

Is My Heart Failure
Patient in
Trouble?...Identifyin
g Advanced Heart
Failure Patients

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Disclosure

- None relevant

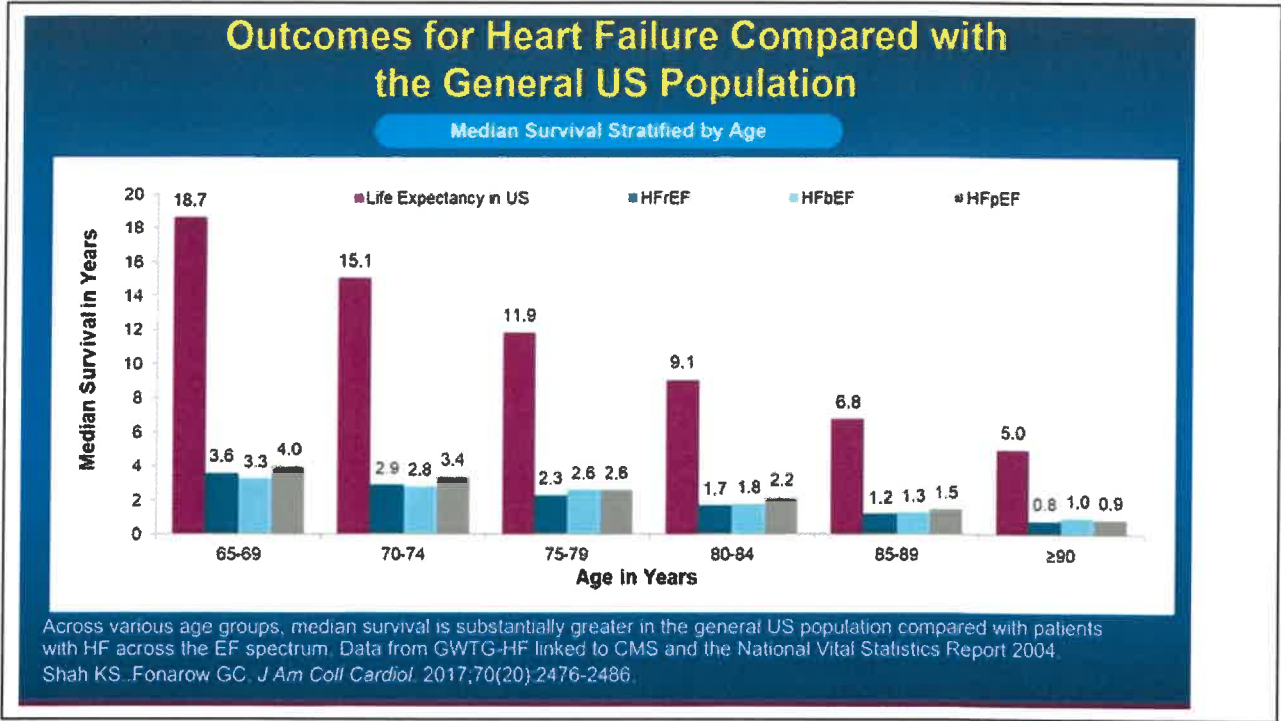
Outline

- Epidemiology
- Brief overview of current HF management
- Heart failure therapeutic inertia
- Triggers for HF Patient Referral to Advance HF team
- Conclusion

Epidemiology

- Common, costly and deadly
- 2024 Heart Disease and Stroke Statistics Update: A Report of US and Global Data From the AHA, which is compiled annually by the AHA, the National Institutes of Health, and other collaborators
- Heart disease and stroke claimed more lives in 2021 in the United States than all forms of cancer and chronic lower respiratory disease combined

Prevalence	Incidence	Mortality	Hospital Discharges	Cost
6,700,000	1,000,000	421,938 (50% at 5 years)	1,111,500 (3 million secondary)	\$30.7 billion



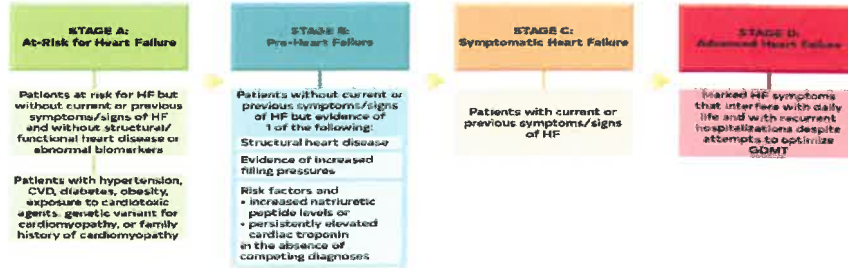
TRAJECTORY OF STAGE C HF

New Onset/De Novo HF:	Resolution of Symptoms:	Persistent HF:	Worsening HF:
<ul style="list-style-type: none"> Newly diagnosed HF No previous history of HF 	<ul style="list-style-type: none"> Resolution of symptoms/signs of HF <div style="display: flex; justify-content: space-between; font-size: small;"> <div style="width: 45%;"> <p>Stage C with previous symptoms of HF with persistent LV dysfunction</p> </div> <div style="width: 45%;"> <p>HF in remission with resolution of previous structural and/or functional heart disease*</p> </div> </div>	<ul style="list-style-type: none"> Persistent HF with ongoing symptoms/signs and/or limited functional capacity 	<ul style="list-style-type: none"> Worsening symptoms/signs/functional capacity

Paul A. Heidenreich. *Circulation.* 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines, Volume: 145, Issue: 18, Pages: e895-e1032, DOI: (10.1161/CIR.0000000000001063)

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2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure



Paul A. Heidenreich, *Circulation*. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Volume: 145, Issue: 18, Pages: e895-e1032, DOI: (10.1161/CIR.0000000000001063)

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The Four Pillars of Survival Enhancing Medical Therapy for HFrEF



Cumulative risk reduction in all-cause mortality if all four evidence-based medical therapies are used:
 Relative risk reduction 72.9%, Absolute risk reduction: 25.5%. NNT = 3.9, over 24 months

Updated from Parvathi, G. et al. *Am Heart J*. 2013;165:1024-1030. doi:10.1016/j.ahj.2012.11.019. Epub 2013 Feb 5. PMID: 23291818

4 pillars + More

The Four Pillars of Survival Enhancing Medical Therapy for HFrEF



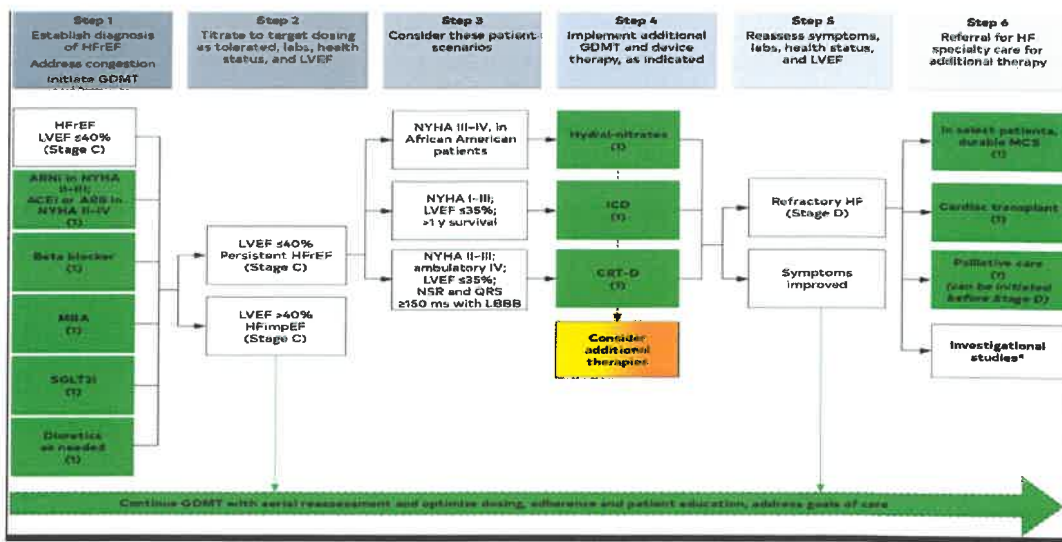
Black + BP room after quadruple therapy → Isosorbide dinitrate/hydralazine

HR > 70 on max BB + no AF → Ivabradine

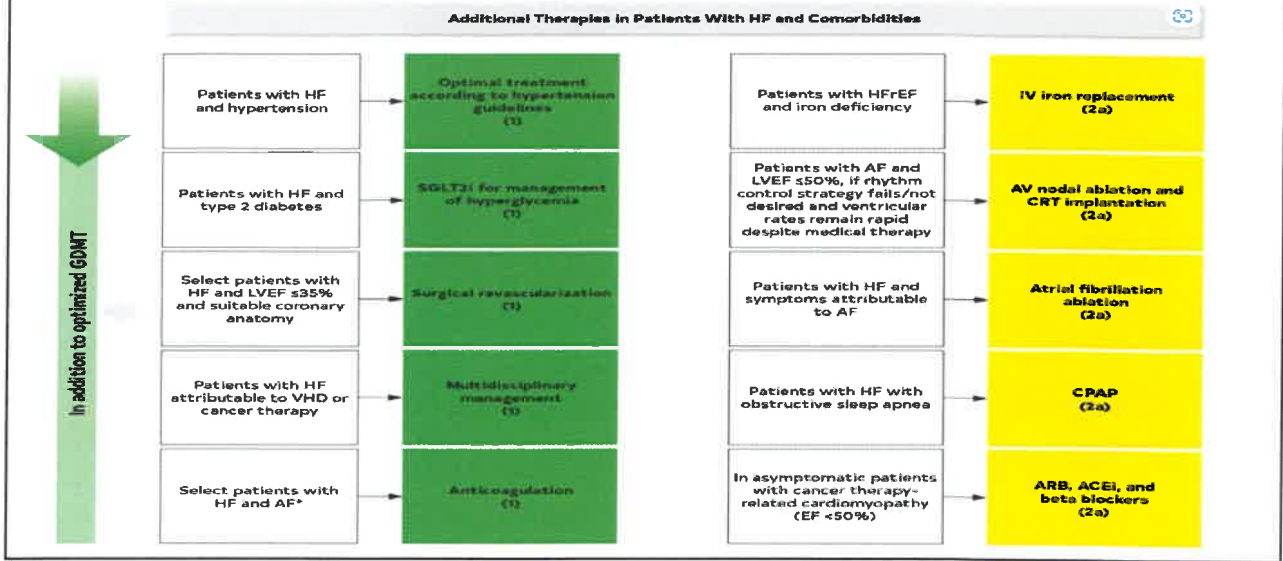
-based medical therapies are used: HF hospitalization → vericiguat

Am J Med. 2019;132(11):1191-1196. doi:10.1016/j.amj.2019.07.011. Epub 2019 Sep 11. PMID: 31500796

Courtesy of Gregg Fonarow MD

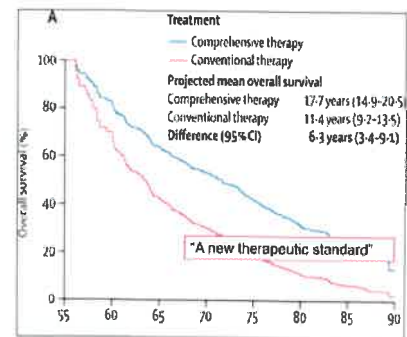


Recommendations for Treatment of Patients With HF and Selected



GDMT Works- RR and Cross-Trial Analysis

	Relative Risk	2-Year Mortality in HFrEF
None		35%
ARNI	↓ 28%	25%
+ Beta-blocker	↓ 35%	16%
+ Aldosterone antagonist	↓ 30%	11.5%
+ SGLT2 inhibitor	↓ 17%	9.5%

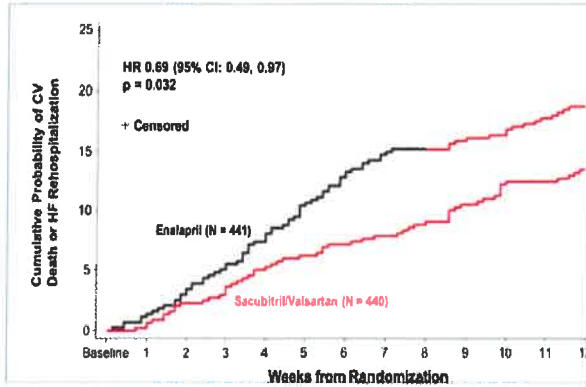


Benjamin EJ et al. 2022 ACC/AHA/HFSA Heart Failure Guideline.

Courtesy of Gregg Fonarow MD

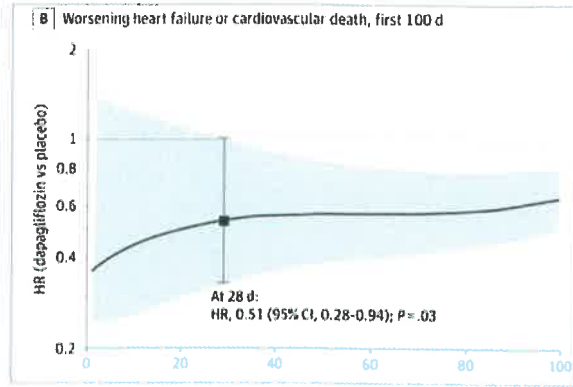
Vaduganathan et al. Lancet May 21, 2020

How soon do you get survival benefit?



Reduction in HF/CV death after 8 weeks

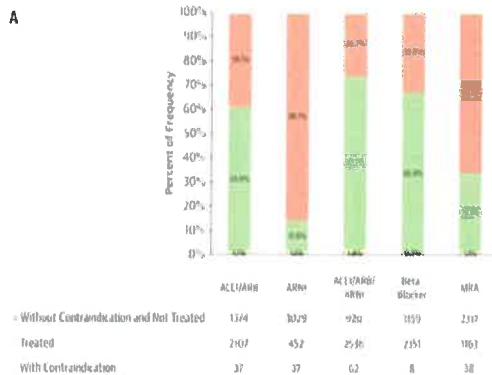
DeVore A et al. JAMA Cardiology 2020; 5(2):202-207



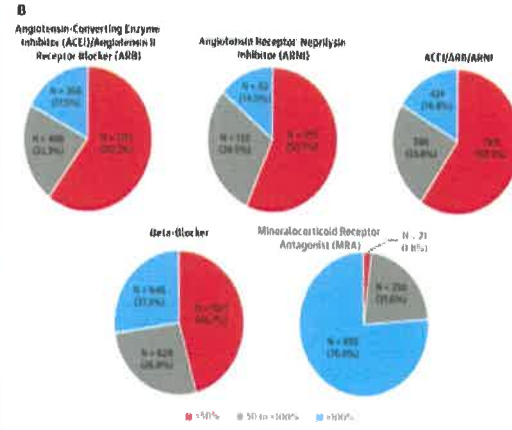
Reduction in HF/CV death after 4 weeks

Berg DD et al. JAMA Cardiology Feb 17, 2021

CENTRAL ILLUSTRATION: Use and Dosing of Guideline-Directed Medical Therapy Among Patients With Chronic HFrEF in Contemporary U.S. Outpatient Practice



GDMT is not implemented



Greene, S.J. et al. J Am Coll Cardiol. 2018;72(4):351-66.

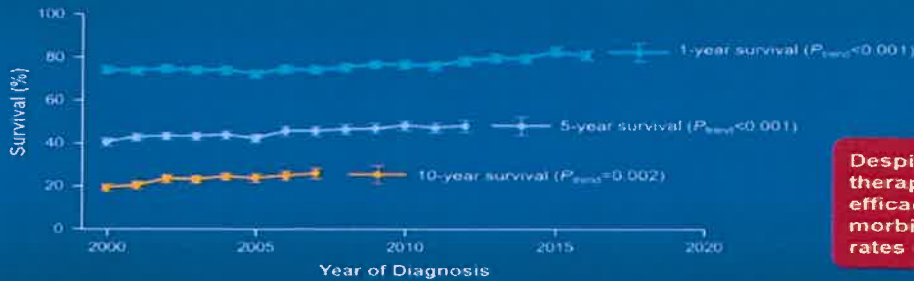
GDMT is not titrated

3,518 patients from 150 primary care and cardiology practices

Data for patients managed in the community (outside of highly specialized HF centers)

Mortality Among Patients Diagnosed with HF is High

Survival Rates for People With New Onset HF by Year of Diagnosis

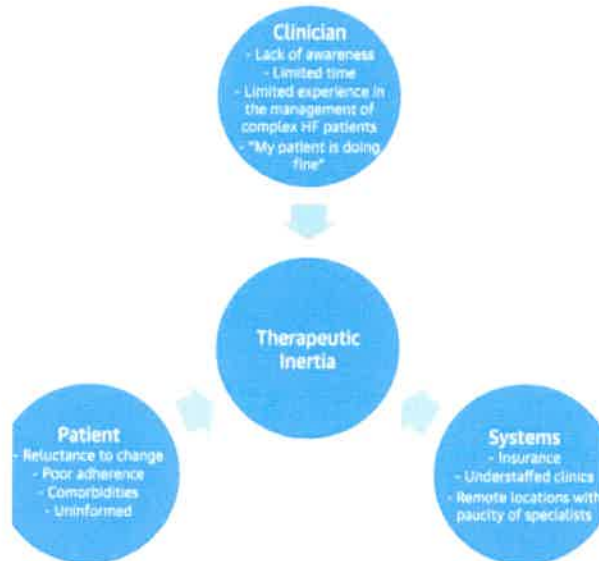


Despite the availability of therapies with established efficacy in HFrEF, morbidity and mortality rates remain high²

Primary care data in the United Kingdom for 55,959 patients aged 45 years and older with a new diagnosis of HF and 278,679 age- and sex-matched controls.

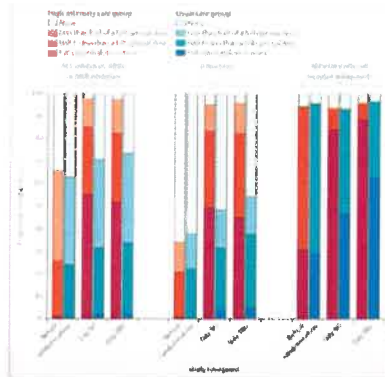
1. Taylor CJ et al. *BMJ*. 2019;364:1223. doi:10.1136/bmj.1223; 2. Yancy CW et al. *J Am Coll Cardiol*. 2018;71(2):201-230.

Therapeutic Inertia



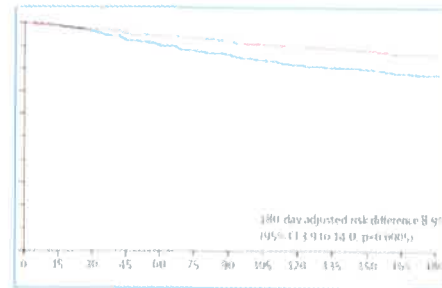
STRONG-HF

- 1078 pts hosp with HF and not on full-dose GDMT
- Usual care vs high-intensity care
- High-intensity care
 - ARNI/ACEI/ARB, BB, MRA at 1/2 optimal dose before discharge
 - Titrate to full dose by 2 w post discharge
 - Visits at weeks 1, 2, 3, 6, and 3m



More patients in high-intensity group received target GDMT dosages at 90 days:

- ARNI/ACEI/ARB: 55% vs 2%
- BB: 49% vs 4%
- MRA: 84% vs 46%



More patients in high-intensity group felt better and lived longer:

- NYHA Class I/II at 90d: 83% vs 67%
- Primary endpoint of reduction in death/HF hosp at 180d: 15% vs 23%
- Driven by HF hosp: 9.5% vs 17%

Mehazaa A. et al Lancet November 7, 2022

ACC Expert Consensus Triggers for HF Patient Referral to a Specialist/Program

New onset HF (regardless of EF) for evaluation of etiology, GD evaluation and management of recommended therapies, and assistance in disease management

Chronic HF with high-risk features, such as development of 1 or more of the following risk factors:

- Need for inotropes
- Persistent NYHA III-IV symptoms of congestion or profound fatigue
- SBP < 90 mm Hg or symptomatic hypotension
- Cr > 1.8 mg/dL or BUN > 43 mg/dL
- Onset of A fib or ventricular arrhythmias or repetitive ICD shocks
- 2 or more ED visits or hospitalizations for worsening HF in prior 12 months
- Inability to tolerate optimally-dosed BB and/or ACEI/ARB/ ARNI and/or AA
- Clinical deterioration as indicated by worsening edema, rising biomarkers (BNP, NT-proBNP, others), or evidence of progressive remodeling on imaging
- High mortality risk using validated risk model for further assessment and consideration of advanced therapies

ACC Expert Consensus Triggers for HF Patient Referral to a Specialist/Program

To assist with management of GDMT, including replacement of ACEI/ARB/ARNI for eligible patients, or to address comorbid conditions such as CKD or hyperkalemia, which may complicate treatment

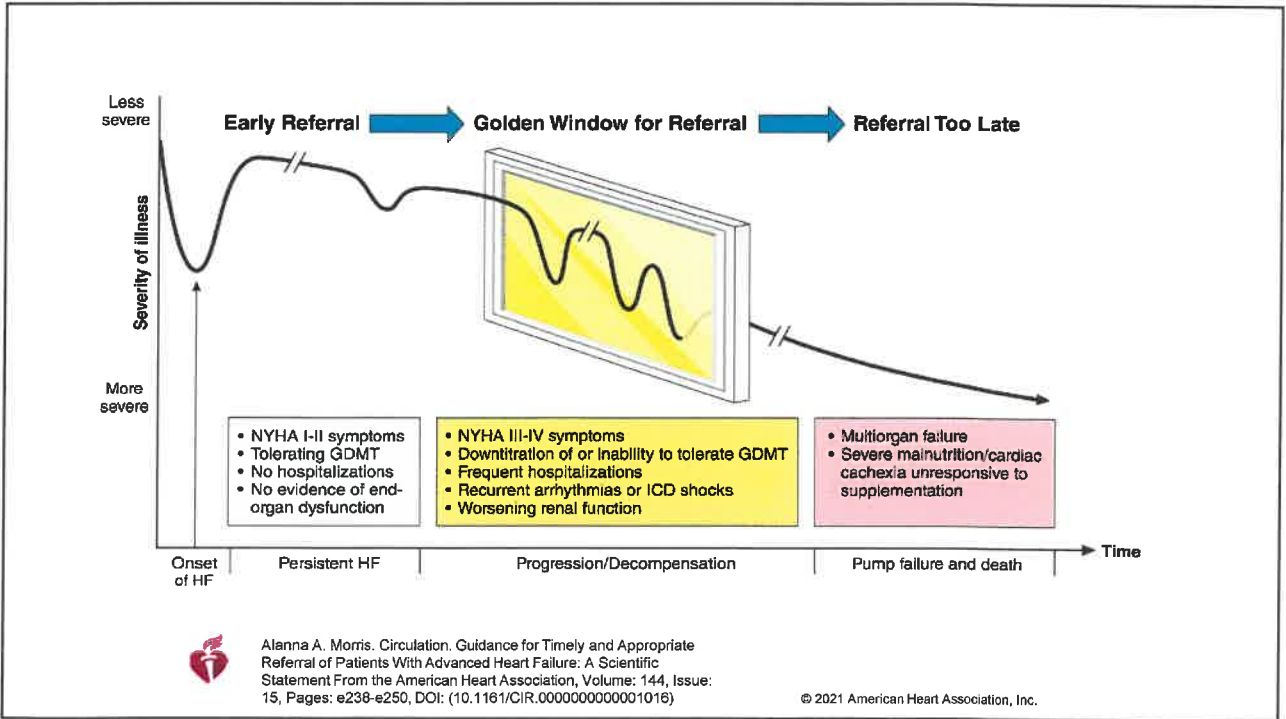
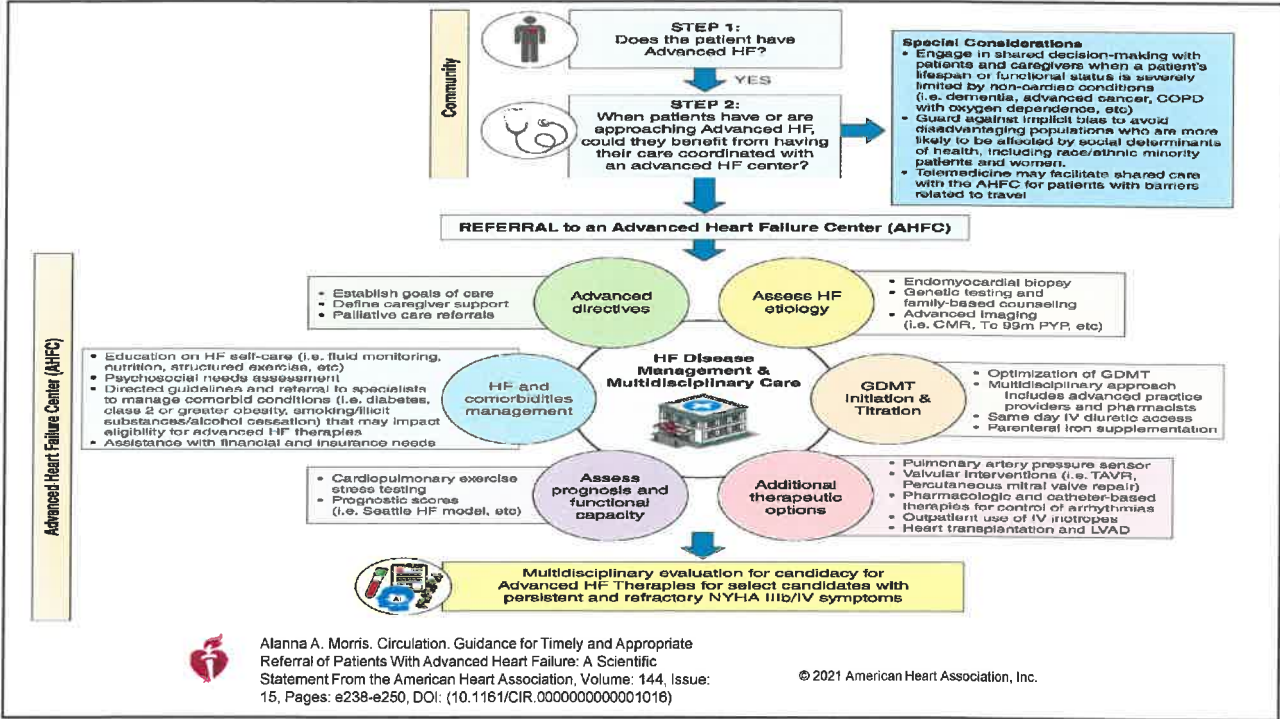
Persistently reduced LVEF <35% despite GDMT for > 3 m for appropriate consideration of device therapy

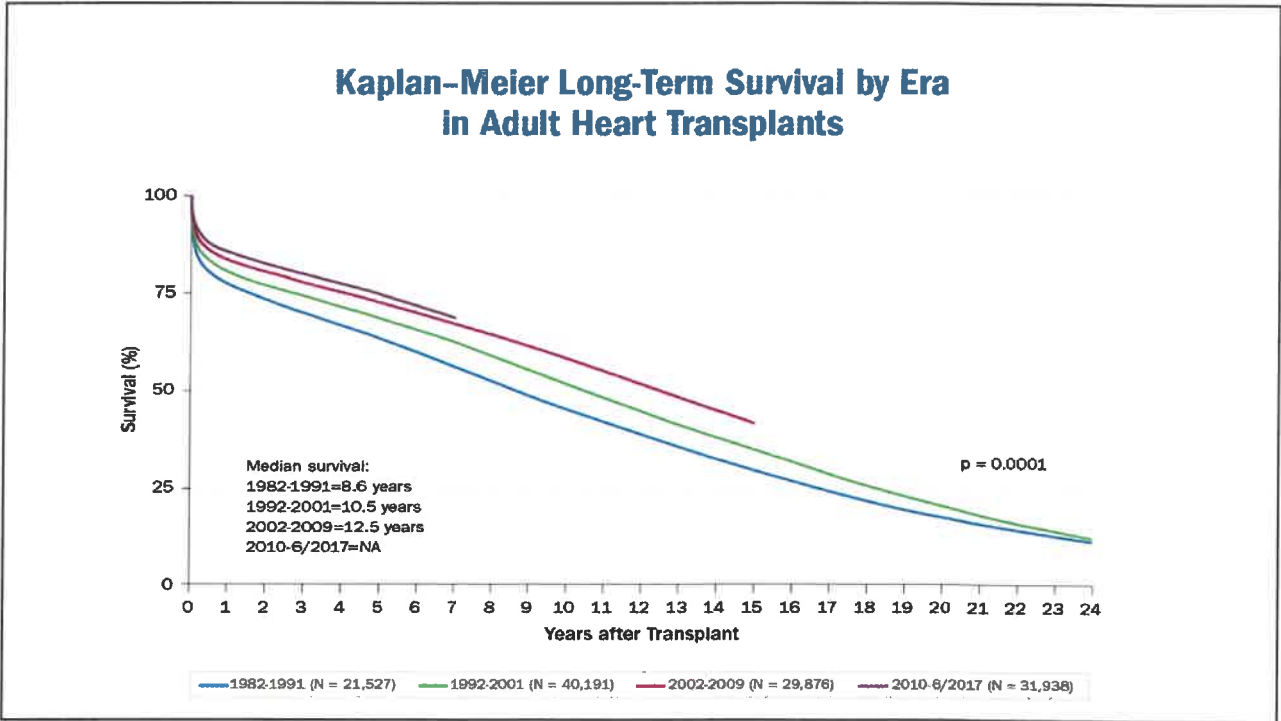
Second opinion regarding etiology of HF; for example:

- Evaluation for potential ischemic etiology
- Suspected myocarditis
- Established or suspected specific cardiomyopathies, e.g., HCM, ARVD, Chagas disease, restrictive cardiomyopathy, cardiac sarcoidosis, amyloid, AS
- VHD with or without HF symptoms

Annual review for patients with established advanced HF in which patients/ caregivers and clinicians discuss current and potential therapies for both anticipated and unanticipated events, possible HF disease trajectory and prognosis, patient preferences, and advanced care planning

Assess the possibility of participation in a clinical trial





I	Inotropes	Previous or ongoing requirement for dobutamine, milrinone, dopamine, or levosimendan
N	NYHA class/NP	Persisting NYHA class III or IV and/or persistently high BNP or NT-proBNP
E	End-Organ Dysfunction	Worsening renal or liver dysfunction in the setting of HF
E	Ejection Fraction	Very low EF <20%
D	Defibrillator shocks	Recurrent appropriate defibrillator shocks
H	Hospitalizations	More than 1 hospitalization with HF in the last 12 months
E	Edema/Escalating diuretics	Persisting fluid overload and/or increasing diuretic requirement
L	Low blood pressure	Consistently low blood pressure with SBP <90 to 100 mmHg
P	Prognostic medication	Inability to uptitrate (or need to decrease/cease) ACE-Is, beta-blockers, ARNIs, or MRAs

Conclusion

- AdHF is at least as deadly as most cancer
- There is a window of opportunity to act while patients are feeling well
- Prompt referral and collaboration with Advance HF Team could save lives and reduce admission
- Let's do it together!!!