Initiation of Medical Therapy in Heart Failure: Four Pillars of Pharmacotherapy

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Objectives

Guideline Updates

Review the latest recommendations for heart failure medication management

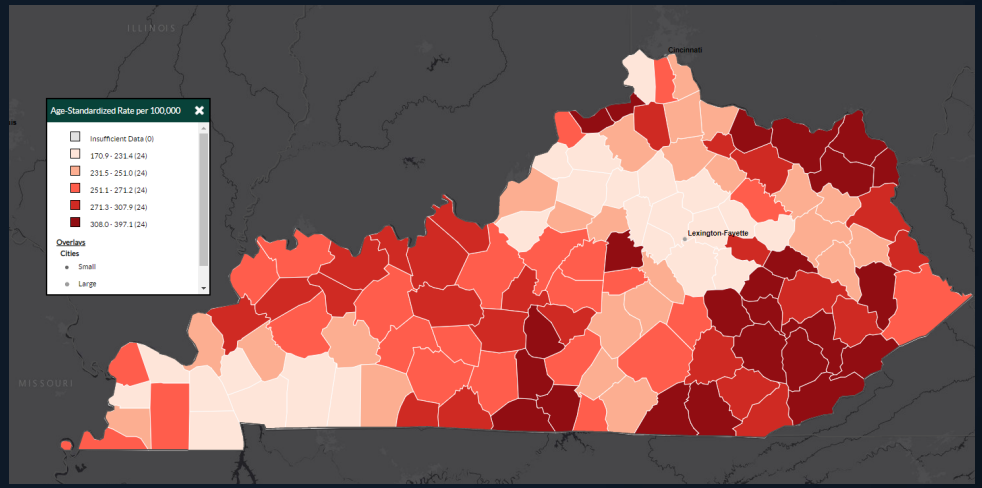
Therapy Initiation

Discuss strategies for initiating quadruple therapy

Multidisciplinary Team

Implementation of the healthcare team to optimize medical management

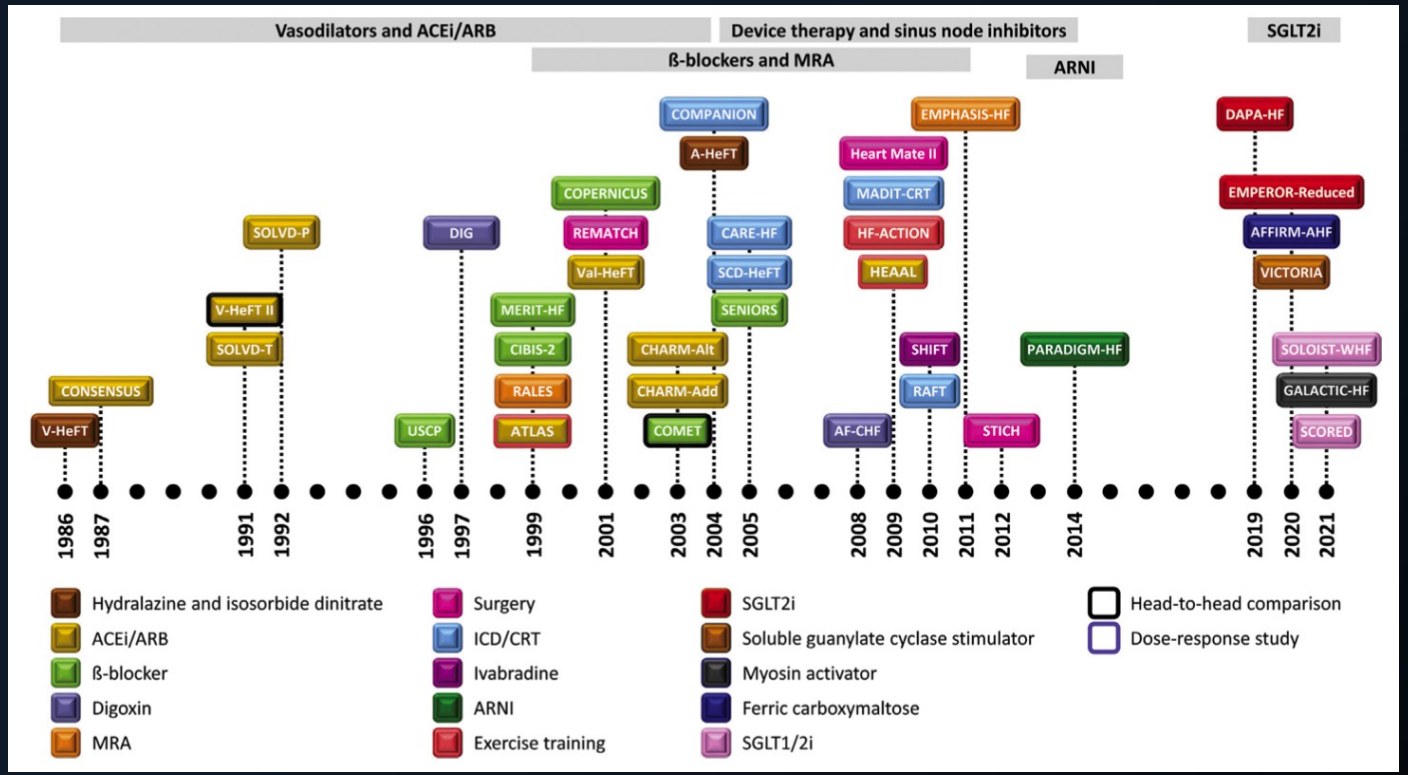
Heart Failure in Kentucky



Ethnicity	Heart Failure Death Rate per 100,000	
	Kentucky	National
Black	270.5	210.8
White	257.2	192.7
Hispanic	71.1	121.4
Asian/ Pacific Islander	129.6	83
All	254.5	184.3

http://nccd.cdc.gov/DHDSPAtlas. Accessed on 9/8/2022

Landmark Trials in HFrEF



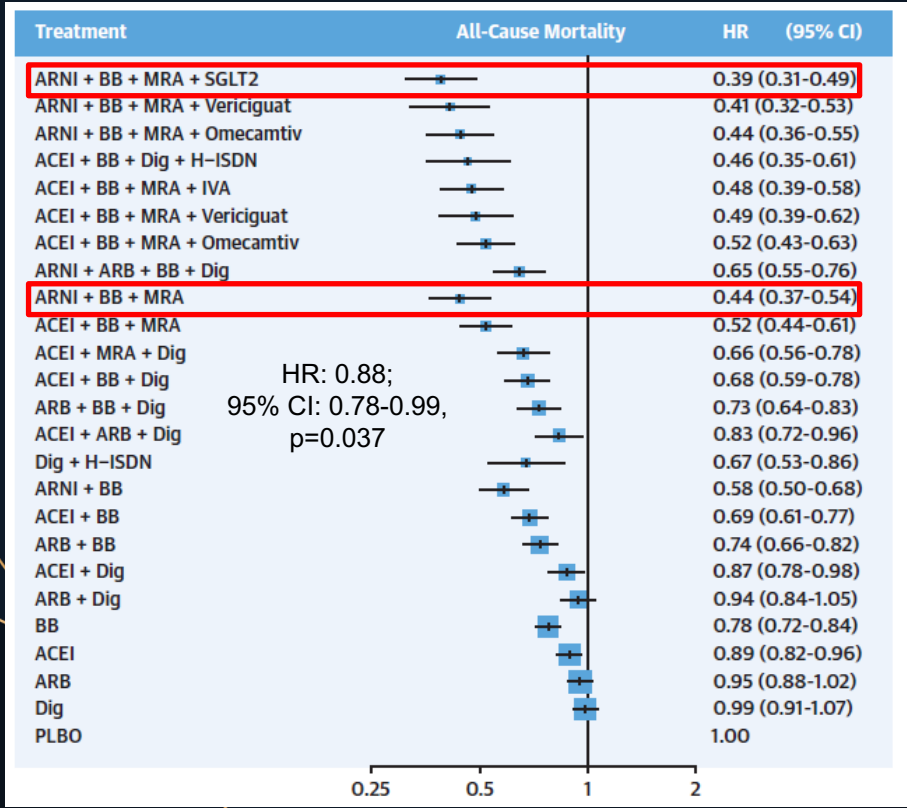
Sharma et al. *J Am Coll Cardiol Basic Trans Science.* 2022;7:504-517

Current Guideline Recommendations

	ACC/AHA/HFSA	Economic Value
ARNI	I A	High Value (A)
ACEi/ARB	I A	High Value (A)
Beta-Blocker	I A	High Value (A)
MRA	I A	High Value (A)
SGLT2i	I A	Intermediate Value (A)

Heidenreich PA et al. *J Am Coll Cardiol*. 2022; 79 (17);e263-421

Relative Risk Reduction for Pharmacological Treatment

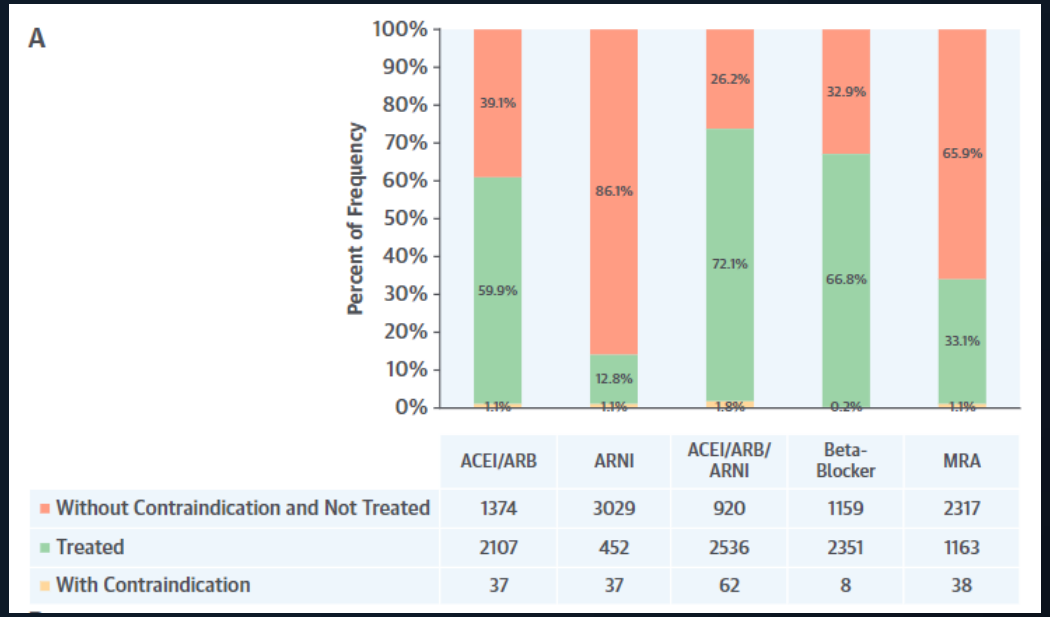


Systematic review and meta-analysis to compare the benefit of aggregate heart failure therapies on mortality

Tromp J. et al. *J Am Coll Cardiol HF* 2022;10:73-84

Three is a Crowd. Four is a ~~Party~~ Pain.

CHAMP-HF Registry



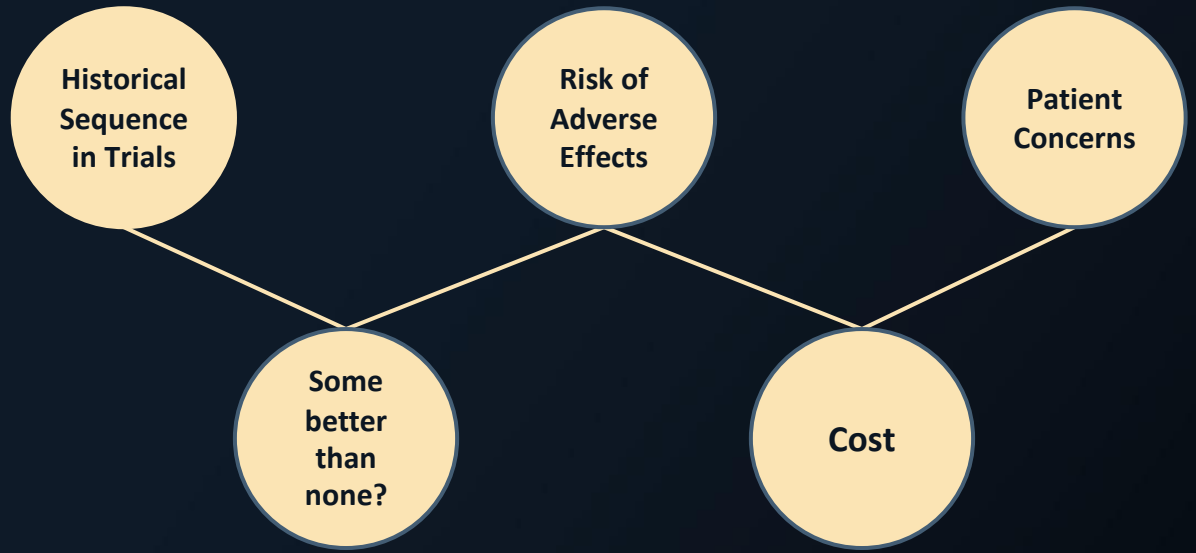
	ACEI/ARB	ARNI	ACEI/ARB/ ARNI	Beta-Blocker	MRA
Without Contraindication and Not Treated	1374	3029	920	1159	2317
Treated	2107	452	2536	2351	1163
With Contraindication	37	37	62	8	38

1%

HFrEF patients receiving maximum tolerated doses of “triple” therapy

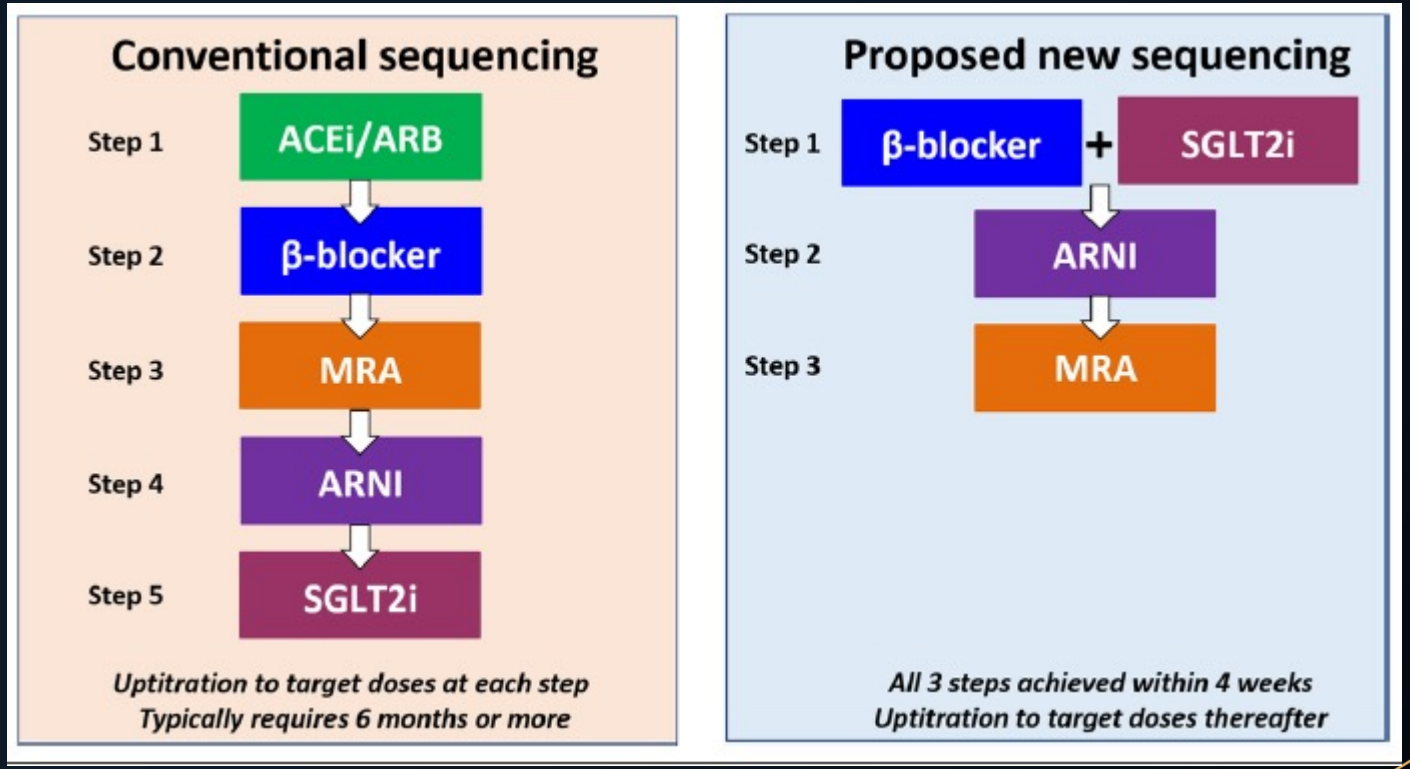
Green et al. *J Am Coll Cardiol.* 2018;72(4):351-366

Barriers to Initiation and Titration



Sharma et al. *J Am Coll Cardiol Basic Trans Science.* 2022;7:504-517

Proposed Therapy Initiation



McMurray JJV and Packer M. *Circulation*. 2021; 143:875-877

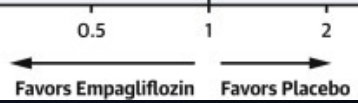
Rapid Sequence Initiation: the Polypill Ideal

Early relative risk reduction			Initiation and optimization of medication dosing				
Outcomes	Change, %	CDMMT	Day 1	Days 7-14	Days 14-28	Days 21-42	After day 42
CV death or HF hospitalization	-42	ARNI	Initiate at low dose	Continue	Titrate, as tolerated	Titrate, as tolerated	Maintenance or additional titration of the 4 foundational therapies
Death	-25	β-Blocker	Initiate at low dose	Titrate, as tolerated	Titrate, as tolerated	Titrate, as tolerated	Consideration of EP device therapies or transcatheter mitral valve repair
CV death or HF hospitalization	-37	MRA	Initiate at low dose	Continue	Titrate, as tolerated	Continue	Consideration of add-on medications or advanced therapies, if refractory
Death, HF hospitalization,or emergency/ urgent visit for worsening HF	-58	SGLT2i	Initiate	Continue	Continue	Continue	Manage comorbidities

Green et al. *JAMA Cardiol.* 2021 (6);7; 743-744

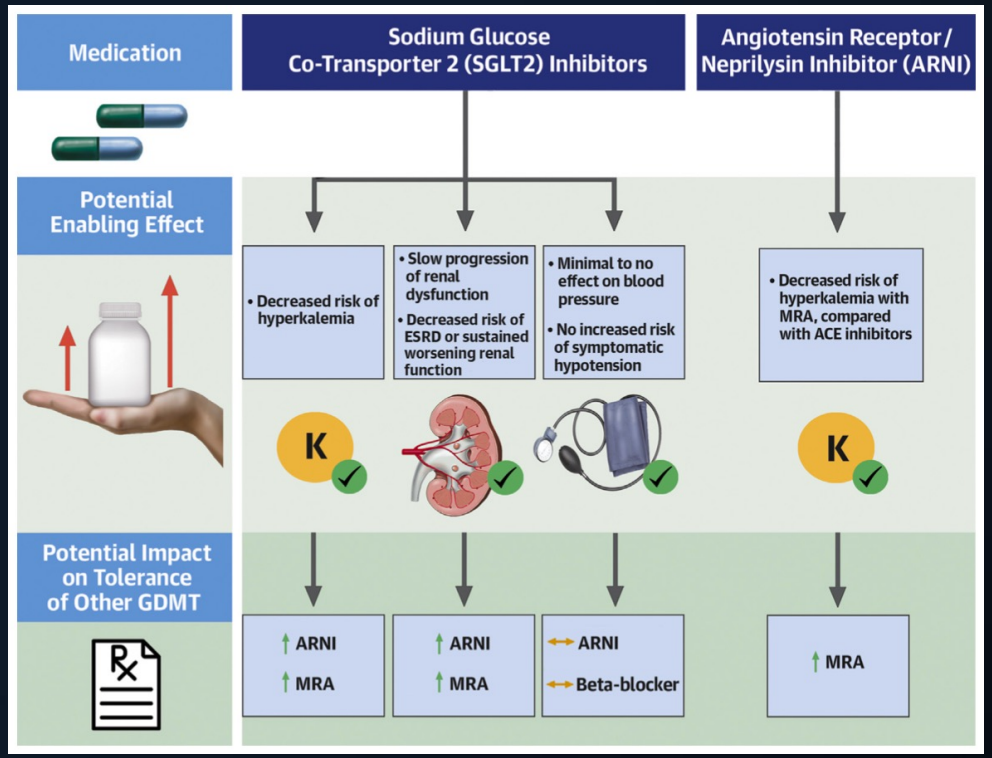
EMPEROR-Reduced: Interplay of MRA and Empagliflozin

	Empagliflozin			Placebo					Interaction p values
	n/N	%	Rate/100 PY	n/N	%	Rate/100 PY	HR (95% CI)	HR (95% CI)	
All-cause mortality									
Overall	249/1,863	13.4	10.06	266/1,867	14.2	10.71	0.92 (0.77 to 1.10)		
MRA users	162/1,306	12.4	9.56	198/1,355	14.6	11.13	0.84 (0.68 to 1.03)		0.0983
MRA nonusers	87/557	15.6	11.15	68/512	13.3	9.65	1.15 (0.84 to 1.59)		
Cardiovascular death									
Overall	187/1,863	10.0	7.55	202/1,867	10.8	8.13	0.92 (0.75 to 1.12)		
MRA users	120/1,306	9.2	7.08	151/1,355	11.1	8.49	0.82 (0.65 to 1.05)		0.1014
MRA nonusers	67/557	12.0	8.58	51/512	10.0	7.24	1.19 (0.82 to 1.71)		



Ferreira JP et al. J Am Coll Cardiol. 2021;77:1397-407263-42

Harmonious Therapy



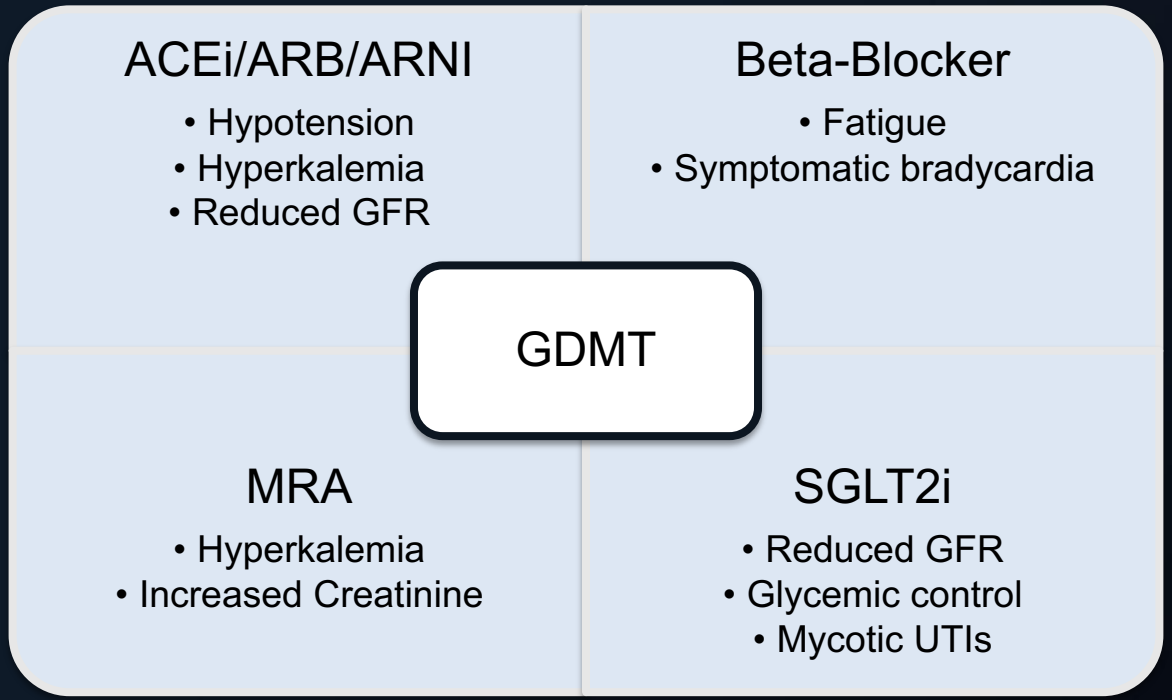
Green et al. *J Am Coll Cardiol.* 2021 (77);11;1408-11

In-Patient Initiation

	Intervention	Population	Primary Results
SOLOIST-WHF (n=1222)	sotagliflozin vs. placebo	Hospitalized Heart Failure Type II Diabetes	**Composite (CV Death, Hospitalizations, urgent visits):** HR 0.67; 95% CI, 0.52 to 0.85; p<0.001
PIONEER-HF (n=882)	sacubitril-valsartan vs. enalapril	Hospitalized Hemodynamically stable HFrEF (LVEF<40%)	**% Δ NTproBNP**: -46.7% vs. -25.3%, ratio Δ 0.71; 95% CI 0.63-0.81; p<0.001
IMPACT-HF (n=363)	carvedilol vs. standard practice	Hospitalized HFrEF (LVEF<40%)	**Beta-blocker use at 60 days:** 91.2% vs. 73.4%, p<0.0001

Velazquez EJ et al. *N Engl J Med.* 2019 380;539-48
Bhatt DL et al. *N Engl J Med.2021;384:117-28*
Gattis WA et al. *J Am Coll Cardiol.* 2004;431534-41

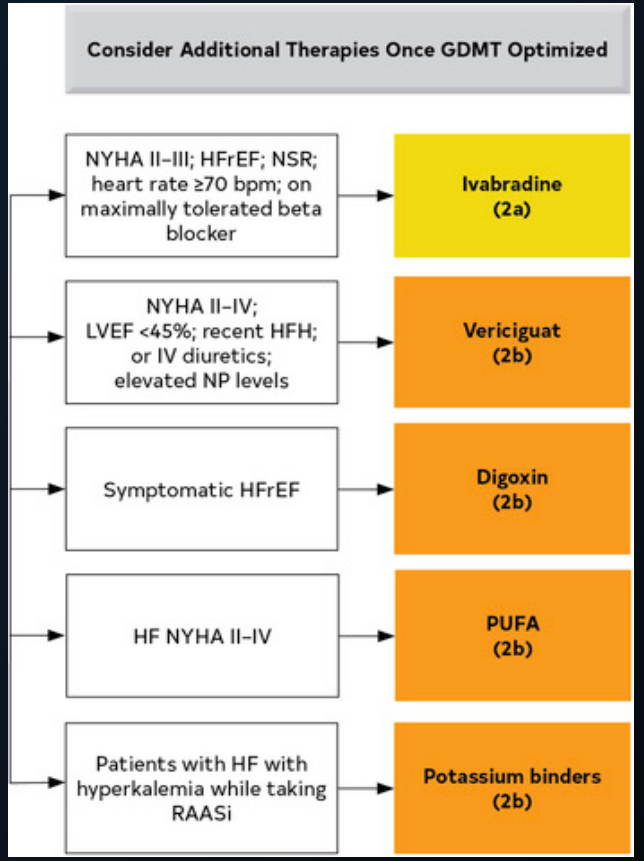
Monitoring Parameters/Side Effects



Sharma et al. *J Am Coll Cardiol Basic Trans Science.* 2022;7:504-517

The “Others”

Do we really have room?



Heidenreich PA et al. J Am Coll Cardiol. 2022; 79 (17);e263-421

Population Considerations

Women

Women develop HF at equal rates to men, but often at older ages

African Americans

African-American men have the highest rates (70%) of hospitalization for HFrEF

Elderly

Mortality reducing medication largely under-prescribed

Bozkurt B. et al. *Methodist Debakey Cardiovasc J 2017; 13 (4): 216-223*
Ponikowski P, et al. *European Heart J* (2016) 37:2129-2200

Recipe for Heart ~~Failure~~ Success

Multidisciplinary approach is strongly endorsed by HFSA, ACC and ACCP in the management of patients with heart failure to improve patient outcomes

Conclusion

Strive for Four

Quadruple therapy provides incremental benefit for patients with HFrEF

Education is Key

Empower patients to understand their treatment and participate in care

Try, Try Again

Every attempt should be made to increase doses

Leverage Resources

Lean on the multidisciplinary team to optimize therapy

Questions?

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