Acute Heart Failure.
Global and Latin America Data

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I have not a financial relationship to disclosure

Special Article

SHATTUCK LECTURE — CARDIOVASCULAR MEDICINE AT THE TURN OF THE
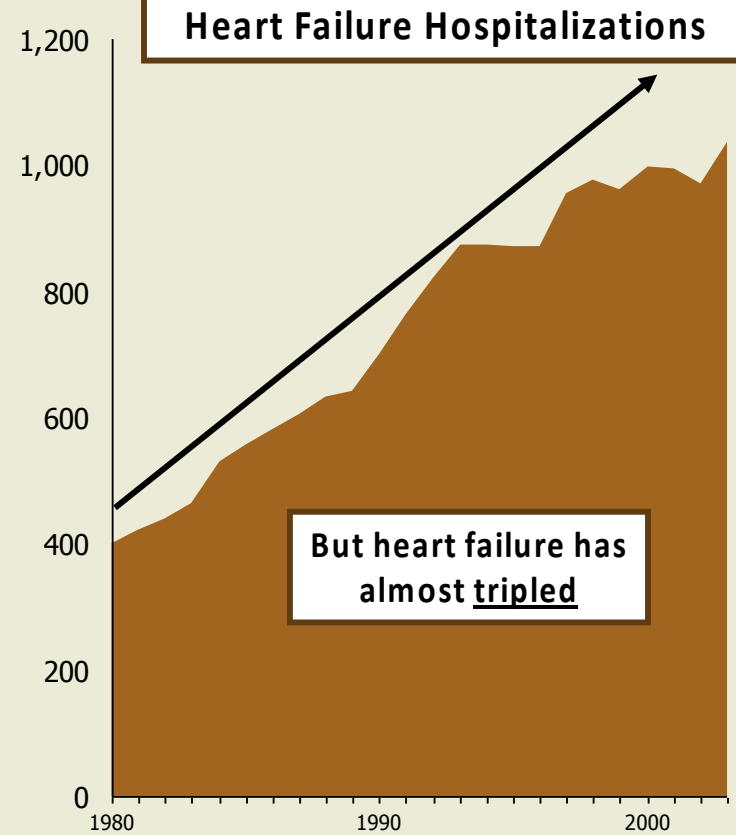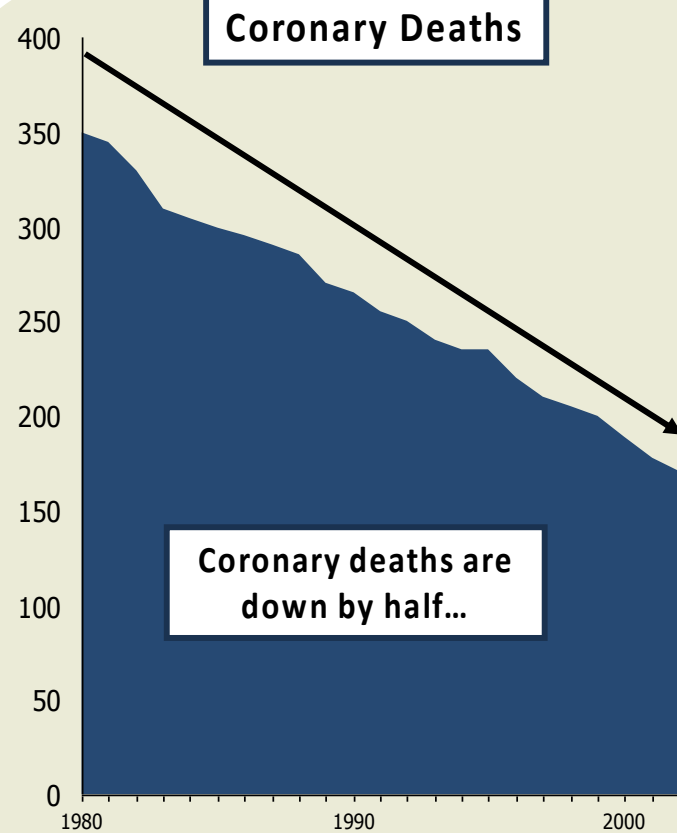MILLENNIUM: TRIUMPHS, CONCERNS, AND OPPORTUNITIES

EUGENE BRAUNWALD, M.D.

Emergence of New Epidemics of Cardiovascular Disease

Two new epidemics of cardiovascular disease are
emerging: heart failure and atrial fibrillation

Coronary Deaths

Heart Failure Hospitalizations

Coronary deaths are down by half...

But heart failure has almost **tripled**

Source: National Hospital Discharge Survey, CDC/NCHS and NHLBI.

Acute heart failure (AHF) is the rapid development or change of signs and symptoms of heart failure that requires medical attention and usually leads to patient hospitalization.

AHF represents the first cause of hospital admission in elderly persons, despite advances in medical and device therapy, it still has unacceptably high morbidity and mortality rates.
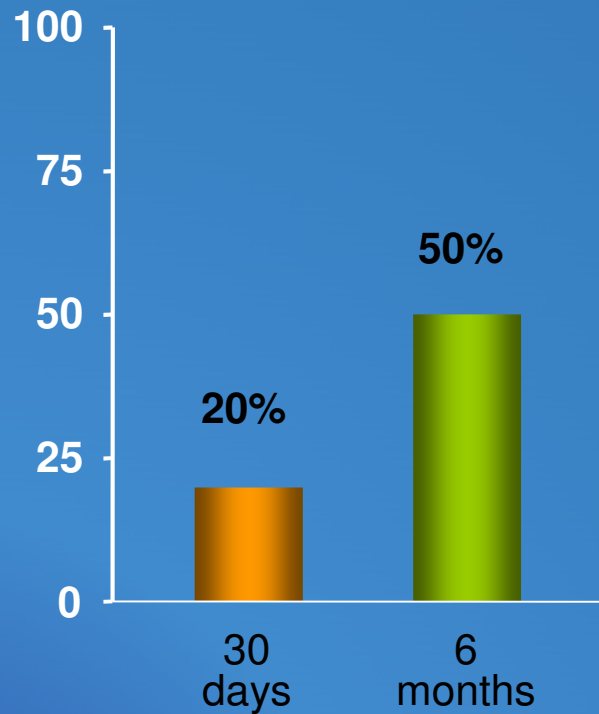
SURVIVAL IN HEART FAILURE
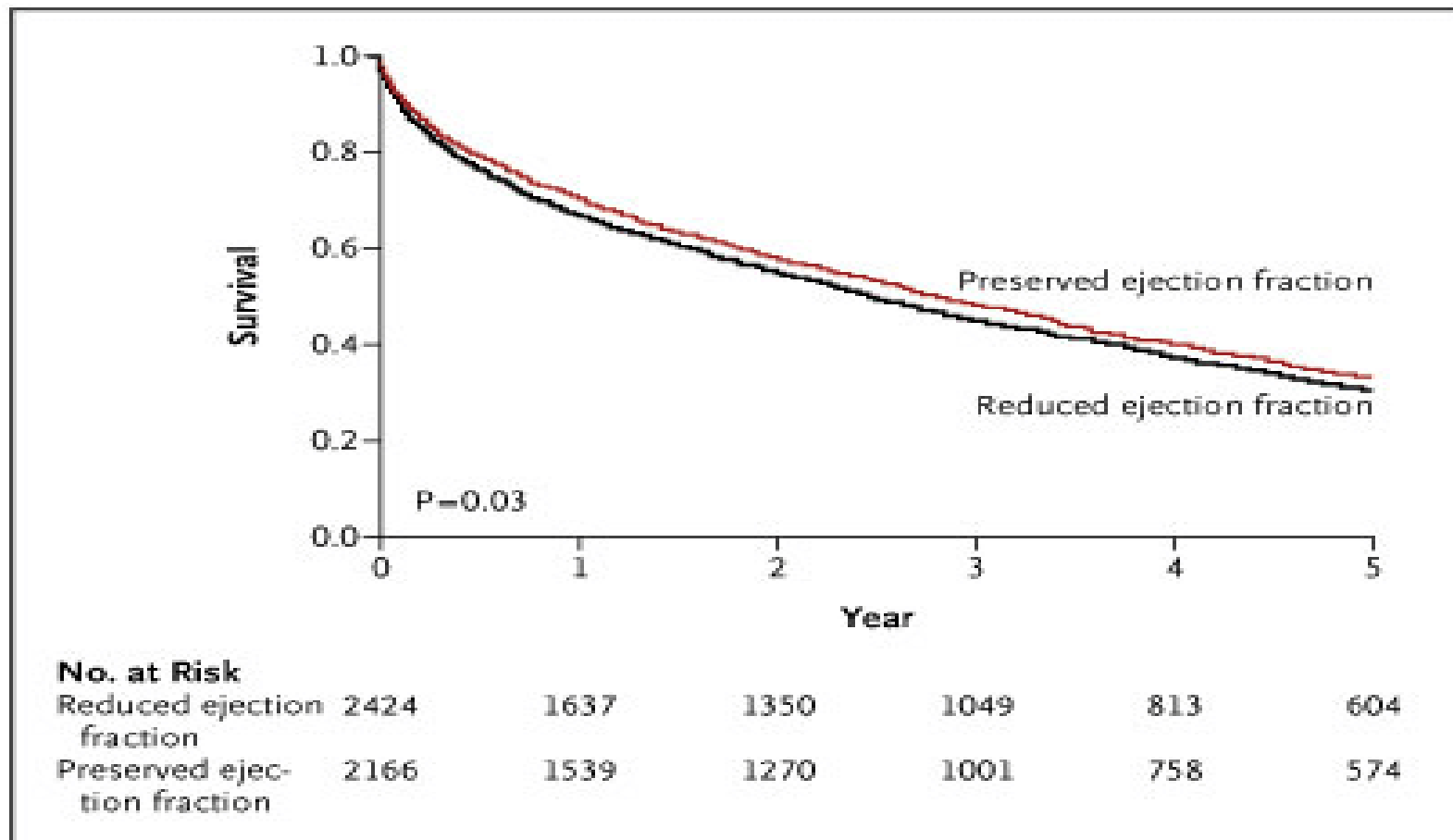
Heart Failure. Hospitalization

Rehospitalization

- 30 days: **20%**
- 6 months: **50%**

Median hospital LOS: 6 days

Mortality

- 30 days: **12%**
- 12 months: **33%**
- 5 years: **50%**
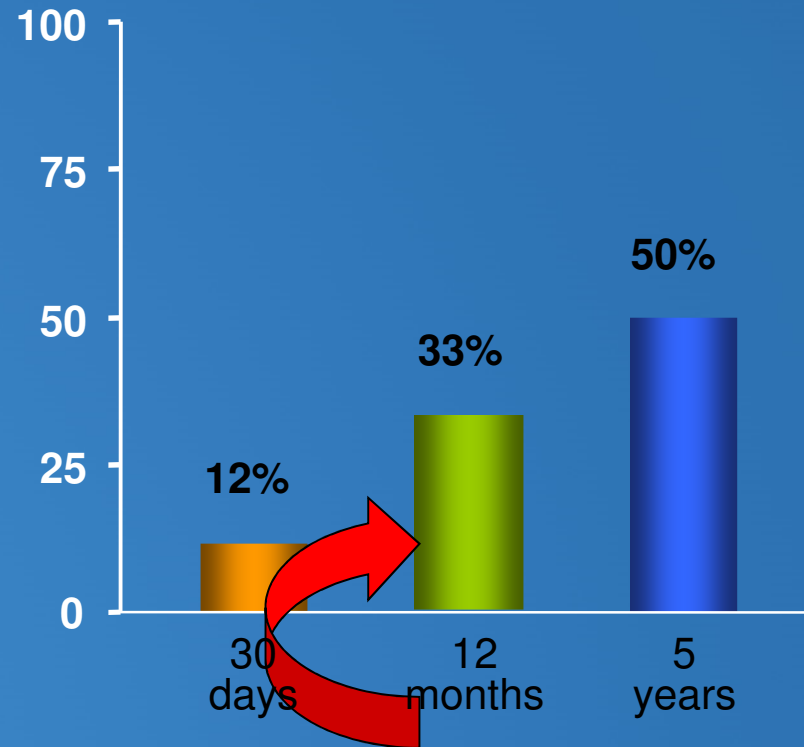
Annual mortality rate
NYHA class III HF: 12% [COPERNICUS DATA]
NYHA class II HF: 7% [SCD-HeFT DATA]
Jong P et al. *Arch Intern Med.* 2002;162:1689

Clinical Characteristic of Acute Heart Failure Patients in Different Registries

	ADHERE	OPTIMIZE-HF	E HFS I	EHFS II	ESC-HF Pilot (AHF arm)	ALARM-HF
Patients, No.	105 388	48 612	11 327	3580	1892	4953
Age, mean (SD), y	72.0 (14.0)	73.1 (14.2)	71	69.9 (12.5)	70.0 (13.0)	66-70[*]
Gender, male, %	48	48	53	61	63	62
History of heart failure, %	75	87	65	63	75	64
Arterial hypertension, %	72.0	71.0	53.0	62.5	61.8	70.2
Coronary artery disease, %	57.0	50.0	68.0	53.6	50.7	30.7
Diabetes mellitus, %	44.0	42.0	27.0	32.8	35.1	45.3
Atrial fibrillation, %	31.0	31.0	43.0	38.7	43.7	24.4
Renal dysfunction, %	30.0	30.0	17.0	16.8	26.0	21.4
COPD, %	31.0	28.0		19.3		24.8
Anemia, %				14.7	31.4	14.4

Acute Heart Failure Outcome in Different Registries

	ADHERE	OPTIMIZE-HF	EHFS I	EHFS II	ESC-HF Pilot (AHF arm)	ALARM-HF
Patients, No.	105 388	48 612	11 327	3580	1892	4953
In-hospital mortality, %	4.0	4.0	6.9	6.7	3.8	11.0
Hospital stay, median, days	4	4	11	9	8	6
30-90-days mortality, %	11.2 (30 days)	9.0 (60-90 days)	6.6 (90 days)			
1-year mortality, %	36					
Readmission (time period),	22.1 (30 days) 65.8 (1 year)	30.0 (60-90 days)	24.0 (90 days)			

Causes and Precipitating Factors of Acute Heart Failure

Cardiovascular	Non cardiovascular	Patient-related or iatrogenic
• Acute coronary syndromes	• Infections and febrile states	• Poor compliance with medication
• Tachycardias (ie, atrial fibrillation)	• COPD exacerbation or asthma	• Increased salt or fluid intake
• Bradycardias (ie, third degree atrioventricular block)	• Renal dysfunction	• Surgery
• Uncontrolled hypertension or hypertensive crisis	• Anemia	• Drugs (ie, NSAID, thiazolidinediones)
• Myocarditis	• Hyperthyroidism	• Alcohol abuse
• Acute pulmonary embolism	• Hypothyroidism	
• Acute valvular regurgitation (i.e., endocarditis, myocardial infarction)	• Strenuous exercise	
• Aortic dissection	• Emotional stress	
• Cardiac tamponade	• Pregnancy (peripartum cardiomyopathy)	

Predictors of Postdischarge Rehospitalization for Acute Heart Failure

Predictor type	Examples
Symptoms	Increasing body weight, persisting peripheral edema, dyspnea aggravation
Clinical signs	Increased jugular venous pressure, orthopnea
Comorbid conditions	Chronic renal disease, diabetes mellitus, COPD, anemia
Functional status	Quality of life
Biomarkers	Natriuretic peptides, cardiac troponins, serum sodium, serum creatinine
Echocardiography	Left ventricular filling pattern
Treatment	Increase in diuretics, intolerance to disease-modifying therapy with hypotension or renal impairment
Psychosocial and socioeconomic factors	Living alone, low income

Strategies to Prevent Postdischarge Rehospitalization for Acute Heart Failure

In-hospital treatment	• Decongestion • Identification and treatment of heart failure cause • Treatment and prevention of exacerbating factors • Proper titration of chronic heart failure therapy
Planning and transition	• Establishment of specific follow-up plan • Early postdischarge visit (7-10 days) • Collaboration with primary care physician • Patient education and training • Nurse home visits • Telemonitoring

LATIN-AMERICA

CV LA MORTALITY

Latin America

- ■ Ischaemic heart disease
- ■ Stroke
- ■ Hypertensive heart disease
- ■ Cardiomyopathy, myocarditis, endocarditis
- ■ Rheumatic heart disease
- ■ Other circulatory diseases

42,5
28,8
11,8
3,5
1,1
12,3

Lanas F. Prog CV Dis, 2014

The Reality of Heart Failure in Latin America

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Efraín Gómez, MD,‖ Pablo Castro, MD,‡ for the Interamerican Society of Cardiology

São Paulo, Brazil; Mexico City, Mexico; Santiago, Chile; Buenos Aires, Argentina; and Bogota, Colombia
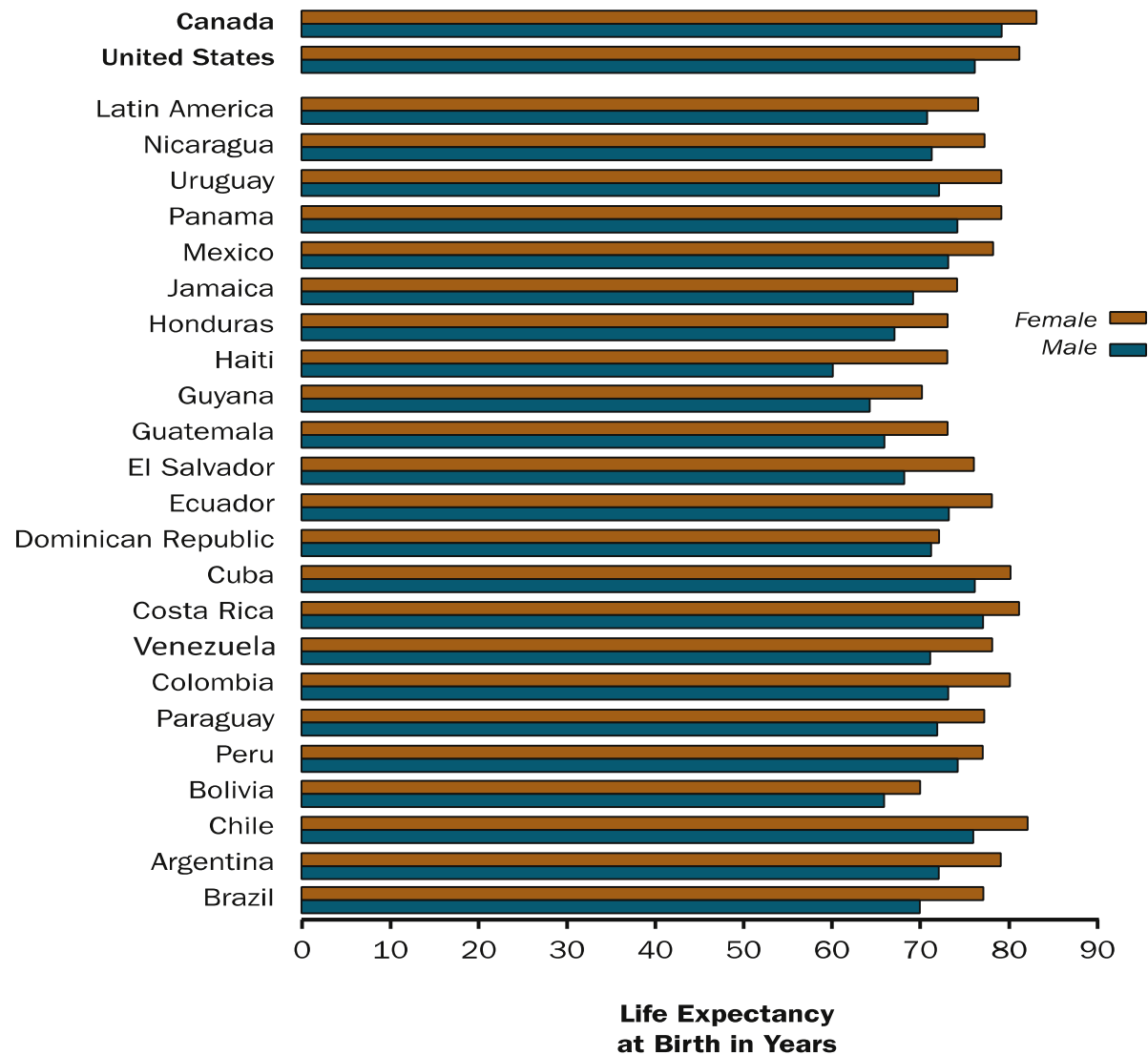
Figure 5 Life Expectancy of Both Sexes at Birth

PERFECT STORM

ICARO.DHF CHILEAN
REGISTRY
2002-2014. 1800 PTS

ACC Latin America
Conference 2017

Etiología

- Desconocida
- Idiopatica
- Valvular
- Alcohólica
- Hipertrófica
- Isquémica
- Hipertensiva
- Otras

2.27
6.53
6.95
16.3
1.51
0.89
25.03
38.93
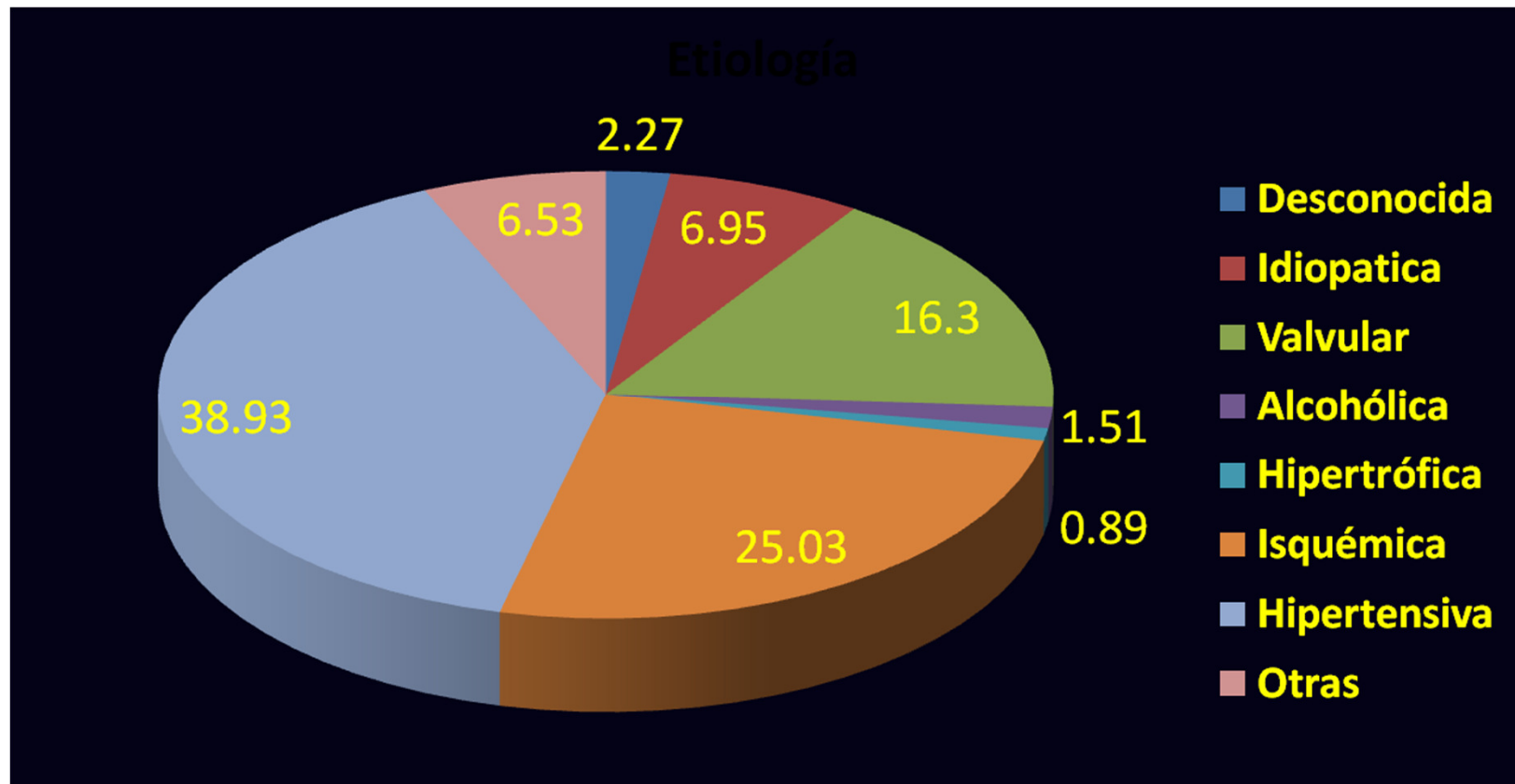
Long term mortality. Chilean registries of Heart Failure. ICARO.

Kaplan-Meier survival estimates

Días

— Disfunción Sistólica   — Función Sistólica Conservada

Tabla 3. Medicamentos al alta

Medicación (n = 1.277)	n	%
Furosemida	1.091	85
Tiazidas	39	3
Antialdosterónicos	651	51
Digoxina	206	16
Amiodarona	162	13
Betabloqueantes	1.034	81
Ivabradina	13	1
Estatinas	666	52
IECA/ARA II	988	77
Anticoagulantes	390	31
Aspirina	483	38
Bloqueantes cálcicos	57	5
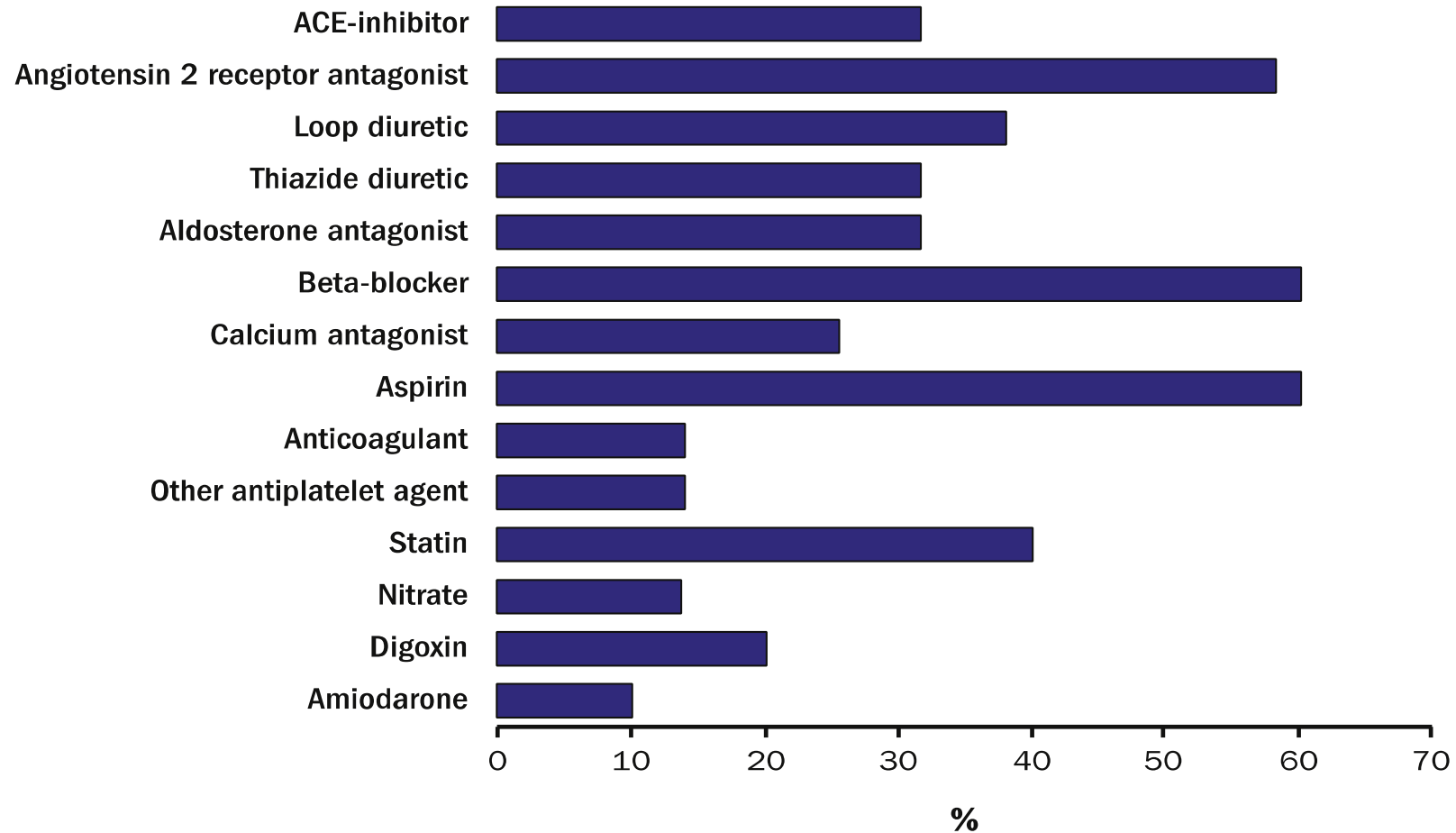
Figure 6 — Medication Use Among Patients With HFPEF in Certain LA Countries

Final Considerations

- HF is increasing in prevalence. Changes in population demographics account for these increases.

- HFpEF and HFrEF have similar initial hospitalisation rates and similar rehospitalisation rates.

- Mean length of hospital stay increases with each rehospitalisation for HF

- HFpEF and HFrEF have similarly high mortality. While survival rates in HFpEF have not changed in recent years, survival rates in HFrEF have improved.

GRACIAS