

Priority Measures to complement ESC Clinical Guidelines:

A Pilot from the CPG Committee

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Chair ESC CPT Committee 2022-24

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Background

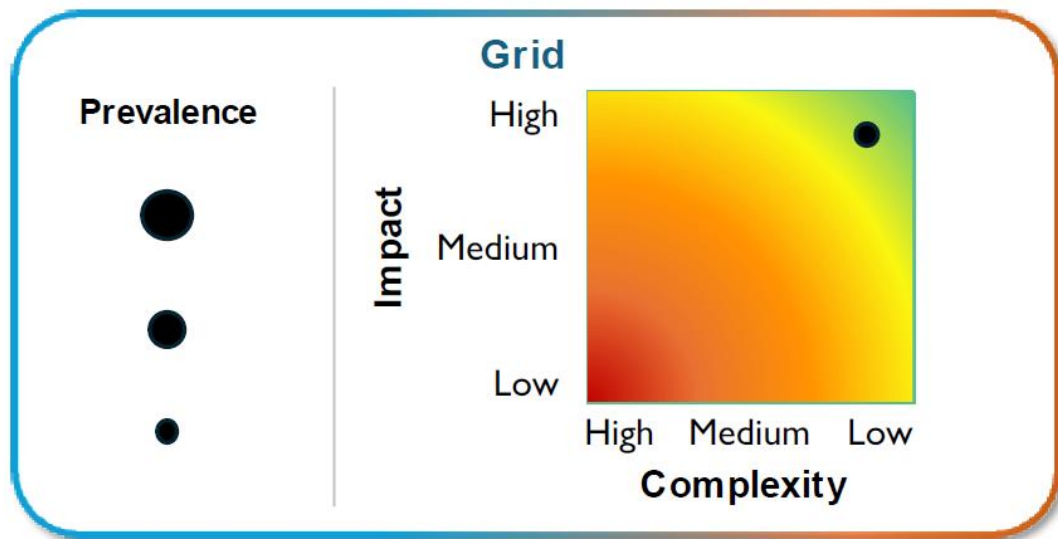
- GLs are written for **best practice** with limited consideration of financial and other constraints
- **Non-ESC countries** frequently reference ESC Guidelines but face challenges in implementation, especially in **low-resource setting**, and request more tailored support
- Need for **prioritization and resource-adaption is growing**, including within ESC countries
- Previous attempts to integrate **health economics** into guidelines have **stalled due to complexity**, highlighting the need for a more practical approach

Pilot on Priority Measures

- **We propose a methodology**, with a worked example
- Novel framework for **comparing guideline recommendations**
 - Balancing **relative effectiveness** with **implementation barriers** and **magnitude of problem**
 - Designed to be **adaptable to different countries and regions**
- **NOT intended for direct inclusion in future ESC guidelines**
 - Could serve as a supplementary document or tool
- **Primarily developed for policy makers**, not clinicians

Priority Measures to Complement ESC Clinical Guidelines - Pilot

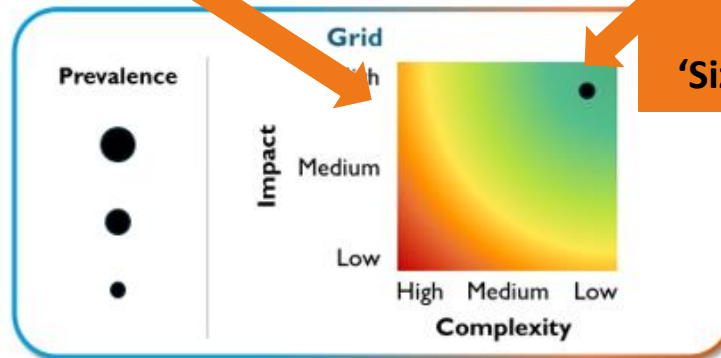
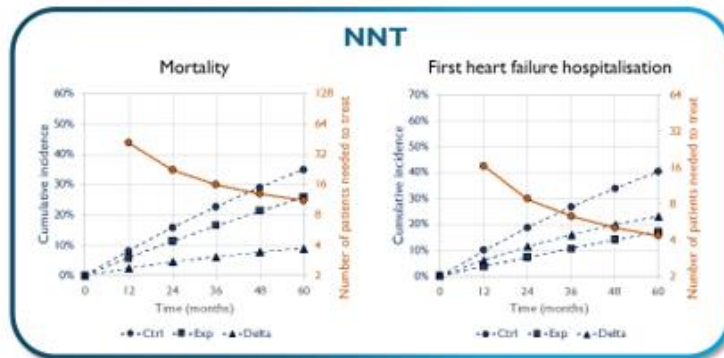
- **Integrates** *impact* and *complexity* of implementation, and '*size of problem*'
- **Visual grid** for comparative assessment
- **Intuitively simple** and transparent



Complementing prior practice Guidelines with Priority Measures: an ESC pilot

Impact - Relative effectiveness

Prevalence of condition – 'Size of problem'

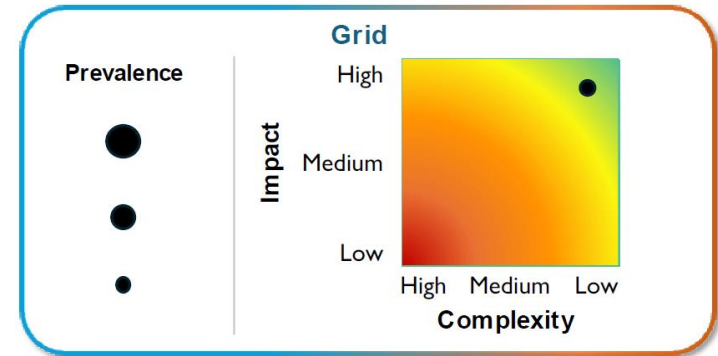


Current		New additions	
Recommendation	Class ^a	Level ^b	NNT ^c
An ACE-I is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death. ¹¹⁰⁻¹¹³	I	A	12

Complexity - Barriers to implementation

Impact – Number Needed to Treat (NNT)

- Based on a **5-year timeframe** (for chronic treatment)
- Most trials have <5 years – **extrapolation of constant hazard ratio over time**
- Assumes **stable baseline risk**
- Categorized as **low-medium-high** impact

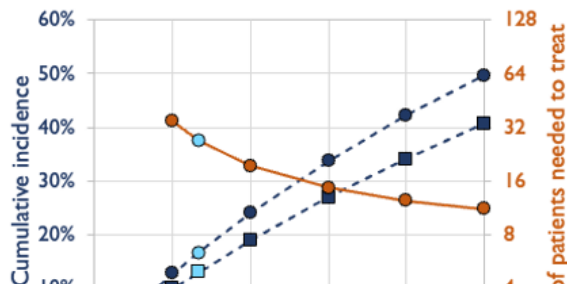


Impact – Worked Example: Heart Failure Guidelines

- Beta-blockers are recommended to reduce risk of hospitalization and death in patients with stable HFrEF

Calculated impact - NNT

a BETA-BLOCKERS



Evidence summary

Supplementary Table 1. Betablockers and all-cause mortality

Trial	Journal	Year	Follow-up		Ctrl		Exp		HR	95 LL	95 UL
			mean (months)	N	EP	EP/year	N	EP			
BEST	NEJM	2001	24.0	1354	449	0.166	1354	411	0.152	0.90	1.02
CAPRICORN	Lancet	2001	15.6	984	151	0.118	975	116	0.092	0.77	0.98
CIBIS-I	Circulation	1994	22.8	321	67	0.110	320	53	0.087	0.80	1.15
CIBIS-II	Lancet	1999	15.6	1320	228	0.133	1327	156	0.090	0.66	0.81
COPERNICUS	NEJM	2001	10.4	1133	190	0.193	1156	130	0.130	0.65	0.81
MDC	Lancet	1993	15.3	189	19	0.079	194	23	0.093	0.62	1.02
MERIT-HF	JAMA	2000	12.0	2001	217	0.108	1990	145	0.073	0.66	0.81
SENIORS	EHJ	2005	20.2	1061	192	0.108	1067	169	0.094	0.88	1.08
US-HF	NEJM	1996	6.5	398	31	0.144	696	22	0.058	0.35	0.61

Pharmacological treatments indicated in patients with (NYHA class II-IV) heart failure with reduced ejection fraction (LVEF≤40%)

Recommendations

A beta-blocker is recommended for patients with stable HFrEF to reduce the risk of HF hospitalization and death.

Class^a

Level^b

NNT
Mortality 5y

NNT
First HF hosp. 5y

Grid

I

A

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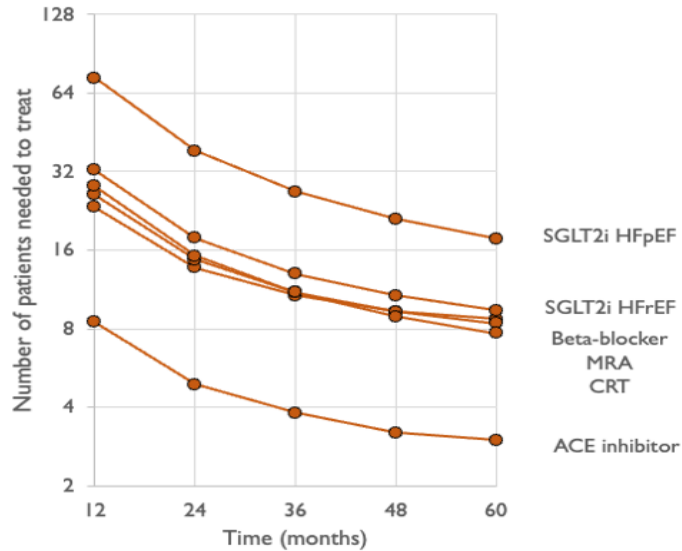
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Impact – Common Reference Population

Outcome: First HF hospitalization

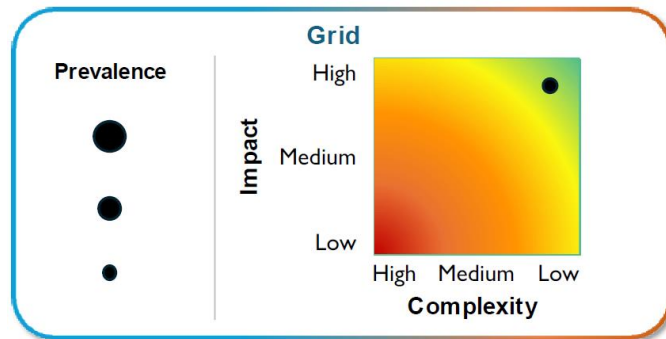
NNT over time



Complexity






- **Complexity varies across countries, regions and health systems, influenced by:**

- Costs
- Infrastructure
- Availability of training and facilities
- Patient access




- Assessed using a **modified Delfi process** involving **local stakeholders and experts**
- **Determined locally**, reflecting the specific context
- Categorized as **High-Medium-Low**


Pharmacological treatments indicated in patients with (NYHA class II-IV) heart failure with reduced ejection fraction (LVEF ≤ 40%)

Recommendations	Class ^a	Level ^b	NNT Mortality 5y	NNT First HF hosp. 5y	Grid
An ACE-I is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.	I	A	12	5	
A beta-blocker is recommended for patients with stable HFrEF to reduce the risk of HF hospitalization and death.	I	A	15	11	
An MRA is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.	I	A	13	13	
Dapagliflozin or empagliflozin are recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.	I	A	27	10	
Sacubitril/Valsartan is recommended as a replacement for an ACE-I in patients with HFrEF to reduce the risk of HF hospitalization and death.	I	B	22		



Secondary prevention

Recommendations	Class ^a	Level ^b	NNT Mortality 5y	NNT First HF hosp. 5y	Grid
An ICD is recommended to reduce the risk of sudden death and all-cause mortality in patients who have recovered from a ventricular arrhythmia causing haemodynamic instability, and who are expected to survive for >1 year with good functional status, in the absence of reversible causes or unless the ventricular arrhythmia has occurred <48 h after a MI.	I	A	14		

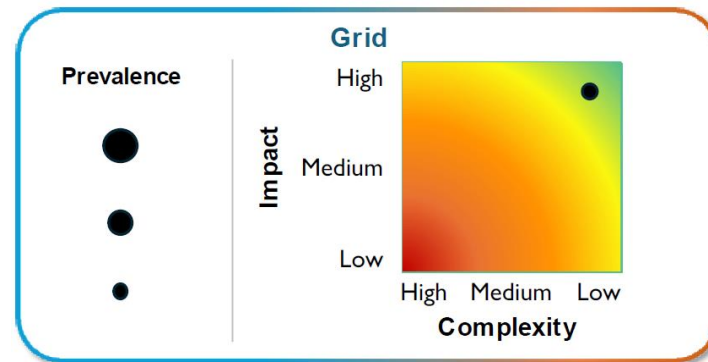
Primary prevention

Recommendations	Class ^a	Level ^b	NNT Mortality 5y	NNT First HF hosp. 5y	Grid
An ICD is recommended to reduce the risk of sudden death and all-cause mortality in patients with symptomatic HF (NYHA class II-III) of an ischaemic aetiology (unless they have had a MI in the prior 40 days –see below), and an LVEF ≤35% despite ≥3 months of OMT, provided they are expected to survive substantially longer than 1 year with good functional status.	I	A	14		

Cardiac resynchronization therapy implantation in patients with heart failure

Recommendations	Class ^a	Level ^b	NNT Mortality 5y	NNT First HF hosp. 5y	Grid
CRT is recommended for symptomatic patients with HF in SR with a QRS duration ≥150 ms and LBBB QRS morphology and with LVEF ≤35% despite OMT in order to improve symptoms and reduce morbidity and mortality.	I	A	13	8	
CRT rather than RV pacing is recommended for patients with HFrEF regardless of NYHA class or QRS width who have an indication for ventricular pacing for high degree AV block in order to reduce morbidity. This includes patients with AF.	I	A	13	8	

Resulting Overview of Recommendations, NNT and Grid

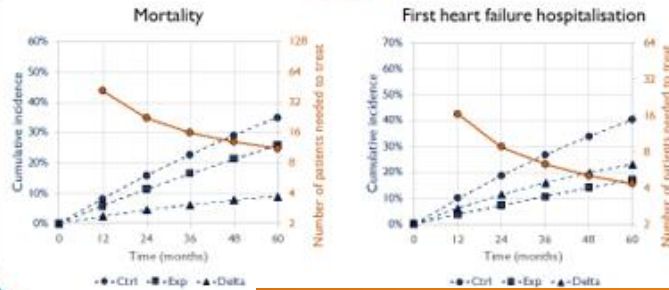


Caveats and Future Development

- **No universal NNT threshold** for recommending a treatment or intervention –
 - Depends on **disease severity, side effects, available alternatives and clinical context**
- **Complexity (barriers) must be assessed locally**, considering the healthcare setting and resources
- **Future development needed:**
 - Apply similar methodology to other outcome types, including **continuous outcomes** and **patient reported outcomes (PROMs)**

Complementing priority ESC Clinical Practice Guidelines with Priority Measures: an ESC pilot to support implementation of recommendations

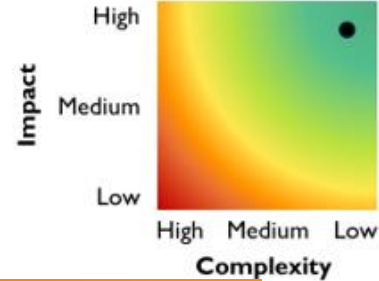
NNT



Prevalence



Grid



Thank you

Recommendation

An ACE-I is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.¹¹⁰⁻¹¹³

I

A

12

5

Grid

