IX Congresso
Novas Fronteiras em Medicina Cardiovascular
22 a 24 de Fevereiro 2019
The Village Praia D'El Rey - Óbidos

IC avançada e IC refractária: de que populações falamos?

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HF: epidemiology

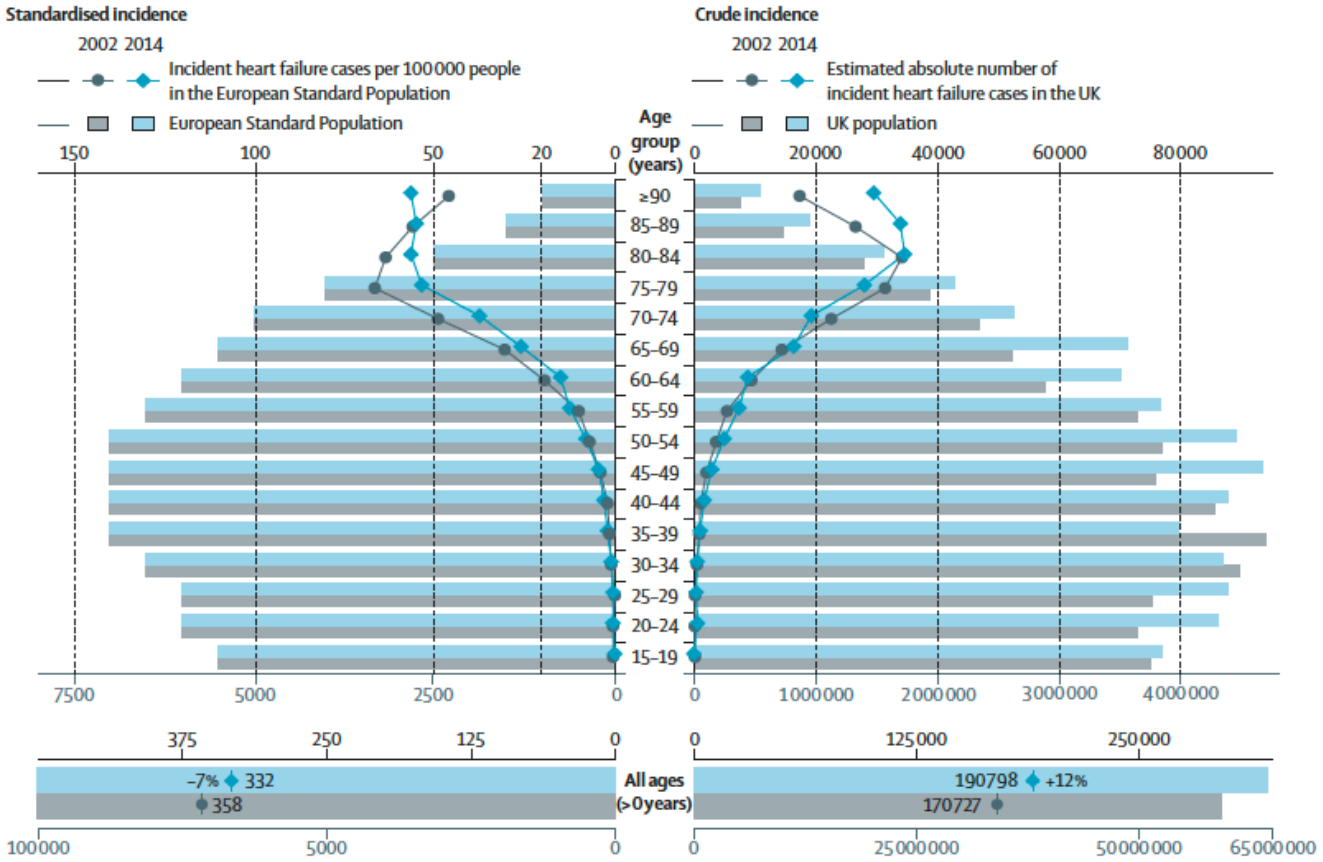
26 million — Number of heart failure patients worldwide[1]

1–2% — Health care expenditure attributed to heart failure in Europe and North America[2]

74% — Heart failure patients suffering from at least 1 co-morbidity: more likely to worsen the patient's overall health status[3]

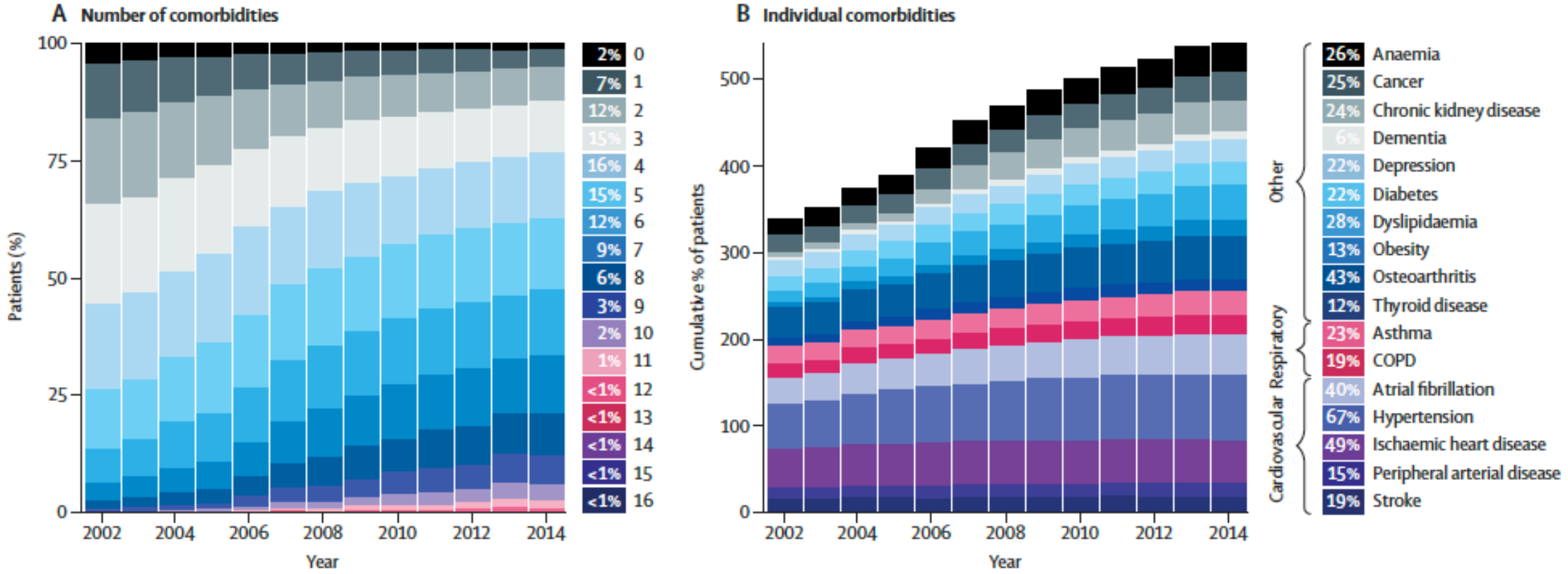
1. Ambrosy PA et al. J Am Coll Cardiol 2014;63:1123–1133
2. Cowie MR et al. Improving care for patients with acute heart failure. 2014. Oxford PharmaGenesis. ISBN 978-1-903539-12-5.
3. van Deursen VM et al. Eur J Heart Fail 2014;16:103–111.

Incidence is rising



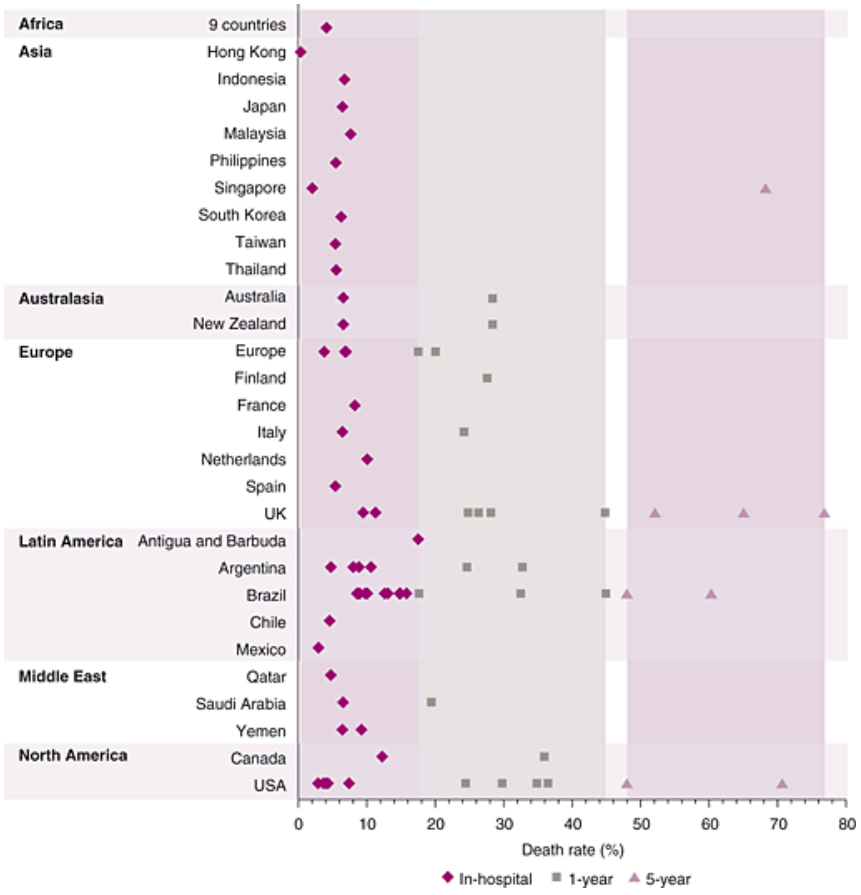
Conrad et al. *Lancet* 2018; 391: 572–80

Patients have more co-morbidities than ever before



Conrad et al. *Lancet* 2018 2018; 391: 572–80

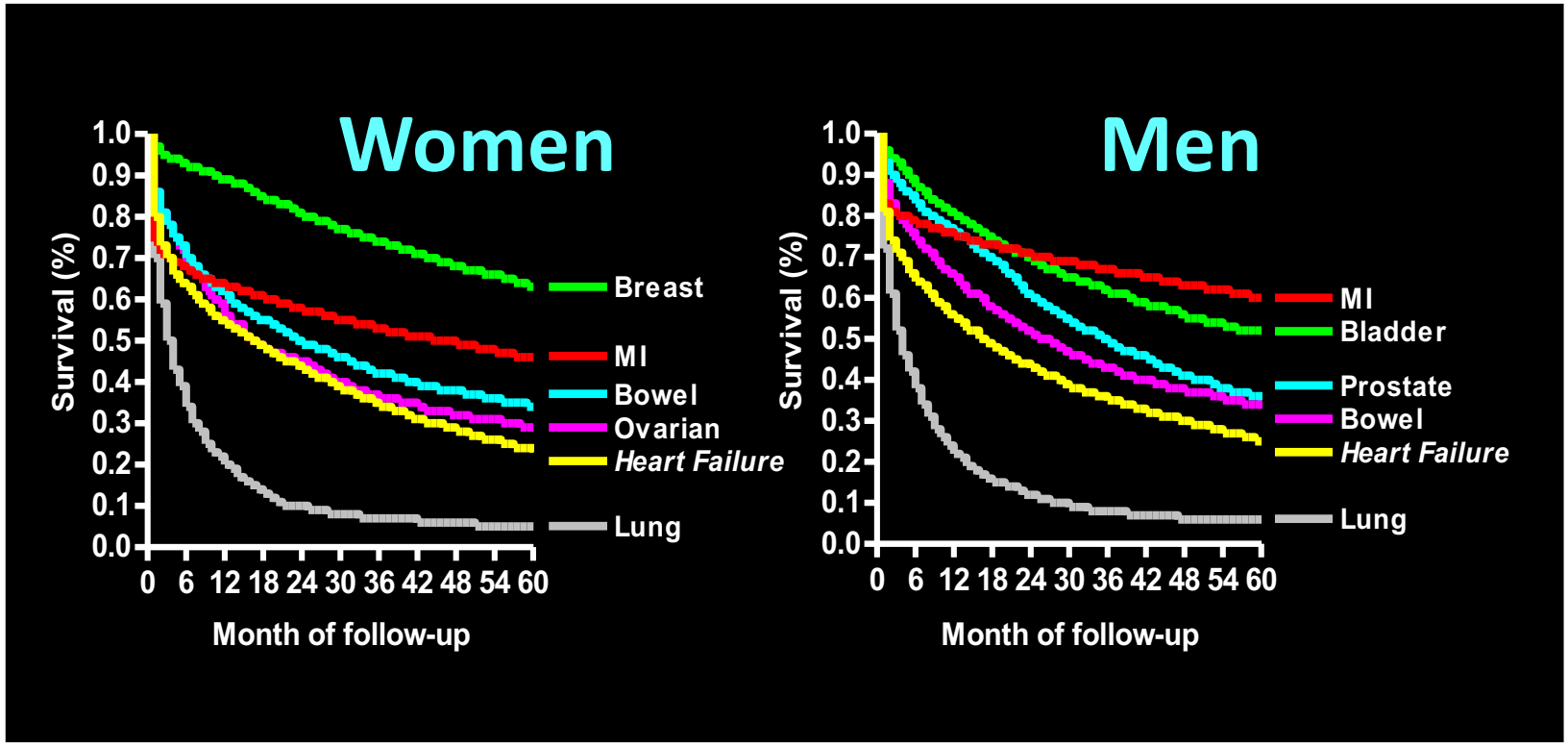
Deadly no matter where you live



- **17–45% of patients die within 1 year of admission**
- **majority die within 5 years of admission**

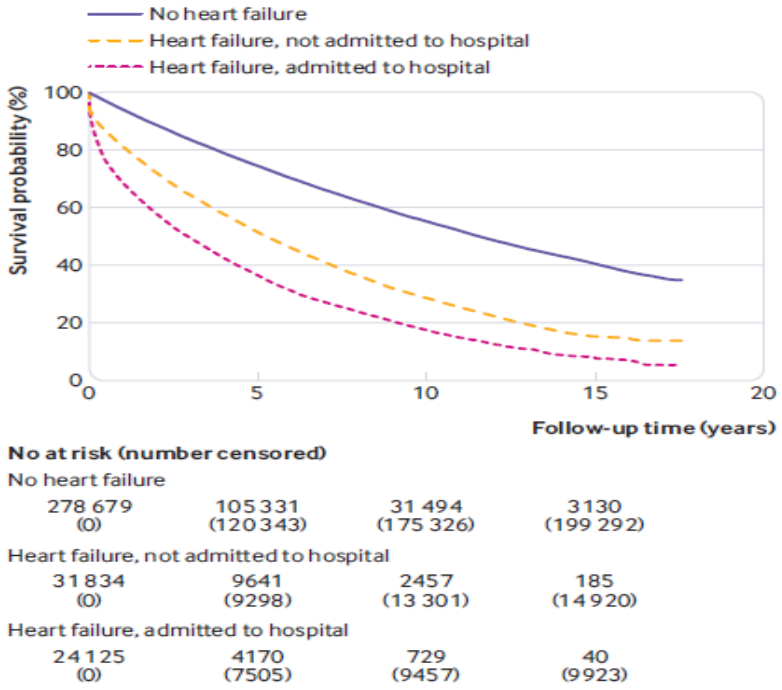
Ponikowski et al. *ESC Heart Failure* 2014; 1: 4–25

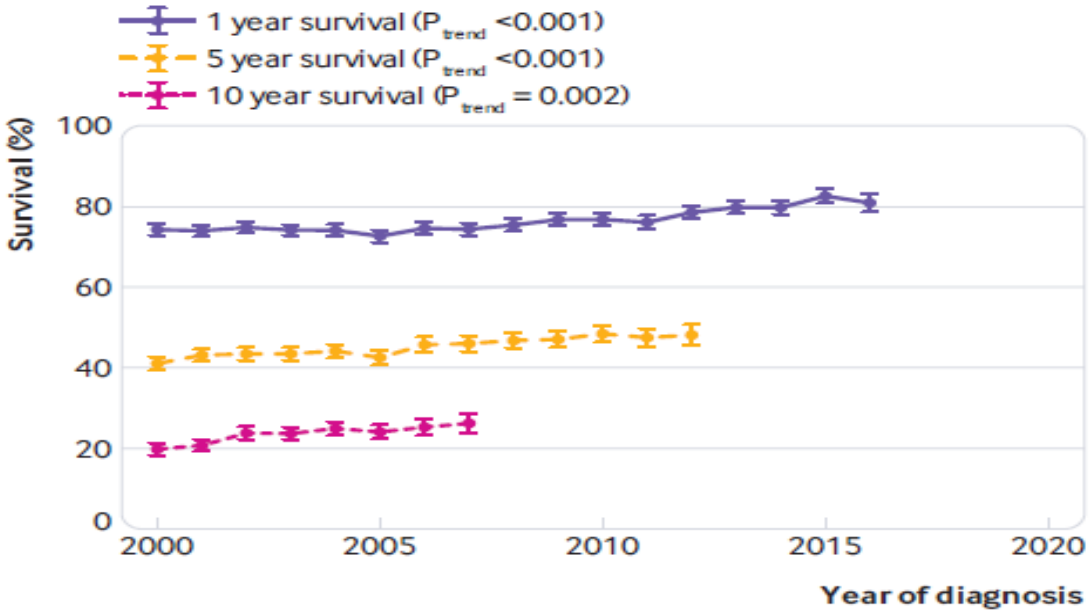
More malignant than cancer ?



Stewart S et al. *Eur J Heart Fail.* 2001;3(3):315-22.

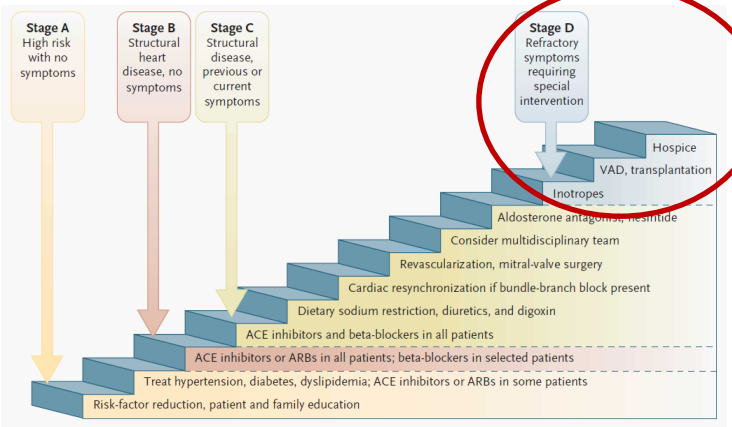
We are not doing much better





Taylor et al. BMJ 2019; 364: l223

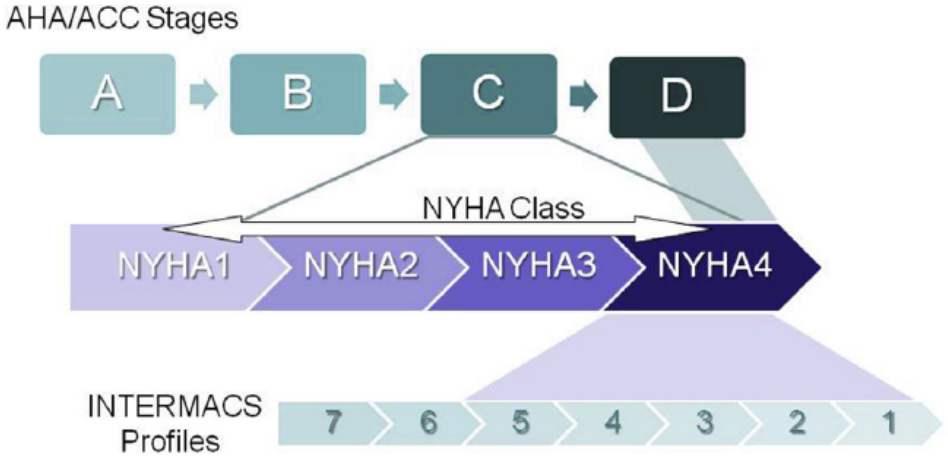
What is advanced Heart Failure?



Class I	No limitation of physical activity. Ordinary physical activity does not cause undue breathlessness, fatigue, or palpitations.
Class II	Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in undue breathlessness, fatigue, or palpitations.
Class III	Marked limitation of physical activity. Comfortable at rest, but less than ordinary physical activity results in undue breathlessness, fatigue, or palpitations.
Class IV	Unable to carry on any physical activity without discomfort. Symptoms at rest can be present. If any physical activity is undertaken, discomfort is increased.

Interagency Registry for Mechanically Assisted Circulatory Support patient profiles	
Patient Profile	Official Shorthand
1	"Crash and burn"
2	"Sliding fast" on inotropes
3	"Stable" on continuous inotropes
4	Resting symptoms on oral therapy at home
5	"Housebound", comfortable at rest but symptoms with minimum activities of daily living
6	"Walking wounded", activities of daily living possible by meaningful activity limited
7	Advanced NYHA class III

HFSA 2010: presence of progressive and/or persistent severe symptoms of HF despite optimized medical, surgical and device therapy



1. The criteria committee NYHA. 1994 p.253
2. Stevenson et al. JHLT 2009; 28 (6):535-41
3. Fang et al. J Card Fail 2015; 21 (6): 519
4. Chaudry et al. HF clin 2016 (12) 323-333

Need of a new definition

- HFPEF
- New therapies: CRT, Ivabrad, Sac/vals
- Ambulatory IV treatment
- Prognostic evidence of arrythmias
- Increased attention to comorbidities
- Low reference

Advanced heart failure: a position statement of the Heart Failure Association of the European Society of Cardiology

Maria G. Crespo-Leiro[1]*, Marco Metra[2], Lars H. Lund[3], Davor Milicic[4], Maria Rosa Costanzo[5], Gerasimos Filippatos[6], Finn Gustafsson[7], Steven Tsui[8], Eduardo Barge-Caballero[1], Nicolaas De Jonge[9], Maria Frigerio[10], Righab Hamdan[11], Tal Hasin[12], Martin Hülsmann[13], Sanem Nalbantgil[14], Luciano Potena[15], Johann Bauersachs[16], Theresa McDonagh[17], Petar Seferovic[18], and Frank Ruschitzka[19]

Eur J Heart Fail. **2018** Nov;20(11):1505-1535.

Updated HFA-ESC criteria for defining advanced heart failure

Symptoms

Cardiac dysfunction

Decompensation

Impaired exercise capacity

All the following criteria must be present despite optimal guideline-directed treatment:
1. Severe and persistent symptoms of heart failure [NYHA class III (advanced) or IV].
2. Severe cardiac dysfunction defined by a reduced LVEF ≤30%, isolated RV failure (e.g. ARVC) or non-operable severe valve abnormalities or congenital abnormalities or persistently high (or increasing) BNP or NT-proBNP values and data of severe diastolic dysfunction or LV structural abnormalities according to the ESC definition of HFpEF and HFmrEF.
3. Episodes of pulmonary or systemic congestion requiring high-dose intravenous diuretics (or diuretic combinations) or episodes of low output requiring inotropes or vasoactive drugs or malignant arrhythmias causing >1 unplanned visit or hospitalization in the last 12 months.
4. Severe impairment of exercise capacity with inability to exercise or low 6MWTD (<300 m) or pVO2 (<12–14 mL/kg/min), estimated to be of cardiac origin.
In addition to the above, extra-cardiac organ dysfunction due to heart failure (e.g. cardiac cachexia, liver, or kidney dysfunction) or type 2 pulmonary hypertension may be present, but are not required.
Criteria 1 and 4 can be met in patients who have cardiac dysfunction (as described in criterion #2), but who also have substantial limitation due to other conditions (e.g. severe pulmonary disease, non-cardiac cirrhosis, or most commonly by renal disease with mixed aetiology). These patients still have limited quality of life and survival due to advanced disease and warrant the same intensity of evaluation as someone in whom the only disease is cardiac, but the therapeutic options for these patients are usually more limited

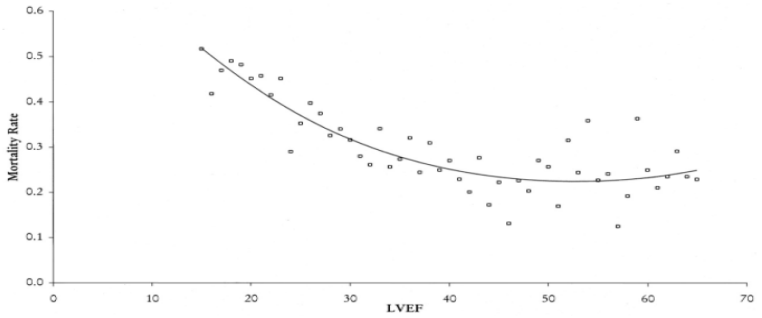
Crespo-Leiro et al, Eur J Heart Fail. 2018 Nov;20(11):1505-1535.

Updated HFA-ESC criteria for defining advanced heart failure

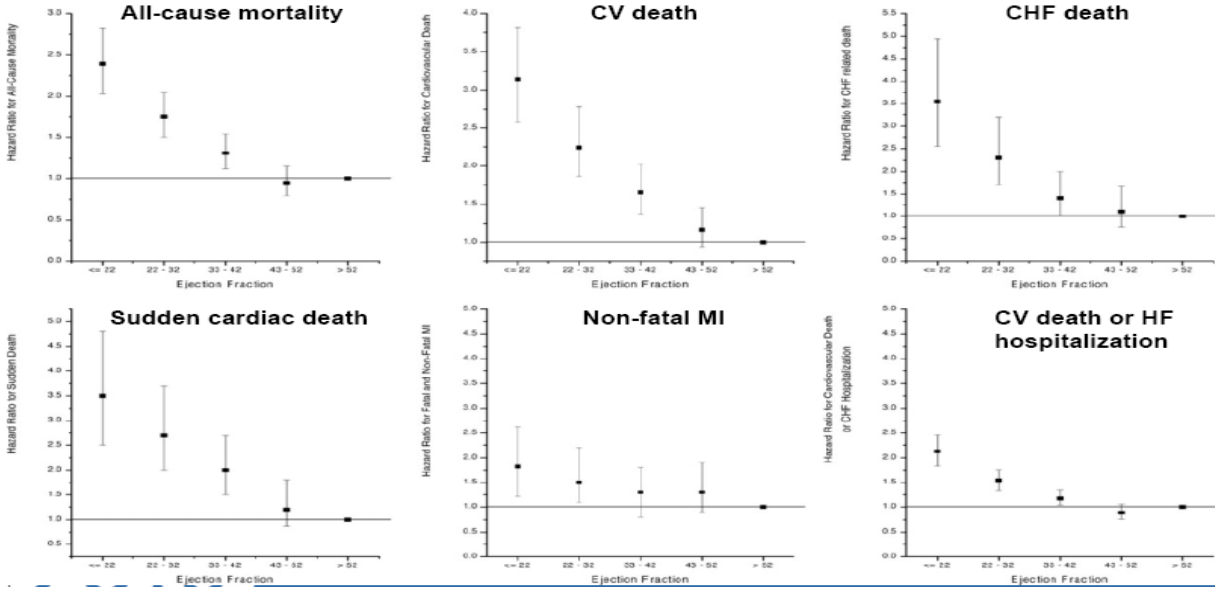
2. Severe cardiac dysfunction defined by
- a reduced LVEF ≤30% and/or
- isolated RV failure (e.g. ARVC) or
- non-operable severe valve abnormalities or
- congenital abnormalities or
- persistently high (or increasing) BNP or NT-proBNP values and data of severe diastolic dysfunction or LV structural abnormalities according to the ESC definition of HFpEF and HFmrEF.

EF and mortality

The association of LVEF and mortality in stable outpatients with heart failure: DIG trial



CHARM: Hazard ratios based on LVEF



Curtis et al. JACC 2003; 42:736-742
Solomon et al. Circulation 2005; 112:3738-44

Updated HFA-ESC criteria for defining advanced heart failure

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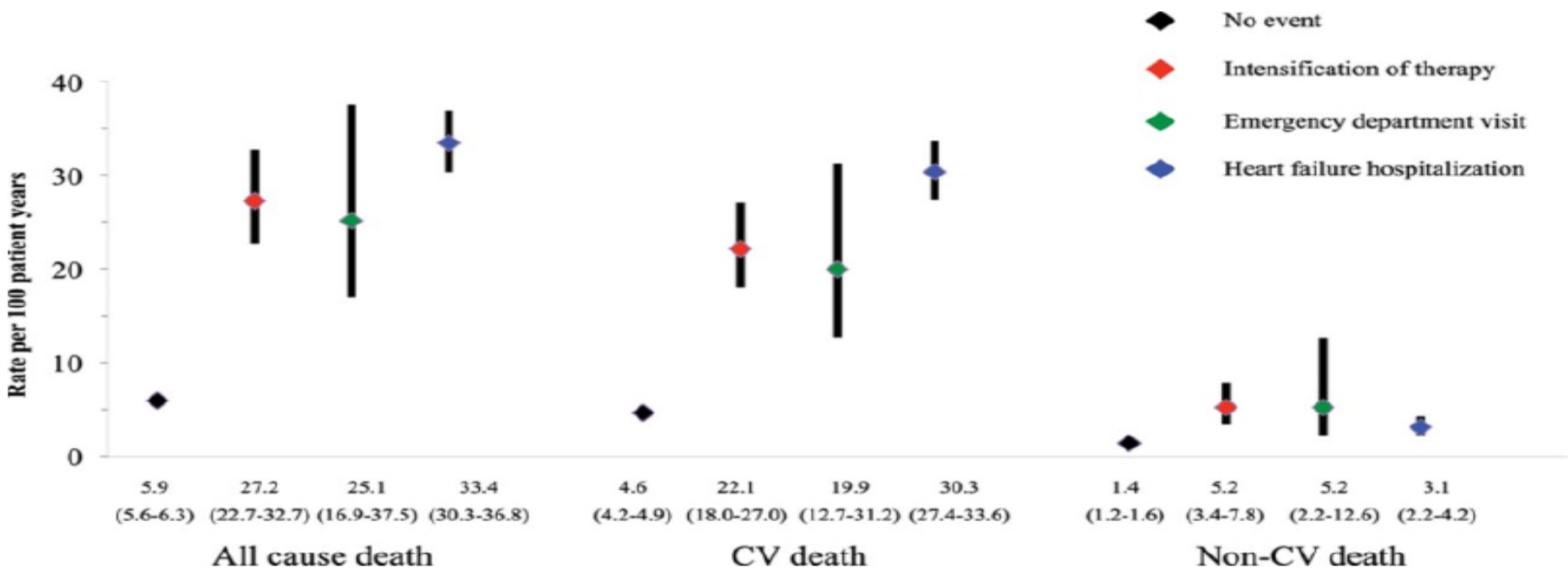
Updated HFA-ESC criteria for defining advanced heart failure

3.
Episodes of pulmonary or systemic congestion requiring high-dose intravenous diuretics (or diuretic combinations) or episodes of low output requiring inotropes or vasoactive drugs or malignant arrhythmias causing >1 unplanned visit or hospitalization in the last 12 months.

Mortality in patients with decompensation events (PARADIGM)

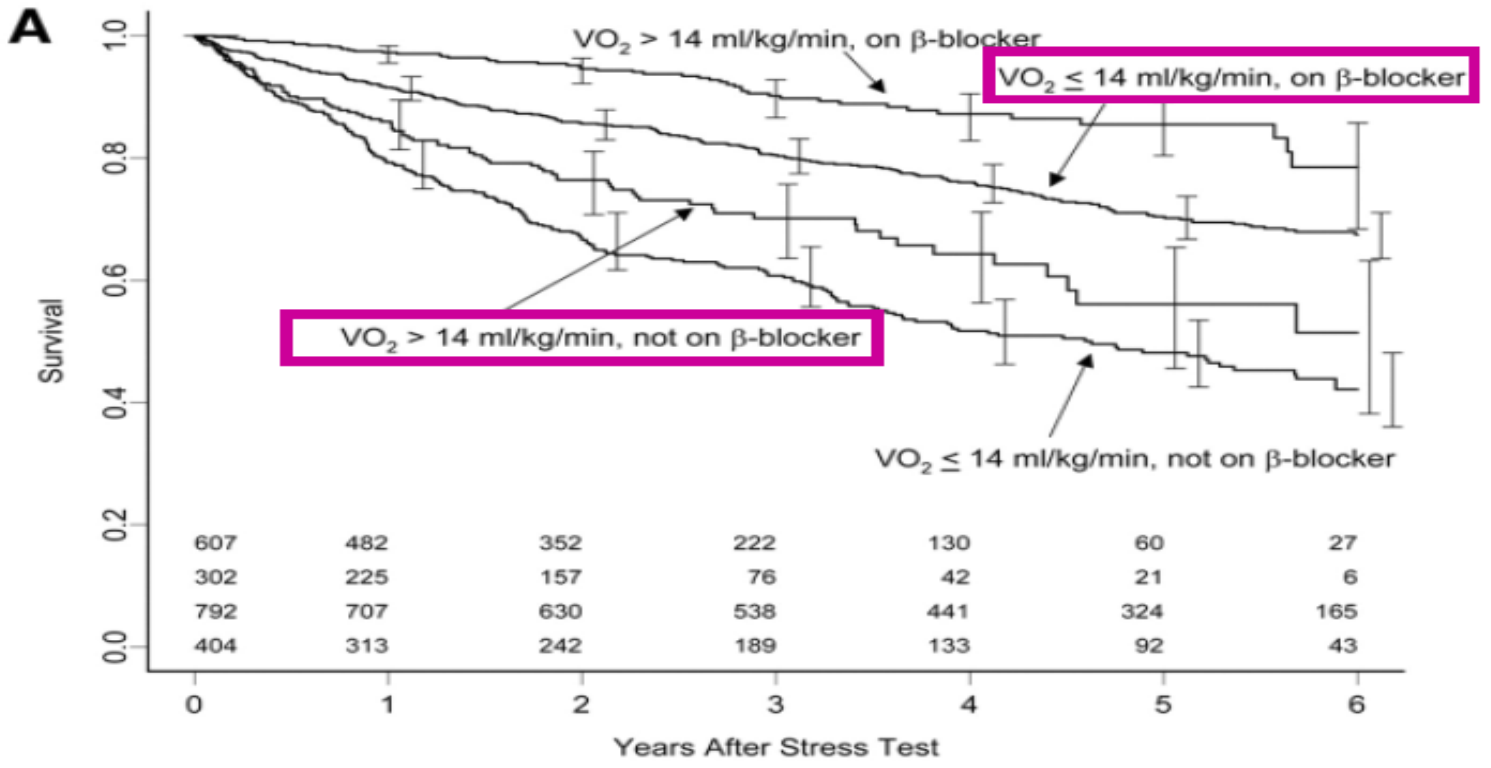


Okumura et al. Circulation 2016; 133: 2254-2262

Updated HFA-ESC criteria for defining advanced heart failure

3.
Severe impairment of exercise capacity with inability to exercise or low 6MWTD (<300 m) or pVO2 (<12–14 mL/kg/min), estimated to be of cardiac origin.

Survival and peak oxigen uptake



O'Neill et al. Circulation 2005; 111:2313-2318

Updated HFA-ESC criteria for defining advanced heart failure

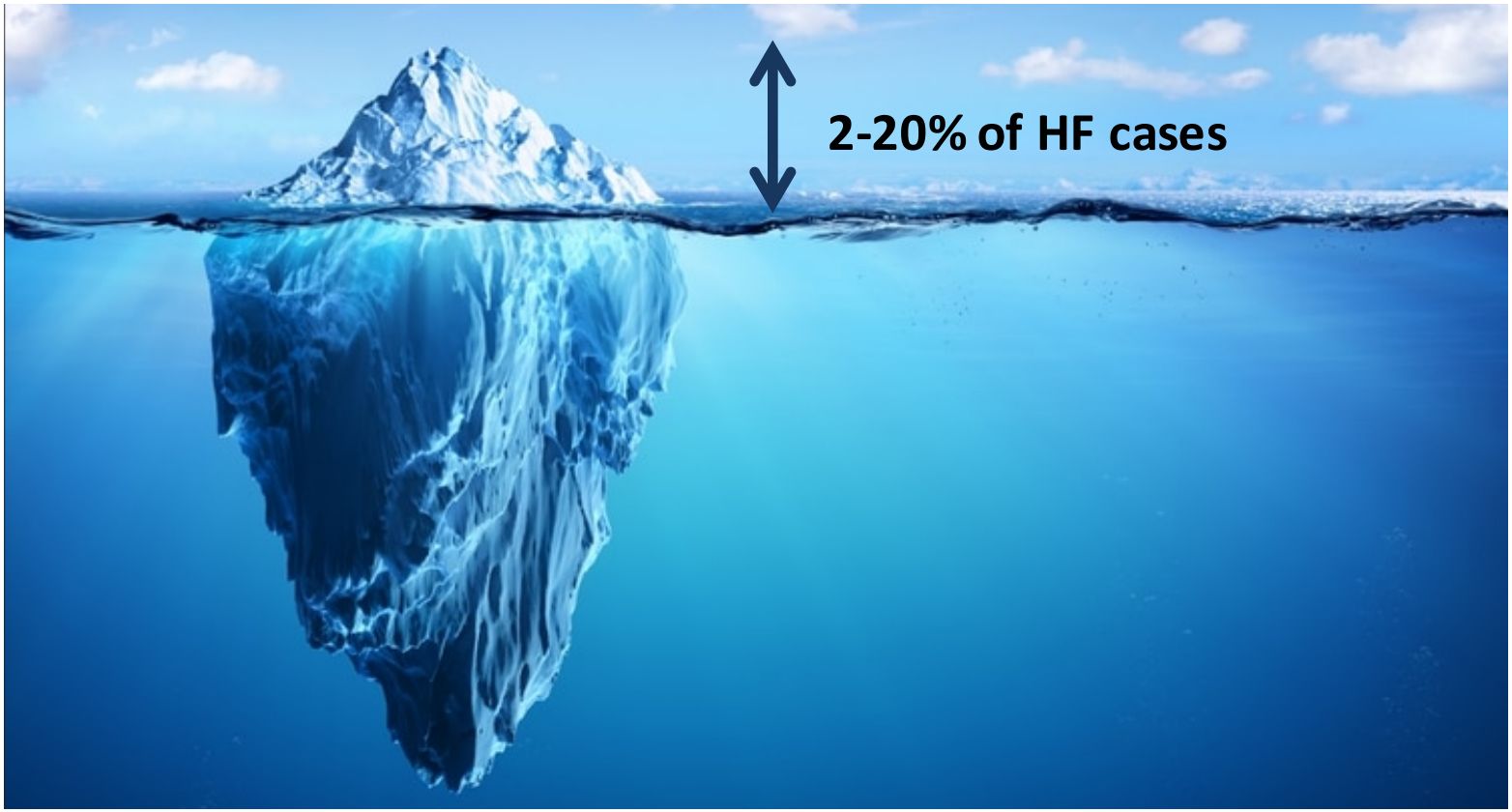
In addition to the above, extra-cardiac organ dysfunction due to heart failure (e.g. cardiac cachexia, liver, or kidney dysfunction) or type 2 pulmonary hypertension may be present, but are not required.

Updated HFA-ESC criteria for defining advanced heart failure

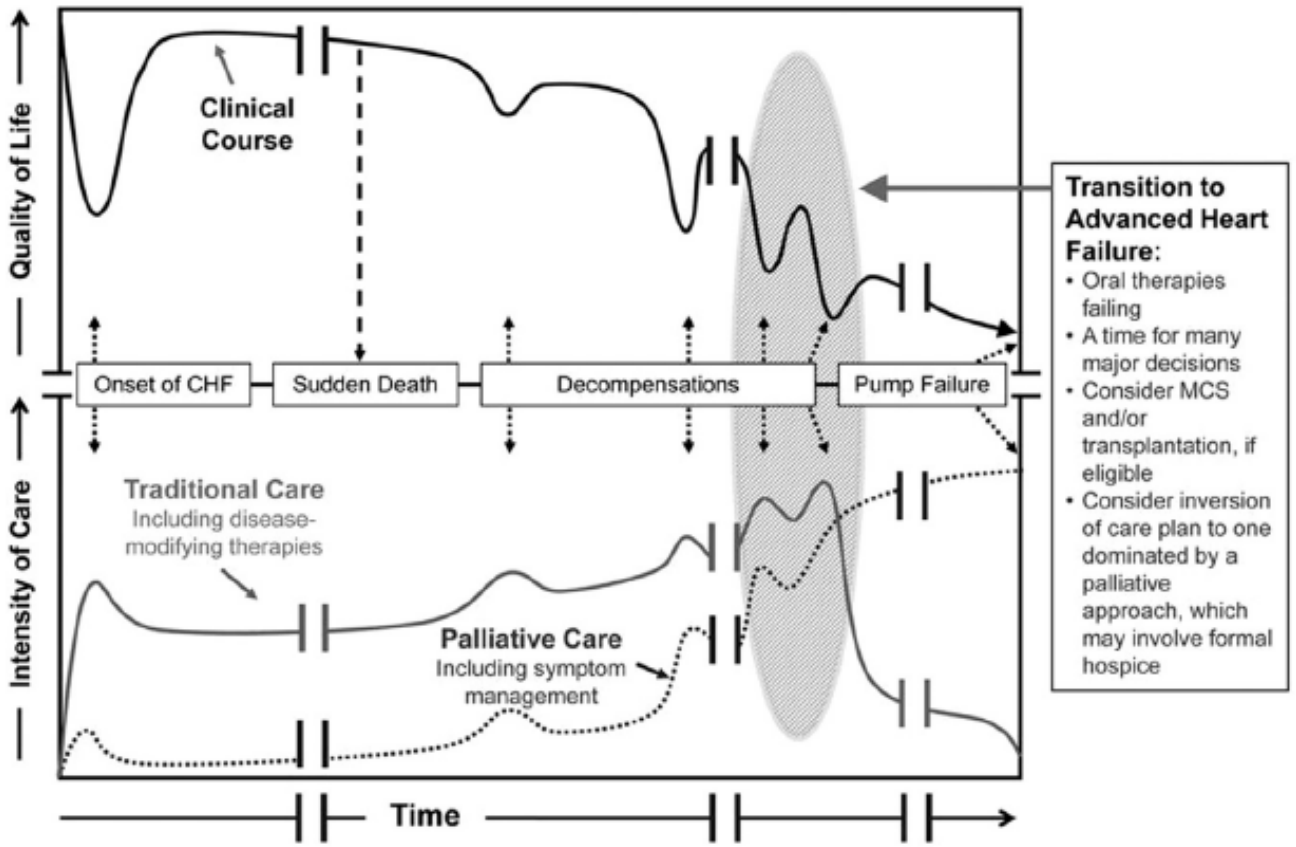
(Symptoms) (Exercice intolerance)

Criteria 1 and 4 can be met in patients who have cardiac dysfunction (as described in criterion #2), but who also have substantial limitation due to other conditions (e.g. severe pulmonary disease, non-cardiac cirrhosis, or most commonly by renal disease with mixed aetiology). These patients still have limited quality of life and survival due to advanced disease and warrant the same intensity of evaluation as someone in whom the only disease is cardiac, but the therapeutic options for these patients are usually more limited

What is the prevalence of AHF?



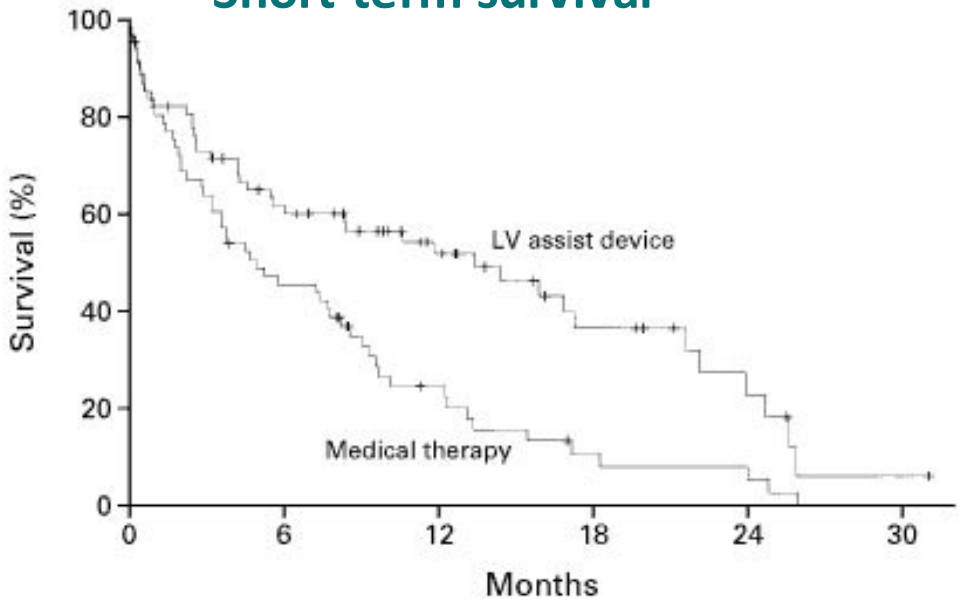
Why do we need to identify it?



Allen et al. Circulation 2012; 125 (5) 1930

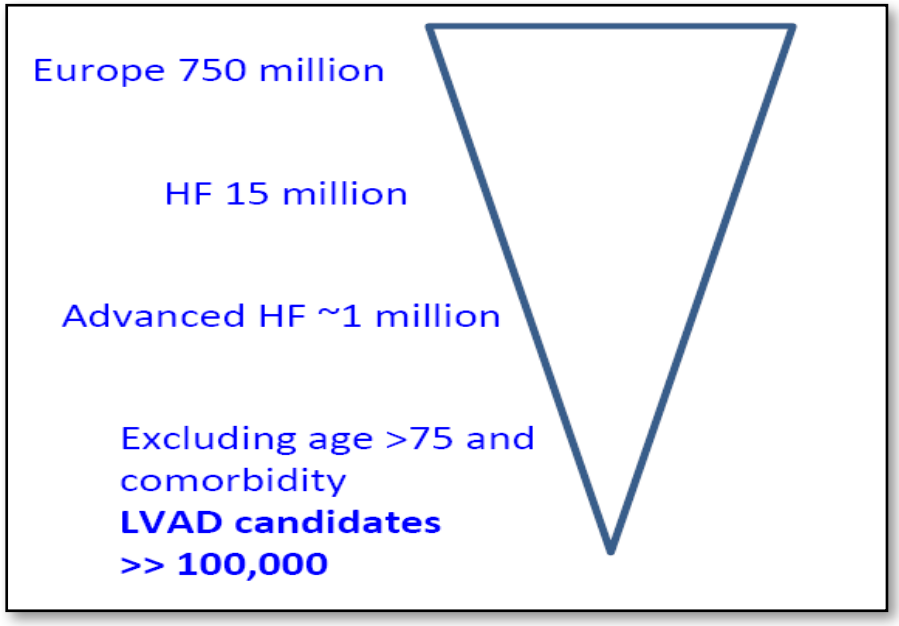
Why do we need to identify it?

Short term survival



No. at Risk						
LV assist device	68	38	22	11	5	1
Medical therapy	61	27	11	4	3	0

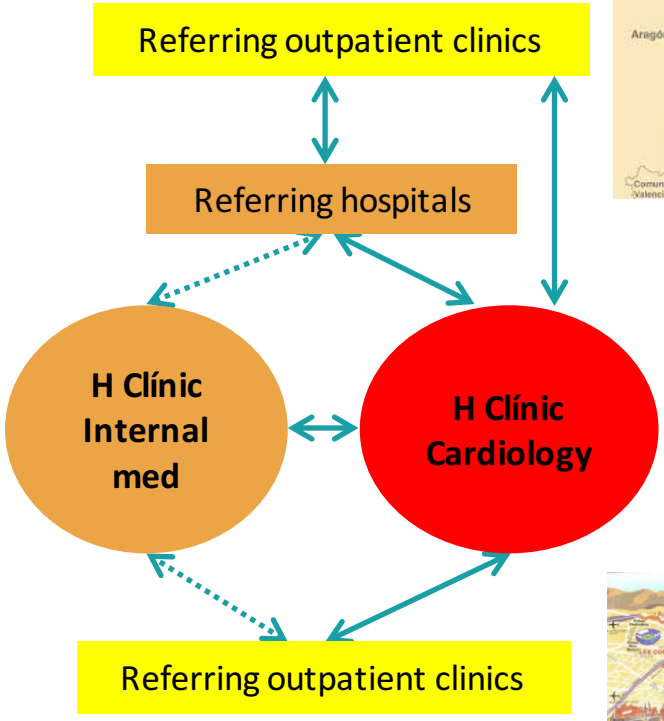
Low reference



Rose et al. N Engl Med 2001 Nov 15;345(20):1435-43
Crespo-Leiro et al, Eur J Heart Fail. 2018 Nov;20(11):1505-1535

Advanced HF needs organization

Community HF units | **Specialized HF units** | **Advanced HF units**



- Hospitalization
- Day care clinic
- Specialized outpatient clinics
- Home hospital
- Home day care

Crespo-Leiro et al, Eur J Heart Fail. 2018 Nov;20(11):1505-1535

Advanced heart failure management

Time to decide…

Marta Farrero, Hospital Clínic Barcelona

Advanced heart failure: needs

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Multidisciplinary team

HF Cardiologist
HF Nurse

Other cardiologists
Internal Medicine
Cardiac surgeon
Social Workers
Dietist
Psycologist
Nephrologist
Pneumologist
Rehabilitation

Patient

Tailored treatment

Optimal treatment (HF drugs, iron, inotropes, surgery)

Cardiac rehabilitation

Devices (ICD- CRT, mitra-clip, cardioMEMs, REDUCE-LAP, barostim, tricu-clip, cardiomodulation…)

Short-term VAD
Long-term LVAD

Heart transplantation

Palliative care

To take home…

- HF is a highly prevalent and deadly disease
- Advanced heart failure is present in patients with refractory sympthoms despite optimal therapy
- Advanced HF needs to be identified at any level of patient care
- Organization in patient care promotes good referral to an advanced HF unit when needed
- Wide range of therapies to be provided by a multi-disciplinary team: from heart translant to palliative care

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Muito obrigada!

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