion of 35.8% of patients with acute HF, have died or have been re-hospitalized during 1-year follow up. Although pharmacological treatments tend to increase over the time, these are underutilized when compared to other European countries. In Romania, utilization of HF device-based therapies is still very low.

The ESC-HF-LT registry shows that Romanian patients have similar prognostic characteristics as patients enrolled in other countries. 1-year mortality of patients with acute HF is higher than the mortality of chronic HF patients.







Conclusions(1)

- There are high quality epidemiological data coming from Romania
- There is a “risk-treatment paradox”
- There is a wide variability of care: academic vs regional hospitals
- 36% of HF patients died or have been re-hospitalized at 1 year
- Need for innovative medication to decrease mortality and HF readmissions